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(OAQPS NO. 1.2-040a)

AEROS MANUAL SERIES
VOLUME III:
SUMMARY AND RETRIEVAL
(Second Edition)

National Air Data Branch
Monitoring and Data Analysis Division

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Air and Waste Management
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

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PREFACE

This third volume of the AEROS Manual Series is the combined result of efforts by EPA personnel and Agency contractors. Major portions were provided by GCA Corporation, Bedford, Massachusetts, under Contract No. 68-02-1376, Task Order No. 17 (EPA Project Officer Jacob G. Summers) and by Booz, Allen, and Hamilton, Inc., Bethesda, Maryland, under Contract No. 68-02-1005, Task Order No. 7 (EPA Project Officer Charles O. Mann). At the time these contracts were awarded, a standard format had not been developed. As new data become available, however, supplements to this parent document will be issued using a more uniform format.

To facilitate the addition of updates, revisions, or additions, a three-hole-punched format was adopted for the manual. The document can be placed in a binder or secured in such a manner that the new pages can be easily inserted.

TABLE OF CONTENTS

TABLE OF CONTENTS
(Continued)

TABLE OF CONTENTS
(Continued)

LIST OF TABLES

LIST OF FIGURES

LIST OF FIGURES
(Continued)

LIST OF FIGURES
(Continued)

LIST OF FIGURES
(Continued)

LIST OF ABBREVIATIONS

AEROS.....Aerometric and Emission Reporting System
AQDM.....Air Quality Display Model
AQCR.....Air Quality Control Region
AQDHS-II....Air Quality Data Handling Subsystem-II
ATS.....AEROS Terminal System
CAASE.....Computer-Assisted Area Source Emissions
CDHS.....Comprehensive Data Handling System
CDM.....Comprehensive Data Management
EIS/P&R.....Emissions Inventory Subsystem/Permit and Registration
EMS.....Enforcement Management Subsystem
FMVECP.....Federal Motor Vehicle Emissions Control Program
FPC.....Federal Power Commission
GMT.....Greenwich Mean Time
HATREMS.....Hazardous and Trace Emissions System
IPP.....Implementation Planning Program
MSL.....Mean Sea Level
NAAQS.....National Ambient Air Quality Standard
NADB.....National Air Data Branch
NCC.....National Computer Center
NEDS.....National Emissions Data System
NER.....National Emissions Report
OGC.....Office of General Counsel
QCI.....Quality Control Index
QAMIS.....Quality Assurance Management Information System
REPS.....Regional Emissions Projection System
SAROAD.....Storage and Retrieval of Aerometric Data
SDS.....Systems Development Section
SCC.....Source Classification Code
SEAS.....Strategic Environmental Assessment System
SIC.....Standard Industrial Classification Code
SIEFA.....Source Inventory Emission Factor Analysis
SIP.....State Implementation Plan
SMSA.....Standard Metropolitan Statistical Area
SOTDAT.....Source Test Data System
TCP.....Transportation Control Plan
UTM.....Universal Transverse Mercator
WSAP.....Weighted Sensitivity Analysis Program

ABSTRACT

The AEROS Summary and Retrieval Manual, Volume III of the OAQPS Guidelines Manual Series, describes and illustrates the reporting and analysis capabilities of the various AEROS systems. The reports available from each of the major systems are described and their retrieval options are explained. Sample computer printouts are used to illustrate the report formats.

This manual also describes the analysis packages available for use in the evaluation of AEROS data and describes the user access procedures for obtaining AEROS reports. It describes the standard publications available from the NADB to provide quarterly or annual information on emissions and air quality.

In an applications section, the manual provides specific examples of applications of AEROS data. The use of AEROS reports in typical air quality control activities is described.

The manual also gives an overview of the Comprehensive Data Handling System (CDHS), which is an AEROS-related system for storing and reporting air quality and emissions data.

This section is used to document Update procedures and record Updates when they are issued and posted in this volume.

Chapter 0.1 describes background and Update procedures. Chapter 0.2 is used to file Update Notices.

As the usefulness of the AEROS Manuals is highly dependent on their completeness, accuracy and timeliness, the following provisions have been made to allow for revisions in the interim between periodic complete review and reprinting of volumes. Revisions will be accomplished through the issuance of AEROS Manual Updates, which may contain one or more separate revisions to a given Volume.

Responsibility for technical aspects of revisions is held by the groups in NADB responsible for the relevant system or operation, while compilation of revisions into Updates, and reproduction and distribution are overseen by the AEROS Manual Project Officer, Requests and Information Section.

These Updates will ordinarily be distributed to specific parties in OAQPS and other selected internal users and to AEROS Contacts in Regional Offices, who are designated holders of the appropriate AEROS Manual Volumes by their respective organizational units. These recipients are responsible for reviewing each Update and inserting it in the appropriate Volume and removing outdated portions as directed. They should also notify persons in their organizations to whom specific revisions may be of importance, and provide copies of revisions to those persons requiring them.

Three distinct types of revisions are foreseen: Urgent, Priority and Routine. Urgent revisions must be issued and entered into Manual Volumes as soon as possible to prevent adverse effects on operations.

Prior to compilation in a formal Update, drafts of Urgent revisions will be distributed to NADB and Regional Office AEROS Contacts with instructions on the timing of their use in system operations. These drafts should be filed in the appropriate Manual Volumes immediately preceding the portions to be replaced, pending issuance of the formal Update. Due to their importance, Urgent revisions will be issued by RIS as soon as complete, along with any other revisions which are ready for distribution at that time.

Priority revisions are substantive changes not crucial to system operations, and will generally be issued in Updates on a quarterly basis or combined with Urgent Updates when appropriate. Routine revisions are relatively minor changes such as editorial corrections, and will be included in regular or Urgent quarterly Updates as available.

Updates will consist of the actual revisions and any attendant changes to the Volume's Table of Contents, in appropriate format, accompanied by an Update Notice and any memoranda deemed appropriate by RIS. Updates will be compiled and numbered separately by AEROS Manual Volumes, with the Update Notice serving as an index and guide to implementation of the Update. The Update Notice will specify pages or sections to be removed and/or inserted, with descriptive comments on the content and relevance of changes. It will also include a summary of dates and numbers of previous Updates to the subject Volume, for verification of currency of the Volume. Upon receipt of an Update,

the changes should be made as indicated on the Update Notice and the Notice itself initialed and filed in Section 0, Chapter 2.

A full compilation of Update Notices for each Manual Volume, entitled "Summary of AEROS Manual Updates: Volume ___," is available to users by request to:

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This document will allow the user to examine all previous Updates to determine the currency of any copy of the Volume, and, through the comments, possible relevance of revisions to specific areas of interest. This reference is provided especially for infrequent users and others not receiving Updates on a regular basis.

User input on the AEROS Manuals and possible revisions is welcomed. Technical or substantive matters should be referred directly to the cognizant party in NADB, if possible. Any questions on the appropriate source of technical information and any questions, comments or suggestions on the coverage, organization and other such aspects of this Volume should be directed to:

AEROS Manual Project Officer, MD-14
Requests and Information Section
National Air Data Branch
Environmental Protection Agency
Research Triangle Park, N.C. 27711

FTS: 629-5395
Commercial: (919)549-8411 X 395

This Update Notice concerns the enclosed replacement pages for Volume III of the AEROS MANUAL SERIES. Please remove and insert pages as listed below.

REMOVE	INSERT	COMMENTS
1. v to xiv	v to xiv	Routine. Contents revised to reflect Update.
2. --	0.0.0-1 to 0.1.0-4	Priority. New section describing Update procedures.
3. --	0.2.0-1 to 0.2.0-2	Routine. Update Notice III-1.*
4. 2.1.0-1 to 2.1.0-5	2.1.0-1 to 2.1.0-8	Priority. Two new reports listed. Contents of existing pages editorially revised.
5. 2.1.1-1 to 2.1.1-16	2.1.1-1 to 2.1.1-17	Routine. Correction in county code example, comment section expanded, and sample report section expanded.
6. 2.1.2-13 to 2.1.2-14	2.1.2-13 to 2.1.2-14	Priority. Revised to correct retrievals available.
7. 2.1.2-19	2.1.2-19 to 2.1.2-27	Priority. Two new reports added.
8. 2.3.1-1 to 2.3.1-21	2.3.1-1 to 2.3.1-21	Priority. Descriptions of "Raw Data Listings Greater Than or Equal to 24 Hours" and "Raw Data Listing Composite" revised and combined. Improperly placed page replaced with proper page 2.3.1-14. Other pages editorially revised.
9. 2.3.2-1 to 2.3.2-17	2.3.2-1 to 2.3.2-20	Priority. Revision of report descriptions.
10. 2.10.5-1	2.10.5-1 to 2.10.5-6	Priority. Documentation of Polk vehicle reports.

REMOVE	INSERT	COMMENTS
11. 5.1.2-1	5.1.2-1	Priority. Revised to correct page reference.
12. 6.5.2-1	6.5.2-1 to 6.5.2-2	Routine. Correction of typographical error.

UPDATE SUMMARY

Volume III

Number	Date
III-1	2/7/77

* When you have made the changes indicated in this Notice, initial the Notice and insert it in Chapter 0.2.0 of Volume III as a record of the Updates received and filed.

NOTE: Priority update information on the enclosed update pages is indicated with a vertical line in the left margin. Routine update information is not specifically identified.

Volume III of the AEROS manual illustrates the reporting capabilities of the various AEROS systems:

- Section 2 describes and illustrates the reports available from the major AEROS systems. The sorting and retrieval options for each are also described.

- Section 3 presents the various data analysis packages available for use with the AEROS data bases. These packages may be used in evaluating AEROS data and in utilizing AEROS data in modeling or analysis procedures such as the Implementation Planning Program.

- Section 4 outlines the user access procedures for obtaining reports described in this volume. Procedures for both EPA users and non-EPA users are included.

- Section 5 describes the various standard publications produced by EPA. These publications, which provide quarterly or annual information on emission levels as well as information on ambient air quality and air quality monitoring procedures, are based primarily on the AEROS emission system (NEDS) and the air quality monitoring system (SAROAD).

- Section 6 presents specific examples of the application of certain AEROS data retrievals and describes the use of AEROS reports in typical air quality control activities.

- Section 7 describes procedures and the interaction between SDS and programmers using AEROS data files and shows the file formats for commonly used files.

- Section 8 describes the procedures used to determine whether data coded confidential are properly classified. Steps required to handle confidentiality are described.

- Section 9 describes the Comprehensive Data Handling System, which is an AEROS-related and AEROS-compatible system for monitoring pollutant emissions as well as air quality measurements. This system is utilized primarily by the states to aid in meeting their reporting requirements for entering emissions and monitoring data into the AEROS files.

In this section, the reporting capabilities of the various data systems comprising AEROS are described. Individual reports from each system are described and illustrated. These systems and data banks include the following:

Emission Data System

Source Test Data System

Air Quality Data System

Air Quality Assurance Data

Hazardous and Trace Emissions Data System

State Implementation Plans System

Federal Power Commission Data

Auxiliary Data

The National Emissions Data System is a computerized data handling system which accepts, stores, and reports on information relating to sources of any of the five criteria pollutants (particulates, SO_x, NO_x, CO, and hydrocarbons). In NEDS, a major distinction is made between two types of sources: point sources and area sources. Point sources, in the broadest sense, are stationary sources large enough to be identified and tracked individually; per NEDS reporting requirements, they are any plants emitting more than 100 tons/year of any of the criteria pollutants. Area sources, on the other hand, are those stationary and mobile sources which individually emit less than 100 tons/year and are too small and too numerous to keep individual records on. In NEDS, area sources are considered collectively on a county basis. A large boiler within a power plant would be an example of a point source, whereas a single automobile is an example of the type of source considered collectively as an area source.

In NEDS, all source-related data are entered into the system via specially formatted point and area source coding forms and are stored in separate point and area source files. The type of data stored in the system for point and area sources is somewhat different and is described below.

POINT SOURCE DATA

The point source data in NEDS fall into the following major groups: General source information--name, address, types of source, Standard

Industrial Classification, year of record, comments, etc.

Emissions data--operating or production rates and capacities, estimated emissions, EPA calculated emissions, control device type and efficiency on each criteria pollutant, etc.

Modeling parameters--UTM coordinates of source, stack height and diameter, exhaust gas temperature, and flow rate.

Compliance information--allowable emissions, compliance status, schedules, etc.

These data are input to NEDS in the standard point source format, an example of which is illustrated in Figure 2.1.1.e.

NEDS point source data are organized into three hierarchial levels.

- Plant level data (corresponding to input card 1) is general information that applies to an entire facility defined as a point source.

- Point level data (corresponding to input cards 2-5) applies to individual emission points within a plant. A plant may contain any number of emission points. A point is that portion of a facility that may be considered individually for emission purposes. A point may contain one or more processes or pieces of equipment that are related in contributing to the emissions from the point. In most cases, a point emits pollutants through a single confined location such as a stack, but it may emit pollutants at more than one location or at no clearly defined location within a plant.

- Process level data (corresponding to input card 6) are source data or use factors which may be used to define and compute emissions for process activities within an emission point. In NEDS, processes are defined by Source Classification Codes (SCC's). In general, for each SCC there are emission factors which relate the quantity of pollutants generated by a process to annual process operating rate. NEDS uses a file of emission factors associated with each SCC to compute emissions. There may be multiple SCC's for an emission point. For instance, if a boiler is defined as an emission point and it burns two fuels, two SCC's are needed to define these processes and allow emissions to be computed. In another example, if an asphalt batch plant is defined as an emission point, emissions may result from aggregate drying, burning fuel to provide heat for the process, and various material transfer points associated with loading and converging of the product. Multiple SCC's would be required to describe all of these processes.

The point source file provides for the use of alternate methods for determining the emissions which are reported. Most commonly, emissions will be calculated for each SCC using the emission factors in the SCC Emission Factor file. However, by use of an appropriate code on the input form and completion of fields for recording hand calculated emission estimates, more accurate estimates of emissions may be input to represent point emissions in place of the emission factor computed emissions. For some SCC's, no emission factors are available, so an alternate method must be used to estimate emissions for these records.

A list of the possible emission estimation methods used for NEDS point source calculations is given below.

0. No emissions
1. Stack-test results or other emission measurement
2. Material balance using engineering knowledge and expertise of process
3. Emissions calculation using emissions factors in SCC file
4. Guess
5. Emissions calculation using special emission factors that differ from the SCC listing
6. New source for which building approval has been granted but which is not yet in operation (zero emissions)
7. Source which has ceased to operate (zero emissions)

The procedure for computer calculation of emissions for each of these cases is as follows:

Methods 0, 6 and 7: Calculated emissions are set to zero.

Methods 1, 2, 4, and 5: Calculated emissions are set equal to hand calculated emission estimates. These must be distributed among multiple SCC's for a point, if necessary.

Method 3: Calculated emissions are derived as:

$$\text{Calculated Emissions} = \left(\text{Annual operating rate for SCC}\right) \times \left(\frac{\text{Emission factor from SCC File}}{2{,}000}\right)$$

$$\left(\text{Fuel parameter if applicable}\right) \times \left(\frac{\text{100-control efficiency}}{100}\right)$$

AREA SOURCE DATA

NEDS area source data may be grouped as follows:

General source information--name and location of area (county) source, year of record.

Activity levels--countywide activity level of each type of area source (e.g., tons of coal burned in all domestic space heating equipment in a county).

Emissions data--emission estimates for the entire county (for each pollutant) as well as for each area source category.

These data are input to NEDS in the standard area source format which is illustrated in Figure 2.1.1.f.

The area source activity levels are derived primarily from related information published by other Federal agencies, supplemented by special data developed by EPA for the purpose of developing NEDS area source inventories. Published data such as fuel use by state, motor vehicle miles of travel by state and county and forest fire acres burned by state are used with related data such as employment, population, and miscellaneous geographic or economic data available on a county-by-

county basis to derive annual estimates of the activity levels for each of the NEDS area source categories. The activity levels derived are adjusted to account for point source activity (such as fuel use by point sources) so that the area source data reflect only the activity levels (and resulting calculated emissions) that are not accounted for by point sources. The area source data are developed mainly by EPA, but may be supplemented by data voluntarily submitted by state agencies.

The area source emission estimates are calculated for each source category by a simple procedure:

$$\text{Calculated Emissions} = \left(\text{Activity Level}\right) \times \left(\frac{\text{Emission Factor}}{2{,}000}\right) \times \left(\text{Fuel Parameter, if applicable}\right)$$

Emission factors are contained in the NEDS area source emission factor file. For many categories the same emission factors are used for all counties. However, for some source categories, state- or county-specific emission factors have been developed which consider local variables that affect calculation of emissions. These more specific emission factors are used in NEDS calculations for all highway motor vehicle and fugitive dust categories and for selected other categories in a few counties where data are available to develop more applicable emission factors than the national emission factors. Provision is also made, as an option, to override computer calculated emissions for any source category for any county, by hand calculated emissions that may be more accurate than any simple emission factor calculation.

Table 2.1.0.a summarizes the retrieval options available for each NEDS report described in this chapter.

Table 2.1.0.a. SUMMARY OF NEDS RETRIEVALS

Report	Nation	State	EPA Region	AQCR	State Portions of Interstate AQCR's	County	Plant Number	Point Number	Source Classification Code	Ownership	Standard Industrial Classification Code	Emission Estimation Method	Sources Emitting More Than X Tons of Any One Pollutant	Years of Record for AQ Data	Valid Combination of Items
Raw Data Reports															
Point Source Report	x	x		x		x	x	x	x	x	x	x	x		x
Condensed Point Source Report	x	x		x		x	x	x	x	x	x	x	x		x
Area Source Report		x				x									x
Allowed Versus Computed Emissons Report	x	x				x	x	x							x
Point Source Cards	x	x		x		x	x	x	x	x	x	x	x		x
Area Source Cards	x	x		x		x									x
Summary Reports															
Emission Summary Report	x	x	x	x	x	x									
Area Source Fuel Usage Report		x													
Annual Fuel Summary Report	x	x		x		x									
Plant Emission Summary Report	x	x		x		x									
SCC Emissions Report	x														
Plant Name Report	x	x		x		x	x	x	x	x	x	x	x		x
Emissions/Air Quality Report				x										x	x
Emissions by SCC Report	x	x		x		x	x	x	x	x	x	x	x		x
Potential Emissions Report	x	x		x		x	x	x	x	x	x	x	x		x
Management Reports															
Plant-Point-SCC Count Report	x														
Missing Item Report	x	x		x		x	x	x	x	x	x	x	x		x
Highest Plant Number of County Report		x													

POINT SOURCE REPORT

General Description

Sources emitting more than a specific amount per year of any one of the five criteria pollutants (particulates, sulfur oxides, nitrogen oxides, hydrocarbons, and carbon monoxide) are classified by EPA as point sources.* The basic "Point Source Report" produces a full, formatted listing of all relevant identifying and descriptive point source data as well as estimated and NEDS calculated emissions for each criteria pollutant. More specifically, the following information is available for each emission point+ for each criteria pollutant:

a. Geographic Location
b. Year of Record
c. Modeling Parameters - UTM coordinates, stack height, diameter, temperature, etc.
d. Emission Data - Throughput rate, estimated emissions, estimation method, control equipment, control efficiency, etc.
e. Allowable Emissions
f. Compliance Status
g. Operating Information
h. Annual Fuel Consumption
i. Source Operating Characteristics

Each page of computer output contains the data for one process (SCC).

Retrievals Available

The following "Point Source Report" retrieval options are available:

a. State
b. AQCR

---

* The specific amount is an SIP reporting requirement defined in 40 CFR, Section 51.7. NEDS also accepts data based on a state's definition of a point source.

+ An emission point is a source which is coded on a single NEDS coding form.

c. County
d. Plant
e. Point
f. Ownership Code
g. SIC
h. Emissions Estimation Method
i. SCC (I, I+II, I+II+III, I+II+III+IV)
j. Sources emitting more than x tons of any one pollutant
k. Any combinations of the above

There are only certain combinations of the retrieval categories listed above that are valid. For example, the county code numbers are unique within each state but not across state boundaries. Thus although no two counties in Arizona have the same county code number, 0040 is the county code number both for Apache County in Arizona and Arkansas County in Arkansas. As a result, retrieval by county is only meaningful when combined with retrieval by state.

In the same manner retrieval by plant requires specification of county and state identifiers; retrieval by point requires specification of plant, county, and state identifiers.

It should be noted that the same type of restriction applies to retrieval by SCC parts. Retrieval by SCC part IV is dependent on retrieval by SCC part III, retrieval by part III on retrievals by part II, etc.

Sorts Available

Subject to the same restrictions set forth for "Retrievals Available," the selected data can be sorted in ascending (a) or descending (d) sequence for any of the following data values:

a. State (a)
b. AQCR (a)
c. County (a)
d. Plant Number (a)
e. Point Number (a)
f. Source Classification Code (a)
g. Ownership (Federal, local government, utlity, or all) (a)
h. Standard Industrial Classification (SIC) Code (a)
i. Emissions Estimation Method (a)
j. Plant Names in Alphabetical Order (a)
k. Amount of emissions for any one of the five criteria pollutants (d)
l. Year of Record (a)
m. Control Equipment (a)
n. Control Efficiency (d)
o. Fuel Sulfur Content (d)
p. Fuel Ash Content (d)
q. Major City Code (a)
r. UTM Coordinates (d)
s. Operating Rate (d)
t. Confidentiality (a)

Sample Report

Figure 2.1.1.a is a sample "Point Source Report" retrieval for Colleton County in the State of South Carolina.

Comments

Depending upon the retrieval options selected, some point sources located in the geographic areas under consideration may be omitted from the report listing and some may have more than one emission point selected.

For example, consider a "Point Source Report" based on retrieval by SCC or SIC category. There may well be some point sources located in the requested geographic areas which do not fall within the requested SCC or SIC categories. These point sources will be omitted from the report.

On the other hand, a point source may be included for more than one SCC. When retrieval is by plant, one page of data for such a point source will be printed for each of its SCC's. When determining total plant emissions from such a printout, care must be taken to avoid adding duplicate "Hand Calculated Point Emissions" into the total. The "Computer Calculated SCC Emissions" should be used to determine total plant emissions. The calculated emissions are labeled "Computer Calculated SCC Emissions" on the report. The field labeled "Hand Calculated Point Emissions" reflects emissions for a NEDS emission point which are entered by the data originator. The same values for "Hand Calculated Point Emissions" will be repeated on separate pages for points with more than one SCC. Normally, in such cases, the sum of all "Computer Calculated SCC Emissions" for a point will equal the "Hand Calculated Point Emissions" for points with emission estimation method codes of 1,2,4,5, 6, and 7. Some data conditions may prevent this relationship from always holding true. For points with emission estimation method code 3 (SCC emission factor file calculation), the calculated emissions have no dependence on any hand calculated point emissions that may be reported.

```
FILE CREATED ON  THURSDAY     MARCH 24, 1977                                                                    PAGE   406
                                  N A T I O N A L   E M I S S I O N S   D A T A   S Y S T E M

                                                  P O I N T   S O U R C E   L I S T I N G

STATE(42): SOUTH CAROLINA  AQCR(CSR): SAVANNAH-BEAUFORT                                          CITY(     ):
COUNTY(07901): COLLETON CO                    PLANT ID: 0002  POINT ID: 01

NAME-ADDRESS: SC EAR ELEC GAS CO  CANADYS STA     29833  SIC(4911):  ELECTRIC SERVICES
PERSONAL CONTACT: V SUMMER      SCC(1-01-002-01): EXTCOMB BOILER    -ELECTRIC GENERATN -BITUMINOUS COAL    ->100MMBTU PULVMFT

* GENERAL INFORMATION      * UTM GRID COORDINATES          * HAND CALCULATED POINT EMISSIONS        * ALLOWABLE EMISSIONS FOR POINT
* ******************        * ******************            * ********************************        * ******************************
* DATE OF                   *          UTM ZONE: 17         *  PARTICULATE:      2,170 TONS/YR        *   PARTICULATE:      2,170 TONS/YR
* LAST UPDATE: 1972         *                               *          SOX:      4,150 TONS/YR        *          SOX:      4,150 TONS/YR
*                           *       HORIZONTAL:          KM *          NOX:      3,770 TONS/YR        *          NOX:          0 TONS/YR
* OWNERSHIP: UTILITY        *         VERTICAL:          KM *           HC:         85 TONS/YR        *           HC:          0 TONS/YR
*                           !-------------------------------*           CO:         91 TONS/YR        *           CO:          0 TONS/YR
* IND PROCESS: 30           * STACK PARAMETERS              !-------------------------------------------!-------------------------------
*                           * ****************               * EMISSION ESTIMATION METHODS             * COMPUTER CALCD SCC EMISSIONS
* SOURCE: BOILER            * STACK HEIGHT:        300 FT   * ***************************             * ******************************
*                           * STACK DIAMETER:     16.0 FT   * PART: EMISSION FACTOR(AP-42 OR BENDING)  *        PART:     2,170      TONS/YR
*                           * GAS TEMPERATURE:    225 F     *  SOX: EMISSION FACTOR(AP-42 OR BENDING)  *
* NORMAL OPERATIONS         * GAS FLOW RATE:  290,750 ACFM  *  NOX: EMISSION FACTOR(AP-42 OR BENDING)  *         SOX:     4,150      TONS/YR
* ******************        * PLUME HT(NO STACK):    0 FT   *   HC: EMISSION FACTOR(AP-42 OR BENDING)  *
*       HOURS/DAY: 24       * SAME STACK VENTS POINTS   -   *   CO: EMISSION FACTOR(AP-42 OR BENDING)  *         NOX:     3,770      TONS/YR
*        DAYS/WEEK:  7      !-------------------------------!-------------------------------------------*
*       WEEKS/YEAR: 52      * CONTROL DEVICE/METHOD IDENTIFICATION                    * CONTROL         *          HC:        85      TONS/YR
*                           * ******************************************                * EFFICIENCIES     *
* % ANNUAL THROUGHPUT       * PRIMARY PART: CENTRIFUGAL COLLECTOR - MEDIUM EFFICIENCY * ************      *          CO:        91      TONS/YR
* *******************       * SECOND. PART: NO CONTROL EQUIPMENT                      * PART: 94.0 %    *
*          DEC-FEB: 32 %    !                                                         *                 *
*          MAR-MAY: 23 %    *  PRIMARY SOX: NO CONTROL EQUIPMENT                      *                 *
*          JUNE-AUG: 21 %   *  SECOND. SOX: NO CONTROL EQUIPMENT                       *  SOX: 00.0 %    *
*          SEPT-NOV: 24 %   !                                                         *                 *
*                           *  PRIMARY NOX: NO CONTROL EQUIPMENT                      *                 *
* % SPACE HEAT: 00.0 %      *  SECOND. NOX: NO CONTROL EQUIPMENT                      *  NOX: 00.0 %    *
*                           *                                                         *                 *
* COMPLIANCE INFO           *   PRIMARY HC: NO CONTROL EQUIPMENT                      *                 *
* ***************           *   SECOND. HC: NO CONTROL EQUIPMENT                      *   HC: 00.0 %    *
* NOT SPECIFIED             *                                                         *                 *
*                           *   PRIMARY CO: NO CONTROL EQUIPMENT                      *                 *
* SCHEDULED                 *   SECOND. CO: NO CONTROL EQUIPMENT                      *   CO: 00.0 %    *
* COMPLIANCE DATE:    /     !-------------------------------------------------------!-------------------------------
*                           * FUEL CHARACTERISTICS            * OPERATING RATES                       *
* COMPLIANCE STATUS         * ******************              * ***************                         *
* UPDATE:        /  /       *                                 *    ANNUAL OPERATING RATE:   [illegible] TONS BURNED
*                           *                                 *
* EMERGENCY CONTROL         * FUEL SULFUR CONTENT: 1.21 %     *  HOURLY MAXM DESIGN RATE:    [illegible] TONS BURNED
* ACTION PLAN               *                                 *
* ******************        *    FUEL ASH CONTENT: 11.3 %     *   BOILER DESIGN CAPACITY:     1,033 MILLION BTU/HR
* STATUS UNKNOWN            *                                 !-------------------------------------------------------
*                           *   FUEL HEAT CONTENT:      24 MILLION BTU/TONS BURNED                    COMMENTS:
```

Figure 2.1.1-a. Point source report.

CONDENSED POINT SOURCE REPORT

General Description

The "Condensed Point Source Report" is an abbreviated listing for emission points. To generate this report, a particular pollutant and the minimum value of emissions of that pollutant must be specified. Emission points emitting more than that minimum value of the pollutant will be included in the report.

A heading containing the creation date, minimum value, specified pollutant, and an indication of whether the data are in English or metric units is printed first. Next is displayed a five-line summary for each SCC per emission point.

The five line summary includes the following information for each SCC per emission point: geographic location, ownership, year of record, and annual emissions of each of the five criteria pollutants. Also included are the control equipment, control efficiency, and estimation method relevant to the specified pollutant.

Retrievals Available

The retrievals available for the "Condensed Point Source Report" are exactly the same as those available for the "Point Source Report."

Sorts Available

The sorts available for the "Condensed Point Source Report" are exactly the same as those available for the "Point Source Report."

Sample Report

Figure 2.1.1.b is a sample "Condensed Point Source Report." The pollutant specified is hydrocarbons and the minimum value of the pollutant included is 50 tons. The retrieval requested is for the State of Rhode Island. The condensed point source report presents only "Computer Calculated SCC Emissions," as described for the full point source report.

FILE CREATED ON WEDNESDAY MARCH 12, 1975

N A T I O N A L E M I S S I O N D A T A S Y S T E M

CONDENSED POINT SOURCE LISTING FOR HYDROCARBONS
FOR ALL VALUES > THAN OR = TO 50
EMISSIONS ARE IN SHORT TONS PER YEAR

		PART	SOX	NOX	HC	CO
0006: US NAVY AIR STATION, KINGSTON 41: RHODE ISLAND 0380: WASHINGTON 120: METROPOLITAN PROVIDENCE (MAS 060: NO CONTROL EQUIPMENT ESTIMATE BY (3) USED EMISSIONS FACTORS	OWNERSHIP: FEDRL GOVT YEAR OF RECORD: 1969 EFF = % POINT: 07 SIC = 4953 SCC = 5-01-002-01	93	6	35	175	496
0040: PROVIDENCE DUMP, PROVIDENCE 41: RHODE ISLAND 0320: PROVIDENCE 120: METROPOLITAN PROVIDENCE (MAS 060: NO CONTROL EQUIPMENT ESTIMATE BY (3) USED EMISSIONS FACTORS	OWNERSHIP: LOCAL GOVT YEAR OF RECORD: 1969 EFF = % POINT: 02 SIC = 4953 SCC = 5-01-002-01	40	3	15	75	213

Figure 2.1.1.b. Condensed Point Source Report

AREA SOURCE REPORT

General Description

Area sources are an aggregation of all sources not defined as point sources in a specific geographic area. Area sources usually include all mobile sources and any stationary sources too small, difficult, or numerous to classify as point sources. Area source emissions are assumed to be spread over the entire area that has been defined as an area source. Activity level data for these sources are compiled on a countywide basis. The "Area Source Report" is a formatted listing of the following information for each area source retrieved:

a. Area identification
b. Total emissions estimated from SIP's
c. Activity of stationary sources
d. Activity of solid waste disposal
e. Activity of mobile sources - fuel usage
f. Activity of miscellaneous sources
g. Total calculated emissons

Two area sources are printed per page of computer output.

Retrievals Available

The "Area Source Report" retrieval options are as follows:

a. State
b. State/County

Sorts Available

Area sources are sorted sequentially within state by county. No other sort options are available for area sources.

Sample Report

Figure 2.1.1.c is a sample "Area Source Report" retrieved for the first two counties of the State of Rhode Island.

SOURCE ID: A STATE- 41 COUNTY- 0060 AQCR- 120 YEAR- 72

EM-EST-PRT(100-TONS) =		EM-EST-SO2(100-TONS) =		EM-EST-NOX(100-TONS) =		EM-EST-HC(100-TONS) =	
EM-EST-CO(100-TONS) =		% SULF-ANTH-COAL =	0.7	% SULF-BITUM-COAL =	2.0	% SULF-DIST-OIL =	0.2
% SULF-RESID-OIL =	0.7	% ASH-ANTH-COAL =	11.0	% ASH-BITUM-COAL =	8.0	RES-ANTH(10-TONS) =	15
RES-BITUM(10-TONS) =	0	RES-DIS-OIL(10E4-GAL) =	1034	RES-RID-OIL(10E4-GAL) =	0	RES-N-GAS(10E7-CUFT) =	53
RES-WOOD(100-TONS) =	2	CI-ANTH(10-TONS) =	4	CI-BITUM(10-TONS) =	3	CI-DIS-OIL(10E4-GAL) =	168
CI-RID-OIL(10E4-GAL) =	380	CI-N-GAS(10E7-CUFT) =	23	CI-WOOD(100-TONS) =		IND-ANTH(10-TONS) =	0
IND-BITUM(10-TONS) =	36	IND-COKE(10-TONS) =		IND-DIS-OIL(10E4-GAL) =	285	IND-RD-OIL(10E4-GAL) =	295
IND-N-GAS(10E7-CUFT) =	17	IND-WOOD(100-TONS) =		IND-PR-GAS(10E7-CUFT) =			
RES-OS-INC(10-TONS) =	40	IND-OS-INC(100-TONS) =	1	CI-OS-INC(100-TONS) =	4	PART-EMS(T/YR) =	363.090
RES-OP-BRN(100-TONS) =	73	IND-OPN-BRN(100-TONS) =	7	CI-OPN-BRN(100-TONS) =	6	SO2-EMS(T/YR) =	672.150
GAS-LT-VEH(1000-GAL) =	15879	GAS-HVY-VEH(1000-GAL) =	1859	GAS-OFF-HWY(1000-GAL) =	0	NOX-EMS(T/YR) =	1996.249
DIE-HV-VEH(1000-GAL) =	1086	DIE-OFF-HWY(10E4-GAL) =	32	DIE-RR-LOC(10E4-GAL) =	4	HC-EMS(T/YR) =	3446.594
COUNTY-POP(1000) =	45	DENSITY-CODE =	9	MIL-AIRCRAFT(100--TO) =		CO-EMS(T/YR) =	16886.487
CIV-AIRCRAFT(10-LTO) =		COMM-AIRCRAFT(10-LTO) =		VES-BITUM(10-TONS) =	0	NO. 6-EMS(T/YR) =	0.000
VES-DIE-OL(10E4-GAL) =		VES-RID-OIL(10E4-GAL) =		VES-GAS(1000-GAL) =	711	NO. 7-EMS(T/YR) =	0.000
EVAP-SOLVENT(T/YR) =	112	EVAP-GAS(10E5-GAL) =	175	VEH-MI-LA-RD(10E4-MI) =		NO. 8-EMS(T/YR) =	0.000
VEH-MI-RURL(10E4-MI) =		VEH-MI-SUBAN(10E4-MI) =		VEH-MI-URBAN(10E4-MI) =		NO. 9-EMS(T-YR) =	0.000
DIRT-RD-TRV(1000-MI) =		DIRT-AIR-STRIPS(LTO) =		CONST-LAND(1000-ACRE) =		NO. 10-EMS(T/YR) =	0.000
ROCK-H-ST(1000-TONS) =		FOREST-FIRE-AR(ACRES) =		FOR-FIRE QU(TON/ACRE) =		NO. 11-EMS(T/YR) =	0.000
SLASH-BRN-ARE(ACRES) =		SLASH-BN-QU(TON/ACRE) =		ORCHARD-HEATERS(100) =		NO. 12-EMS(Y/YR) =	0.000
ORCH-DA-FIRED(DA/YR) =		STRUCTURE-FIRES(#/YR) =		CRB-SIZE-BK(100-CUYD) =			
COAL-REF-BURN(#/YR) =		COMMENTS =					

SOURCE ID: A STATE- 41 COUNTY- 0140 AQCR- 120 YEAR- 72

EM-EST-PRT(100-TONS) =		EM-EST-SO2(100-TONS) =		EM-EST-NOX(100-TONS) =		EM-EST-HC(100-TONS) =	
EM-EST-CO(100-TONS) =		% SULF-ANTH-COAL =	0.7	% SULF-BITUM-COAL =	2.0	% SULF-DIST-OIL =	0.2
% SULF-RESID-OIL =	0.7	% ASH-ANTH-COAL =	11.0	% ASH-BITUM-COAL =	8.0	RES-ANTH(10-TONS) =	63
RES-BITUM(10-TONS) =	0	RES-DIS-OIL(10E4-GAL) =	3346	RES-RID-OIL(10E4-GAL) =	0	RES-N-GAS(10E7-CUFT) =	172
RES-WOOD(100-TONS) =	3	CI-ANTH(10-TONS) =	13	CI-BITUM(10-TONS) =	8	CI-DIS-OIL(10E4-GAL) =	845
CI-RID-OIL(10E4-GAL) =	1896	CI-N-GAS(10E7-CUFT) =	72	CI-WOOD(100-TONS) =		IND-ANTH(10-TONS) =	0
IND-BITUM(10-TONS) =	73	IND-COKE(10-TONS) =		IND-DIS-OIL(10E4-GAL) =	1388	IND-RD-OIL(10E4-GAL) =	1441
IND N-GAS(10E7-CUFT) =	35	IND-WOOD(100-TONS) =		IND-PR-GAS(10E7-CUFT) =			
RES-OS-INC(10-TONS) =	125	IND-OS-INC(100-TONS) =	2	CI-OS-INC(100-TONS) =	15	PART-EMS(T/YR) =	1119.887
RES-OP-BRN(100-TONS) =	228	IND-OPN-BRN(100-TONS) =	20	CI-OPN-BRN(100-TONS) =	19	SO2-EMS(T/YR) =	2895.824
GAS-LT-VEH(1000-GAL) =	52096	GAS-HVY-VEH(1000-GAL) =	6100	GAS-OFF-HWY(1000-GAL) =	0	NOX-EMS(T/YR) =	6875.385
DIE-HV-VEH(1000-GAL) =	3366	DIE-OFF-HWY(10E4-GAL) =	102	DIE-RR-LOC(10E4-GAL) =	12	HC-EMS(T/YR) =	11140.904
COUNTY-POP(1000) =	142	DENSITY-CODE =	9	MIL-AIRCRAFT(100-LTO) =		CO-EMS(T/YR) =	52711.130
CIV-AIRCRAFT(10-LTO) =		COMM-AIRCRAFT(10-LTO) =		VES-BITUM(10-TONS) =	0	NO. 6-EMS(T/YR) =	0.000
VES-DIE-OL(10E4-GAL) =		VES-RID-OIL(10E4-GAL) =		VES-GAS(1000-GAL) =	619	NO. 7-EMS(T/YR) =	0.000
EVAP-SOLVENT(T/YR) =	710	EVAP-GAS(10E5-GAL) =	551	VEH-MI-LA-RD(10E4-MI) =		NO. 8-EMS(T/YR) =	0.000
VEH-MI-RURL(10E4-MI) =		VEH-MI-SUBAN(10E4-MI) =		VEH-MI-URBAN(10E4-MI) =		NO. 9-EMS(T/YR) =	0.000
DIRT-RD-TRV(1000-MI) =		DIRT-AIR-STRIPS(LTO) =		CONST--AND(1000-ACRE) =		NO. 10-EMS(T/YR) =	0.000
ROCK-H-ST(1000-TONS) =		FOREST-FIRE-AR(ACRES) =		FOR-FIRE-QU(TON/ACRE) =		NO. 11-EMS(T/YR) =	0.000
SLASH-BRN-ARE(ACRES) =		SLASH-BN-QU(TON/ACRE) =		ORCHARD-HEATERS(100) =		NO. 12-EMS(T/YR) =	0.000
ORCH-DA-FIRED(DA/YR) =		STRUCTURE-FIRES(#/YR) =		CRB-SIZE-BK(100-CUYD) =			
COAL-RED-BURN (#/YR) =		COMMENTS =					

Figure 2.1.1.c. Area Source Report

ALLOWED VERSUS COMPUTED EMISSIONS REPORT

General Description

For each pollutant, allowed emissions may be entered into NEDS for a given emission point. The calculated emissions refer to the emissions associated with each SCC of that point source. The "Allowed Versus Computed Emissions Report" was written to permit comparison of coded allowable emissions with total calculated emissions for the emission point.

Each plant requested is represented in the report by one or more pages of computer output. A heading containing the creation date and identifying geographic data is printed on the first page. In the pages that follow, the emission data for each plant are described with the points listed in ascending numerical order. For each point, the report prints the allowed emissions for each pollutant (zero values are printed as blanks), the calculated emissions of each pollutant for each SCC, and the totals of the calculated emissions for each pollutant.

Retrievals Available

The data may be retrieved for all or any combination of the five criteria pollutants. The options available for retrieval include any combination of the following keys compatible with the restrictions set forth in the NEDS Point Source Report:

a. Nation
b. State
c. County
d. Plant
e. Point

Sorts Available

The data may be sorted either by state or AQCR.

Sample Report

Figure 2.1.1.d is a sample from an "Allowed Versus Computed Emissions Report" retrieved for the State of Vermont and the Air Quality Control Region of Champlain Valley.

N A T I O N A L E M I S S I O N D A T A S Y S T E M PAGE 2

ALLOWED VERSUS COMPUTED EMISSIONS

DATE: MAY 22, 1975 FILE CREATED ON: MARCH 12, 1975

STATE(47): VERMONT
AQCR(159): CHAMPLAIN VALLEY (N.Y.-VT)

PLANT NAME AND ADDRESS: GE-ARMAMENT SYS DEPT,LAKESIDE AVE,05401

POINT NUMBER: 01

SCC NAME				YEAR OF RECORD
SCC1: EXTCOMB BOILER	INDUSTRIAL	DISTILLATE OIL	<10MMBTU/HR	72

	PART	SOX	NOX	HC	CO
ALLOWED EMISSIONS:	8	25	0	0	0
COMPUTED EMISSIONS:					
SCC1 :	2	3	7	<1	<1
TOTAL:	2	3	7	<1	<1

REGULATIONS:

POINT NUMBER: 02

SCC NAME				YEAR OF RECORD
SCC1 : EXTCOMB BOILER	INDUSTRIAL	NATURAL GAS	10-100MMBTU/HR	72

	PART	SOX	NOX	HC	CO
ALLOWED EMISSIONS:	9	0	0	0	0
COMPUTED EMISSIONS:					
SCC1 :	<1	<1	8	<1	<1
TOTAL:	<1	<1	8	<1	<1

REGULATIONS:

POINT NUMBER: 03

SCC NAME				YEAR OF RECORD
SCC1 : INDUSTRIAL PROCES INPROCESS FUEL		NATURAL GAS	OTHER/NOT CLASIFD	72

Figure 2.1.1.d. Allowed Versus Computed Emissions Report

	PART	SOX	NOX	HC	CO
ALLOWED EMISSIONS:	2	0	0	0	0
COMPUTED EMISSIONS:					
SCC1 :					
TOTAL:					

REGULATIONS:

POINT NUMBER: 04

SCC NAME				YEAR OF RECORD
SCC1 : POINT SC EVAP	SURFACE COATING	PAINT	GENERAL	72

	PART	SOX	NOX	HC	CO
ALLOWED EMISSIONS:				0	
COMPUTED EMISSIONS:					
SCC1 :				11	
TOTAL:				11	

REGULATIONS:

Figure 2.1.1.d (continued). Allowed Versus Computed Emissions Report

POINT SOURCE CARDS

General Description

The "Point Source Cards" report selects data from NEDS and creates punched cards or a magnetic tape in the NEDS point source input format.

Retrievals Available

Cards may be retrieved for any one or all of the criteria pollutants subject to the restrictions set forth in the NEDS Point Source Report for the following key items:

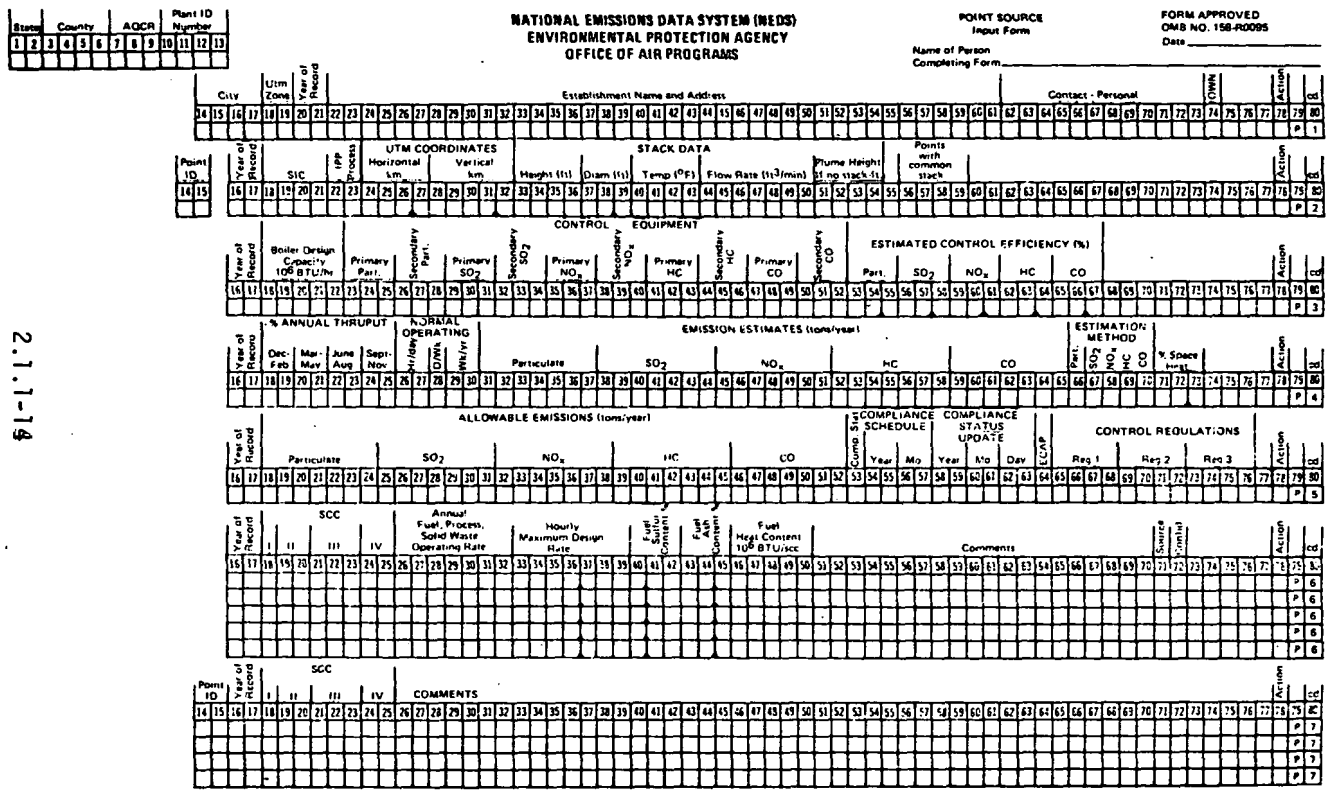
a. State
b. County
c. Plant
d. Point
e. SCC (any one of the four parts or combination thereof)
f. Ownership
g. SIC
h. Estimation method
i. AQCR
j. Point emitting more than the specified minimum of a certain pollutant

Sorts Available

No sorts are available for the "Point Source Cards."

Sample Report

Figure 2.1.1.e gives the format of NEDS point source cards.



2.1.1.e. Point Source Cards Format

AREA SOURCE CARDS

The "Area Source Cards" report is similar to the "Point Source Cards" report. This report outputs selected data from NEDS onto computer cards or onto magnetic tape in the NEDS area source input format. The nation, a state, a county, or an AQCR may be retrieval keys. Figure 2.1.1.f gives the format for NEDS area source cards.

NATIONAL EMISSIONS DATA SYSTEM (NEDS)
ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF AIR PROGRAMS

AREA SOURCE
Input Form
Date _____

FORM APPROVED
OMB NO 158 R0095

Name of Person Completing Form _____

State	County	AQCR
1 2	3 4 5	6 7 8 9

Year of Record	Particulate	SO_2	NO_x	HC	CO	Sulfur Content (%) Anth. Coal	Bitum. Coal	Dist. Oil	Resid. Oil	Ash Content (%) Anth. Coal	Bitum. Coal	Anth. Coal 10^1 tons	Bitumin. Coal 10^1 tons	Residential Fuel: Dist. Oil 10^4 Gal.	Resid. Oil 10^4 Gal.	Nat. Gas 10^7 ft.^{3}	Wood 10^2 tons	Action	cd
10 11	12 13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28 29	30 31 32 33 34	35 36	37 38	39 40	41	42 43	44 45	46 47	48 49 50 51 52	53 54 55 56 57	58 59 60 61 62	63 64 65 66 67	68 69 70 71 72	73 74 75 76 77	78 79 80
																			A 1

Comercial and Institutional Fuel: Anth. 10^1 tons	Bitumin. 10^1 tons	Dist. Oil 10^4 Gals.	Resid. Oil 10^4 Gals.	Nat. Gas 10^7 Ft^3	Wood 10^2 tons	Industrial Fuel: Anth. Coal 10^1 tons	Bitum. Coal 10^1 tons	Coke 10^1 tons	Dist. Oil 10^4 Gals.	Resid. Oil 10^4 Gals.	Nat. Gas 10^7 Ft.^{3}	Wood 10^2 tons	Process Gas 10^7 ft^3	Action	cd
10 11 12 13 14	15 16 17 18 19	20 21 22 23 24	25 26 27 28 29	30 31 32 33 34	35 36 37 38 39	40 41 42 43 44	45 46 47 48 49	50 51 52 53 54	55 56 57 58 59	60 61 62 63 64	65 66 67 68 69	70 71 72 73 74	75 76 77 78 79	80	
														A	2

On Site Incineration: Residential 10^1 tons	Industrial 10^2 tons	Comm. Inst. 10^2 tons	Open Burning: Residential 10^2 tons	Industrial 10^2 tons	Comm'l - Institl. 10^2 tons	Gasoline Fuel: Light Vehicle 10^3 Gals.	Heavy Vehicle 10^3 Gals.	Off Hiway 10^3 Gals.	Diesel Fuel: Heavy Vehicle 10^3 Gals.	Off Hiway 10^4 Gals.	Rail Locomotive 10^4 Gals.	Pop Code	Action	cd
10 11 12 13 14	15 16 17 18 19	20 21 22 23 24	25 26 27 28 29	30 31 32 33 34	35 36 37 38 39	40 41 42 43 44	45 46 47 48 49	50 51 52 53 54	55 56 57 58 59	60 61 62 63 64	65 66 67 68 69	70 71 72 73 74	75 76 77 78 79	80
														A 3

Aircraft: Military LTO CYC 10^2	Civil LTO CYC 10^1	Commercial LTO CYC 10^1	Vessels: Coal 10^1 tons	Diesel Oil 10^4 Gals.	Resid. Oil 10^4 Gals.	Gasoline 10^3 Gals.	Evaporation: Solvent Purchased tons yr	Gasoline Marketed 10^5 Gals.	Measured Vehicle Miles: Limited Access Road 10^4 Miles	Rural Roads 10^4 Miles	Suburban Roads 10^4 Miles	Urban Roads 10^4 Miles	Action	cd
10 11 12 13 14	15 16 17 18 19	20 21 22 23 24	25 26 27 28 29	30 31 32 33 34	35 36 37 38 39	40 41 42 43 44	45 46 47 48 49	50 51 52 53 54	55 56 57 58 59	60 61 62 63 64	65 66 67 68 69	70 71 72 73 74	75 76 77 78 79	80
														A 4

Dirt Roads Traveled 10^3 Vehicle-miles	Dirt Air Strips LTO CYCLES	Construction Acres	Miscellaneous Wind Erosion 10^3 Acres	Land Tilling 10^3 Acres	Forest Wildfires: Acres Burned	Tons/acres Burned	Managed Burning (Slash/Prescribed Burning): Acres Burned	Tons/Acres Burned	Agricultural Field Burning: Acres Burned	Tons/Acres Burned	Frost Control 10^2 Orchard Heaters Operating	Days/Fired Days/year	Structure Fires: Fires/year	Action	cd
10 11 12 13 14	15 16 17 18 19	20 21 22 23 24	25 26 27 28 29	30 31 32 33 34	35 36 37 38 39	40 41 42 43 44	45 46 47 48 49	50 51 52 53 54	55 56 57 58 59	60 61 62 63 64	65 66 67 68 69	70 71 72 73 74	75 76 77 78 79	80
														A 5

COMMENTS	Action	cd
10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79	80
	A 6

EPA FORM 219
3/72

Figure 2.1.1.f. Area Source Cards Format

FORM APPROVED
OMB NO. 158-R0095

NATIONAL EMISSIONS DATA SYSTEM (NEDS)
ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF AIR PROGRAMS

AREA SOURCE
Input Form
Date _____

Name of Person
Completing Form _____

SOURCE EMISSION ESTIMATES (tons/yr)

State	County	AQCR	Year of Record	Source Code	Particulate	SO_2	NO_2	HC	CO	COMMENTS	Action	Cd
1 2	3 4 5 6	7 8 9	10 11	12 13	14 15 16 17 18 19	20 21 22 23 24	25 26 27 28 29 30	31 32 33 34 35 36	37 38 39 40 41 42 43	44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77	78 79	80
											A	7
											A	7
											A	7
											A	7
											A	7
											A	7
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											A	7
											A	7
											A	7
											A	7
											A	7
											A	7
											A	7
1 2	3 4 5 6	7 8 9	10 11	12 13	14 15 16 17 18 19	20 21 22 23 24	25 26 27 28 29 30	31 32 33 34 35 36	37 38 39 40 41 42 43	44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77	78 79	80

Figure 2.1.1.f (continued). Area Source Cards Format

2.1.2.1 EMISSION SUMMARY REPORT

2.1.2.1.1 GENERAL DESCRIPTION

The "Emission Summary Report" shows the annual number of tons of particulates, sulfur oxides, nitrogen oxides, hydrocarbons, and carbon monoxide emitted by SCC group within a given geographical area based on emissions as of a specific date. The emission sources included are:

- Fuel Combustion
  - Residential Fuel (Area)
  - Electric Generation (Point)
  - Industrial Fuel (Area and Point)
  - Commercial Industrial Fuel (Area and Point)
  - Internal Combustion (Point)
- Industrial Process (Point)
  - 13 Categories
- Solid Waste Disposal
  - Government (Point)
  - Residential (Area)
  - Commercial-Institutional (Area and Point)
  - Industrial (Area and Point)
  - Other (Point)
- Transportation (Area)
  - Land Vehicles
  - Aircraft
  - Vessels
  - Gas Handling Evaporative Loss
- Miscellaneous (Area)
- Other (Point)

A grand total of emissions, subdivided in area and point source emissions, is also printed.

2.1.2.1.2 RETRIEVALS AVAILABLE

The retrieval keys for the "Emission Summary Report" are as follows:

a. Nation
b. State
c. EPA Region
d. State/County
e. AQCR
f. State portions of interstate AQCRs

2.1.2.1.3 SAMPLE REPORTS

A sample "Emission Summary Report" for the nation is represented in Figure 2.1.2.a.

The format of this report is somewhat shorter when retrieval is for an area where all categories of emissions are not present because the inactive categories will be omitted.

NATIONAL EMISSIONS DATA SYSTEM
****

ENVIRONMENTAL PROTECTION AGENCY
****

NATIONWIDE EMISSIONS REPORT
****
UNITED STATES

RUN DATE: MAY 07, 1975
EMISSIONS AS OF: MARCH 12, 1975

	PARTICULATES ********** TONS / YR	SOX ********** TONS / YR	NOX ********** TONS / YR	HC ********** TONS / YR	CO ********** TONS / YR
FUEL COMBUSTION **********					
EXTERNAL COMBUSTION					
RESIDENTIAL FUEL (AREA)					
ANTHRACITE COAL	14385	38054	4315	3596	129462
BITUMINOUS COAL	51647	193427	7747	51647	232414
DISTILLATE OIL	73902	234832	88683	22171	36951
RESIDUAL OIL	9427	31472	16395	1230	1639
NATURAL GAS	28048	1683	224386	22439	56096
WOOD	59178	3551	23671	47342	47342
TOTAL (RESIDENTIAL)	236587	503019	365197	148425	503905
ELEC GENERATION (POINT)					
ANTHRACITE COAL	23659	62243	34406	191	4715
BITUMINOUS COAL	3381794	17184403	4472014	58237	188704
LIGNITE	64381	141895	84121	1647	5589
RESIDUAL OIL	64668	1886323	976393	20630	30255
DISTILLATE OIL	2727	32029	46232	1112	1209
NATURAL GAS	37070	126425	1434710	3954	43077
PROCESS GAS	143	3941	11458	124	245
COKE	287	3435	362	1	20
OTHER	4891	46542	24029	1728	1
TOTAL (ELEC GEN)	3579619	19487235	7083724	87623	273815
INDUSTRIAL FUEL					
ANTHRACITE					
AREA SOURCES	106	154	86	1	11
POINT SOURCES	8945	10606	3214	46	1349
BITUMINOUS COAL					
AREA SOURCES	870920	646022	119991	7999	15999
POINT SOURCES	1077076	2109490	501722	16509	51471
LIGNITE					
POINT SOURCES	9515	11079	6914	535	1085

Figure 2.1.2.a. Emissions Summary Report

RESIDUAL OIL					
AREA SOURCES	49115	401508	128126	6406	8542
POINT SOURCES	123013	978123	394354	22252	39955
DISTILLATE OIL					
AREA SOURCES	34812	74908	139247	6962	9283
POINT SOURCES	43885	208930	238629	11974	15764
NATURAL GAS					
AREA SOURCES	19602	1176	352837	5881	33323
POINT SOURCES	44375	52965	1248720	20019	103419
PROCESS GAS					
AREA SOURCES	62	6	713	93	0
POINT SOURCES	12660	120247	13686	834	8404
COKE					
POINT SOURCES	1016	1569	236	9	39
WOOD					
AREA SOURCES	1940	116	776	1552	1552
POINT SOURCES	260243	23307	153270	37822	178234
LIQUID PETROL GAS					
POINT SOURCES	284	18610	1939	56	253
BAGASSE					
POINT SOURCES	41745	0	5731	5762	5761
OTHER					
POINT SOURCES	9620	18578	2830	2999	7929
TOTAL (INDUSTRIAL)					
AREA SOURCES	976557	1123891	741776	28895	68711
POINT SOURCES	1632380	3553504	2571244	118815	413664
COMM-INSTITUTIONAL FUEL					
ANTHRACITE COAL					
AREA SOURCES	1163	3576	1327	27	796
POINT SOURCES	6728	2624	818	51	285
BITUMINOUS COAL					
AREA SOURCES	101876	163147	18986	4127	14859
POINT SOURCES	57771	95089	21593	1286	3583
LIGNITE					
POINT SOURCES	3761	2607	1062	85	225
RESIDUAL OIL					
AREA SOURCES	70431	539696	183733	9187	12249
POINT SOURCES	7740	70143	20701	1041	1382
DISTILLATE OIL					
AREA SOURCES	60783	128685	243134	12157	16209
POINT SOURCES	1466	7342	6151	315	407
NATURAL GAS					
AREA SOURCES	12238	734	146860	9791	24477
POINT SOURCES	5999	4971	23271	1535	3033
WOOD					
AREA SOURCES	58	3	23	46	46
POINT SOURCES	242	81	543	271	543
LIQUID PETROL GAS					
POINT SOURCES	3	1	23	2	3
OTHER					
POINT SOURCES	114	178	4068	130	21
TOTAL (COMM-INST)					
AREA SOURCES	246549	835841	594063	35334	68636
POINT SOURCES	83824	183036	78230	4716	9481

Figure 2.1.2.a (continued). Emissions Summary Report

OTHER (POINT)	1	0	0	0	0
TOTAL (EXTERNAL COMB)					
AREA SOURCES	1459693	2462751	1701036	212653	641251
POINT SOURCES	5295824	23223775	9733198	211154	696960
INTERNAL COMBUSTION (POINT)					
ELECTRIC GENERATION					
DISTILLATE OIL	3706	16144	43416	2321	5717
NATURAL GAS	683	325	24896	2064	4842
DIESEL	1590	1069	11256	1285	5955
OTHER	174	311	2782	1157	103
TOTAL (ELEC GEN)	6153	17849	82350	6826	16617
INDUSTRIAL FUEL					
DISTILLATE OIL	522	751	4686	160	288
NATURAL GAS	1835	9839	248631	43920	28582
GASOLINE	8	4	164	259	2142
DIESEL FUEL	194	301	3373	993	867
OTHER	366	40	2438	933	398
TOTAL (INDUSTRIAL)	2925	10935	259293	46265	32276
ENGINE-TESTING					
AIRCRAFT	255	126	342	573	836
OTHER	1414	0	22	0	165
TOTAL (ENG TESTING)	1669	126	364	573	1001
OTHER (POINT)	46	351	0	0	0
TOTAL (INTERNAL COMB)	10793	29261	342007	53664	49894
TOTAL (FUEL COMBUSTION)					
AREA SOURCES	1459693	2462751	1701036	212653	641251
POINT SOURCES	5306617	23253036	10075205	264819	746854
INDUSTRIAL PROCESS (POINT)					
**********					
CHEMICAL MANUFACTURING	226916	699182	173348	1569743	3939478
FOOD/AGRICULTURAL	459164	3001775	716	36809	1397
PRIMARY METAL	1631693	3619900	18119	117527	8769525
SECONDARY METALS	163021	101097	19423	3597	1228484
MINERAL PRODUCTS	3845333	795510	193996	13465	36085
PETROLEUM INDUSTRY	1037235	2990149	3284981	1029697	4412017
WOOD PRODUCTS	423309	130083	19113	21528	875357
EVAPORATION	10841	2696	1078	3197565	4431
METAL FABRICATION	2352	1069	336	1699	0
LEATHER PRODUCTS	62	27	4	438	1
TEXTILE MANUFACTURING	714	38	24	9775	2
INPROCESS FUEL	74416	63721	31154	28632	371811
OTHER/NOT CLASSIFIED	11877	17674	7765	107598	900
TOTAL (INDUSTRIAL)	7886931	11422921	3750057	6138074	19639486

Figure 2.1.2.a (continued). Emissions Summary Report

SOLID WASTE DISPOSAL					
**********					
GOVERNMENT (POINT)					
MUNICIPAL INCINERATION	53651	8881	7199	18372	106262
OPEN BURNING	22665	1385	8342	44085	119517
OTHER	887	122	252	390	1412
TOTAL (GOVERNMENT)	77203	10388	15794	62847	227192
RESIDENTIAL (AREA)					
ON SITE INCINERATION	96548	1509	3017	271542	814626
OPEN BURNING	223367	13960	83763	418814	1186638
TOTAL (RESIDENTIAL)	319916	15469	86780	690356	2001265
COMMERCIAL-INSTITUTIONAL					
ON SITE INCINERATION					
AREA SOURCES	44040	13763	16515	27525	63307
POINT SOURCES	1408	856	1012	1633	13252
OPEN BURNING					
AREA SOURCES	21716	1357	8143	40718	115366
POINT SOURCES	1450	1	171	345	4270
APARTMENT					
POINT SOURCES	24	1	10	12	21
OTHER					
POINT SOURCES	48	0	24	0	0
TOTAL (COMM-INST)					
AREA SOURCES	65756	15120	24658	68243	178674
POINT SOURCES	2931	858	1217	1990	17544
INDUSTRIAL					
ON SITE INCINERATION					
AREA SOURCES	18703	5845	7014	11689	26885
POINT SOURCES	58317	21978	10466	65299	5168722
OPEN BURNING					
AREA SOURCES	17790	1112	6671	33356	94507
POINT SOURCES	10398	334	2438	35733	40432
AUTO BODY INCINERATION					
POINT SOURCES	101	0	4	32	99
OTHER					
POINT SOURCES	3800	5741	527	274	471
TOTAL (INDUSTRIAL)					
AREA SOURCES	36492	6956	13685	45045	121393
POINT SOURCES	72615	28053	13435	101337	5209723
OTHER (POINT)	26	0	0	0	0
TOTAL (SOLID WASTE DISP)					
AREA SOURCES	422164	37545	125123	803643	2301331
POINT SOURCES	152775	39300	30446	166174	5454459
TRANSPORTATION (AREA)					

Figure 2.1.2.a (continued). Emissions Summary Report

**********					
LAND VEHICLES					
GASOLINE					
LIGHT VEHICLES	666245	172730	5669342	8834758	52789926
HEAVY VEHICLES	65654	24879	706630	1835126	10304437
OFF HIGHWAY	19935	10433	227300	640911	7266141
TOTAL (GASOLINE)	751834	208043	6603272	11310795	70360504
DIESEL					
HEAVY VEHICLES	84754	118655	1074240	134723	610096
OFF HIGHWAY	49812	44576	551967	60432	155568
RAIL	57231	130486	847015	215188	297600
TOTAL (DEISEL)	191796	293717	2473222	410343	1063263
AIRCRAFT					
MILITARY	154806	29561	74369	360177	386626
CIVIL	10266	2039	9273	45465	259800
COMMERCIAL	5568	8043	77957	102397	211289
TOTAL (AIRCRAFT)	170640	39643	161600	508038	857716
VESSELS					
BITUMINOUS COAL	1273	3183	191	1273	5729
DIESEL FUEL	18459	23074	172284	45225	60299
RESIDUAL OIL	4973	73692	10770	747	361
GASOLINE	0	2136	9290	315644	1003551
TOTAL (VESSELS)	24705	102085	192535	362889	1069940
GAS HANDLING EVAP LOSS	0	0	0	1194082	0
TOTAL (TRANSPORTATION)	1138975	643488	9430630	13786146	73351424
MISCELLANEOUS (AREA)					
**********					
FOREST FIRE/AGRIC BURNING	219573	0	51664	309985	1808249
STRUCTURAL FIRES	538	0	54	134	1613
SLASH BURNING	241613	0	28425	284251	852752
FROST CONTROL	7	0	0	1536	786
SOLVENT EVAPORATION LOSS	0	0	0	1568383	0
TOTAL (MISCELLANEOUS)	461731	0	80143	2164290	2663399
OTHER (POINT)	299	132	86	554	5
**********					
GRAND TOTAL					
**********					
AREA SOURCES	3482563	3143784	11336931	16966732	78957405
POINT SOURCES	13346622	34715388	13855795	6569620	25840804
TOTAL	16829184	37859172	25192726	23536353	104798209

Figure 2.1.2.a (continued). Emissions Summary Report

2.1.2.2 AREA SOURCE FUEL USAGE REPORT

2.1.2.2.1 GENERAL DESCRIPTION

The "Area Source Fuel Usage Report" presents a summary by use category of the amount of fuel used within each county requested. The use categories considered are residential, commercial-institutional, and industrial. Each use category is subdivided into fuel types. Residential and commercial-institutional fuels are divided into the following fuel types: anthracite coal, bituminous coal, distillate oil, residual oil, natural gas, and wood. In addition to the aforementioned fuel types, coke and process gas are also considered under the heading of industrial fuel.

A total of the entire amount of fuel used is printed for each state, with subtotals printed for each fuel type.

2.1.2.2.2 RETRIEVALS AVAILABLE

Retrieval is by state only.

2.1.2.2.3 SAMPLE REPORT

A sample "Area Source Fuel Usage Report" for the State of Rhode Island is presented in Figure 2.1.2.b. Although all three use categories are presented on a single page in this figure, in the actual computer output each use category starts on a new computer page.

NATIONAL EMISSIONS DATA SYSTEM (NEDS)
ENVIRONMENTAL PROTECTION AGENCY

PAGE 1
DATE 05/06/75

AREA SOURCE FUEL USAGE REPORT
****

UPDATE DATE WEDNESDAY MARCH 12, 1975

STATE: RHODE ISLAND
*****

RESIDENTIAL FUEL
****

COUNTY	ANTH. COAL 10 TONS	BITUM. COAL 10 TONS	DIST. OIL 10,000 GALS.	RESID. OIL 10,000 GALS.	NAT. GAS 10E7 CUFT	WOOD 100 TONS
BRISTOL	15		1034		65	2
KENT	63		3346		172	3
NEWPORT			2018		64	2
PROVIDENCE	172		13667		1028	11
WASHINGTON	43		1769		62	4
TOTAL RESIDENTIAL -	293		21834		1389	22

COMMERCIAL AND INSTITUTIONAL
****

Page 2

COUNTY	ANTH. COAL 10 TONS	BITUM. COAL 10 TONS	DIST. OIL 10,000 GALS.	RESID. OIL 10,000 GALS.	NAT. GAS 10E7 CUFT	WOOD 100 TONS
BRISTOL	4	3	168	380	23	
KENT	13	8	846	1896	72	
NEWPORT	9	6	402	913	48	
PROVIDENCE	56	35	5138	11117	296	
WASHINGTON	8	5	367	833	44	
TOTAL COMMERCIAL -	90	57	6921	15139	483	

INDUSTRIAL FUEL
****

Page 3

COUNTY	ANTH. COAL 10 TONS	BITUM. COAL 10 TONS	DIST. OIL 10,000 GALS.	RESID. OIL 10,000 GALS.	NAT. GAS 10E7 CUFT	WOOD 100 TONS	COKE 10 TONS	PROCESS GAS 10E7 CUFT
BRISTOL		36	285	295	17			
KENT		73	1388	1441	35			
NEWPORT		15	57	60	7			
PROVIDENCE		522	4242	4402	251			
WASHINGTON		40	132	137	19			
TOTAL INDSUTRIAL -		685	6104	6335	329			
TOTAL USAGE FOR STATE -	383	743	34859	21474	2201	22		

Figure 2.1.2.b. Area Source Fuel Usage Report

2.1.2.3 ANNUAL FUEL SUMMARY REPORT

2.1.2.3.1 GENERAL DESCRIPTION

The "Annual Fuel Summary Report" summarizes fuel use by fuel type for both point and area sources in a specific geographic area. The area source fuel use data are reported for both stationary and mobile area sources. Stationary source fuel use is further subdivided into residential, industrial, and commercial-institutional categories. Mobile source fuel use is reported for light and heavy highway vehicles (farm machinery, construction equipment, etc.) and vessels. The point source fuel use is broken down according to the kind of equipment in which the fuel is consumed--either external combustion equipment (boilers), internal combustion engines, or inprocess fuel use (dryers, furnaces, etc.). External and internal combustion categories are subdivided into electric utility, industrial, and commercial-institutional portions. Inprocess fuel use is all by industrial sources. The fuel types included are anthracite and bituminous coal, residual and distillate oil, natural gas, wood/bark, gasoline, diesel fuel, lignite coal, coke, bagasse, industrial process gas, liquified petroleum gas, jet fuel, solid waste, and liquid waste.

The date of file creation is included at the beginning of each report. Subtotals are printed for area and point sources, and a grand total is given for each fuel. Either English or metric units of measurement may be selected.

2.1.2.3.2 RETRIEVALS AVAILABLE

The retrieval keys for the "Annual Fuel Summary Report" are as follows:

a. Nation
b. State
c. County
d. AQCR

2.1.2.3.3 SAMPLE REPORT

A sample "Annual Fuel Summary Report" is presented in Figure 2.1.2.c.

NEDS ANNUAL FUEL SUMMARY REPORT

NATIONAL REPORT — USER FILE CREATE DATE: SATURDAY DECEMBER 06, 1975

DATE OF RUN: 01/09/76

	ANTH COAL TONS	BITM COAL TONS	RESID OIL 1000 GALS	DIST OIL 1000 GALS	NAT GAS 1000 CUFT	WOOD/BARK TONS	GASOLINE 1000 GALS	DIESEL 1000 GALS
AREA SOURCES								
STATIONARY								
RESIDENTIAL	2876940	5187340	819730	14757640	5609690	4673800		
INDUSTRIAL	11940	1612218C	4271170	4649110	3967620	157500		
COMM-INSTL	265380	4122730	5819150	7510250	2446390	4760		
MOBILE								
LIGHT VEHICLE							83667348	
HEAVY VEHICLE							7850729	7699684
RAILROAD								4573060
OFF-HIGHWAY							3741866	2996860
VESSELS	127310		512680				687196	1547790
AREA TOTAL	3281070	2543225C	1142273C	26917000	12023700	4830000	95947139	16817394
POINT SOURCES								
EXT COMB								
ELEC GEN	4241402	386863097	20377090	860520	4257339	452710		
INDUSTRIAL	665326	51658754	8536821	2768187	4583453	33549673		
COMM-INSTL	97274	3017785	699386	231915	9842916	134915		
INPROCESS	373726	5109129	1272564	1780252	3678379	978971		
INTERNL COMB								
ELEC GEN				1078042	388225			70593
INDUSTRIAL			13	33012	1215881		2061	91710
COMM-INSTL								
POINT TOTAL	5377728	446648765	30885874	6749936	23574193	35116275	2061	162303
GRAND TOTAL	8658798	472081615	42308604	33666936	35597893	39952275	95949200	16979697

	LIGNITE TONS	COKE TONS	BAGASSE TONS	PROCESS GAS 1000 CUFT	LIQ-PETRO 1000 GALS	JET FUEL 1000 GALS	SOLID WASTE TONS	LIQUID WASTE 1000 GALS
POINT SOURCES								
EXT COMB								
ELEC GEN	8018397	40172		40564				
INDUSTRIAL	1142527	108042	7520107	2088499	219285		201219	
COMM-INSTL	161511				4949			
INPROCESS		2939671		10576559	45581			
INTERNL COMB								
ELEC GEN						699		
INDUSTRIAL						137		
COMM-INSTL								
GRAND TOTAL	9322435	3087885	7520107	12705843	329819	836	201219	

Figure 2.1.2.c. Annual Fuel Summary Report

2.1.2.4 PLANT EMISSION SUMMARY REPORT

2.1.2.4.1 GENERAL DESCRIPTION

The "Plant Emission Summary Report" lists the name, identifying geographic data, and criteria pollutant emissions for each plant in the region requested. For each of the five criteria pollutants, emission totals are printed, as well as subtotals for fuel combustion and process emissions. If the emissions totals are different from the sum of fuel combustion and process emissions, the difference is the plant solid waste emissions.

2.1.2.4.2 RETRIEVALS AVAILABLE

The retrieval keys for the "Plant Emission Summary Report" are nation, state, state/county, and AQCR.

2.1.2.4.3 SORTS AVAILABLE

The "Plant Emission Summary Report", if selected by nation, state, or state/county, can be sorted by state/county/plant codes. If selected by AQCR, the sort is by descending order of pollutant emission for any one of the five criteria pollutants.

2.1.2.4.4 SAMPLE REPORT

A sample page from the "Plant Emission Summary Report" retrieved for the Air Quality Control Region of Metropolitan Providence is presented in Figure 2.1.2.d.

PLANT EMISSIONS REPORT (TONS/YR) UPDATE DATE FRIDAY JANUARY 10, 1975

STATE *****	COUNTY ******	PLANT *****	AQCR ****	PLANT NAME AND ADDRESS **********		PART ****	SO2 ***	NOX ***	HC **	CO **
22	2121	0061	120	NEW ENGLAND POWER-BRAYTON PT, SOMERSET	PROC	0	0	0	0	0
					COMB	1050	63401	21201	404	606
					TOT	1050	63401	21201	404	606
41	0320	0042	120	PROVIDENCE INCINERATOR, PROVIDENCE	PROC	0	0	0	0	0
					COMB	0	0	0	0	0
					TOT	900	75	60	45	1050
22	2121	0054	120	CANAL ELECTRIC, SANDWICH	PROC	0	0	0	0	0
					COMB	650	30998	8531	163	244
					TOT	650	30998	8531	163	244
22	2121	0060	120	MONTAUP ELECTRIC CO, SOMERSET	PROC	0	0	0	0	0
					COMB	577	24129	7576	144	216
					TOT	577	24129	7576	144	216

Figure 2.1.2.d. Plant Emission Report

2.1.2.5 SCC EMISSIONS REPORT

2.1.2.5.1 GENERAL DESCRIPTION

For each state, the "SCC Emission Report" prints one line listing the total emissions in tons per year for each of the five criteria pollutants by county number and SCC category. The update date and the number of sources included in each SCC category in each county are also included.

2.1.2.5.2 RETRIEVALS AVAILABLE

The "SCC Emission Report" may be retrieved only for the nation.

2.1.2.5.3 SAMPLE REPORT

A sample "SCC Emission Report" for the first few counties of Alabama is presented in Figure 2.1.2.e.

*****SCC EMISSIONS REPORT (TONS/YR)***** UPDATE DATE: SUNDAY JUNE 15, 1975

STATE: 01

COUNTY	SCC	FREQ	PART	SO_2	NO_X	HC	CO
0240	10200401	(001)	6.3	2,994.3	0.0	0.0	0.0
	10200601	(001)	5.1	8.1	0.0	0.0	0.0
	10200902	(001)	967.6	1,029.6	0.0	0.0	0.0
	30700103	(001)	0.0	0.0	0.0	0.0	0.0
	30700104	(001)	110.0	815.5	0.0	0.0	0.0
	30700105	(001)	17.0	0.0	0.0	0.0	0.0
	30700106	(001)	140.0	0.0	0.0	0.0	0.0
	30700107	(001)	0.0	0.0	0.0	0.0	0.0
	30900199	(001)	278.0	0.0	0.0	0.0	0.0
	39000499	(001)	0.0	0.0	0.0	0.0	0.0
	39000503	(001)	0.0	0.0	0.0	0.0	0.0
	39000603	(001)	0.0	0.0	0.0	0.0	0.0
0260	30500201	(001)	30.6	0.0	0.0	0.0	0.0
	50300105	(002)	33.0	0.3	23.0	48.0	438.0
0280	30300001	(001)	18.0	0.0	0.0	0.0	0.0
	30500501	(001)	337.1	0.0	0.0	0.0	0.0
	30500502	(001)	7,200.0	0.0	0.0	0.0	0.0

Figure 2.1.2.e. SCC Emissions Report

2.1.2.6 PLANT NAME REPORT

2.1.2.6.1 GENERAL DESCRIPTION

The "Plant Name Report" gives one line of information concerning each plant requested. Included are plant ID, plant name, plant contact, a count of points and SCC's, UTM coordinates, and the plant comment field.

2.1.2.6.2 RETRIEVALS AVAILABLE

The retrievals available for the "Plant Name Report" are the same as those for the "Point Source Report."

2.1.2.6.2 SORTS AVAILABLE

The same sorts are available for the "Plant Name Report" as for the "Point Source Report." The printout of the former, however, has a page break on county so that it is desirable to begin each sort selected with state/county. The two sorts recommended for use with the "Plant Name Report" are:

State/County/Plant Name/Plant ID/Point ID/SCC
State/County/Plant ID/Point ID/SCC

The first step is an alphabetical ordering by plant name and the second a numerical ordering by plant ID. If one of the above sorts is not used, the plant name may appear several times and the SCC count may be incorrect.

2.1.2.6.4 SAMPLE REPORT

A sample "Plant Name Report" for the State of Rhode Island and the County of Providence is presented in Figure 2.1.2.f--sorted by plant name.

FILE CREATED ON WEDNESDAY MARCH 12, 1975 PAGE 41-0001

NATIONAL EMISSIONS DATA SYSTEM

PLANT NAME LISTING FOR ALL PLANTS WITH SCC EMITTING >OR = 0 TONS PER YEAR OF PARTICULATE

STATE (41): RHODE ISLAND COUNTY (0320): PROVIDENCE CO

PLANT ID	PLANT NAME	PLANT CONTACT	COUNT OF PT	COUNT OF SCC	UTM X	COORD Y	PLANT COMMENT
0016	BACCALA & SONS,100 ARMENTO ST,JOHNSTON	R.BACCALA	1	1	293.8	4636.0	
0011	BIRD & SON, DEXTER ROAD,PHILIPSDALE,E PROVD	R.WILLIAMS	2	2	303.3	4634.2	
0025	BLACKSTONE VALLEY PWR PLANT, PAWTUCKET	MR.STEELMACH	12	12	302.3	4637.5	
0022	BRANCH RIVER WOOL,GREAT RD,N.SMITHFIELD	G.WARLOP	3	3	288.7	4657.4	
0033	BROWN UNIVERSITY, PROVIDENCE	MR REMY	1	3	300.5	4632.9	
0032	BROWN&SHARPE,WATERMAN AVE,PROVIDENCE	GREENSLADE	1	2	299.0	4633.6	

Figure 2.1.2.f. Plant Name Report

2.1.2.7 EMISSIONS/AIR QUALITY REPORT

2.1.2.7.1 GENERAL DESCRIPTION

The "Emissions/Air Quality Report" presents AQCR emissions and air quality data in the same report. The report heading includes the NEDS date of creation, the AQCR population and land area, and the priority of the AQCR for each of the five criteria pollutants. The report is then divided into two tables.

First, the total emissions in tons per year are printed for each of the five criteria pollutants, along with point source and area source emission subtotals. Then, in the air quality table, a line is printed giving air quality data for each of the years requested. These data include the number of stations used, the time intervals measured, the maximum value, and the maximum arithmetic or geometric mean for each of the five criteria pollutants.

2.1.2.7.2 RETRIEVALS AVAILABLE

Retrievals by AQCR are available for the year span requested.

2.1.2.7.3 SORTS AVAILABLE

The output is sorted in the same sequence as requested.

2.1.2.7.4 SAMPLE REPORT

A sample "Emissions/Air Quality Report" for the AQCR, Metropolitan Providence, is presented in Figure 2.1.2.g.

DATE: 05-07-75 EMISSION/AIR QUALITY REPORT FOR PAGE 1
AQCR(120):METROPOLITAN PROVIDENCE

NEDS DATA OF CREATION : WEDNESDAY MARCH 12, 1975
AQCR POPULATION (1970 CENSUS): 1,645,380
LAND AREA OF AQCR: 989 SQ-MILES.

	PARTICULATE	SULFUR OXIDES	NITROGEN OXIDES	HYDROCARBONS	CARBON MONOXIDE	OZONE OR TOTAL OX
PRIORITY OF AQCR	1	1	1		1	1
EMISSIONS (TONS/YEAR)						
POINT SOURCES	9,650	161,171	56,241	5,016	17,281	
AREA SOURCES	15,284	32,595	78,967	143,657	613,334	
TOTAL SOURCES	24,934	193,766	135,208	148,673	630,615	

AIR QUALITY	TOTAL SUSP PART UG/M**3					SULFUR DIOXIDE UG/M**3					NITROGEN DIOXIDE UG/M**3					TOTAL HYDROCARBONS UG/M**3					CARBON MONOXIDE MG/M**3					OZONE OR TOTAL OX UG/M**3				
YEAR	NO STA	MAX VALUE	INT	MAX GEP MEAN	INT	NO STA	MAX VALUE	INT	MAX ARITH MEAN	INT	NO STA	MAX VALUE	INT	MAX ARITH MEAN	INT	NO STA	MAX VALUE	INT	MAX ARITH MEAN	INT	NO STA	MAX VALUE	INT	MAX ARITH MEAN	INT	NO STA	MAX VALUE	INT	MAX ARITH MEAN	INT
1957	1	253	7	112	7	0	0		0		0	0		0		0	0		0		0	0		0		0	0		0	
1958	3	301	7	124	7	0	0		0		0	0		0		0	0		0		0	0		0		0	0		0	
1959	6	284	7	89	7	0	0		0		0	0		0		0	0		0		0	0		0		0	0		0	

Figure 2.1.2.g. Emission/Air Quality Report

EMISSIONS BY SCC REPORT

General Description

This report summarizes, by SCC, the calculated emissions for the five major pollutants (particulate, nitrogen oxides, sulfur oxides, hydrocarbons and carbon monoxide). All data selected are summarized by SCC and total emissions are provided for the four parts of each SCC. The report also gives the number of records for each SCC, for both complete SCC's and component parts, and total process throughput for each complete SCC (Parts I + II + III + IV).

Retrievals Available

Generally, only reports by nation, state, AQCR or county will be meaningful. Should the need exist, any of the following retrieval options are available:

a. State
b. AQCR
c. County
d. Plant
e. Point
f. Ownership Code
g. SIC
h. Emissions Estimation Method

i. SCC (I, I+II, I+II+III, I+II+III+IV)
j. Sources emitting more than x tons of any one pollutant
k. Any combinations of the above

These retrievals are subject to the restrictions identified in 2.1.1 for the point source report.

Sorts Available

No sorts are applicable to this report.

Sample Report

A sample page of the Emissions by SCC Report is presented in Figure 2.1.2.h. A report request will generate multiple pages showing data for all SCC's in the specified area.

```
FILE CREATED ON SATURDAY AUGUST 14, 1976                                                    PAGE  17

                    N A T I O N A L   E M I S S O N S   D A T A   S Y S T E M

                  E M I S S I O N S   B Y   S O U R C E   C L A S S I F I C A T I O N   C O D E

                                                                PART        S O X       N O X       H C        C O

1 01 004 02  FOR      1 RECORDS WITH THRUPUT OF          1
                                                                   0           0           0         0          0

1 01 004     FOR   1,558 RECORDS
                                                                90,223   2,169,130   1,205,286    23,496     34,316

1 01 005 01  FOR     571 RECORDS WITH THRUPUT OF   1,027,078 1000GALLONS BURNED
EXTCOMB BOILER    ELECTRIC GENERATN DISTILLATE OIL    >100MMBTU/HR GENL        5,534     135,769      76,602     1,434      1,970

1 01 005 02  FOR     110 RECORDS WITH THRUPUT OF     627,112 1000GALLONS BURNED
EXTCOMB BOILER    ELECTRIC GENERATN DISTILLATE OIL    10-100MMBTU/HR GENL      1,167       3,721       2,532        90         60

1 01 005 03  FOR      [illegible] RECORDS WITH THRUPUT OF   219,102 1000GALLONS BURNED
EXTCOMB BOILER    ELECTRIC GENERATN DISTILLATE OIL    <10MMBTU/HR GENL         35         218         735        13         20

1 01 005     FOR     704 RECORDS
EXTCOMB BOILER    ELECTRIC GENERATN DISTILLATE OIL                         6,827     137,765      73,867     1,458      2,060

1 01 006 01  FOR   1,371 RECORDS WITH THRUPUT OF   4,117,276 MILLION CUBIC FEET BURNED
EXTCOMB BOILER    ELECTRIC GENERATN NATURAL GAS       >100MMBTU/HR             31,735      50,759   1,342,310     3,065     25,702
```

Figure 2.1.2.h. Emissions by SCC Report

POTENTIAL EMISSIONS REPORT

General Description

The potential emissions report produces a report and/or files of uncontrolled emissions, maximum controlled emissions, and maximum uncontrolled emissions. Either a full or summary report may be specified with the summarization of calculations at the level specified by the user. Summarization may be specified at any one of the following levels:

a. National
b. State
c. County (State/County)
d. AQCR
e. State/AQCR
f. Plant (State/County/Plant)

Emission values are computed as follows:

1) Uncontrolled emissions = CALCULATED EMISSIONS VALUE * (100/(100 - CONTROL EFFICIENCY)),
2) Maximum Controlled Emissions = CALCULATED EMISSIONS VALUE * RATIO
WHERE RATIO = (MAXIMUM DESIGN RATE * HOURS-DAY * DAYS-WEEK * WEEKS-YEAR)/OPERATING RATE, and
3) Maximum Uncontrolled Emissions = UNCONTROLLED EMISSIONS * RATIO (See RATIO formula above).

Retrievals Available

The following retrieval options are available:

a. State
b. AQCR
c. County
d. Plant
e. Point
f. Ownership Code
g. SIC
h. Emissions Estimation Method
i. SCC (I, I+II, I+II+III, I+II+III+IV)
j. Sources emitting more than x tons of any one pollutant
k. Any combinations of the above.

There are only certain combinations of retrieval categories listed above that are valid. For example, the county code numbers are unique within each state but not across state boundaries. Thus, although no two counties in Arizona have the same county code number, 0040 is the county code number both for Apache County in Arizona and Arkansas County in Arkansas. As a result, retrieval by county is only meaningful when combined with retrieval by state.

In the same manner retrieval by plant requires specification of county and state identifiers; retrieval by point requires specification

of plant, county, and state identifiers.

It should be noted that the same type of restriction applies to retrieval by SCC parts. Retrieval by SCC part IV is dependent on retrieval by SCC part III, retrieval by part III on retrievals by part II, etc.

Sorts Available

Subject to the same restrictions set forth for "Retrievals Available," the selected data can be sorted in ascending (a) or descending (d) sequence for any of the following data values:

a. State (a)
b. AQCR (a)
c. County (a)
d. Plant Number (a)
e. Point Number (a)
f. Source Classification Code (a)
g. Ownership (Federal, local government, utility, or all) (a)
h. Standard Industrial Classification (SIC) Code (a)
i. Emissions Estimation Method (a)
j. Plant Names in Alphabetical Order (a)
k. Amount of emissions for any one of the five criteria pollutants (d)
l. Year of Record (a)

m. Control Equipment (a)
n. Control Efficiency (d)
o. Fuel Sulfur Content (d)
p. Fuel Ash Content (d)
q. Major City Code (a)
r. UTM Coordinates (d)
s. Operating Rate (d)
t. Confidentiality (a)

The sort selected should coincide with the level of summarization requested. That is, if summarization by plant is requested, sorting by at least State/County/Plant, and preferably by State/County/Plant/Point/SCC should be performed. It is recommended that, in general, only sorts by items a-f and k be requested. Sorting by items g-j and l-t is possible but since those items do not appear on the report output, the report may appear confusing or in random order if this is done.

Example Output

A sample page of the Potential Emissions Report is presented in Figure 2.1.2.i.

TUESDAY APRIL 12, 1977 NATIONAL EMISSION DATA SYSTEM

	CALCULATED EMISSIONS (TONS/YR)	UNCONTROLLED EMISSIONS (TONS/YR)	MAXIMUM CONTROLLED EMISSIONS (TONS/YR)	MAXIMUM UNCONTROLLED EMISSIONS (TONS/YR)	ST CNTY PLNT PT SCC-CODE
PART	9.625	962.500	9.567	956.725	08 0060 0014 01 30500201
SO2	0.000	0.000	0.000	0.000	
NOX	0.000	0.000	0.000	0.000	
HC	0.000	0.000	0.000	0.000	
CO	0.000	0.000	0.000	0.000	
PART	0.000	0.000	0.000	0.000	08 0060 0014 01 39000501
SO2	0.000	0.000	0.000	0.000	
NOX	0.000	0.000	0.000	0.000	
HC	0.000	0.000	0.000	0.000	
CO	0.000	0.000	0.000	0.000	
PART	0.655	0.655	2.547	2.547	08 0060 0015 01 10200403
SO2	0.000	0.000	0.000	0.000	
NOX	1.710	1.710	6.651	6.651	
HC	0.085	0.085	0.330	0.330	
CO	0.114	0.114	0.443	0.443	
TOTALS FOR STATE - 08					
PART	407.078	22535.644	640.147	50837.150	
SO2	2812.896	2812.896	4428.072	4428.072	
NOX	1152.969	1152.969	1639.372	1639.372	
HC	783.200	783.200	1502.341	1502.341	
CO	47.570	48.920	83.039	86.381	
GRAND TOTALS					
PART	407.078	22535.644	640.147	50837.150	
SO2	2812.896	2812.896	4428.072	4428.072	
NOX	1152.969	1152.969	1639.372	1639.372	
HC	783.200	783.200	1502.341	1502.341	
CO	47.570	48.920	83.039	86.381	

Figure 2.1.2.i. Potential Emissions Report

2.1.3.1 PLANT-POINT-SCC COUNT REPORT

2.1.3.1.1 GENERAL DESCRIPTION

The "Plant-Point-SCC Count Report" is available on a nationwide basis only. For each "state" this report lists the state code, state name, and total number of plants, plant-points, and plant-point-SCCs. The "states" themselves are listed in ascending numerical order according to state code number. A grand total of plants, plant-points, and plant-point-SCCs is printed at the end. A sample "Plant-Point-SCC Count Report" is presented in Figure 2.1.3.a.

05/07/75 NATIONAL EMISSIONS DATA SYSTEM PAGE: 1

ST NO	STATE	TOTAL NUMBER PLANTS	TOTAL NUMBER PLANT-POINTS	TOTAL NUMBER PLANT-POINT-SCC
01	ALABAMA	361	1,736	2,769
02	ALASKA	178	267	410
03	ARIZONA	361	589	1,201
04	ARKANSAS	236	689	813
	GRAND TOTAL	30,127	83,202	108,238

Figure 2.1.3.a. Plant-Point-SCC Count Report

2.1.3.2 MISSING ITEM REPORT

2.1.3.2.1 GENERAL DESCRIPTION

The "Missing Item Report" is a point source inventory of missing data items. Seven geographical summarization types are available. They are as follows:

a. National
b. State
c. State/County
d. AQCR
e. State/AQCR
f. State/County/Plant
g. State/County/Plant/Point

This report presents a count of the missing items according to the summarization type requested. Any data can be selected to be summarized based on the point source selection capability. After the data are selected, they can be summarized using any of the above report types. For example, all boilers could be selected and summarized by state to determine the number of boilers and data available for boilers. In addition to totals for the number of plants, points and SCCs present, totals are printed to indicate the confidentiality status of processes and plants.

Figure 2.1.3.b is a "Missing Item Report" for the State of Massachusetts.

NATIONAL EMISSIONS DATA SYSTEMS PAGE: 1

POINT SOURCE INVENTORY - INCOMPLETE DATA ITEMS
FILE CREATED ON: WEDNESDAY MARCH 12, 1975

DATE: MAY 08, 1975
STATE (22) : MASSACHUSETTS

MISSING DATA ITEMS
THE COUNTS BELOW APPLY TO CORRESPONDING DATA FIELDS FOR EACH NEDS POINT SOURCE FORM SUBMITTED FOR THIS GEOGRAPHICAL AREA. THERE ARE 1418 POINTS REPORTING IN THIS AREA.

DATA ITEM	# MISSING
CARD #1	
YEAR OF RECORD	0
CITY	1
UTM ZONE	1
NAME AND ADDRESS	0
CONTACT-PERSONAL	11
OWNERSHIP	6
CARD #2	
YEAR OF RECORD	0
SIC	0
UTM-HORIZONTAL	24
UTM-VERTICAL	24
STACK DATA	
HEIGHT	3
DIAMETER	2
TEMPERATURE	8
FLOW RATE	0
PLUME HEIGHT	1
CARD #3	
YEAR OF RECORD	0
BOILER DESIGN CAP	0
CONTROL EQUIPMENT	0
PRIMARY PART.	0
SECONDARY PART.	0
PRIMARY SOX	0
SECONDARY SOX	0
PRIMARY NOX	0
SECONDARY NOX	0
PRIMARY HC	0
SECONDARY HC	1
PRIMARY CO	0
SECONDARY CO	0
EST. CONTROL EFF.	
PART.	0
SOX	0
NOX	0
HC	3
CO	0

DATA ITEM	# MISSING
CARD #4	
YEAR OF RECORD	0
ANNUAL THROUGHPUT	
DEC-FEB	22
MAR-MAY	22
JUNE-AUG	23
SEPT-NOV	23
NORMAL OPERATING	
HOURS/DAY	25
DAYS/WEEK	23
WEEKS/YEAR	25
EMISSION ESTIMATE	
PART.	267
SOX	298
NOX	322
NC	307
CO	312
ESTIMATION METHOD	
PART.	7
SOX	15
NOX	39
HC	37
CO	31
% SPACE HEAT	6

DATA ITEM	# MISSING
CARD #5	
YEAR OF RECORD	0
ALLOWABLE EMISS.	
PART.	611
SOX	542
NOX	733
HC	733
CO	733
COMPL. STATUS	731
COMPL. SCHEDULE	
YEAR	732
MONTH	732
COMPL. STATUS UPD.	
YEAR	733
MONTH	733
DAY	733
ECAP	740
CARD #6	
YEAR OF RECORD	0
OPERATING RATE	70
MAX. DESIGN RATE	1355
SULFUR CONTENT	3
ASH CONTENT	8
HEAT CONTENT	5
SOURCE	1

NUMBER OF PLANTS IN NEDS:	896
NUMBER OF POINTS WITHIN THE PLANTS ABOVE:	1418
NUMBER OF PROCESSES(SCC'S) WITHIN THE POINTS ABOVE:	1642
CONFIDENTIALITY STATUS:	
NUMBER OF PROCESSES DESIGNATED CONFIDENTIAL:	0
NUMBER OF PROCESSES DESIGNATED NON CONFIDENTIAL:	1642
NUMBER OF PROCESSES WITH CONFIDENTIALITY UNKNOWN:	0
NUMBER OF PLANTS WITH CONFIDENTIAL PROCESSES:	0

Figure 2.1.3.b. Missing Item Report

2.1.3.3 HIGHEST PLANT NUMBER BY COUNTY REPORT

2.1.3.3.1 GENERAL DESCRIPTION

The "Highest Plant Number by County Report" gives the number of the last plant updated in each county and thus the last included in the NEDS file. The counties are listed in alphabetical order by state; the states themselves are listed in ascending order of state code. In each case, the state and county code numbers are provided in addition to their names. The output from this report is used to assist in assigning new plant numbers. Figure 2.1.3.c presents that portion of the "Highest Plant Number by County Report" for the first seven counties in the State of Alabama.

FILE CREATED ON TUESDAY APRIL 15, 1975

N A T I O N A L E M I S S I O N S D A T A S Y S T E M

S O U R C E I N V E N T O R Y

H I G H E S T P L A N T N U M B E R B Y C O U N T Y

STATE	COUNTY		PLANT	ID
ALABAMA	AUTAUGA	01	0240	0002
	BALDWIN	01	0260	9007
	BARBOUR	01	0280	0013
	BIBB	01	0360	0007
	BLOUNT	01	0400	0002
	BULLOCK	01	0520	9004
	BUTLER	01	0540	9001

Figure 2.1.3.c. Highest Plant Number by County Report

The SOTDAT System is one of the newer members of AEROS. It was designed to store and retrieve relevant technical data acquired during the performance of stack tests or other methods of measuring pollutant emissions from point sources.

The original purpose of SOTDAT was to provide an automated means of updating and improving emission factors for specific Source Classification Codes (SCC's) in the NEDS Emission Factor File, and this remains its principal use although other applications have been added recently.

2.2.1.1 LISTING OF COMPLETE SOTDAT FILE

2.2.1.1.1 GENERAL DESCRIPTION

The type of information stored in the SOTDAT file and the input form are shown in Figure 2.2.1.a. The output of this report consists of a full listing of the SOTDAT Master File. The report can also be produced by using the update information that is generated each time new data are to be introduced into the SOTDAT system. Most of the codes used in the SOTDAT input and output procedures are derived, either directly or with some modification, from the appropriate NEDS and SAROAD codes as given in Volume V of the AEROS Manual. Some instructions developed for the SOTDAT system are described in greater detail in Volume II.

The form of the report may be seen by referring to Figure 2.2.1.b. It should be noted that it is quite easy to develop program modifications of this report because a considerable degree of flexibility was built into the system. Thus, although the example shows a two-page report with a given format, additional formats are under development.

2.2.1.1.2 RETRIEVALS AVAILABLE

The report is a listing of the entire contents of the file accessed, whether this be the SOTDAT Master File or the update file. Thus, no options for retrieval are available.

2.2.1.1.3 SORTS AVAILABLE

No optional sorts are available to the user.

2.2.1.1.4 SAMPLE REPORT

Figure 2.2.1.b shows a portion of the full SOTDAT file listing.

SOTDAT DATA FORM

FORM APPROVED OMB NO 158 R0125

PLANT NAME
ADDRESS
TELEPHONE

Form Prepared by | Page No. of
Date Prepared Mo/Dy/Yr

A-IDENTIFICATION AND PLANT & FUEL DATA

Form Number	Card No. A,1	1 State	2 County	3 AQCR	4 Plant	5 Point	6-Run Date Mo Da Yr	7-Source Classification Code	8-Reason Tested	9-Test by	10 Run No.	Plant Rates 11-Capacity	12-This Run	Fuel Data 13-Type	14-% Sulfur	15-% Ash	16-% Nitrogen	17-Heat Units	Value

B-PROCESS STREAM PARAMETERS

Form Number	Card No. B,1	1-Gas Flow Rate Reported	2-Flow Rate	3-Cross Section	4-Gas Temp	5-Gas Pressure	6-Traverse Points	7-Estimated Gas Mol. Wt.	8-Percent Excess Air	9-Percent Isokinetic	10-Gas Composition (% by Volume) Water	Carbon Dioxide	Carbon Monoxide	Oxygen	Nitrogen	11 SPECIAL DATA

(PROCESS STREAM PARAMETERS CONTINUED FROM ABOVE)

Form Number	Card No. B,2	12-Stack Ht.	13-Avg Stk Vel	14-Sampling Location	15-Particulate Size Distribution (Cum. % by Wt. in Micrometers) ≤ 0.1	≤ 0.5	≤ 1.0	≤ 2.0	≤ 5.0	≤ 10.0	≤ 20.0	≥ 20.0

16-Particle Sizer (Check One)
☐ /1/A/N/D/E/R/S/E/N/ / / /
☐ /2/C/O/U/L/T/E/R/ / / /
☐ /3/C/A/S/C/./ /1/N/P/./ /
☐ /4/C/O/N/1/F/U/G/E/./ / /
☐ /5/O/P/T/I/C/A/L/ / / /
☐ /6/ / / / / / / / / / /
Other-Specify

17-COMMENTS (19 SPACES)

C-POLLUTANT TEST RESULTS (Record 3 Test Results per Line)

Form Number	Card No.	1 Pollutant	2 Test Method	3 Units	4 Sample Time (Minutes)	5 Sampling Position	6 Test Result	7 Pollut. Temp.	1 Pollutant	2 Test Method	3 Units	4 Sample Time (Minutes)	5 Sampling Position	6 Test Result	7 Pollut. Temp.	1 Pollutant	2 Test Method	3 Units	4 Sample Time (Minutes)	5 Sampling Position	6 Test Result	7 Pollut. Temp.
	$C_{1,1}$																					
	$C_{1,2}$																					
	$C_{1,3}$																					
	$C_{1,4}$																					
	$C_{1,5}$																					
	$C_{1,6}$																					
	$C_{1,7}$																					
	$C_{1,8}$																					

D-CONTROL DEVICE DATA

Form Number	Card No.	Device Number	1 Device Code	2-Pollutants and Efficiency of Control (Design Data) Pollutant 1	Percent Efficiency	Pollutant 2	Percent Efficiency	Pollutant 3	Percent Efficiency	Pollutant 4	Percent Efficiency	Pollutant 5	Percent Efficiency	Pollutant 6	Percent Efficiency
	$D_{1,0}$	1													
	$D_{1,1}$	2													
	$D_{1,2}$	3													
	$D_{1,3}$	4													
	$D_{1,4}$	5													

(DEVICE DATA CONTINUED FROM ABOVE)

Form Number	Card No.	Device Number	3 Design Flow Rate	4 Year Installed	5-Operating Parameters 1	2	3	4	5	6	7	8	9	10
	$D_{1,5}$	1												
	$D_{1,6}$	2												
	$D_{1,7}$	3												
	$D_{1,8}$	4												
	$D_{1,9}$	5												

COMMENTS

EPA/DUR/204

Figure 2.2.1.a. SOTDAT Input Data Format

```
SOURCE TEST DATA SYSTEM (SOTDAT) RETRIEVAL PROGRAM


COMPLETE SOTDAT FILE


SOURCE TEST DATA SYSTEM (SOTDAT) RETRIEVAL PROGRAM

STATE   COUNTY   AQCR   PLANT   POINT     SCC.     RUN-DATE   REASON   TEST-BY   RUN-NO.   SAMP-LOCATION
  34     0880    170    0052           30102302    051673      1        7        01          1

                PLANT-ADDRESS                                                                   FORM-NUMBER
KAISER AGRICULTURAL CHEMICALS INC.,  RIEGELWOOD  NC                                               A00305

  (METERS)     .....SCC UNITS.....
STACK-HEIGHT   PLANT-CAPACITY  RUNRATE      F-TYPE   % - SULFUR   % - ASH   % - NITROGEN   HEAT-UNIT-VALUE
        .00            .000  0000036.000     G          .00        .00          .00              .000

SPECIAL-COMMENTS              SPECIAL-DATA

                                (SCM)                          (CM HG)       (DEG C)                    (M/SEC)
FLOW-UNITS   FLOW-RATE   CROSS-SECTION   TRAVERSE-POINTS   GAS-PRESSURE   TEMPERATURE   MOL. WEIGHT   AVERAGE-STACK-VEL.
           00003320.00  0    0.455            48             76.070        0033.0        028.820          4.230

% EXCESS-AIR     % ISOKINETIC     % WATER     % CO2     % CO1     % OXYGEN     % NITROGEN
        .000          101.000       04.00     00.00     00.00      20.70        79.70

                PARTICULATE SIZE DISTRIBUTION (MICROMETERS)
LESS THAN   3.1   0.2   1.0   2.0   5.0   10.0   20.0   GT20   PARTICLE SIZER
             .0    .0    .0    .0    .0     .0     .0     .0
```

Figure 2.2.1.b. Full Listing of the SOTDAT File

POLLUTANT	TEST-METHOD	POL UNIT	SAMPLE-TIME	SAMPLING-POSITION	POL TEMP	TEST-RESULT
A11010	10	0	00113.00	0	030.0	00 .09494
B11010	10	0	00113.00	0	030.0	00 .06211
	10	@	.00	@	.0	.00000
C00000	00	0	00000.00	0	000.0	000000.00000
D00000	00	0	00000.00	0	000.0	000000.00000

DEVICE - :	DEVICE-CODE	DESIGN-FLOW-RATE	YEAR-INSTALLED
0	000	00000000.0000000	00
0	000	00000000.0000000	00

DEVICE - :	POLL-1	EFFCY	POLL-2	EFFCY	POLL-3	EFFCY	POLL-4	EFFCY	POLL-5	EFFCY	POLL-6	EFFCY
0	000000	00.00	000000	00.00	000000	00.00	000000	00.00	000000	00.00	000000	00.00
0	000000	00.00	000000	00.00	000000	00.00	000000	00.00	000000	00.00	000000	00.00

DEVICE - :	OP-PARM1	OP-PARM2	OP-PARM3	OP-PARM4	OP-PARM5	OP-PARM6	OP-PARM7	OP-PARM8	OP-PARM9	OP-PARM10
0	000000.00	000000.00	000000.00	000000.00	000000.00	000000.00	000000.00	000000.00	000000.00	000000.00
0	000000.00	000000.00	000000.00	000000.00	000000.00	000000.00	000000.00	000000.00	000000.00	000000.00

COMMENTS

ANALYZED BY E.P.A.

Figure 2.2.1.b (continued). Full Listing of the SOTDAT File

2.2.1.2 LISTING OF SOTDAT FILE BY SPECIFIED SCC

2.2.1.2.1 GENERAL DESCRIPTION

The format of this report is identical to that of the report previously described - the complete SOTDAT Master File Listing (see 2.2.1.1). This report, however, includes data only for those Source Classification Codes (SCC) specified in the request. Up to 25 SCC's may be specified. All of the plants and points pertaining to a given SCC are grouped together in the report, followed by those for the next SCC, and so on. Other output formats are being developed to assist the user.

2.2.1.2.2 RETRIEVALS AVAILABLE

As explained above, this report is retrieved by SCC. No optional retrievals are available.

2.2.1.2.3 SORTS AVAILABLE

The report is sorted by SCC. Within SCC, the sort is by State, County, Plant, Point, and Run Number. No optional sorts are available.

2.2.1.2.4 SAMPLE REPORT

The report format is identical to that of the SOTDAT Master File Listing, which is shown in Figure 2.2.1.b.

2.2.1.3 NAME, ADDRESS, AND FORM NUMBERS FOR EACH PLANT ON FILE

2.2.1.3.1 GENERAL DESCRIPTION

This report lists the names, addresses, telephone numbers, and NEDS source identification codes of all plants in the entire SOTDAT file. For each plant, the SOTDAT Form Numbers are listed in order. The overall sequencing is by NEDS ID number. If one or more point numbers exist for a given plant, that information will also appear in the printout.

2.2.1.3.2 RETRIEVALS AVAILABLE

As with the complete SOTDAT File Listing, the entire file is printed out; thus, no optional retrievals are available currently.

2.2.1.3.3 SORTS AVAILABLE

The report is sorted by NEDS ID number and printed in that sequence. No options are now available.

2.2.1.3.4 SAMPLE REPORT

Figure 2.2.1.c shows a portion of the "Name, Address, and Form Number" listing.

SOURCE TEST DATA SYSTEM (SOTDAT) RETRIEVAL PROGRAM

KAISER AGRICULTURAL CHEMICALS INC

STATE: 34
COUNTY: 0830
AQCR: 170
PLANT: 0052
POINT:

SPECIAL COMMENTS:

FORM NUMBER : A00305
FORM NUMBER : A00306
FORM NUMBER : A00308
FORM NUMBER : A00309

SOURCE TEST DATA SYSTEM (SOTDAT) RETRIEVAL PROGRAM

PHILLIPS PETROLEUM CO

STATE : 3E
COUNTY : 3720
AQCR : 124
PLANT : 0046
POINT :

SPECIAL COMMENTS :

FORM NUMBER : A00163
FORM NUMBER : A00167
FORM NUMBER : A00164
FORM NUMBER : A00168

Figure 2.2.1.c. Name, Address and Form Numbers for each Plant on File

2.2.2.1 EMISSION FACTORS FOR SPECIFIED POLLUTANTS

2.2.2.1.1 GENERAL DESCRIPTION

This report presents the SOTDAT emission factors for all plants in the SOTDAT file that are sources of the pollutant or pollutants specified. Also included are the appropriate emission rates for each plant-pollutant combination. Up to 25 pollutant codes may be specified in the request.

2.2.2.1.2 RETRIEVALS AVAILABLE

This report is retrieved by the pollutant types selected. No other retrievals are possible.

2.2.2.1.3 SORTS AVAILABLE

The primary sort is by pollutant, followed by the SCC type, then by the NEDS ID (State, County, Plant, and Point), followed by the run date and run number. No options are available.

2.2.2.1.4 SAMPLE REPORT

Figure 2.2.2.a shows the report format for a run selecting two pollutants.

SOURCE TEST DATA SYSTEM (SOTDAT) RETRIEVAL PROGRAM

SELECT POLLUTANT = A2126A
SELECT POLLUTANT = D2401T

POLLUTANT : A2126A

SCC : 30300602

STA	CNTY	AQCR	PLANT	PT	FORM	DATE	RUN NO	REASON TESTED	TEST METHOD	UNITS	SAMPLE TIME (MIN)	SAMP POS	TEST RESULT	POLL TEMP	EMISSION FACTOR (KGMS / SEC)	EMISSIONS / MC (KGMS / HOUR)
36	3160	181	0005		A00013	05118171	01	1	10	5	00120.00	0	450423.48570	051.0	00000113.1903270	05297330.70660
36	3160	181	0005		A00014	05118171	02	1	10	5	00114.00	0	894.90000	036.0	00038469.2183104	00359440.33110

POLLUTANT : A2126A

SCC : 30300699

STA	CNTY	AQCR	PLANT	PT	FORM	DATE	RUN NO	REASON TESTED	TEST METHOD	UNITS	SAMPLE TIME (MIN)	SAMP POS	TEST RESULT	POLL TEMP	EMISSION FACTOR (KGMS / SEC)	EMISSIONS / MC (KGMS / HOUR)
36	3160	181	0005		A00017	05120171	01	1	10	5	00108.00	0	450423.49735	052.0	00000455.9488908	21338305.13020
36	3160	181	0005		A00018	05120171	02	1	10	5	00108.00	0	450423.49836	056.0	00000114.6643198	05366293.18000

POLLUTANT : D2401T

SCC : 30300602

STA	CNTY	AQCR	PLANT	PT	FORM	DATE	RUN NO	REASON TESTED	TEST METHOD	UNITS	SAMPLE TIME (MIN)	SAMP POS	TEST RESULT	POLL TEMP	EMISSION FACTOR (KGMS / SEC)	EMISSIONS / MC (KGMS / HOUR)
36	3160	181	0005		A00013	05118171	01	1	77	5	00060.00	0	172550.82581	039.0	00001137.8661086	55583783.33440
36	3160	181	0005		A00014	05118171	02	1	77	5	00140.00	0	140540.48770	039.0	00001358.5857585	91567277.49940

UNITS NOT SPECIFIED. SOURCE ID 052280028

Figure 2.2.2.a. Emissions Factor for Specified Pollutant Codes

The Storage and Retrieval of Aerometric Data (SAROAD) System was one of the two original components of AEROS. The SAROAD system provides for the storage and retrieval of air quality and meteorological data and generates air quality data reports in three categories:

1. Raw Data Reports
2. Summary Reports
3. Management Reports

The raw data reports list the actual stored data on pollutant concentrations in the ambient atmosphere. They give the geographic location of the observations, as specified by the Site Code; the times and averaging periods of the data; and the method of data collection and analysis. The seven raw data reports described below are:

1. Raw data for less than 24 hour averaging periods
2. Raw data for sampling periods equal to or greater than 24 hours
3. Raw data for composite (variable samples)
4. Standards Listing
5. Site Description Inventory
6. Raw data in SAROAD format
7. Meteorological Raw Data Report and Plot

The summary reports give annual and quarterly summaries and frequency distributions of the air quality data. The five summary reports described below are:

1. Yearly Frequency Distribution
2. Quarterly Frequency Distribution
3. Yearly Report by Quarters
4. Meteorological and Pollutant Summary Statistics Plot
5. Meteorological and Pollutant Frequency, Percent Frequency, and Plot Reports

The management reports are designed to provide information on the status of the data contained in the SAROAD files, as well as on the activities of the data collection sites. These reports also are to provide inventories of the data available from the SAROAD system. The six management reports described herein are:

1. Inventory by Site
2. Inventory by Pollutant
3. Inventory by Pollutant within State
4. Summary Report of Valid Data
5. Summary Report of Monitoring Activity
6. Active Site Report

From the overall system point of view, SAROAD may be thought of as being divided into two major subsystems: the SAROAD site file with its associated information, and the SAROAD Data File consisting mainly of air quality data of several varieties.

The SAROAD site file contains descriptive information on the sampling site and its environment. This information includes the address of the site; the type of surveillance carried on at the site, whether

population-oriented, background, compliance investigation, etc; the station location category, whether center city, industrial or rural, etc.; and the latitude, longitude, and elevation of the sampling device. The UTM coordinates may be given in place of or in addition to the geographic coordinates. Data for approximately 9,000 sites are stored in the SAROAD Site File, of which roughly one-half are currently operational sites. The reasons for storing data from some 5,000 discontinued sites in the SAROAD files have to do with the need for establishing trends in the ambient air quality around the nation and the importance of maintaining as large a population of data as possible for that purpose. In some cases the new site is very close to the old site and the record may be considered to be essentially uninterrupted if other factors, such as type of instrumentation, etc., remain unchanged. In addition, the several states have indicated plans for the installation of some 3,000 new sites, each one of which will collect data from a number of instruments sampling several pollutants. This growth is expected over the next few years, so that the size of the SAROAD Site File may reasonably be expected to increase by that amount, at least.

The principal uses of the SAROAD Site File at the present time is to correlate the site location and other identifying characteristics with all of the air quality (AQ) data associated with that site and to edit incoming data. All information on individual sites can be retrieved separately, if desired, on a geographical basis (i.e., by state, AQCR, etc.).

Site numbers for new or previously unreported sites are assigned by the appropriate EPA Regional Office. Before this can be done, however, all of the identifying characters of the site must be completed on the

SAROAD site form. No data can be included in the SAROAD files for a site until a site number has been assigned to that site. A complete directory of all site data for SAROAD monitoring sites is published annually by NADB (see section 5.2.3, below).

The SAROAD Data Subsystem is made up of ambient air quality (AQ) information and meteorological data which is submitted by over 4000 active air quality monitoring sites around the country for inclusion in the SAROAD system. The AQ data are extensively analyzed by statistical means in order to reduce the large quantity of raw data to useful information. The parameter coding system is arranged so that approximately 72,000 different pollutant codes can be identified. In addition, codes are assigned for the methods of collection and analysis of each parameter (pollutant). The sampling intervals employed in the monitoring activities range from 1-hour averages of continuous monitoring instrument readings to composite data taken at weekly, monthly, or quarterly intervals or at irregular intervals. For all AQ data, the following information is submitted:

1. Site ID
2. Parameters (pollutants sampled), Method, Interval
3. Date of observation
4. Data Values

Some of the reports which are available under the SAROAD system include certain statistics derived from the AQ data in the file. These statistics are calculated for all AQ data in the file, but the statistics are considered valid only when the data meet the NADB criteria for

completeness of data. The formula for the four most commonly used statistics are given below, together with the stated criteria for data quantity which must be satisfied before the statistics are considered valid by NADB.

1. Arithmetic Mean $\bar{x} = \frac{\Sigma x}{n}$

2. Arithmetic Standard Deviation $SD = \sqrt{\frac{\Sigma x^2 - \frac{(\Sigma x)^2}{n}}{n-1}}$

3. Geometric Mean $= \text{Antilog} \frac{(\Sigma \ln x)}{n}$

4. Geometric Standard Deviation

$$SD_{GEO} = \text{Antilog}\ (SD_{log}) = \text{antilog} \sqrt{\frac{\Sigma(\ln x)^2 - \frac{(\Sigma \ln x)^2}{n}}{n-1}}$$

The air quality data criteria are as follows:

1. Minimum summary criteria for continuous sampling (sampling interval less than 24 hours) are:

   a. Data representing quarterly periods must reflect a minimum of 75 percent of the total number of possible observations for the applicable quarter.

b. Data representing annual periods must reflect a minimum of 75 percent of the total number of possible observations for the applicable year.

2. Minimum summary criteria for noncontinuous sampling (sampling interval of 24 hours or more) are:

a. Data representing quarterly periods must reflect a minimum of five observations made during the applicable quarter. If no measurements were made during 1 month of the quarter, each of the two remaining months must have no fewer than two observations reported.

b. Data representing annual periods must reflect 4 quarters of observational data satisfying the individual quarterly criteria.

Table 2.3.0.a summarizes the retrieval options available for each of the SAROAD reports.

Table 2.3.0.a. SUMMARY OF SAROAD RETRIEVALS

Report	Nationwide	EPA Region	State	State/Area	State/Area/Site	AQCR	Year	Year/Quarter	Year/Month	Pollutant	Pollutant/Method	Agency/Project	Any Combination of These	Several Combinations of These	State/Area/Site/Agency/Project
Raw Data Reports															
Raw Data Less Than 24 Hours	X		X	X	X		X		X	X	X	X	X		
Raw Data Listing Greater Than or Equal to 24 Hours	X		X	X	X	X	X		X	X	X	X	X		
Raw Data Listing Composite	X		X	X	X		X		X	X	X	X	X		
Standards Reports	X	X	X			X	X								
Site Description Inventory	X		X			X									
Raw Data in SAROAD Format			X	X	X		X		X	X	X	X		X	
Meteorological Raw Data Report and Plot			X	X	X		X	X	X	X	X	X			
Summary Reports															
Yearly Frequency Distribution	X		X	X	X	X	X		X	X	X	X		X	
Quarterly Frequency Distribution	X		X	X	X	X	X		X	X	X	X		X	
Yearly Report by Quarters	X		X	X	X	X	X		X	X	X	X		X	
Meteorological and Pollutant Summary Statistics Plot							X	X		X					X
Meteorological and Pollutant Frequency, Percent Frequency, and Plot Reports							X	X	X	X					X
Management Reports															
Inventory by Site	X	X	X												
Inventory by Pollutant	X	X	X							X					
State Inventory by Pollutant	X	X	X							X					
Summary Report of Valid Data	X		X	X								X	X		
Summary of Monitoring Activity	X						X	X							
Active Site Report			X	X	X	X	X			X	X	X		X	

RAW DATA LESS THAN 24 HOURS

General Description

This report lists the hourly observations of pollutant concentrations in 24 columns, 1 line per day, 1 month per page. The report may also be used, with suitable modifications in format, for data recorded for 2-, 3-, 4-, 6-, 8-, and 12-hour intervals. The heading of the report contains the name of the pollutant; the pollutant/method code; the units used; the method of collection and analysis; the name of the state; the area; the site name and address; the complete site, agency, and project code; the month and year; and an identifier giving the averaging period of the observational data (for example, "1-hour data listing"). To the left of the 24-column body of the report is a column giving the days of the month; to the right are columns for the daily mean values and the number of observations made each day. Below the row for the last day of the month are three other rows, one for the average values for each hour, one for the numbers of observations made at each hour throughout the month, and one for the maximum value occurring at each hour. In the lower righthand corner are the average value for the entire month, the total number of observations for the month, and the maximum value that occurred in the month. The report is also capable of creating 3-, 8-, 12-, and 24-hour running averages from 1-hour data.

Retrievals Available

The SAROAD System employs a standard selection format for all retrievals for reports using the "SAROAD Standard Format Selection" procedure. The 1-Hour Data Listing may be retrieved by the following selection keys:

a. Nationwide
b. State
c. State/Area
d. State/Area/Site
e. AQCR
f. Year
g. Year/Month
h. Pollutant
i. Pollutant/Method
j. Agency/Project
k. Any combination of these keys

The multiple items listed above indicate that the retrieval may not be effected for the "Area" key without also specifying the "State" key, and so on.

Sorts Available

There are no optional sorts available. Data are printed in ascending order by site ID and within site by pollutant.

Sample Report

Figure 2.3.1.a shows a sample of this report for ozone measurements at a site in Honolulu, Hawaii.

NATIONAL AEROMETRIC DATA BANK
ENVIRONMENTAL PROTECTION AGENCY

OZONE
4420111
CONCENTRATION IN PARTS PER MILLION
INSTRUMENTAL CHEMILUMINESCENCE

HAWAII
HONOLULU
STATE HEALTH DEPT BLDG 1250 PU
(120120001F01)

JAN 1973

1-HOUR DATA LISTING

DAY	12 AM	1	2	3	4	5	6	7	8	9	10	11	12 PM	1	2	3	4	5	6	7	8	9	10	11	DAILY MEAN	NO.
01																										
02																										
03																										
04									.000	.003	.008	.005	.008	.008	.008	.005	.005	.005	.000	.000	.000	.000	.003	.000		16
05	.000	.000	.000	.000	.000	.000	.000	.000	.000	.005	.010	.008	.010	.010	.008	.003	.000	.000	.000	.000	.000	.000	.000	.000	.002	24
06	.000	.010	.013	.015	.018	.018	.015	.010	.003	.000	.003	.000	.000	.003	.008	.005	.003	.003	.000	.005	.013	.015	.015	.015	.008	24
07	.003	.010	.018	.020	.020	.023	.018	.018	.015	.015	.013	.013	.010	.010	.008	.008	.008	.005	.003	.003	.003	.000	.000	.000	.010	24
08	.000	.000	.000	.000	.000	.000	.000	.000		.000	.003	.008	.013	.008	.008	.003	.003	.003	.003	.000	.000	.000	.000	.000	.002	23
09	.000	.000	.003	.003	.003	.000	.000	.000	.000	.008	.003	.005	.015	.015	.008	.008	.005	.005	.000	.000	.000	.000	.000	.000	.003	24
10	.000	.000	.000	.003	.000	.000	.000	.000	.000	.000	.003	.008	.015	.018	.013	.008	.008	.003	.003	.003	.000	.000	.000	.000	.004	24
11																										
12																										
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29																										
30																										
31																										
AVG.	.008	.010	.010	.010	.012	.011	.009	.006	.009	.011	.013	.015	.015	.013	.011	.010	.009	.007	.007	.007	.008	.008	.009	.009	.009	
NO.	27	27	27	27	27	27	27	27	27	27	27	27	27	28	28	28	28	28	28	28	28	28	28	28		658
MAX.	.028	.028	.030	.028	.030	.030	.025	.023	.020	.023	.023	.023	.025	.023	.018	.020	.020	.020	.018	.020	.025	.025	.028	.028	.030	

Figure 2.3.1.a. Raw Data Less Than 24 Hours Report

RAW DATA LISTING GREATER THAN OR EQUAL TO 24 HOURS

General Description

This report lists raw data observations for intervals of 24 hours, 1 week, 1 month, 3 months, 1 year, or composite data. The data report format varies with the sampling interval, but all intervals have the following items in common: (1) sampling interval in the heading, (2) a complete site description following the heading, and (3) the pollutant name, sample collection and analysis names, data reporting units, and the minimum detectable value for the sampling method. The report begins a new page with a change in interval, site, or pollutant.

For 24-hour data, 1 year of data appears per page in 13 columns, the first containing the days of the month and the next twelve one column for each month of the year. For each month and the year, the number of observations, the maximum value, and the mean are listed. A monthly mean is computed only if at least two observations are present, and the yearly mean is calculated only if the yearly summary criterion is met. The geometric mean is printed for particulates, and the arithmetic mean is printed for all other pollutants.

For the other reporting intervals, multiple years can be listed per page. For these intervals, the items listed include: the year; the month, week, or sampling period, which is dependent on the interval; the data value; and for composite data, the number of samples in the composite.

Retrievals Available

This report may be retrieved by the following selection criteria: nation, state, area, site, agency, project, pollutant, method, interval, begin date, end date, AQCR, and county.

Most combinations of the above selection criteria are valid, but the following combinations are invalid: (1) area or county without state, (2) site without state/area, (3) project without agency, and (4) method without pollutant.

The difference between a state/area and state/county retrieval is important--a state/area selection will give the sites which are in that area (city) while a state/county selection will give all state/area combinations located in that county.

Sorts Available

No optional sorts are available. The standard sort option for the selected data is by interval and by site ID.

Sample Reports

Figure 2.3.1.b shows a report retrieval for 24-hour data and Figure 2.3.1.c shows a report for quarterly composite.

RUN DATE:09/07/77 NATIONAL AEROMETRIC DATA BANK PAGE: 1
RAW DATA LISTING : 24 HOUR
YEAR 1974

SITECODE: 010020001F01 LOCATION: ABBEVILLE LATITUDE: 31 D. 33 M. 15 S. N
AGENCY/PROJECT: F01 COUNTY (13801): HENRY CO LONGITUDE: 85 D. 15 M. 14 S. W
AGENCY TYPE: STATE SITE ADDR: HENRY CO HOSPITAL US HGHY 431 UTM ZONE: 16
CITY POPULATION: 2,990 STATION TYPE (133): RURAL - COMMERCIAL UTM NORTHING: 3492150
AQCR POPULATION: 236,161 AQCR (006): SOUTHEAST ALABAMA UTM EASTING: 0066575
EPA-REGION: 4 SMSA (0000): 0 NOT IN A STANDARD METROPOLITAN STATIS ELEVATION ABOVE GROUND: 016 FT.
SUPPORTING AGENCY: ALABAMA AIR POLLUTION CONTROL COMMISSION ELEVATION ABOVE MSL: 0391 FT.
COMMENTS: AIOP HENRY CO HOSPITAL DIFF. GMT: WEST 06 HOURS

POLLUTANT: SUSPENDED PART. UNITS: UG/CU METER (25 C) MINIMUM DETECTABLE : 1
COLLECTION & ANALYSIS METHOD :HI-VOL GRAVIMETRIC

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	1	-	-	-	104	-	-	-	-	-	-	-	-
	2	17	-	25	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	50	24
	4	-	-	-	-	-	-	-	-	-	40	-	-
D	5	-	-	-	-	-	-	-	25	-	-	-	-
	6	-	-	-	-	-	21	-	-	-	-	-	-
A	7	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	52	-	-	-	-	-	-	-	-	-
Y	9	-	-	-	-	-	-	-	-	-	-	49	123
	10	-	-	-	-	-	-	-	-	47	73	-	-
	11	-	-	-	-	-	-	-	41	-	-	-	-
O	12	-	47	-	-	-	41	121	-	-	-	-	-
	13	26	-	-	-	-	-	-	-	-	-	-	-
F	14	-	-	52	-	-	-	-	-	-	-	-	-
	15	-	-	-	-	-	-	-	-	-	-	31	13
	16	-	-	-	-	-	-	-	-	49	12	-	-
M	17	-	-	-	-	-	-	-	22	-	-	-	-
	18	-	50	-	-	-	38	39	-	-	-	-	-
O	19	-	-	-	-	-	-	-	-	-	-	-	-
	20	33	-	21	-	-	-	-	-	-	-	-	-
N	21	-	-	-	-	-	-	-	-	-	-	14	22
	22	-	-	-	-	-	-	-	-	-	-	-	-
T	23	-	15	-	-	-	-	-	35	-	-	-	-
	24	-	-	-	-	-	-	37	-	-	-	-	-
H	25	-	-	-	-	53	-	-	-	-	-	-	-
	26	-	-	10	-	-	-	-	-	-	-	-	-
	27	-	-	-	-	-	-	-	-	-	-	36	-
	28	-	-	-	-	-	-	-	-	-	46	-	-
	29	-	-	-	-	-	-	-	27	-	-	-	-
	30	-	-	-	-	-	-	84	-	-	-	-	-
	31	-	-	-	-	51	-	-	-	-	-	-	-
NBR OBS:		3	3	5	1	2	3	4	5	2	4	5	4
MAX VALUE:		33	50	62	104	53	41	121	46	47	73	50	123
GEO MEAN:		24	32	28	-	52	32	62	30	45	36	33	30

NBR OBS: 41 MAX VALUE: 123 MEAN VALUE: 35 IS GEOMETRIC FOR PARTICULATE ARITHMETIC FOR ALL OTHERS

Figure 2.3.1.b. Raw data listing, 24-hour report.

```
RUN DATE:04/07/77                    NATIONAL AEROMETRIC DATA BANK                    PAGE:   28
                                     RAW DATA LISTING COMPOSITE

SITECODE: 011860001A01          LOCATION: HUNTSVILLE                          LATITUDE: 34 D. 43 M. 50 S. N
AGENCY/PROJECT: A01             COUNTY (2260): MADISON CO                     LONGITUDE: 086 D. 34 M. 58 S. W
AGENCY TYPE: EPA/ATMOS. SURV.   SITE ADDR: RM OF OF HEALTH BLDG 304 EUSTIS AVENUE  UTM ZONE: 16
CITY POPULATION:     137,802    STATION TYPE (113): CENTER CITY - COMMERCIAL  UTM NORTHING: 3843041
AQCR POPULATION:     971,433    AQCR (007): TENNESSEE RIVER VALLEY-CUMBERLAND MOUNTAINS  UTM EASTING:  538198
EPA-REGION: 4                   SMSA (3440): HUNTSVILLE, ALABAMA              ELEVATION ABOVE GROUND: 028 FT.
SUPPORTING AGENCY: DEPARTMENT OF PUBLIC HEALTH                                ELEVATION ABOVE MSL: 0605 FT.
COMMENTS:                                                                     DIFF. GMT: WEST 06 HOURS

POLLUTANT: IRON                 UNITS: UG/CU METER (25 C)          MINIMUM DETECTABLE :    0.1
COLLECTION & ANALYSIS METHOD :HI-VOL  EMISSION SPECTRA (LOW TEMP ASH)
```

QUARTERLY COMPOSITE OF 24-HOUR SAMPLES

YEAR	SMP PERIOD	VALUE	NBR SMP
70	1	0.7	7
	2	0.6	6
	3	0.8	7
	4	0.6	6
71	1	0.8	7
	2	0.7	6
	3	0.6	5
	4	0.7	6
72	1	0.4	
	2	0.8	
	3	0.5	
	4	0.5	

Figure 2.3.1.c. Raw data listing, composite report.

STANDARD REPORTS

General Description

This series of 12 reports shows, for each pollutant-site combination within the geographical region specified, the number of occasions within the period of time specified when the National Ambient Air Quality Standards (NAAQS) were violated. For those pollutants having both primary and secondary standards, the numbers of violations are shown separately for each type of standard. The standard format site description information appears at the top of the sheet with the designation of pollutant-interval combination above it, along with the State Code and name and the valid date of the data. Below the site description data, the main body of the report consists of 28 columns of data (for the monthly reports) or 13 columns of data (for the yearly reports) containing the individual hourly or daily observations for the pollutant in question. Every time that the appropriate standard was exceeded, a symbol (* or +) is placed beside the observation so as to identify the time and date of the violation. For the monthly reports, the number of observations and the mean value are tabulated for each day at the right-hand side of the paper; and the number of observations, maximum value, and arithmetic mean are listed for each hour of the day at the bottom of each column. For yearly reports the same data are provided, but on a monthly basis. Below these figures are given the total number of observations for the month (or year), the percentage of possible observations, the numbers of times that the respective standards were exceeded, the arithmetic or geometric mean and standard deviation, as appropriate, with accompanying statements as to whether the primary and secondary standards were met or exceeded (for those pollutants having standards based on those parameters), and, along the bottom of the page, the identifications by name of the methods of collection and analysis, together with a statement defining the time used (whether standard or daylight saving).

The following reports are available:

a. Particulate (total suspended particulates)
b. Sulfur dioxide, daily values
c. Sulfur dioxide, daily averages of hourly values
d. Sulfur dioxide, 3-hour averages
e. Carbon monoxide, hourly averages
f. Carbon monoxide, 8-hour averages
g. Total oxidants
h. Ozone
i. Nitrogen dioxide, daily values
j. Nitrogen dioxide, hourly values
k. Total hydrocarbons
l. Nonmethane hydrocarbons

Retrievals Available

Once the basic selections of pollutant type and averaging interval have been made, the standards reports may be retrieved on a nationwide, EPA region, state, or AQCR basis for specified periods of time.

Sorts Available

There are no optional sorts available.

Sample Report

Figure 2.3.1.d shows a sample yearly report for particulate sampling followed by a sample monthly report for 3-hour running averages for sulfur dioxide.

AS OF JUNE 02, 1973

P A R T I C U L A T E

NATIONAL AEROMETRIC DATA BANK STANDARDS REPORT FROM JAN 1970 TO DEC 1970

30301
ILLINOIS

SITECODE: 141220006
AGENCY/PROJECT: H01
AGENCY TYPE: CITY
CITY POPULATION: 3,369,597
AQCS POPULATION: 7,762,473
EPA-REGION: 5
SUPPORTING AGENCY: DEPARTMENT OF ENVIRONMENTAL CONTROL CITY OF CHICAGO
COMMENTS:

LOCATION: CHICAGO
COUNTY(1540): COOK
SITE AQCR: AUSTIN HIGH SCHOOL 231 N PINE ST
STATION TYPE (12): CENTER CITY - RESIDENTIAL
AQCR (C67): METROPOLITAN CHICAGO
SMSA (1600): CHICAGO, ILLINOIS

LATITUDE: N41 C. 53 M. 06 S.
LONGITUDE: W067 D. 45 M. 40 S.
UTM ZONE: 16
UTM NORTHING: 4,637.0 KM.
UTM EASTING: 436.8 KM.
ELEVATION ABOVE GROUND: 61 FT.
ELEVATION ABOVE MSL: 676 FT.
TIME ZONE: WEST 06 HOURS

DAY	JAN 1970	FEB 1970	MAR 1970	APR 1970	MAY 1970	JUN 1970	JUL 1970	AUG 1970	SEP 1970	OCT 1970	NOV 1970	DEC 1970
1	75 T	S	S	100 W	82 F	M	W	S	147 T	167+T	S	T
2	F	M	M	T	S	T	T	111 S	W	F	78 M	W
3	S	175+T	T	F	S	92 W	96 F	M	T	S	T	T
4	142 S	W	W	107+S	M	T	S	T	148 F	S	W	F
5	M	T	140 T	S	T	F	S	109 W	S	115 M	T	S
6	T	F	F	M	W	98 S	M	T	S	T	121 F	S
7	214+W	S	S	144+T	132 T	S	T	F	M	W	S	M
8	T	S	110 S	W	F	M	W	101 S	T	T	S	409+T
9	F	M	M	T	S	80 T	85 T	S	W	122 F	M	W
10	157+S	T	T	203+F	83 S	W	F	M	261*T	S	117 T	T
11	S	W	101 W	S	M	T	S	107 T	F	S	W	F
12	M	224+T	T	S	T	69 F	58 S	W	S	M	T	177+S
13	362+T	F	F	M	91 W	S	M	T	101 S	65 T	F	S
14	W	S	142 S	T	T	S	T	156+F	M	W	81 S	M
15	T	96 S	S	W	F	M	150 W	S	T	T	S	T
16	381 F	M	M	102 T	80 S	T	T	S	139 W	F	M	192+W
17	S	T	199+T	F	S	W	F	M	T	148 S	T	T
18	S	185+W	W	S	M	T	109 S	T	F	S	138 W	F
19	M	T	T	8 S	115+T	F	S	W	107 S	M	T	S
20	T	F	155+F	M	W	S	M	84 T	S	T	F	253+S
21	W	219+S	S	T	T	S	75 T	F	M	150 W	S	M
22	T	S	S	78 W	79 F	M	W	S	59 T	T	58 S	T
23	F	M	M	T	S	T	T	59 S	W	F	M	W
24	S	T	T	F	S	132 W	86 F	M	T	S	T	226+T
25	97 S	W	W	103 S	M	T	S	T	67 F	54 S	W	F
26	M	T	200+T	S	T	F	S	138 W	S	M	T	S
27	T	194+F	F	M	W	113 S	M	T	S	T	F	S
28	130 W	S	S	179+T	91 T	S	T	F	M	W	S	M
29	T		50 S	W	F	M	W	74 S	T	137 T	S	T
30	F		M	T	S	130 T	113 T	S	W	F	200+M	W
31	117 S		T		S		F	M		S		T
NUMBER	9	0	8	9	8	7	8	9	8	8	7	5
MAXIMUM	335	224	284	203	169	132	150	156	261	167	200	409
GEO MEAN	149	172	129	127	91	99	93	100	116	112	105	240

TOTAL SAMPLES = 88
PERCENT OF POSSIBLE OBSERVATIONS = 25.2

1 STARRED (*) ITEMS EXCEEDED THE PRIMARY STANDARD OF 260 MICROGRAMS PER CUBIC METER
25 PLUSSED (+) ITEMS EXCEEDED THE SECONDARY STANDARD OF 150 MICROGRAMS PER CUBIC METER

GEOMETRIC MEAN = 171
GEOMETRIC STANDARD DEVIATION = 100

PRIMARY STANDARD OF 75 MICROGRAMS PER CUBIC METER WAS EXCEEDED
SECONDARY STANDARD OF 60 MICROGRAMS PER CUBIC METER WAS EXCEEDED

COLLECTION METHOD: HI-VOL

ANALYSIS METHOD: GRAVIMETRIC

ALL TIMES ARE STANDARD TIME

Figure 2.3.1.d. Standards Report

AS OF JUNE 02, 1973

S U L F U R D I O X I D E
3 HOUR AVERAGE
NATIONAL AEROMETRIC DATA BANK STANDARDS REPORT FOR MARCH, 1969

30301
ILLINOIS

SITECODE: 141220006
AGENCY/PROJECT: H01
AGENCY TYPE: CITY
CITY POPULATION: 3,369,597
AQCS POPULATION: 7,762,473
EPA-REGION: 5
SUPPORTING AGENCY: DEPARTMENT OF ENVIRONMENTAL CONTROL CITY OF CHICAGO
COMMENTS: TAMN PARA MONITORED: SO2, WD, WS, COH, NO2, NO
CASN PARA MONITORED SO2 (WEST-GAEKE) TOT SUS PART (HI-VOL)

LOCATION: CHICAGO
COUNTY(1540): COOK
SITE AQCR: AUSTIN HIGH SCHOOL 231 N PINE ST
STATION TYPE (12): CENTER CITY - RESIDENTIAL
AQCR (067): METROPOLITAN CHICAGO
SMSA (1600): CHICAGO, ILLINOIS

LATITUDE: N41 C. 53 M. 06 S.
LONGITUDE: W067 D. 45 M. 40 S.
UTM ZONE: 16
UTM NORTHING: 4,637.0 KM.
UTM EASTING: 436.8 KM.
ELEVATION ABOVE GROUND: 61 FT.
ELEVATION ABOVE MSL: 676 FT.
TIME ZONE: WEST 06 HOURS

		MDNT	1	2	3	4	5	6	7	8	9	10	11	NOON	1	2	3	4	5	6	7	8	9	10	11	#	MEAN
1	S	13	13	17	28	65	94	98	79	59	57	90	162	203	238	273	384	458	478	496	531	581	507	462	249	24	234
2	S	160	155	199	247	365	465	555	537	419	303	223	212	186	196	229	253	275	297	293	312	369	365	367	236	24	309
3	M	239	221	207	330	483	631	635	600	476	376	238	231	240	325	365	362	314	258	245	277	301	284	259	167	24	339
4	T	108	111	96	94	144	253	371	382	338	288	229	177	144	103	61	44	33	26	48	55	55	33	26	400	24	155
5	W	747	784	867	1092	1260	1327	+1204	1087	877	650	515	491	469	476	452	500	535	605	624	668	642	579	527	452	24	723
6	T	465	458	515	574	694	777	753	544	286	96	46	24	17	50	133	238	262	295	323	384	391	325	298	167	24	338
7	F	124	175	275	415	539	714	806	814	559	325	138	114	98	96	96	120	273	489	705	725	642	524	475	445	24	401
8	S	458	448	395	378	362	543	475	364	92	24	13	13	13	13	52	124	214	251	247	170	144	127	164	111	24	215
9	S	69	63	55	50	247	417	565	544	511	469	356	225	105	35	22	17	13	98	288	533	646	622	560	501	24	290
10	M	521	535	603	679	834	937	926	821	730	573	370	347	312	332	393	424	450	417	400	362	343	341	344	344	24	510
11	T	341	360	354	406	509	666	729	701	605	500	450	489	541	552	515	478	463	467	520	609	668	703	691	740	24	544
12	W	681	718	742	987	1253	1421	+1240	893	585	539	485	406	258	177	153	135	142	138	124	138	179	288	331	851	24	514
13	T	1264	1314	+1419	+1631	+1845	+2046	+1858	+1446	+1016	756	651	531	526	522	500	493	517	533	528	581	672	633	589	337	24	929
14	F	293	290	299	339	517	605	592	528	476	465	467	474	458	454	485	552	548	561	535	572	668	725	806	612	24	914
15	S	553	559	622	751	943	1109	1127	954	696	485	498	570	596	515	456	456	565	699	873	961	928	782	665	648	24	722
16	S	626	592	535	729	1046	1314	+1238	1009	742	596	500	491	480	439	367	321	282	269	273	314	341	338	318	327	24	389
17	M	327	314	314	410	561	664	710	672	592	493	448	509	533	533	465	437	391	362	323	308	309	336	350	360	24	443
18	T	350	347	373	557	982	1380	+1509	+1236	851	579	441	458	437	498	465	461	391	380	373	371	378	389	406	318	24	587
19	W	168	145	121	196	325	434	443	354	258	214	205	201	168	138	114	85	61	31	17	13	13	13	13	13	24	156
20	T	65	135	247	273	286	260	299	273	251	210	199	183	175	190	245	380	369	384	386	376	386	349	357	285	24	271
21	F	275	293	297	371	502	614	622	563	472	432	400	386	295	179	103	68	44	35	31	109	288	579	737	789	24	352
22	S	704	718	790	858	1013	1118	1116	891	598	371	273	260	242	221	183	199	242	290	317	288	249	210	203	226	24	487
23	S	278	253	227	231	345	448	452	376	286	260	236	240	227	218	214	203	153	98	46	33	22	28	29	29	24	231
24	M														13	13	13	22	35	48	55	48	35	23	20	11	29
25	T	26	26	26	26	26	26	26	35	44	52	57	68	96	124	146	159	203	264	306	371	410	441	422	319	24	154
26	W	203	194	170	203	275	393	493	522	559	618	646	589	478	426	406	417	428	476	611	795	948	956	940	786	24	522
27	T	701	727	808	1004	1297	1517	+1465	+1096	742	657	681	696	694	913	939	810	574	537	598	620	550	454	370	350	24	783
28	F	275	284	308	426	539	620	570	405	378	312	247	242	277	332	430	467	576	622	675	568	496	474	531	485	24	440
29	S	354	347	290	338	397	507	559	572	526	483	472	382	255	170	251	365	404	413	402	369	393	395	452	403	24	398
30	S	380	345	336	365	430	450	485	480	502	465	450	391	365	356	365	371	345	356	362	391	461	487	534	442	24	413
31	M	403	382	369	415	565	688	900	867	801	541	426	365	367	358	365	360	386	406	421	421	430	417	426	334	24	476
#		30	30	30	30	30	30	30	30	30	30	30	30	30	31	31	31	31	31	31	31	31	31	31	31		
MAX		1264	1314	1419	1631	1845	1446	1858	1446	1016	756	681	696	694	913	939	810	576	699	873	961	948	956	940	851		
MEAN		373	377	396	482	622	748	763	657	511	406	348	331	309	297	299	311	320	341	369	396	418	411	409	379		

TOTAL SAMPLES = 731
PERCENT OF POSSIBLE OBSERVATIONS = 98.2

STARRED (*) ITEMS EXCEEDED THE PRIMARY STANDARD OF 0,000 MICROGRAMS PER CUBIC METER
14 PLUSSED (+) ITEMS EXCEEDED THE SECONDARY STANDARD OF 1,300 MICROGRAMS PER CUBIC METER

ARITHMETIC MEAN = 427
ARITHMETIC STANDARD DEVIATION = 296

PRIMARY STANDARD OF 000 MICROGRAMS PER CUBIC METER WAS MET
SECONDARY STANDARD OF 000 MICROGRAMS PER CUBIC METER WAS MET

Figure 2.3.1.d (continued). Standards Report

SITE DESCRIPTION INVENTORY

General Description

This report lists, in a standard site description format, information concerning the environment and operating characteristics of the given sampling site or sites. The site descriptive information is arranged in three blocks across the page, each block containing six to eight lines of information. The various codes as set forth in Volume V, AEROS Manual of Codes, are provided for the various station parameters and each is defined by name. These codes include those for the state, area, agency/project, EPA Region, county, station type, AQCR, SMSA, and UTM zone. The actual numerical values are also provided for the city and AQCR populations, as well as for various geographic parameters including the latitude and longitude of the sampling site, its UTM grid coordinates, the elevation of the sampling probe above the ground and above MSL, and the time differential between local standard time and GMT. In addition, the name of the location is given, along with the name of the supporting agency and any comments that may be appropriate.

Retrievals Available

The site description data can be retrieved on a state, AQCR, or nation-wide basis.

Sorts Available

The report is sorted by Site Code number within states. No other sorts are available as options for the user.

Sample Report

Figure 2.3.1.e shows a "Site Description Inventory" for two sites in the State of Rhode Island.

NATIONAL AEROMETRIC DATA BANK
SITE DESCRIPTION INVENTORY
STATE (41): RHODE ISLAND

PAGE 41-0001

SITECODE: 410040001F01
AGENCY/PROJECT: F01
AGENCY TYPE: STATE
CITY POPULATION: 17,860
AQCR POPULATION: 1,645,380
EPA-REGION: 1
SUPPORTING AGENCY: RHODE ISLAND DEPARTMENT OF HEALTH
COMMENTS:

LOCATION: BRISTOL
COUNTY (0060): BRISTOL CO
SITE ADDR:REYNOLDS ELEMENTARY SCHOOL
STATION TYPE (22): SUBURBAN - RESIDENTIAL
AQCR (120): METROPOLITAN PROVIDENCE
SMSA (6480): PROVIDENCE-PAWTUCKET-WARWICK, R.I.-MASS

LATITUDE: 41 D. 40 M. 26 S. N
LONGITUDE: 71 D. 16 M. 18. S. W
UTM ZONE: 19
UTM NORTHING: 4615800
UTM EASTING: 00310900
ELEVATION ABOVE GROUND: 040 FT.
ELEVATION ABOVE MSL: 0090 FT.
DIFF. GMT: WEST 05 HOURS

SITECODE: 410065001F01
AGENCY/PROJECT: F01
AGENCY TYPE: STATE
CITY POPULATION: 10,087
AQCR POPULATION: 1,645,380
EPA-REGION: 1
SUPPORTING AGENCY: RHODE ISLAND DEPARTMENT OF HEALTH
COMMENTS:

LOCATION: BURRILVILLE
COUNTY (0320): PROVIDENCE CO
SITE ADDR: BURRILVILLE HIGH SCHOOL
STATION TYPE (22): SUBURBAN - RESIDENTIAL
AQCR (120): METROPOLITAN PROVIDENCE
SMSA (6480): PROVIDENCE-PAWTUCKET-WARWICK, R.I.-MASS

LATITUDE: 41 D. 58 M. 9 S. N
LONGITUDE: 71 D. 39 M. 48 S. W
UTM ZONE: 19
UTM NORTHING: 4649500
UTM EASTING: 00279300
ELEVATION ABOVE FROUND: 020 FT.
ELEVATION ABOVE MSL" 0370 FT.
DIFF. GMT: WEST 05 HOURS

Figure 2.3.1.e. Site Description Inventory Report

RAW DATA IN SAROAD FORMAT

General Description

The report creates cards or magnetic tape of the raw data input to the computer in the same form as prepared for input. Figures 2.3.1.f, 2.3.1.g, and 2.3.1.h show the input data formats used for the SAROAD programs.

Retrievals Available

There are several key items upon which retrieval may be made by using the SAROAD Standard Format Selection procedure, including: state, area, site, agency type, AQCR, project classification, pollutant type, method of collection and analysis, sampling interval, and starting and ending dates. Certain combinations of selection keys are prohibited. For example, a site key may be entered only if an area key is also entered, and an area key may be entered only if a state key is also entered. Similarly, a project classification code may be included only if an agency type is also specified, and a method of collection and analysis may be specified only if a pollutant type is also specified. All other combinations may be considered as valid retrieval requests. The period of interest is specified by year and month for the starting and ending dates; for example, "7302 7304" or "6801 7212" would be valid ways of specifying the desired retrieval period. Codes for the various retrieval items are given in Volume V of the AEROS Manual.

Sorts Available

There are no sort options available.

Sample Report

Figures 2.3.1.f through 2.3.1.h give the type and sequencing of data contained in the report. The output is available in the form of punched cards, or on magentic tape, or both.

LESS THAN 24-HOUR SAMPLING INTERVAL

[1] (1)

Agency

City Name

Site Address

Project

ENVIRONMENTAL PROTECTION AGENCY
National Aerometric Data Bank
P. O. Box 12055
Research Triangle Park
North Carolina 27711

Parameter observed | Method

Time interval of obs. | Units of obs.

State (2 3) Area (4 5 6) Site (7 8 9 10)

Agency (11) Project (12 13) Time (14) Year (15 16) Month (17 18)

Parameter code (23 24 25 26 27) Method (28 29) Units (30 31) DP (32)

Day (19 20)	St Hr (21 22)	Rdg 1 (33 34 35 36)	Rdg 2 (37 38 39 40)	Rdg 3 (41 42 43 44)	Rdg 4 (45 46 47 48)	Rdg 5 (49 50 51 52)	Rdg 6 (53 54 55 56)	Rdg 7 (57 58 59 60)	Rdg 8 (61 62 63 64)	Rdg 9 (65 66 67 68)	Rdg 10 (69 70 71 72)	Rdg 11 (73 74 75 76)	Rdg 12 (77 78 79 80)

Figure 2.3.1.f. SAROAD Hourly Data Form

ENVIRONMENTAL PROTECTION AGENCY
National Aerometric Data Bank
P.O. Box 12055
Research Triangle Park, N.C. 27711

24-HOUR OR GREATER SAMPLING INTERVAL

2 (1)

Agency

City Name

Site Address

Project

Time Interval

State (2 3) Area (4 5 6) Site (7 8 9 10)

Agency (11) Project (12 13) Time (14) Year (15 16) Month (17 18)

Name PARAMETER Code (23 24 25 26 27)	Method (28 29)	Units (30 31)	DP (32)
Name PARAMETER Code (37 38 39 40 41)	Method (42 43)	Units (44 45)	DP (46)
Name PARAMETER Code (51 52 53 54 55)	Method (56 57)	Units (58 59)	DP (60)
Name PARAMETER Code (65 66 67 68 69)	Method (70 71)	Units (72 73)	DP (74)

Day (19 20)	St Hr (21 22)	(33 34 35 36)	(47 48 49 50)	(61 62 63 64)	(75 76 77 78)
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
DP →		4 3 2 1 0	4 3 2 1 0	4 3 2 1 0	4 3 2 1 0

Figure 2.3.1.g. SAROAD Daily Data Form

ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AEROMETRIC DATA BANK
RESEARCH TRIANGLE PARK, N.C. 27711
SAROAD COMPOSITE DATA FORM.

OMB No 158 R0012
Approval Expires 6/30/76

2
1 AGENCY

CITY NAME

SITE ADDRESS

PROJECT | TIME INTERVAL

STATE (2 3) AREA (4 5 6) SITE (7 8 9 10) AGENCY (11) PROJECT (12 13) TIME C (14)

YEAR (15 16) PERIOD (17 18) NUMBER OF SAMPLES (19 20) COMP TYPE SAMPLE TIME (21 22)

FILTER NUMBER	SAMPLE DATE	TOTAL AIR VOLUME M^3	PARTICULATE CONC $\mu g/M^3$
		TOTAL	
		% FILTER	
		EQUIVALENT AIR VOLUME M^3	

PARAMETER NAME	METHOD	UNITS	PARAMETER CODE (23 - 32) (37 - 46) (51 - 60) (65 - 74)	METHOD	UNITS	DP	VALUE (33 - 36) (47 - 50) (61 - 64) (75 - 78)

2.3.1-16

Figure 2.3.1.h. SAROAD Composite Data Form

METEOROLOGICAL RAW DATA REPORT AND PLOT

General Description

This report creates two unique print formats and a plot of meteorological data. The first print format lists the site description at the top of the page, then the parameter-method-unit names, and the raw data values for one month. Each line contains up to 24 raw data values, the mean, and number of observations for each day. This line is repeated for each day in the month. At the bottom of the page, the minimum, maximum, average, and number of observations are given for each hour of the day for that month.

This second printout repeats the site description at the top and the parameter-method-unit names and lists the minimum, the hour of the minimum, the maximum, the hour of the maximum, the mean, and the number of observations for each day of the month.

The plot of the meteorological data is created on CALCOMP plotter or a TEXTRONIX terminal. A separate plot is created for each month of data. The daily minimums, maximums, and means for a specific parameter for each day of the month are plotted with descriptive information on the site and parameter. The plot is a separate report and may be omitted if only the raw data listing is required.

Retrievals Available

The meteorological raw data reports and plots may be retrieved by state, area, site, agency, project, pollutant (only 6XXXX) method units, start and end date, and any appropriate combination of the above.

For the plots, the minimum scale value and a delta value may be specified by the user, or, if omitted, they are calculated by the program. The user can also specify what values (daily minimum, maximum, and/or mean) are plotted.

Sorts Available

No optional Sorts are available for this report. The report is printed according to the order on the file:

state/area/site/agency/project/pollutant/year/month

Sample Report

Figures 2.3.1-i,j,k, show examples for wind speed for a site in Mobile, Alabama, for January 1973.

RUN DATE: JAN 06, 1976 — NATIONAL AEROMETRIC DATA BANK — PAGE: 1

MONTHLY METEOROLOGICAL DATA REPORT

FOR JAN 1973

SITECODE: 012390008 — LOCATION: MOBILE — LATITUDE: 30 D. 43 M. 17 S. N

AGENCY/PROJECT: 001 — COUNTY (24001): MOBILE CO. — LONGITUDE: 088 D. 03 M. 32 S. W

AGENCY TYPE: COUNTY — SITE ADDR: WKRG TRANSMITTING SITE TELEGRAPH ROAD — UTM ZONE: 16

CITY POPULATION: 190,026 — STATION TYPE (111): CENTER CITY - INDUSTRIAL — UTM NORTHING: 3398920

AQCR POPULATION: 2,100,846 — AQCR (005): MOBILE-PENSACOLA-PANAMA CITY-SOUTHERN MISSISSIPPI — UTM EASTING: 0039861D

EPA-REGION: 4 — SMSA (5160): MOBILE, ALABAMA — ELEVATION ABOVE GROUND: 010 FT.

SUPPORTING AGENCY: MOBILE COUNTY BOARD OF HEALTH — ELEVATION ABOVE MSL: 0076 FT.

COMMENTS: SAMPLERS ON PLATFORM FOR UNIFORM WIND DISTRIBUTION NEAR HEAVILY INDUSTRIALIZED AREA — DIFF. GMT: MCST 06 HOURS

PARAMETER: WIND SPEED — METHOD: INSTRUMENTAL, SPOT READING — UNITS: MILES/HOUR

TIME

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	MEAN	NUM OBS
01	3.0	3.0	3.5	4.5	5.0	4.0	4.0	4.0	4.0	4.5	4.0	4.5	4.5	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.5	3.5	3.5	4.0	24
02	1.0	2.5	3.0	4.0	3.5	4.0	4.0	3.5	4.0	3.5	4.0	4.0	4.0	3.5	3.5	3.5	3.5	2.5	3.0	2.0	.0	2.5	.0	2.0	3.0	24
03	2.0	1.5	1.5	2.0	2.5	1.0	1.0	2.0	1.0	1.5	1.0	1.0	2.0	1.0	2.0	1.5	3.0	3.0	.0	.0	.0	.0	.0	.0	1.6	24
04	.0	.0	1.5	1.5	.0	2.0	1.0	3.5	3.5	3.5	3.0	3.0	3.0	3.0	2.0	2.0	3.0	3.0	3.0	4.0	3.0	2.0	3.0	1.0	2.1	24
05	2.0	1.0	1.0	1.0	.0	.0	.0	2.0	2.0	2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.7	24
06	.0	.0	.0	.0	3.0	4.0	3.0	2.5	3.5	3.5	4.0	3.5	3.5	3.5	4.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	.0	3.0	24
07	3.5	4.5	4.5	3.5	3.0	3.0	3.5	3.0	4.0	3.0	3.0	3.0	2.5	2.5	2.5	3.5	3.0	3.0	3.0	.0	.0	3.0	4.0	3.0	2.9	24
08	2.0	5.0	3.0	4.0	4.0	4.0	4.0	4.5	4.0	5.0	5.0		5.0	5.5	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.9	22
09	4.0	4.0	3.0	3.5	4.0	4.0	3.0	4.0	4.0	4.0	3.5	3.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.5	3.5	3.0	3.0	3.0	3.6	24
10	3.0	.0	3.0	3.0	3.0	2.5	3.0	2.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.5	3.0	3.0	3.0	2.0	2.7	24
11	3.0	2.5	2.5	2.0	3.0	3.0	3.0	4.0	4.0	4.0	5.0	5.0	5.0	4.0	4.0	4.0	3.5	3.5	4.0	4.0	4.0	4.0	4.0	5.0	3.8	24
12	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	3.5	3.0	2.0	2.0	2.0	1.5	1.0	1.0	1.5	3.4	24
13	1.5	1.5	.0	1.5	1.0	1.5	1.5	2.0	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.0	.0	.0	.0	1.1	24
14	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	3.0	3.0	2.0	1.5	1.5	1.5	1.5	.0	.0	.0	.0	.0	.0	.0	.5	24
15	.0	.0	.0	.0	1.5	2.0	3.0	3.0	4.0	4.0	4.0	3.5	3.5	3.0	2.0	2.0	.0	.0	.0	.0	.0	.0	.0	.0	1.8	24
16	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.5	2.5	2.0	1.5	1.5	2.0	.0	.0	.0	.0	.0	.0	.0	.0	.5	24
17	.0	.0	.0	.0	.0	.0	2.5	.0	.0	.0	2.0	2.0	3.0	2.5	3.0	3.0	1.0	3.0	2.0	2.0	2.0	1.0	.0	1.0	1.3	24
18	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5	2.0	1.5	1.5	2.0	2.0	3.0	3.0	3.0	1.2	24
19	2.5	2.0	2.5	2.0	.0	2.0	2.0	3.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	.0	.0	.0	.0	.0	.0	.0	.0	1.7	24
20	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.5	3.0	2.0	3.0	2.5	2.5	2.5	2.5	3.0	3.0	3.0	4.0	4.0	1.5	24
21	3.5	4.0	4.0	4.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0	5.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	1.0	3.4	24
22	1.0	1.0	.0	.0	.0	.0	.0	.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0	2.5	2.0	1.5	1.0	.0	.0	.0	.0	.0	1.1	24
23	.0	.0	.0	.0	.0	.0	.0	3.5	3.0	4.0	3.0	3.0	3.0	3.0	2.0	2.0	.0	.0	.0	.0	.0	.0	3.0	3.0	1.3	24
24	3.5	4.0	4.0	4.0	3.0	3.0	2.5	1.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	1.5	.0	.0	.0	.0	.0	2.3	24
25	.0	.0	.0	.0	.0	.0	.0	2.0	3.0	3.0	2.0	2.5	3.0	3.0	2.0	2.0	2.0	2.5	2.0	2.0	3.0	3.0	3.5	4.0	1.8	24
26	4.0	4.0	3.0	3.0	2.0	2.0	2.0	1.5	1.5	3.0	4.0	5.0	4.0	1.5	3.5	3.0	3.0	2.0	1.5	1.5	2.0	2.0	2.0	.0	2.6	24
27	.0	.0	.0	.0	.0	.0	.0	.0	1.0	3.0	2.5			2.0	2.0	1.0	1.0	2.0	2.0	2.0	2.5	2.0	2.0	2.5	1.2	22
28	3.0	2.0	2.0	.0	.0	3.0	3.0	3.5	4.0	.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0	3.0	3.0	3.5	3.5	3.0	2.8	24
29	3.0	3.5	3.5	3.5	3.5	3.5	3.0	3.5	3.0	3.0	3.0	3.0	3.0	3.0	2.5	2.5	2.0	2.0	2.0	1.0	.0	.0	.0	.0	2.3	24
30	.0	.0	.0	.0	.0	.0	1.0	1.0	2.0	2.0	1.0	2.5	2.5	3.0	3.0	1.5	1.0	.0	1.5	1.5	1.5	1.5	.0	.0	1.1	24
31	.0	.0	.0	.0	.0	.0	.0	1.5	1.5	1.5	.0	2.0	2.5	3.0	3.0	3.0	3.0	3.5	3.5	3.5	4.0	4.0	2.5	3.0	1.8	24
MIN	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0		
MAX	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.5	5.0	5.0	5.0	5.0	5.0	4.0	4.0	5.0	5.0		
AVG	1.6	1.7	1.6	1.7	1.6	1.9	2.0	2.3	2.7	2.7	2.8	3.0	2.9	2.8	2.7	2.6	2.3	2.0	2.0	1.7	1.6	1.7	1.8	1.6		
OBS	31	31	31	31	31	31	31	31	31	31	31	29	29	31	31	31	31	31	31	31	31	31	31	31		

Figure 2.3.1-i. Meteorological Raw Data Report.

RUN DATE: JAN 06, 1976 NATIONAL AEROMETRIC DATA BANK PAGE: 2

MONTHLY METEOROLOGICAL DATA REPORT
FOR JAN 1973

SITECODE: 012380008 LOCATION: MOBILE LATITUDE: 30 D. 43 M. 11 S. N
AGENCY/PROJECT: 001 COUNTY (28001): MOBILE CO LONGITUDE: 088 D. 03 M. 33 S. W
AGENCY TYPE: COUNTY SITE ADDR: WKRG TRANSMITTING SITE TELEGRAPH ROAD UTM ZONE: 16
CITY POPULATION: 190,026 STATION TYPE (111): CENTER CITY - INDUSTRIAL UTM NORTHING: 3398430
AQCR POPULATION: 2,100,896 AQCR (005): MOBILE-PENSACOLA-PANAMA CITY-SOUTHERN MISSISSIPPI UTM EASTING: 0039810
EPA-REGION: 4 SMSA (5160): MOBILE, ALABAMA ELEVATION ABOVE GROUND: 010 FT.
SUPPORTING AGENCY: MOBILE COUNTY BOARD OF HEALTH ELEVATION ABOVE MSL: 0016 FT.
COMMENTS: SAMPLERS ON PLATFORM FOR UNIFORM WIND DISTRIBUTION NEAR DIFF. GMT: WEST 06 HOURS
HEAVILY INDUSTRIALIZED AREA

PARAMETER: WIND SPEED METHOD: INSTRUMENTAL SPOT READING UNITS: MILES/HOUR

DAY	MIN	HR. OF MIN	MAX	HR. OF MAX	MEAN	NUM OBS
1	3.0	00	5.0	04	4.0	24
2	.0	20	4.0	03	3.0	24
3	.0	18	3.5	09	1.6	24
4	.0	00	4.0	19	2.3	24
5	.0	09	3.0	01	.7	24
6	.0	00	5.0	15	3.0	24
7	.0	19	9.5	01	2.9	24
8	2.0	00	6.0	08	4.4	22
9	3.0	02	4.0	00	3.6	24
10	.0	01	3.0	00	2.7	24
11	2.0	03	5.0	09	3.8	24
12	1.0	21	5.0	00	3.9	24
13	.0	02	2.0	07	1.1	24
14	.0	00	3.0	10	.5	24
15	.0	00	4.0	08	1.4	24
16	.0	00	2.5	10	.5	24
17	.0	00	3.0	12	1.3	24
18	.0	00	3.0	21	1.7	24
19	.0	08	4.0	09	1.7	24
20	.0	00	4.0	22	1.5	24
21	1.0	23	6.0	05	3.4	24
22	.0	02	1.0	10	1.1	24
23	.0	00	4.0	09	1.3	24
24	.0	19	4.0	01	2.3	24
25	.0	00	4.0	23	1.8	24
26	.0	23	5.0	11	2.6	24
27	.0	00	3.0	08	1.2	23
28	.0	03	4.0	08	2.8	24
29	.0	20	3.0	01	2.3	24
30	.0	00	3.0	13	1.1	24
31	.0	00	4.0	20	1.8	24

Figure 2.3.1-j. Meteorological Raw Data Report.

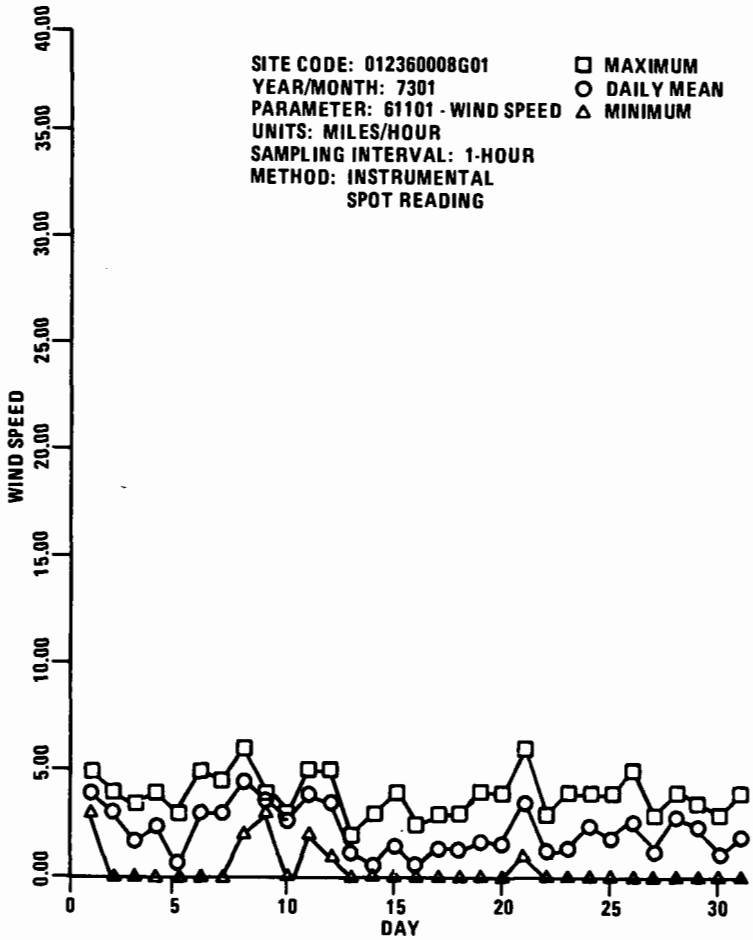

Figure 2.3.1-k. Meteorological raw data plot.

YEARLY FREQUENCY DISTRIBUTION

General Description

This report lists the site description and annual summary information for all data that satisfy the retrieval criteria. The site description is repeated at the top of each page, followed by the data. The site description gives the geographical information necessary to locate the site and is separated from the data by a data heading. Below the data heading, the codes and names are given for the pollutant, the sampling and analysis methods, the sampling interval, and the standard units in which the data are printed. The data items include: the year of the data; the percent of observations for continuous data; the number of observations; the number of primary and secondary violations of the NAAQS's; the minimum detectable for the sampling method; the minimum, maximum and second maximum observations; the 10, 30, 50, 70, 90, 95, and 99 percentiles; the arithmetic mean; the geometric mean; and the geometric standard deviation. The number of violations of the NAAQS's represents the number of violations of the short term standards. For the running averages, the number of violations are for non-overlapping running averages.

The retrieval and print options which are based on summary criteria are: (1) print all data which meet other selection criteria but do not print the means and standard deviation when summary criteria are not met (default), (2) print all data which meet other selection criteria and

flag the statistics when summary criteria are not met, (3) print only data which meet summary criteria, or (4) print only data which fail the summary criteria.

Retrievals Available

The report is generated from data which satisfy the following selection criteria: nation, state, area, site, agency, project, pollutant, method, interval, begin year, end year, AQCR, and county.

Most combinations of the above selection criteria are valid but the following combinations are invalid: (1) area or county without state, (2) site without state/area, (3) project without agency, and (4) method without pollutant.

The difference between a state/area and a state/county retrieval is important--a state/area selection will only give the sites which are in that area (city) while a state/county selection will give all state/area combinations located in that county.

Sorts Available

This report may be sorted in ascending (default) or descending order by the following options: state, area, site, agency, project, AQCR, pollutant, method, units, interval, year, pollutant value, and county code. For this report, the pollutant value sort is on the yearly

maximum observed value. Any number of sorts can be specified in any desired order, but certain sort combinations may produce a confusing report.

Sample Report

Figure 2.3.2.a shows a Yearly Frequency Distribution Report for particulate, carbon monoxide, sulfur dioxide and ozone for a site in Providence, Rhode Island.

DG-21-70 NATIONAL AEROMETRIC DATA BANK PAGE 41-0001
YEARLY FREQUENCY DISTRIBUTION
STATE (41): RHODE ISLAND

SITECODE: 410360000F01
AGENCY/PROJECT: F01
AGENCY TYPE: STATE
CITY POPULATION: 179,217
AQCR POPULATION: 1,645,300
EPA-REGION: 1
SUPPORTING AGENCY: RHODE ISLAND DEPARTMENT OF HEALTH
COMMENTS: PROVIDENCE STATION 0

LOCATION: PROVIDENCE
COUNTY (0021): PROVIDENCE CO
SITE ADDR: STATE OFFICE BUILDING
STATION TYPE (11): CENTER CITY - INDUSTRIAL
AQCR (120): METROPOLITAN PROVIDENCE
SMSA (5480): PROVIDENCE-PAWTUCKET-WARWICK, R.I.-MASS

LATITUDE: 41 D. 49 M. 54 S. N
LONGITUDE: 71 D. 24 M. 56 S. W
UTM ZONE: 19
UTM NORTHING: 4633700
UTM EASTING: 0029940
ELEVATION ABOVE GROUND: 050 FT.
ELEVATION ABOVE MSL: 0100 FT.
DIFF. GMT: WEST 05 HOURS

POLLUTANT NAME / POLLUTANT-METHOD-INTERVAL-UNITS CODE	METHOD OF COLLECTION AND ANALYSIS	INTERVAL	STANDARD UNITS
PARTICULATE 11101-01-7-01	HI-VOL GRAVIMETRIC	24-HOUR	UG/CU METER (25 C)
CARBON MONOXIDE 42101-11-1-05	INSTRUMENTAL NONDISPERSIVE INFRA-RED	1-HOUR	MG/CU METER (25 C)
CARBON MONOXIDE 42101-11-7-05	INSTRUMENTAL NONDISPERSIVE INFRA-RED	8-HR-AVG	MG/CU METER (25 C)
SULFUR DIOXIDE 42401-11-1-01	INSTRUMENTAL WEST-GAEKE COLORIMETRIC	1-HOUR	UG/CU METER (25 C)
SULFUR DIOXIDE 42401-11-X-01	INSTRUMENTAL WEST-GAEKE COLORIMETRIC	24-HR-AVG	UG/CU METER (25 C)

YEAR	PCT OBS	NOB OBS	#VIOL PRI	#VIOL SEC	MIN DETECT	MIN OBS	10	30	50	70	90	95	99	MAX OBS	2ND MAX	ARIT MEAN	GEOM MEAN	GEOM STD DEV
PARTICULATE																		
73		51	0	0	1.	21.	33.	40.	46.	64.	107.	130.	138.	138.	137.	58.	52.	1.6
74		41	0	2	1.	23.	37.	51.	61.	82.	103.	141.	157.	157.	155.	70.	63.	1.6
75		30	0	0	1.	32.	35.	53.	57.	73.	101.	114.	121.	121.	114.	65.*	60.*	1.5*
CARBON MONOXIDE																		
72	93	3160	0	0	0.0	0.0	0.0	1.1	2.3	3.4	5.1	6.3	8.6	17.8	14.9	2.6	2.1	2.07
73	47	4120	0	0	0.0	0.0	0.0	1.1	1.7	2.9	4.0	5.2	6.9	19.5	13.8	2.2*	1.8*	1.93*
CARBON MONOXIDE																		
72		8090	1	1	0.0	0.0	0.0	1.0	2.4	3.3	4.7	5.6	7.7	10.4	9.5			
73		4008	0	0	0.0	0.0	0.0	1.4	2.0	2.7	3.9	4.7	6.0	9.1	8.2			
SULFUR DIOXIDE																		
73	85	7471	0	0	20.	13.	13.	30.	66.	117.	216.	288.	524.	956.	956.	99.	60.	2.8
74	94	7343	0	0	20.	13.	13.	13.	39.	74.	170.	242.	406.	968.	939.	69.	40.	2.8
75	24	2134	0	0	20.	13.	13.	45.	70.	108.	168.	212.	311.	417.	390.	86.*	64.*	2.3*
SULFUR DIOXIDE																		
73		265	7	0	20.	13.	40.	64.	80.	133.	221.	270.	459.	683.	505.	115.	31.	2.0
74		290	2	0	20.	13.	13.	31.	51.	39.	171.	226.	357.	443.	377.	77.	51.	2.5
75		87	0	0	20.	13.	40.	72.	97.	120.	168.	187.	242.	242.	218.	99.*	85.*	1.8*

"*" Denotes a value derived from data which do not meet SAROAD summarizations criteria of OAQPS Guideline 1.2-040, Sec. 2.3.

Figure 2.3.2.a. Yearly Frequency Distribution Report

QUARTERLY FREQUENCY DISTRIBUTION

General Description

This report lists the site description and quarterly summary information for all data that satisfy the retrieval criteria. The site description is repeated at the top of each page, followed by the data. The site description gives the geographical information necessary to locate the site and is separated from the data by a data heading. Below the data heading, the codes and names are given for the pollutant, the sampling and analysis methods, the sampling interval, and the standard units in which the data are printed. The data items include: the year/quarter of the data; the percent of observations for continuous data; the number of observations; the number of primary and secondary violations of the NAAQS's; the minimum detectable for the sampling method; the minimum, maximum, and second maximum observations; the 10, 30, 50, 70, 90, 95, and 99 percentiles; the arithmetic mean; the geometric mean; and the geometric standard deviation. The number of violations of the NAAQS's represents the number of violations of the short term standards, and for the running averages, the number of violations are for non-overlapping running averages.

The retrieval and print options which are based on summary criteria are: (1) print all data which meet other selection criteria but do not print the means and standard deviation when summary criteria are not met (default), (2) print all data which meet other selection criteria and

flag the statistics when summary criteria are not met, (3) print only data which meet summary criteria, or (4) print only data which fail the summary criteria.

Retrievals Available

The report is generated from data which satisfy the following selection criteria: nation, state, area, site, agency, project, pollutant, method, interval, begin year-quarter, end year-quarter, AQCR and county.

Most combinations of the above selection criteria are valid but the following combinations are invalid: (1) area or county without state, (2) site without state/area, (3) project without agency, and (4) method without pollutant.

The difference between a state/area and a state/county retrieval is important--a state/area selection will only give the sites which are in that area (city) while a state/county selection will give all state/area combinations located in that county.

Sorts Available

This report may be sorted in ascending (default) or descending order by the following options: state, area, site, agency, project, AQCR, pollutant, method, units, interval, year, quarter, pollutant

value, and county code. For this report, the pollutant value sort is on the quarterly maximum observed value. Any number of sorts can be specified in any desired order, but certain sort combinations would produce a confusing report.

Sample Report

Figure 2.3.2.b shows a Quarterly Frequency Distribution Report for particulate and carbon monoxide for a site in Providence, Rhode Island.

06-23-76 NATIONAL AEROMETRIC DATA BANK PAGE 41-0001

QUARTERLY FREQUENCY DISTRIBUTION

STATE (41): RHODE ISLAND

SITECODE: 410300005F01
AGENCY/PROJECT: F01
AGENCY TYPE: STATE
CITY POPULATION: 179,213
AQCR POPULATION: 1,645,380
EPA-REGION: 1
SUPPORTING AGENCY: RHODE ISLAND DEPARTMENT OF HEALTH
COMMENTS: PROVIDENCE STATION B

LOCATION: PROVIDENCE
COUNTY (032C): PROVIDENCE CO
SITE ADDR: STATE OFFICE BUILDING
STATION TYPE (11): CENTER CITY - INDUSTRIAL
AQCR (12C): METROPOLITAN PROVIDENCE
SMSA (648G): PROVIDENCE-PAWTUCKET-WARWICK, R.I.-MASS

LATITUDE: 41 D. 49 M. 54 S. N
LONGITUDE: 71 D. 24 M. 56 S. W
UTM ZONE: 19
UTM NORTHING: 4633700
UTM EASTING: 0029940
ELEVATION ABOVE GROUND: 050 FT.
ELEVATION ABOVE MSL: 0100 FT.
DIFF. GMT: WEST 05 HOURS

POLLUTANT NAME / POLLUTANT-METHOD-INTERVAL-UNITS CODE YR-QTR	PCT OBS	NBR OBS	#VIOL PRT	#VIOL SEC	MIN DETEC	MIN OBS	10	30	50	70	90	95	99	MAX OBS	2ND MAX	ARIT MEAN	GEOM MEAN	GEOM STD DEV
METHOD OF COLLECTION AND ANALYSIS														INTERVAL		STANDARD UNITS		
PARTICULATE							HI-VOL GRAVIMETRIC							24-HOUR		UG/CU METER (25 C)		
11101-91-7-01																		
73-01		10	0	0	1.	21.	42.	47.	51.	98.	122.	137.	137.	137.	122.	72.	64.	1.7
73-02		14	0	0	1.	28.	32.	37.	43.	46.	69.	107.	107.	107.	69.	48.	45.	1.4
73-03		13	0	0	1.	21.	33.	39.	43.	68.	130.	138.	138.	138.	130.	58.	50.	1.7
73-04		9	0	0	1.	32.	32.	37.	38.	59.	71.	71.	71.	71.	64.	47.	46.	1.4
74-01		8	0	1	1.	50.	50.	60.	79.	93.	155.	155.	155.	155.	98.	85.	80.	1.4
74-02		9	0	0	1.	37.	37.	45.	61.	89.	141.	141.	141.	141.	103.	72.	66.	1.6
74-03		11	0	1	1.	30.	39.	53.	59.	82.	98.	157.	157.	157.	98.	70.	64.	1.6
74-04		13	0	0	1.	23.	33.	39.	51.	76.	96.	108.	108.	108.	96.	58.	53.	1.6
75-01		15	0	0	1.	35.	36.	57.	59.	87.	102.	114.	114.	114.	102.	68.	64.	1.5
75-02		15	0	0	1.	32.	34.	41.	55.	73.	95.	121.	121.	121.	95.	61.	57.	1.5
CARBON MONOXIDE							INSTRUMENTAL NONDISPERSIVE INFRA-RED							1-HOUR		MG/CU METER (25 C)		
42101-11-1-05																		
72-01	90	1962	0	0	0.6	0.5	1.1	1.7	2.9	4.0	5.8	6.9	9.8	14.9	14.9	3.2	2.5	2.05
72-02	93	1806	0	0	0.0	0.3	0.6	1.1	1.7	2.3	4.0	5.2	6.9	13.8	11.5	2.0	1.5	2.14
72-03	99	2193	0	0	0.0	0.0	0.6	1.1	2.3	3.4	5.2	6.3	8.0	10.3	9.2	2.6	2.1	2.08
72-04	100	2208	0	0	0.0	0.0	1.1	1.7	2.3	3.4	4.6	5.8	10.3	17.8	14.9	2.7	2.3	1.82
73-01	92	1998	0	0	0.6	0.6	0.6	1.7	2.3	2.9	4.6	5.7	7.5	19.5	13.8	2.5	2.1	1.97
73-02	97	2123	0	0	0.0	0.3	0.6	1.1	1.7	2.3	3.4	4.6	5.8	10.3	9.2	2.0	1.6	1.85
CARBON MONOXIDE							INSTRUMENTAL NONDISPERSIVE INFRA-RED							8-HR-AVG		MG/CU METER (25 C)		
42101-11-2-05																		
72-01		1903	1	1	0.0	0.0	1.2	2.1	2.9	3.9	5.5	6.3	8.5	10.4	9.5			
72-02		1787	0	0	0.6	0.0	0.0	1.1	1.0	2.3	4.2	4.9	6.0	6.5	6.4			
72-03		2186	0	0	0.0	0.6	0.8	1.5	2.4	3.3	4.5	5.5	7.6	8.3	8.0			
72-04		2208	0	0	0.0	0.0	1.1	1.9	2.6	3.2	4.2	5.2	7.2	8.1	7.8			
73-01		1984	0	0	0.0	0.6	0.9	1.7	2.4	3.1	4.3	5.2	6.6	9.1	8.2			
73-02		2112	0	0	0.6	0.3	0.9	1.2	1.7	2.3	3.5	4.2	5.5	6.9	6.0			

Figure 2.3.2.b. Quarterly Frequency Distribution Report

YEARLY REPORT BY QUARTERS

General Description

This report lists the site description and selected summary information for the year and for the individual quarters. The site description is repeated at the top of each page, followed by the data heading and data for each pollutant-year selected. The site description gives the geographical information necessary to locate the site. Below the data heading, the codes and names are given for the pollutant, the sampling and analysis methods, the sampling interval, and the standard units in which the data are printed. The data items include: the year of the data; the percent of observations for continuous data; the minimum detectable limit for the method; the arithmetic mean, arithmetic standard deviation, minimum observation, and maximum observation for the year; and the number of observations and arithmetic mean for each quarter.

The retrieval and print options, which are based on summary criteria, are: (1) print all data which meet other selection criteria but do not print quarterly and yearly statistics which do not meet the summary criteria, (2) print all data which meet other selection criteria and flag the statistics when summary criteria are not met, or (3) print only data which fail the summary criteria with flags on the data.

Retrivals Available

The report may be retrieved based on the following selection criteria: nation, state, area, site, agency, project, pollutant, method, interval, begin year, end year, AQCR, and county.

Most of the combinations of the above selection criteria are valid but the following selections are invalid: (1) area or county without state, (2) site without state/area, (3) project without agency, and (4) method without pollutant.

Sorts Available

This report may be sorted in ascending (default) or descending order by the following options: state, area, site, agency, project, AQCR, pollutant, method, units, interval, year, pollutant value, and county code. For this report, the pollutant value sort is on the yearly maximum observed value. Any number of sort options can be specified in any desired order but certain sort combinations would produce a confusing report.

Sample Report

Figure 2.3.2.c shows a Yearly Report by Quarters for particulate, carbon monoxide, sulfur dioxide, and ozone for a site in Providence, Rhode Island.

09-09-76 NATIONAL AEROMETRIC DATA BANK PAGE 41-0001
YEARLY REPORT BY QUARTERS
STATE (41): RHODE ISLAND

SITECODE: 410300003
AGENCY/PROJECT: FE1
AGENCY TYPE: STATE
CITY POPULATION: 179,213
AQCR POPULATION: 1,245,390
EPA-REGION: 1
SUPPORTING AGENCY: RHODE ISLAND DEPARTMENT OF HEALTH
COMMENTS: PROVIDENCE STATION 3

LOCATION: PROVIDENCE
COUNTY (003): PROVIDENCE CO
SITE ADDR: STATE OFFICE BUILDING
STATION TYPE (11): CENTER CITY - INDUSTRIAL
AQCR (120): METROPOLITAN PROVIDENCE
SMSA (040): PROVIDENCE-PAWTUCKET-WARWICK, R.I.-MASS

LATITUDE: 41 D. 49 M. 54 S. N
LONGITUDE: 71 D. 24 M. 56 S. W
UTM ZONE: 19
UTM NORTHING: 4633700
UTM EASTING: 0029900
ELEVATION ABOVE GROUND: 050 FT.
ELEVATION ABOVE MSL: 0100 FT.
DIFF. GMT: WEST 05 HOURS

YEAR	POLLUTANT / POLLUTANT-METHOD CODE / METHOD / INTERVAL AND UNITS	PERCENT OBS	MIN DETEC LEVEL	YEARLY ARITHMETIC MEAN	YEARLY ARITHMETIC STD DEV	EXTREMES MIN OBS	EXTREMES MAX OBS	1ST QUARTER NUM OBS	1ST QUARTER ARIT MEAN	2ND QUARTER NUM OBS	2ND QUARTER ARIT MEAN	3RD QUARTER NUM OBS	3RD QUARTER ARIT MEAN	4TH QUARTER NUM OBS	4TH QUARTER ARIT MEAN
74	PARTICULATE 1110191 HI-VOL GRAVIMETRIC 24-HOUR UG/CU METER (25 C)		1.	70.	32.2	23.	157.	8	85.	9	72.	11	70.	13	58.
73	CARBON MONOXIDE 4210111 INSTRUMENTAL NONDISPERSIVE INFRA-RED 1-HOUR MG/CU METER (25 C)	47	0.6	2.2*	1.48*	0.3	19.5	1998	2.5	2128	2.0				
74	SULFUR DIOXIDE 4240111 INSTRUMENTAL WEST-GAEKE COLORIMETRIC 1-HOUR UG/CU METER (25 C)	04	26.	60.	83.5	13.	966.	1657	144.	1918	43.	1929	29.	1845	70.
75	SULFUR DIOXIDE 4280111 INSTRUMENTAL WEST-GAEKE COLORIMETRIC 1-HOUR UG/CU METER (25 C)	29	26.	30.*	63.8*	13.	417.	1839	93.	295	46.*				
74	OZONE 4970111 INSTRUMENTAL CHEMILUMINESCENCE 1-HOUR UG/CU METER (25 C)	21	20.	24.*	13.4*	10.	167.	1105	24.*	1893	33.			1429	14.*

Figure 2.3.2.c. Yearly Report by Quarters

METEOROLOGICAL AND POLLUTANT SUMMARY STATISTICS PLOT

General Description

This report creates a plot on a CALCOMP plotter or a TEXTRONIX terminal of one of four different combinations of averages of quarterly means for up to 50 sites. The four different combinations are: (1) one meteorological parameter summarized over a specified time period, (2) one meteorological parameter and one pollutant summarized over a time period, (3) two meteorological parameters summarized over a time period, and (4) two meteorological parameters and one pollutant summarized over a time period.

The plot format has a title (at the top) that is supplied by the requestor. Under this title is a list of the sites used in the averages with space for a maximum of 12 sites. Under the site ID's is the list of pollutant-method-interval-units for the selected pollutants and/or parameters that are plotted.

The plot of the parameters and/or pollutant is given next with all parameters plotted on one axis system. The X-axis is utilized for the time scale and the Y-axis is utilized for the parameter or pollutant scale. The minimum scale value and the delta value may be supplied for each parameter or pollutant, or they will be calculated by the plot program.

Retrievals Available

The summary statistic plots are generated for any of the four combinations of parameters and/or pollutants as given above. The selection criteria required include the specific parameters and/or pollutants, the

site ID (state-area-site-agency-project) for up to 50 sites, and the time period required. The minimum scale value and the delta value may be specified or left to the computer to calculate.

Sorts Available

No optional sorts are available. The plots are created in the same order as requested by the retrieval options.

Sample Report

Figure 2.3.2.d shows an example of a plot of wind speed and direction for two sites. The absence of a plot for CO indicates that the pollutant was not reported.

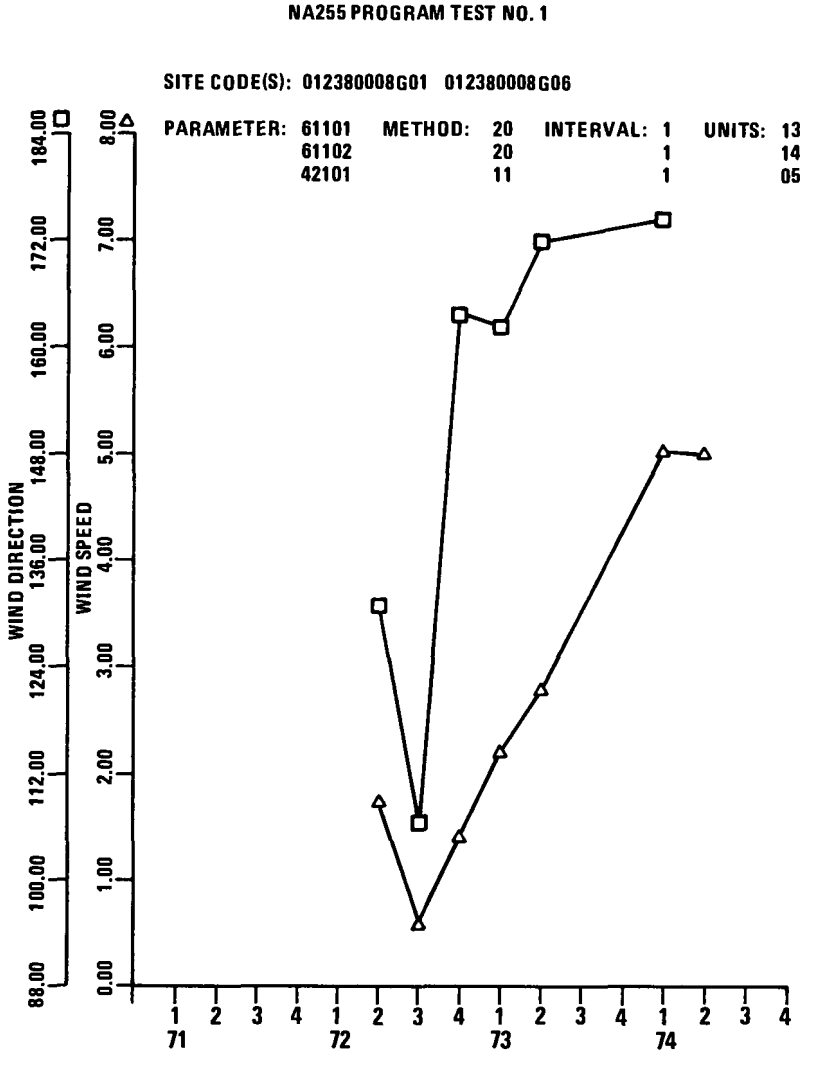

Figure 2.3.2.d. Meteorological and Pollutant Summary Statistics Plot

METEOROLOGICAL AND POLLUTANT FREQUENCY, PERCENT FREQUENCY, AND PLOT REPORTS

General Description

This report creates two unique printouts and a plot on a CALCOMP plotter or TEXTRONIX terminal of two meteorological parameters or a meteorological parameter and a pollutant. The outputs give the frequency of occurrence and percentage frequency of occurrence between a dependent variable and an independent variable. The frequency of occurrence and percentage frequency of occurrence are given for value categories for the dependent and independent variables. Default value categories are included in the program for wind speed, wind direction, dry-bulb temperature, wet-bulb temperature, relative humidity, visibility, and precipitation; and the user must specify the minimum value, increment value, and the number of increments (up to 10) to create the value categories for all other parameters. Any parameter except wind direction may be the dependent variable, and any parameter may be the independent variable.

The program retrieves the specific dependent and independent variables for the site specified for a time period of one month to one year. The dependent and independent variables are sorted by site/month/day and a frequency of occurrence is tabulated for the various value categories. The percentage frequency of occurrence is computed after the frequency of occurrence has been completed.

The program will print the frequency of occurrence and the percentage frequency of occurrence of the dependent and independent variables and create an optional plot of the percentage frequency of occurrence.

A separate page of printout is created for the frequency and percentage frequency reports. The report title is given at the top of the page with the time span covered. Below the time span, a complete site description is printed for the specific site. Below the site description the value categories for the dependent variable are given on the first line and the value categories for the independent are given in the column on the left. The remainder of the report varies with the number of occurrence in each value category given on the frequency report and percentage frequency occurrence in each value category on the percent report. The last column and line give the total number or percent in each value category.

The program will create a single plot of the total percentage frequency of occurrence of the dependent variable versus the independent variable and optional plots of any value categories of the dependent variables as specified by the requestor. The plot gives the site ID, location, time period, sampling interval, the name of the dependent variable, and value category at the top. The actual plot gives the value categories of the independent variable as the scale of the X-axis and the percentage frequency of occurrence as the Y-axis.

Retrievals Available

The user must specify the complete site ID; the dependent and independent variables; the year, month, or quarter; the sampling interval; the reports desired (printout and/or plot); the number of the value categories for the plot; and the minimum value, the increment value, and the number of increments (maximum of 10) to create value categories for parameters that have no default categories.

Sorts Available

No optional sorts are available. The printed reports and plots are created in the same order as requested by the retrieval cards.

Sample Report

Figures 2.3.2.e, 2.3.2.f and 2.3.2.g show examples of the frequency, percentage frequency, and plot of wind speed as the dependent variable, and wind direction as the independent variable for a site in Alabama in 1967.

RUN DATE: JAN 07, 1976

NATIONAL AEROMETRIC DATA BANK
FREQUENCY REPORT
01/01/67 TO 12/30/67

PAGE:

SITECODE: 011920001
AGENCY/PROJECT: NO2
AGENCY TYPE: FED NON-MILITARY
CITY POPULATION: 39,202
AQCR POPULATION: 971,433
EPA-REGION: 4
SUPPORTING AGENCY: TENNESSEE VALLEY AUTHORITY
COMMENTS: INS WIDOWS CK STEAM PLANT,ACC ROBUS 72,N 3.6M ON US72,R,GO .4M,L,
GO 1.1M,L .2M STA1-2 SO2 ELEV/GR 12° STA1 SET, PART 8° METEOR 44 °

LOCATION: JACKSON CO
COUNTY (1920): JACKSON CO
SITE ADDR: 3.5 MI NNE OF WIDOWS CREEK POWER PLANT
STATION TYPE (32): RURAL - AGRICULTURAL
AQCR (007): TENNESSEE RIVER VALLEY-CUMBERLAND MOUNTAINS
SMSA (0000): D NOT IN A STANDARD METROPOLITAN STATI

LATITUDE: 35 D. 8 M. 14 S. N
LONGITUDE: 85 D. 42 M. 56 S. W
UTM ZONE: 16
UTM NORTHING: 3865710
UTM EASTING: 00617010
ELEVATION ABOVE GROUND: 004 FT.
ELEVATION ABOVE MSL: 0630 FT.
DIFF. GMT: WEST 06 HOURS

INTERVAL: 1-HOUR

WIND DIRECTION (DEGREES, COMPASS)	WIND SPEED (KNOTS) UNDER 4	4 TO 8	8 TO 13	13 TO 19	19 TO 25	25 TO 32	32 TO 39	39 TO 47	47 TO 55	OVER 55	TOTAL
N	1,726	131	23	0	0	0	0	0	0	59	1,941
NNE	262	115	20	0	0	0	0	0	0	0	397
NE	676	87	4	0	0	0	0	0	0	0	767
ENE	1,040	105	3	0	0	0	0	0	0	0	1,148
E	359	9	1	0	0	0	0	0	0	0	369
ESE	106	5	0	0	0	0	0	0	0	0	111
SE	169	4	0	0	0	0	0	0	0	0	173
SSE	216	48	7	0	0	0	0	0	0	0	271
S	232	46	6	0	0	0	0	0	0	0	284
SSW	277	67	18	3	0	0	0	0	0	0	365
SW	601	222	61	30	0	0	0	0	0	0	914
WSW	625	293	83	10	0	0	0	0	0	0	1,011
W	252	67	34	4	0	0	0	0	0	0	357
WNW	106	49	15	1	0	0	0	0	0	0	171
NW	94	60	4	0	0	0	0	0	0	0	158
NNW	134	64	5	0	0	0	0	0	0	0	203
TOT	6,877	1,372	284	48	0	0	0	0	0	59	8,640

Figure 2.3.2.e. Meteorological Frequency Report

RUN DATE: JAN 07, 1976 NATIONAL AEROMETRIC DATA BANK PAGE: 5

PERCENT FREQUENCY REPORT
01/01/67 TO 12/30/67

SITECODE: 011920001
AGENCY/PROJECT: NO2
AGENCY TYPE: FED NON-MILITARY
CITY POPULATION: 39,202
AQCR POPULATION: 971,433
EPA-REGION: 4
SUPPORTING AGENCY: TENNESSEE VALLEY AUTHORITY
COMMENTS: INS WIDOWS CK STEAM PLANT,ACC RDBUS 72,W 3.6M ON US72,R,GO .4M,L,
GO 1.1M,L .2M STA1-2 SO2 ELEV/GR 12° STA1 SFT. PART 8° METEOR 44 °

LOCATION: JACKSON CO
COUNTY (1920): JACKSON CO
SITE ADDR: 3.5 MI NNE OF WIDOWS CREEK POWER PLANT
STATION TYPE (32): RURAL - AGRICULTURAL
AQCR (007): TENNESSEE RIVER VALLEY-CUMBERLAND MOUNTAINS
SMSA (6000): D NOT IN A STANDARD METROPOLITAN STATI

LATITUDE: 35 D. 8 M. 14 S. N
LONGITUDE: 85 D. 42 M. 56 S. W
UTM ZONE: 16
UTM NORTHING: 3865710
UTM EASTING: 0061701D
ELEVATION ABOVE GROUND: 004 FT.
ELEVATION ABOVE MSL: 0670 FT.
DIFF. GMT: WEST 06 HOURS

INTERVAL: 1-HOUR

WIND SPEED (KNOTS)

WIND DIRECTION (DEGREES, COMPASS)	UNDER 4	4 TO 8	8 TO 13	13 TO 19	19 TO 25	25 TO 32	32 TO 39	39 TO 47	47 TO 55	OVER 55	TOTAL
N	.20	.02	.00	.00	.00	.00	.00	.00	.00	.01	.22
NNE	.03	.01	.00	.00	.00	.00	.00	.00	.00	.00	.05
NE	.08	.01	.00	.00	.00	.00	.00	.00	.00	.00	.09
ENE	.12	.01	.00	.00	.00	.00	.00	.00	.00	.00	.13
E	.04	.00	.00	.00	.00	.00	.00	.00	.00	.00	.04
ESE	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
SE	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02
SSE	.03	.01	.00	.00	.00	.00	.00	.00	.00	.00	.03
S	.03	.01	.00	.00	.00	.00	.00	.00	.00	.00	.03
SSW	.03	.01	.00	.00	.00	.00	.00	.00	.00	.00	.04
SW	.07	.03	.01	.00	.00	.00	.00	.00	.00	.00	.11
WSW	.07	.03	.01	.00	.00	.00	.00	.00	.00	.00	.12
W	.03	.01	.00	.00	.00	.00	.00	.00	.00	.00	.04
WNW	.01	.01	.00	.00	.00	.00	.00	.00	.00	.00	.02
NW	.01	.01	.00	.00	.00	.00	.00	.00	.00	.00	.02
NNW	.02	.01	.00	.00	.00	.00	.00	.00	.00	.00	.02
TOT	.80	.16	.03	.01	.00	.00	.00	.00	.00	.01	1.00

Figure 2.3.2.f. Meteorological Percentage Frequency Report

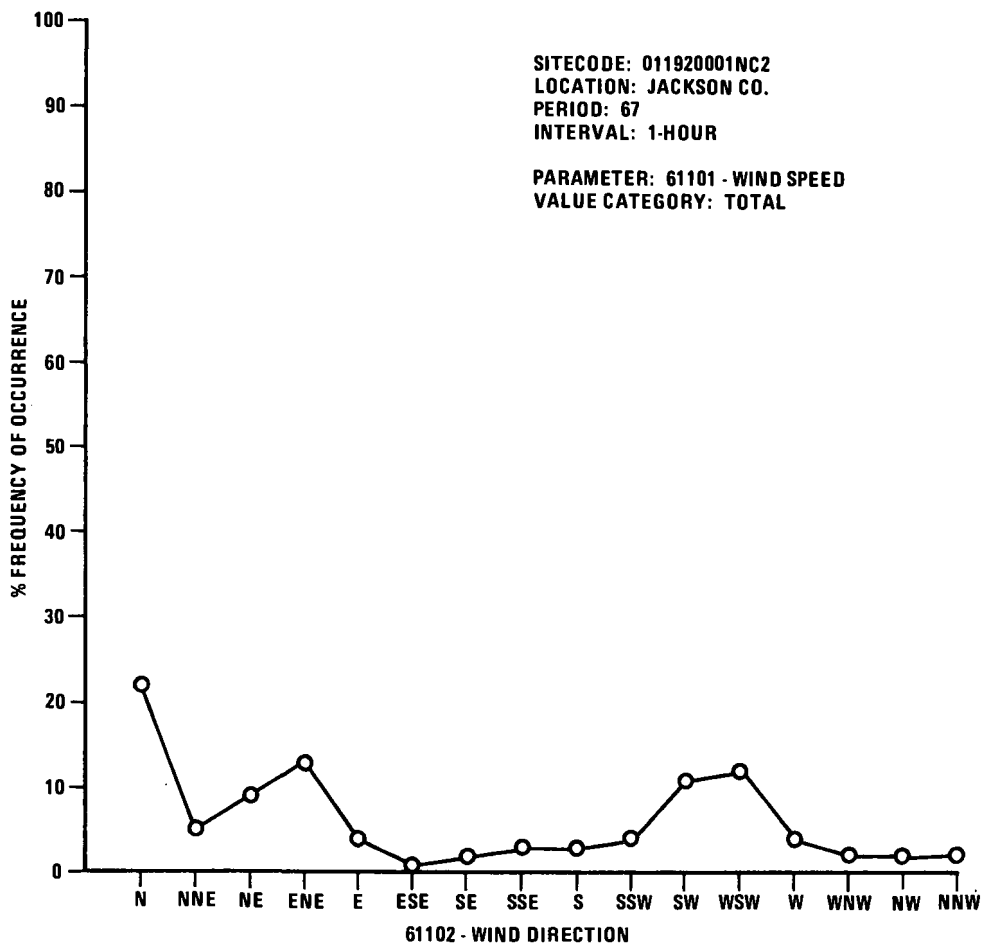

Figure 2.3.2.g. Meteorological Percentage Frequency Plot

2.3.3.1 INVENTORY BY SITE

2.3.3.1.1 GENERAL DESCRIPTION

This report lists, for each state specified, 11 columns of information with one line of data for each unique combination of the following data elements:

a. Site Code (9-digit nemeric)
b. Agency/Project Codes (1 alpha, 2 numeric)
c. Location Name (alpha)
d. Pollutant Name (alpha)
e. Pollutant/Method Codes (7 digit numeric combined code)
f. Interval Code (1 numeric)
g. Units Code (2-digit numeric)
h. Year (4-digit number)
i. Number of Observations (numeric)
j. Maximum Observations (numeric)
k. Arithmetic Mean (numeric)

Meanings of all of the above codes are given in Volume V of the AEROS manual.

The data parameters that establish or specify a line of printout constitute the first eight columns of the report page, or items a through h in the above enumeration of the data elements. The arithmetic mean is given for all data with an asterisk marking the values that were obtained from data not meeting minimum summary criteria (see Section 2.3.0).

2.3.3.1.2 RETRIEVALS AVAILABLE

Selections are limited to nationwide, EPA region, or state geographical parameters.

2.3.3.1.3 SORTS AVAILABLE

The data are sorted by Site ID, then by pollutant type within Site. No sort options are available for this report.

2.3.3.1.4 SAMPLE REPORT

Figure 2.3.3.a shows a portion or a retrieval for the State of Rhode Island.

2.3.3.1.5 REMARKS

The Inventory by Site lists for each site the number of years for which data are available for each pollutant. For each year, the number or observations and the maximum observed value are printed out. Because this report is sorted by pollutant within Site ID Number, it is most useful when information on a particular site or sites is desired.

05-08-75 NATIONAL AEROMETRIC DATA BANK ID=A41
INVENTORY BY SITE
RHODE ISLAND

SITE CODE	AG/ PRJ	LOCATION NAME	POLLUTANT NAME	POL-MTH CODE	INT CODE	UNIT CODE	YEAR	NUM OBS	MAX OBS	ARITH MEAN
410040001	F01	BRISTOL	PARTICULATE	1110191	7	01	1971	39	177.	62.
					7	01	1972	61	101.	40.
					7	01	1973	59	267.	43.
					7	01	1974	33	91.	
410065001	F01	BURRILLVILLE	PARTICULATE	1110191	7	01	1971	43	90.	47.
					7	01	1972	54	143.	38.
					7	01	1973	59	128.	33.
					7	01	1974	30	85.	
410090001	F01	CHARLESTOWN	PARTICULATE	1110191	7	01	1971	47	253.	48.
					7	01	1972	60	88.	26.
					7	01	1973	17	58.	
			SULFUR DIOXIDE	4240191	7	01	1971	25	104.	
					7	01	1972	54	84.	25.

Figure 2.3.3.a. Inventory by Site Report

2.3.3.2 INVENTORY BY POLLUTANT

2.3.3.2.1 GENERAL DESCRIPTION

The format of the output is, in part, identical to that of the Inventory by Site Report as described in paragraph 2.3.3.1.1. Both reports contain a total of 11 columns of data and the six righthand columns contain the same types of information; that is, Interval Code, Units Code, Year, Number of Observations, the Maximum Observation, and the Arithmetic Mean. The lefthand side of the report essentially reverses the order of presentation of the data, because this report is by pollutant rather than by site. Thus, the valid date of the information still appears in the upper lefthand corner of the page, but the heading reads "Inventory by Pollutant" rather than "Inventory by Site," and the next line contains the name of the pollutant instead of the name of the state. (See the following report writeup for an exception to this.) In both reports, the page number appears in the upper righthand corner. In this report, the five lefthand columns contain, respectively, the Pollutant/Method Code, the Pollutant Name, the Site Code, the Agency/Project Code, and the Location Name.

2.3.3.2.2 RETRIEVALS AVAILABLE

Selection by nation, EPA region, state, and by pollutant is possible.

2.3.3.2.3 SORTS AVALIABLE

The data are sorted by pollutant, then by state and area. No other sort options are available.

2.3.3.2.4 SAMPLE REPORT

Figure 2.3.3.b shows a portion of the inventory report for particulate measurements in Chicago, Illinois.

2.3.3.2.5 REMARKS

The Inventory by Pollutant lists, for each pollutant-method combination, the number of years for which data are available for each sampling site. For each year, the number of observations and the maximum value observed are printed out. Because this report is sorted by site ID code within pollutant type, it is most useful when information on a particular pollutant or pollutant-method combination is desired.

05-08-75

NATIONAL AEROMETRIC DATA BANK
INVENTORY BY POLLUTANT
PARTICULATE

POL-MTH CODE	POLLUTANT NAME	SITE CODE	AG/ PRJ	LOCATION NAME	INT CODE	UNIT CODE	YEAR	NUM OBS	MAX OBS	ARITH MEAN
1110191	PARTICULATE	141220005	H01	CHICAGO	8	01	1965	12	220.	173.
					7	01	1966	144	362.	173.
					8	01	1966	12	228.	174.
					7	01	1967	138	462.	169.
					8	01	1967	12	236.	170.
					7	01	1968	144	440.	162.
					8	01	1968	12	226.	161.
					7	01	1969	127	346.	158.
					8	01	1969	12	216.	160.
					7	01	1970	134	350.	135.
					7	01	1971	142	253.	125.
					7	01	1972	138	334.	109.
					7	01	1973	59	239.	
		141220006	H01	CHICAGO	7	01	1965	141	425.	138.
					8	01	1965	12	159.	135.
					7	01	1966	140	372.	142.
					8	01	1966	12	185.	143.
					7	01	1967	134	331.	129.
					8	01	1967	12	161.	132.
					7	01	1968	142	525.	132.
					8	01	1968	12	155.	132.
					7	01	1969	107	463.	137.
					8	01	1969	12	186.	133.
					7	01	1970	130	336.	114.
					7	01	1971	133	276.	107.
					7	01	1972	137	310.	90.
					7	01	1973	58	385.	
		141220007	H01	CHICAGO	7	01	1965	132	366.	125.
					8	01	1965	12	172.	127.
					7	01	1966	140	350.	135.
					8	01	1966	12	163.	136.
					7	01	1967	139	451.	116.
					8	01	1967	12	160.	118.
					7	01	1968	137	302.	125.
					8	01	1968	12	170.	127.
					7	01	1969	96	265.	
					8	01	1969	9	136.	
					7	01	1970	140	267.	101.
					7	01	1971	140	247.	92.
					7	01	1972	127	236.	98.
					7	01	1973	53	203.	
		141220008	H01	CHICAGO	7	01	1965	129	426.	166.
					8	01	1965	12	213.	164.
					7	01	1966	139	424.	177.
					8	01	1966	12	241.	177.
					7	01	1967	133	405.	144.
					8	01	1967	12	220.	147.
					7	01	1968	140	479.	188.
					8	01	1968	12	288.	194.
					7	01	1969	118	383.	173.

Figure 2.3.3.b. Inventory By Pollutant Report

2.3.3.3 STATE INVENTORY BY POLLUTANT

2.3.3.3.1 GENERAL DESCRIPTION

This report is identical to that last described (see 2.3.3.2) except that it is for a single state. Accordingly, the title line reflects this difference and the name of the state appears in the heading; otherwise the same format is used as for the Inventory by Pollutant Report.

2.3.3.3.2 RETRIEVALS AVAILABLE

Same as for the Inventory by Pollutant Report (see 2.3.3.2.2).

2.3.3.3.3 SORTS AVAILABLE

The data are sorted by state, then by pollutant area. No other sort options are available.

2.3.3.3.4 SAMPLE REPORT

Figure 2.3.3.c shows a portion of the inventory report for particulates measured in Chicago, Illinois.

2.3.3.3.5 REMARKS

The content and format of this report are identical to those for the preceding report except that the data are for a single state only. Therefore, this report is of greatest value when information on a certain pollutant of pollutants is desired for a single state.

05-08-75 NATIONAL AEROMETRIC DATA BANK ID:841
STATE INVENTORY BY POLLUTANT
ILLINOIS

POL-MTH CODE	POLLUTANT NAME	SITE CODE	AG/ PRJ	LOCATION NAME	INT CODE	UNIT CODE	YEAR	NUM OBS	MAX OBS	ARITH MEAN
1110191	PARTICULATE	141220002	A10	CHICAGO	7	01	1971	137	448.	184.
					7	01	1972	132	897.	169.
		141220003	H01	CHICAGO	7	01	1965	143	355.	98.
					8	01	1965	12	120.	93.
					7	01	1966	143	357.	105.
					8	01	1966	12	120.	100.
					7	01	1967	136	295.	81.
					8	01	1967	12	96.	82.
					7	01	1968	138	497.	100.
					8	01	1968	12	124.	100.
					7	01	1969	116	114.	98.
					8	01	1969	12	121.	96.
					7	01	1970	138	292.	89.
					7	01	1971	134	229.	85.
					7	01	1972	139	295.	78.
					7	01	1973	57	225.	

Figure 2.3.3.c. State Inventory by Pollutant

2.3.3.4 SUMMARY REPORT OF VALID DATA

2.3.3.4.1 GENERAL DESCRIPTION

This report uses information in the Quarterly Summary File to produce a tabulation by State, AQCR, and Area (County or City) of coded information, one line for each Site-Pollutant combination, indicating the quantity of data reported for particulates, sulfur dioxide, NO_x, CO, HC, OX, and TOX. The time period of interest, which is specified by the user, can be from 1 to 5 years. For each quarter or the year or years for which data were requested, a column of coded data appears. The codes, together with their meanings, are as follows:
a

a. "0" means "No Data"
b. "1" means "Data do not meet Summary Criteria"
c. "2" means "Data do meet Summary Criteria"

The "SITE" and "POLLUTANT" columns contain codes for Agency Type and Project Classification (under "SITE") and for Method of Collection and Analysis and Time Interval (or Period of Observation) (under "POLLUTANT"). The meanings for these codes are given in Volume V of the AEROS Manual.

2.3.3.4.2 RETRIEVALS AVAILABLE

Retrieval may be by the entire nation, for a single state, or by area (that is, city or county), site, agency, or project classification, or any combination of these. If no particular item is specified in one or more of the selection fields, all of the possible items in that field or fields will be retrieved.

2.3.3.4.3 SORTS AVAILABLE

The standard sorting hierarchy is by state, AQCR, area, site number, agency type, project classification code, pollutant type, method code, and time interval, all in ascending numerical or alphabetical order. No options for alternative sorting sequences are avaliable to the user.

2.3.3.4.4 SAMPLE REPORT

Figure 2.3.3.d shows a sample of the "Summary Report of Valid Data" for the State of Rhode Island.

05-13-75 PAGE 1

SUMMARY REPORT OF VALID DATA
NATIONAL AEROMETRIC DATA BANK
STATE (41): RHODE ISLAND

0-NO DATA
1-DATA DO NOT MEET SUMMARY CRITERIA
2-DATA DO MEET SUMMARY CRITERIA *

AQCR	AREA	SITE AG/PROJ CODE	POLLUTANT METH/INT CODE	1970 I	1970 II	1970 III	1970 IV	1971 I	1971 II	1971 III	1971 IV	1972 I	1972 II	1972 III	1972 IV	1973 I	1973 II	1973 III	1973 IV	1974 I	1974 II	1974 III	1974 IV	* TOTAL
120	BRISTOL	001/F01	TSP-91/7	0	0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	0	14
120	BURRILVILLE	001/F01	TSP-91/7	0	0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	0	14
120	CHARLESTOWN	001/F01	TSP-91/7	0	0	0	0	2	2	2	2	2	2	2	2	2	1	0	0	0	0	0	0	9
120	CHARLESTOWN	001/F01	SO2-91/7	0	0	0	0	0	0	2	2	2	2	2	2	2	1	0	0	0	0	0	0	7
120	CHARLESTOWN	001/f01	NO2-91/7	0	0	0	0	0	0	2	2	2	2	2	2	2	1	0	0	0	0	0	0	7
120	CRANSTON	001/F01	TSP-9177	0	0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	0	12
120	CRANSTON	001/F01	SO2-91/7	0	0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	0	14
120	CRANSTON	001/F01	NO2-84/7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	2	1	0	2
120	CRANSTON	001/F01	NO2-91/7	0	0	0	0	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	11

Figure 2.3.3.d. Summary Report of Valid Data

2.3.3.5 SUMMARY OF MONITORING ACTIVITY

2.3.3.5.1 GENERAL DESCRIPTION

This report uses information in the Quarterly Summary File to produce a tabulation by state and AQCR for the selected pollutants of the numbers of sites meeting the summary criteria for the quarter selected for study. (The minimum summary criteria are defined in Section 2.3.0.) The result in a nationwide report sorted by AQCR within states for all 55 "states". Each state has its own page in the report, with each AQCR within the state occupying one line of data. There is also a "Total" line at the bottom of each page, but no grand total; that is, only the totals for each state are given.

For each of the pollutant-sampling period combinations, three columns of data are given; these columns are headed "REQ," "PRO," and "RPT," meaning, respectively, "Required by EPA," "Proposed in the State Implementation Plan (SIP) for 1974," and "Reporting to the National Aerometric Data Bank - Based on Quarter X of 197X Data." In the example, the seven possible pollutant-averaging period combinations are:

a. "TSP" (Total Suspended Particulates)
b. "SO2-DAILY"
c. "SO2-HOURLY"
d. "NO2-DAILY"
e. "NO2-HOURLY"
f. "CO-HOURLY"
g. "OX-HOURLY"

2.3.3.5.2 RETRIEVALS AVAILABLE

The report is available only on a nationwide basis at present. The time period is specified by Year and Quarter; for example, 7301, 7404, etc. The data satisfying the summary criteria are tallied by monitoring site for a single quarter of the given calendar year. If data for more than one quarter are needed, a separate run must be made for each quarter.

2.3.3.5.3 SORTS AVAILABLE

As stated in paragraph 2.3.3.5.1, the report is sorted by state and AQCR. This is accomplished under program control, and no other sorts may be specified by the user.

2.3.3.5.4 SAMPLE REPORT

Figure 2.3.3.e shows a portion of this summary report for the State of Arkansas.

01-16-75

SUMMARY OF MONITORING ACTIVITY
NATIONAL AEROMETRIC DATA BANK
STATE (04) : ARKANSAS

PAGE 4

AQCR	TSP			SO2-DAILY			SO2-HOURLY			NO2-DAILY			NO2-HOURLY			CO-HOURLY			OX-HOURLY		
	REQ	PRO	RPT	REQ	PRO	RPT	REQ	PRO	RPT	REQ	PRO	RPT	REQ	PRO	RPT	REQ	PRO	RPT	REQ	PRO	RPT
016	3	10	12	1	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
017	2	3	3	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
018	1	3	6	0	1	3	0	0	0	1	1	3	0	0	0	0	0	0	0	0	0
TOTAL	9	29	49	4	6	10	0	0	0	1	1	11	0	0	0	0	0	0	0	0	0

REQ = REQUIRED BY EPA
PRO = PROPOSED IN STATE IMPLEMENTATION PLAN FOR 1974
RPT = REPORTING TO NATIONAL AEROMETRIC DATA BANK - BASED ON QUARTER 1 OF 1972

Figure 2.3.3.e. Summary of Monitoring Activity Report

2.3.3.6 ACTIVE SITE REPORT

2.3.3.6.1 GENERAL DESCRIPTION

This report consists of a sorted inventory of sites that have reported SAROAD data during a specified time interval. The report is made up of a series of subreports, one for each site, each of which contains a description of the site and summaries of the pollutants measured, methods used, time intervals, units, and numbers of observations reported. Because both retrieval and sorting are under the control of the user, the entries for each site may be different in content and arrangement, although provision may be made for only one type of sorting hierarchy in a single run.

2.3.3.6.2 RETRIEVALS AVAILABLE

There are 10 key items upon which retrieval may be made in this report. These retrieval items are: state, area, site, agency type, project classification, pollutant type, method of collection and analysis, sampling interval, AQCR, and starting and ending dates. Certain combinations of selection keys are prohibited. For example, a site key may be entered only if an area key is also entered, and an area key may be entered only if a state key is also entered. Similarly, a project classification code may be included only if an agency type is also specified, and a method of collection and analysis may be specified only if a pollutant type is also specified. All other combinations may be considered as valid retrievals. The period of interest is specified by year and quarter for the starting and ending dates; for example, "7302 7304" or "6801 7204" would be valid ways of specifying the desired retrieval period. Codes for the various retrieval items are given in Volume V of the AEROS Manual.

2.3.3.6.3 SORTS AVAILABLE

The selected sites may be sorted in a variety of ways before the report is printed out. The six possible codes available for use are:

a. Ascending key STATE
b. Ascending key AREA
c. Ascending key SITE
d. Ascending key AGENCY
e. Ascending key PROJECT
f. Ascending key AQCR

The sort codes may be entered in any order, and the order determines the sorting hierarchy; that is, the first code entered will determine the primary sort, the second one will determine the secondary sort, and so on. There are only two restrictions on the use of the sort codes: at least one sort code must be specified, and each sort code may appear only once for a given run.

2.3.3.6.4 SAMPLE REPORT

Figure 2.3.3.f shows a portion of the inventory report for the State of Rhode Island.

DATE: MAY 07, 1975 NATIONAL AEROMETRIC DATA BANK PAGE: 0007

INVENTORY OF SITES REPORTING DATA DURING 1ST QUARTER, 1974 THRU 4TH QUARTER, 1974

STATE(41): RHODE ISLAND

SITECODE:	410300005F01	LATITUDE(D.M.S.):	41 49 54 N	EPA REGION:	01	UTM ZONE:	19
SITE ADDRESS:	STATE OFFICE BUILDING	LONGITUDE(D.M.S.):	71 24 56 W	ELEV ABOVE GROUND:	0050	UTM NORTHING:	4633700
CITY OR AREA:	PROVIDENCE	CITY POPULATION:	179,213	ELEV ABOVE MSL:	0100	UTM EASTING:	00299400
COUNTY(0320):	PROVIDENCE CO	AQCR POPULATION:	1,645,380	TIME ZONE(REF GMT):	WEST 05 HOURS		
STATION TYPE:	CENTER CITY - INDUSTRIAL	AQCR(120):	METROPOLITAN PROVIDENCE				
AGENCY TYPE:	STATE	SMSA(6480):	PROVIDENCE-PAWTUCKET-WARWICK, R.I.-MASS.				
SUPP. AGENCY:	RHODE ISLAND DEPARTMENT OF HEALTH						
COMMENT:	PROVIDENCE STATION B						

POL/MTH/INT	POLLUTANT NAME	METHOD OF COLLECTION AND ANALYSIS	INTERVAL	UNITS	# OBS
11101/91/7	PARTICULATE	HI-VOL GRAVIMETRIC	24-HOUR	UG/CU METER (25 C)	14
111201/81/2	SOILING INDEX (TRANSMISSION)	TAPE SAMPLER TRANSMITTANCE	2-HOUR	COHS/1,000 LINEAR FT	3030
42401/11/1	SULFUR DIOXIDE	INSTRUMENTAL WEST-GAEKE COLORIMETRIC	1-HOUR	UG/CU METER (25 C)	4212
42401/91/7	SULFUR DIOXIDE	GAS BUBBLER PARAROSANILINE-SULFAMIC ACID	24-HOUR	UG/CU METER (25 C)	18
42602/12/1	NITROGEN DIOXIDE	INSTRUMENTAL COLORIMETRIC-GRIESS-SALTZMAN	1-HOUR	UG/CU METER (25 C)	1677
44201/11/1	OZONE	INSTRUMENTAL CHEMILUMINESCENCE	1-HOUR	UG/CU METER (25 C)	3004

Figure 2.3.3.f. Active Site Report

Because of the importance in many fields of activity of the air quality data in the SAROAD system, information is required on the quality of those data. QAMIS is an interim system designed to evaluate the existing networks of ambient air quality monitoring sites as the present efforts toward quality control are actually being carried out. The initial purpose was to ascertain the quality control activities of the various agencies that collect ambient air quality data, analyze the data collected, convert the data to SAROAD format, and submit the data to NADB for entry into the SAROAD system. As it is presently organized, the QAMIS system provides NADB with the ability to analyze and summarize quality assurance information and relate it to specific categories of data within the SAROAD system, such as sites, agencies, methods of collection and analysis, etc. QAMIS data collected in early 1974 for only a portion of the agencies, labs, sites, and pollutants in SAROAD. There are no current plans to update the QAMIS files.

The QAMIS data file is organized into agency, laboratory, and site information. The two basic types of reports are the Data Reports and the QCI (Quality Control Index) Reports. The data report includes the QCI data for each agency, laboratory or site. The QCI report contains agency, laboratory, or site ID number and address as well as the QCI scoring report. Each of the 17 reports available through the QAMIS system consists of responses to a set of from 8 to 18 questions, some of which are divided into two or three subparts. Thus, a questionnaire may comprise as many as 23 technical and management questions. The Data Reports include printouts of both the questions and the answers.

The QCI data consist of a numerical score and a letter grade assigned to the answers furnished by the respondee to the questionnaires. A scoring and weighing system is used by NADB to arrive at a quantitative evaluation or indication of the quality of the data produced by a given agency, site, or laboratory. The goal is to have as objective a method as possible for grading the monitoring activities of each agency.

A numerical score ranging in value from 0 to 100 is assigned to each response to a questionnaire, and weighing factors between 1 and 4 are preassigned to each of the questions. The scoring values are also predetermined, and vary depending upon the particular questionnaire being graded. The standard arrangement for the assignment of letter grades to the results of the questionnaires is as follows:

A = 85 and above
B = 70-84
C = 60-69
D = 50-59
F = less than 50

For laboratory-dependent method codes, a pollutant/laboratory score ratio is also included for greater sophistication in grading the questionnaire responses. The standard ratio (if no other values are assigned) is 50/50; like the weighing factors and the grade scales (letter grade breakpoints), the pollutant/laboratory score ratios may be changed as desired. Regular procedures exist for this purpose. Because all eight questionnaires are different from one another, the scoring tables for each are unique. The Opinion Poll is not graded; therefore, no scoring table exists for this questionnarie.

In summary, the system includes provisions for changing the QCI's based on new or revised weighing factors, grading scales, and pollutant/laboratory score ratios.

A single report may be requested, or multiple requests may be made in a single run. In addition to the 17 specific reports discussed in more detail in the following paragraphs, a "Dump" of all data in the QAMIS File may also be requested. For either of these two cases (a Dump or a multiple request) the primary sort is always by the type of report requests, as follows (this is the QAMIS "standard sort"):

a. Agency
b. Laboratory
c. Site
d. Pollutant type in order: TSP, SO_2, NO_2, CO, and OX

For a multi-state request, the second-order sort is by state in order of their code numbers (alphabetical order).

There are no optional sorts available for any of the reports in the QAMIS system.

2.4.1.1 AGENCY REPORTS

2.4.1.1.1 GENERAL DESCRIPTION

The QAMIS File contains answers to 23 technical and managerial questions relating to quality control at each data-collection agency. Included are questions on training, budgeting, personnel, workload, and data transcription procedures. The two types of reports available are the Agency-Data and Agency-QCI reports.

2.4.1.1.2 RETRIEVALS AVAILABLE

The data in these reports may be selected for a single agency, for all agencies in a state, or for all agencies nationwide.

2.4.1.1.3 SORTS AVAILABLE

The available sorts for this report are:

a. State
b. Agency ID Number

2.4.1.1.4 SAMPLE REPORT

Figure 2.4.1.a shows a typical Agency Report. This example is the result of a request for data from all agencies in California. In each report type, the questionnaire is printed out first, followed by the responses in a definite format, different for each type of questionnaire. In this case, the five agencies for which responses were on hand were assigned grades ranging from A to D (scores of 95 and 59, respectively).

** SAMPLE QUESTIONNAIRE ** ** SAMPLE QUESTIONNAIRE **

INTERIM
DATA QUALITY INFORMATION SHEET FOR
AIR POLLUTION AGENCIES

1. IN THE CURRENT FISCAL YEAR PERIOD WAS THERE A FORMALIZED AND OPERATIONAL QUALITY CONTROL PROGRAM IN THE AGENCY? (Y OR N)

   A. HOW MANY WHOLE YEAR TERMS HAS A QUALITY CONTROL PROGRAM BEEN IN FORCE?

2. WHERE THERE HAS BEEN A FORMALIZED QUALITY CONTROL PROGRAM IN THE LATEST FISCAL YEAR PERIOD,

   A. APPROXIMATELY WHAT PERCENT OF THE AGENCY'S BUDGET WAS ALLOCATED TO THE QUALITY CONTROL EFFORT?

   B. APPROXIMATELY WHAT PERCENT OF THE AGENCY'S BUDGET WAS ALLOCATED TO THE OVERALL AIR MONITORING EFFORT?

   C. FOR THE ABOVE, IS THERE A DESCRIPTION OF THE PROGRAM PLAN AVAILABLE?

3. IN THE AIR MONITORING PROGRAM ARE PERSONNEL EMPLOYED WHO HAVE A MINIMUM OF THREE HOURS OF UNDERGRADUATE TRAINING IN:

   A. STATISTICS? (Y OR N)

   B. QUALITY CONTROL? (Y OR N)

   C. COMPUTER PROGRAMMING? (Y OR N)

4. IN THE AIR MONITORING PROGRAM OPERATIONS ARE DATA SAMPLES CHECKED, AS A NECESSARY AND ROUTINE STEP, IN ACCORDANCE WITH STANDARDIZED PROCEDURES? (Y OR N)

   IF YES, IS THE METHOD: (A) COMPUTERIZED?
   (B) MANUAL? (A OR B)

5. IN THE AIR MONITORING OPERATION WHAT NUMBER OF PERSONS ARE ASSIGNED TO REVIEW ALL INCOMING SAMPLING DATA?
   (I.E. 1 THRU 8, 9 FOR NINE OR MORE)

6. IS IT A MATTER OF STANDARD PROCEDURE THAT A RANKING AND KNOWLEDGEABLE OFFICER OF THE AGENCY REVIEW AND APPROVE ALL AIR DATA FORMS PRIOR TO SUBMISSION TO EPA? (Y OR N)

7. DOES THE AGENCY EACH QUARTER YEAR SUBMIT TO EPA ALL AIR SAMPLING DATA UTILIZING THE SAROAD FORMAT? (Y OR N)

8. IS THERE A PROCEDURE DESCRIPTION, FLOW DIAGRAM OR OTHER CHART WHICH SHOWS A COMPLETE DATA SEQUENCE FROM POINT OF AQUISITION TO POINT OF SUBMISSION OF DATA TO EPA? (Y OR N)

9. HOW MANY TIMES ARE DATA MANUALLY TRANSCRIBED IN THE ABOVE (8) SEQUENCE?

10. HOW IS THE ACTUAL TRANSCRIPTION OF VALUES ACCOMPLISHED?

    (A) BY NUMBER COPYING
    (B) BY NUMBER DICTATION
    (C) OTHER, EXPLAIN

11. DURING QUARTERLY AIR MONITORING OPERATIONS ESTIMATE THE TYPICAL PERCENT AMOUNT OF SAMPLE DATA THAT IS REJECTED AS INVALID, AND THUS NOT SUBMITTED TO EPA (EXCLUDE EQUIPMENT DOWNTIME DUE TO CALIBRATION OR MAINTENANCE).

12. AS A MATTER OF PROCEDURE ARE AIR QUALITY DATA ROUTINELY PUBLISHED BY THE AGENCY? (Y OR N)

13. HOW MANY MONITORING SITES ARE MAINTAINED BY THE AGENCY?

14. IS THERE A DOCUMENTED PROCEDURE FOR THE INVESTIGATION OF DATA ANAMOLIES? (Y OR N)

15. ARE NUMERICAL COMPUTATIONS ROUTINELY PERFORMED ON THE COLLECTED DATA? (Y OR N)

Figure 2.4.1.a. Agency Reports

THURSDAY MAY 29, 1975 DATA LISTING FROM AGENCY QUESTIONNAIRE PAGE 01

QUESTION NUMBER	1	1A	2A	2B	2C	3A	3B	3C	4A	4B	5	6	7	8	9	10	11	12	13	14	15	DATE MONTH/YEAR	QCI-GRADE
							--TRAINING--																
STATE/AGENCY CODE	PROGRAM	PROGRAM STARS	QUAGER	MONITORING	DEPARTMENT OF NATURAL RESOURCES	STATIONS	QUALITY ASSURANCE TRAINING	COMPUTER MAPPING	DATA ACCESS METHOD	CHECKED	DATA REVIEW WORKS	DATA ACTUAL	QUALITY ASSURANCE	DATA ACTUAL	TRANSPORTATION/	HOW DO	PERCENTAGE DATA	DATA STATISTICS	MINNESOTA	INVERSE	COMPUTATIONS	MONTH/YEAR	QCI-GRADE
05/001	Y	10	02	11	Y	Y	Y	Y	Y	A	3	Y	Y	Y	02	A	04	Y	019	Y	Y	03/74	95-A
05/030	N	--	03	15	-	Y	Y	Y	Y	B	3	Y	N	N	01	A	01	Y	024	N	Y	04/74	59-D
05/330	Y	24	07	15	Y	Y	Y	Y	Y	A	9	Y	N	N	01	A	03	Y	013	Y	Y	04/74	85-A
05/630	N	03	36	42	N	Y	Y	Y	Y	B	2	N	N	Y	01	A	12	Y	-15	N	Y	04/74	63-C
05/650	Y	04	05	20	N	Y	Y	Y	Y	B	3	Y	N	Y	02	B	05	Y	008	N	Y	04/74	77-B

'-' INDICATES NO RESPONSE TO QUESTION: '*' INDICATES INSUFFICIENT INFORMATION SUBMITTED TO COMPUTE A QCI

Figure 2.4.1.a (continued). Agency Reports

2.4.1.2 LABORATORY REPORTS

2.4.1.2.1 GENERAL DESCRIPTION

The QAMIS file contains responses to 10 standard questions on such subjects as personnel qualifications and equipment availability and usage at laboratories where the raw data collected at the site are reduced and analyzed. The two types of report available are the Lab-Data and Lab-QCI reports.

2.4.1.2.1 RETRIEVALS AVAILABLE

The data may be selected for a single laboratory, for all laboratories within a single state, or for all laboratories nationwide.

2.4.1.2.3 SORTS AVAILABLE

a. State
b. Lab ID

2.4.1.2.4 SAMPLE REPORT

Figure 2.4.1.b shows a typical laboratory report.

** SAMPLE QUESTIONNAIRE **

** SAMPLE QUESTIONNAIRE **

DATA QUALITY INFORMATION SHEET FOR LABORATORIES

1. IF THE LABORATORY PERFORMS FUNCTIONS OTHER THAN THE ANALYSES OF AIR SAMPLES, ESTIMATE THE PERCENT OF TIME OF ANALYSES OF AIR SAMPLES.

2. IS A MAJORITY OF LAB EQUIPMENT LABELLED ACCORDING TO ITS LAST INSPECTION DATE AND ITS DUE DATE FOR CALIBRATION? (Y OR N)

3. HOW MANY PERSONS DOES THE LABORATORY EMPLOY FOR THE CURRENT FISCAL YEAR PROGRAM?

4. OF THE ABOVE, WHAT NUMBER HAVE ATTENDED FORMAL COURSES ON THE ANALYSES OF AIR POLLUTANTS?

5. FOR THE ABOVE, RANK THE SOURCE OF FORMAL TRAINING: MOST FREQUENT = 1, LEAST = 6

   A. FEDERAL GOVERNMENT SPONSORED
   B. STATE GOVERNMENT SPONSORED
   C. COLLEGE UNDERGRADUATE DEGREE PROGRAM
   D. COLLEGE GRADUATE DEGREE PROGRAM
   E. PROFESSIONAL, TRAINING ASSOCIATION
   F. OTHER (I.E. OJT) SPECIFY

6. ARE FEDERAL REFERENCE METHODS USED: (Y OR N)

   A. TOTAL SUSPENDED PARTICULATES
   B. SULFUR DIOXIDE
   C. NITROGEN DIOXIDE
   D. TOTAL OXIDANT
   E. CARBON MONOXIDE
   F. TOTAL HYDROCARBONS

7. ARE REPLICATES ROUTINELY MADE OF COLORIMETRIC CALIBRATIONS? (Y OR N)

8. IS AN UP-TO-DATE RECORD MAINTAINED OF THE STANDARD DEVIATIONS OF THE CALIBRATION CURVES SLOPE AND INTERCEPT? (Y OR N)

9. ARE CHECKS MADE TO DETERMINE ARITHMETIC ERRORS IN CALCULATIONS FOR OBTAINING CONCENTRATIONS? (Y OR N)

10. IS PERFORMANCE QUALITY CONTROL DATA DOCUMENTED IN A BOUND BOOK? (Y OR N)

Figure 2.4.1.b. Laboratory Reports

THURSDAY MAY 29, 1975 DATA LISTING FROM LABORATORY QUESTIONNAIRE PAGE 01

QUESTION NUMBER	1	2	3	4	5A	5B	5C	5D	5E	5F	6A	6B	6C	6D	6E	6F	7	8	9	10		Q C I - - - S C G R O A R E D E D
					---- FORMAL TRAINING -------						--FEDERAL REFERENCE METHODS -----											
STATE/LAB CODE	PERCENT TIME	AIR QUALITY DATA	EQUIPMENT TYPE	AIR QUALITY DATA	FED GOVT	STATE GOVT	UNDERGRADUATE	GRADUATE	PROFESSIONAL OR FELLOW	OTHER	TSP	SO2	NO2	OX	CO	HC	RELIABILITY CALIBRATION	CALIBRATION RECORDS	ERROR CHECKS	QC DATA ACCEPTED	DATA RECEIVED MONTH/YEAR	
05/C1	99	N	12	12	2	1	3	5	4	6	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	03/74	88-A
05/C2	60	N	06	03	1	2	4	5	3	6	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	04/74	87-A
05/C3	30	N	23	21	5	4	1	2	6	3	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	04/74	73-B
05/C4	17	N	04	01	1	6	3	4	5	2	Y	Y	Y	Y	Y	N	Y	N	Y	Y	04/74	68-C
05/C5	70	N	09	06	6	2	3	4	5	1	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	04/74	85-A

'-' INDICATES NO RESPONSE TO QUESTION: '*' INDICATES INSUFFICIENT INFORMATION SUBMITTED TO COMPUTE A QCI

Figure 2.4.1.b (continued). Laboratory Reports

2.4.1.3 SITE REPORTS

2.4.1.3.1 GENERAL DESCRIPTION

The QAMIS Site File contains such technical site data as general history, instrumentation, and pollutants monitored. The Site File also contains the technical specifications and engineering procedures used for monitoring each pollutant at the site. The two reports available include the Site-Data Report and the Site-QCI Report.

2.4.1.3.2 RETRIEVALS AVAILABLE

The data may be selected for one site, for all sites in an agency, for all sites in a state, or for all sites in the nation.

2.4.1.3.3 SORTS AVAILABLE

a. State
b. Site ID
c. Agency ID

2.4.1.3.4 SAMPLE REPORT

Figure 2.4.1.c shows a typical Site Report.

** SAMPLE QUESTIONNAIRE **

DATA QUALITY INFORMATION SHEET FOR
AIR POLLUTION SITES

1. WHICH OF THE FOLLOWING ARE MONITORED AT THIS SITE? (Y OR N)
   A. TOTAL SUSPENDED PARTICULATE
   B. OXIDANT
   C. NON-METHANE HYDROCARBON
   D. CARBON MONOXIDE
   E. NO-2
   F. SO-2

2. ARE ANY OTHER POLLUTANTS MONITORED AT THIS SITE? (Y OR N)

3. IS THE POWER SUPPLY VOLTAGE TO THE INSTRUMENTS REGULATED? (Y OR N)

4. ARE MANUALS FOR EVERY MONITORING INSTRUMENT READILY AVAILABLE AT THE LOCATION OF THE SAMPLING SITE? (Y OR N)

5. ARE REFERENCE MATERIALS, SUCH AS HANDBOOKS, GUIDELINES, AND OPERATING MANUALS AVAILABLE? (Y OR N)

6. IS A LOGBOOK KEPT FOR THE SITE? (Y OR N)
   IF SO A. DOES IT CONTAIN INFORMATION REGARDING CALIBRATION? (Y OR N)
   B. ARE DAILY ENTRIES MADE? (Y OR N)
   C. IS AN ATTEMPT MADE TO RECORD ALL EVENTS WHICH MIGHT INFLUENCE DATA QUALITY? (Y OR N)

7. THE DATA AQUISITION SYSTEM IS:
   (A) COMPLETELY AUTOMATED
   (B) SEMI-AUTOMATED
   (C) MANUAL

8. IF SOME PORTION OF THE SYSTEM IS NOT AUTOMATED, ARE PREPRINTED FORMS IN USE FOR RECORDING DATA? (Y OR N)

9. ARE SPOT CHECKS CONDUCTED TO DETECT ERRORS IN MANUAL TRANSCRIPTION OF DATA?

10. ON THE AVERAGE, HOW OFTEN ARE ROTAMETERS CLEANED?
    (A) ONCE WHEN INSTALLED
    (B) MONTHLY
    (C) QUARTERLY
    (D) ANNUALLY
    (E) LESS FREQUENTLY THAN ANNUALLY

11. HAVE ANY OF THE CURRENT SITE OPERATORS ATTENDED COURSES DEALING WITH AIR POLLUTION INSTRUMENTATION? (Y OR N)

12. HOW MANY YEARS HAS THE SITE BEEN IN OPERATION AT ITS PRESENT LOCATION?

13. ARE ALL DEVICES WHICH ARE FACTORY CALIBRATED LABELLED WITH DATE OF LAST CALIBRATION AND DATE WHEN RECALIBRATION IS DUE? (Y OR N)

Figure 2.4.1.c. Site Reports

** SAMPLE QUESTIONNAIRE **

THURSDAY MAY 29, 1975 DATA LISTING FROM SITE QUESTIONNAIRE PAGE 01

QUESTION NUMBER		1A	1B	1C	1D	1E	1F	2	3	4	5	6	6A	6B	6C	7	8	9	10	11	12	13		
		---- POLLUTANTS MONITORED ---------																						
SAROAD SITE CODE:			OXIDANT					OTHERS	REGULATED	POWER	MANUAL	LOGBOOK			EVENTS	DATA QUALITY ASSESSMENT	FORMS PRINTED	SPOTCHECKS	TAMERS	OPERATOR TRAINING	YEARS OF OPERATION	CALIBRATE		
STATE/ AREA/ SITE/ AGENCY/ PROJECT	DATA RECEIVED MONTH/ YEAR	TSP		HC	CO	NO2	SO2				REFERENCE	MAL	CALIB	DAILY									QUALITY CONTROL INDEX SCORE	GRADE
050500002101	04/74	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	C	Y	Y	B	Y	9	-	96	A
050320003F01	03/74	Y	Y	N	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	C	Y	Y	B	Y	3	-	85	A
050580001101	04/74	Y	Y	N	Y	Y	N	N	N	Y	Y	Y	Y	N	Y	B	Y	Y	B	Y	4	-	85	A
050720001102	04/74	N	N	N	N	N	Y	Y	N	Y	Y	Y	Y	N	Y	C	Y	Y	C	Y	1	-	81	B
050900002101	04/74	N	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	C	Y	Y	B	Y	9	-	96	A
050920002101	04/74	Y	Y	N	Y	N	Y	Y	N	Y	Y	Y	Y	N	Y	C	Y	Y	C	Y	2	-	83	B
051260001F01	03/74	Y	Y	N	Y	Y	N	Y	N	Y	Y	Y	Y	Y	Y	C	Y	Y	B	Y	3	-	85	A

'-' INDICATES NO RESPONSE TO QUESTION: '*' INDICATES INSUFFICIENT INFORMATION SUBMITTED TO COMPUTE A QCI

Figure 2.4.1.c (continued). Site Reports

2.4.1.4 POLLUTANT REPORTS

2.4.1.4.1 GENERAL DESCRIPTION

These reports make use of the data in the QAMIS file to give output data for the selection criteria outlined in the following paragraph. The 10 reports available in this section are:

a. Pollutant (TSP)-Data
b. Pollutant (TSP)-QCI
c. Pollutant (SO_2)-Data
d. Pollutant (SO_2)-QCI
e. Pollutant (NO_2)-Data
f. Pollutant (NO_2)-QCI
g. Pollutant (CO)-Data
h. Pollutant (CO)-QCI
i. Pollutant (OX)-Data
j. Pollutant (OX)-QCI

2.4.1.4.2 RETRIEVALS AVAILABLE

Selection criteria for these reports are as follows:

a. Specific pollutant-method combination at a site
b. All methods for one pollutant
c. All pollutants for one agency
d. All pollutants for one laboratory
e. All pollutants for one site
f. All pollutants in a single state
g. All pollutants nationwide

2.4.1.4.3 SORTS AVAILABLE

a. State
b. Site ID
c. Method
d. Laboratory ID
e. Agency ID Number

A multi-pollutant request is sorted in the order: TSP, SO_2, NO_2, CO, OX.

2.4.1.4.4 SAMPLE REPORT

See Figures 2.4.1.d through 2.4.1.h.

** SAMPLE QUESTIONNAIRE **

** SAMPLE QUESTIONNAIRE **

DATA QUALITY INFORMATION SHEET FOR
TOTAL SUSPENDED PARTICULATE MEASUREMENT (HI-VOL SAMPLER ONLY)

1. PREPINTED PARAMETER CODE SHOULD CORRESPOND TO THAT FOUND IN THE SAROAD CODING MANUAL (PARAMETER CODE - 11101).

2. PREPRINTED METHOD CODE SHOULD CORRESPOND TO THAT FOUND IN THE SAROAD CODING MANUAL (METHOD CODE - 91).

3. PRINT BRAND NAME AND MODEL NUMBER OF SAMPLER USED TO MONITOR TSP AT THE SITE.

   A. IS A SECOND SAMPLER AVAILABLE OR PRESENTLY IN USE AT THE SITE? (Y OR N)

4. ARE THE FILTERS CHECKED RANDOMLY FOR SURFACE ALKALINITY? (Y OR N)

5. ARE THE FILTERS VISUALLY INSPECTED FOR IMPERFECTION? (Y OR N)

6. ARE THE FILTERS CONDITIONED BEFORE INITIAL AND FINAL WEIGHING? (Y OR N)

7. ARE ENVELOPES OR FOLDERS IN USE FOR TRANSPORTING FILTERS? (Y OR N)

8. ARE FLOW RATES MEASURED BEFORE AND AFTER SAMPLING PERIOD? (Y OR N)

9. IF THE ANSWER TO NO. 8 IS YES, ESTIMATE THE AVERAGE PERCENT CHANGE IN FLOW RATES

   (A) LESS THAN 10 PERCENT
   (B) 10-20 PERCENT
   (C) GREATER THAN 20 PERCENT

10. ARE ALL WEIGHINGS AND SERIAL NUMBERS OF FILTERS KEPT IN A LOGBOOK AT THE LABORATORY? (Y OR N)

11. IS THERE A LOGBOOK AT EACH SAMPLER TO RECORD FLOWS AND TIMES? (Y OR N)

12. ENTER THE LETTER CORRESPONDING TO THE STATEMENT BELOW THAT MOST CLOSELY ESTIMATES THE FREQUENCY OF FLOW RATE CALIBRATION.

    (A) ONCE WHEN FIRST PURCHASED
    (B) ONCE WHEN PURCHASED THEN AFTER EVERY SAMPLER MODIFICATION
    (C) ONCE WHEN PURCHASED THEN AT REGULAR INTERVALS THEREAFTER

13. WHAT IS THE APPROXIMATE TIME DELAY BETWEEN SAMPLE COLLECTION AND FINAL WEIGHING? (ANSWER IN DAYS)

Figure 2.4.1.d. Pollutant Reports (TSP)

THURSDAY MAY 28, 1975 DATA LISTING FOR TSP (11101) QUESTIONNAIRE PAGE 01

SAROAD SITE CODE: STATE/ AREA/ SITE/ AGENCY/ PROJECT	DATA RECEIVED MONTH/ YEAR	METHOD CODE	LABORATORY ID	QUESTION NUMBER 3 SAMPLER BRAND NAME	SAMPLER MODEL NUMBER	3A SECOND SAMPLER	4 ALKALINITY CHECK	5 VISUAL CHECK	6 FILTER CONDITION	7 ENVELOPES	8 FLOW RATES	9 FLOW CHANGE	10 FILTER LOGBOOK	11 FLOW LOGBOOK	12 CALIBRATION FREQUENCY	13 TIME DELAY	QCS CODE	QCI GRADE
500080001F01	04/74	91	20	GENERAL METALS	GMW 2000	Y	Y	Y	Y	Y	Y	B	Y	N	B	01	85	A
500280002F01	04/74	91	10	GENERAL METALS	GMW 2000	Y	Y	Y	Y	Y	Y	B	Y	N	B	01	85	A
500280003F03	04/74	91	10	GENERAL METALS	GMW 2000	Y	Y	Y	Y	Y	Y	B	Y	N	B	01	85	A
500280005F01	04/74	91	10	GENERAL METALS	GMW 2000	Y	Y	Y	Y	Y	Y	B	Y	N	B	01	85	A
500360001F01	04/74	91	10	GENERAL METALS	GMW 2000	Y	Y	Y	Y	Y	Y	B	Y	N	B	01	85	A
500460001F02	04/74	91	10	GENERAL METALS	GMW 2000	Y	Y	Y	Y	Y	Y	B	Y	N	B	01	85	A
500480002F02	04/74	91	10	GENERAL METALS	GMV 2000	Y	Y	Y	Y	Y	Y	B	Y	N	B	01	85	A

'-' INDICATES NO RESPONSE TO QUESTION: '*' INDICATES INSUFFICIENT INFORMATION SUBMITTED TO COMPUTE A QCI

Figure 2.4.1.d (continued). Pollutant Reports (TSP)

** SAMPLE QUESTIONNAIRE ** ** SAMPLE QUESTIONNAIRE **

DATA QUALITY CONTROL INFORMATION SHEET FOR
SO-2 MEASUREMENT

1. PREPRINTED PARAMETER CODE SHOULD CORRESPOND TO THAT FOUND IN THE SAROAD CODING MANUAL (PARAMETER CODE - 42 01)
2. ENTER METHOD CODE FROM SAROAD CODING MANUAL.
3. PRINT BRAND NAME AND MODEL NUMBER OF SAMPLER USED TO MONITOR SO-2 AT THE SITE.
   A. IS A SECOND SAMPLER AVAILABLE OR PRESENTLY IN USE AT THE SITE? (Y OR N)
4. ENTER MEASURED MINIMUM DETECTABLE CONCENTRATION FOR THE MAIN SAMPLER IN PPM.
5. ARE SPOT CHECKS RANDOMLY CONDUCTED USING CONTROL SAMPLES TO AUDIT THE PERFORMANCE OF THE ENTIRE SYSTEM? (Y OR N)
6. ARE CALCULATIONS OR ESTIMATES MADE OF THE PRECISION OF THE RESULTS IN ORDER TO PUT BOUNDS ON THE REPORTED DATA? (Y OR N)

FOR CONTINUOUS SAMPLERS ONLY:

7. ENTER THE LETTER CORRESPONDING TO THE STATEMENT WHICH MOST CLOSELY ESTIMATES THE FREQUENCY OF ZERO AND SPAN CALIBRATION:
   (A) DAILY (D) LESS THAN WEEKLY
   (B) EVERY 2-3 DAYS (E) NOT POSSIBLE
   (C) WEEKLY
8. ENTER THE LETTER CORRESPONDING TO THE STATEMENT WHICH MOST CLOSELY ESTIMATES THE FREQUENCY OF MULTIPOINT CALIBRATIONS:
   (A) BIWEEKLY (D) LESS THAN QUARTERLY
   (B) MONTHLY (E) NEVER
   (C) QUARTERLY
9. IS A LOGBOOK MAINTAINED FOR THE ANALYZER? (Y OR N)
10. ARE SPOT CHEKCS MADE TO ASSESS THE DATA REDUCTION ERRORS?
11. IS A DYNAMIC CALIBRATION USUALLY PERFORMED RATHER THAN A STATIC ONE? (Y OR N)
12. ARE SO-2 PERMEATION TUBES USED? (Y OR N)
    IF YES, ARE REPEATED PERMEATION RATE DETERMINATIONS MADE? (Y OR N)
13. IF SO-2 PERMEATION TUBES ARE USED, HOW ARE THEY CALIBRATED?
    (A) NATIONAL BUREAU OF STANDARDS
    (B) FACTORY
    (C) IN-HOUSE

FOR BUBBLER SAMPLERS ONLY:

14. IS SAMPLING TRAIN ROUTINELY CHECKED FOR LEAKS? (Y OR N)
    A. HOW OFTEN? (A) ONCE A WEEK
    (B) ONCE A MONTH
    (C) ONCE A QUARTER
15. IS FLOW CONTROLLED BY A LIMITED ORIFICE? (Y OR N)
16. IS LIMITED ORIFICE CALIBRATED?
    (A) ON SITE
    (B) IN LABORATORY
17. ARE WORKING STANDARDS PREPARED THE SAME DAY THAT SAMPLES ARE ANALYZED? (Y OR N)
18. ARE CALIBRATION CURVES RUN ON THE SAME DAY AS THE SAMPLE ANALYSIS? (Y OR N)

Figure 2.4.1.e. Pollutant Reports (SO_2)

DATA LISTING FOR SO-2 (42401) QUESTIONNAIRE — CONTINUOUS SAMPLERS - BUBBLER SAMPLERS -

SAROAD SITE CODE: STATE/ AREA/ SITE/ AGENCY/ PROJECT	DATA RECEIVED MONTH/ YEAR	METHOD CODE	LABORATORY ID	QUESTION NUMBER / SAMPLER BRAND NAME	3 SAMPLER MODEL NUMBER	3A 2ND SAMPLER	4 MINIMUM CONCENTR	5 SPOT CHECKS	6 PRECISION	7 ZERO SPAN	8 MULTIPOINT	9 LOGBOOK	10 DATA CHECKS	11 CALIBRATION	12 PERM TUBES / A REPEATED	13 TUBES CALIB	14 LEAKS CHECK	A HOW OFTEN	15 LIN ORIFICE	16 ORIFICE CAL	17 STANDARDS	18 CAL CURVES	CODE	GRADE
163120021G02	04/74	91	01	BAC-BUB	S-GAS	N	.0100	Y	N	-	-	-	-	-	- -	-	Y	A	Y	B	Y	Y	87-A	

Figure 2.4.1.e (continued). Pollutant Report (SO_2)

SAMPLE QUESTIONNAIRE ** DATA QUALITY CONTROL INFORMATION SHEET FOR NO-2 MEASUREMENT ** SAMPLE QUESTIONNAIRE

1. PREPRINTED PARAMETER CODE SHOULD CORRESPOND TO THAT FOUND IN THE SAROAD CODING MANUAL (PARAMETER CODE - 42602).

2. ENTER METHOD CODE FROM SAROAD CODING MANUAL.

3. PRINT BRAND NAME AND MODEL NUMBER OF SAMPLER USED TO MONITOR NO-2 AT THE SITE.

   A. TO A SECOND SAMPLER AVAILABLE OR PRESENTLY IN USE AT THE SITE? (Y OR N)

4. ENTER MEASURED MINIMUM DETECTABLE CONCENTRATION FOR THE MAIN SAMPLER IN PPM.

5. ARE PERMEATION TUBES USED FOR CALIBRATION? (Y OR N)

   A. IF YES, ARE REPEATED PERMEATION RATE DETERMINATIONS MADE? (Y OR N)

6. ARE DUCT CHECKS CONDUCTED RANDOMLY USING CONTROL SAMPLES TO AUDIT THE PERFORMANCE OF THE ENTIRE SYSTEM? (Y OR N)

7. ARE ANY CALCULATIONS OR ESTIMATES MADE OF THE PRECISION OF THE RESULTS IN ORDER TO PUT BOUNDS ON THE REPORTED DATA? (Y OR N)

FOR BUBBLER SAMPLERS ONLY:

8. IS THE SAMPLING TRAIN ROUTINELY CHECKED FOR LEAKS? (Y OR N)
   A. HOW OFTEN? (A) ONCE A WEEK
   (B) ONCE A MONTH
   (C) ONCE A QUARTER

9. IS FLOW CONTROLLED BY A LIMITED ORIFICE? (Y OR N)

10. IS LIMITED ORIFICE CALIBRATED
   (A) ON SITE
   (B) IN LABORATORY

FOR CONTINUOUS SAMPLERS ONLY:

11. ENTER THE LETTER CORRESPONDING TO THE STATEMENT BELOW WHICH MOST CLOSELY ESTIMATES THE FREQUENCY OF ZERO AND SPAN CALIBRATIONS:
   (A) DAILY (D) LESS THAN WEEKLY
   (B) EVERY 2-3 DAYS (E) NOT POSSIBLE
   (C) WEEKLY

12. ENTER THE LETTER CORRESPONDING TO THE STATEMENT BELOW WHICH MOST CLOSELY ESTIMATES THE FREQUENCY OF MULTIPOINT CALIBRATIONS:
   (A) BIWEEKLY (D) LESS OFTEN THAN QUARTERLY
   (B) MONTHLY (E) NEVER
   (C) QUARTERLY

13. IS A LOGBOOK MAINTAINED FOR THE ANALYZER TO INCLUDE CALIBRATION DATA, DOWNTIME, AND COMMENTS? (Y OR N)

14. ARE SPOT CHECKS MADE TO ASSESS DATA REDUCTION ERRORS? (Y OR N)

Figure 2.4.1.f. Pollutant Report (NO_2)

TUESDAY AUGUST 19, 1975 LATA LISTING FOR NO-2 (42602) QUESTIONNAIRE PAGE 01

SAROAD SITE CODE: STATE/ AREA/ SITE/ AGENCY/ PROJECT	DATA RECEIVED MONTH/ YEAR	METHOD CODE	LABORATORY ID	QUESTION NUMBER 3	SAMPLER BRAND NAME	SAMPLER MODEL NUMBER	3A 2ND SAMPLER	4 MINIMUM CONCENTRATION	5 PERM TUBES	5A REPEATED	6 SPOT CHECKS	7 PRECISION	BUBBLER ---SAMPLERS--- 8 LEAKS CHECK	8A HOW OFTEN	9 LIM ORIFICE	10 ORIFICE CAL	CONTINUOUS ---SAMPLERS--- 11 ZERO SPAN	12 MULTIPOINT	13 LOGBOOK	14 DATA CHECKS	QC-SCORE	CI-GRADE
361220018H01	03/74	84	04	PEDCO			N	.0100	Y	Y	Y	Y	Y	A	N	-	-	-	-	-	99	A
361220020H01	03/74	84	04	MONITOR LABS		0000008100	N	.0100	Y	Y	Y	Y	-	-	-	-	C	A	Y	Y	99	*
361280002H01	03/74	84	04	PEDCO			N	.0100	Y	Y	Y	Y	Y	A	N	-	-	-	-	-	99	A
361300001H01	03/74	84	05	TRICRAFT 5 GAS BUB			N	.0100	N	-	Y	N	Y	A	Y	B	-	-	-	-	80	B

'-' INDICATES NO RESPONSE TO QUESTION; '*' INDICATES INSUFFICIENT INFORMATION SUBMITTED TO COMPUTE A QCI

Figure 2.4.1.f (continued). Pollutant Report (NO_2)

** SAMPLE QUESTIONNAIRE ** ** SAMPLE QUESTIONNAIRE **

DATA QUALITY CONTROL INFORMATION SHEET FOR
CARBON MONOXIDE MEASUREMENT

1. PREPRINTED PARAMETER CODE SHOULD CORRESPOND TO THAT FOUND IN THE SAROAD CODING MANUAL (PARAMETER CODE - 42101).

2. ENTER METHOD CODE FROM SAROAD CODING MANUAL.

3. PRINT BRAND NAME AND MODEL NUMBER OF SAMPLER USED TO MONITOR CO AT THE SITE.

   A. IS A SECOND SAMPLER AVAILABLE OR PRESENTLY IN USE AT THE SITE? (Y OR N)

4. ENTER MEASURED MINIMUM DETECTABLE CONCENTRATION FOR THE MAIN SAMPLER IN PPM.

5. ARE CALIBRATION CODES CHECKED FOR ACCURACY WHEN PURCHASED? (Y OR N)

6. IF THE NEAR METHOD IS USED, ARE REGULAR CHECKS MADE TO DETERMINE INTERFERENCE FROM WATER VAPOR? (Y OR N)

7. IS OTHER QUART. DATA REGULARLY FROM CHECKED FOR DATA REDUCTION REPORTS? (Y OR N)

8. ENTER THE LETTER CORRESPONDING TO THE STATEMENT BELOW WHICH MOST CLOSELY ESTIMATES THE FREQUENCY OF FERO AND SPAN CALIBRATIONS:
   (A) DAILY
   (B) EVERY 2-3 DAYS
   (C) WEEKLY
   (D) LESS THAN WEEKLY
   (E) NEVER

9. ENTER THE LETTER CORRESPONDING TO THE STATEMENT BELOW WHICH MOST CLOSELY ESTIMATES THE FREQUENCY OF MULTIPOINT CALIBRATIONS:
   (A) BIWEEKLY
   (B) MONTHLY
   (C) QUARTERLY
   (D) LESS THAN QUARTERLY
   (E) NEVER

10. IS A LOGBOOK MAINTAINED FOR THE ANALYZER TO INCLUDE CALIBRATION DATA, DOWNTIME, AND COMMENTS? (Y OR N)

11. ARE ANY CALCULATIONS OR ESTIMATES MADE OF THE PRECISION OF THE RESULTS IN ORDER TO PUT BOUNDS ON THE REPORTED DATA? (Y OR N)

12. ARE SPOT CHECKS RANDOMLY CONDUCTED USING CONTROL SAMPLES TO AUDIT THE PERFORMANCE OF THE ENTIRE SYSTEM? (Y OR N)

Figure 2.4.1.g. Pollutant Report (CO)

DATA LISTING FOR CO (42101) QUESTIONNAIRE

PAGE 01

SAROAD SITE CODE: STATE/ AREA/ SITE/ AGENCY/ PROJECT	DATA RECEIVED MONTH/ YEAR	METHOD CODE	LABORATORY ID	QUESTION NUMBER / SAMPLER BRAND NAME	SAMPLER MODEL NUMBER	3	3A 2ND SAMPLER	4 MINIMUM CONCENTR	5 CASES CHECK	6 VAPOR CHECK	7 DATA CHECK	8 ZERO SPAN	9 MULTIPOINT	10 LOGBOOK	11 PRECISION	12 SPOT CHECKS	Q SCORE	C I GRADE
361220020H01	03/74	11	04	INTERTECH VRAS	0000000002		N	.5000	Y	Y	Y	C	C	Y	Y	Y	94	A
361300013H01	03/74	11	05	MSA LIRA	202		N	.5000	N	N	Y	A	C	Y	N	Y	64	C
361300033H01	03/74	11	05	MSA LIRA	202		N	.5000	N	N	Y	A	C	Y	N	Y	64	C

Figure 2.4.1.g (continued). Pollutant Report (CO)

** SAMPLE QUESTIONNAIRE **

** SAMPLE QUESTIONNAIRE **

DATA QUALITY CONTROL INFORMATION SHEET FOR
PHOTOCHEMICAL OXIDANT MEASUREMENT

1. PREPRINTED PARAMETER CODE SHOULD CORRESPOND TO THAT FOUND IN THE SAROAD CODING MANUAL (PARAMETER CODE - 44101).
2. ENTER METHOD CODE FROM SAROAD CODING MANUAL.
3. PRINT BRAND NAME AND MODEL NUMBER OF SAMPLER USED TO MONITOR OXIDANTS AT THE SITE.
   A. IS A SECOND SAMPLER AVAILABLE OR PRESENTLY IN USE AT THE SITE? (Y OR N)
4. ENTER MEASURED MINIMUM DETECTABLE CONCENTRATION FOR THE MAIN SAMPLER IN PPM.
5. ENTER THE LETTER CORRESPONDING TO THE STATEMENT BELOW WHICH IS THE BEST ESTIMATE OF THE FREQUENCY OF OZONE SOURCE CALIBRATION:
   (A) MORE FREQUENTLY THAN ANALYZER
   (B) AT SAME TIME AS ANALYZER
   (C) LESS FREQUENTLY THAN ANALYZER
6. ARE ANY CALCULATIONS OR ESTIMATES MADE OF THE PRECISION OF THE RESULTS IN ORDER TO PUT VOLUME ON THE REPEATER DATA? (Y OR N)
7. ARE SPOT CHEKCS CONDUCTED RANDOMLY USING CONTROL SAMPLES TO AUDIT THE PERFORMANCE OF THE ENTIRE SYSTEM? (Y OR N)
8. ENTER THE LETTER CORRESPONDING TO THE STATEMENT BELOW WHICH MOST CLOSELY ESTIMATES THE FREQUENCY OF ZERO AND SPAN CALIBRATIONS:
   (A) DAILY
   (B) EVERY 2-3 DAYS
   (C) WEEKLY
   (D) LESS THAN WEEKLY
   (E) NEVER
9. ENTER THE LETTER CORRESPONDING TO THE STATEMENT BELOW WHICH MOST CLOSELY ESTIMATES THE FREQUENCY OF MULTIPOINT CALIBRATIONS:
   (A) BIWEEKLY
   (B) MONTHLY
   (C) QUARTERLY
   (D) LESS THAN QUARTERLY
   (E) NEVER
10. IS A LOGBOOK MAINTAINED FOR THE ANALYZER TO INCLUDE CALIBRATION DATA, DOWNTIME, AND COMMENTS? (Y OR N)
11. ARE SPOT CHECKS MADE TO ASSESS DATA REDUCTION ERRORS? (Y OR N)

Figure 2.4.1.h. Pollutant Report (Photochemical Oxidants)

DATA LISTING FOR OXIDANT (44101) QUESTIONNAIRE

SAROAD SITE CODE: STATE/ AREA/ SITE/ AGENCY/ PROJECT	DATA RECEIVED MONTH/ YEAR	METHOD CODE	LABORATORY ID	SAMPLER BRAND NAME	SAMPLER MODEL NUMBER	3A 2ND SAMPLER	4 MINIMUM CONCENTR	5 CALIBRATION FREQUENCY	6 PRECISION	7 SPOT CHECKS	8 ZERO SPAN	9 MULTIPOINT	10 LOGBOOK	11 DATA CHECKS	CG SCORE	CI GRADE
361220020H01	03/74	11	04	MONITOR LAB	0000008100	N	.0050	-	Y	Y	C	A	Y	Y	96-A	
361300033H01	03/74	11	05	BENDIX		N	.0020	C	N	Y	A	C	Y	Y	80-B	
361300034H01	03/74	11	05	BENDIX		N	.0020	C	N	Y	A	C	Y	Y	80-B	

Figure 2.4.1.h (continued). Pollutant Report (Photochemical Oxidants)

2.4.1.5 OPINION SURVEY BY AGENCY

2.4.1.5.1 GENERAL DESCRIPTION

This report, which consists of responses to a set of eight questions, is an opinion poll type of document. Because there are no "right" of "wrong" answers, no QCI data are included. There is no associated quality control index and, hence, no QCI report.

2.4.1.5.2 RETRIEVALS AVAILABLE

The opinion survey data may be selected for a single agency, for all agencies within a given state, and for all agencies nationwide.

2.4.1.5.3 SORTS AVAILABLE

a. State
b. Agency ID Number

The Opinion Report does not use the QAMIS standard sort because no QCI information is included in the report and no Report Type number is used.

2.4.1.5.4 SAMPLE REPORT

Figure 2.4.1.i shows questions and answers for a typical opinion survey report.

** SAMPLE QUESTIONNAIRE ** ** SAMPLE QUESTIONNAIRE **

OPINION POLL FROM
DATA QUALITY CONTROL INFORMATION SHEET FOR
AIR POLLUTION AGENCIES

RESPONSE BY AGENCY HEAD OR DESIGNATED QUALITY CONTROL OFFICER

1. IN YOUR OPINION CAN A STRUCTURED DATA QUALITY CONTROL PROGRAM BE OF VALUE AND BENEFIT TO OVERALL AGENCY GOALS? (Y OR N)

2. ESTIMATE THE PERCENT OF THE OVERALL PROGRAM BUDGET, IN YOUR OPINION, THAT SHOULD APPROPRIATELY BE DEVOTED TO A QUALITY CONTROL PROGRAM.
   (A) RANGE, 1-5 PERCENT
   (B) RANGE, 6-10 PERCENT
   (C) RANGE, 11-15 PERCENT
   (D) RANGE, 16 PERCENT OR GREATER

3. RANK THE AGENCY'S CURRENT OR MOST RECENT QUALITY CONTROL PROGRAM.
   (A) VERY POOR
   (B) POOR
   (C) FAIR
   (D) GOOD
   (E) SUPERIOR

4. ORDER (RANK AS 1, 2, 3, 4; 1=HIGHEST) THE FOLLOWING STATEMENTS TO REFLECT YOUR OPINION AS TO THE FACTORS THAT WOULD IMPROVE THE AGENCY'S DATA QUALITY OPERATIONS:
   A. BETTER QUALIFIED PERSONNEL
   B. BETTER INSTRUMENTATION
   C. BETTER LABORATORY FACILITIES
   D. PERIODIC AUDITS OF OPERATING PROCEDURES OR PERSONNEL

5. SIMILARLY, ORDER THE STATEMENTS TO REFLECT THE FACTOR THAT RESULTS IN A SOURCE OF ERROR IN PROCEDURES OF MEASUREMENT OF POLLUTANTS (I.E. 1=LEAST 4=GREATEST):
   A. CALIBRATION PROCEDURES
   B. METHOD OF ANALYSIS
   C. DATA REDUCTION
   D. OPERATOR

6. ORDER THE STATEMENTS TO REFLECT THE INCREASING IMPORTANCE OF FACTORS FOR GOOD DATA QUALITY: (I.E. 1=MOST IMPORTANT TO 4=LEAST IMPORTANT)
   A. PERSONNEL TRAINING
   B. PERIODIC AUDITS OF OPERATIONS
   C. USE OF CONTROL SAMPLES TO TEST PROFICIENCY (EG. MOBILE SAMPLER IN PARALLEL TO CHECK EQUIPMENT SAMPLING OF TSP)
   D. PROPER PROCEDURES FOR MAINTENANCE AND CALIBRATION OF INSTRUMENTS

7. RANK THE FOLLOWING POLLUTANTS (1=MOST NEEDED TO 6=LEAST NEEDED) TO REFLECT WHERE GUIDELINES (EPA OR OTHER) ARE MOST NEEDED FOR POLLUTANT MEASUREMENT METHOD:
   A. TSP D. OXIDANT
   B. HC E. NO-2
   C. CO F. SO-2

8. IS IT YOUR OPINION THAT INSPECTION, OF OPERATIONAL EQUIPMENT AND OPERATORS, BY OTHER THAN AGENCY OFFICIALS WOULD RESULT IN HIGHER QUALITY DATA? (Y OR N)

Figure 2.4.1.1. Opinion Survey Report

THURSDAY MAY 29, 1975 · DATA LISTING FROM AGENCIES QUESTIONNAIRE OPINION POLL PAGE 01

STATE/ AGENCY CODE	(1) CAN QC PROGRAM BE OF BENEFIT TO AGENCY GOALS?	(2) WHAT PERCENT OF BUDGET SHOULD QC PROGRAM GET?	(3) RANK AGENCY'S CURRENT OR RECENT PROGRAM	(4) ORDER QC PROGRAM NEEDS	(5) ORDER ERROR FACTORS	(6) ORDER DATA QUALITY FACTORS	(7) RANK NEED FOR POLLUTANTS GUIDELINES	(8) WOULD OUTSIDE INSPECTORS BE OF HELP?
05/001	YES	6-10	GOOD	A - 3	A - 4	A - 1	TSP-1 OX -6	NO
				B - 1	B - 3	B - 3	HC -4 NO2-2	
				C - 4	C - 2	C - 4	CO -5 SO2-3	
				D - 2	D - 1	D - 2		
05/030	NO	1-5	SUPERIOR	A - 3	A - 1	A - 1	TSP-1 OX -4	NO
				B - 2	B - 4	B - 4	HC -2 NO2-3	
				C - 1	C - 3	C - 3	CO -6 SO2-5	
				D - 4	D - 2	D - 2		
05/330	YES	16+	SUPERIOR	A - -	A - -	A - 2	TSP-- OX --	NO
				B - -	B - -	B - 4	HC -- NO2--	

'-' INDICATES NO RESPONSE TO QUESTION; '*' INDICATES INSUFFICIENT INFORMATION SUBMITTED TO COMPUTE A QCI

Figure 2.4.1.i (continued). Opinion Survey Report

The Hazardous and Trace Emissions System (HATREMS) is a computer based emission inventory system currently being developed for storing and retrieving emissions data from both point and area sources. The system will be closely related to NEDS (see 2.1.0.0) in that it stores similar data and produces a similar set of reports; however, it will be designed to handle any number of pollutants rather than the 5 criteria pollutants.

Additional information on HATREMS reports will be available when the system development is complete.

The SIP system was designed to automate the process of updating and retrieving selected portions of the various State Implementation Plans. At the present time, only officially approved rules and regulations are entered into the system. In each case, the full tests of the rules and regulations portions of the respective SIP's are used.

The SIP system yields retrieval of the full texts of the selected portions of the SIP's of interest. There are more than 180 identifying codes available to use as retrieval keys. Examples of these keys are:

a. Source surveillance record keeping
b. Sulfur dioxide control regulations for Kraft pulp mills

The desired subject matter will be retrieved for the state or states specified in the report request. A special "Type 4" output consists of the number of regulations that meet the selection criteria. This is useful to the user before he makes the actual full text retrieval because he can obtain an idea of the probable volume of output that will be forthcoming.

The terms "segment text" and "text category" that appear in the following paragraphs are defined as follows:

a. Segment text refers to the actual text of the given SIP or SIP's that is printed out by the computer as a result of the request specifications. For most requests, this text will be a "segment" of the Specified Plan or Plans, rather than the complete Plan.
b. Text category refers to one or more of the 185 requirement codes that are used to specify the exact type of regulatory test desired. An example of a text category is "SO_2 control regulations for Kraft pulp mills." The complete list of these requirement codes may be found in Volume V of the AEROS Manual

2.6.1.1 GENERAL DESCRIPTION AND AVAILABLE OPTIONS

There are at present four types of reports available to the user of the SIP Rules and Regulations Information System. These are:

	RETRIEVALS AVAILABLE	SORTS AVAILABLE
a. State Name, Document ID, Status, Segment Text ("Type 1" Report)	State (up to 3), Text Category (up to 3 requirement codes may be specified), geographic areas (up to 3 for one state only), and retrieval of text within specified document and segment ID numbers. Certain combinations of the above selection criteria are permitted. If no state is specified, retrieval will be made for the entire nation.	Primary key is the State Code, secondary key is the Region Code, and tertiary key is the Document-Segment ID, Regulation Status, and Effective Date. Following these basic sort keys are subsidiary keys which are functions of the report type requested.
b. State Name, Document ID, Status, Segment Text, Comments ("Type 2")	(Same as above except for retrieval of text within specified document and segment ID numbers.)	(Same as above.)
c. State Name, Document ID, EPA Requirement Codes, Areas of Applicability (or Exclusion) Codes ("Type 3" Report)	(Same as above.)	(Same as above.)
d. Number of Document Segments Fulfilling Search Criteria ("Type 4")	(Same as above.)	(Same as above.)

The SIP System makes use of certain specialized codes for representing geographical areas and text categories ("requirements"). These codes are given in Volume V. The retrievals and sorts for each report type are fixed by the program and no options are available to the user other than to specify the number of optional parameters upon which he wishes to base his request. There are (as of March 1975) 185 EPA Requirement Codes. These form the basis for selective retrieval of text categories within a given state or states.

2.6.1.2 SAMPLE REPORTS

Figures 2.6.1.a, b, c, and d show samples of each report type for text category retrievals for the District of Columbia.

PAGE 1

****

STATE: DIST. OF COL. DOCUMENT ID: AA0011 STATUS: I

****

SEGMENT TEXT

SECTION 8-2:707
(E) WASTE GAS DISPOSAL FROM ETHYLENE PRODUCING PLANT. NO PERSON SHALL CAUSE, SUFFER, OR ALLOW THE EMISSION OF A WASTE GAS STREAM FROM ANY ETHYLENE PRODUCING PLANT, OR SOURCE ...

Figure 2.6.1.a. Sample of Print Format 1

PAGE 1

****

STATE: DIST. OF COL. DOCUMENT ID: AA0011 STATUS: I

****

SEGMENT TEXT

SECTION 8-2:707
(E) WASTE GAS DISPOSAL FROM ETHYLENE PRODUCING PLANT. NO PERSON SHALL CAUSE, SUFFER, OR ALLOW THE EMISSION OF A WASTE GAS STREAM FROM ANY ETHYLENE PRODUCING PLANT, OR SOURCE ...

COMMENTS

(B) BY FEBRUARY 1, 1973 THE COMMISSIONER SHALL REPORT TO THE DISTRICT OF COLUMBIA COUNCIL THE STATUS OF THE AIR QUALITY MONITORING SYSTEM WITHIN THE DISTRICT ...

Figure 2.6.1.b. Sample of Print Format 2

PAGE 1

****

STATE: DIST. OF COL. DOCUMENT ID: AA0011

****

EPA REQ. CODES

A03 1O2 NO1 NO2 VO1 A16 A15 K13 RO6 SO8 KO6 LO3 SO7 SO2 SO6
SO3 RO1 RO2

AREAS OF APPLICABILITY

BQAA BQAB BQAC BQBA BQBC BQCA BQCC BQCE BQCG BQCI
BQDI BQDM

Figure 2.6.1.c. Sample of Print Format 3

********* THE NUMBER OF DOCUMENT SEGMENTS FULFILLING SEARCH CRITERIA - 00033

Figure 2.6.1.d. Sample of Print Format 4

The Federal Power Commission (FPC) collects each year a Form 67 from each of the major power plants in the United States. The data entered in the Form 67 include details of the physical equipment of the plant in question, such as boilers, stacks, and generators; the types and amounts of fuel burned at each point within a facility; and the kinds of pollution control equipment installed for each electric power generating plant in the United States that comes within the purview of the FPC regulation. Special provisions are made for the inclusion of newly installed boilers or other equipment, and for those retired from service as well.

An FPC Form 67 consists of 24 pages including the cover sheet, the table of contents, and general instructions and definitions. In addition to the information pertaining to the plant equipment and fuel consumption, a considerable amount of cost information is also included in the Form 67. The FPC produces a data tape of each year's data. Each tape (for years 1969-1973) has been sent to NADB. The tapes have been merged into a single tape. As the data for later years become available from the FPC, they will also be added to the EPA tape. A cross-reference table has been set up between the NEDS ID and the FPC plant ID. This cross-reference table permits the NEDS retrieval codes to be used. The complete FPC-67 information for all years of record for any given power plant or group of power plants is always obtained with each retrieval. Because, for some parts of the Form 67, there may be several pages of computer printout for a single page of the Form, a large volume of output may be generated, especially when data for several plants are requested.

2.7.1.1 GENERAL DESCRIPTION

The sample report (shown in part in Figure 2.7.1.a) reproduces, in computer printout form, the FPC Forms 67 for the years shown. There is a one-to-one correspondence between the data entered manually in the forms themselves and data appearing in the computer print-out, except that the FPC Form is made out once a year for each year of record, while the EPA's FPC-67 tape contains the consolidated data for all years in sequence for each plant in the file. All FPC-67 data are printed for each plant requested, thereby giving approximately 28-30 pages of output per plant.

2.7.1.2 RETRIEVALS AVAILABLE

Although the data for a given plant will always appear in the same format, there are 11 retrievals available in the NEDS retrieval system. These are:

a. State
b. State and County
c. State, County, and Plant
d. State, County, Plant, and Point
e. AQCR
f. Entire Nation
g. SCC (Source Classification Code); Parts I, II, III, IV, or any combination thereof
h. Ownership Code
i. SIC (Standard Industrial Classification)
j. State and SCC (valid combinations only)
k. Fuel Type (e.g., coal, oil, or gas)

Since Plant ID numbers are not unique among states, a request for a plant alone, without also specifying a state, does not constitute a valid retrieval. NEDS retrievals use a cross-reference table (See 2.7.0) to match between NEDS ID and FPC ID numbers.

In addition to the NEDS retrieval, FPC retrievals are possible by FPC company and plant ID. Each desired FPC Company ID Number/Plant ID Number combination must be specified.

2.7.1.3 SORTS AVAILABLE

The report format is fixed, so no optional sorts are available to the user.

2.7.1.4 SAMPLE REPORT

The Sample Report (see below) shows selected pages of an FPC Form 67 together with their corresponding print-outs from the EPA system. As can be seen, the Parts, Schedules, and Sections correspond to those in the Form 67 itself. The headings from the Form 67 are used in the computer print-out. The corresponding page numbers from the Form 67 are shown in the print-out, as well. See Figure 2.7.1.a.

STEAM-ELECTRIC PLANT AIR AND WATER QUALITY CONTROL DATA
PART I - AIR QUALITY CONTROL DATA

COMPANY NAME	
PLANT NAME	
COMPANY - PLANT CODE	REPORT FOR YEAR ENDED DECEMBER 31, 19 _____

SCHEDULE B - OPERATIONAL DATA (Cont'd)

Section 3 - Flue Gas Cleaning Equipment

LINE NO.	(a)	BOILER NO. (b)	BOILER NO. (c)	BOILER NO. (d)	BOILER NO. (e)	CHECK FOR FOOTNOTE ** (f)
21	BOILER NUMBER					
	MECHANICAL SEPARATORS:					
22	TESTED EFFICIENCY					
23	DATE OF TEST (YEAR/MONTH/DAY)					
24	ESTIMATED EFFICIENCY AT ANNUAL OPERATING FACTOR (If no test during year)					
	ELECTROSTATIC OR COMBINATION MECHANICAL-ELECTRICAL PRECIPITATORS:					
25	TYPE (Code "E" for Electrostatic, or "C" for Combination)					
26	TOTAL HOURS FOR THE YEAR DURING WHICH ALL ELECTRICAL BUS SECTIONS ARE ENERGIZED AND WHILE BOILER IS OPERATING *					
27	TESTED EFFICIENCY					
28	DATE OF TEST (YEAR/MONTH/DAY)					
29	STATE NUMBER OF HOURS DURING YEAR WHEN PRECIPITATOR IS NOT FULLY OPERATIONAL WHILE BOILER IS OPERATING.					
30	ESTIMATED EFFICIENCY DURING PERIODS WHEN BOILER IS OPERATING BUT WHEN PRECIPITATOR IS NOT FULLY OPERATIONAL					
31	ESTIMATED EFFICIENCY AT ANNUAL OPERATING FACTOR (If no test during year) *					
	DESULFURIZATION SYSTEM: ***					
32	HOURS OF SERVICE DURING YEAR * ..					
33	TESTED EFFICIENCY					
34	DATE OF TEST (YEAR/MONTH/DAY) ...					
35	ESTIMATED EFFICIENCY AT ANNUAL OPERATING FACTOR (If no test during year)*					
	OTHER FLUE GAS CLEANING TYPE (Explain in footnote)					
36	HOURS IN SERVICE DURING YEAR*					

* Explain in footnote unusual operating conditions
** All footnotes should be shown on page 12.
*** When operational

Figure 2.7.1.a. FPC Form 67 Report

```
* * * * * * * * *  072000       CAROLINA POWER & LIGHT CO.                                            1300    WEATHERSPOON        * * * * *

FORM 67 PAGE 6                                          SECTION 3 - FLUE GAS CLEANING EQUIPMENT

YEAR    DATA FOR BOILER NUMBER:
1969     1
1970     1
1971     1
1972     1
 - - - - -MECHANICAL SEPARATORS: - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
YEAR    TESTED EFFICIENCY   DATE OF TEST                                  ESTIMATED EFFICIENCY
1969                                                                      E+000000080.00
1970                                                                       +000000080.00
1971                                                                       +000000080.00
1972                                                                      E+000000080.00
 - - - - -ELECTROSTATIC (E) OR COMBINATION MECHANICAL-ELECTRICAL (C) PRECIPITATORS: - - - - - - - - - - - - - - - - - - - - - - - - - -
             TOTAL HOURS FULLY                                            HOURS PRECIPITATOR    EST. EFFICIENCY         EST. EFFICIENCY AT
             ENERGIZED WHILE        TESTED          DATE OF TEST          NOT FULLY OPERATING   UNDER SUCH              ANNUAL OPERATING
YEAR  TYPE   BOILER OPERATING     EFFICIENCY      (YEAR/MON/DAY)          WHILE BOILER IS       CONDITIONS              FACTOR
 - - - - -DESULFURIZATION SYSTEM: - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                                     ESTIMATED EFFICIENCY   OTHER FLUE GAS
        HOURS OF SERVICB                                             AT ANNUAL OPERATING    CLEANING EQUIPMENT
YEAR    DURING YEAR         TESTED EFFICIENCY   DATE OF TEST         FACTOR (IE NO TEST)    HOURS IN SERVICE
FORM 67 PAGE 6                                  SECTION 3 - FLUE GAS CLEANING EQUIPMENT

YEAR    DATA FOR BOILER NUMBER:
1969     2
1970     2
1971     2
1972     2
 - - - - -MECHANICAL SEPARATORS: - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
YEAR    TESTED EFFICIENCY   DATE OF TEST                                  ESTIMATED EFFICIENCY
1969                                                                      E+000000080.00
1970                                                                       +000000080.00
1971                                                                       +000000080.00
1972                                                                      E+000000080.00
 - - - - -ELECTROSTATIC (E) OR COMBINATION MECHANICAL-ELECTRICAL (C) PRECIPITATORS: - - - - - - - - - - - - - - - - - - - - - - - - - -
             TOTAL HOURS FULLY                                            HOURS PRECIPITATOR   EST. EFFICIENCY          EST. EFFICIENCY AT
             ENERGIZED WHILE        TESTED          DATE OF TEST          NOT FULLY OPERATING  UNDER SUCH               ANNUAL OPERATING
YEAR  TYPE   BOILER OPERATING     EFFICIENCY      (YEAR/MON/DAY)          WHILE BOILER IS      CONDITIONS               FACTOR
 - - - - -DESULFURIZATION SYSTEM: - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                                     ESTIMATED EFFICIENCY  OTHER FLUE GAS
        HOURS OF SERVICE                                             AT ANNUAL OPERATING   CLEANING EQUIPMENT
YEAR    DURING YEAR         TESTED EFFICIENCY   DATE OF TEST         FACTOR (IF NO TEST)   HOURS IN SERVICE
```

Figure 2.7.1.a (continued). FPC Form 67 Report

```
FORM 67 PAGE 6                                   SECTION 3 - FLUE GAS CLEANING EQUIPMENT

YEAR   DATA FOR BOILER NUMBER:
1969     3
1970     3
1971     3
1972     3
 - - - - -MECHANICAL SEPARATORS: - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
YEAR    TESTED EFFICIENCY   DATE OF TEST                                      ESTIMATED EFFICIENCY
1969                                                                          E+000000080.00
1970                                                                           +000000080.00
1971                                                                           +000000080.00
1972                                                                          E+000000080.00
 - - - - -ELECTROSTATIC (E) OR COMBINATION MECHANICAL-ELECTRICAL (C) PRECIPITATORS: - - - - - - - - - - - - - - - - - - - - - - - - - - -
               TOTAL HOURS FULLY                                              HOURS PRECIPITATOR      EST. EFFICIENCY      EST. EFFICIENCY AT
               ENERGIZED WHILE          TESTED           DATE OF TEST         NOT FULLY OPERATING     UNDER SUCH           ANNUAL OPERATING
YEAR  TYPE     BOILER OPERATING         EFFICIENCY       (YEAR/MON/DAY)       WHILE BOILER IS         CONDITIONS           FACTOR

 - - - - -DESULFURIZATION SYSTEM: - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                                        ESTIMATED EFFICIENCY     OTHER FLUE GAS
        HOURS OF SERVICE                                                AT ANNUAL OPERATING      CLEANING EQUIPMENT
YEAR    DURING YEAR            TESTED EFFICIENCY   DATE OF TEST         FACTOR (IF NO TEST)      HOURS IN SERVICE
*******************************************************************************************************************************************
```

Figure 2.7.1.a (continued). FPC Form 67 Report

PART I.- AIR QUALITY CONTROL DATA

COMPANY NAME	
PLANT NAME	
COMPANY - PLANT CODE	REPORT FOR YEAR ENDED DECEMBER 31, 19 _____

SCHEDULE C - Disposal of Products Collected from Combustion Cycle at Plant

LINE NO.	(a)	LIMESTONE (b)	DOLOMITE (c)	OTHER ** (d)	CHECK FOR* FOOTNOTE (e) ***
01	AMOUNT OF ADDITIVES USED (1000 tons)*				

LINE NO.	PRODUCT (a)	QUANTITIES (1000 tons)* TOTAL COLLECTED **** (b)	SOLD (c)	PAID DISPOSAL (d)	LAND FILL (e)	WATER DISPOSAL (f)	OTHER DISPOSAL (g)	CHECK FOR FOOTNOTE (h) ***
02	FLYASH							
03	BOTTOM ASH							
04	ELEMENTAL SULFUR							
05	SULFURIC ACID *****							
06	SULFUR DIOXIDE							
07	OTHER SULFUR PRODUCTS**							
08	OTHER PRODUCTS **							

* Report all quantities to nearest 0.1 thousand tons.
** Specify in footnote
*** All footnotes should be shown on page 12.
**** Total of products collected (column "b") should approximate the sum of columns "c" through "g".
***** Enter purity of acid: _____ % by weight.

SCHEDULE D - Air Quality Control, Plant Operation and Maintenance Expenses

LINE NO.	CHARGED TO: (a)	AMOUNT ($1000) (b)	CHECK FOR FOOTNOTE 1/ (c)
09	FLYASH COLLECTION AND DISPOSAL	$	
10	BOTTOM ASH COLLECTION AND DISPOSAL		
11	SULFUR AND SULFUR PRODUCT COLLECTION AND DISPOSAL		
12	COLLECTION AND DISPOSAL OF OTHER PRODUCTS FROM FLUE GAS (SPECIFY IN FOOTNOTE)		
13	OTHER AIR QUALITY CONTROL EXPENSES (SPECIFY IN FOOTNOTE)		
14	TOTAL AIR QUALITY CONTROL EXPENSE (TOTAL OF LINES 09 THROUGH 13)		
	REVENUES FROM AIR QUALITY CONTROL OPERATIONS:		
15	SALES OF FLYASH (IF SOLD AS FLYASH)		
16	SALES OF BOTTOM ASH (IF SOLD AS BOTTOM ASH)		
17	SALES OF FLYASH AND BOTTOM ASH (IF SOLD INTERMINGLED)		
18	SALES OF SULFUR AND SULFUR PRODUCTS		
19	OTHER REVENUES FROM AIR QUALITY CONTROL OPERATIONS (SPECIFY IN FOOTNOTE)		
20	TOTAL BY-PRODUCT SALES REVENUE FROM AIR QUALITY CONTROL OPERATIONS (TOTAL OF LINES 15 THROUGH 19)		

1/ All footnotes should be shown on page 12.

Figure 2.7.1.a (continued). FPC Form 67 Report

```
* * * * * * * * * * 07200    CAROLINA POWER & LIGHT CO.                              1300 WEATHERSPOON                         * * * * *

FORM 67 PAGE 7              SCHEDULE D - AIR QUALITY CONTROL, PLANT OPERATION AND MAINTENANCE EXPENSE

- - - - - - - - - - - - - - - - - - - - - - - - - COLLECTION AND DISPOSAL EXPENSES ($1000) - - - - - - - - - - - - - - - - - - - - - - - - - - -
YEAR     FLYASH                  BOTTOM ASH         SULFUR AND PRODUCTS          OTHER FLUE GAS PROD.        OTHER AQC EXPENSE          TOTAL AQC EXPENSE
1969     E+000000033.00          E+000000008.00                                                                                         E+000000041.00
1970     E+000000051.00          E+000000018.00                                                                                         E+000000064.00
1971     E+000000035.40          E+000000006.60                                                                                         E+000000042.00
1972     E+000000054.40          E+000000013.60                                                                                         E+000000068.00

- - - - - - - - - - - - - - - - - - - REVENUES FROM AIR QUALITY CONTROL OPERATIONS ($1000)- - - - - - - - - - - - - - - - - - - - - - - - - - - - -
YEAR     SALES OF               SALES OF              SALES OF FLYASH       SALES OF SULFUR         OTHER AQC              TOTAL AQC
         FLYASH                 BOTTOM ASH            AND BOTTOM ASH        AND SULFUR PRODUCTS     REVENUES               REVENUES

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
```

Figure 2.7.1.a (continued). FPC Form 67 Report

```
* * * * * * * * * * 07200   CAROLINA POWER & LIGHT CO.                                  1300     WEATHERSPOON                 * * * * *

FORM 67 PAGE 7             SCHEDULE C - DISPOSAL OF PRODUCTS COLLECTED BY COMBUSTION CYCLE AT PLANT
                                       (ALL QUANTITIES EXPRESSED IN UNITS OF 1000 TONS)

 - - - - - AMOUNT OF ADDITIVES USED (1000 TONS) - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
YEAR            LIMESTONE                 DOLOMITE                OTHER

 - - - - - FLYASH                           - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
YEAR      COLLECTED                           SOLD            PAID DISPOSAL          LAND FILL              WATER DISPOSAL         OTHER DISPOSAL
1969      E+000000017.00                                                            E+000000017.00
1970      E+000000015.30                                                            E+000000015.30
1971      E+000000013.10                                                            E+000000013.10
1972      E+000000014.10                                                            E+000000014.10

 - - - - - BOTTOM ASH                       - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
YEAR      COLLECTED                           SOLD            PAID DISPOSAL          LAND FILL              WATER DISPOSAL         OTHER DISPOSAL
1969      E+000000005.00                                                            E+000000005.00
1970      E+000000004.80                                                            E+000000004.80
1971      E+000000004.10                                                            E+000000004.10
1972      E+000000004.40                                                            E+000000004.40

 - - - - - ELEMENTAL SULFUR                 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
YEAR      COLLECTED                           SOLD            PAID DISPOSAL          LAND FILL              WATER DISPOSAL         OTHER DISPOSAL

 - - - - - SULFURIC ACID                    - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
YEAR      COLLECTED                           SOLD            PAID DISPOSAL          LAND FILL              WATER DISPOSAL         OTHER DISPOSAL

YEAR  PURITY OF ACID

 - - - - - SULFUR DIOXIDE                  - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
YEAR      COLLECTED                           SOLD            PAID DISPOSAL          LAND FILL              WATER DISPOSAL         OTHER DISPOSAL

 - - - - - OTHER SULFUR PRODUCTS           - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
YEAR      COLLECTED                           SOLD            PAID DISPOSAL          LAND FILL              WATER DISPOSAL         OTHER DISPOSAL

          OTHER PRODUCTS                   - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
YEAR      COLLECTED                           SOLD            PAID DISPOSAL          LAND FILL              WATER DISPOSAL         OTHER DISPOSAL

 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
```

Figure 2.7.1.a (continued). FPC Form 67 Report

The Energy Data File is currently being developed by the Strategies and Air Standards Division. After the system development is complete and data have been loaded, retrievals will be available through the Data Processing Section of NADB.

Various data sets are used with the AEROS system as source of emissions related information. These included, for example, data on fuel usage, on traffic counts, and on census counts. The data sets currently utilized by AEROS include the following:

Area Source Apportioning
NEDS Verification File
Census Data
Polk Vehicle Data
Federal Power Commission Report (Form 423)

EPA has developed a computerized methodology whereby fuel consumption by stationary area sources and all mobile sources can be collected on an annual basis according to county. The data collected include aircraft activity and organic solvent use. These data are used as input to several computer programs that produce NEDS area source cards for updating the NEDS area source data file. As a result, the NEDS area source update program may be considered a means by which the data may be presented in printed form. Following are some examples of the data involved.

State Level Data

Item	Data Values
Residential Gas Consumption	52
Percentage Growth in Gas Customers	52
Conversion to Gas Heating	156
Additions to Gas Heating	156
Population Growth Rate	52
Bituminous Coal Shipments, Retail	52
Anthracite Coal Shipments	52
LPG Residential Consumption	52
Industrial Gas Consumption	52
Industrial LPG Consumption	52
Industrial Bituminous Coal Shipments	52
Fuel Consumption, Industrial (x 20 SIC)	1092
Industrial Employment (x 20 SIC)	1092
Coal Shipments (Industrial and Retail) (x Prod. District)	2392
Commercial LPG Consumption	52
Other Gas Consumption	52
Public School Employment	52
Motorcycle Registrations	52
Boat Registrations	52
Population (Current Year)	52
Anthracite Market Share	52
Tractor/Farm Equipment Scaling Factors	1092
Hotel Room/Employee Ratio	52
Snowmobile Registrations	52
Heating Oil Consumption	208
Industrial Oil Consumption	104
Oil Company Oil Consumption	104
Military Oil Consumption	104
Highway Vehicles Fuel Sales	156
Housing Units-Census Year	260
Change in Housing Units Since Census	52
Average Degree-Days	52
Population (Census Year)	52

Item	Data Values
Commercial Employment (x 9 SIC)	468
Motor Vehicle Registrations	416
Average Miles Per Year Driven by Trucks	208
<u>County Levels Data</u>	
LTO's at Military Airports	8000
LTO's at Civil Airports	8000
Aircraft Registrations	8000
Hospital Beds	14000
Hospital Employment	7000
Public University Enrollment	2000
Inland Water Area	6282
Farm Tractors	6282
Housing Units-Census Year	15500
Degree-Days	3100
Commercial Employment (x 9 SIC)	27900
Manufacturing Employment (x 20 SIC)	65100
Motor Vehicle Registrations	18600
Retail Sales of Gasoline	6282
Coastline	6282
Population (Current Year)	6282
<u>Regional</u>	
Water Heater Gas Consumption	9
Cooking Range Gas Consumption	9
Sulfur Content (Retail-Industrial)	69
<u>National Level Data</u>	
Synthetic Organic Solvent Production	15
Special Naphtha Production	1
Construction (Gasoline and Diesel)	2
Motorcycle (km/yr, gal/km)	10
Tractor (hr/yr, gal/hr)	4
Industrial (Gasoline and Diesel)	2
Lawn and Garden Gasoline	1
Snowmobile Gasoline	1

The NEDS VERIFICATION FILE represents the major route by which a previously unrecorded facility is brought to state/region attention to be entered into the NEDS point source data file. To this end information is gathered from industrial trade journals, government publications, independent outside requests, and government data bases, and cross-checked against the NEDS point source data file. Sources not found in NEDS but which seem with high probability to meet the NEDS criteria for point sources are added to the NEDS VERIFICATION FILE.

In order for a facility to be added to the NEDS VERIFICATION FILE, the following information must be available:

1. Name and address of the facility
2. State and county geographical codes
3. SCC code (if at all possible)

Additions may be made by means of any of these methods:

1. Dodge reports
2. Independent cross-checking studies on an industry-by-industry basis
3. Reports by anyone that a facility that may meet NEDS criteria for a point sourceeexists but is not yet in NEDS
4. Sources in CDS or HATREMS that should be "registered" in NEDS
5. FPC Form 67
6. Others

Data are not removed from the NEDS VERIFICATION FILE until the responsible state agency verifies whether the polluting facility should be classified as a NEDS point source, and if so, until it is entered into the NEDS point source data file.

All data contained in the NEDS VERIFICATION FILE can be printed in NEDS point source or condensed point source format. Point source data are printed for the specified geographical areas according to standard NEDS retrievals. The format is similar to the NEDS (see 2.1.1.1 and 2.1.1.2) except for the following:

1. In most cases very little information is available and filled into the report.
2. The word "UNVERIFIED" is printed at the top of the page on both sides of the heading.
3. The ownership code is used to represent the source of the unverified entry as follows:

   Dodge - Dodge Reports of New Construction
   B contact - Independent Contact or other effort to check industries.

The NEDS VERIFICATION FILE is available to EPA regional offices, state/local agencies, and contractors for use in their NEDS data collection activities.

Figure 2.10.2.a shows a sample verification file report in the point source form.

```
                    N A T I O N A L   E M I S S I O N   D A T A   S Y S T E M

              U N V E R I F I E D     P O I N T   S O U R C E   L I S T I N G     U N V E R I F I E D

STATE(26): MISSOURI        AQCR(070): METROPOLITAN ST. LOUIS (111-MO)        CITY(4280): ST LOUIS
COUNTY(4280): ST LOUIS                    PLANT ID: 0023  POINT ID: 02

NAME-ADDRESS: MONSANTO CO.1700 S.SECOND ST.     SIC(2899): CHEMICALS AND CHEMICAL PREPARATIONS, NOT ELSEWHERE CLASSIFIED
PERSONAL CONTACT: A.PETERSON    SCC(1-02-002 09): EXTCOMB BOILER    -INDUSTRIAL     -BITUMINOUS COAL    -10-100MMBTUSPDSTK

GENERAL INFORMATION                UTM GRID COORDINATES                HAND CALCULATED EMISSION ESTIMATES        ALLOWABLE EMISSIONS
*******************                *******************                *********************************         *******************
YEAR OF RECORD:  1972                   UTM ZONE:  15                  PARTICULATE:        0 TONS/YR             PARTICULATE:     309 TONS/YR
                                                                              SOX:        0 TONS/YR                   SOX:  13,000 TONS/YR
OWNERSHIP DODGE                     HORIZONTAL:   743.0 KM                 NOX:      117 TONS/YR                   NOX:       0 TONS/YR
                                      VERTICAL:  4,276.5 KM                 HC:       11 TONS/YR                    HC:        0 TONS/YR
IPP PROCESS:  60                                                            CO:       13 TONS/YR                    CO:        0 TONS/YR
                                   STACK PARAMETERS
SOURCE:  BOILER                    ****************                     EMISSION ESTIMATION METHODS               COMPUTER CALCULATED EMISSIONS
                                   STACK HEIGHT:        150 FT          ***************************               ****************************
                                   STACK DIAMETER:      5.0 FT          PART:  EMISSION FACTOR(AP-42 OR PENDING)      PART:      710      TONS/YR
NORMAL OPERATIONS                  GAS TEMPERATURE:     325 F            SOX:  EMISSION FACTOR(AP-42 OR PENDING)
*****************                  GAS FLOW RATE:    18,077 ACFM         NOX:  EMISSION FACTOR(AP-42 OR PENDING)       SOX:      709      TONS/YR
     HOURS/DAY:  24                PLUME HT(NO STACK):    0 FT          HO:  EMISSION FACTOR(AP-42 OR PENDING)
     DAYS/WEEK:   7                                                     CO:  EMISSION FACTOR(AP-42 OR PENDING)       NOX:      100      TONS/YR
    WEEKS/YEAR:  52
                                   CONTROL DEVICE/METHOD IDENTIFICATION                    CONTROL                   HC:        7      TONS/YR
% ANNUAL THROUGHPUT                ************************************                    EFFICIENCIES
*******************                PRIMARY PART:  NO CONTROL EQUIPMENT                     ************
       DEC-FEB:  25 %              SECOND. PART:  NO CONTROL EQUIPMENT                     PART: 00.0 %              CO:       13      TONS/YR
       MAR-MAY:  25 %
      JUNE-AUG:  25 %               PRIMARY SOX:  NO CONTROL EQUIPMENT
      SEPT-NOV:  25 %               SECOND. SOX:  NO CONTROL EQUIPMENT                       SOX: 00.0 %

% SPACE HEAT:  10.0 %              PRIMARY NOX:  NO CONTROL EQUIPMENT
                                   SECOND. NOX:  NO CONTROL EQUIPMENT                       NOX: 00.0 %
COMPLIANCE INFO
***************                    PRIMARY HC:  NO CONTROL EQUIPMENT
IN COMPLIANCE                      SECOND. HC:  NO CONTROL EQUIPMENT                        HC: 00.0 %

SCHEDULED                          PRIMARY CO:  NO CONTROL EQUIPMENT
COMPLIANCE DATE:  /                SECOND. CO:  NO CONTROL EQUIPMENT                        CO: 00.0 %

COMPLIANCE STATUS                  FUEL CHARACTERISTICS                OPERATING RATES
UPDATE:      /  /                  *******************                 ***************
                                                                         ANNUAL OPERATING RATE:    13,300 TONS BURNED
EMERGENCY CONTROL                  FUEL SULFUR CONTENT:  2.80 %         HOURLY MAXM DESIGN RATE:   1.523 TONS BURNED
ACTION PLAN
*****************                    FUEL ASH CONTENT:  08.2 %          BOILER DESIGN CAPACITY:       57 MILLION BTU/HR
HAS BEEN SUBMITTED
                                    FUEL HEAT CONTENT:     23 MILLION BTU/TONS BURNED                COMMENTS:  GEYER AVE NO. 13
```

Figure 2.10.2.a. Point Source Reports

EPA maintains census data tapes that may be used directly as input to numerous AEROS systems and analysis packages. These data files are used in updating NEDS area source files.

INTRODUCTION

The R. L. Polk Company compiles national vehicle registration data annually by collecting county-specific registration data from individual states. These data are computerized by R. L. Polk and sold to user groups in a form specified by that group.

R. L. Polk vehicle registration data were purchased by NADB to be utilized to calculate county-specific emission factors for mobile sources. In addition, report programs have been developed to generate printed reports.

The purchased data include a file containing automotive (light duty vehicle) registration by county and a file containing truck (heavy duty vehicle) registration by county as of July 1973. The automotive registration file contains the number of vehicles by model year and county for 1958-73 model years and county total for pre-1958 model years.

The truck registration file contains the number of vehicles by model year and county for six classes for 1964-73 model years, by model year and county but unclassified for 1958-63 model years, and a county total for pre-1958 model years. The six classes, based on weight, are as follows: (1) Class I = 6,000 lbs. or less, (2) Class II = 6,001 through 10,000 lbs., (3) Class III = 10,001 through 14,000 lbs., (4) Class IV = 14,000 through

19,500 lbs., (5) Class V = 19,501 through 26,000 lbs., and (6) Class VI = 26,001 lbs. and over.

REPORT DESCRIPTION

Separate formats are utilized for automotive and truck reports, but both reports list the data contained on the tape files and calculate the fraction of vehicles for individual categories.

The light duty vehicle report produces a one-page report for each geographical area. The report includes the report title, the name of the geographical area, and four columns of data as follows: the vehicle model year, the vehicle age, the number of vehicles registered by model year, and the fraction of registered vehicles by model year in the specific geographical area.

The heavy duty vehicle report produces a two-page report for each geographical area. The first page includes the report title, the name of the geographical area, and eight columns of data as follows: the vehicle model year, number of registered vehicles by model year for each of the six weight classes, and the number of unclassified vehicles by model year. The second page includes the report title, the name of the geographical area, and nine columns of data as follows: the model year, the vehicle age, the fraction of vehicles in each weight class, and the fraction of all classes by model year. Either or both pages of this report can be requested.

RETRIEVALS AVAILABLE

Both the light and heavy duty vehicle reports have the same retrieval and summary capabilities. The data are retrieved on a state, state/county, or AQCR basis, and the data are summarized by nation, state, state/county, or AQCR.

DATA AVAILABILITY

The R. L. Polk registration data were purchased under an agreement that they would be used only by the U.S. EPA. For this reason, reports showing vehicle registration by county may be distributed only within EPA. Reports which give the number of vehicles for the nation, a state, or an AQCR or which give the fraction of vehicles per model year for any geographical area may be released outside EPA.

EXAMPLE REPORTS

Figure 2.10.5.a shows an example of the light duty vehicle report summarized for the nation. Figure 2.10.5.b shows an example of the heavy duty vehicle report summarized for the nation.

JUNE 22, 1976 PAGE 1

COUNTY LIGHT DUTY VEHICLE REGISTRATIONS (NUMBER OF VEHICLES) BY MODEL YEAR

(RL POLK DATA - JULY 1973)

NATIONAL SUMMARY

VEHICLE MODEL YEAR	VEHICLE AGE (YEARS)	VEHICLES REGISTERED (NO. OF VEHICLES)	FRACTION OF VEHICLES BY MODEL YEAR *
1973	1	7,806,741	.0884
1972	2	9,961,378	.1128
1971	3	8,561,992	.0969
1970	4	8,495,800	.0962
1969	5	8,763,588	.0992
1968	6	8,180,246	.0926
1967	7	7,025,014	.0795
1966	8	7,233,101	.0819
1965	9	6,621,127	.0750
1964	10	4,889,907	.0554
1963	11	3,643,911	.0412
1962	12	2,431,800	.0275
1961	13	1,244,087	.0141
1960	14	946,341	.0107
1959	15	532,008	.0060
1958	16	265,502	.0030
PRIOR TO 1958	17+	1,736,663	.0197
YEAR NOT GIVEN		22,374	
TOTAL		88,361,766	

* THE AUTOMOBILES FOR WHICH MODEL YEAR WAS NOT GIVEN ARE EXCLUDED FROM THE TOTAL.

Figure 2.10.5.a. Polk Light Duty Vehicle Report

JUNE 24, 1976 PAGE 1

COUNTY HEAVY DUTY VEHICLE REGISTRATIONS BY MODEL YEAR AND WEIGHT CLASS

(RL POLK DATA - JULY 1973)

NATIONAL SUMMARY

VEHICLE REGISTRATIONS (NUMBER OF VEHICLES) **

VEHICLE MODEL YEAR	CLASS I	CLASS II	CLASS III	CLASS IV	CLASS V	CLASS VI	UNCLASSIFIED
1973	1,120,483	473,250	2,637	10,858	112,629	114,667	
1972	1,404,225	520,400	4,742	38,938	146,092	136,339	
1971	1,034,862	411,201	1,020	51,633	106,214	105,920	
1970	992,774	390,345	2,708	67,579	111,934	102,663	
1969	1,078,836	303,398	2,509	85,032	109,868	108,634	
1968	842,502	300,142	2,219	78,272	87,311	88,703	
1967	803,803	251,002	2,314	81,621	84,548	80,674	
1966	821,068	241,512	2,318	90,493	83,810	78,665	
1965	742,433	205,432	3,132	92,315	71,505	61,082	
1964	619,847	164,474	3,343	80,277	59,944	50,667	
1963							793,733
1962							644,021
1961							853,401
1960							473,246
1959							406,696
1958							253,664
PRIOR YEARS							2,302,324
YEAR NOT GIVEN							14,147
TOTALS	9,520,852	3,377,395	27,442	685,978	975,855	928,014	5,353,252

** CLASSES ARE AS FOLLOWS --- CLASS I = 6000 LBS OR LESS, CLASS II = 6001 THRU 10000 LBS, CLASS III = 10001 THRU 14000 LBS, CLASS IV = 14001 THRU 19500 LBS, CLASS V = 19501 THRU 26000 LBS, CLASS VI = 26001 LBS AND OVER

Figure 2.10.5-b. Polk Heavy Duty Vehicle Report

JUNE 24, 1976 PAGE 2

LIGHT AND HEAVY TRUCKS

FRACTION OF REGISTERED VEHICLES BY MODEL YEAR AND WEIGHT CLASS**

(RL POLK DATA - JULY 1973)

NATIONAL SUMMARY

VEHICLE MODEL YEAR	AGE, YEARS	FRACTION OF REGISTERED VEHICLES CLASS I	CLASS II	CLASS III	CLASS IV	CLASS V	CLASS VI	ALL CLASSES*
1973	1	.1177	.1410	.0961	.0158	.1154	.1236	.0882
1972	2	.1538	.1594	.1728	.0566	.1518	.1469	.1118
1971	3	.1087	.1218	.0372	.0753	.1088	.1141	.0820
1970	4	.1042	.1145	.0987	.0985	.1147	.1106	.0798
1969	5	.1133	.1167	.0914	.1240	.1126	.1171	.0853
1968	6	.0905	.0906	.0805	.1141	.0895	.0956	.0674
1967	7	.0844	.0743	.0943	.1100	.0866	.0869	.0625
1966	8	.0813	.0715	.1027	.1456	.0859	.0848	.0637
1965	9	.0700	.0806	.1141	.1346	.0733	.0658	.0564
1964	10	.0551	.0487	.1218	.1170	.0614	.0546	.0469
1963	11							.0381
1962	12							.0303
PRE-1962	13+							.1871
ALL YEARS		.4505	.1010	.0013	.0329	.0468	.0445	

* THE 14,147 TRUCKS FOR WHICH MODEL YEARS WERE NOT GIVEN ARE EXCLUDED FROM THE ABOVE TABLE.

** CLASSES ARE AS FOLLOWS --- CLASS I = 0000 LBS OR LESS, CLASS II = 0001 THRU 10000 LBS, CLASS III = 10001 THRU 14000 LBS, CLASS IV = 14001 THRU 19500 LBS, CLASS V = 19501 THRU 26000 LBS, CLASS VI = 26001 LBS AND OVER

Figure 2.10.5.b
Polk Heavy Duty Vehicle Report (continued)

Monthly data on fuel inventories, supplies, and purchases for all power plants in the United States are collected by the Federal Power Commission and submitted to EPA on data tapes in machine-readable format. EPA, in turn, maintains these tapes in order to make them easily accessible to AEROS users. No printed output is available from these data files.

Included with the AEROS system are various analysis packages for use with the AEROS data bases. These packages are described in the sections that follow.

The Source Inventory and Emission Factor Analysis System (SIEFA) is a computerized system for estimating the precision and the accuracy of NEDS emissions data. This system estimates precision of a NEDS emission report, based on the precision of the basic NEDS information. It indicates the accuracy of the report by providing an accounting of missing emission estimates. This is an essential tool in establishing the reliability of a NEDS inventory.

The Weighted Sensitivity Analysis Program (WSAP) is a computerized analysis designed to estimate the tolerable error for each source category in the NEDS emission inventory files. WSAP is used chiefly as a managerial tool to determine how much effort should be expended to improve the emission inventory for each source category.

The Regional Emissions Projection System (REPS) utilized the existing NEDS point and area source data together with various future socio-economic growth factors to estimate air pollutant emissions up to the year 2000. REPS can also be used as a management tool for evaluating air pollution control strategies.

The Computer Assisted Area Source Emissions Gridding Procedure (CAASE) is a computerized gridding procedure designed to aid in the allocation of country-wide area source emissions into a finer grid system. The output of this system is suitable for use as data input for area source emissions to diffusion modeling program.

The SIEFA analysis package was developed to provide estimates of the precision and accuracy of the NEDS emission data for each source category in a given geographical area. The NEDS area and point source files, together with five SIEFA Tables, are used to evaluate the precision and accuracy of the emissions estimates associated with each point source and area source category. The SIEFA system can also be used to identify errors in emission estimates that need to be resolved.

The emission estimating data contained in the NEDS system (see Section 2.1.0) are the bases for air pollutant emission inventories. Because most of the contents of these emission inventories are based on the use of estimated emission factors and estimated control equipment efficiencies, it is essential that these factors be as reliable as possible. Furthermore, an emission inventory can be most useful only when its accuracy has been established and the precision of its estimation is known. In order to establish this precision and accuracy, it is necessary to know the precision of the factors on which the inventory is based and to analyze the effect of missing data. The SIEFA tables contain estimates of the precision of these factors and the SIEFA programs provide the capability for estimating overall emission inventory reliability by evaluating the effect of these factors in the overall emission calculation and by estimating the missing emissions data.

The internal SIEFA tables contain precalculated precisions (expressed as variances) associated with NEDS emission factors and NEDS data used for emissions calculations (e.g., control efficiencies, operating rates, or sulfur and ash contents). Standard statistical techniques are used in estimating these variances whenever possible, although some estimates, such as the precision of sulfur and ash content for various fuels, are based on engineering judgment and are therefore more general in nature. A major part of the SIEFA system is devoted to the estimating of the precision associated with emission inventories of mobile sources (emission factors, deterioration factors, vehicle mix data, etc.).

In the SIEFA system, "estimated emissions" are those emissions calculated or estimated by the NEDS procedure and correspond to those emissions in the various NEDS emission reports. "Approximated emissions" are emissions either supplied from the field and appearing in the NEDS master file, but not included as part of the reported emissions for a source because they are overridden by a computer calculated emission value, or calculated by the SIEFA program using "typical" values from the tables. For each of the point sources in which an estimated emission value is missing, the SIEFA system attempts to "approximate" the emission value in order to provide a guide as to the accuracy (completeness) of the NEDS data analyzed. This is done by attempting to find or calculate an "approximate" emission rate for the point source. When an "approximated" emission value can be determined, it is included in the

fifth column of the report for the relevant category, subtotals, and totals only, and a count or the point sources so "approximated" is included in the fourth column of the report. In those cases in which the NEDS file contains neither an estimated emissions rate nor sufficient information to estimate emissions by the standard NEDS calculation procedure, SIEFA will attempt to approximate an emission rate from standard information known about a source category.

The field-reported estimated emissions values are probably closer approximations to the true values than are those determined from the "typical" tables in the SIEFA system. Therefore, in the SIEFA procedure a field-reported "estimated" emission value is used as an "approximated" value if available; if not, the "typical" tables are used to approximate the emissions values. An "approximated" emission value is never analyzed for precision in the SIEFA system.

For the purpose of understanding the SIEFA reports, the terms "accuracy" and "precision" need some definition. Accuracy refers to the completeness of an inventory or to the amount of error that might be introduced by missing emission estimates for individual sources. Accuracy also refers to that error that might be introduced through biases in the emission factors, thruputs, control efficiencies, etc. used for estimating emissions. Precision refers to the amount of variability that may be normally expected about an emission estimate because of variations in the many factors and quantities that are involved in the estimation. SIEFA gives an indication of inventory accuracy by counting NEDS sources that have insufficient information stored to estimate emissions under the NEDS emission estimating procedures, and approximating emissions from these sources by substituting standard values for the missing data. Unfortunately, bias errors are very difficult to quantitatively determine and thus are not dealt with in SIEFA. Inventory precision is estimated in SIEFA by using error propagation relationships to derive the standard deviation of the overall emission estimates from the known standard deviations of the factors used in the emissions calculations.

In the SIEFA report, the standard deviation is used to indicate the degree of precision of the inventory. This standard deviation is also reported as a percentage of the emission estimate to provide a dimensionless indication of the relative magnitudes of the standard deviation with respect to the estimated value.

In certain cases, the SIEFA procedure may result in the inclusion of excess "approximated emissions" when field-reported emissions are used. The program does not apportion field-reported emissions among the SCC's for a single point source that has more than one SCC associated with it. The value reported in such cases is duplicated for each SCC. The net overestimation, in most cases, is rather small.

3.1.1.1. GENERAL DESCRIPTION

The SIEFA report contains the quantity of estimated emissions in the selected NEDS subfile for the specified point and area source categories, plus certain major category subtotals and a grand total. Where the appropriate parameters are available in the NEDS data base or in the SIEFA Tables, the report also includes the precisions (standard deviations and percent standard deviations) of the estimated emissions. Well-defined procedures exist within the SIEFA system for approximating or estimating emissions for cases where actual measurements are not available. The output (report) is an inventory of all area and point source emissions in the specified geographical-political subdivision for a single pollutant. Analyses for more than one pollutant (up to five) may be requested in a single computer run, but each pollutant is reported separately. Any one of seven types of geographical-political entities may be selected. Either one of two types of error messages ("detailed" or "short") may also be specified.

3.1.1.2. RETRIEVALS AVAILABLE

The selection options for geographical regions are:

a. One county
b. All counties in a state (includes state summary)
c. One state (state summary only)
d. All states (includes national summary)
e. One AQCR (AQCR summary only)
f. National summary (only)
g. Selected set of counties (includes summary)

One and only one geographical area selection must be included in each SIEFA report request.

3.1.1.3. SORTS AVAILABLE

There are no optional sorts available to the user. The pollutant types may be specified in any order for a multipollutant request, but the types will appear in the report in the following order:

a. Particulates
b. Sulfur dioxide
c. Nitrogen oxides
d. Hydrocarbons
e. Carbon monoxide

3.1.1.4. SAMPLE REPORT

Figure 3.1.1.a. is an example of a "Type 1" (one county) report for one pollutant (particulates in Bond County, Illinois).

3.1.1.5. USER ACCESS

The SIEFA report request procedure will work for batch, remote batch, or demand terminals.

PAGE 1 APRIL 11, 1975

NEDS RELIABILITY ANALYSIS

AQCR(070): METROPOLITAN ST. LOUIS
STATE(14): ILLINOIS
COUNTY(0520): BOND CO

	PARTICULATES EMISSIONS IN TONS PER YEAR				
	ESTIMATED TOTAL	EMISSION STD. DEV.	PERCENT STD. DEV.	NO. OF SOURCES APPROXIMATED	EST AND APPROX. EMISSIONS
FUEL COMBUSTION					
**********					
EXTERNAL COMBUSTION					
RESIDENTIAL FUEL (AREA)					
ANTHRACITE COAL					
BITUMINOUS COAL	55.19	11.90	21.57	0	55.19
DISTILLATE OIL	11.75	2.76	23.52	0	11.75
RESIDUAL OIL					
NATURAL GAS	2.75	0.60	21.78	0	2.75
WOOD	2.50	1.48	59.37	0	2.50
TOTAL (RESIDENTIAL)	72.20	12.33	17.07	0	72.20
ELEC GENERATION (POINT)					
ANTHRACITE COAL					
BITUMINOUS COAL					
LIGNITE					
RESIDUAL OIL					
DISTILLATE OIL					
NATURAL GAS					
PROCESS GAS					
COKE					
BAGASSE					
SOLID WASTE/COAL					
OTHER					
TOTAL (ELEC GEN)					

Figure 3.1.1.a. SIEFA Report

	PARTICULATES EMISSIONS IN TONS PER YEAR				
	ESTIMATED TOTAL	EMISSION STD. DEV.	PERCENT STD. DEV.	NO. OF SOURCES APPROXIMATED	EST AND APPROX EMISSIONS
INDUSTRIAL FUEL					
ANTHRACITE COAL					
AREA SOURCES					
POINT SOURCES					
BITUMINOUS COAL					
AREA SOURCES	36.91	74.65	202.20	0	36.91
POINT SOURCES					
LIGNITE					
POINT SOURCES					
RESIDUAL OIL					
AREA SOURCES	0.34	0.07	21.22	0	0.34
POINT SOURCES					
DISTILLATE OIL					
AREA SOURCES	0.29	0.06	21.22	0	0.29
POINT SOURCES					
NATURAL GAS					
AREA SOURCES	0.53	0.13	24.62	0	0.53
POINT SOURCES					
PROCESS GAS					
AREA SOURCES					
POINT SOURCES					
COKE					
AREA SOURCES					
POINT SOURCES					
WOOD					
AREA SOURCES					
POINT SOURCES					
LIQUID PETROL GAS					
POINT SOURCES					
BAGASSE					
POINT SOURCES					
OTHER					
POINT SOURCES					
TOTAL (INDUSTRIAL)					
AREA SOURCES	38.10	74.65	195.91	0	38.10
POINT SOURCES					

Figure 3.1.1.a (continued). SIEFA Report

PARTICULATES
EMISSIONS IN TONS PER YEAR

	ESTIMATED TOTAL	EMISSION STD. DEVL.	PERCENT STD. DEV.	NO. OF SOURCES APPROXIMATED	EST AND APPROX EMISSIONS
COMM-INSTITUTIONAL FUEL					
ANTHRACITE COAL					
AREA SOURCES					
POINT SOURCES					
BITUMINOUS COAL					
AREA SOURCES					
POINT SOURCES					
LIGNITE					
POINT SOURCES					
RESIDUAL OIL					
AREA SOURCES	8.73	2.23	25.54	0	8.73
POINT SOURCES					
DISTILLATE OIL					
AREA SOURCES	0.00	0.00	.00	0	0.00
POINT SOURCES					
NATURAL GAS					
AREA SOURCES	1.61	0.35	21.68	0	1.61
POINT SOURCES					
WOOD					
AREA SOURCES					
POINT SOURCES					
LIQUID PETROL GAS					
POINT SOURCES					
OTHER					
POINT SOURCES					
TOTAL (COMM-INST)					
AREA SOURCES	10.35	2.25	21.82	0	10.35
POINT SOURCES					
OTHER (POINT)					
TOTAL (EXTERNAL COMB)					
AREA SOURCES	120.66	75.69	62.73	0	120.66
POINT SOURCES					

Figure 3.1.1.a (continued). SIEFA Report

PARTICULATES
EMISSIONS IN TONS PER YEAR

	ESTIMATED TOTAL	EMISSION STD. DEV.	PERCENT STD. DEV.	NO. OF SOURCES APPROXIMATED	EST AND APPROX EMISSIONS
INTERNAL COMBUSTION (POINT)					
ELECTRIC GENERATION					
DISTILLATE OIL					
NATURAL GAS					
DIESEL					
OTHER					
TOTAL (ELEC GEN)					
INDUSTRIAL FUEL					
DISTILLATE OIL					
NATURAL GAS					
GASOLINE					
DIESEL FUEL					
OTHER					
TOTAL (INDUSTRIAL)					
COMM-INSTITUTIONAL					
DIESEL					
OTHER					
TOTAL (COMM-INST)					
ENGINE-TESTING					
AIRCRAFT					
OTHER					
TOTAL (ENG TESTING)					
OTHER (POINT)					
TOTAL (INTERNAL COMB)					
TOTAL (FUEL COMBUSTION)					
AREA SOURCES	120.66	75.69	62.73	0	120.66
POINT SOURCES					

Figure 3.1.1.a (continued). SIEFA Report

INDUSTRIAL PROCESS (POINT)	PARTICULATES EMISSIONS IN TONS PER YEAR ESTIMATED TOTAL	EMISSION STD. DEV.	PERCENT STD. DEV.	NO. OF SOURCES APPROXIMATED	EST AND APPROX EMISSIONS
**********					
CHEMICAL MANUFACTURING					
FOOD/AGRICULTURAL					
PRIMARY METAL					
SECONDARY METALS				1	6.00
MINERAL PRODUCTS					
PETROLEUM INDUSTRY					
WOOD PRODUCTS					
EVAPORATION					
METAL FABRICATION					
LEATHER PRODUCTS					
TEXTILE MANUFACTURING					
INPROCESS FUEL				2	12.00
OTHER/NOT CLASSIFIED					
TOTAL (INDUSTRIAL)				3	18.00

Figure 3.1.1.a (continued). SIEFA Report

PARTICULATES
EMISSIONS IN TONS PER YEAR

	ESTIMATED TOTAL	EMISSION STD. DEV.	PERCENT STD. DEV.	NO. OF SOURCES APPROXIMATED	EST AND APPROX EMISSIONS
SOLID WASTE DISPOSAL					
**********					
GOVERNMENT (POINT)					
MUNICIPAL INCINERATION					
OPEN BURNING					
OTHER					
TOTAL (GOVERNMENT)					
RESIDENTIAL (AREA)					
ON SITE INCINERATION	51.14	511.61	1,000.22	0	51.14
OPEN BURNING	20.79	208.04	1,000.22	0	20.79
TOTAL (RESIDENTIAL)	71.94	552.20	767.61	0	71.94
COMMERCIAL-INSTITUTIONAL					
ON SITE INCINERATION					
AREA SOURCES	6.59	66.01	1,000.22	0	6.59
POINT SOURCES					
OPEN BURNING					
AREA SOURCES	7.19	72.01	1,000.22	0	7.19
POINT SOURCES					
APARTMENT					
POINT SOURCES					
OTHER					
POINT SOURCES					
TOTAL (COMM-INST)					
AREA SOURCES	13.79	97.69	707.93	0	13.79
POINT SOURCES					

Figure 3.1.1.a (continued). SIEFA Report

PARTICULATES
EMISSIONS IN TONS PER YEAR

	ESTIMATED TOTAL	EMISSION STD. DEV.	PERCENT STD. DEV.	NO. OF SOURCES APPROXIMATED	EST AND APPROX EMISSIONS
INDUSTRIAL					
ON SITE INCINERATION					
AREA SOURCES	32.39	324.07	1,000.22	0	32.39
POINT SOURCES					
OPEN BURNING					
AREA SOURCES	8.79	88.01	1,000.22	0	8.79
POINT SOURCES					
AUTO BODY INCINERATION					
POINT SOURCES					
RAIL CAR BURNING					
POINT SOURCES					
OTHER					
POINT SOURCES					
TOTAL (INDUSTRIAL)					
AREA SOURCES	41.19	335.81	815.07	0	41.19
POINT SOURCES					
OTHER (POINT)					
TOTAL (SOLID WASTE DISP)					
AREA SOURCES	126.94	653.71	514.94	0	126.94
POINT SOURCES					

Figure 3.1.1.a (continued). SIEFA Report

	PARTICULATES EMISSIONS IN TONS PER YEAR				
	ESTIMATED TOTAL	EMISSION STD. DEV.	PERCENT STD. DEV.	NO. OF SOURCES APPROXIMATED	EST AND APPROX EMISSION
TRANSPORTATION (AREA)					
**********					
LAND VEHICLES					
GASOLINE					
LIGHT VEHICLES	52.04	8.24	15.83	0	52.04
HEAVY VEHICLES	6.10	0.96	15.88	0	6.10
OFF HIGHWAY	4.83	1.24	25.79	0	4.83
TOTAL (GASOLINE)	62.98	8.39	13.32	0	62.98
DIESEL					
HEAVY VEHICLES	8.63	1.22	14.15	0	8.63
OFF HIGHWAY	0.32	0.07	22.63	0	0.32
RAIL	0.87	0.20	23.34	0	0.87
TOTAL (DIESEL)	9.83	1.24	12.62	0	9.83
AIRCRAFT					
MILITARY	0.00	0.00	.00	0	0.00
CIVIL	0.00	0.00	.00	0	0.00
COMMERCIAL	0.00	0.00	.00	0	0.00
TOTAL (AIRCRAFT)	0.00	0.00	.00	0	0.00
VESSELS					
BITUMINOUS COAL	0.00	0.00	.00	0	0.00
DIESEL FUEL	0.00	0.00	.00	0	0.00
RESIDUAL OIL	0.00	0.00	.00	0	0.00
GASOLINE	0.00	0.00	.00	0	0.00
TOTAL (VESSELS)	0.00	0.00	.00	0	0.00
GAS HANDLING EVAP LOSS	0.00	0.00	.00	0	0.00
TOTAL (TRANSPORTATION)	72.82	8.48	11.65	0	72.82

Figure 3.1.1.a (continued). SIEFA Report

	PARTICULATES EMISSIONS IN TONS PER YEAR				
	ESTIMATED TOTAL	EMISSION STD. DEV.	PERCENT STD. DEV.	NO. OF SOURCES APPROXIMATED	EST AND APPROX EMISSIONS
MISCELLANEOUS (AREA)					
**********					
FOREST FIRE/AGRIC BURNING					
STRUCTURAL FIRES					
COAL REFUSE BURNING					
SLASH BURNING					
FROST CONTROL					
SOLVENT EVAPORATION LOSS	0.00	0.00	.00	0	0.00
DUST SOURCES					
DIRT ROADS					
DIRT AIRSTRIPS					
CONSTRUCTION					
ROCK HANDLING/STORING					
TOTAL (MISCELLANEOUS)	0.00	0.00	.00	0	0.00
OTHER (POINT)					
**********					
GRAND TOTAL					
**********					
AREA SOURCES	320.43	658.14	205.38	0	320.43
POINT SOURCES				3	18.00
TOTAL	320.43	658.14	205.38	3	338.43

Figure 3.1.1.a (continued). SIEFA Report

3.2.0 WSAP

3.2.1 PROGRAM DESCRIPTION

3.2.1.1 ABSTRACT

The WSAP program analyzes the effects of potential inaccuracies in air pollution emission inventories. The program determines the percentage of allowable error (σ_k) for component elements of the NEDS regional emission inventory in order to maintain an overall error percentage (θ), at a given confidence level, in the total emissions reported by the inventory. The percentage of allowable error for a given emission source category (σ_k) is the normalized standard deviation of the probability density function associated with emissions reported for category (k).

The elements of the NEDS inventory for which allowable percentage of error is specified are any of the emission source categories of the National Emission Report (NER), a summary format for point and area source NEDS data. The NER format is essentially a hierarchical structure of emission source categories at varying levels of aggregation. Thus WSAP may be used to compute the percentage of allowable error for source categories at any of these levels of aggregation.

WSAP may be applied to the emission inventory for any geographic region for which an NER emission summary is available, including the nation, AQCR, state or county. The WSAP does not estimate actual or existing errors in emissions reported for each source category. This analysis can be made by examining the raw NEDS data files and estimating the errors due to emission calculations on an individual point and area source basis.

The WSAP program has two inherent assumptions:

- Allowable errors (σ_k) calculated for each emission source category are mutually independent. This assumption is justified because interdependencies among source category emission errors are considered minor compared to the numerous other causes of emission errors.

- Source category emission errors are statistically random.

The WSAP system user must supply the overall percentage of error (θ) required for total annual emissions for each of the five criteria pollutants. This requirement is a function of the acceptable percentage error interval required for the emission total, and the confidence level associated with that error interval. The program uses standard statistical techniques to compute the σ_k's which are necessary to produce the θ required for the total. The printed output of the system provides

- Annual emissions (tons per year)
- Percent allowable error
- Amount of allowable error (tons per year)

for each of the five criteria pollutants, at each level of aggregation.

3.2.1.2 ORGANIZATION OF THE NER REPORT FORMAT

The component elements of the NEDS emission inventory for which WSAP computes allowable error are the emission source categories of the NER Report. This summary reporting format, an example of which is shown in Figure 3.2.1a, is hierarchical in nature, consisting of a number of successive levels, each of which represents an increased degree of aggregation of emission source categories. This format is the same for all geographic regions. The most disaggregated or elementary level of data of the NER summary is actually an aggregation of annual emission estimates for a number of point or area sources.

It can be seen from Figure 3.2.1a that the elementary emission data are aggregated to form subtotals, the subtotals are aggregated to form totals, and so on, for four and sometimes five successive levels. The aggregation culminates in the grand total of annual emissions for the region. This structure can be thought of as tree-like, in that the component source categories which are summed to a total or subtotal, are equivalent to the branches of a tree. The WSAP program computes allowable error for each of these successive levels of aggregation.

3.2.1.3 PROGRAM OUTPUT

The standard printed output of WSAP is a series of 33 tables. The tables are interrelated according to the hierarchy of the NER format. Each table

NATIONAL EMISSIONS DATA SYSTEM

ENVIRONMENTAL PROTECTION AGENCY

NATIONWIDE EMISSIONS REPORT

UNITED STATES

RUN DATE: JANUARY 12, 1974
EMISSIONS AS OF: DECEMBER 19, 1973

	PARTICULATES TONS / YR	SOX TONS / YR	NOX TONS / YR	HC TONS / YR	CO TONS / YR
FUEL COMBUSTION					
EXTERNAL COMBUSTION					
RESIDENTIAL FUEL (AREA)					
ANTHRACITE COAL	14195	36978	4259	3549	127756
BITUMINOUS COAL	81385	312494	12208	81385	366235
DISTILLATE OIL	85681	473565	102817	25704	42841
RESIDUAL OIL	9167	62984	15942	1196	80
NATURAL GAS	50492	1610	134168	21470	53675
WOOD	56690	1134	22676	4535	4535
TOTAL (RESIDENTIAL)	298110	888786	292091	137840	595122
ELEC GENERATION (POINT)					
ANTHRACITE COAL	19420	54891	13798	165	3635
BITUMINOUS COAL	3214761	15552605	3848065	52159	3647883
LIGNITE	58973	107023	64311	923	3122
RESIDUAL OIL	52033	1535833	734505	14921	22288
DISTILLATE OIL	2113	20715	35151	673	959
NATURAL GAS	25885	19821	1181628	2218	38328
PROCESS GAS	623	14113	33093	185	825
COKE	314	36176	3187	5	177
SOLID WASTE/COAL	751	0	302	63	295
TOTAL (ELEC GEN)	3374872	17341176	5914039	71312	3717512
INDUSTRIAL FUEL					
ANTHRACITE COAL					
AREA SOURCES	5	14	10	0	1
POINT SOURCES	5751	6875	3040	51	1552
BITUMINOUS COAL					
AREA SOURCES	1529950	1057853	202692	13513	27026
POINT SOURCES	1213930	2333634	541426	17480	54649
LIGNITE					
POINT SOURCES	13239	4917	3126	210	421
RESIDUAL OIL					
AREA SOURCES	29529	279340	77033	3852	257
POINT SOURCES	67022	816415	198430	10964	12635
DISTILLATE OIL					

FIGURE 3.2.1a
Sample Nationwide Emissions Report (NER)

AREA SOURCES	13014	48668	52055	2603	174
POINT SOURCES	20547	40488	60423	4411	5648
NATURAL GAS					
AREA SOURCES	24370	812	243698	54155	542
POINT SOURCES	31314	36291	355963	11166	28224
PROCESS GAS					
AREA SOURCES	6	0	71	12	0
POINT SOURCES	168972	123510	2586975	12901	69295
COKE					
POINT SOURCES	2036	24795	3003	40	406
WOOD					
AREA SOURCES	1460	29	584	117	117
POINT SOURCES	207432	17087	134572	30076	43214
LIQUID PETROL GAS					
POINT SOURCES	325	23348	5029	134	661
BAGASSE					
POINT SOURCES	41958	0	5490	5499	5499
OTHER					
POINT SOURCES	7931	15659	3109	2812	7935
TOTAL (INDUSTRIAL)					
AREA SOURCES	1596334	1386721	576144	74252	28116
POINT SOURCES	1780458	3443057	3900587	95744	230139
COMM-INSTITUTIONAL FUEL					
ANTHRACITE COAL					
AREA SOURCES	1516	3945	1486	30	891
POINT SOURCES	4702	2975	988	50	291
BITUMINOUS COAL					
AREA SOURCES	154008	234739	28222	6135	22087
POINT SOURCES	56690	78936	16211	1220	3221
LIGNITE					
POINT SOURCES	4229	2930	1015	75	204
RESIDUAL OIL					
AREA SOURCES	66757	694826	174148	8707	580
POINT SOURCES	7225	80721	18732	885	1149
DISTILLATE OIL					
AREA SOURCES	70116	259796	280466	14023	935
POINT SOURCES	1014	5840	4310	204	282
NATURAL GAS					
AREA SOURCES	21140	669	111474	8918	22295
POINT SOURCES	6583	2514	33110	2522	5514
WOOD					
AREA SOURCES	15	0	6	1	1
POINT SOURCES	438	52	644	144	129
LIQUID PETROL GAS					
POINT SOURCES	73	1	382	30	77
OTHER					
POINT SOURCES	15	3	3	0	0
TOTAL (COMM-INST)					
AREA SOURCES	313543	1193975	595801	37815	46789
POINT SOURCES	77169	173971	75395	5129	10869
OTHER (POINT)	0	34	0	0	0
TOTAL (EXTERNAL COMB)					
AREA SOURCES	2216037	3469461	1464036	249906	670027
POINT SOURCES	9232499	20958239	9890022	172185	3958920
INTERNAL COMBUSTION (POINT)					

FIGURE 3.2.1a (Continued)

ELECTRIC GENERATION					
DISTILLATE OIL	3205	4431	24114	201	38
NATURAL GAS	87	554	19602	159	30
DIESEL	176	356	4910	699	2963
OTHER	50	299	2653	467	92
TOTAL (ELEC GEN)	3519	5640	51279	1527	3123
INDUSTRIAL FUEL					
DISTILLATE OIL	497	842	4936	202	907
NATURAL GAS	1651	9532	857712	40597	28459
GASOLINE	11	5	257	676	2528
DIESEL FUEL	86	167	2342	249	1467
OTHER	458	18	123	138	332
TOTAL (INDUSTRIAL)	2703	10565	865370	41863	33692
COMM-INSTITUTIONAL					
DIESEL	47	97	1328	133	808
TOTAL (COMM-INST)	47	97	1328	133	808
ENGINE-TESTING					
AIRCRAFT	241	146	482	646	1132
TOTAL (ENG TESTING)	241	146	482	646	1132
TOTAL (INTERNAL COMB)	6509	16450	918460	44169	38755
TOTAL (FUEL COMBUSTION)					
AREA SOURCES	2210037	3469461	1464036	249905	670027
POINT SOURCES	5239008	20974689	10808482	216353	3997275
INDUSTRIAL PROCESS (POINT)					
CHEMICAL MANUFACTURING	223252	694814	148923	2367014	6007562
FOOD/AGRICULTURAL	396700	1645	431	31591	1241
PRIMARY METAL	1684044	3601196	20170	117741	4107311
SECONDARY METALS	190484	103316	2718	3883	1505178
MINERAL PRODUCTS	5245083	444669	142280	10328	25147
PETROLEUM INDUSTRY	339950	1598251	372398	865164	5068669
WOOD PRODUCTS	468026	107815	2916	25442	857647
EVAPORATION	1004	2120	600	2904342	2149
METAL FABRICATION	3826	677	286	1744	38
LEATHER PRODUCTS	58	1	0	418	0
TEXTILE MANUFACTURING	593	38	18	7339	1
INPROCESS FUEL	83573	48705	25715	18195	31913
OTHER/NOT CLASSIFIED	6235	9984	512	103910	31126
TOTAL (INDUSTRIAL)	8646827	6613252	716966	6457112	17637981
SOLID WASTE DISPOSAL					
GOVERNMENT (POINT)					
MUNICIPAL INCINERATION	44665	7125	5710	16884	81647
OPEN BURNING	22070	1346	8003	40869	116348
OTHER	675	43	98	317	1312
TOTAL (GOVERNMENT)	67411	8514	13812	58070	199507

FIGURE 3.2.1a (Continued)

RESIDENTIAL (AREA)					
ON SITE INCINERATION	206022	3434	6867	686739	2060218
OPEN BURNING	128900	8056	48337	273912	684781
TOTAL (RESIDENTIAL)	334922	11490	55205	960652	2745000
COMMERCIAL-INSTITUTIONAL					
ON SITE INCINERATION					
AREA SOURCES	38003	4750	6334	31669	63339
POINT SOURCES	1451	861	642	1312	8309
OPEN BURNING					
AREA SOURCES	40617	2539	15231	86311	215777
POINT SOURCES	1442	0	170	339	4243
APARTMENT					
POINT SOURCES	30	1	9	15	24
OTHER					
POINT SOURCES	42	0	19	0	0
TOTAL (COMM-INST)					
AREA SOURCES	78620	7289	21565	117980	279116
POINT SOURCES	2966	861	839	1666	12575
INDUSTRIAL					
ON SITE INCINERATION					
AREA SOURCES	185825	23228	30971	154854	309708
POINT SOURCES	75364	21870	9432	62913	729714
OPEN BURNING					
AREA SOURCES	115190	7367	44321	251153	627882
POINT SOURCES	12870	348	2939	37113	48398
AUTO BODY INCINERATION					
POINT SOURCES	55	0	2	8	42
OTHER					
POINT SOURCES	2074	4103	229	204	447
TOTAL (INDUSTRIAL)					
AREA SOURCES	304014	30615	75292	406007	937590
POINT SOURCES	90363	26321	12602	100239	778602
TOTAL (SOLID WASTE DISP)					
AREA SOURCES	717556	49394	152062	1484639	3961706
POINT SOURCES	169739	35696	27253	159976	990684
TRANSPORTATION (AREA)					
LAND VEHICLES					
GASOLINE					
LIGHT VEHICLES	357856	214714	5129268	10924202	59276452
HEAVY VEHICLES	31628	18977	1054282	2155393	8889910
OFF HIGHWAY	15140	9462	333074	1046535	5734178
TOTAL (GASOLINE)	404624	243153	6516624	14126130	73900540
DIESEL					
HEAVY VEHICLES	42106	84212	1193007	119301	701769
OFF HIGHWAY	18468	38357	525629	52563	319639
RAIL	53305	138592	159914	106609	149253

FIGURE 3.2.1a (Continued)

TOTAL (DIESEL)	113879	261161	1878550	278473	1170662
AIRCRAFT					
MILITARY	150553	28749	72326	350283	376005
CIVIL	9379	1863	8472	41536	237349
COMMERCIAL	60476	13398	37836	145142	344247
TOTAL (AIRCRAFT)	220406	44009	118634	536961	957601
VESSELS					
BITUMINOUS COAL	1273	3183	191	1273	5729
DIESEL FUEL	14226	36987	42677	28451	39832
RESIDUAL OIL	6985	30371	18223	911	61
GASOLINE	917	573	20171	63378	347262
TOTAL (VESSELS)	23401	71114	81262	94014	392884
GAS HANDLING EVAP LOSS	0	0	0	1000055	0
TOTAL (TRANSPORTATION)	762312	619437	8595071	16035632	76421687
MISCELLANEOUS (AREA) **********					
SLASH BURNING	220520	0	25943	259435	778305
SOLVENT EVAPORATION LOSS	0	0	0	1587723	0
TOTAL (MISCELLANEOUS)	220520	0	25943	1847158	778305
OTHER (POINT) **********	70	26	1	0	0
GRAND TOTAL **********					
AREA SOURCES	3910425	4138293	10237113	19617335	81831724
POINT SOURCES	14046645	27623663	11552703	6833441	22625940
TOTAL	17957070	31761955	21789815	26450776	104457664

FIGURE 3.2.1a (Continued)

corresponds to a different aggregated source category, and contains annual emissions, percent allowable error and amount of allowable error for each of the five criteria pollutants, for all component sources forming the aggregated source category. The relationship of the output tables is illustrated in Figure 3.2.1b; this relationship is identical to the tree structure of the NER summary. The numbers in parenthesis in Figure 3.2.1b indicate the table number corresponding to each table title. The table for external fuel combustion, point sources (labeled "Table 11" in Figure 3.2.1b, for example, contains for each pollutant, the output data for all sources of the next lower level (electric generation, industrial fuel, etc.) which are aggregated to form the external combustion, point source category. A sample output for external fuel combustion is shown in Figure 3.2.1c.

Using this technique, Table 3.2.1a summarizes the required value of θ for selected trade-offs between confidence level and accuracy of the emissions inventory. For example, θ must be set at 2.24 percent to attain 95 percent confidence level for the overall inventory error to be within 10 percent.

Table 3.2.1a
Values of (Overall Allowable Error) for
Selected Pairs (α, c)

Confidence Level

α \ c	90%	95%	99%
5%	1.58%	1.12%	0.5%
10%	3.16%	2.24%	1.0%
20%	6.32%	4.47%	2.0%

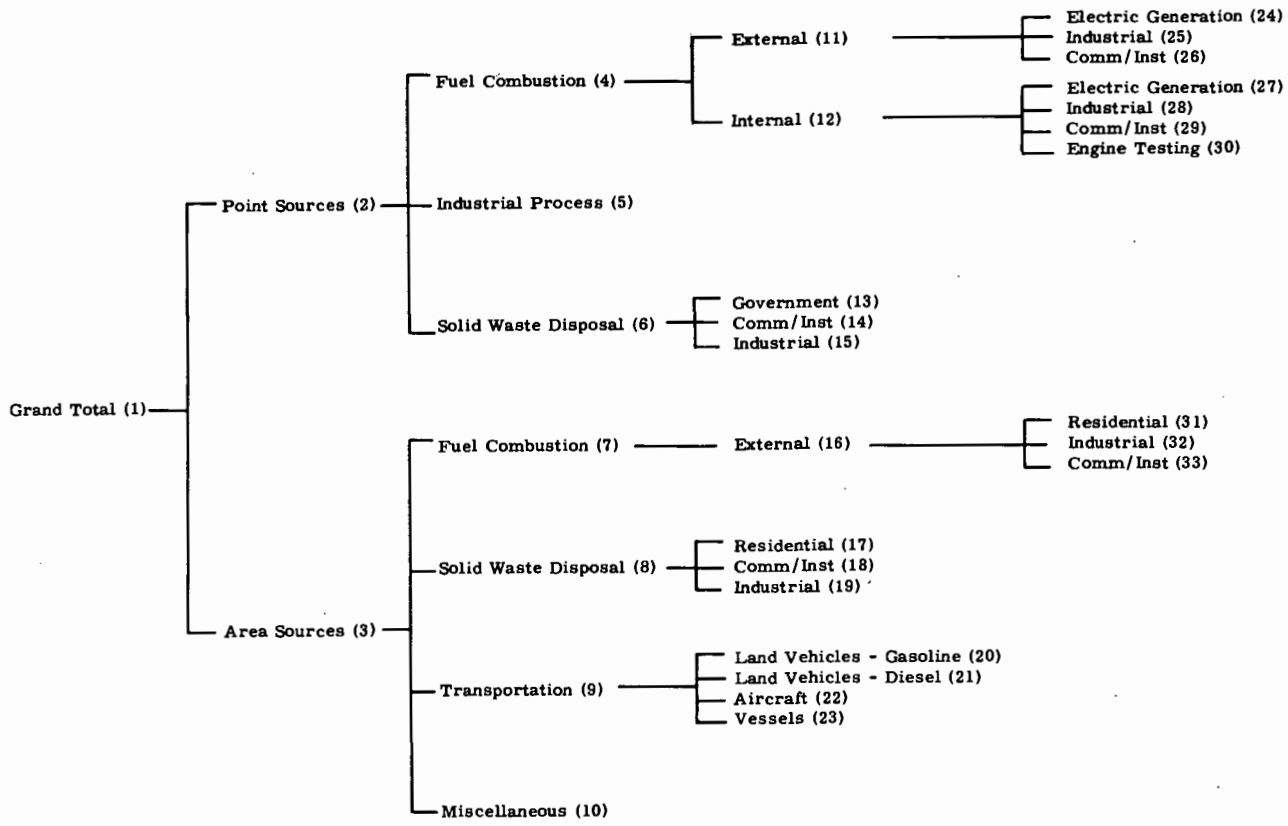

FIGURE 3.2.1b
Output Table Relationships

Note: Numbers in parenthesis refer to WSAP output table numbers. There are 33 tables in the standard WSAP output.

FIGURE 3.2.1c
Sample Output
(External Fuel Combustion, Point Sources)

WEIGHTED SENSITIVITY ANALYSIS REPORT
NATIONAL EMISSIONS DATA SYSTEM
****
ENVIRONMENTAL PROTECTION AGENCY

NATIONWIDE EMISSIONS REPORT
****
UNITED STATES

RUN DATE: MAY 11, 1973
EMISSIONS AS OF: APRIL 19, 1973

DRIVER TABLE 11

SOURCE HIERARCHY
EXTERNAL COMBUSTION
POINT SOURCES

PARTICULATES

THETA = 3.68

DATA NO.	SOURCE CLASSES	TONS / YR	ALLOWABLE ERROR PERCENT	ALLOWABLE ERROR TONS / YR
34	ELEC GENERATION (POINT)	3416197.	4.48	163007.
70	INDUSTRIAL FUEL	1562142.	6.62	103466.
98	COMM-INSTITUTIONAL FUEL	89158.	27.72	24718.
99	OTHER (POINT)	2741.	158.12	4334.
	TOTAL	5070238.	3.68	186403.

SOX

THETA = 2.48

DATA NO.	SOURCE CLASSES	TONS / YR	ALLOWABLE ERROR PERCENT	ALLOWABLE ERROR TONS / YR
34	ELEC GENERATION (POINT)	15317302.	2.77	423726.
70	INDUSTRIAL FUEL	3601454.	5.70	205463.
98	COMM-INSTITUTIONAL FUEL	176071.	25.80	45429.
99	OTHER (POINT)	211.	745.34	1573.
	TOTAL	19095024.	2.48	473101.

NOX

THETA = 3.27

DATA NO.	SOURCE CLASSES	TONS / YR	ALLOWABLE ERROR PERCENT	ALLOWABLE ERROR TONS / YR
34	ELEC GENERATION (POINT)	5365898.	3.99	214028.
70	INDUSTRIAL FUEL	2449426.	5.90	144605.
98	COMM-INSTITUTIONAL FUEL	164827.	22.76	37511.
99	OTHER (POINT)	246.	589.09	1449.
	TOTAL	7980397.	3.27	261013.

HC

THETA = 16.11

DATA NO.	SOURCE CLASSES	TONS / YR	ALLOWABLE ERROR PERCENT	ALLOWABLE ERROR TONS / YR
34	ELEC GENERATION (POINT)	121526.	27.58	33515.
70	INDUSTRIAL FUEL	223016.	20.36	45402.
98	COMM-INSTITUTIONAL FUEL	11461.	89.80	10292.
99	OTHER (POINT)	0.	---	---
	TOTAL	356005.	16.11	57363.

CO

THETA = 8.04

DATA NO.	SOURCE CLASSES	TONS / YR	ALLOWABLE ERROR PERCENT	ALLOWABLE ERROR TONS / YR
34	ELEC GENERATION (POINT)	6051697.	8.11	491041.
70	INDUSTRIAL FUEL	88455.	67.11	59366.
98	COMM-INSTITUTIONAL FUEL	25803.	124.26	32064.
99	OTHER (POINT)	0.	---	---
	TOTAL	6165955.	8.04	495655.

3.2.2 ANALYSIS OF THE PROGRAM

3.2.2.1 METHODOLOGY

The structure of the NER format for summarizing emissions, as described previously, is essentially a tree structure consisting of various levels of totals and subtotals. The WSAP program uses a linear statistical model to represent the propagation of error in the annual emission levels of NER source categories. The program computes for each pollutant the percentage of allowable error (σ) in each subtotal component of the NEDS emission inventory, given an overall percentage of allowable error θ in the reported emission totals. The resultant σ's for each subtotal are equal to the θ required to compute σ for the elements which are summed to produce each subtotal. In this way $a\sigma_k$ is computed for each component source category k of the NEDS inventory in order that the overall percentage of allowable error in the emission totals remain less than θ.

The value for θ is computed as follows. If

α = acceptable error interval (percent) for total emissions

c = confidence level that total emissions are within error interval α ($o<c<1$)

then the percentage of allowable error (θ) for total emissions is given by $\theta = \alpha\sqrt{1 - c}$. This θ is the value which is input to WSAP.

3.2.2.2 SYSTEM INPUTS

The system user must

- Specify a value for θ, the percentage of overall allowable error in total annual emissions for each pollutant
- Identify the geographic region of interest.

Thus five values for θ (one for each criteria pollutant) must be supplied. These values may be computed from requirements for acceptable error interval and confidence level associated with that interval by using the method given in the

previous section. The program accesses the appropriate NER emission summary data from the mass storage file of the computer system to produce percentage of allowable error for each component of the emission inventory.

There are a number of optional inputs to WSAP; these include:

- The user may specify the allowable error (σ) at one or more levels in the NEDS hierarchy. The program will compute the allowable errors at the remaining levels in the hierarchy.

- The user may specify aggregating of any source categories. For example, consider the internal fuel combustion category (point sources), Table 11 of Figure 3.2.1b. In this category, Electrical Generation and Industrial Fuel categories may for a given region be the major sources of particulate emissions from internal fuel combustion. The remaining two categories in this class, Commercial and Institutional fuel, and Other, may have negligible emissions. The user may aggregate emissions from the latter sources to form a single category, and the resulting allowable error will be computed by the program.

- The user may also specify an alternate arrangement of the hierarchical structure of the NER reports. For example, the fuel combustion subtrees of Figure 3.2.1b could be restructured by classes of fuels, thus permitting a direct analysis of fuel combustion emissions by type of fuel regardless of the activity for which the fuel was consumed.

3.2.2.3 POTENTIAL APPLICATIONS

WSAP was developed as a tool to determine accuracy requirements for components of an emission inventory. This assists the user in allocating future resources for maintaining accuracy requirements for his emission inventory. Specific applications of WSAP include the following:

- The output from the program can be used to identify the NEDS emission source categories which require the most accurate and complete data in order for NEDS to maintain an overall level of accuracy in

total emissions reported. It also calculates the accuracy required of each of the sub-categories and elemental categories in order to meet the desired overall accuracy level. This information may be used for efficient allocation of resources to maintain a given level of accuracy for the emission inventory.

- The WSAP program may be used in conjunction with the Source Inventory Emission Factor Analysis (SIEFA) to determine whether the accuracy of a given emission inventory is satisfactory. The SIEFA program evaluates the existing precision and accuracy of an emission inventory by analyzing the component point and area source categories. These outputs may be compared to the accuracy requirements for source categories given by WSAP to determine whether the overall accuracy of the reported emission totals is actually within the required error tolerances.

- It can be applied to compute component error requirements for inventories of emissions (or any other kind of data) which exhibit a hierarchical (tree-like) structure, similar to the NER summary. An example of this application is as follows. If weighting factors reflecting of annual emission levels to either ambient air quality, then the NEDS emission data could be weighted by these factors to produce a tree structure of air quality data. When applied to these weighted data, the WSAP program will provide information on the relative effect of various emission source categories on ambient air quality.

3.3.0 REPS

3.3.1 ABSTRACT

The Regional Emission Projection System (REPS) is a computerized air pollution emissions projection model, for use at the AQCR level to project annual emissions. It combines exogenous national and regional economic forecasts with point and area source emission inventories for Air Quality Control Regions (AQCRs) to project air pollution emissions levels for the five criteria pollutants on an annual basis, from the present to the year 2000. The projection methodology involves the following major steps:

- Determine regional growth factors for future years which reflect the expected change (positive or negative) in pollution-producing activity. Growth factors are determined from regional economic and demographic forecasts.

- Project present regional emission inventories to future years using these growth factors. The base year emission inventories are those of the National Emissions Data System (NEDS).

- Adjust the emission projections to include the effects of present and future control regulations. These include existing regulations from NEDS, and promulgated Federal standards (incorporated automatically by REPS) and state or local regulations (supplied by the user).

These three steps in the projection methodology correspond to the three basic elements of the REPS system. The general relationship among these elements and the sources of data used in each element are illustrated schematically in Figure 3.3.1a. As is indicated in the figure, the REPS system provides options for extensive user input to override the key parameters which determine the emission forecasts.

REPS can be used to project emissions for any of the 243 Air Quality Control Regions (AQCRs) and for the nation as a whole.* The

* The four AQCRs which include U.S. territories were not considered because regional economic projections were not available for them.

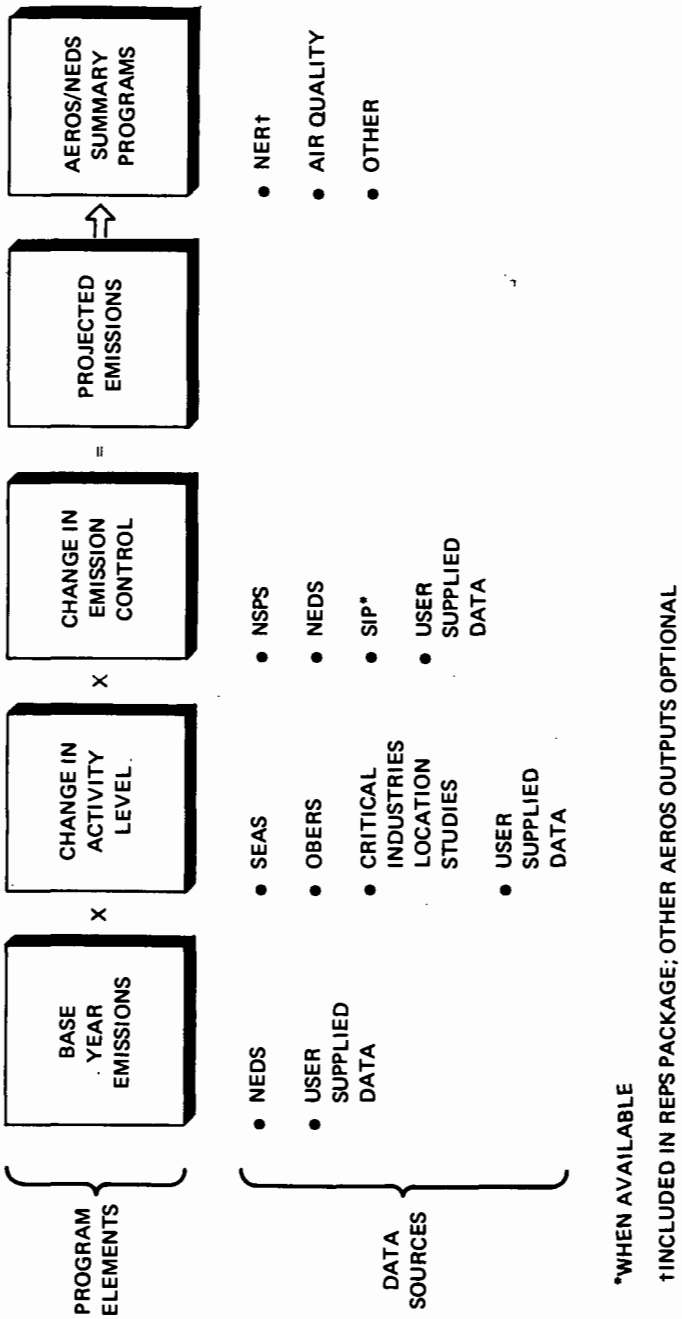

FIGURE 3.3.1a
REPS System Flow and Data Sources

base year to which all growth is referenced is selected by the user, and projections can be made for any year between 1974 and the year 2000. One execution of REPS produces emission projections for a single AQCR and a single projection year.

The three basic program elements of the REPS system:

- Calculation of Growth Factors from Economic and Demographic Forecasts
- Projection of Emission from Base Year Inventories
- Application of Emission Controls

are discussed in detail in the following sections. This is followed by a more complete description of the scope and applicability of the REPS system, including discussion of:

- Outputs of the System
- Options for Users to Input Additional Data
- Potential Applications

is also given. These six sections provide a brief, but comprehensive, overview of the REPS system.

3.3.1.1 CALCULATIONS OF GROWTH FACTORS FROM ECONOMIC AND DEMOGRAPHIC FORECASTS

Regional economic and demographic forecasts are used in REPS to determine the expected change in the region's pollution producing activity. The fundamental postulate of this approach is that a change in pollution-producing activity is proportional to a change in purely economic and demographic parameters, such as total gross output, employment or population.

There are two primary sources for the economic and demographic forecast data used in REPS: EPA developed national economic growth projections, and Department of Commerce regional activity projections. National economic growth projections are taken from a

standard output of the SEAS system,* and include total gross output for each of 284 economic sectors and subsectors. The SEAS projections are based on a sophisticated model of the national economy in which dynamic modeling of the inputs and outputs of each economic sector with respect to all other sectors is used to project the total gross output of each sector. These econometric projections for each sector are modified in the SEAS system to reflect additional factors which do not influence economic projections for specific industrial sectors, but which do have a substantial effect on emissions. These factors include future process changes and materials substitution, and disaggregation of selected sectors to account for industrial processes within one sector which may grow at different rates.

For each region, the relative share of the SEAS national output forecasts is established using the OBERS economic projections† for AQCRs, which contain regional forecasts of population and employment, in addition to projections of regional earnings for 28 industrial sectors. The OBERS projections are reviewed and updated regularly by the Department of Commerce. The methodology used in preparing the OBERS projections involves two basic steps. First, the economic growth of each sector was projected at the national level. Then these national totals were distributed regionally in accordance with historic and projected trends in the regional distributions of economic activity, tempered by available industry- and region-specific growth information.

The SEAS and OBERS projections have been supplemented in REPS by a special analysis of growth and relocation trends for five industries which are among the heaviest industrial polluters. These critical industries include electric power generation, steel, chemicals, pulp manufacturing and petroleum refining. The output of this analysis is a file of data on new plants expected to become operational in the future. For each plant, the SCC ‡ Code, the AQCR, the projected startup year and the plant capacity are given. These data may be input to the program at the user's option.

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* Strategic Environmental Assessment System, an econometric and emission forecasting model developed by the Office of Research and Development, Environmental Protection Agency, Washington, D.C.

† Regional Economic Activity in the U.S., 1972 OBERS Projections, developed by the U.S. Departments of Commerce and Agriculture for the U.S. Water Resources Council.

‡ Source Classification Codes defined in NEDS.

To incorporate the economic and demographic forecast data into the REPS program, dimensionless growth factors, reflecting the change in economic and demographic parameters for the projection year relative to the base year, are computed. By determining the relationship between SCC processes and the SEAS and OBERS industrial sectors, regional growth factors for each specific SCC process are calculated in REPS.

3.3.1.2 PROJECTION OF EMISSIONS FROM BASE YEAR INVENTORIES

Regional emissions in the base year, to which the growth factors described above are applied, are taken from the point and area source inventories of the EPA's National Emission Data System (NEDS). The REPS model uses the following elements of the data contained in the NEDS point source inventory for each source:

- SCC process code
- Net annual emissions
- Control efficiency
- Emissions permitted by existing regulations and compliance to those regulations.

REPS also uses the data in the area source inventory which define the levels of area source emission-producing activity in the base year. This activity includes transportation, fuel combustion, evaporation and miscellaneous area sources. Appropriate growth factors are applied to the data in order to calculate emissions in the projection year. The REPS system has the advantage of building emissions projections on known activity and source data from NEDS. (Clearly, the accuracy of the projected emissions will depend on the accuracy of NEDS in the base year, as well as on the accuracy of the SEAS and OBERS projections.) New activities and industrial sources entering the region and not now accounted for in NEDS will appear in the projections only if entered into REPS via user options.

An alternative to the above approach, which was considered but not adopted in developing REPS, would be to determine projected

regional economic activity, and then to translate the projected activity (given in terms of either dollars or physical units) directly to projected emissions without using a base year emission inventory. Since regional economic projections usually provide no more than two or three digit SIC industrial detail (e.g., steel manufacturing), all industrial sectors would have to be disaggregated to the SCC process level (e.g., open hearth, BOF, etc.) to reflect the actual process mix of the region. This is necessary, of course, because of the wide variation in emission characteristics for different processes. Even if the projected regional process mix were determined, national average emission factors would have to be used to convert the regional economic process activity to projected emissions.

The REPS approach, on the other hand, uses the actual process mix in the base year, as given in the NEDS inventory, to define the process mix upon which the projections are based, rather than relying on disaggregating industrial sector data. In addition, the base year emission data entered in NEDS are provided by the polluting facilities and are often based on stack tests or local emission factors. To translate economic data to emissions with comparable accuracy would require knowledge of these local or plant-specific emission factors.

3.3.1.3 APPLICATION OF EMISSION CONTROLS

The final step of the REPS emission projection methodology is to adjust the projected emissions to include the effect of emission controls required for each type of source in the projection year. This is a very important consideration because control regulations may require a reduction in emissions that more than offsets the projected increase in activity. Thus net emissions may decrease over time in spite of expected increases in industrial activity.

The REPS system includes the effect of control regulations in two ways. First, if any point source has been granted a control variance which will have expired by the projection year, projected emissions are reduced to the level allowable under those regulations. Data on current controls are taken from the NEDS point source inventory. Second, Federal New Source Performance Standards which govern new and retrofit industrial equipment, are included in the REPS system. Standards already promulgated in the Federal Register are in-

cluded, as well as proposed standards which are likely to be promulgated in the future may be input at the user's option. The proposed standards were supplied by the Emission Standards and Engineering Division of the EPA's Office of Air Quality Planning and Standards. The effect of New Source Performance Standards on future emission is determined in the REPS system by estimating the portion of projected activity which will involve equipment or facilities governed by these standards.

The emission control data noted above may be supplemented by accessing the State Implementation Plan file which is expected to be an operational element of the Aerometric and Emissions Reporting System (AEROS) in the near future. The REPS program is designed to accept these data as soon as they are available. This file will contain emission control regulations to be implemented as part of state programs to maintain acceptable ambient air quality. Additional emission controls required by state or local regulations may be supplied by the user. This point is discussed later in the system overview.

3.3.2 OUTPUTS OF THE SYSTEM

The output of the REPS system is in two forms. One is the projected point and area source emission inventory given in the standard format of the NEDS system. All of the NEDS summary reporting programs may, therefore, be executed against the projected inventory. One of these reporting programs is the NE11 program, which aggregates all emissions into the National Emission Report (NER) format. Also, air quality models which convert annual emission levels, as given in the emission inventory, directly to ambient air quality, may be used.

The other principal output of the REPS system is a printed summary of projection statistics and error messages which occurred during execution of the program. This printout is valuable both for interpreting the projection results, and interpreting any computer problems which may have occurred. This summary contains:

- Listing of user-supplied override data
- Assumptions and defaults exercised
- Base year and projected fuel mix
- Automobile emission factors for the projection year
- Other related projection data developed by the program.

Any errors encountered during program execution are also included in the output. Standard error messages include:

- Coding errors for user-supplied data
- Any inability of the program to locate reference data from mass storage files.

Diagnostic messages explaining the path followed during program execution to overcome these errors are included in the printout. A summary printout of the REPS system for a typical projection scenario is given in Figure 3.3.2a.

PROJECTION DATA OF AGCR 70 FOR PROJECTION YEAR OF 1980 FOR BASE YEAR OF 1974

MISCELLENOUS O*B*E*R*S GROWTH DATA

YEAR	POPULATION (GPOP)	C/I EMPLOYMENT (GEMPL)	MIL-EMPLOYMENT (GEMPM)	INDUSTRIAL GROWTH (CGPO)	
	.2004+07	.6241+03	.3405+01	.3827+07	1974 YEAR VALUE
1	1.012	1.023	.972	1.043	PROJECTED GROWTH MULTIPLIER
2	1.025	1.056	.946	1.088	PROJECTED GROWTH MULTIPLIER
4	1.038	1.080	.919	1.134	PROJECTED GROWTH MULTIPLIER
5	1.051	1.114	.892	1.180	PROJECTED GROWTH MULTIPLIER
6	1.064	1.140	.867	1.225	PROJECTED GROWTH MULTIPLIER
7	1.077	1.164	.841	1.271	PROJECTED GROWTH MULTIPLIER
8	1.091	1.188	.928	1.314	PROJECTED GROWTH MULTIPLIER
9	1.105	1.209	.814	1.357	PROJECTED GROWTH MULTIPLIER
10	1.119	1.228	.800	1.401	PROJECTED GROWTH MULTIPLIER
11	1.133	1.245	.785	1.444	PROJECTED GROWTH MULTIPLIER
12	1.147	1.263	.771	1.487	PROJECTED GROWTH MULTIPLIER
13	1.162	1.281	.756	1.538	PROJECTED GROWTH MULTIPLIER
14	1.177	1.300	.741	1.589	PROJECTED GROWTH MULTIPLIER
15	1.192	1.316	.726	1.640	PROJECTED GROWTH MULTIPLIER
16	1.207	1.323	.710	1.691	PROJECTED GROWTH MULTIPLIER
17	1.222	1.335	.694	1.742	PROJECTED GROWTH MULTIPLIER
18	1.236	1.358	.684	1.808	PROJECTED GROWTH MULTIPLIER
19	1.251	1.374	.673	1.874	PROJECTED GROWTH MULTIPLIER
20	1.266	1.385	.662	1.941	PROJECTED GROWTH MULTIPLIER
21	1.280	1.392	.650	2.007	PROJECTED GROWTH MULTIPLIER
22	1.294	1.397	.638	2.073	PROJECTED GROWTH MULTIPLIER
23	1.309	1.409	.627	2.153	PROJECTED GROWTH MULTIPLIER
24	1.324	1.417	.615	2.232	PROJECTED GROWTH MULTIPLIER
25	1.340	1.420	.602	2.312	PROJECTED GROWTH MULTIPLIER
26	1.355	1.416	.590	2.391	PROJECTED GROWTH MULTIPLIER
27	1.370	1.412	.577	2.471	PROJECTED GROWTH MULTIPLIER

FIGURE 3.3.2a
Sample REPS Output

```
** USER OVERRIDE OPTIONS EXERCISED **

(IF ******, DEFAULT VALUE USED)

VARIABLES REFERENCE

GPOP   - OBERS GROWTH IN POPULATION                      GEMPL  - OBERS GROWTH IN CIVILIAN EMPLOYMENT
GEMPM  - OBERS GROWTH IN MILITAPY EMPLOYMENT             GGPG   - OBERS GROWTH IN INDUSTRIAL ACTIVITY
RFPR   - RESIDENTIAL AREA FUELS ARRAY                    RFPC   - COMM-INSTITUTIONAL AREA FUELS ARRAY
RFPI   - INDUSTRIAL AREA FUELS ARRAY                     CR     - SOLID WASTE (RESIDENTIAL) ARRAY
CC     - SOLID WASTE (COMM-INSTIT) ARRAY                 CI     - SOLID WASTE (INDUSTRIAL) ARRAY
GBTU   - GROWTH IN BTU DEMAND                            ERATIO - ELECTRICAL ENERGY RATIO (BTU)
GFV    - GROWTH IN VESSEL FUELS                          UPF    - POINT SOURCES FUEL RATIOS ARRAY
GVMT   - GROWTH IN VEHICLE MILES TRAVELED ARRAY         CFU    - GROWTH IN VEHICLE FUEL USAGE ARRAY
RFU    - VEHICLE FUEL RATIOS ARRAY                       GFA    - GROWTH IN AIRCRAFT LTOS

  PRINT OPTION FOR DETAIL LISTING IS ON

GPOP      1.091   GEMPL  ********   GEMPM  ********   GGPG   ********   ERATIO ********   GBTU   ********   FOR 1977
GPOP      1.078   GEMPL  ********   GEMPM  ********   GGPG   ********   ERATIO ********   GBTU   ********   FOR 1980

                    ** END OF USER OPTIONS **

                 FUEL MIX CALCULATION - OUTPUT SECTION

        ALL EMISSIONS ARE 0 FOR SCC 1020000C1
        ALL EMISSIONS ARE 0 FOR SCC 1020007C1
        ALL EMISSIONS ARE 0 FOR SCC 1020007C1
        ALL EMISSIONS ARE 0 FOR SCC 1020007C7
        ALL EMISSIONS ARE 0 FOR SCC 1020007C7
        UNABLE TO LOCATE BTU FOR SCC 10290998
        ALL EMISSIONS ARE 0 FOR SCC 1030000C2
        ALL EMISSIONS ARE 0 FOR SCC 1030000C3
        ALL EMISSIONS ARE 0 FOR SCC 2010001C1
        ALL EMISSIONS ARE 0 FOR SCC 2010001C1
        ALL EMISSIONS ARE 0 FOR SCC 2010001C1
        ALL EMISSIONS ARE 0 FOR SCC 2010002C1
        ALL EMISSIONS ARE 0 FOR SCC 2010002C1
        ALL EMISSIONS ARE 0 FOR SCC 2010002C1
        UNABLE TO LOCATE BTU FOR SCC 20299997

                END OF NEDS FILE REACHED
```

FIGURE 3.3.2a (Continued)

FUEL MIX RATIOS FOR (BTU EQUIVALENTS) FOR NEDS COMBUSTION CATEGORIES

	X-ELEC	X-INDU	X-C/I	I-ELEC	I-INDU	I-C/I	I-ENGN
ANTHRA/TOTAL	.001	.000	.000	.000	.000	.000	.000
BITUMI/TOTAL	.715	.270	.127	.000	.000	.000	.000
LIGNIT/TOTAL	.000	.000	.000	.000	.000	.000	.000
DISTIL/TOTAL	.100	.320	.092	.000	.000	.000	.000
RESIDU/TOTAL	.083	.035	.015	.590	.000	.000	.000
NATGAS/TOTAL	.090	.388	.760	.405	1.000	.000	.000
PROGAS/TOTAL	.000	.000	.000	.000	.000	.000	.000
COKE /TOTAL	.000	.000	.000	.000	.000	.000	.000
WOOD /TOTAL	.000	.000	.000	.000	.000	.000	.000
LP GAS/TOTAL	.000	.000	.002	.000	.000	.000	.000
BAGASS/TOTAL	.000	.000	.000	.000	.000	.000	.000
SWCCAL/TOTAL	.000	.000	.000	.000	.000	.000	.000
DIESEL/TOTAL	.000	.000	.000	.002	.000	.000	.000
GASOLN/TOTAL	.000	.000	.000	.000	.000	.000	.000
ACFUEL/TOTAL	.000	.000	.000	.000	.000	.000	.000
TOTALBTU	.209+08	.305+08	.328+07	.141+07	.394+05	.000	.000

GROWTH MULTIPLIERS FOR COMBUSTION CATEGORIES

YEAR	X-ELEC	X-INDU	X-C/I	I-ELEC	I-INDU	I-C/I	I-ENGN
1	1.000	1.000	1.000	1.000	1.000	.000	.000
2	.999	.990	.550	.996	.993	.000	.000
3	.995	.980	.933	.995	.983	.000	.000
4	.990	.973	.990	.992	.973	.000	.000
5	.990	.974	.935	.990	.964	.000	.000
6	.988	.960	.954	.986	.956	.000	.000
7	.986	.940	.994	.986	.949	.000	.000
8	.981	.926	.992	.981	.938	.000	.000
9	.976	.927	.991	.976	.927	.000	.000
10	.972	.916	.989	.972	.918	.000	.000
11	.968	.909	.988	.968	.909	.000	.000
12	.964	.901	.987	.964	.901	.000	.000
13	.959	.891	.986	.959	.891	.000	.000
14	.955	.881	.984	.955	.881	.000	.000
15	.950	.872	.983	.950	.872	.000	.000
16	.946	.863	.980	.946	.863	.000	.000
17	.943	.855	.981	.943	.855	.000	.000
18	.939	.846	.979	.938	.846	.000	.000
19	.934	.838	.977	.934	.838	.000	.000
20	.930	.830	.975	.930	.830	.000	.000
21	.926	.823	.974	.926	.823	.000	.000
22	.922	.816	.972	.922	.816	.000	.000
23	.918	.807	.971	.918	.807	.000	.000
24	.914	.799	.969	.914	.799	.000	.000
25	.910	.792	.968	.910	.792	.000	.000
26	.906	.785	.966	.906	.785	.000	.000
27	.902	.778	.965	.902	.778	.000	.000

FIGURE 3.3.2a (Continued)

FUEL MIX RATIOS FOR (BTU EQUIVALENTS) FOR NEDS SOLID WASTE CATEGORIES

	SW-GOV	SW-C/I	SW-IND
MUNC I/TOTAL	1.000	1.000	1.000
OPEN B/TOTAL	.000	.000	.000
APT IN/TOTAL	.000	.000	.000
PR BUR/TOTAL	.000	.000	.000
INCINE/TOTAL	.000	.000	.000
AUTO B/TOTAL	.000	.000	.000
TOTALBTU	.146+06	.538+03	.117+06

GROWTH MULTIPLIERS FOR SOLID WASTE CATEGORIES

YEAR	SW-GOV	SW-C/I	SW-IND
1	1.000	1.000	1.000
2	1.013	1.018	1.018
3	1.045	1.045	1.045
4	1.061	1.061	1.061
5	1.079	1.079	1.079
6	1.107	1.107	1.107
7	1.134	1.134	1.134
8	1.143	1.148	1.148
9	1.171	1.171	1.171
10	1.196	1.196	1.196
11	1.220	1.220	1.220
12	1.244	1.244	1.244
13	1.243	1.248	1.240
14	1.530	1.530	1.530
15	1.803	1.808	1.808
16	2.035	2.065	2.085
17	2.362	2.362	2.362
18	2.632	2.632	2.632
19	2.902	2.902	2.902
20	3.170	3.170	3.170
21	3.435	3.435	3.435
22	3.697	3.697	3.697
23	3.958	3.958	3.958
24	4.216	4.216	4.219
25	4.471	4.471	4.471
26	4.724	4.724	4.724
27	4.975	4.975	4.975

FIGURE 3.3.2a (Continued)

LISTING OF PROJECTED POINT RECORDS (.001 TONS)

SCC	PART	SOX	NOX	HC	CO	GROWTH	PROCESSING MESSAGES (PRIOR TO RECORD)
							UNABLE TO LOCATE MAPS SCC FOR 1010C102 USING 1010C199
							COMP-STATUS SCC 1010C101 ALTERED TO MATCHED NEDS 1010C102
							COMPLIANCE STATUS DATA (USER SUPPLIED) FOR YEAR(2)
							CONTROL % (EXISTING) -1.00 -1.00 -1.00 -1.00 -1.00
							CONTROL % (NEW) 98.00 90.00 -1.00 -1.00 -1.00
1010C102	137225	1007131	57111	1850	55492	.9800	KEY = 20228C 1 1
							UNABLE TO LOCATE MAPS SCC FOR 1010C201 USING 1010C299
							COMPLIANCE STATUS DATA (USER SUPPLIED) FOR YEAR(2)
							CONTROL % (EXISTING) -1.00 -1.00 -1.00 -1.00 -1.00
							CONTROL % (NEW) 98.00 90.00 -1.00 -1.00 -1.00
1010C201	333582	42637754	1234013	130	500	.9300	KEY = 26168C 3 2
							UNABLE TO LOCATE MAPS SCC FOR 1010C201 USING 1010C299
							COMPLIANCE STATUS DATA (USER SUPPLIED) FOR YEAR(2)
							CONTROL % (EXISTING) -1.00 -1.00 -1.00 -1.00 -1.00
							CONTROL % (NEW) 98.00 90.00 -1.00 -1.00 -1.00
1010C201	439344	52523600	1079486	200	600	.9360	KEY = 26168C 3 3
							UNABLE TO LOCATE MAPS SCC FOR 1010C201 USING 1010C299
							COMPLIANCE STATUS DATA (USER SUPPLIED) FOR YEAR(2)
							CONTROL % (EXISTING) -1.00 -1.00 -1.00 -1.00 -1.00
							CONTROL % (NEW) 98.00 90.00 -1.00 -1.00 -1.00
1010C201	1343	22527	13311	133	444	.9360	KEY = 26428C 38 1
							UNABLE TO LOCATE MAPS SCC FOR 1010C201 USING 1010C299
							COMPLIANCE STATUS DATA (USER SUPPLIED) FOR YEAR(2)
							[illegible]
							[illegible]
50300101	3030	1242	1430	2430	4060	1.1330	KEY = 146900 21 2
	0	0	0	0	0		
							UNABLE TO LOCATE MAPS SCC FOR 50300101 USING 50300199
							COMPLIANCE STATUS DATA (USER SUPPLIED) FOR YEAR(1)
							CONTROL % (EXISTING) -1.00 -1.00 -1.00 -1.00 -1.00
							CONTROL % (NEW) 98.00 -1.00 -1.00 -1.00 -1.00
50300101	6833	27930	33024	30324	111740	1.1330	KEY = 146900 2515
	195	0	0	0	0		
							UNABLE TO LOCATE MAPS SCC FOR 50300102 USING 50300199
							COMP-STATUS SCC 50300101 ALTERED TO MATCHED NEDS 50300102
							COMPLIANCE STATUS DATA (USER SUPPLIED) FOR YEAR(1)
							CONTROL % (EXISTING) -1.00 -1.00 -1.00 -1.00 -1.00
							CONTROL % (NEW) 98.00 -1.00 -1.00 -1.00 -1.00
50300102	2100	414	331	2483	3311	1.1330	KEY = 146980 30 5
	0	0	0	0	0		

END OF POINT RECORDS - NEDS

FIGURE 3.3.2a (Continued)

PRELIMINARY TRANSPORATION DATA

COMPUTED EMISSION FACTORS (GRAMS/MILE)

	CO	HC	NOX	PART	SOX
LT DUTY GAS	.200+02	.234+01	.203+01	.403+00	.404-01
HV DUTY GAS	.127+02	.102+02	.124+02	.350+00	.280+00

PROJECTED AREA DATA

ACTIVITY	ABBREV	UNITS
ANTHRACITE COAL	ANTH	10**1 TONS
BITUMINOUS COAL	BITU	10**1 TONS
DISTILLATE OIL	DIST	10**4 GALS
RESIDUAL OIL	RESID	10**4 GALS
NATURAL GAS	N/G	10**7 CU FT
WOOD	WOOD	10**1 TONS
PROCESS GAS	P/GAS	10**7 CU FT
COKE	COKE	10**1 TONS
ON SITE INCINERATION	INCIN	10**2 TONS
OPEN BURNING	BURN	10**2 TONS
EVAPORATION - SOLVENT PURCHASED	SOLV	TONS PER YR
EVAPORATION - GASOLINE MARKETED	GAS	10**5 GALS
GASOLINE - LIGHT DUTY VEHICLE	G/LGT	10**3 GALS
GASOLINE - HEAVY DUTY VEHICLE	G/HVY	10**3 GALS
GASOLINE - OFF HIWAY VEHICLE	G/OFH	10**3 GALS
DIESEL - HEAVY DUTY VEHICLE	D/HVY	10**3 GALS
DIESEL - OFF HIWAY VEHICLE	D/OFH	10**4 GALS
DIESEL - RAIL LOCOMOTIVE	RAIL	10**4 GALS
AIRCRAFT - MILITARY	MILT	10**1 LTO
AIRCRAFT - CIVIL	CIV	10**1 LTO
AIRCRAFT - COMMERCIAL	COMM	10**1 LTO
VEHICLE MILES - LIMITED ACCESS	L/ACC	10**4 MILE
VEHICLE MILES - RURAL ROADS	RURAL	10**4 MILE
VEHICLE MILES - SUBURBAN ROADS	SUBUR	10**4 MILE
VEHICLE MILES - URBAN ROADS	URBAN	10**4 MILE

PROJECTED AREA DATA FOR STATE 14, COUNTY 320

RES FU *	ANTH =	1	BITU =	230	DIST =	165	RESID=	0	N/G =	34	WOOD =	2							
C/I FU *	ANTH =	0	BITU =	0	DIST =	22	RESID=	25	N/G =	29	WOOD =	0							
IND FU *	ANTH =	0	BITU =	42	COKE =	0	DIST =	1	RESID=	0	N/G =	6	WOOD =	0	P/GAS=	0			
RS INC *	INCIN=	235	BURN =	31															
IND IN *	INCIN=	41	BURN =	8															
C/I IN *	INCIN=	14	BURN =	3															
SOLVEN *	SOLV =	43																	
GAS EV *	GAS =	154																	
VEH FU *	G/LGT=	11078	G/HVY=	968	G/OFH=	680	D/HVY=	500	D/OFH=	5	RAIL =	7							
AIRCRA *	MILT =	0	CIV =	0	COMM =	0													

FIGURE 3.3.2a (Continued)

```
VESSEL •   ANTH =      0  DIST =      0  RESID=      0  GAS  =      0
VMT    •   L/ACC=   2294  RURAL=   3571  SUBUR=   7125  URBAN=   3290

                    PROJECTED AREA DATA FOR STATE 14, COUNTY 1440

RES FU •   ANTH =      0  BITU =    430  DIST =    133  RESID=      0  N/G  =     79  WOOD =      2
C/I FU •   ANTH =      0  BITU =      0  DIST =     50  RESID=     37  N/G  =     52  WOOD =      0
[illegible]
AIRCRA •   MILT =      0  DIV  =      0  COMM =      0
VESSEL •   ANTH =      0  DIST =    330  RESID=      0  GAS  =   1070
VMT    •   L/ACC=      0  RURAL=      0  SUBUR=      0  URBAN=      0

                    PROJECTED AREA DATA FOR STATE 20, COUNTY 4230

RES FU •   ANTH =      0  BITU =     34  DIST =   2154  RESID=      0  N/G  =   2477  WOOD =      0
C/I FU •   ANTH =      0  BITU =  11540  DIST =   2432  RESID=      0  N/G  =   2551  WOOD =      0
IND FU •   ANTH =      0  BITU =  22223  COKE =      0  DIST =   3550  RESID=   1271  N/G  =   1906  WOOD =      0  F/GAS=      0
RS INC •   INCIN=     30  BURN =      0
IND IN •   INCIN=    635  BURN =      0
C/I IN •   INCIN=    373  BURN =      0
SOLVEN •   SOLV =   7500
GAS EV •   GAS  =   3331
VEH FU •   G/LCT= 1859000  G/HVY=  27200  D/OFH=   1600  D/HVY=   8100  D/OFH=    767  RAIL =   1550
AIRCRA •   MILT =      0  DIV  =      0  COMM =      0
VESSEL •   ANTH =      0  DIST =      2  RESID=      1  GAS  =     10
VMT    •   L/ACC= 103354  RURAL=      0  SUBUR=      0  URBAN= 103854

                                   END OF AREA RECORDS - NEDS

                    SUMMARY COUNTS FOR NEDS RECORDS

                 EXTCMB INTCMB INDPRC  EVAPT SLOWLT MISCPT AREASC  TRANS  ERROR

SUBROUTINE CNT =    330     13    533    241     12      0     12     12    733

 TOTAL RECORDS
        1313
```

FIGURE 3.3.2a (Continued)

BASE AND PROJECTED POINT SOURCE EMISSION SUMMARY
(EMISSIONS IN TONS)

SCC GROUP	YEAR	PART	SOX	NOX	HC	CO	NUMBER
101.	BASE YEAR EMISSIONS	43375.3	1025942.4	240607.3	1830.4	5470.5	108.0
	PROJECTION YEAR	10186.1	611503.2	235821.3	1350.0	5379.9	
	% CHANGE	-75.1	-40.4	-1.5	-1.4	-1.4	
102.	BASE YEAR EMISSIONS	16030.1	57744.4	14941.0	489.9	973.3	210.0
	PROJECTION YEAR	6875.7	51133.2	14084.1	464.9	923.7	
	% CHANGE	-57.9	-11.5	-5.1	-5.1	-5.1	
103.	BASE YEAR EMISSIONS	1373.9	2238.7	342.8	57.1	117.3	72.0
	PROJECTION YEAR	636.0	2508.7	581.1	60.4	136.5	
	% CHANGE	-40.3	12.5	13.4	16.4	16.4	
201.	BASE YEAR EMISSIONS	7.3	18.3	630.9	296.4	70.3	17.0
	PROJECTION YEAR	7.2	13.3	627.0	292.2	69.3	
	% CHANGE	-1.4	-1.4	-1.4	-1.4	-1.4	
202.	BASE YEAR EMISSIONS	.0	.0	28.3	.0	.0	2.0
	PROJECTION YEAR	.0	.0	27.4	.0	.0	
	% CHANGE	.0	.0	-5.1	.0	.0	
301.	BASE YEAR EMISSIONS	518.0	3563.0	1343.0	2747.0	2840.0	44.0
	PROJECTION YEAR	704.2	6043.0	1322.3	2626.2	2715.0	
	% CHANGE	-13.9	-36.4	-.6	-4.4	-4.4	
302.	BASE YEAR EMISSIONS	1433.0	.0	.0	.0	.0	35.0
	PROJECTION YEAR	1086.9	.0	.0	.0	.0	
	% CHANGE	-24.2	.0	.0	.0	.0	
303.	BASE YEAR EMISSIONS	229007.0	68772.0	73.1	1576.1	2644503.7	46.0
	PROJECTION YEAR	231431.1	83695.0	74.2	1601.3	2594170.3	
	% CHANGE	1.0	1.0	1.5	1.5	1.5	
304.	BASE YEAR EMISSIONS	376.8	1127.5	39.4	16.5	1482.0	73.0
	PROJECTION YEAR	340.1	1140.0	40.0	16.7	1504.3	
	% CHANGE	-9.3	1.3	1.5	1.5	1.5	
305.	BASE YEAR EMISSIONS	24222.0	18900.0	2683.2	537.0	2.0	175.0
	PROJECTION YEAR	15527.1	13335.0	2552.1	509.6	1.9	
	% CHANGE	-54.0	-5.1	-5.1	-5.1	-5.2	
306.	BASE YEAR EMISSIONS	5975.0	38025.4	11350.6	12560.2	141198.9	173.0
	PROJECTION YEAR	1141.0	30205.0	11090.1	11656.5	131032.6	
	% CHANGE	-81.0	-20.0	-7.2	-7.2	-7.2	
307.	BASE YEAR EMISSIONS	7.0	.0	.0	518.0	.0	8.0
	PROJECTION YEAR	7.3	.0	.0	538.2	.0	
	% CHANGE	3.0	.0	.0	3.9	.0	
303.	BASE YEAR EMISSIONS	26.0	.0	.0	.0	.0	2.0
	PROJECTION YEAR	27.1	.0	.0	.0	.0	
	% CHANGE	4.2	.0	.0	.0	.0	

FIGURE 3.3.2a (Continued)

330.	BASE YEAR EMISSIONS	127.3	1723.7	171.7	23.7	24.7	80.0
	PROJECTION YEAR	115.4	1574.0	127.4	22.8	23.6	
	% CHANGE	-9.4	-3.3	-3.3	-3.8	-4.1	
399.	BASE YEAR EMISSIONS	10.0	.0	.0	.0	.0	3.0
	PROJECTION YEAR	10.0	.0	.0	.0	.0	
	% CHANGE	.0	.0	.0	.0	.0	
401.	BASE YEAR EMISSIONS	.0	.0	.0	172.0	.0	8.0
	PROJECTION YEAR	.0	.0	.0	171.5	.0	
	% CHANGE	.0	.0	.0	-.3	.0	
402.	BASE YEAR EMISSIONS	2.0	.0	50.0	17271.1	.0	93.0
	PROJECTION YEAR	2.0	.0	50.0	17441.5	.0	
	% CHANGE	-2.2	.0	.0	1.0	.0	
403.	BASE YEAR EMISSIONS	.0	.0	.0	77115.7	.0	104.0
	PROJECTION YEAR	.0	.0	.0	38352.4	.0	
	% CHANGE	.0	.0	.0	3.3	.0	
405.	BASE YEAR EMISSIONS	.0	.0	.0	621.0	.0	2.0
	PROJECTION YEAR	.0	.0	.0	913.6	.0	
	% CHANGE	.0	.0	.0	47.1	.0	
490.	BASE YEAR EMISSIONS	.0	.0	.0	3221.3	.0	28.0
	PROJECTION YEAR	.0	.0	.0	3340.1	.0	
	% CHANGE	.0	.0	.0	22.5	.0	
499.	BASE YEAR EMISSIONS	.0	.0	.0	2555.3	.0	6.0
	PROJECTION YEAR	.0	.0	.0	2559.3	.0	
	% CHANGE	.0	.0	.0	.0	.0	
501.	BASE YEAR EMISSIONS	514.0	355.1	292.1	219.2	5111.9	5.0
	PROJECTION YEAR	514.0	355.1	292.1	219.2	5111.9	
	% CHANGE	.0	.0	.0	.0	.0	
502.	BASE YEAR EMISSIONS	5.7	1.8	1.5	4.7	8.0	2.0
	PROJECTION YEAR	5.8	1.3	1.7	5.4	9.1	
	% CHANGE	.2	13.4	13.4	13.4	13.4	
503.	BASE YEAR EMISSIONS	20.9	29.2	74.9	36.8	118.4	5.0
	PROJECTION YEAR	21.1	33.1	39.6	41.8	134.2	
	% CHANGE	1.1	13.4	13.4	13.4	13.4	

FIGURE 3. 3. 2a (Continued)

AREA SUMMARY
PERCENT CHANGE IN ACTIVITY

RES FU	7.696%
C/I FU	16.398%
IND FU	27.098%
RS INC	7.665%
IND IN	27.214%
C/I IN	16.254%
SOLVEN	7.697%
GAS EV	7.705%
VEH FU	3.962%
AIRCRA	8.580%
VESSEL	16.310%
VMT	7.633%

PROJECTED VEHICLE EMISSIONS (10**3 TONS)

	CO	HC	NOX	PART	SOX
LIGHT DUTY GASOLINE	245.271	28.713	45.402	5.383	.532
HEAVY DUTY GASOLINE	129.461	9.176	12.548	.794	.243

BASE YEAR REGIONAL POPULATION (000)
OBERC POPULATION = 2804.
NEDS POPULATION = 2465.

FIGURE 3.3.2a (Continued)

3.3.3 OPTIONS FOR USERS TO INPUT ADDITIONAL DATA

The REPS system is complete and autonomous to the extent that the program automatically accesses all the input data described previously to project a complete emission inventory. However, there is provision in the system for extensive user input and override capability. Override data supercedes or replaces those parameters calculated automatically by the system which are used to forecast changes in pollution-producing activity levels. The general categories of data which may be overriden include:

- All economic and demographic growth factors (SCC-specific)
- Projected fuel use and fuel mix
- Projected transportation activity.

In addition the user may enter new data into the system which supplements rather than overrides existing data. The user may specify local emission control regulations which are more stringent than Federal standards. The user may also input emissions inventory data for new point sources expected to be operational in the future but which are not already included in either the base year inventory or in the data on new facilities for the five critical industries read by the program at the option of the user.

3.3.4 POTENTIAL APPLICATIONS

The REPS system is a tool which may be used to support any program which involves estimating future emission levels. The primary goal of the REPS system design and development effort was to achieve maximum flexibility, as exemplified by the comprehensive capability of the system to accept user supplied data.

In particular the system may be used for the following applications:

- Projected emissions, aggregated by emission source category, may be used to identify the future major pollution source categories in a region
- The projected percent change in emissions from the base year may be determined for aggregated emission source categories
- Emissions may be projected for alternate regional growth scenarios to determine the sensitivity of the projections to estimated growth rates
- The projection scenario approach may also be used to evaluate alternate emission control strategies.

The system is particularly well suited to projecting the effect of alternative growth/control scenarios mentioned above because of the ease in modifying existing data or entering additional data into the model, and because of the relatively efficient operation of the REPS program from a computer systems standpoint. The flexibility which is characteristic of the REPS system maximizes its utility for the above applications and other potential uses.

The CAASE gridding procedure* provides an objective method for constructing the grid system required to allocate countywide area source emissions. It also provides for the allocation of the emissions and activities associated with the various area source categories into that grid system. The grid sizes selected are mainly functions of the population density in a region. Thus, in an urbanized area with high population density the grids might have sides on the order of 1 km in length, while a more rural area might be represented by grids with sides of up to 30 km in length.

There are five main functions performed by the CAASE analysis package. These are:

a. Abstract population data and convert geographic coordinates from latitude-longitude to UTM (Universal Transverse Mercator) coordinates.

b. Plot "population circles" on a map of the study area.

c. Draw to scale a complete map of the entire AQCR portraying the grid system developed earlier (by manual means).

d. Assign apportioning values (factors) to each grid square.

e. Apportion "fuel" categories (i.e., NEDS activity levels) into each individual grid square and calculate the emissions of each pollutant for each grid square. (Actually, the total emissions for the county are calculated by the same means as are used in the NEDS programs, then the county totals for the five criteria pollutants are apportioned out to each grid square.)

Examples of the maps provided in items b and c, above, are shown in Figures 3.4.0.a and 3.4.0.b. Figure 3.4.0.c shows the result of the manual step+ wherein the population circles are used to develop the grid system for the county under study. If an entire AQCR is to be investigated, each county within it is handled separately.

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*The CAASE System is not currently operational on the EPA Univac 1110 computer. The conversion from IBM to Univac will be under the direction of the Source Receptor Analysis Branch of the Monitoring and Data Analysis Division. All questions should be directed to Chief, Computation Section, Source Receptor Analysis Branch.

+The manual step will be replaced by an automatic gridding procedure during FY 1976.

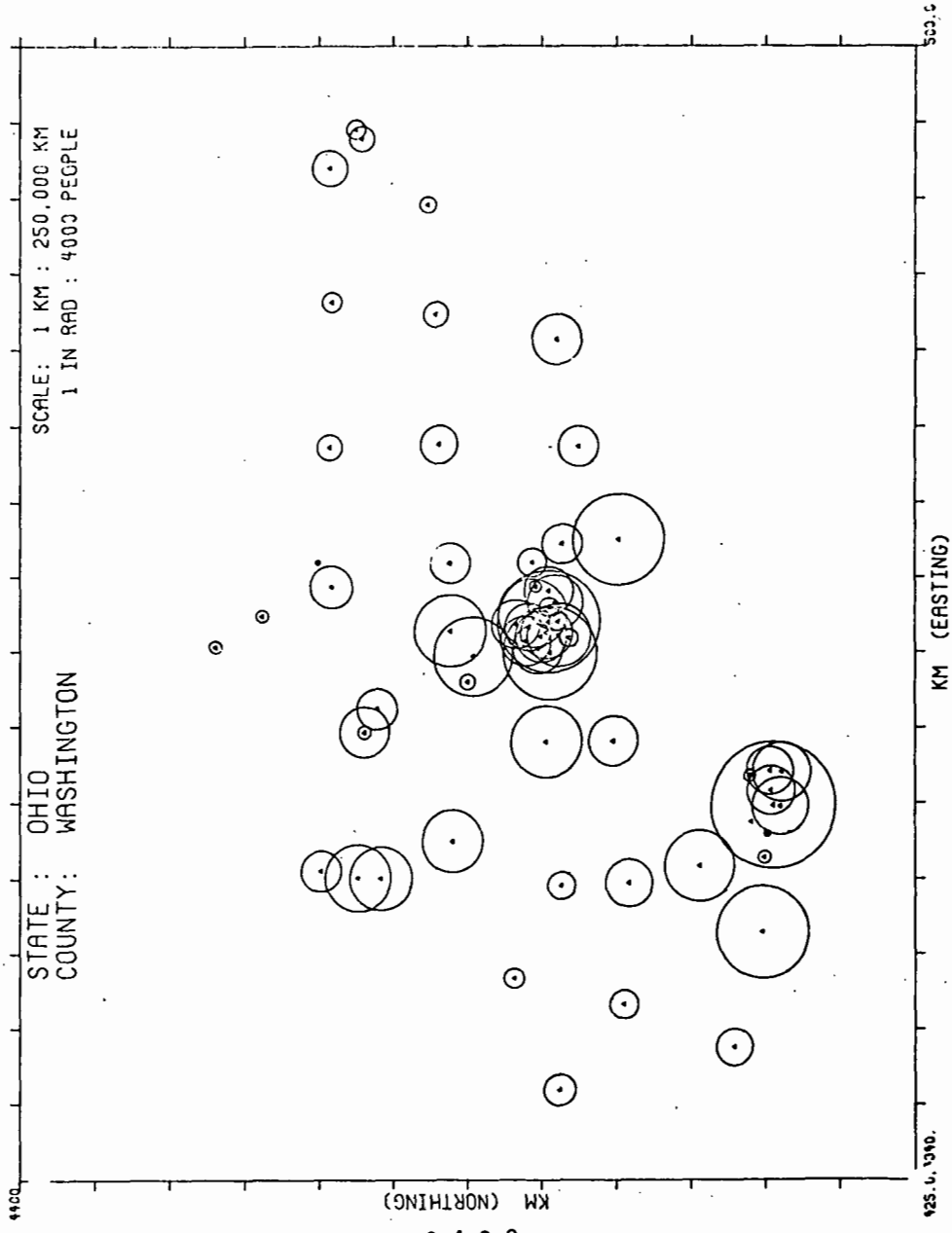

Figure 3.4.0.a. Example of Plotter Output from CAASE2

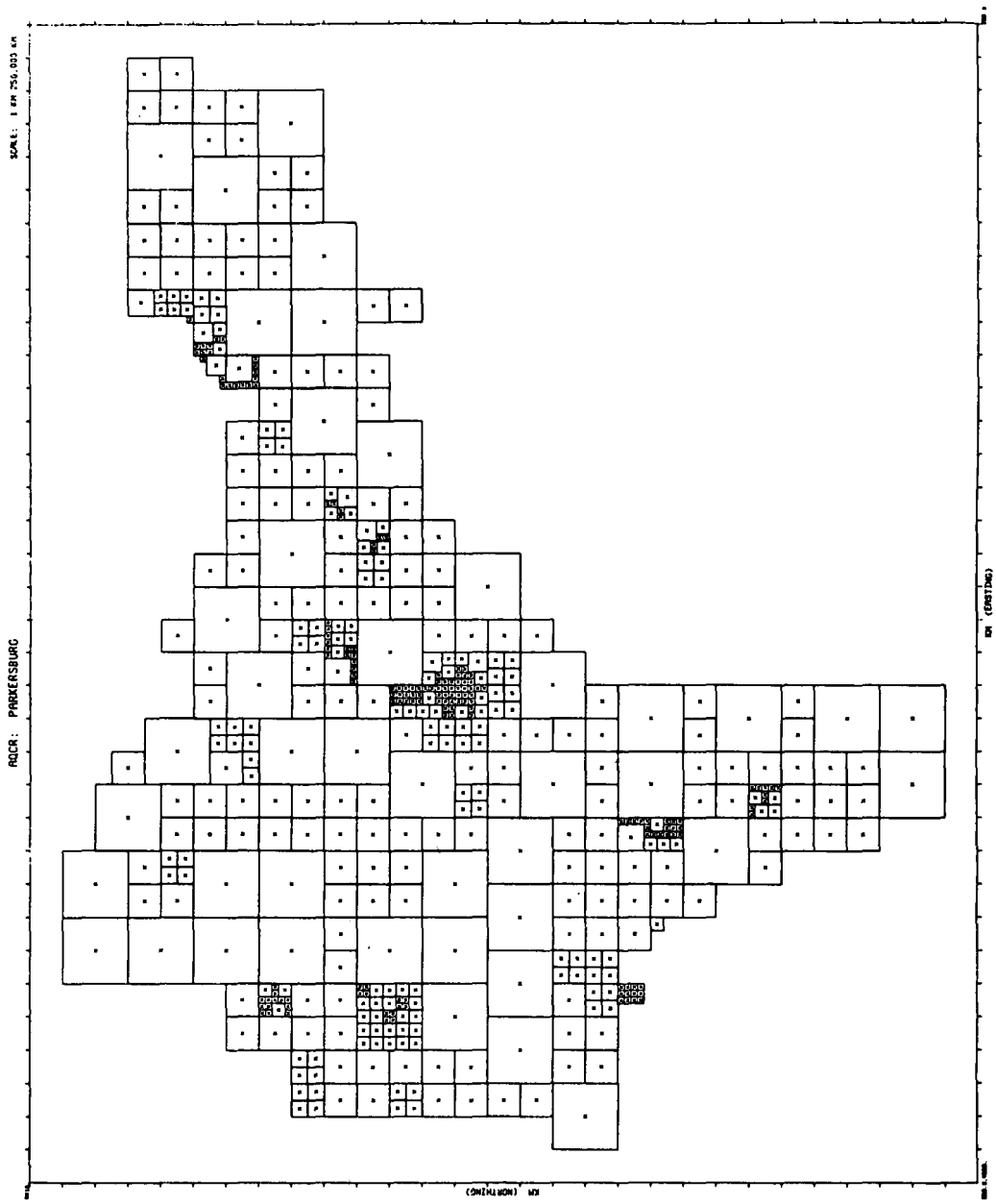

Figure 3.4.0.b. Example of Plotter Output from CAASE3

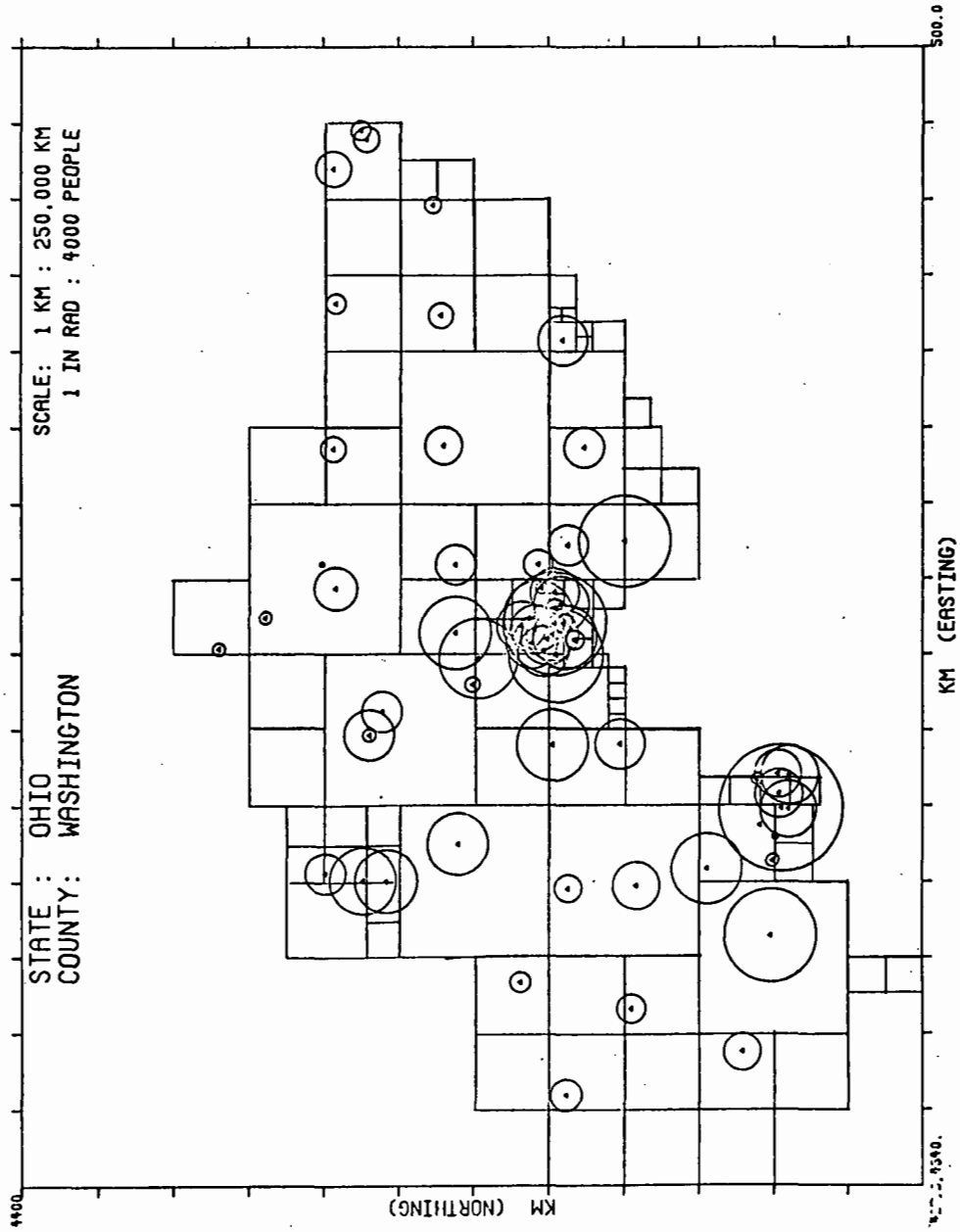

Figure 3.4.0.c. Example of Completed County Grid, Washington County, Ohio

As far as the general user is concerned, there are, in addition to the intermediate outputs generated during the process of developing the final outputs, two major and two minor reports. These are:

a. Apportioned Fuels Table
b. Tables of Apportioned Emissions of Each Pollutant
c. Contribution of Each Scouce Category to the County Total for Each Pollutant
d. Data for IPP System (the Air Quality Implementation Planning Program)*

One of the intermediate outputs that can be of value to the general user is the map of the derived grids for the AQCR. Although not considered to be one of the final products of the CAASE Analysis Package, the gridded map of the study area can be helpful in forming a mental image of the relationships among the various factors such as population density, area source "fuel" categories, and area source emissions over a county.

Examples of the four final outputs produced by the CAASE System are shown in Figures 3.4.0.d through 3.4.0.g.

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*Under a proposed FY 1976 effort, input data for CDM and ADQM will also be options of the CAASE user.

```
AIR QUALITY CONTROL REGION IS PARKERSBURG-MARIETTA
     NO. OF STATE(S) INCLUDED IS    2


     THE STATE OF OHIO                HAS     4 COUNTY(S)

    COUNTY WASHINGTON

 39311671671005210402            131141080301LOWELL                                0011 1   10   293.    852.
     0.81509800000000000D 02  0.39535200000000000 02   17          456.19          4376.08

 39311671671005     7            131141080301REMAINDER OF MCD (OR CCD)             0012 1   10   366.   1054.
     0.81527700000000000D 02  0.39542800000000000 02   17          454.66          4376.94

 39311671671010239040 1          131141080301MACKSBURG                             0009 1   10   103.    266.
     0.81462500000000000D02   0.39633200000000000D 02   17          460.31          4386.94


 39311671671020035540 7           60201311410803 01BELPRE                        0201   0056 0   10   800.   2635.
     0.81581800000000000D 02  0.39295200000000000D 02   17          449.83          4349.48

    FOR COUNTY WASHINGTON          XMIN,YMIN=          430.93          4348.92      XMAX,YMAX=          494.51          4386.94
   MINIMUM X-AXIS=          10.01 IN.   MINIMUM Y-AXIS=              5.99IN.

        COUNTY NAME                 CODE NO.          NO. OF RECORDS WRITTEN ON TAPE

         ATHENS                        9                55

         MEIGS                       105                28

         MORGAN                      115                21

         WASHINGTON                  167                64

    THE STATE OF WEST VIRGINIA       HAS     5 COUNTY(S)

        COUNTY NAME                 CODE NO.          NO. OF RECORDS WRITTEN ON TAPE

         JACKSON                      35                24

         PLEASANTS                    73                12

         TYLER                        95                15

         WETZEL                      103               131


GOOD FINISH
```

Figure 3.4.0.d. Example of a Printout from CAASE1

```
AIR QUALITY CONTROL REGION IS PARKERSBURG-MARIETTA
    TOTAL NO. OF FILES IS   9 WE WANT  1 PLOT(S)


    MAP SCALE IS  6.35()12779 UNITS/KM.
    CIRCLE SCALE IS 1 IN. RADIUS /    4000.PEOPLE


    THIS COUNTY IS WASHINGTON

XNEW,YNEW,POPNEW =   0.491179E 01    0.568158E 01    0.213000E 00

XNEW,YNEW,POPNEW =   0.467084E 01    0.581692E 01    0.263500E 00

XNEW,YNEW,POPNEW =   0.556059E 01    0.739172E 01    0.664999E-01

XNEW,YNEW,POPNEW =   0.588501E 01    0.690205E 01    0.657499E-01

XNEW,YNEW,POPNEW =   0.307713E 01    0.372416E 01    0.143000E 00

XNEW,YNEW,POPNEW =   0.310550E 01    0.301365E 01    0.246250E 00

XNEW,YNEW,POPNEW =   0.426768E 01    0.152743E 01    0.247500E 00

XNEW,YNEW,POPNEW =   0.425665E 01    0.140440E 01    0.306250E 00

XNEW,YNEW,POPNEW =   0.406295E 01    0.151636E 01    0.253000E 00

XNEW,YNEW,POPNEW =   0.391020E 01    0.149237E 01    0.658750E 00

        AQCR PARKERSBURG-MARIETTA COMPLETED
        COUNTY NAME                    CODE NO.          NO. OF DISTRICTS PLOTTED

         WASHINGTON                     167                 64


GOOD FINISH
```

Figure 3.4.0.e. Example of a Printout from CAASE2

AQCR IS PARKERSBURG

BOX	XPOINT	YPOINT	SIDE	COUNTY
173	425.0	4359.0	5.0	WASHT
174	425.0	4355.0	5.0	WASHT
175	425.0	4369.0	5.0	WASHT
176	430.0	4345.0	5.0	WASHT
177	430.0	4355.0	5.0	WASHT

Figure 3.4.0.f. Example of a Printout from CAASE3

```
        9 179     0 ATHE
        0  WEIGHTING FACTOR CARDS WERE READ IN

POPULATION CENTER WITHOUT A GRID            9      397.040      4374.578     954.     357.

ATHE  COUNTY HAD   90  GRID BOXES
      105 179     0 MEIG
        0  WEIGHTING FACTOR CARDS WERE READ IN

POPULATION CENTER WITHOUT A GRID          105      413.570      4317.316     684.     268.

MEIG  COUNTY HAD   57  GRID BOXES
      115 179     0 MORG
        0  WEIGHTING FACTOR CARDS WERE READ IN
```

Figure 3.4.0.g. Example of a Printout from CAASE4

3.4.1.1 APPORTIONED FUELS

3.4.1.1.1 GENERAL DESCRIPTION

The CAASE system was developed for the purpose of allocating in as objective a manner as possible the area source emissions from an entire county into an appropriate grid network that reflects, by the various grid sizes used, the distribution of population throughout the county of interest. Because the data, once allocated, are to be used in air quality models and also for evaluation of SIP's, the grid sizes should permit sufficient detail in the derived distribution of emissions to permit the use of such models without engendering excessive amounts of data through too great a resolution of the data. The objective of the CAASE method is to improve the representation of the area source emissions in a given county or AQCR by disaggregating the total emissions for the study area into a more finely meshed network or grid system. The outputs of the system reflect this objective.

The first of these outputs, the Apportioned Fuels Table, is shown in Figures 3.4.1.a to 3.4.1.e. The Table is in five parts to allow for the inclusion of all 54 of the so-called "fuel" types (these are actually the area source categories listed on pages 38 and 90 of the CAASE User's Manual, EPA-450/3-74-035, January 1974). Because all except 6 of these 54 categories involve some sort of combustion process, it is quite appropriate to refer to them as "fuels." Each "fuel" type appears in one of the columns of the table. Because each page can hold only 45 grid squares, a single county may require several pages for each of the five tables required to display all of the allocated "fuels" for the area source categoreis.

Every page contains, in addition to the columnar data that make up the body of the report, a "header" line at the top of the page giving the name of the county, the name of the AQCR, and the title of the report; e.g., "Apportioned Fuels, Table 1, page 1," etc., for each page of each of the five tables. Besides this information, each page also shows, in the first two columns, the number for each source and a four-letter abbreviation of the county name. In addition to this information, the first page of the first table contains five columns of extra identification including the AQCR number, the Political Jurisdiction, the X- and Y- coordinates to the nearest tenth of a kilometer of the lower lefthand (southwest) corner of the grid square, and the area of the grid in square kilometers. The first page of the report lists, for each of the grids on the page (up to 45 grids), the first six area source categories and subcategories. The second page, if required, lists the apportioned "fuels" for the same six categories for the next block of up to 45 grid squares, and so on until all grids in the county have been accounted for. The next listing, Table 2, is for the first 45 grids again, for the next 14 area source categories, one for each of 14 columns across the page, followed by the same "fuels" for the next set of grid squares, and so on as for Table 1. Table 3

contains the "fuels" data for the next 12 source categories, items 21 through 32 on the referenced list of Area Source Emissions Categories. Table 4 sets forth the data for the next 13 categories, items 33 through 45, and Table 5 displays the data for the last nine items.

3.4.1.1.2 SAMPLE REPORT

Figures 3.4.1.a. through 3.4.1.e. show a sample printout of the apportioned fuels table.

3.4.1.2 APPORTIONED EMISSIONS

3.4.1.2.1 GENERAL DESCRIPTION

As with the previous report, there are five tables for each complete set of 54 NEDS area source categories. In this case, however, there are 25 tables in all since the emissions for each of the five criteria pollutants are described separately (i.e., each is identical to that of the Apportioned Fuels Report (see paragraph 3.4.1.1 for details). Because the formats are exactly the same, only the first page of the first table for particulates is shown in the sample report for this paragraph.

3.4.1.2.2 SAMPLE REPORT

Figure 3.4.1.f. shows an apportioned emissions table. The tables are always printed in the following sequence by pollutant type:

a. Suspended Particulates (SP)
b. Sulfur Dioxide (SO_2)
c. Nitrogen Oxides (NO_x)
d. Hydrocarbons (HC)
e. Carbon Monoxide (CO)

WASHINGTON COUNTY, OHIO (PARKERSBURG-MARIETTA AQCR) APPORTIONED FUELS, TABLE 1, PAGE 1

SOURCE NUMBER	REGION	POLIT JURIS	COUNTY	COORDINATES X(KM)	Y(KM)	(SQ.KM)	RESIDENTIAL FUEL ANTH. 10E1T	BITUM. 10E1T	DIST.OIL 10E4GALS	RES.OIL 10E4GALS	NAT.GAS 10E/FTS	WOOD 10E2T
173	179		WASH	425.0	4350.0	25.00	0.	0.	0.	0.	0.	0.
174	179		WASH	425.0	4350.0	25.00	0.	0.	0.	0.	0.	0.
175	179		WASH	425.0	4360.0	25.00	0.	0.	0.	0.	0.	0.
176	179		WASH	430.0	4345.0	25.00	0.	0.	0.	0.	0.	0.
177	179		WASH	430.0	4350.0	25.00	0.	5.	2.	0.	4.	0.

Figure 3.4.1.a. Example of CAASE5 Output Table 1, Apportioned Fuels

WASHINGTON COUNTY, OHIO (PARKERSBURG-MARIETTA AQCR) APPORTIONED FUELS, TABLE 2, PAGE 1

		COMMERCIAL AND INSTITUTIONAL FUEL						INDUSTRIAL FUEL							
SOURCE NUMBER	COUNTY	ANTH. 10E1T	BITUM. 10E1T	DIST.OIL 10E4GALS	RES.OIL 10E4GALS	NAT.GAS 10E7FT3	WOOD 10E2T	ANTH. 10E1T	BITUM. 10E1T	COKE 10E1T	DIST.OIL 10E4GALS	RES.OIL 10E4GALS	NAT.GAS 10E7FT3	WOOD 10E2T	PROC.GAS 10E7FT3
173	WASH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
174	WASH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
175	WASH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
176	WASH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
177	WASH	0.	10.	5.	0.	0.	0.	0.	34.	0.	1.	0.	1.	0.	0.

Figure 3.4.1.b. Example of CAASE5 Output Table 2, Apportioned Fuels

WASHINGTON COUNTY, OHIO (PARKERSBURG-MARIETTA AQCR) APPORTIONED FUELS, TABLE 3 PAGE 1

SOURCE NUMBER	COUNTY	* ON SITE INCINERATION * RESID. 10E1T	INDUST. 10E2T	C-INST. 10E2T	* * * OPEN BURNING * * * RESID. 10E2T	INDUST. 10E2T	COM.INST. 10E2T	* * * * GASOLINE FUEL * * * * LT.VEH. 10E3GAL	HV.VEH. 10E3GAL	OFF HIWY 10E3GAL	* * * * DIESEL FUEL * * * * HV.VEH. 10E3GAL	OFF HIWY 10E4GAL	RAIL LOCO. 10E4GAL
173	WASH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
174	WASH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
175	WASH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
176	WASH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
177	WASH	7.	1.	0.	1.	0.	0.	285.	57.	47.	30.	10.	0.

Figure 3.4.1.c. Example of CAASE5 Output Table 3, Apportioned Fuels

WASHINGTON COUNTY, OHIO (PARKERSBURG-MARIETTA AQCR) APPORTIONED FUELS, TABLE 4, PAGE 1

SOURCE NUMBER	COUNTY	* * * * AIRCRAFT * * * * * MILIT. LC10E2	CIVIL LC10E1	COMM'L. LC10E1	* * * * * * * * VESSELS * * * * * * * * BITUM. 10E1T	DE. OIL 10E4GAL	RES.OIL 10E4GAL	GAS 10E3GAL	* * EVAPORATION * * SOL.PUR. TONS/YR	GAS.MKTD. 10E5GALS	* * * MEASURED VEHICLE MILES * * * * LTD.ACC. 10E4MI	RUR.EDS. 10E4MI	SUB.RDS. 10E4MI	URB.RDS. 10E4MI
173	WASH	0.	6.	0.	0.	6.	0.	1.	0.	0.	0.	0.	0.	0.
174	WASH	0.	6.	0.	0.	6.	0.	1.	0.	0.	0.	0.	0.	0.
175	WASH	0.	6.	0.	0.	6.	0.	1.	0.	0.	0.	0.	0.	0.
176	WASH	0.	6.	0.	0.	6.	0.	1.	0.	0.	0.	0.	0.	0.
177	WASH	0.	6.	0.	0.	6.	0.	1.	4.	4.	0.	0.	0.	0.

Figure 3.4.1.d. Example of CAASE5 Output Table 4, Apportioned Fuels

WASHINGTON COUNTY, OHIO (PARKERSBURG-MARIETTA AQCR) APPORTIONED FUELS, TABLE 5, PAGE 1

SOURCE NUMBER	COUNTY	DIRT RDS. TRAVELED 10E2MI	DIRT AIR STRIPS LTO CYC	CONSTR. LAND ACR 10E3ACR	ROCK HAND. AND STORG. 10E3T	* * FOREST FIRES * AR.ACRES	QUANT. T/ACR	SLASH BURNING AR.ACRES	QUANT. T/ACR	FROST CONTROL ORCH. HEAT. 10E2	DAYS FIRED DY/YR	STRUC. FIRES #/YR	COAL REF. BANK SIZE 10E2YD3	BURN. NUMBER PER YEAR
173	WASH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
174	WASH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
175	WASH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
176	WASH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
177	WASH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	0.	0.

Figure 3.4.1.e. Example of CAASE5 Output Table 5, Apportioned Fuels

WASHINGTON COUNTY, OHIO (PARKERSBURG-MARIETTA AQCR) APPORTIONED EMISSIONS, TABLE 1, PAGE 1

(PARTICULATE)
(TONS PER YEAR)

SOURCE NUMBER	REGION	POLIT JURIS	COUNTY	COORDINATES X (KM)	Y (KM)	(SQ.KM)	RESIDENTIAL FUEL ANTH.	BITUM.	DIST.OIL	RES.OIL	NAT.GAS	WOOD
173	179		WASH	425.0	4350.0	25.00	0.	0.	0.	0.	0.	0.
174	179		WASH	425.0	4355.0	25.00	0.	0.	0.	0.	0.	0.
175	179		WASH	425.0	4360.0	25.00	0.	0.	0.	0.	0.	0.
176	179		WASH	430.0	4345.0	25.00	0.	0.	0.	0.	0.	0.
177	179		WASH	430.0	4355.0	25.00	0.	0.	0.	0.	0.	0.

Figure 3.4.1.f. Example of CAASE5 Output Table 1, Apportioned Emissions, Particulates

3.4.1.3 COUNTY TOTALS BY SOURCE CATEGORY FOR EACH POLLUTANT

3.4.1.3.1 GENERAL DESCRIPTION

In order to show the contribution of each area source emission category to the total emissions of that pollutant in the county, the county total for each source category is reported for each pollutant, as shown in the sample report. In the example, "pollutant number 1" is suspended particulates, number 2 is sulfur dioxide, number 3 is nitrogen oxides, number 4 is hydrocarbons, and number 5 is carbon monoxide. Below each line identifying one of the five pollutants appear the countywide totals of that pollutant that were determined to come from each of the 54 source categories. There are 10 categories per line, with the last four appearing in the last line. The categories are read from left to right, row by row, in sequence as given in the table on page 38 of the EPA publication referenced in paragraph 3.4.1.1. A copy of that table is shown in Table 3.4.1.a.

3.4.1.3.2 SAMPLE REPORT

Figure 3.4.1.g shows a sample report of emission totals by source category

Table 3.4.1.a. AREA SOURCE EMISSIONS CATEGORY NUMBERS

CATEGORY NUMBER	MAJOR CLASSIFICATION	MINOR CLASSIFICATION
1	RESIDENTIAL FUEL	ANTHRACITE COAL
2	RESIDENTIAL FUEL	BITUMINOUS COAL
3	RESIDENTIAL FUEL	DISTILLATE OIL
4	RESIDENTIAL FUEL	RESIDUAL OIL
5	RESIDENTIAL FUEL	NATURAL GAS
6	RESIDENTIAL FUEL	WOOD
7	COMMERCIAL & INSTITUTIONAL FUEL	ANTHRACITE COAL
8	COMMERCIAL & INSTITUTIONAL FUEL	BITUMINOUS COAL
9	COMMERCIAL & INSTITUTIONAL FUEL	DISTILLATE OIL
10	COMMERCIAL & INSTITUTIONAL FUEL	RESIDUAL OIL
11	COMMERCIAL & INSTITUTIONAL FUEL	NATURAL GAS
12	COMMERCIAL & INSTITUTIONAL FUEL	WOOD
13	INDUSTRIAL FUEL	ANTHRACITE COAL
14	INDUSTRIAL FUEL	BITUMINOUS COAL
15	INDUSTRIAL FUEL	COKE
16	INDUSTRIAL FUEL	DISTILLATE OIL
17	INDUSTRIAL FUEL	RESIDUAL OIL
18	INDUSTRIAL FUEL	NATURAL GAS
19	INDUSTRIAL FUEL	WOOD
20	INDUSTRIAL FUEL	PROCESS GAS
21	ON-SITE INCINERATION	RESIDENTIAL
22	ON-SITE INCINERATION	INDUSTRIAL
23	ON-SITE INCINERATION	COMMERCIAL & INSTITUTIONAL FUEL
24	OPEN BURNING	RESIDENTIAL
25	OPEN BURNING	INDUSTRIAL
26	OPEN BURNING	COMMERCIAL & INSTITUTIONAL FUEL
27	GASOLINE FUEL	LIGHT VEHICLE
28	GASOLINE FUEL	HEAVY VEHICLE
29	GASOLINE FUEL	OFF-HIGHWAY
30	DIESEL FUEL	HEAVY VEHICLE
31	DIESEL FUEL	OFF-HIGHWAY
32	DIESEL FUEL	RAIL LOCOMOTIVE
33	AIRCRAFT	MILITARY
34	AIRCRAFT	CIVIL
35	AIRCRAFT	COMMERCIAL
36	VESSELS	ANTHRACITE COAL
37	VESSELS	DIESEL OIL
38	VESSELS	RESIDUAL OIL
39	VESSELS	GASOLINE
40	EVAPORATION	SOLVENT PURCHASED
41	EVAPORATION	GASOLINE MARKETED
42	MEASURED VEHICLE MILES	LIMITED ACCESS ROADS
43	MEASURED VEHICLE MILES	RURAL ROADS
44	MEASURED VEHICLE MILES	SUBURBAN ROADS
45	MEASURED VEHICLE MILES	URBAN ROADS
46	DIRT ROADS TRAVELED	...
47	DIRT AIRSTRIPS	...
48	CONSTRUCTION LAND AREA	...
49	ROCK HANDLING & STORING	...
50	FOREST FIRES[a]	AREA-ACRES
51	SLASH BURNING[a]	AREA-ACRES
52	FROST CONTROL[b]	ORCHARD HEATERS
53	STRUCTURE FIRES	NUMBER PER YEAR
54	COAL REFUSE BURNING[c]	SIZE OF BANK

[a]Tons/acre also reported; [b]Days/year also reported; [c]Number/year also reported.

TOTALS BY SOURCE CATEGORY FOR POLLUTANT NUMBER 1

1.400	33.500	3.500	0.0	26.030	3.000	0.0	366.049	23.725	0.0
3.175	0.0	0.0	2979.183	0.0	3.525	0.0	4.320	0.0	0.0
73.350	42.000	0.200	31.200	28.000	10.400	0.0	0.0	6.368	0.0
24.410	0.875	0.0	1.229	0.0	0.0	55.375	0.0	0.240	0.0
0.0	0.0	0.0	0.0	0.0	55.375	0.0	0.240	0.240	0.0
0.0	0.0	0.0	0.0	0.0					

TOTALS BY SOURCE CATEGORY FOR POLLUTANT NUMBER 2

0.0	230.000	0.084	0.0	0.522	0.100	0.0	573.496	27.193	0.0
0.096	5.250	1.273	2009.743	0.0	3.337	0.0	0.144	0.0	0.0
1.272	5.250	0.0	0.144	1.750	0.650	0.0	0.0	4.367	0.0
50.760	2.275	0.0	0.0	0.0	0.0	143.975	0.0	0.150	0.0
0.0	0.0	53.540	0.0	35.694	0.0	0.0	0.0	0.0	0.0

FOR POLLUTANT = SP TOTAL EMISSIONS= 3756.954

Figure 3.4.1.g. Contribution of Each Source Category-Pollutant Combination to the County Total

3.4.1.4 IMPLEMENTATION PLANNING PROGRAM (IPP) FORMATTED OUTPUT

3.4.1.4.1 GENERAL DESCRIPTION

One of the important uses for the CAASE system is to provide inputs to certain mathematical or simulation models used extensively within EPA and elsewhere to develop concepts regarding diffusion processes in urban areas and for other purposes as well. One of these models, known as IPP, is used to assist the states in their preparation of State Implementation Plans (SIP's) for the attaining and maintaining of the national ambient air quality standards. In IPP, computer simulation is used to select appropriate emission standards, evaluate the resulting air quality, and determine the costs associated with the various alternative control strategies. The five major IPP reports are used by control strategies personnel for recommending effective air pollution control actions.

One of the most important functions performed by IPP is to develop a "contribution file," which is used to estimate the contribution from each source to each pollutant receptor defined within the region being investigated. As part of this process, the spatial distribution of the emissions of each pollutant being evaluated must be determined throughout the region. The contribution from the area sources within the region is provided by the "IPP-Formatted" output of the CAASE system. Thus, the content of this output consists of certain identifying information plus the total emissions for each grid square of each of the five pollutants from all source categories.

3.4.1.4.2 SAMPLE REPORT

Figure 3.4.1.h. shows a listing of typical IPP formatted output. Because this output is used in the form of a punched-card deck, the printed tabulation is not designed for ease of reading. There are no printed headings and the numbers are not self-explanatory, for the most part. Therefore, a word of explanation is in order. The first three digits on the left are the AQCR number (AQCR #179 is the Parkersburg-Marietta AQCR in Ohio and West Virginia). The next four digits, all nines in this case, are reserved. The 13-digit group contains the coordinates of the grid square, while the next column of 2, 3, or 4 digits gives the area of each grid square. The function of the next column ("33" in the example) is not available. The following five columns contain the totals for each grid square (one line of output per square) of the emissions from all 54 source categories of the five "criteria" pollutants in order; thus, the first of these columns gives the total for a given grid square of suspended particulates, while the next column gives the same information for sulfur dioxide, and so on. The same sequence of pollutants is used as given in paragraph 3.4.1.2.2, above. The next two

columns give, respectively, the state and county codes (Ohio is State No. 36 and Washington County has SAROAD Area Code 7100). This report is a listing of the individual card images provided to IPP by CAASE. It is important to note that all emission rates have been converted from tons/year to tons/day for the purpose of this report, because those are the units used by the IPP Model.

1799999	1730425043500	250	33	0.006	0.002	0.007	0.005	0.011	36	7100	A
1799999	1740425043550	250	33	0.006	0.002	0.007	0.005	0.011	36	7100	A
1799999	1750425043600	250	33	0.006	0.002	0.007	0.006	0.011	36	7100	A
1799999	1760430043450	250	33	0.006	0.002	0.007	0.006	0.011	36	7100	A
1799999	1770430043500	250	33	0.128	0.149	0.213	0.287	1.239	36	7100	A

Figure 3.4.1.h. Example of CAASE5 IPP Card Output

Modeling, which is currently being developed, is a computerized procedure for estimating the parameters required for modeling that are missing from NEDS. The programs produce the necessary input formats for IPP and AQDM models.

Questions concerning this procedure should be directed to Chief, Computation Section, Source Receptor Analysis Branch.

As used in this Section, "User Access" is defined as the set of procedures that must be followed by any potential user of AEROS to facilitate the speedy and efficient fulfillment of his request.

Before a potential user requests information from AEROS, the standard computer reports as documented in Sections 2.0.0 through 3.5.0 should be reviewed to see if the specific information is available in any of these reports. If a specific report or a combination of reports meets the data requirements, the procedures as documented in this Section should be followed. Even if a specific report does not meet the specific requirements, the procedures should be followed to determine whether new reports have been developed, but not documented in Sections 2.0.0 through 3.5.0, or whether the data are available from other sources.

This Chapter deals with procedures to be utilized by users outside of the United States Environmental Protection Agency. This user community includes state and local air pollution control agencies, universites, consultants, contractors, private citizens, and private industry. Excluded from this group are other Federal agencies and groups utilizing the data for a grant or contract to any Federal agency.

Requests from the non-EPA users group will be treated under the Freedom of Information Act. After the request is received in writing, the cost will be estimated, and the requestor will be informed of the approximate cost. The request will not be processed until the requestor has agreed to pay this charge.

The procedures to request information from AEROS vary depending on whether the data are for states under the jurisdiction of one EPA Regional Office (Intra-regional) or several Regional Offices (Inter-regional). Table 4.1.1-a gives a list of states in each Regional Office and should be utilized to determine if it is an intra-regional or inter-regional request.

For requests for intra-regional data, the correct Regional Office should be determined from Table 4.1.1-a and the address or telephone number as given in Table 4.1.1-b should be utilized. The specific name of the NEDS or SAROAD contact is not given, but the address and telephone numbers are correct. The request should be addressed to the attention of the NEDS or SAROAD Contact. If the request is for a standard report, a letter specifying the report name, the retrieval options, and the sort options is sufficient. If the request is not for a standard report, a telephone call may be necessary to discuss the specific data needs.

For requests for inter-regional data, the letter or telephone call should be directed to one of the regional contacts or to:

Chief, Reports and Information Section (MD-14)
National Air Data Branch
Environmental Protection Agency
Research Triangle Park, NC 27711

FTS - 8 - 692-5395
Com. (919) 688-8146, ext. 395

Table 4.1.1.a. LIST OF STATES BY REGIONAL OFFICE

Region I

Connecticut
Maine
Massachusetts
New Hampshire
Rhode Island
Vermont

Region II

New Jersey
New York
Puerto Rico
Virgin Island

Region III

Delaware
District of Columbia
Maryland
Pennsylvania
Virginia
West Virginia

Region IV

Alabama
Florida
Georgia
Kentucky
Mississippi
North Carolina
South Carolina
Tennessee

Region V

Illinois
Indiana
Michigan
Minnesota
Ohio
Wisconsin

Region VI

Arkansas
Louisiana
New Mexico
Oklahoma
Texas

Table 4.1.1.a (continued). LIST OF STATES BY REGIONAL OFFICE

Region VII

Iowa	Missouri
Kansas	Nebraska

Region VIII

Colorado	South Dakota
Montana	Utah
North Dakota	Wyoming

Region IX

Arizona	Hawaii
California	Nevada
Guam	

Region X

Alaska	Oregon
Idaho	Washington

Table 4.1.1.b. REGIONAL OFFICE CONTACTS

REGIONAL OFFICE	NEDS	SAROAD
I	Air Hazardous Division EPA, Region I John F. Kenndy Bldg Boston, Mass 02203 FTS 8-223-4448 Com. (617) 223-4448	Surveillance and Analysis EPA, Region I John F. Kenndy Bldg Boston, Mass 02203 FTS 8-223-4448 Com. (617) 223-4448
II	Air Coordinator Office EPA, Region II 26 Federal Plaza New York, New York 10007 FTS 8-264-4581 Com. (212) 264-4581	Air Coordinator Office EPA, Region II 26 Federal Plaza New York, New York 10007 FTS 8-264-4581 Com. (212) 264-4581
III	Management EPA, Region III 6th and Walnut Street Philadelphia 19106 FTS 8-597-8046 Com. (215) 597-8046	Management EPA, Region III 6th and Walnut Street Philadelphia 19106 FTS 8-597-8046 Com. (215) 597-8046
IV	Air Program EPA, Region IV 1421 Peachtree St NE Atlanta, Georgia 30309 FTS 8-526-2864 Com. (404) 285-2864	Air Program EPA, Region IV 1421 Peachtree St NE Atlanta, Georgia 30309 FTS 8-526-2864 Com. (404) 285-2864
V	Surveillance and Analysis EPA, Region V 230 S. Dearborn Chicago, Ill 60604 FTS 8-353-6738 Com. (312) 353-6738	Surveillance and Analysis EPA, Region V 230 S. Dearborn Chicago, Ill 60604 FTS 8-353-6738 Com. (312) 353-6738
VI	Oata System Branch Management EPA, Region VI 1600 Patterson Street Dallas, Texas 75201 FTS 8-749-1176 Com. (214) 749-1176	Oata System Branch Management EPA, Region VI 1600 Patterson Street Dallas, Texas 75201 FTS 8-749-1176 Com. (214) 749-1176
VII	Air Hazardous Division EPA, Region VII 1735 Baltimore Avenue Kansas City, Mo 64108 FTS 8-374-3791 Com. (816) 758-3791	Air Hazardous Division EPA, Region VII 1735 Baltimore Avenue Kansas City, Mo 64108 FTS 8-374-3791 Com. (816) 758-3791
VIII	Surveillance and Analysis Division EPA, Region VIII 1860 Lincoln Street Denver, Colorado 80203 FTS 8-327-4261 Com. (303) 837-4261	Surveillance and Analysis Division EPA, Region VIII 1860 Lincoln Street Denver, Colorado 80203 FTS 8-327-4261 Com. (303) 837-4261
IX	Surveillance and Analysis Division EPA, Region IX 100 California Street San Francisco, Ca 94111 FTS 8-556-2270 Com. (415) 556-2270	Surveillance and Analysis Division EPA, Region IX 100 California Street San Francisco, Ca 94111 FTS 8-556-2270 Com. (415) 556-2270
X	Management EPA, Region X 1200 6th Avenue (M/S 413) Seattle Washington 98101 FTS 8-442-1580 Com. (206) 399-1580	Management EPA, Region X 1200 6th Avenue (M/S 413) Seattle Washington 98101 FTS 8-442-1580 Com. (206) 399-1580

If the request is for a standard report, a letter specifying the report name, the retrieval options and the sort options is sufficient. If the request is not for a standard report, a telephone call may be necessary to discuss the specific data needs.

In addition to stating the report name, the retrieval options, and the sort options, any letter requesting data should include the person to contact concerning technical questions and the date when a response from NADB is needed.

1

This Chapter describes the procedures to be followed by users who are either direct employees of the U.S.EPA or are working under a grant or Federal contract given by EPA. Any employee of EPA or other individuals who are registered users of the National Computer Center (NCC), Research Triangle Park, North Carolina, can retrieve data using the AEROS Terminal Users System as explained in Section 4.2.2, can utilize the routine AEROS programs, or can utilize the procedures and file formats in Sections 7.0.0-7.2.3 to write software to create specific reports.

The procedures to request information from AEROS vary depending on whether the requestor is an EPA employee or contractor and where he is located or whether the requestor is an employee, contractor, or grantee for another Federal agency.

If the requestor is an EPA employee or contractor, the EPA employee or project officer must submit the request. If the requestor is located in an EPA Regional Office, the request should be submitted to the NEDS or SAROAD Contract in the Regional Office. All other EPA requests should be submitted to:

Chief, Reports and Information Section (MD-14)
National Air Data Branch
Environmental Protection Agency
Research Triangle Park, North Carolina 27711

The request should include the report name or information required, retrieval options, and sort options.

If the requestor is an employee, contractor, or grantee for another Federal agency, the Federal agency employee must submit the request. All requests of this type should be submitted to: the Chief, Reports and Information Section at the above address. The request should include the report name, the retrieval options, and the sort options. If requests of this type are determined to be of major impact on the Branch's computer budget, the requestor may be required to establish user and account codes by way of Interagency Agreements. In all cases, the request should include the person to contact concerning technical questions and the data

when a response from NADB is necessary. Any request may be preceded by a telephone call to Chief, RIS (FTS 629-5395) to discuss the availability of the data and the necessary report formats. Such a call may prevent unnecessary work and wasted time occasioned by "inappropriate" requests (i.e. requests for data inappropriate to the user's needs or for data that are nonexistent or not yet in a suitable form to staisfy the particular requests).

4.2.2 AEROS TERMINAL SYSTEM (ATS)

4.2.2.0 INTRODUCTION

The Aerometric and Emissions Reporting System (AEROS) has been expanded to enable users to access the emissions and air quality data files for retrieval via demand (interactive) terminals. Using this system, the user can interactively access the data files or can build requests that are then submitted to the operating system to be run at a later time (batch). The user has the option of requesting the output be printed at his low- or medium-speed terminal or requesting the output be printed at the central computer site and be mailed to him later.

The AEROS terminal system is designed so that users who are not familiar with computers as well as users who are computer-oriented can access the system and submit their requests. The system operates in a conversational mode to request information from the user. A function (subprogram) is specified by the user, the master program calls the appropriate subprogram, and the subprogram assumes control.

The two types of subprograms are those that retrieve data immediately and display them on the low-speed terminal (interactive) and those that ask the user questions that allow a run to be generated and submitted for later processing (remote batch). The first time a remote batch function is requested, the master program asks the user for fixed accounting information such as account code. This information is then used for all remote batch runs submitted. Other information, such as run time, is requested by each individual remote batch function.

When a user has accessed all the desired functions and has returned to the master program, the END command will take him out of the system. The user is returned to the EXEC 8 operating system in which any software available at this time, including reentry to the AEROS Terminal System, can be used.

Descriptions of the master program and all available functions follow, and sample interactive sessions and sample outputs are included. Any questions regarding this system, other than instructions on how to use a specific type of terminal, are to be referred to:

National Air Data Branch (MD-14)
U.S. Environmental Protection Agency
Research Triangle Park, NC 27711
Phone: (919) 688-8146, ext. 247

Questions regarding accounting information, use of a terminal, or the status of the UNIVAC 1110 are to be referred to:

NATIONAL COMPUTER CENTER (MD-34)
U.S. Environmental Protection Agency
Research Triangle Park, N.C. 27711
Phone: (919) 549-8411, ext. 2501

Note: Throughout the manual the selection commands are listed as follows:

'state=??'

'site=???'

The number of question marks following the equal sign defines the number of characters in that code. In the above examples, the state command requires two characters following the equal sign and site requires three. If the incorrect number of characters is entered, the command is rejected.

4.2.2.1 REQUIRED ACCOUNTING INFORMATION

In order to use the AEROS terminal system, the user must be registered at the National Computer Center (NCC), Research Triangle Park, N.C. The accounting symbols assigned to the user plus other information necessary to submit batch jobs will be requested by the terminal system. The information required is:

i. account number.

ii. project code.

iii. terminal identification code. (This information is used for routing the printout generated by batch jobs. It can be either the user's site or the central computer site.)

iv. priority code. (This is one of a system of codes established by NCC.)

v. run identification code. (This code is composed of an NCC-assigned bin number and up to four additional characters specified by the user.)

vi. estimated run time
(The user must furnish an estimate to be entered on the @RUN card. This estimate and the priority code are related. Sample estimates for the batch runs are given in the functional sections).

Almost all of the codes require interaction with the National Computer Center. If the user has questions relating to these items, please call User Services, FTS (919) 629-2501.

4.2.2.2 COMPUTER INSTRUCTIONS FOR ENTERING ATS

In order to use ATS, the user must know how to dial the computer, establish contact, and identify himself to the operating system. The procedure varies slightly from terminal to terminal so no attempt is made here to instruct the user on terminal usage. If there is a need for instruction in this area, please contact User Services, NCC as listed in section 4.2.2.0 of this manual.

When contact with the UNIVAC 1110 has been established and the user's terminal identification has been accepted, the operating system will print a message identifying the operating system. At this point the user must enter an @RUN card to begin his session. Please note that, because of the ATS design, the user must specify the CARD parameter on the RUN card if the remote batch portion of the ATS is to be used. No cards will actually be punched.

A sample RUN card is:

```
@RUN     RUN-ID,ACCT-NO,PROJ,TIME,PAGES/CARDS
```

where:

RUN-ID is the users run identifier, which usually consists of a bin number and four user-assigned characters to identify the run.
ACCT-NO is the users registered UNIVAC 1110 account number.
PROJ is the users registered UNIVAC 1110 project code.
TIME is the estimated SUP time the terminal session will last (On 9/30/75 NCC had established 15 minutes as a maximum time limit).
PAGES are the estimated number of pages for the terminal session.
CARDS are the estimated number of cards to be punched by the system. This entry should be 999 if the remote batch portion of ATS is to be used.

Once the user's RUN card has been accepted, the date and time the user signed on is displayed on the terminal and the user can start entering instructions. When the user is ready to use the AEROS Terminal System, the following sequence of instructions is entered.

```
@ASG,A    NADB*NADB-ABS/SDS.
@COPY,A   NADB*NADB-ABS.ATS
@FREE     NADB*NADB-ABS.
@ATS
```

The user will enter the master program and interaction with the system will begin. (All responses entered by the user within ATS must be in capital letters.) When the user is finished with the system, the END command is entered. Control is returned to the operating system and the user is free to access any UNIVAC 1110 functions desired, re-enter the ATS, or sign off the UNIVAC system. To sign off, the user enters @FIN, waits for the accounting information to print, and then enters @@TERM.

Should the 1110 system go down or should the line drop during an ATS session, the user has to re-dial the computer and follow regular sign on procedures to re-enter the system. If the user was building remote batch jobs at the time computer contact was broken, only the job being constructed at that time is lost. This is due to the dynamic submission of batch runs by the ATS at the time the user requests the run be submitted.

4.2.2.3 ATS MASTER PROGRAM

The ATS master program is designed as a processor. This means that all the files required for the system are dynamically assigned by the program. If there are any problems encountered in assigning a file, a message is printed but processing continues. If a file is unavailable, only those functions using that particular file are not operable. The messages and their meanings are listed below.

i. file name WAITING TO ROLL FILE IN
The file specified has been rolled out by the 1110 Operating System and the terminal system is waiting for the file to be restored to mass storage.

ii. file name DESTROYED--CONTINUING
The file specified has been marked as having been destroyed by the 1110 Operating System. The system will continue but any function using the specified file will not be operational. Call NCC, User Services Section.

iii. file name DISABLED--CONTINUING
The file specified was in use when the 1110 system crashed. There is usually no problem with using the file.

iv. file name IN EXCLUSIVE USE-CONTINUING
The file specified is in exclusive use by another run. This usually happens when NADB is updating the file. The system continues, but functions requiring the specified file will be inoperable. A later attempt may provide access to a function requiring this file.

v. file name FACILITY REJECTED--CONTINUING
The file specified does not exist. It may have been removed by the 1110 Operating System or may have been deleted in preparation for an update that then failed. Call NADB, Data Processing Section.

The user is asked if a CRT terminal is being used. A CRT terminal is a cathode-ray-type terminal such as a UNISCOPE 100 or a HAZELTINE 2000. The interactive functions are designed to utilize either a 120-character print line or a 72-character print line. If you answer YES to the CRT question, a 72-character line is used. If answer is NO, a 120-character line is used.

Next, the user is asked whether instructions are needed for using the system. If YES is entered, a brief discussion of the system and the function list are provided. Each function entered then prints a brief description of itself thereafter. If NO is entered, it is assumed that the user is familiar with the system and less instructional information is displayed. If the user enters NO and then decides he needs a list of the functions, he can enter HELP after the FUNCTION? prompt.

When the FUNCTION? prompt is printed, the user is free to enter any valid ATS function. If an invalid entry is encountered, a message is printed and the FUNCTION? prompt is printed again. If the user has finished using ATS, he enters END after the FUNCTION? prompt and control is returned to the UNIVAC 1110 operating system.

If an interactive function is specified, control is immediately passed to the appropriate subprogram. Interaction between the user and the data files via commands given to the subprogram continues until the END command is entered. The subprogram then returns control to the master program and a new function is requested.

If a remote batch function is requested, the master program first checks to see if this is the first remote function requested during the current terminal session.

If this is not the first batch function requested, control is passed to the appropriate subprogram. The subprogram interacts with the user to construct remote batch runs. When the final END command for the subprogram is encountered, a summary of the job constructed is printed for user review. The user has the option of submitting or cancelling the constructed run. If the run is submitted, the subprogram dynamically submits the run to the UNIVAC 1110 system. The job enters the job queue at this point and is eligible for execution. (As jobs are submitted to the UNIVAC operating system, a message is returned indicating the run identifier and whether the run was accepted or not). After the job is submitted or cancelled, control is returned to the master program.

The first remote batch function requested during a terminal session causes the master program to request some fixed accounting information. The information requested is then used for all batch runs constructed during the terminal session. The information requested is:

i. project code. At the prompt, PROJ?, the user should enter his valid UNIVAC project code.

ii. terminal identifier. The user can select a location where all of the remote batch output will be routed This location can be a low-speed, medium-speed or high-speed terminal. To route the output to the central UNIVAC 1110 site the user enters PR. The location selected is entered after the TERMINAL ID? prompt.

iii. account number. Account numbers must be registered with NCC before run submissions will be accepted. The account number is entered after the ACCT #? prompt.

No validity or edit checks are made for the above three entries by ATS. At the point an actual batch run is submitted to the 1110 operating system, a check is made by that system against the valid account and project code combinations. If the combination entered is not valid, the run will not be accepted.

After the initial information is entered for the first access of a batch function, control is passed to the appropriate subprogram and the session proceeds as described above.

The following sections describe the actual functions available within the AEROS Terminal System. Besides the descriptive name, the subsystem, access type, and function entry is listed. The notation used is:

S = SAROAD
N = NEDS
I = Interactive Access
RB = Remote Batch Access

4.2.2.4 NEDS CONDENSED AND FULL POINT SOURCE LISTING (N, RB, PS)

4.2.2.4.0 DESCRIPTION

The point source function is a NEDS remote batch function that allows the user to retrieve the most detailed information available on a point by point basis. A condensed listing or a full listing is selected by the user. The condensed version presents a subset of information from the full listing. Seven lines per SCC are printed in the condensed listings versus one page per SCC in the full listing. Sample printouts of these two reports are included in this section.

4.2.2.4.1 STRUCTURED ENTRIES

When the function is first entered, the user may ask for a listing of the available functional commands if one is needed. After this entry, a series of questions are asked to allow the user full flexibility of the batch report. One question allows the user to select either the full or condensed listing. Other questions are:

i. Do you wish to specify a pollutant and minimum values? If so, do you need a listing of the valid pollutant codes? At the prompt POLL,VALUE? the user enters a one digit pollutant code, a comma, and a six digit minimum value. The minimum value must be six digits with leading zeroes entered by the user if required. An entry of 1,000150 would specify that the user wanted to list all plant-point-SCC combinations for which the calculated particulate emissions are over 150 tons per year. The

valid pollutant codes are:

1 - particulate
2 - sulfur dioxide
3 - nitrogen dioxide
4 - hydrocarbons
5 - carbon monoxide
blank - select all (blank entry)

ii. Do you want the standard or a special sort sequence? The standard sort sequence is STATE-COUNTY-PLANT-POINT-SCC. There are, however, twenty individual sort fields that can be specified in any order. The user may tailor his sort sequence to satisfy his own needs, if desired. The user may request a list of the valid sort codes if one is needed. An example of a special sort is 11, 01,02,03,04,05. This sequence will cause the report to print out the state-county-plant-point-SCC having the highest calculated emissions for the selected pollutant first, next highest, etc.

The special sort sequence is entered after the SORT? prompt with the first sort code, comma, the second sort code, comma, and so on up to the minimum of twenty codes. Usually not more than six codes are required to sort a report as desired.

A special entry is provided to allow a user to cancel the sort just entered and to enter a new sort sequence. After the user enters a sequence, it is echoed back so the user can review his entry. The prompt X or END? is printed. If X is entered, a message indicating the previous sort is ignored prints and the user is returned to the SORT? prompt. If the END is entered after a sort sequence is echoed, the sort is entered in the batch request and the session continues.

The valid sort codes are:

01 - state
02 - county

03 - plant number
04 - point number
05 - SCC (source classification code)
06 - ownership
07 - SIC (standard industrial classification code)
08 - estimation method
09 - AQCR
10 - plant name
11 - pollutant value
12 - year of record
13 - control equipment
14 - control efficiency
15 - sulfur content
16 - ash content
17 - city
18 - UTM coordinates
19 - operating rate
20 - confidentiality

iii. Do you want confidential data? The user may select confidential data if he knows the special NADB confidentiality codes. One must be aware of the legal implications of releasing confidential data to others without the permission (in writing) of the source. The individual making the retrieval will be considered individually responsible for the data retrieved. If it is confidential data, the user must follow all legal requirements. Confidentiality codes are available from NADB only and will not be made available to non-EPA personnel (Call NADB for required code).

iv. Do you wish to specify significant digits (standard is 3)? YES OR NO? The system generates reports to three significant digits. The prompt allows the user to change this

standard if he desires. This is done by entering any digit from one to nine in response to the prompt NUMBER? If the user enters any character other than digits one to nine, the system will default to the standard (three digits).

v. Do you want metric units? (standard is ENGL). The user can request that the calculated emissions be printed in metric units if desired. The entry YES will indicate that metric units are to be used. Otherwise the system defaults to the English units.

In order to construct remote batch jobs, certain information is required for the RUN card. Part of this information is fixed for a single user and is therefore obtained from the master program. Some information varies for each run is requested within the batch function. The variable information is run identifier, priority codes, and run time.

The run identifier is a maximum of six characters long. The first two characters are the NCC assigned bin number and the last four are any characters the user wishes to assign to uniquely identify his run. It is possible to have runs with the same identifiers but it is not recommended since tracing runs becomes much more difficult. The user's run identifier is entered after the prompt, NAME?

NCC has set up a system of priority codes that classifies runs and enables the system to operate more efficiently. These codes change from time to time and therefore are not listed here. The codes are usually based on run time and numbers of tape or disk drives required. This function requires one tape drive during the batch run. Therefore, one tape mount and the time required must be considered when assigning this priority code. Copies of the priority scheme are available from NCC (address in 4.2.2.0). The one character priority code is entered after the PRIORITY? prompt.

The user must estimate the SUP time which will be required to complete his request. This time will vary depending upon the type of request, i.e. condensed or full listing, and the amount of data selected. Some very rough estimates are listed here but a certain amount of trial and error is involved in estimating these times. It is better to estimate high but this lengthens your turnaround time.

Examples: (as of 10/75)

Selection	Time (minutes)
less than a state	5-40 (average less than 10)
state	10-60 (average 10-15)
AQCR	30-60 (average 30-40)

A tape is required to produce the NEDS FULL POINT SOURCE LISTING or the NEDS CONDENSED POINT SOURCE LISTING. This tape will contain data meeting selection criteria as requested by user, from which the report is produced. The reel number of the tape to be used is to be supplied by user; a maximum of six reel numbers may be supplied. These reel numbers are to be separated by slashes (/). The user should specify the expiration date for the tape file following the last reel number entered. The correct form is reel number(s), a comma, and the desired number of days the file is to be retained (reel 1/reel 2/.../reel(n), #days). The maximum number of days which can be specified is 4095. If the user does not specify an expiration date, zero is used.

4.2.2.4.2 COMMANDS

After the preliminary responses have been entered, the user receives the prompt, COMMAND? There are six selection categories and four fixed command entries. The selection category used reflects to a degree the amount of output to be printed. For example, report one, state selection will probably generate more output than report three, state/county/plant selection. The fixed commands, SIC, ownership, and esti-

mation method will apply to all selection commands. The final END command terminates the function. The command word can be entered in its entirety or can be abbreviated to the first two characters of the word. A full discussion of all commands follows.

COMMAND	DESCRIPTION
i. report=?	report selection category wanted. Various options are open to the user to limit his retrievals to a manageable size. The option desired is chosen by specifying the selection class corresponding to it. The options are: 1- state. The retrieval is limited to one state. The entire state except as limited by the SIC, ownership, and estimation method entries is retrieved. A large amount of output is generated via this selection, and it should be used with caution. 2- state/county. As many state-county combinations as desired may be entered. 3- state/county/plant. As many state-county-plant combinations as desired may be entered. 4- state/county/plant/point. As many combinations as desired may be entered. 5- state/SCC. As many state-SCC combinations as desired may be entered. Caution must be exercised as some combinations will result in large amounts of output.
ii. own=?	ownership code. The valid codes are: p = private l = local government s = state government f = federal government u = utility
iii. sic=????	standard industrial classification code. For more information see the Standard Industrial Classification Manual.
iv. est=?	method of estimating emissions. The valid codes are: 0 = not applicable

COMMAND	DESCRIPTION
	1 = stack tests or other emission measurements 2 = material balance 3 = EPA emission factors 4 = guess 5 = special emission factor other than EPA emission factor 6 = new construction, not yet operational 7 = facility closed, ceased operation
v. end	terminate function. This command, following the COMMAND? prompt, signals the end of user specifications for this function.

The OWN, SIC and EST commands are strictly optional. They may be used if the user so desires after any COMMAND? prompt. If they are not used, records are selected based only on the REPORT entries. If any entry is made for any or all of the three commands, that criteria is applied to all records selected in the batch run. For example, if ownership was specified as U (utility), in the batch run, only utilities would be printed.

When the user selects a category for entering selections, he enters a loop which allows him to enter as many combinations as desired (except for category 1, state). For each category, when this loop is entered and after each entry (except END) a prompt is printed indicating the information required. These prompts differ from category to category but basically they are: combination, X or END. The combinations reflect the category. For example, category three is the state/county/plant category. The messages, ENTER 10 CHARACTER STATE/COUNTY/PLANT CODE,X, OR END and SCP, X OR END are printed. SCP represents state/county/plant. The combination entered must be of the correct length or it is rejected. The entry, X, causes the previous combination entered to be ignored. This mechanism allows users to delete erroneous information entered. END signifies that all combinations desired have been entered.

When the END command is entered after the COMMAND? prompt, a summary of the batch run constructed is listed. The user has the option of submitting the run as listed or cancelling it. If the user enters YES, the batch run is submitted to the 1110 operating system right then. A message is returned by the 1110 system indicating the run identifier and whether or not the run was accepted. If the run is accepted, it goes into the 1110 backlog and is scheduled for processing just as any other batch job. Control is passed back to the ATS Master program and any ATS function can be requested at that time.

4.2.2.4.3 SPECIAL NOTES

The commands can be entered in their entirety or be abbreviated to the first two characters of the command. For example, OWN=P or OW=P will be accepted.

A report (selection category) must be selected and at least one combination entered or no batch job will be submitted.

This function must be used with care. There is a potential for processing large volumes of output.

The output of the batch job requires a 132 print position line. If the user's printer is limited to 120 characters, the output should be routed to the UNIVAC 1110 central site for later mailing to the user.

The tape(s) specified must be standard UNIVAC-labelled tape(s). The 'F' option is used to allow reuse of the tape(s) at a later time with a minimum of difficulty.

4.2.2.4.4 SAMPLE INTERACTIVE SESSION

```
$RUN  99USER,99999999,PROJ,15,9999/9999
DATE: 102175        TIME: 171431
$ASS,A  NADB*NADB-ABS/SDS.
READY
$COPY,A  NADB*NADB-ABS.ATS
FURPUR 0026-10/21-17:15
 1 ABS
$FREE    NADB*NADB-ABS.
READY
$ATS
AEROS TERMINAL SYSTEM (V.1)  DATE: 10/21/75      TIME: 17:15:37

NADB-STE-INX DISABLED--CONTINUING
NADB-PARMFL  DISABLED--CONTINUING
ARE YOU USING A CRT TERMINAL? ( YES OR NO )
YES
DO YOU WISH FOR INSTRUCTIONS? ( YES OR NO )
YES

THE AEROS TERMINAL SYSTEM PROVIDES ACCESS TO THE AIR
QUALITY AND EMISSIONS DATA (SAROAD AND NEDS) THROUGH
THE FUNCTIONS LISTED BELOW. EACH FUNCTION DEFINES THE
SUB-SYSTEM AND THE MODE OF ACCESS. THIS IS INDICATED
BY THE FOLLOWING NOTATION:
    S = SAROAD
    N = NEDS
    I = INTERACTIVE ACCESS
   RB = REMOTE BATCH ACCESS
THE FOLLOWING IS THE LIST OF LEGAL FUNCTONS.
    PS   - POINT SOURCE                    (N, RB)
    AS   - AREA SOURCE                     (N, RB)
    FS   - AREA SOURCE FUEL SUMMARY        (N, RB)
    ES   - EMISSIONS SUMMARY REPORT        (N, RB)
    PO   - POLLUTANT NAMES                 (S, I)
    QS   - QUARTERLY SUMMARIES             (S, I)
    SI   - SITE DESCRIPTIONS               (S, I)
    UN   - UNIT TABLE                      (S, I)
    YS   - YEARLY SUMMARIES                (S, I)
    HELP - DESCRIPTION OF FUNCTIONS
    END  - END TERMINAL SESSION
FUNCTION?
PS
ENTER YOUR USER PROJECT CODE.
PROJ?
USER
ENTER IDENTIFICATION NUMBER FOR THE TERMINAL
TO WHICH THE PRINT SHOULD BE ROUTED.
TERMINAL ID?
REMOTE
ENTER YOUR BATCH ACCOUNT NUMBER.
ACCT #?
99999999

EMISSION POINT SOURCE LISTING

THE POINT SOURCE LISTING PROGRAM OFFERS THE USER REMOTE BATCH
ACCESS TO POINT SOURCE LISTINGS. THE AMOUNT OF INFORMATION THAT
WILL BE PRINTED IS REFLECTED BY THE REPORT NAME. CARE SHOULD BE
TAKEN TO ENSURE THAT AN EXCESSIVE AMOUNT OF PRINT IS NOT GENERATED.
```

```
THE CONDENSED POINT SOURCE LISTING GIVES 7 LINES PER SCC AND THE
FULL POINT SOURCE LISTING GIVES A PAGE OF PRINT PER SCC.
IF YOU NEED A LISTING OF THE VALID COMMANDS, ENTER YES. OTHERWISE
ENTER NO.
YES OR NO?
```

YES

```
VALID COMMANDS ARE:
'REPORT=?' - REPORT WANTED.  ?   REPRESENTS THE NUMBER OF THE
             REPORT WANTED. THE NUMBERS & CORRESPONDING REPORTS ARE:
              1 - STATE REPORT(LIMITED TO 1 STATE)
              2 - STATE/COUNTY REPORT
              3 - STATE/COUNTY/PLANT REPORT
              4 - STATE/COUNTY/PLANT/POINT REPORT
              5 - STATE/SCC REPORT
              6 - STATE/COUNTY/SCC REPORT
'OWN=?'    - OWNERSHIP CODE. THE VALID CODES ARE:
              P - PRIVATE
              L - LOCAL GOVERNMENT
              S - STATE GOVERNMENT
              F - FEDERAL GOVERNMENT
              U - UTILITY
'SIC=????' - STANDARD INDUSTRIAL CLASSIFICATION CODE. (SEE
             STANDARD INDUSTRIAL CLASSIFICATION MANUAL)
'EST=?'    - METHOD OF ESTIMATING EMISSIONS. THE VALID CODES ARE:
              0 - NOT APPLICABLE
              1 - STACK TESTS OR OTHER EMISSION MEASUREMENTS
              2 - MATERIAL BALANCE
              3 - EMISSIONS CALCULATED USING EMISSION FACTORS
              4 - GUESS
              5 - EMISSION FACTOR USED TO CALCULATE
                  DIFFERS FROM OFFICIAL EPA FACTOR
'END'      - SIGNALS END OF REQUEST SPECIFICATIONS
THE ENTIRE COMMAND CAN BE ENTERED OR THE COMMAND CAN BE ABBREVIATED
TO THE FIRST TWO LETTERS OF THE COMMAND. FOR EXAMPLE, REPORT=1 &
RE=1 BOTH INDICATE A STATE REPORT IS DESIRED.

DO YOU WANT A FULL OR CONDENSED POINT SOURCE REPORT?
FL OR CN?
```

FL

```
RECORDS SELECTED CAN BE LIMITED TO THOSE FOR WHICH A SPECIFIED
POLLUTANT VALUE IS GREATER THAN A USER SPECIFIED MINIMUM
DO YOU WISH TO SPECIFY A POLLUTANT AND MINIMUM VALUE?
YES OR NO?
```

YES

```
IF YOU NEED A LISTING OF VALID POLLUTANT CODES ENTER, YES.
OTHERWISE ENTER NO.
```

YES

```
VALID POLLUTANT CODES ARE:  1 - PARTICULATE
                            2 - SULFUR DIOXIDE
                            3 - NITROGEN OXIDE
                            4 - HYDROCARBONS
```

```
                                  5 - CARBON MONOXIDE
ENTER: POLL.VALUE
1.000000

THE STANDARD SORT SEQUENCE IS BY STATE COUNTY PLANT POINT SCC.
DO YOU WANT STANDARD SORT SEQUENCE OR A SPECIAL SORT SEQUENCE?
ST OR SP?

SP

IF YOU NEED A LIST OF VALID SORT OPTIONS, ENTER YES.
OTHERWISE ENTER NO.
YES OR NO?

YES

VALID SORT SEQUENCE COMMAND IS:
??,??,??,...?? -  A MAXIMUM OF TWENTY SORT OPTIONS ARE
                  AVAILABLE. CHOOSE THE SORT SEQUENCE
                  DESIRED FROM THE TABLE BELOW AND
                  ENTER THE CORRESPONDING SERIES OF 2
                  DIGIT CODES IN THE ORDER DESIRED.
                   01 - STATE
                   02 - COUNTY
                   03 - PLANT NUMBER
                   04 - POINT NUMBER
                   05 - SCC(SOURCE CLASSIFICATION CODE)
                   06 - OWNERSHIP
                   07 - SIC(STANDARD INDUSTRIAL CLASS)
                   08 - ESTIMATION METHOD
                   09 - AQCP
                   10 - PLANT NAME
                   11 - POLLUTANT VALUE
                   12 - YEAR OF RECORD
                   13 - CONTROL EQUIPMENT
                   14 - CONTROL EFFICIENCY
                   15 - SULFUR CONTENT
                   16 - ASH CONTENT
                   17 - CITY
                   18 - UTM COORDINATES
                   19 - OPERATING RATE
                   20 - CONFIDENTALITY
'END'             - SIGNALS END OF USER SPECIFICATIONS
                    FOR THIS  FUNCTION.

ENTER SORT SEQUENCE COMMAND
SORT?

01,02,03,05

SORT ENTERED= 01 02 03 05

(X,OR END?)

END

DO YOU WANT CONFIDENTIAL DATA?
YES OR NO?
```

```
NO
DO YOU WANT TO SPECIFY SIGNIFICANT DIGITS?  (STANDARD IS 3)
YES OR NO?
YES
NUMBER?
4
 DO YOU WANT METRIC UNITS? (STANDARD IS ENGL)
NO
ENTER YOUR RUNID (MAX. 6 CHAR.)
NAME?
99USER
ENTER YOUR RUN PRIORITY CODE (1CHAR.)
PRIORITY?
0
 ENTER YOUR RUN TIME (MINUTES) MAX. 3 CHAR.
RUN TIME?
2
 START ENTERING COMMANDS
COMMAND?
RE=4
ENTER 12 CHARACTER STATE/COUNTY/PLANT/POINT CODE,X, OR END
SCPP,X, OR END?
042600000520
STATE/COUNTY/PLANT/POINT=042600000520
SCPP,X, OR END?
053520001203
STATE/COUNTY/PLANT/POINT=053520001203
SCPP,X, OR END?
END
COMMAND?
END
JOB AS SPECIFIED IS:
REPORT TYPE=04
CONTROL CARDS ENTERED-
ST CNTY PLNT PT SCC          O SIC  E
```

```
04 2600 0005 20

05 3520 0012 03

DO YOU WANT TO SUBMIT THE JOB AS SPECIFIED?
YES OR NO?

YES

*TM*99USER RUN ID 99USER 99999999 USER   ACCEPTED
PLEASE CHOOSE NEXT FUNCTION YOU WISH TO ACCESS.
FUNCTION?
PS

EMISSION POINT SOURCE LISTING

THE POINT SOURCE LISTING PROGRAM OFFERS THE USER REMOTE BATCH
ACCESS TO POINT SOURCE LISTINGS. THE AMOUNT OF INFORMATION THAT
WILL BE PRINTED IS REFLECTED BY THE REPORT NAME. CARE SHOULD BE
TAKEN TO ENSURE THAT AN EXCESSIVE AMOUNT OF PRINT IS NOT GENERATED.
THE CONDENSED POINT SOURCE LISTING GIVES 7 LINES PER SCC AND THE
FULL POINT SOURCE LISTING GIVES A PAGE OF PRINT PER SCC.
IF YOU NEED A LISTING OF THE VALID COMMANDS, ENTER YES. OTHERWISE
ENTER NO.
YES OR NO?

NO

DO YOU WANT A FULL OR CONDENSED POINT SOURCE REPORT?
FL OR CN?

CN

RECORDS SELECTED CAN BE LIMITED TO THOSE FOR WHICH A SPECIFIED
POLLUTANT VALUE IS GREATER THAN A USER SPECIFIED MINIMUM
DO YOU WISH TO SPECIFY A POLLUTANT AND MINIMUM VALUE?
YES OR NO?

NO

THE STANDARD SORT SEQUENCE IS BY STATE COUNTY PLANT POINT SCC.
DO YOU WANT STANDARD SORT SEQUENCE OR A SPECIAL SORT SEQUENCE?
ST OR SP?

ST

DO YOU WANT CONFIDENTIAL DATA?
YES OR NO?

NO
DO YOU WANT TO SPECIFY SIGNIFICANT DIGITS?  (STANDARD IS 3)
YES OR NO?

NO
DO YOU WANT METRIC UNITS? (STANDARD IS ENGL)
```

```
NO
ENTER YOUR RUNID (MAX. 6 CHAR.)
NAME?
99USER
ENTER YOUR RUN PRIORITY CODE (1CHAR.)
PRIORITY?
D
 ENTER YOUR RUN TIME (MINUTES) MAX. 3 CHAR.
RUN TIME?
2
 START ENTERING COMMANDS
COMMAND?
RE=3
ENTER 10 CHARACTER STATE/COUNTY/PLANT CODE,X, OR END
SCP,X, OR END?
0426000005
STATE/COUNTY/PLANT=0426000005
SCP,X, OR END?
0535200012
STATE/COUNTY/PLANT=0535200012
SCP,X, OR END?
EN
COMMAND?
EN
JOB AS SPECIFIED IS:
REPORT TYPE=03
CONTROL CARDS ENTERED-
ST CNTY PLNT PT SCC          O SIC  E
04 2600 0005
05 3520 0012
DO YOU WANT TO SUBMIT THE JOB AS SPECIFIED?
YES OR NO?
YES
```

```
*TM* 99*SER RUN ID 99USES 99999999 USER ACCEPTED
PLEASE CHOOSE NEXT FUNCTION YOU WISH TO ACCESS.
FUNCTION?
EN

END SESSION
```

4.2.2.4.5 SAMPLE BATCH OUTPUT

Two samples of the output produced by the remote batch runs follow. The first example shows the output for the full point source for two state-county-plant-point combinations 04-2600-0005-20 and 05-3520-0012-03. The default sort sequence was used, metric units were requested, and four significant digits were printed.

4.2.2.4.5.1 FULL POINT SOURCE EXAMPLE

```
GADP      COATA
POLLUTANT SELECTED IS PARTICULATE    ALL VALUES GREATER THAN OR EQUAL TO    0 WILL BE INCLUDED

THE SORT SPECIFIED IS:
1 STATE
2 COUNTY
3 PLANT
4 POINT
5 SCC

REPORT WILL BE IN METRIC UNITS
0 SIGNIFICANT DIGITS WILL BE WRITTEN.
```

```
                 CERTAIN PROCESS INFORMATION HAS BEEN OMITTED FROM THOSE SOURCES WHICH HAVE BEEN
                 DESIGNATED CONFIDENTIAL BY THE SUBMITTING AGENCY OR THE EPA.     TO OBTAIN THIS
                 INFORMATION  A  DIFFERENT  REQUEST  IS  NEEDED  USING  THE CODE SUPPLIED TO THE
                 REGIONAL CONTACTS BY THE NATIONAL AIR DATA BRANCH.
USER IS CONTROLING SPACE ALLOCATION


REQUEST !04!260U!U0MF!20! !  !   !  ! !   ! !   !           1 RECORDS WERE SELECTED
REQUEST !05!3520!00L2!03! !  !   !  ! !   ! !   !           2 RECORDS WERE SELECTED


TOTAL RECORDS SELECTED WAS          3
```

CERTAIN PROCESS INFORMATION HAS BEEN OMITTED FROM THOSE SOURCES WHICH HAVE BEEN DESIGNATED CONFIDENTIAL BY THE SUBMITTING AGENCY OR THE EPA. TO OBTAIN THIS INFORMATION A DIFFERENT REQUEST IS NEEDED USING THE CODE SUPPLIED TO THE REGIONAL CONTACTS BY THE NATIONAL AIR DATA BRANCH.

FILE CREATED ON WEDNESDAY SEPTEMBER 17, 1975 PAGE 1

N A T I O N A L E M I S S I O N D A T A S Y S T E M

P O I N T S O U R C E L I S T I N G

STATE(04): ARKANSAS AQCR(019): MONROE-EL DORADO CITY(0780): EL DORADO
COUNTY(2500): UNION CO PLANT ID: 0005 POINT ID: 20

NAME-ADDRESS: LION OIL CO, EL DORADO 700016 SIC(2911): PETROLEUM REFINING
PERSONAL CONTACT: L. DAVIES SCC(3-02-011-02): INDUSTRIAL PROCES -PETROLEUM INDRY -PROCESS HEATER -GAS

GENERAL INFORMATION	UTM GRID COORDINATES	HAND CALCULATED EMISSION ESTIMATES	ALLOWABLE EMISSIONS
YEAR OF RECORD: 1973	UTM ZONE: 15	PARTICULATE: 5 TONS/YR	PARTICULATE: 0 TONS/YR
		SOX: 0 TONS/YR	SOX: 1 TONS/YR
OWNERSHIP: PRIVATE	HORIZONTAL: KM	NOX: 58 TONS/YR	NOX: 0 TONS/YR
	VERTICAL: KM	HC: 0 TONS/YR	HC: 0 TONS/YR
IPP PROCESS: 00	STACK PARAMETERS	CO: 0 TONS/YR	CO: 1 TONS/YR
SOURCE: COMBUSTION	STACK HEIGHT: 50 FT	EMISSION ESTIMATION METHODS	COMPUTER CALCULATED EMISSIONS
	STACK DIAMETER: 2.0 FT	PART: EMISSION FACTOR(AP-42 OR PENDING)	PART: <1 TONS/YR
	GAS TEMPERATURE: 983 F	SOX: EMISSION FACTOR(AP-42 OR PENDING)	SOX: TONS/YR
NORMAL OPERATIONS	GAS FLOW RATE: 17,600 ACFM	NOX: EMISSION FACTOR(AP-42 OR PENDING)	NOX: <1 TONS/YR
	PLUME RISING STACK): 0 FT	HC: EMISSION FACTOR(AP-42 OR PENDING)	HC: <1 TONS/YR
HOURS/DAY: 24	SAME STACK VENTS POINTS -	CO: EMISSION FACTOR(AP-42 OR PENDING)	CO: TONS/YR
DAYS/WEEK: 7	CONTROL DEVICE/METHOD IDENTIFICATION	CONTROL EFFECTIVENESS	
WEEKS/YEAR: 52	PRIMARY PART: NO CONTROL EQUIPMENT	PART: 00.0 %	
% ANNUAL THROUGHPUT	SECOND. PART: NO CONTROL EQUIPMENT		
DEC-FEB: 25 %			
MAR-MAY: 25 %	PRIMARY SOX: NO CONTROL EQUIPMENT		
JUNE-AUG: 25 %	SECOND. SOX: NO CONTROL EQUIPMENT	SOX: 00.0 %	
SEPT-NOV: 25 %			
	PRIMARY NOX: NO CONTROL EQUIPMENT		
% SPACE HEAT: 00.0 %	SECOND. NOX: NO CONTROL EQUIPMENT	NOX: 00.0 %	
COMPLIANCE INFO	PRIMARY HC: NO CONTROL EQUIPMENT		
STATUS UNKNOWN	SECOND. HC: NO CONTROL EQUIPMENT	HC: 00.0 %	
	PRIMARY CO: NO CONTROL EQUIPMENT		
SCHEDULED	SECOND. CO: NO CONTROL EQUIPMENT	CO: 00.0 %	
COMPLIANCE DATE: /			
	FUEL CHARACTERISTICS	OPERATING RATES	
COMPLIANCE STATUS			
UPDATE: / /		ANNUAL OPERATING RATE: 504,100 CUBIC FEET GAS BURNED	
EMERGENCY CONTROL	FUEL SULFUR CONTENT: 0.00 %	HOURLY MAXM DESIGN RATE:	
ACTION PLAN			
	FUEL ASH CONTENT: 00.0 %	BOILER DESIGN CAPACITY:	
NOT REQUIRED			
	FUEL HEAT CONTENT: 1,174 MILLION BTU/1000 CUBIC FEET GAS BURNE	COMMENTS: HEATER 50.24	

ENVIRONMENTAL PROTECTION AGENCY	SECTION User Access	SECTION 4	SUBJECT 2
NATIONAL AIR DATA BRANCH	CHAPTER EPA User System	CHAPTER 2	PAGE 27
VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	SUBJECT AEROS Terminal User System	DATE 2/12/76	

FILE CREATED ON WEDNESDAY SEPTEMBER 17, 1975 PAGE 2

NATIONAL EMISSION DATA SYSTEM

POINT SOURCE LISTING

STATE(05): CALIFORNIA AQCR(031): SAN JOAQUIN VALLEY CITY(31000): HANFORD
COUNTY(52001): KINGS CO PLANT ID: 0012 POINT ID: 03

NAME-ADDRESS: REACON OIL CO,425 W 7RD ST HANFORD93230 SIC(2911): PETROLEUM REFINING
PERSONAL CONTACT: MR STEVENSON SCC(3-06-001-01): INDUSTRIAL PROCES -PETROLEUM INDRY -PROCESS HEATER -OIL

GENERAL INFORMATION	UTM GRID COORDINATES	HAND CALCULATED EMISSION ESTIMATES	ALLOWABLE EMISSIONS
YEAR OF RECORD: 1974	UTM ZONE: 11	PARTICULATE: 31 TONS/YR	PARTICULATE: TONS/YR
		SOX: 140 TONS/YR	SOX: TONS/YR
OWNERSHIP: PRIVATE	HORIZONTAL: 261.3 KM	NOX: 100 TONS/YR	NOX: TONS/YR
	VERTICAL: 4,022.6 KM	HC: 5 TONS/YR	HC: TONS/YR
IPP PROCESS: OR		CO: 0 TONS/YR	CO: TONS/YR
	STACK PARAMETERS		
SOURCE: COMBUSTION	STACK HEIGHT: FT	EMISSION ESTIMATION METHODS	COMPUTER CALCULATED EMISSIONS
	STACK DIAMETER: FT	PART: EMISSION FACTOR(AP-42 OR PENDING)	PART: 1,597 TONS/YR
	GAS TEMPERATURE: F	SOX: EMISSION FACTOR(AP-42 OR PENDING)	
NORMAL OPERATIONS	GAS FLOW RATE: ACFM	NOX: EMISSION FACTOR(AP-42 OR PENDING)	SOX: 7,177 TONS/YR
	PLUME HT(NO STACK): FT	HC: EMISSION FACTOR(AP-42 OR PENDING)	
HOURS/DAY: 24	SAME STACK VENTS POINTS -	CO: NOT APPLICABLE	NOX: 5,340 TONS/YR
DAYS/WEEK: 7			
WEEKS/YEAR: 52	CONTROL DEVICE/METHOD IDENTIFICATION	CONTROL EFFICIENCIES	HC: .258 TONS/YR
% ANNUAL THROUGHPUT	PRIMARY PART: NO CONTROL EQUIPMENT		CO: TONS/YR
	SECOND. PART: NO CONTROL EQUIPMENT	PART: 00.0 %	
DEC-FEB: 25 %			
MAR-MAY: 25 %	PRIMARY SOX: NO CONTROL EQUIPMENT		
JUNE-AUG: 25 %	SECOND. SOX: NO CONTROL EQUIPMENT	SOX: 00.0 %	
SEPT-NOV: 25 %			
	PRIMARY NOX: NO CONTROL EQUIPMENT		
% SPACE HEAT: 00.0 %	SECOND. NOX: NO CONTROL EQUIPMENT	NOX: 00.0 %	
COMPLIANCE INFO	PRIMARY HC: NO CONTROL EQUIPMENT		
	SECOND. HC: NO CONTROL EQUIPMENT	HC: 00.0 %	
VARIANCE ISSUED			
	PRIMARY CO: NO CONTROL EQUIPMENT		
SCHEDULED	SECOND. CO: NO CONTROL EQUIPMENT	CO: 00.0 %	
COMPLIANCE DATE: 06/75			
	FUEL CHARACTERISTICS	OPERATING RATES	
COMPLIANCE STATUS			
UPDATE: 15/04/76		ANNUAL OPERATING RATE: 3,683 1000 BARRELS OIL BURNED	
EMERGENCY CONTROL	FUEL SULFUR CONTENT: 0.58 %	HOURLY MAXM DESIGN RATE: 63.000 1000 BARRELS OIL BURNED	
ACTION PLAN			
	FUEL ASH CONTENT: %	BOILER DESIGN CAPACITY:	
STATUS UNKNOWN			
	FUEL HEAT CONTENT: 150 MILLION BTU/1000 BARRELS OIL BURNED	COMMENTS: 7 PROC.HTRS OIL	

FILE CREATED ON WEDNESDAY SEPTEMBER 17, 1975 PAGE 3

NATIONAL EMISSION DATA SYSTEM

POINT SOURCE LISTING

STATE(05): CALIFORNIA AQCR(131): SAN JOAQUIN VALLEY CITY(3100): HANFORD
COUNTY(31,0): KINGS CO PLANT ID: 0012 POINT ID: 03

NAME-ADDRESS: ARACON OIL CO.525 W 3RD ST HANFORD93230 SIC(2911): PETROLEUM REFINING
PERSONAL CONTACT: MR.STEVENSON SCC(3-06-001-02): INDUSTRIAL PROCES -PETROLEUM INDRY -PROCESS HEATER -GAS

GENERAL INFORMATION	UTM GRID COORDINATES	HAND CALCULATED EMISSION ESTIMATES	ALLOWABLE EMISSIONS
YEAR OF RECORD: 1970	UTM ZONE: 11	PARTICULATE: 31 TONS/YR	PARTICULATE: TONS/YR
		SOX: 140 TONS/YR	SOX: TONS/YR
OWNERSHIP: PRIVATE	HORIZONTAL: 251.7 KM	NOX: 160 TONS/YR	NOX: TONS/YR
	VERTICAL: 4,022.6 KM	HC: 5 TONS/YR	HC: TONS/YR
IPP PROCESS: NO		CO: 0 TONS/YR	CO: TONS/YR
	STACK PARAMETERS		
SOURCE: COMBUSTION		EMISSION ESTIMATION METHODS	COMPUTER CALCULATED EMISSIONS
	STACK HEIGHT: FT		
	STACK DIAMETER: FT	PART: EMISSION FACTOR(AP-42 OR PENDING)	PART: 1 TONS/YR
	GAS TEMPERATURE: F	SOX: EMISSION FACTOR(AP-42 OR PENDING)	
NORMAL OPERATIONS	GAS FLOW RATE: ACFM	NOX: EMISSION FACTOR(AP-42 OR PENDING)	SOX: TONS/YR
	FLUE HEIGHT(STACK): FT	HC: EMISSION FACTOR(AP-42 OR PENDING)	
HOURS/DAY: 24	SAME STACK VENTS POINTS -	CO: NOT APPLICABLE	NOX: 14 TONS/YR
DAYS/WEEK: 7			
WEEKS/YEAR: 52	CONTROL DEVICE/METHOD IDENTIFICATION	CONTROL EFFICIENCIES	HC: 2 TONS/YR
% ANNUAL THROUGHPUT	PRIMARY PART: NO CONTROL EQUIPMENT		CO: TONS/YR
	SECOND. PART: NO CONTROL EQUIPMENT	PART: 00.0 %	
DEC-FEB: 25 %			
MAR-MAY: 25 %	PRIMARY SOX: NO CONTROL EQUIPMENT		
JUNE-AUG: 25 %	SECOND. SOX: NO CONTROL EQUIPMENT	SOX: 00.0 %	
SEPT-NOV: 25 %			
	PRIMARY NOX: NO CONTROL EQUIPMENT		
% SPACE HEAT: 00.0 %	SECOND. NOX: NO CONTROL EQUIPMENT	NOX: 00.0 %	
COMPLIANCE INFO	PRIMARY HC: NO CONTROL EQUIPMENT		
	SECOND. HC: NO CONTROL EQUIPMENT	HC: 00.0 %	
VARIANCE ISSUED			
	PRIMARY CO: NO CONTROL EQUIPMENT		
SCHEDULED	SECOND. CO: NO CONTROL EQUIPMENT	CO: 00.0 %	
COMPLIANCE DATE: 03/75			
	FUEL CHARACTERISTICS	OPERATING RATES	
COMPLIANCE STATUS			
UPDATE: 15/04/74		ANNUAL OPERATING RATE: 123,800 1000 CUBIC FEET GAS BURNED	
EMERGENCY CONTROL ACTION PLAN	FUEL SULFUR CONTENT: 0.00 %	HOURLY MAXM DESIGN RATE: 14.100 1000 CUBIC FEET GAS BURNED	
STATUS UNKNOWN	FUEL ASH CONTENT: %	BOILER DESIGN CAPACITY:	
	FUEL HEAT CONTENT: 1,050 MILLION BTU/1000 CUBIC FEET GAS BURNE	COMMENTS: (15% NAT.GAS USED)	

4.2.2.4.5.2 CONDENSED POINT SOURCE EXAMPLE

```
BADD,P      CDATA
POLLUTANT SELECTED IS PARTICULATE     ALL VALUES GREATER THAN OR EQUAL TO      0 WILL BE INCLUDED

THE SORT SPECIFIED IS:

1 STATE
2 COUNTY
3 PLANT
4 POINT
5 SCC

3 SIGNIFICANT DIGITS WILL BE WRITTEN.
```

```
CERTAIN PROCESS INFORMATION HAS BEEN OMITTED FROM THOSE SOURCES WHICH HAVE BEEN
DESIGNATED CONFIDENTIAL BY THE SUBMITTING AGENCY OR THE EPA.   TO OBTAIN THIS
INFORMATION A DIFFERENT REQUEST IS NEEDED USING THE CODE SUPPLIED TO THE
REGIONAL CONTACTS BY THE NATIONAL AIR DATA BRANCH.

MAXIMUM NUMBER OF SELECTIONS ALLOWED IS      6000

REQUEST !04!2600!0005! ! ! ! ! ! ! !      33 RECORDS WERE SELECTED
REQUEST !05!3520!0012! ! ! ! ! ! ! !      11 RECORDS WERE SELECTED

TOTAL RECORDS SELECTED WAS      44
```

CERTAIN PROCESS INFORMATION HAS BEEN OMITTED FROM THOSE SOURCES WHICH HAVE BEEN DESIGNATED CONFIDENTIAL BY THE SUBMITTING AGENCY OR THE EPA. TO OBTAIN THIS INFORMATION A DIFFERENT REQUEST IS NEEDED USING THE CODE SUPPLIED TO THE REGIONAL CONTACTS BY THE NATIONAL AIR DATA BRANCH.

FILE CREATED ON SATURDAY OCTOBER 18, 1975 PAGE 1

NATIONAL EMISSIONS DATA SYSTEM

CONDENSED POINT SOURCE LISTING FOR PARTICULATE
FOR ALL VALUES > THAN DR = TD 0
EMISSIONS ARE IN SHORT TONS

			PART	SOX	NOX	HC	CO
0005: LION OIL CO, EL DORADO 04: ARKANSAS 2600: UNION 019: MONROE-EL DORADO 000: NO CONTROL EQUIPMENT ESTIMATE BY (3) USED EMISSIONS FACTORS	700016	OWNERSHIP: PRIVATE YEAR OF RECORD: 1969 EFF = 0.0 % POINT: 01 SIC = 2911 SCC = 1-02-005-02	4	129	16	<1	1
0005: LION OIL CO, EL DORADO 04: ARKANSAS 2600: UNION 019: MONROE-EL DORADO 000: NO CONTROL EQUIPMENT ESTIMATE BY (3) USED EMISSIONS FACTORS	700016	OWNERSHIP: PRIVATE YEAR OF RECORD: 1969 EFF = 0.0 % POINT: 01 SIC = 2911 SCC = 1-02-006-02	2	<1	36	<1	3
0005: LION OIL CO, EL DORADO 04: ARKANSAS 2600: UNION 019: MONROE-EL DORADO 000: NO CONTROL EQUIPMENT ESTIMATE BY (3) USED EMISSIONS FACTORS	700016	OWNERSHIP: PRIVATE YEAR OF RECORD: 1969 EFF = 0.0 % POINT: 02 SIC = 2911 SCC = 1-02-005-02	4	129	16	<1	1
0005: LION OIL CO, EL DORADO 04: ARKANSAS 2600: UNION 019: MONROE-EL DORADO 000: NO CONTROL EQUIPMENT ESTIMATE BY (3) USED EMISSIONS FACTORS	700016	OWNERSHIP: PRIVATE YEAR OF RECORD: 1969 EFF = 0.0 % POINT: 02 SIC = 2911 SCC = 1-02-006-02	2	<1	36	<1	3
0005: LION OIL CO, EL DORADO 04: ARKANSAS 2600: UNION 019: MONROE-EL DORADO 000: NO CONTROL EQUIPMENT ESTIMATE BY (3) USED EMISSIONS FACTORS	700016	OWNERSHIP: PRIVATE YEAR OF RECORD: 1969 EFF = 0.0 % POINT: 03 SIC = 2911 SCC = 1-02-005-02	4	129	16	<1	1
0005: LION OIL CO, EL DORADO 04: ARKANSAS 2600: UNION 019: MONROE-EL DORADO 000: NO CONTROL EQUIPMENT ESTIMATE BY (3) USED EMISSIONS FACTORS	700016	OWNERSHIP: PRIVATE YEAR OF RECORD: 1973 EFF = 0.0 % POINT: 03 SIC = 2911 SCC = 1-02-006-02	2	<1	36	<1	3
0005: LION OIL CO, EL DORADO 04: ARKANSAS 2600: UNION 019: MONROE-EL DORADO 000: NO CONTROL EQUIPMENT ESTIMATE BY (3) USED EMISSIONS FACTORS	700016	OWNERSHIP: PRIVATE YEAR OF RECORD: 1969 EFF = 0.0 % POINT: 04 SIC = 2911 SCC = 1-02-005-02	<1	2	2	<1	<1

CONTROL EQUIPMENT AND EFFICIENCIES ARE FOR THE SELECTED POLLUTANT

4.2.2.5 NEDS AREA SOURCE LISTING (N,RB,AS)

4.2.2.5.0 DESCRIPTION

The area source function is a NEDS remote batch function that allows the user to retrieve the most detailed information available on an area basis. The user is allowed to retrieve listings on a state, EPA region or a state-county basis. Two area sources can be printed per page, but the user should exercise caution when making state or regional requests because large volumes of output may result.

4.2.2.5.1 STRUCTURED ENTRIES

When the function is first entered, the user may ask for a listing of the available functional commands if one is needed.

In order to construct remote batch jobs, certain information is required for the RUN card. Part of this information is fixed for a single user and is therefore obtained from the master program. Some information varies for each run and is requested within the batch function. The variable information is run identifier, priority code, and run time.

The run identifier is a maximum of six characters long. The first two characters are the NCG assigned bin number and the last four are any characters the user wishes to assign to uniquely identify his run. It is possible to have runs with the same identifiers, but it is not recommended because tracing runs becomes much more difficult. The user's run identifier is entered after the prompt, NAME?

NCC has set up a system of priority codes that classify runs and enable the system to operate more efficiently. These codes change from time to time and therefore are not listed here. The codes are usually based on run time and number of tape or disk drives required. The disks for this remote batch function are on-line and therefore only time is to be considered. Copies of the priority scheme are available from NCC (address in 4.2.2.0). The one character priority code is entered after the prompt, PRIORITY?.

The user must estimate the SUP time that will be required to complete his request. This time will vary depending upon the amount of data selected. For example, requests for less than a state, for a state, or for an AQCR would each take about 2 minutes (as of October 1975). A certain amount of

trial and error is involved in estimating required times, so it is better to estimate high. A high estimate, of course, lengthens the turnaround time and affects the operating efficiency of the computer.

4.2.2.5.2 COMMANDS

After the preliminary responses have been entered, the user receives the prompt, COMMAND? The command word can be entered in its entirely or can be abbreviated to the first two characters of the word. The commands are:

	COMMAND	DESCRIPTION
i.	report=?	report selection category wanted. The options are: 1- state or EPA regional report. The retrieval is limited to one EPA region or a maximum of five states. 2- state/county report. The user can select as many state-county combinations as desired.
ii.	end	terminate function. This command following the COMMAND? prompt signals the end of user specifications for this function.

When the user selects a report category, he enters a loop that allows him to enter the specifications necessary. In the state or EPA region report loop, the user enters the desired information or request. The report prints back his entry and he can either enter END, which indicates the report specified is correct, or he can enter new specifications.

In the state-county report loop, the user enters his six character state-county combination, X, or END. The X entry causes the last six character combination entered to be ignored. END indicates that all the user combinations desired have been entered.

When the user has completed his entries for the function, END is entered after the COMMAND? prompt. A summary of the batch job constructed is printed and the user is given the opportunity to review his specifications and submit or cancel the batch run. If the user enters YES, the batch run is submitted to the 1110 operating system immediately. A message is returned by the 110 system indicating the run identifier and whether the run was accepted. If the run is accepted, it goes into the 1110 backlog and is scheduled for processing just as any other batch job. Control is passed back to the ATS master program and any ATS function can be requested at that time.

4.2.2.5.3 SPECIAL NOTES

The commands can be entered in their entirety or be abbreviated to the first two characters of the command. For example, REPORT=1 or RE=1 are equally acceptable.

A report category must be selected and at least one combination entered or no batch job will be submitted.

The output of the batch job requires a 132-print position line. If the users' printer is limited to 120 characters, the output should be routed to the UNIVAC 1110 central site for later mailing to the user.

Following the sample session and sample batch output, is an explanation of the area source printout.

4.2.2.5.4 SAMPLE INTERACTIVE SESSION

```
@RUN  99USER,99999999,PROJ,15,9999/9999
DATE: 102175      TIME: 171431
@ASG,A  NADB*NADB-ABS/SDS.
READY
@COPY,A  NADB*NADB-ABS.ATS
FURPUR 0026-10/21-17:15
 1 ABS
@FREE    NADB*NADB-ABS.
READY
@ATS
AEROS TERMINAL SYSTEM (V.1)  DATE: 10/21/75      TIME: 17:31:31

NADB-STE-INX DISABLED--CONTINUING
NADB-PARMFL  DISABLED--CONTINUING
ARE YOU USING A CRT TERMINAL? ( YES OR NO )
YES
DO YOU WISH FOR INSTRUCTIONS? ( YES OR NO )
YES

THE AEROS TERMINAL SYSTEM PROVIDES ACCESS TO THE AIR
QUALITY AND EMISSIONS DATA (SAROAD AND NEDS) THROUGH
THE FUNCTIONS LISTED BELOW. EACH FUNCTION DEFINES THE
SUB-SYSTEM AND THE MODE OF ACCESS. THIS IS INDICATED
BY THE FOLLOWING NOTATION:
    S = SAROAD
    N = NEDS
    I = INTERACTIVE ACCESS
   RB = REMOTE BATCH ACCESS
THE FOLLOWING IS THE LIST OF LEGAL FUNCTONS.
    PS   - POINT SOURCE                  (N, RB)
    AS   - AREA SOURCE                   (N, RB)
    FS   - AREA SOURCE FUEL SUMMARY      (N, RB)
    ES   - EMISSIONS SUMMARY REPORT      (N, RB)
    PO   - POLLUTANT NAMES               (S, I)
    QS   - QUARTERLY SUMMARIES           (S, I)
    SI   - SITE DESCRIPTIONS             (S, I)
    UN   - UNIT TABLE                    (S, I)
    YS   - YEARLY SUMMARIES              (S, I)
    HELP - DESCRIPTION OF FUNCTIONS
    END  - END TERMINAL SESSION
FUNCTION?
AS
ENTER YOUR USER PROJECT CODE.
PROJ?
USEQ
ENTER IDENTIFICATION NUMBER FOR THE TERMINAL
TO WHICH THE PRINT SHOULD BE ROUTED.
TERMINAL ID?
9R
ENTER YOUR BATCH ACCOUNT NUMBER.
ACCT #?
99999999

EMISSIONS AREA SOURCE LISTING
```

```
THIS FUNCTION ALLOWS THE USER TO REQUEST AREA SOURCE LISTINGS ON
A STATE/REGION OR A STATE-COUNTY BASIS. IF YOU NEED A LISTING OF
THE VALID COMMANDS, ENTER YES.  OTHERWISE, ENTER NO.
YES OR NO?
YES
THE VALID COMMANDS ARE:

'REPORT=?' - THE REPORT DESIRED.THE REPORT NUMBERS ARE:
                1 - STATE OR REGION REPORT. THE USER IS LIMITED
                    TO ONE REGION OR A MAXIMUM OF FIVE STATES.
                2 - STATE/COUNTY REPORT. THE USER CAN ENTER AS
                    MANY STATE/COUNTY COMBINATIONS AS DESIRED.
'END'       - SIGNALS END OF USER SPECIFICATIONS FOR THIS FUNCTION

ENTER YOUR RUNID (MAX. 6 CHAR.)
NAME?
05CCAS
ENTER YOUR RUN PRIORITY CODE (1CHAR.)
PRIORITY?
0
 ENTER YOUR RUN TIME (MINUTES) MAX. 3 CHAR.
RUN TIME?
2
 START ENTERING COMMANDS

COMMAND?
RE=2
ENTER 6 CHARACTER STATE-COUNTY CODE, X, OR END

SC,X,OR EN?
042600
STATE-COUNTY=042600

SC,X,OR EN?
053520
STATE-COUNTY=053520

SC,X,OR EN?
EN
JOB AS SPECIFIED IS:
STATE-COUNTY=042600
             053520

DO YOU WANT TO SUBMIT THE JOB AS SPECIFIED?
```

```
YES OR NO?
YES
*TM*05CCAS RUN ID 05CCAS 99999999 USER  ACCEPTED

CHOOSE NEXT FUNCTION YOU WISH TO ACCESS
FUNCTION?
EN

END SESSION
```

```
@RUN  99USER,99999999,PROJ,15,9999/9999
DATE: 102175        TIME: 171431
@ASG,A  NADB*NADB-ABS/SDS,
READY
@COPY,A  NADB*NADB-ABS.ATS
FURPUR 0026-10/21-17:15
 1 ABS
@REFE    NADB*NADB-ABS.
READY
@ATS
AEROS TERMINAL SYSTEM (V.1)  DATE: 10/21/75      TIME: 17:35:38

ARE YOU USING A CRT TERMINAL? ( YES OR NO )
NO
DO YOU WISH FOR INSTRUCTIONS? ( YES OR NO )
NO

FUNCTION?
AS
PROJ?
USER
TERMINAL ID?
PR
ACCT #?
99999999

EMISSIONS AREA SOURCE LISTING

COMMAND LIST---YES OR NO?

NO

ENTER YOUR RUNID (MAX. 6 CHAR.)
NAME?

05CCAS

ENTER YOUR RUN PRIORITY CODE (1CHAR.)
PRIORITY?

D

 ENTER YOUR RUN TIME (MINUTES) MAX. 3 CHAR.
RUN TIME?

2

 START ENTERING COMMANDS

COMMAND?

RE=2

ENTER 6 CHARACTER STATE-COUNTY CODE, X, OR END

SC,X,OR EN?

042600
STATE-COUNTY=042600

SC,X,OR EN?

EN

JOB AS SPECIFIED IS:
STATE-COUNTY=042600

DO YOU WANT TO SUBMIT THE JOB AS SPECIFIED?
```

```
YES OR NO?
YES
*TM*05CCAS RUN ID 05CCAT 99999999 USER  ACCEPTED

CHOOSE NEXT FUNCTION YOU WISH TO ACCESS
FUNCTION?
EN

END SESSION
```

4.2.2.5.5 SAMPLE BATCH OUTPUT

A sample of the output produced by the remote batch run follows. Two state-counties were requested, 04-2600 and 05-3520 (Union County, Arkansas, and Kings County, California).

SOURCE ID: A STATE- 04 COUNTY- 2600 AGCR- 019 YEAR- 72

EM-EST-PRT(100-TONS)=	5	EM-EST-SOC(100-TONS)=	4	EM-EST-NOX(100-TONS)=	15	EM-EST-HC(100-TONS)=	23
EM-EST-CO(100-TONS)=	133	% SULF-ANTH-COAL=		% SULF-BITUM-COAL=		% SULF-DIST-OIL=	0.3
% SULF-RESID-OIL=	1.7	% ASH-ANTH-COAL=		% ASH-BITUM-COAL=		RES-ANTH(10-TONS)=	0
RES-BITUM(10-TONS)=	0	RES-DIS-OIL(10E4-GAL)=	4	RES-RID-OIL(10E4-GAL)=	0	RES-N-GAS(10E7-CUFT)=	208
RES-WOOD(100-TONS)=	12	CI-ANTH(10-TONS)=	0	CI-BITUM(10-TONS)=	0	CI-DIS-OIL(10E4-GAL)=	24
CI-RID-OIL(10E4-GAL)=	2	CI-N-GAS(10E7-CUFT)=	79	CI-WOOD(100-TONS)=	0	IND-ANTH(10-TONS)=	0
IND-BITUM(10-TONS)=	0	IND-COKE(10-TONS)=	0	IND-DIS-OIL(10E4-GAL)=	0	IND-RC-OIL(10E4-GAL)=	80
IND-N-GAS(10E7-CUFT)=	519	IND-WOOD(100-TONS)=	0	IND-PR-GAS(10E7-CUFT)=	0		
RES-CO-IND(10-TONS)=	105	IND-OS-IND(100-TONS)=	7	CI-OS-IND(100-TONS)=	14	PART-EMS(T/YR)=	580.049
RES-OP-BRN(100-TONS)=	40	IND-OPN-BRN(100-TONS)=	2	CI-OPN-BRN(100-TONS)=	4	SO2-EMS(T/YR)=	263.723
GAS-LT-VEH(1000-GAL)=	20837	GAS-HVY-VEH(100L-GAL)=	1577	GAS-OFF-HWY(1000-GAL)=	595	NOX-EMS(T/YR)=	2903.249
DIE-HV-VEH(1000-GAL)=	3004	DIE-OFF-HWY(10E4-GAL)=	60	DIE-RR-LOC(10E4-GAL)=	164	HC-EMS(T/YR)=	3215.626
COUNTY-POP(1000)=	45	DENSITY-CODE=	5	MIL-AIRCRAFT(100-LTO)=	0	CO-EMS(T/YR)=	15708.452
CIV-AIRCRAFT(10-LTO)=	0	COMM-AIRCRAFT(10-LTO)=	0	VES-BITUM(10-TONS)=	0	NO. 6-EMS(T/YR)=	0.000
VES-DIS-OIL(10E4-GAL)=	0	VES-RID-OIL(10E4-GAL)=	0	VES-GAS(1000-GAL)=	30	NO. 7-EMS(T/YR)=	0.000
EVAP-SOLVENT(T/YR)=	114	EVAP-GAS(10E5-GAL)=	239	VEH-MI-LA-RC(10E4-MI)=	8142	NO. 8-EMS(T/YR)=	0.000
VEH-MI-RURL(10E4-MI)=	6558	VEH-MI-SUBAN(10E4-MI)=	3524	VEH-MI-URBAN(10E4-MI)=	8211	NO. 9-EMS(T/YR)=	0.000
DIST-PO-TRV(1000-MI)=	22471	DIRT-AIR-STRIPS(LTO)=		CONST-LAND(1000-ACRE)=		NO. 10-EMS(T/YR)=	0.000
ROCK-H-ST(1000-TONS)=		WCREST-FIRE-AR(ACRES)=	697	FOR-FIRE-GU(TON/ACRE)=	38	NO. 11-EMS(T/YR)=	0.000
SLASH-BRN-ARC(ACRES)=		SLASH-BN-GU(TON/ACRE)=		ORCHARD-HEATERS(100)=		NO. 12-EMS(T/YR)=	0.000
ORCH-DA-FIREC(DA/YR)=		STRUCTURE-FIRES(#/YR)=	182	CRB-SIZE-BK(100-CUYC)=	0		
COAL-REF-BUPN(#/YR)=	0	COMMENTS=					

SOURCE ID: A STATE- 05 COUNTY- 3520 AQCR- 031 YEAR- 72

EM-EST-FPT(100-TONS)=	14	EM-EST-SO2(100-TONS)=	1	EM-EST-NOX(100-TONS)=	34	EM-EST-HC(100-TONS)=	87
EM-EST-CO(100-TONS)=	277	% SULF-ANTH-COAL=		% SULF-BITUM-COAL=	0.9	% SULF-DIST-OIL=	0.2
% SULF-RESID-OIL=	1.8	% ASH-ANTH-COAL=		% ASH-BITUM-COAL=	7.8	RES-ANTH(10-TONS)=	0
RES-BITUM(10-TONS)=	0	RES-DIS-OIL(10E4-GAL)=	7	RES-RID-OIL(10E4-GAL)=	0	RES-N-GAS(10E7-CUFT)=	177
RES-WOOD(100-TONS)=	3	CI-ANTH(10-TONS)=	0	CI-BITUM(10-TONS)=	0	CI-DIS-OIL(10E4-GAL)=	63
CI-RID-OIL(10E4-GAL)=	172	CI-N-GAS(10E7-CUFT)=	70	CI-WOOD(100-TONS)=	0	IND-ANTH(10-TONS)=	0
IND-BITUM(10-TONS)=	0	IND-COKE(10-TONS)=	0	IND-DIS-OIL(10E4-GAL)=	21	IND-RE-OIL(10E4-GAL)=	26
IND-N-GAS(10E7-CUFT)=	5	IND-WOOD(100-TONS)=	0	IND-PR-GAS(10E7-CUFT)=	0		
RES-OS-IND(10-TONS)=	575	IND-OS-IND(100-TONS)=	2	CT-OS-IND(100-TONS)=	3	PART-EMS(T/YR)=	1272.177
RES-CP-BRN(100-TONS)=	52	IND-CPN-BRN(100-TONS)=	3	CT-CPN-BRN(100-TONS)=	6	SO2-EMS(T/YR)=	630.636
GAS-LT-VEH(1000-GAL)=	34000	GAS-HVY-VEH(1000-GAL)=	7147	GAS-OFF-HWY(1000-GAL)=	2107	NOX-EMS(T/YR)=	4318.853
DIE-HV-VEH(1000-GAL)=	2277	DIE-OFF-HWY(10E4-GAL)=	304	DIE-RR-LOC(10E4-GAL)=	121	HC-EMS(T/YR)=	7156.309
COUNTY-POP(1000)=	65	DENSITY-COEF=	5	MIL-AIRCRAFT(100-LTO)=	679	CO-EMS(T/YR)=	32013.947
CIV-AIRCRAFT(10-LTO)=	241	COMM-AIRCRAFT(10-LTO)=	0	VES-BITUM(10-TONS)=	0	NO. 6-EMS(T/YR)=	0.000
VES-DIS-OIL(10E4-GAL)=	0	VES-RID-OIL(10E4-GAL)=	0	VES-GAS(1000-GAL)=	0	NO. 7-EMS(T/YR)=	0.000
EVAP-SOLVENT(T/YR)=	102	EVAP-GAS(10E5-GAL)=	276	VEH-MI-LA-RD(10E4-MI)=		NO. 8-EMS(T/YR)=	0.000
VEH-MI-PUBL(10E4-MI)=	2900	VEH-MI-SUBAN(10E4-MI)=		VEH-MI-URBAN(10E4-MI)=	24000	NO. 9-EMS(T/YR)=	0.000
DIRT-RD-TRV(1000-MI)=		DIRT-AIR-STRIPS(LTO)=		CONST-LAND(1000-ACRE)=		NO. 10-EMS(T/YR)=	0.000
ROCK-H-ST(1000-TONS)=		FOREST-FIRE-AR(ACRES)=		FOR-FIRE-SU(TON/ACRE)=		NO. 11-EMS(T/YR)=	0.000
SLASH-BRN-ARE(ACRES)=		SLASH-BN-DU(TON/ACRE)=		ORCHARD-HEATERS(100)=		NO. 12-EMS(T/YR)=	0.000
OPEN-BA-FIRE(GA/YR)=		STRUCTURE-FIRES(#/YR)=		OPB-SIZE-BK(100-CUYD)=	0		
COAL-REF-BURN(#/YR)=	0	COMMENTS=					

4.2.2.6 NEDS AREA SOURCE FUEL SUMMARY REPORT (N,RB,FS)

4.2.2.6.0 DESCRIPTION

The area source fuel usage report is a NEDS remote batch function that allows the user to retrieve information only about fuel usage compiled from the area source form. The report provides the amount of fuel used in each area within the state and a summary for the state. A sample report format is included in this section.

4.2.2.6.1 STRUCTURED ENTRIES

When the function is first entered, the user may ask for a listing of the available functional commands if one is needed.

In order to construct remote batch jobs, certain information is required for the RUN card. Part of this information is fixed for a single user and is therefore obtained from the master program. Some information varies for each run and is requested within the batch function. The variable information is run identifier, priority code, and run time.

The run identifier is a maximum of six characters long. The first two characters are the NCC-assigned bin number and the last four are any characters the user wishes to assign to uniquely identify his run. It is possible to have runs with the same identifiers, but it is not recommended because tracing runs becomes much more difficult. The user's run identifier is entered after the prompt, NAME?

NCC has set up a system of priority codes that classify runs and enable the system to operate more efficiently. These codes change from time to time and therefore are not listed here. The codes are usually based on run time and the number of tape or disk drives required. The disks for this remote batch function are on-line and therefore only time is to be considered. Copies of the priority scheme are available from NCC (address in 4.2.2.0). The one character priority code is entered after the prompt, PRIORITY?

The user must estimate the SUP time that will be required to complete his request. This time will vary depending upon the amount of data selected. For example, a request for 5 state/counties might take 1.5 minutes; a request for 1 state might require 0.5 minute (as of October 1975). A certain amount of trial and error is involved in estimating required times, so it is better to estimate high. A high estimate, of course, lengthens the turnaround time and affects the operating efficiency of the computer.

Selection	Time (minutes)
5 state/counties	1.5
1 state	.5

4.2.2.6.2 COMMANDS

After the preliminary responses have been entered, the user receives the prompt, COMMAND? The command word can be entered in its entirety or can be abbreviated to the first two characters of the word. The commands are:

	COMMAND	DESCRIPTION
i.	region=??	EPA Region desired. The value must be a two digit number from 01 to 10. If the STATE command was entered previously, the state(s) requested will be ignored.
ii.	state=??,??,??,??,??	state(s) desired. A maximum of five states can be requested. If the REGION command was entered previously, the region requested will be ignored.
iii.	end	terminates function. This command, following the COMMAND? prompt, signals the end of user specifications for this function.

When the END command is entered after the COMMAND? prompt, a summary of the batch run constructed is listed. The user has the option of submitting the run as listed or cancelling it. If the user enters YES, the batch run is submitted to the 1110 operating system right then. A message is returned by the 1110 system indicating the run identifier and whether or not the run was accepted. If the run is accepted, it goes into the 1110 backlog and is scheduled for processing just as any other batch job. Control is passed back to the ATS master program and any ATS function can be requested at that time.

4.2.2.6.3 SPECIAL NOTES

The commands can be entered in their entirety or be abbreviated to the first two characters of the command. For example, STATE=01 and ST=01 are equally acceptable.

Either a region or a state must be entered or no batch job be submitted.

The output of the batch job requires a 132 print position line. If the user's printer is limited to 120 characters, the output should be routed to the UNIVAC 1110 central site for later mailing to the user.

4.2.2.6.4 SAMPLE INTERACTIVE SESSION

```
@RUN  99USER,99999999,PROJ,15,9999/9999
DATE: 102175      TIME: 171431
@ASG,A  NADB*NADB-ABS/SDS.
READY
@COPY,A  NADB*NADB-ABS.ATS
FURPUR 0026-10/21-17:15
 1 ABS
@FREE    NADB*NADB-ABS.
READY
ABTS
AEROS TERMINAL SYSTEM (V.1)  DATE: 10/21/75      TIME: 17:38:39

ARE YOU USING A CRT TERMINAL? ( YES OR NO )
YES
DO YOU WISH FOR INSTRUCTIONS? ( YES OR NO )
YES

THE AEROS TERMINAL SYSTEM PROVIDES ACCESS TO THE AIR
QUALITY AND EMISSIONS DATA (SAROAD AND NEDS) THROUGH
THE FUNCTIONS LISTED BELOW. EACH FUNCTION DEFINES THE
SUB-SYSTEM AND THE MODE OF ACCESS. THIS IS INDICATED
BY THE FOLLOWING NOTATION:
    S = SAROAD
    N = NEDS
    I = INTERACTIVE ACCESS
   RB = REMOTE BATCH ACCESS
THE FOLLOWING IS THE LIST OF LEGAL FUNCTONS.
    PS   - POINT SOURCE                    (N, RB)
    AS   - AREA SOURCE                     (N, RB)
    FS   - AREA SOURCE FUEL SUMMARY        (N, RB)
    ES   - EMISSIONS SUMMARY REPORT        (N, RB)
    PO   - POLLUTANT NAMES                 (S, I)
    QS   - QUARTERLY SUMMARIES             (S, I)
    SI   - SITE DESCRIPTIONS               (S, I)
    UN   - UNIT TABLE                      (S, I)
    YS   - YEARLY SUMMARIES                (S, I)
    HELP - DESCRIPTION OF FUNCTIONS
    END  - END TERMINAL SESSION
FUNCTION?
FS
ENTER YOUR USER PROJECT CODE.
PROJ?
USER
ENTER IDENTIFICATION NUMBER FOR THE TERMINAL
TO WHICH THE PRINT SHOULD BE ROUTED.
TERMINAL ID?
REMOTE
ENTER YOUR BATCH ACCOUNT NUMBER.
ACCT #?
99999999

EMISSIONS AREA SOURCE FUEL USAGE REPORT


THIS FUNCTION PROVIDES THE USER REMOTE BATCH ACCESS TO THE FUEL
SUMMARIES.  THE RETRIEVAL IS LIMITED TO A SINGLE REGION OR A
MAXIMUM OF FIVE STATES.  CARE SHOULD BE EXERCISED TO AVOID EXCESSIVE
OUTPUT.  IF YOU NEED A LIST OF THE VALID COMMANDS, ENTER YES.
OTHERWISE, ENTER NO.
YES OR NO?

YES
```

```
THE VALID COMMANDS ARE:
  REGION=??          - THE EPA REGION DESIRED. THE VALUE MUST
                       BE A TWO DIGIT NUMBER FROM 01 TO 10. IF
                       THE STATE COMMAND WAS ENTERED PREVIOUSLY,
                       THE STATE(S) REQUESTED WILL BE IGNORED.
  STATE=??,??,??,??,??  - THE STATE(S) DESIRED. A MAXIMUM OF FIVE
                       STATES CAN BE REQUESTED. IF THE REGION
                       COMMAND WAS ENTERED PREVIOUSLY, THE REGION
                       REQUESTED WILL BE IGNORED.
  END                  - SIGNALS THE END OF USER SPECIFICATIONS
                       FOR THIS FUNCTION

ENTER YOUR RUNID (MAX. 6 CHAR.)
NAME?
05CCFS

ENTER YOUR RUN PRIORITY CODE (1CHAR.)
PRIORITY?
D

 ENTER YOUR RUN TIME (MINUTES) MAX. 3 CHAR.
RUN TIME?
2

 START ENTERING COMMANDS

COMMAND?
ST=04,05

STATE(S) WANTED=04 05

COMMAND?
EN

JOB AS SPECIFIED IS:

STATE(S)= 04 05

DO YOU WISH TO SUBMIT THE JOB AS SPECIFIED?
YES OR NO?
YES

*TM*05CCFS RUN ID 05CCFS 99999999 USER   ACCEPTED
ENTER NEXT FUNCTION YOU WISH TO ACCESS
FUNCTION?
EN

END SESSION
```

```
@RUN  99USER,99999999,PROJ,15,9999/9999
DATE: 102175      TIME: 171431
@ASG,A  NADB*NADB-ABS/SDS.
READY
@COPY,A  NADB*NADB-ABS.ATS
FURPUR 0026-10/21-17:15
 1 ABS
@FREE    NADB*NADB-ABS.
READY
ATS
AEROS TERMINAL SYSTEM (V.1)  DATE: 10/21/75      TIME: 17:43:10

ARE YOU USING A CRT TERMINAL? ( YES OR NO )
NO
DO YOU WISH FOR INSTRUCTIONS? ( YES OR NO )
NO

FUNCTION?
TES
PROJ?
USER
TERMINAL ID?
PR
ACCT #?
99999999

EMISSIONS AREA SOURCE FUEL USAGE REPORT

COMMAND LIST---YES OR NO?

NO

ENTER YOUR RUNID (MAX. 6 CHAR.)
NAME?

05CCFS
*OUTPUT INTERUPT*

ENTER YOUR RUN PRIORITY CODE (1CHAR.)
PRIORITY?

D

 ENTER YOUR RUN TIME (MINUTES) MAX. 3 CHAR.
RUN TIME?

2

 START ENTERING COMMANDS

COMMAND?

ST=04

STATE(S) WANTED=04


COMMAND?

EN

JOB AS SPECIFIED IS:

STATE(S)= 04

DO YOU WISH TO SUBMIT THE JOB AS SPECIFIED?
YES OR NO?
```

```
YES
ENTER NEXT FUNCTION YOU WISH TO ACCESS

*TM*05CCFS RUN ID 05CCFT 99999999 USER ACCEPTED
FUNCTION?
END

END SESSION
```

4.2.2.6.5 SAMPLE BATCH OUTPUT

A sample of the output produced by the remote batch run follows. The States of Arkansas and California were requested.

NATIONAL EMISSIONS DATA SYSTEM (NEDS)
ENVIRONMENTAL PROTECTION AGENCY

PAGE 1
DATE 10/10/75

AREA SOURCE FUEL USAGE REPORT

UPDATE DATE WEDNESDAY SEPTEMBER 17, 1975

STATE: ARKANSAS

RESIDENTIAL FUEL

COUNTY	ANTH. COAL 10 TONS	BITUM. COAL 10 TONS	DIST. OIL 10,000 GALS.	RESID. OIL 10,000 GALS.	NAT. GAS 10E7 CUFT	WOOD 100 TONS
ARKANSAS			4		83	19
ASHLEY			3		59	22
BAXTER			2		24	64
BENTON			7		223	69
BOONE			7		74	95
BRADLEY					29	27
CALHOUN					10	3
CARROLL			3		47	65
CHICOT			1		44	21
CLARK			3		71	23
CLAY			11		56	48
CLEBURNE					19	39
CLEVELAND			1		7	10
COLUMBIA					103	18
CONWAY					55	41
CRAIGHEAD			15		228	38
CRAWFORD			5		100	22
CRITTENDEN			19		125	63
CROSS			6		38	39
DALLAS					28	15
DESHA					52	11
DREW			1		37	24
FAULKNER			3		103	30
FRANKLIN			2		37	19
FULTON			8			64
GARLAND			4		252	29
GRANT					38	9
GREENE			11		81	53
HEMPSTEAD			1		80	15
HOT SPRING			4		84	26
HOWARD					37	15
INDEPENDENCE			6		56	73
IZARD						61
JACKSON			2		63	31
JEFFERSON			7		340	42
JOHNSON			1		44	28
LAFAYETTE			2		37	8
LAWRENCE			4		43	76
LEE			2		21	53
LINCOLN					18	19
LITTLE RIVER					26	9

NATIONAL EMISSIONS DATA SYSTEM (NEDS)
ENVIRONMENTAL PROTECTION AGENCY

PAGE 2
DATE 10/10/75

AREA SOURCE FUEL USAGE REPORT

UPDATE DATE WEDNESDAY SEPTEMBER 17, 1975

STATE: ARKANSAS

RESIDENTIAL FUEL

COUNTY	ANTH. COAL 10 TONS	BITUM. COAL 10 TONS	DIST. OIL 10,000 GALS.	RESID. OIL 10,000 GALS.	NAT. GAS 10E7 CUFT	WOOD 100 TONS
LOGAN			1		57	34
LONOKE			6		88	29
MADISON					15	59
MARION			2		7	61
MILLER			1		131	8
MISSISSIPPI			39		178	19
MONROE			4		29	28
MONTGOMERY			2		10	26
NEVADA			4		29	7
NEWTON						76
OUACHITA			1		109	18
PERRY					6	26
PHILLIPS			14		91	48
PIKE					19	7
POINSETT			11		49	48
POLK			3			50
POPE			4		113	43
PRAIRIE					10	36
PULASKI			22		1582	56
RANDOLPH			7		31	76
ST FRANCIS			9		71	61
SALINE			6		142	27
SCOTT			2		19	28
SEARCY						102
SEBASTIAN			5		514	12
SEVIER						14
SHARP						45
STONE			2			49
UNION			4		208	12
VAN BUREN			2		9	52
WASHINGTON			5		394	55
WHITE					102	75
WOODRUFF			3		18	26
YELL			1		40	28
TOTAL RESIDENTIAL -			290		6955	2798

NATIONAL EMISSIONS DATA SYSTEM (NEDS)
ENVIRONMENTAL PROTECTION AGENCY

AREA SOURCE FUEL USAGE REPORT

UPDATE DATE WEDNESDAY SEPTEMBER 17, 1975

STATE: ARKANSAS

COMMERCIAL AND INSTITUTIONAL

COUNTY	ANTH. COAL 10 TONS	BITUM. COAL 10 TONS	DIST. OIL 10,000 GALS.	RESID. OIL 10,000 GALS.	NAT. GAS 10E7 CUFT	WOOD 100 TONS
ARKANSAS			14	1	45	
ASHLEY			10	1	25	
BAXTER			11	1	18	
BENTON			27	2	190	
BOONE			13	1	50	
BRADLEY			7	1	15	
CALHOUN			5	1	3	
CARROLL			7	1	35	
CHICOT			9	1	28	
CLARK			12	1	58	
CLAY			8	1	25	
CLEBURNE			7	1	12	
CLEVELAND			5	1	7	
COLUMBIA			11	1	53	
CONWAY			10	1	30	
CRAIGHEAD			32	2	212	
CRAWFORD			11	1	48	
CRITTENDEN			23	2	93	
CROSS			9	1	26	
DALLAS			7	1	15	
DESHA			10	1	38	
DREW			8	1	18	
FAULKNER			17	2	124	
FRANKLIN			6	1	20	
FULTON			5	1		
GARLAND			46	3	203	
GRANT			5	1	13	
GREENE			13	1	38	
HEMPSTEAD			10	1	36	
HOT SPRING			10	1	30	
HOWARD			7	1	26	
INDEPENDENCE			15	2	53	
IZARD			6	1		
JACKSON			13	2	38	
JEFFERSON			43	3	169	
JOHNSON			7	1	28	
LAFAYETTE			5	1	17	
LAWRENCE			16	4	23	
LEE			7	1	18	
LINCOLN			5	1	12	
LITTLE RIVER			6	1	10	

NATIONAL EMISSIONS DATA SYSTEM (NEDS) PAGE 4
ENVIRONMENTAL PROTECTION AGENCY DATE 10/10/75

AREA SOURCE FUEL USAGE REPORT
UPDATE DATE WEDNESDAY SEPTEMBER 17, 1975

STATE: ARKANSAS

COMMERCIAL AND INSTITUTIONAL

COUNTY	ANTH. COAL 10 TONS	BITUM. COAL 10 TONS	DIST. OIL 10,000 GALS.	RESID. OIL 10,000 GALS.	NAT. GAS 10E7 CUFT	WOOD 100 TONS
LOGAN			9	1	58	
LONOKE			10	1	35	
MADISON			6	1	21	
MARION			5	1	5	
MILLER			21	2	68	
MISSISSIPPI			23	2	84	
MONROE			8	1	28	
MONTGOMERY			5	1	5	
NEVADA			6	1	17	
NEWTON			5	1		
OUACHITA			14	1	116	
PERRY			5	1	2	
PHILLIPS			17	2	61	
PIKE			6	1	7	
POINSETT			10	1	40	
POLK			8	1		
POPE			15	1	96	
PRAIRIE			5	1	12	
PULASKI			255	15	1112	
RANDOLPH			7	1	18	
ST FRANCIS			14	1	55	
SALINE			11	1	48	
SCOTT			5	1	12	
SEARCY			5	1		
SEBASTIAN			71	5	339	
SEVIER			7	1		
SHARP			6	1		
STONE			5	1		
UNION			24	2	79	
VAN BUREN			8	1	7	
WASHINGTON			41	2	417	
WHITE			10	2	88	
WOODRUFF			6	1	10	
YELL			8	1	26	
TOTAL COMMERCIAL -			1168	112	4770	

NATIONAL EMISSIONS DATA SYSTEM (NEDS)
ENVIRONMENTAL PROTECTION AGENCY

PAGE 5
DATE 10/10/75

AREA SOURCE FUEL USAGE REPORT

UPDATE DATE WEDNESDAY SEPTEMBER 17, 1975

STATE: ARKANSAS

INDUSTRIAL FUEL

COUNTY	ANTH. COAL 10 TONS	BITUM. COAL 10 TONS	DIST. OIL 10,000 GALS.	RESID. OIL 10,000 GALS.	NAT. GAS 10E7 CUFT	WOOD 100 TONS	COKE 10 TONS	PROCESS GAS 10E7 CUFT
ARKANSAS				21	238			
ASHLEY				55				
BAXTER				04	6			
BENTON				159	175			
BOONE				11	30			
BRADLEY				2	24			
CALHOUN				66	4			
CARROLL				31	26			
CHICOT				3	11			
CLARK				26	95			
CLAY				5	6			
CLEBURNE				2	1			
CLEVELAND				8	22			
COLUMBIA				86	73			
CONWAY				26				
CRAIGHEAD				101	87			
CRAWFORD				16	51			
CRITTENDEN				37	5			
CROSS				18	20			
DALLAS				27	7			
DESHA				16	16			
DREW				30	55			
FAULKNER				48	65			
FRANKLIN				4				
FULTON				6				
GARLAND				19				
GRANT				8	20			
GREENE				27	78			
HEMPSTEAD				26	51			
HOT SPRING				109				
HOWARD				47	464			
INDEPENDENCE				37	70			
IZARD				6				
JACKSON				39	101			
JEFFERSON				137	775			
JOHNSON				21	51			
LAFAYETTE				9				
LAWRENCE				8	6			
LEE				2	10			
LINCOLN				1	4			
LITTLE RIVER				19	460			

NATIONAL EMISSIONS DATA SYSTEM (NEDS)
ENVIRONMENTAL PROTECTION AGENCY

PAGE 6
DATE 10/10/75

AREA SOURCE FUEL USAGE REPORT

UPDATE DATE WEDNESDAY SEPTEMBER 17, 1975

STATE: ARKANSAS

INDUSTRIAL FUEL

COUNTY	ANTH. COAL 10 TONS	BITUM. COAL 10 TONS	DIST. OIL 10,000 GALS.	RESID. OIL 10,000 GALS.	NAT. GAS 10E7 CUFT	WOOD 100 TONS	COKE 10 TONS	PROCESS GAS 10E7 CUFT
LOGAN				6	20			
LONOKE				10	129			
MADISON				1	1			
MARION				2				
MILLER				38	109			
MISSISSIPPI				50	4			
MONROE				4	2			
MONTGOMERY				9	12			
NEVADA				3	98			
NEWTON								
OUACHITA				180	570			
PERRY				2				
PHILLIPS				57				
PIKE				20	14			
POINSETT				4	24			
POLK				26				
POPE				83	147			
PRAIRIE				5	1			
PULASKI				501	822			
RANDOLPH				15	1			
ST FRANCIS				26				
SALINE				246	1478			
SCOTT				17	11			
SEARCY				6				
SEBASTIAN				344	510			
SEVIER				47				
SHARP								
STONE								
UNION				80	514			
VAN BUREN				5	2			
WASHINGTON				143	233			
WHITE				39	19			
WOODRUFF				18	141			
YELL				12	14			
TOTAL INDUSTRIAL -				3377	7383			
TOTAL USAGE FOR STATE -			1458	3489	19708	2798		

NATIONAL EMISSIONS DATA SYSTEM (NEDS)
ENVIRONMENTAL PROTECTION AGENCY

PAGE 7
DATE 10/10/75

AREA SOURCE FUEL USAGE REPORT

UPDATE DATE WEDNESDAY SEPTEMBER 17, 1975

STATE: CALIFORNIA

RESIDENTIAL FUEL

COUNTY	ANTH. COAL 10 TONS	BITUM. COAL 10 TONS	DIST. OIL 10,000 GALS.	RESID. OIL 10,000 GALS.	NAT. GAS 10E7 CUFT	WOOD 100 TONS
ALAMEDA		27	105		3631	15
ALPINE			6		1	1
AMADOR			25		21	55
BUTTE			43		316	65
CALAVERAS			15		27	66
COLUSA			7		37	6
CONTRA COSTA			31		1772	10
DEL NORTE			54		14	34
EL DORADO			58		105	98
FRESNO		5	71		1258	36
GLENN			15		50	17
HUMBOLDT			96		274	240
IMPERIAL			8		142	4
INYO			31		38	31
KERN		7	30		1044	12
KINGS			7		177	9
LAKE			54		32	33
LASSEN		15	148		23	57
LOS ANGELES		137	151		24343	70
MADERA		7	6		122	14
MARIN		15	20		672	9
MARIPOSA			17		11	31
MENDOCINO			185		62	170
MERCED			21		292	15
MODOC			91		3	23
MONO			18		8	5
MONTEREY			32		674	18
NAPA			14		250	8
NEVADA		7	172		48	88
ORANGE		16	27		4313	11
PLACER		8	140		135	95
PLUMAS		8	77		17	92
RIVERSIDE		21	47		1464	35
SACRAMENTO		15	43		2048	18
SAN BENITO			3		52	5
SAN BERNARDINO		7	130		2140	50
SAN DIEGO			133		4052	70
SAN FRANCISCO		37	203		2834	17
SAN JOAQUIN			35		324	20
SAN LUIS OBISPO			7		311	23
SAN MATEO		7	60		1846	14

NATIONAL EMISSIONS DATA SYSTEM (NEDS)
ENVIRONMENTAL PROTECTION AGENCY

PAGE 8
DATE 10/10/75

AREA SOURCE FUEL USAGE REPORT
****

UPDATE DATE WEDNESDAY SEPTEMBER 17, 1975

STATE: CALIFORNIA
*****

RESIDENTIAL FUEL
****

COUNTY	ANTH. COAL 10 TONS	BITUM. COAL 10 TONS	DIST. OIL 10,000 GALS.	RESID. OIL 10,000 GALS.	NAT. GAS 10E7 CUFT	WOOD 100 TONS
SANTA BARBARA		9	22		823	14
SANTA CLARA		7	109		3170	15
SANTA CRUZ		15	46		423	20
SHASTA			71		154	117
SIERRA			31		1	28
SISKIYOU			223		30	186
SOLANO		9	20		520	11
SONOMA		8	41		648	71
STANISLAUS		8	24		618	14
SUTTER			11		133	10
TEHAMA		8	38		69	45
TRINITY			19		11	84
TULARE			36		552	16
TUOLUMNE			9		39	62
VENTURA			49		2176	24
YOLO			33		282	4
YUBA			19		108	22
TOTAL RESIDENTIAL -		403	3263		65434	2500

NATIONAL EMISSIONS DATA SYSTEM (NEDS)
ENVIRONMENTAL PROTECTION AGENCY

PAGE 9
DATE 10/10/75

AREA SOURCE FUEL USAGE REPORT

UPDATE DATE WEDNESDAY SEPTEMBER 17, 1975

STATE: CALIFORNIA

COMMERCIAL AND INSTITUTIONAL

...COUNTY...	ANTH. COAL 10 TONS	BITUM. COAL 10 TONS	DIST. OIL 10,000 GALS.	RESID. OIL 10,000 GALS.	NAT. GAS 10E7 CUFT	WOOD 100 TONS
ALAMEDA			1041	2861	1168	
ALPINE				1	1	
AMADOR			11	32	13	
BUTTE			99	272	111	
CALAVERAS			13	36	15	
COLUSA			12	33	14	
CONTRA COSTA			571	1569	640	
DEL NORTE			14	39	16	
EL DORADO			43	117	48	
FRESNO			401	1101	449	
GLENN			17	47	19	
HUMBOLDT			97	266	108	
IMPERIAL			73	199	81	
INYO			15	42	17	
KERN			319	878	358	
KINGS			63	172	70	
LAKE			19	52	21	
LASSEN			15	40	16	
LOS ANGELES			6819	18747	7651	
MADERA			40	111	45	
MARIN			200	549	224	
MARIPOSA			6	16	7	
MENDOCINO			50	136	56	
MERCED			101	279	114	
MODOC			7	20	8	
MONO			4	11	4	
MONTEREY			242	667	272	
NAPA			77	211	86	
NEVADA			26	70	29	
ORANGE			1377	3787	1545	
PLACER			75	206	84	
PLUMAS			11	31	13	
RIVERSIDE			445	1224	499	
SACRAMENTO			612	1684	687	
SAN BENITO			18	49	20	
SAN BERNARDINO			663	1824	744	
SAN DIEGO			1317	3620	1477	
SAN FRANCISCO			694	1908	779	
SAN JOAQUIN			281	774	316	
SAN LUIS OBISPO			102	282	115	
SAN MATEO			539	1483	605	

NATIONAL EMISSIONS DATA SYSTEM (NEDS)
ENVIRONMENTAL PROTECTION AGENCY

PAGE 10
DATE 10/10/75

AREA SOURCE FUEL USAGE REPORT

UPDATE DATE WEDNESDAY SEPTEMBER 17, 1975

STATE: CALIFORNIA

COMMERCIAL AND INSTITUTIONAL

...COUNTY...	ANTH. COAL 10 TONS	BITUM. COAL 10 TONS	DIST. OIL 10,000 GALS.	RESID. OIL 10,000 GALS.	NAT. GAS 10E7 CUFT	WOOD 100 TONS
SANTA BARBARA			258	705	288	
SANTA CLARA			1032	2838	1158	
SANTA CRUZ			120	330	135	
SHASTA			75	207	84	
SIERRA			2	6	3	
SISKIYOU			32	89	36	
SOLANO			165	453	185	
SONOMA			199	546	223	
STANISLAUS			189	519	212	
SUTTER			41	112	46	
TEHAMA			29	79	32	
TRINITY			7	20	8	
TULARE			187	502	205	
TUOLUMNE			21	59	24	
VENTURA			730	2008	820	
YOLO			89	245	100	
YUBA			43	119	49	
TOTAL COMMERCIAL -			19741	54283	22153	

NATIONAL EMISSIONS DATA SYSTEM (NEDS)
ENVIRONMENTAL PROTECTION AGENCY

PAGE 11
DATE 10/10/75

AREA SOURCE FUEL USAGE REPORT

UPDATE DATE WEDNESDAY SEPTEMBER 17, 1975

STATE: CALIFORNIA

INDUSTRIAL FUEL

COUNTY	ANTH. COAL 10 TONS	BITUM. COAL 10 TONS	DIST. OIL 10,000 GALS.	RESID. OIL 10,000 GALS.	NAT. GAS 10E7 CUFT	WOOD 100 TONS	COKE 10 TONS	PROCESS GAS 10E7 CUFT
ALAMEDA			1113	1401	322			
ALPINE								
AMADOR			10	12	3			
BUTTE			40	51	12			
CALAVERAS			8	11	2			
COLUSA			4	5	1			
CONTRA COSTA			414	521	120			
DEL NORTE			25	32	7			
EL DORADO			14	18	4			
FRESNO			216	272	62			
GLENN			8	11	2			
HUMBOLDT			124	156	36			
IMPERIAL			18	23	5			
INYO			1	2				
KERN			84	105	24			
KINGS			21	26	6			
LAKE			1	2				
LASSEN			7	9	2			
LOS ANGELES			11918	15004	3447			
MADERA			17	21	5			
MARIN			50	63	15			
MARIPOSA								
MENDOCINO			56	70	16			
MERCED			31	39	9			
MODOC			3	4	1			
MONO								
MONTEREY			98	123	28			
NAPA			40	51	12			
NEVADA			8	11	2			
ORANGE			1753	2207	507			
PLACER			24	30	7			
PLUMAS			14	18	4			
RIVERSIDE			233	293	67			
SACRAMENTO			305	384	88			
SAN BENITO			15	19	4			
SAN BERNARDINO			414	521	120			
SAN DIEGO			885	1114	256			
SAN FRANCISCO			726	914	210			
SAN JOAQUIN			230	289	66			
SAN LUIS OBISPO			17	21	5			
SAN MATEO			454	572	131			

NATIONAL EMISSIONS DATA SYSTEM (NEDS)
ENVIRONMENTAL PROTECTION AGENCY

PAGE 12
DATE 10/10/75

AREA SOURCE FUEL USAGE REPORT

UPDATE DATE WEDNESDAY SEPTEMBER 17, 1975

STATE: CALIFORNIA

INDUSTRIAL FUEL

COUNTY	ANTH. COAL 10 TONS	BITUM. COAL 10 TONS	DIST. OIL 10,000 GALS.	RESID. OIL 10,000 GALS.	NAT. GAS 10E7 CUFT	WOOD 100 TONS	COKE 10 TONS	PROCESS GAS 10E7 CUFT
SANTA BARBARA			118	149	34			
SANTA CLARA			1675	2110	485			
SANTA CRUZ			88	111	25			
SHASTA			61	77	18			
SIERRA			1	2				
SISKIYOU			40	51	12			
SOLANO			45	56	13			
SONOMA			86	109	25			
STANISLAUS			194	244	56			
SUTTER			20	25	6			
TEHAMA			31	39	9			
TRINITY			8	11	2			
TULARE			75	95	22			
TUOLUMNE			14	18	4			
VENTURA			300	378	88			
YOLO			42	53	12			
YUBA			13	16	4			
TOTAL INDUSTRIAL -			22211	27969	6423			
TOTAL USAGE FOR STATE -		403	45215	82252	94010	2500		

4.2.2.7 NEDS EMISSION SUMMARY REPORT (N,RB,ES)

4.2.2.7.0 DESCRIPTION

The emission summary function is a NEDS remote batch function that allows the user to retrieve a summary report by category for varying geographical areas. A sample of the report format is included in this section.

4.2.2.7.1 STRUCTURED ENTRIES

When the function is first entered, the user may ask for a listing of the available functional commands if one is needed.

In order to construct remote batch jobs, certain information is required for the RUN card. Part of this information is fixed for a single user and is therefore obtained from the master program. Some information varies for each run and is requested within the batch function. The variable information is run identifier, priority code and run time.

The run identifier is a maximum of six characters long. The first two characters are the NCC assigned bin number and the last four are any characters the user wishes to assign to uniquely identify his run. It is possible to have runs with the same identifiers but it is not recommended because tracing runs becomes much more difficult. The user's run identifier is entered after the prompt, NAME?

NCC has set up a system of priority codes that classify runs and enable the system to operate more efficiently. These codes change from time to time and therefore are not listed here. The codes are usually based on run time and number of tape or disk drives required. The disks for this function are on-line and therefore only time is to be considered. Copies of the priority scheme are available from NCC (address in 4.2.2.0). The one character priority code is entered after the prompt, PRIORITY?

The user must estimate the SUP time that will be required to complete his request. This time will vary depending upon the amount of data selected. Some rough estimates are listed here but a certain amount of trial and error is involved in estimating these times. It is better to estimate high, but this lengthens your turnaround and affects the 1110 operating efficiency.

EXAMPLES: (as of October 1975)

Selection	Time, minutes
1 AQCR	1.0
1 state/county	0.5
1 state by county	8.0
1 state	1.0
nation	20.0

4.2.2.7.2 COMMANDS

After the preliminary responses have been entered, the user receives the prompt, COMMAND? The command word can be entered in its entirety or can be abbreviated to the first two characters of the word. The commands are:

COMMAND	DESCRIPTION
i. report=?	Report selection category wanted. Various options are open to the user to limit his retrieval to a manageable size. The option desired is chosen by specifying the selection class corresponding to it. The options are: 1. State summary report. As many states as are desired can be entered. 2. County summary report. As many state/county combinations as desired may be entered. 3. State by county summary report. As many states as desired can be entered. 4. EPA Region summary report. As many regions as desired may be requested. 5. AQCR summary report. As many AQCR's as are desired may be entered. 6. National summary report. No further input is required.
ii. end	Terminate function. This command, following the COMMAND? prompt, signals the end of user specifications for this function.

When the user selects a category for entering selections, he enters a loop that allows him to enter as many combinations as desired. For each category, when this loop is entered and after each entry (except END) a prompt is printed indicating the information required. These prompts differ from category to category, but basically they are: combination, X, or END. The combinations reflect the category. For example, category two is the state/county category. The messages, ENTER 6 CHARACTER STATE/COUNTY CODE, X OR END and SC,X, or END? are printed. SC represents state/county. The combination

entered must be of the correct length or it is rejected. The entry, X, causes the previous combination entered to be ignored. This mechanism allows users to delete erroneous information entered. END signifies that all combinations desired have been entered.

When the END command is entered after the COMMAND? prompt, a summary of the batch run constructed is listed. The user has the option of submitting the run as listed or cancelling it. If the user enters YES, the batch run is submitted to the 1110 operating system immediately. A message is returned by the 1110 system indicating the run identifier and whether the run was accepted. If the run is accepted, it goes into the 1110 backlog and is scheduled for processing just as any other batch job. Control is passed back to the ATS master program and any ATS function can be requested at that time.

4.2.2.7.3 SPECIAL NOTES

The commands can be entered in their entirety or be abbreviated to the first two characters of the command. For example, REPORT=1 and RE=1 are equally acceptable.

A report must be selected and at least one combination entered or no batch job will be submitted.

The state by county summary produces a large volume of output. Use with care.

The output of the batch job requires a 132-print position line. If the user's printer is limited to 120 characters, the output should be routed to the UNIVAC 1110 central site for later mailing to the user.

4.2.2.7.4 SAMPLE INTERACTIVE SESSION

```
@RUN  99USER,99999999,PROJ,15,9999/9999
DATE: 102175      TIME: 171431
@ASG,A  NADB*NADB-ABS/SDS.
READY
@COPY,A  NADB*NADB-ABS.ATS
FURPUR 0026-10/21-17:15
 1 ABS
@FREE    NADB*NADB-ABS.
READY
[@ATS]
AEROS TERMINAL SYSTEM (V.1)  DATE: 10/21/75      TIME: 17:49:28

ARE YOU USING A CRT TERMINAL? ( YES OR NO )
[YES]
DO YOU WISH FOR INSTRUCTIONS? ( YES OR NO )
[YES]

THE AEROS TERMINAL SYSTEM PROVIDES ACCESS TO THE AIR
QUALITY AND EMISSIONS DATA (SAROAD AND NEDS) THROUGH
THE FUNCTIONS LISTED BELOW. EACH FUNCTION DEFINES THE
SUB-SYSTEM AND THE MODE OF ACCESS. THIS IS INDICATED
BY THE FOLLOWING NOTATION:
    S = SAROAD
    N = NEDS
    I = INTERACTIVE ACCESS
   RB = REMOTE BATCH ACCESS
THE FOLLOWING IS THE LIST OF LEGAL FUNCTONS.
    PS   - POINT SOURCE                    (N, RB)
    AS   - AREA SOURCE                     (N, RB)
    FS   - AREA SOURCE FUEL SUMMARY        (N, RB)
    ES   - EMISSIONS SUMMARY REPORT        (N, RB)
    PO   - POLLUTANT NAMES                 (S, I)
    QS   - QUARTERLY SUMMARIES             (S, I)
    SI   - SITE DESCRIPTIONS               (S, I)
    UN   - UNIT TABLE                      (S, I)
    YS   - YEARLY SUMMARIES                (S, I)
    HELP - DESCRIPTION OF FUNCTIONS
    END  - END TERMINAL SESSION
FUNCTION?
[ES]
ENTER YOUR USER PROJECT CODE.
PROJ?
[USER]
ENTER IDENTIFICATION NUMBER FOR THE TERMINAL
TO WHICH THE PRINT SHOULD BE ROUTED.
TERMINAL ID?
[PR]
ENTER YOUR BATCH ACCOUNT NUMBER.
ACCT #?
[77777777]

NEDS EMISSION SUMMARY LISTING

THE NEDS SUMMARY LISTING PROGRAM OFFERS THE USER REMOTE BATCH
ACCESS TO NEDS SUMMARY LISTINGS. THE AMOUNT OF INFORMATION THAT
WILL BE PRINTED IS REFLECTED BY THE REPORT NAME. CARE SHOULD BE
TAKEN TO ENSURE THAT AN EXCESSIVE AMOUNT OF PRINT IS NOT GENERATED.
IF YOU NEED A LISTING OF THE VALID COMMANDS, ENTER YES. OTHERWISE
ENTER NO.
YES OR NO?

[YES]
VALID COMMANDS ARE:
'REPORT=?' - REPORT WANTED.  ?   REPRESENTS THE NUMBER OF THE
             REPORT WANTED. THE NUMBERS & CORRESPONDING REPORTS ARE:
              1 - STATE SUMMARY REPORT
```

```
                2 - COUNTY SUMMARY REPORT
                3 - STATE BY COUNTY SUMMARY REPORT
                4 - EPA REGION SUMMARY REPORT
                5 - AQCR SUMMARY REPORT
                6 - NATIONAL SUMMARY REPORT
'END'       - SIGNALS END OF REQUEST SPECIFICATIONS
THE ENTIRE COMMAND CAN BE ENTERED OR THE COMMAND CAN BE ABBREVIATED
TO THE FIRST TWO LETTERS OF THE COMMAND. FOR EXAMPLE, REPORT=1 &
RE=1 BOTH INDICATE A STATE REPORT IS DESIRED.

ENTER YOUR RUNID (MAX. 6 CHAR.)
NAME?

05CCES

ENTER YOUR RUN PRIORITY CODE (1CHAR.)
PRIORITY?

D

 ENTER YOUR RUN TIME (MINUTES) MAX. 3 CHAR.
RUN TIME?

2

 START ENTERING COMMANDS

COMMAND?

RE=2

ENTER 6 CHARACTER STATE/COUNTY CODE,X,OR END

SC,X,OR END?

042600

STATE/COUNTY=042600

SC,X,OR END?

053520

STATE/COUNTY=053520

SC,X,OR END?

EN

JOB AS SPECIFIED IS:
REPORT TYPE=02

CONTROL CARDS ENTERED-

ST CNTY AQCR REGION

04 2600 999  99

05 3520 999  99
```

```
DO YOU WANT TO SUBMIT THE JOB AS SPECIFIED?
YES OR NO?
YES
JOB WILL BE SUBMITTED UPON SUCCESSFUL COMPLETION OF THIS PROCEDURE
*TM*05CCES RUN ID 05CCES 99999999 USER ACCEPTED
PLEASE CHOOSE NEXT FUNCTION YOU WISH TO ACCESS.
FUNCTION?
END

END SESSION
```

```
RRUN  99USER,99999999,PROJ,15,9999/9999
DATE: 102175      TIME: 171431
RASG,A  NADB*NADB-ABS/SDS.
READY
RCOPY,A  NADB*NADB-ABS.ATS
FURPUR 0026-10/21-17:15
 1 ABS
RFREE    NADB*NADB-ABS.
READY
ATS
AEROS TERMINAL SYSTEM (V.1)  DATE: 10/21/75      TIME: 17:57:28

ARE YOU USING A CRT TERMINAL? ( YES OR NO )
YES
DO YOU WISH FOR INSTRUCTIONS? ( YES OR NO )
NO

FUNCTION?
ES
PROJ?
USER
TERMINAL ID?
PR
ACCT #?
99999999

NEDS EMISSION SUMMARY LISTING

COMMAND LIST---YES OR NO?

NO

ENTER YOUR RUNID (MAX. 6 CHAR.)
NAME?

05CCES

ENTER YOUR RUN PRIORITY CODE (1CHAR.)
PRIORITY?

D

 ENTER YOUR RUN TIME (MINUTES) MAX. 3 CHAR.
RUN TIME?

2

 START ENTERING COMMANDS

COMMAND?

RE=2

ENTER 6 CHARACTER STATE/COUNTY CODE,X,OR END

SC,X,OR END?

042600

STATE/COUNTY=042600

SC,X,OR END?

EN

JOB AS SPECIFIED IS:
REPORT TYPE=02
```

```
CONTROL CARDS ENTERED-

ST CNTY AQCR REGION

0* 2600 999  99

DO YOU WANT TO SUBMIT THE JOB AS SPECIFIED?
YES OR NO?

YES

JOB WILL BE SUBMITTED UPON SUCCESSFUL COMPLETION OF THIS PROCEDURE

*TM*05CCES RUN ID 05CCET 99999999 4SEX  ACCEPTED

PLEASE CHOOSE NEXT FUNCTION YOU WISH TO ACCESS.
FUNCTION?
EN

END SESSION
```

4.2.2.7.5 SAMPLE BATCH OUTPUT

Two samples of the output produced by the remote batch run follow. The first sample shows a county summary for two counties, 04-2600 and 05-3520 (Union County, Arkansas, and Kings County, California). The second example shows an AQCR summary for AQCR 001 (Alabama and Tombigbee Rivers, Ala.).

4.2.2.7.5.1 SAMPLE EMISSIONS SUMMARY REPORT (STATE-COUNTY)

NATIONAL EMISSIONS DATA SYSTEM

ENVIRONMENTAL PROTECTION AGENCY

COUNTY EMISSIONS REPORT

RUN DATE: FRIDAY OCTOBER 10, 1975

EMISSIONS AS OF: SEPTEMBER 17, 1975

UNION COUNTY, ARKANSAS

	PARTICULATES TONS / YR	SOX TONS / YR	NOX TONS / YR	HC TONS / YR	CO TONS / YR
FUEL COMBUSTION					
EXTERNAL COMBUSTION					
RESIDENTIAL FUEL (AREA)					
DISTILLATE OIL	0	1	0	0	0
NATURAL GAS	10	1	83	8	21
WOOD	15	1	6	12	12
TOTAL (RESIDENTIAL)	26	2	89	20	33
INDUSTRIAL FUEL					
RESIDUAL OIL					
AREA SOURCES	9	109	24	1	2
POINT SOURCES	1	33	4	0	0
DISTILLATE OIL					
POINT SOURCES	13	392	53	3	4
NATURAL GAS					
AREA SOURCES	26	2	463	8	44
POINT SOURCES	25	2	696	8	43
WOOD					
POINT SOURCES	389	85	564	113	113
TOTAL (INDUSTRIAL)					
AREA SOURCES	35	110	487	9	45
POINT SOURCES	429	511	1316	123	159
COMM-INSTITUTIONAL FUEL					
RESIDUAL OIL					
AREA SOURCES	0	3	1	0	0
DISTILLATE OIL					
AREA SOURCES	2	5	7	0	0
NATURAL GAS					
AREA SOURCES	4	0	47	3	8
TOTAL (COMM-INST)					
AREA SOURCES	6	8	55	4	8

TOTAL (EXTERNAL COMB)					
AREA SOURCES	66	120	631	33	87
POINT SOURCES	429	511	1316	123	159
TOTAL (FUEL COMBUSTION)					
AREA SOURCES	66	120	631	33	87
POINT SOURCES	429	511	1316	123	159
INDUSTRIAL PROCESS (POINT)					
**********					
CHEMICAL MANUFACTURING	1289	2404	12955	0	0
MINERAL PRODUCTS	4	0	0	25	15
PETROLEUM INDUSTRY	19	1287	311	569	34387
TOTAL (INDUSTRIAL)	1312	3687	13266	594	34402
SOLID WASTE DISPOSAL					
**********					
RESIDENTIAL (AREA)					
ON SITE INCINERATION	17	0	1	47	142
OPEN BURNING	32	2	12	60	170
TOTAL (RESIDENTIAL)	49	2	13	107	312
COMMERCIAL-INSTITUTIONAL					
ON SITE INCINERATION					
AREA SOURCES	6	2	2	4	8
OPEN BURNING					
AREA SOURCES	3	0	1	6	17
TOTAL (COMM-INST)					
AREA SOURCES	9	2	3	10	25
INDUSTRIAL					
ON SITE INCINERATION					
AREA SOURCES	3	1	1	2	4
POINT SOURCES	70	1	10	110	1300
OPEN BURNING					
AREA SOURCES	2	0	1	3	9
POINT SOURCES	116	0	14	27	341
OTHER					
POINT SOURCES	0	285	0	0	0
TOTAL (INDUSTRIAL)					
AREA SOURCES	4	1	2	5	13
POINT SOURCES	186	286	24	137	1641
TOTAL (SOLID WASTE DISP)					
AREA SOURCES	62	5	17	121	349
POINT SOURCES	186	286	24	137	1641
TRANSPORTATION (AREA)					
**********					

LAND VEHICLES					
GASOLINE					
LIGHT VEHICLES	143	37	1253	1805	10181
HEAVY VEHICLES	12	4	130	312	1704
OFF HIGHWAY	3	2	36	102	1160
TOTAL (GASOLINE)	158	43	1419	2220	13044
DIESEL					
HEAVY VEHICLES	28	39	367	41	170
OFF HIGHWAY	10	9	111	12	31
RAIL	21	47	303	77	107
TOTAL (DIESEL)	59	95	781	130	307
VESSELS					
GASOLINE	0	0	0	14	44
TOTAL (VESSELS)	0	0	0	14	44
GAS HANDLING EVAP LOSS	0	0	0	263	0
TOTAL (TRANSPORTATION)	217	138	2201	2627	13396
MISCELLANEOUS (AREA)					
**********					
FOREST FIRE/AGRIC BURNING	225	0	53	318	1854
STRUCTURAL FIRES	10	0	1	3	22
SOLVENT EVAPORATION LOSS	0	0	0	114	0
TOTAL (MISCELLANEOUS)	235	0	54	434	1876
GRAND TOTAL					
**********					
AREA SOURCES	580	254	2903	3216	15708
POINT SOURCES	1927	4485	14606	855	36202
TOTAL	2507	4749	17509	4070	51910

NATIONAL EMISSIONS DATA SYSTEM

ENVIRONMENTAL PROTECTION AGENCY

COUNTY EMISSIONS REPORT

RUN DATE: MONDAY OCTOBER 10, 1975
EMISSIONS AS OF: SEPTEMBER 17, 1975

KINGS COUNTY, CALIFORNIA

	PARTICULATES TONS / YR	SOX TONS / YR	NOX TONS / YR	HC TONS / YR	CO TONS / YR
FUEL COMBUSTION					
EXTERNAL COMBUSTION					
RESIDENTIAL FUEL (AREA)					
DISTILLATE OIL	0	1	0	0	0
NATURAL GAS	9	1	71	7	18
WOOD	11	1	5	9	9
TOTAL (RESIDENTIAL)	20	2	76	16	27
INDUSTRIAL FUEL					
RESIDUAL OIL					
AREA SOURCES	3	37	8	0	1
POINT SOURCES	24	101	62	3	3
DISTILLATE OIL					
AREA SOURCES	2	3	6	0	0
NATURAL GAS					
AREA SOURCES	0	0	5	0	1
POINT SOURCES	1	0	15	1	1
TOTAL (INDUSTRIAL)					
AREA SOURCES	5	40	19	1	1
POINT SOURCES	25	101	77	4	4
COMM-INSTITUTIONAL FUEL					
RESIDUAL OIL					
AREA SOURCES	20	246	52	3	3
DISTILLATE OIL					
AREA SOURCES	5	9	19	1	1
NATURAL GAS					
AREA SOURCES	3	0	42	3	7
POINT SOURCES	0	0	3	1	0
TOTAL (COMM-INST)					
AREA SOURCES	28	255	112	6	12
POINT SOURCES	0	0	3	1	0

TOTAL (EXTERNAL COMB)					
AREA SOURCES	53	298	208	23	40
POINT SOURCES	25	101	80	5	4
TOTAL (FUEL COMBUSTION)					
AREA SOURCES	53	298	208	23	40
POINT SOURCES	25	101	80	5	4
INDUSTRIAL PROCESS (POINT)					
**********					
CHEMICAL MANUFACTURING	41	0	0	0	0
FOOD/AGRICULTURAL	987	0	4	1	0
MINERAL PRODUCTS	33	0	0	0	0
PETROLEUM INDUSTRY	1621	7325	5376	797	4110
EVAPORATION	0	0	0	1883	0
INPROCESS FUEL	27	0	1	0	0
TOTAL (INDUSTRIAL)	2708	7325	5380	2682	4110
SOLID WASTE DISPOSAL					
**********					
GOVERNMENT (POINT)					
OPEN BURNING	76	5	28	199	403
TOTAL (GOVERNMENT)	76	5	28	199	403
RESIDENTIAL (AREA)					
ON SITE INCINERATION	92	1	3	259	776
OPEN BURNING	50	3	19	93	264
TOTAL (RESIDENTIAL)	142	5	21	352	1040
COMMERCIAL-INSTITUTIONAL					
ON SITE INCINERATION					
AREA SOURCES	1	0	0	1	2
OPEN BURNING					
AREA SOURCES	5	0	2	9	26
TOTAL (COMM-INST)					
AREA SOURCES	6	1	2	10	27
INDUSTRIAL					
ON SITE INCINERATION					
AREA SOURCES	1	0	0	1	1
OPEN BURNING					
AREA SOURCES	2	0	1	5	13
TOTAL (INDUSTRIAL)					
AREA SOURCES	3	0	1	5	14
TOTAL (SOLID WASTE DISP)					
AREA SOURCES	151	6	25	366	1081
POINT SOURCES	76	5	28	199	403

TRANSPORTATION (AREA)					
**********					
LAND VEHICLES					
GASOLINE					
LIGHT VEHICLES	264	68	2255	3470	20542
HEAVY VEHICLES	27	10	286	738	8133
OFF HIGHWAY	11	6	129	362	8109
TOTAL (GASOLINE)	302	84	2669	4571	28784
DIESEL					
HEAVY VEHICLES	24	34	307	38	167
OFF HIGHWAY	51	45	561	61	158
RAIL	15	34	224	57	79
TOTAL (DEISEL)	90	113	1092	156	404
AIRCRAFT					
MILITARY	676	129	325	1572	1687
CIVIL	1	0	1	3	17
TOTAL (AIRCRAFT)	676	129	325	1575	1705
GAS HANDLING EVAP LOSS	0	0	0	304	0
TOTAL (TRANSPORTATION)	1068	327	4086	6605	30893
MISCELLANEOUS (AREA)					
**********					
SOLVENT EVAPORATION LOSS	0	0	0	162	0
TOTAL (MISCELLANEOUS)	0	0	0	162	0
GRAND TOTAL					
**********					
AREA SOURCES	1272	631	4319	7157	32014
POINT SOURCES	2809	7431	5489	2886	4517
TOTAL	4081	8062	9808	10043	36531

THE LAST CONTROL CARD HAS BEEN READ AND ALL DATA PROCESSED

4.2.2.7.5.2 SAMPLE EMISSIONS SUMMARY REPORT (AQCR)

NATIONAL EMISSIONS DATA SYSTEM

ENVIRONMENTAL-PROTECTION AGENCY

AQCR EMISSIONS REPORT

RUN DATE: TUESDAY OCTOBER 14, 1975
EMISSIONS AS OF: SEPTEMBER 17, 1975

AQCR 001 ALABAMA AND TOMBIGBEE RIVERS(ALA)

	PARTICULATES TONS / YR	SOX TONS / YR	NOX TONS / YR	HC TONS / YR	CO TONS / YR
FUEL COMBUSTION					
EXTERNAL COMBUSTION					
RESIDENTIAL FUEL (AREA)					
BITUMINOUS COAL	23	43	3	23	102
DISTILLATE OIL	6	8	7	2	3
NATURAL GAS	24	1	189	19	47
WOOD	708	42	283	566	566
TOTAL (RESIDENTIAL)	759	95	482	609	718
ELEC GENERATION (POINT)					
BITUMINOUS COAL	3612	4803	1527	25	85
TOTAL (ELEC GEN)	3612	4803	1527	25	85
INDUSTRIAL FUEL					
ANTHRACITE COAL					
POINT SOURCES	2826	3916	0	0	0
BITUMINOUS COAL					
AREA SOURCES	1486	1277	504	34	67
POINT SOURCES	993	55	0	0	0
RESIDUAL OIL					
AREA SOURCES	17	444	44	2	3
POINT SOURCES	1134	9026	0	0	0
DISTILLATE OIL					
AREA SOURCES	13	12	50	3	3
NATURAL GAS					
AREA SOURCES	3	0	52	1	5
POINT SOURCES	1187	59	0	0	0
WOOD					
POINT SOURCES	8271	777	420	84	84
TOTAL (INDUSTRIAL)					
AREA SOURCES	1518	1734	651	39	78
POINT SOURCES	14410	13832	420	84	84

COMM-INSTITUTIONAL FUEL					
BITUMINOUS COAL					
AREA SOURCES	3	6	1	0	1
RESIDUAL OIL					
AREA SOURCES	19	493	49	2	3
DISTILLATE OIL					
AREA SOURCES	12	12	49	2	3
NATURAL GAS					
AREA SOURCES	8	0	92	6	15
TOTAL (COMM-INST)					
AREA SOURCES	42	511	192	11	23
TOTAL (EXTERNAL COMB)					
AREA SOURCES	2319	2339	1325	660	119
POINT SOURCES	18023	18635	1947	109	169
INTERNAL COMBUSTION (POINT)					
ELECTRIC GENERATION					
DISTILLATE OIL	9	246	116	10	26
TOTAL (ELEC-GEN)	9	246	116	10	26
TOTAL (INTERNAL COMB)	9	246	116	10	26
TOTAL (FUEL COMBUSTION)					
AREA SOURCES	2319	2339	1325	660	119
POINT SOURCES	18031	18881	2063	119	195
INDUSTRIAL PROCESS (POINT)					
CHEMICAL MANUFACTURING	24	0	276	9	0
PRIMARY METAL	4396	0	0	0	0
MINERAL PRODUCTS	16092	4463	488	0	0
WOOD PRODUCTS	12428	4958	0	0	0
TOTAL (INDUSTRIAL)	32940	9420	764	9	0
SOLID WASTE DISPOSAL					
RESIDENTIAL (AREA)					
OPEN BURNING	1598	100	599	2996	8487
TOTAL (RESIDENTIAL)	1598	100	599	2996	8487
COMMERCIAL-INSTITUTIONAL					
OPEN BURNING					
AREA SOURCES	166	10	62	311	80
TOTAL (COMM-INST)					
AREA SOURCES	166	10	62	311	80
INDUSTRIAL					

ON SITE INCINERATION					
POINT SOURCES	356	0	44	487	5,71
OPEN BURNING					
AREA SOURCES	10	1	4	20	55
POINT SOURCES	106	5	34	165	615
TOTAL (INDUSTRIAL)					
AREA SOURCES	10	1	4	20	55
POINT SOURCES	463	5	78	652	6,86
TOTAL (SOLID WASTE DISP)					
AREA SOURCES	1779	111	665	3326	9,422
POINT SOURCES	463	5	78	652	6,986
TRANSPORTATION (AREA)					
LAND VEHICLES					
GASOLINE					
LIGHT VEHICLES	687	178	6053	8460	46,441
HEAVY VEHICLES	116	44	1286	2976	16,018
OFF HIGHWAY	7	4	77	217	2,461
TOTAL (GASOLINE)	809	225	7416	11653	64,920
DIESEL					
HEAVY VEHICLES	102	143	1343	145	269
OFF HIGHWAY	72	65	803	88	926
RAIL	66	150	975	248	943
TOTAL (DEISEL)	240	358	3121	480	1,138
AIRCRAFT					
MILITARY	202	39	97	470	604
CIVIL	0	0	0	0	3
TOTAL (AIRCRAFT)	202	39	97	470	607
VESSELS					
DIESEL FUEL	36	45	333	87	116
GASOLINE	0	2	7	238	756
TOTAL (VESSELS)	36	46	390	325	873
GAS HANDLING EVAP LOSS	0	0	0	888	0
TOTAL (TRANSPORTATION)	1287	668	10974	13817	67,437
MISCELLANEOUS (AREA)					
FOREST FIRE/AGRIC BURNING	1687	0	373	2240	13,069
SOLVENT EVAPORATION LOSS	0	0	0	207	0
TOTAL (MISCELLANEOUS)	1687	0	373	2447	13,069

GRAND TOTAL **********					
AREA SOURCES	6966	3118	13337	20250	90748
POINT SOURCES	51434	28306	2905	780	6481
TOTAL	58400	31424	16242	21030	97229

THE LAST CONTROL CARD HAS BEEN READ AND ALL DATA PROCESSED

4.2.2.8 SAROAD POLLUTANT NAMES (S, I, PO)

4.2.2.8.0 DESCRIPTION

The pollutant names function is an interactive function that allows the user to retrieve pollutant names corresponding to user given valid pollutant codes. Sample of an interactive session using this function is included in this section.

4.2.2.8.1 STRUCTURED ENTRIES

When this function is first entered, the user may ask for a listing of the available functional commands by replying "yes" to the prompt "COMMAND LIST...YES OR NO?"

4.2.2.8.2 COMMANDS

After the preliminary responses have been entered, the user receives the prompt, COMMAND? The user should select and enter a command word from the list given below. The command word can be entered in its entirety or can be abbreviated to the first two characters of the word. The commands for this function are:

COMMAND	DESCRIPTION
POLLUTANT=?????	The pollutant code for which a name is desired.
FIND	List the pollutant name for the code specified by the POLLUTANT command. If the POLLUTANT command is not specified, then the first pollutant name will be listed.
NEXT ??	List the pollutant name for the next ?? sequential pollutant codes. ?? must be a 2-digit number specifying the number of sequential pollutant names desired. If ?? is entered as blanks, the next sequential pollutant name is listed.
END	Signals the end of processing.

4.2.2.8.3 SPECIAL NOTES

The output generated by this function is produced on the user's terminal immediately after the commands FIND or NEXT.

4.2.2.8.4 SAMPLE OF AN INTERACTIVE SESSION

```
 1 ABS
[DATS]
AEROS TERMINAL SYSTEM (V.1)  DATE: 10/22/75      TIME: 16:28:45

NADB-STE-INX DISABLED--CONTINUING
NADB-PARMFL  DISABLED--CONTINUING
ARE YOU USING A CRT TERMINAL? ( YES OR NO )
[YES]
DO YOU WISH FOR INSTRUCTIONS? ( YES OR NO )
[YES]

THE AEROS TERMINAL SYSTEM PROVIDES ACCESS TO THE AIR
QUALITY AND EMISSIONS DATA (SAROAD AND NEDS) THROUGH
THE FUNCTIONS LISTED BELOW. EACH FUNCTION DEFINES THE
SUB-SYSTEM AND THE MODE OF ACCESS. THIS IS INDICATED
BY THE FOLLOWING NOTATION:
    S = SAROAD
    N = NEDS
    I = INTERACTIVE ACCESS
   RB = REMOTE BATCH ACCESS
THE FOLLOWING IS THE LIST OF LEGAL FUNCTONS.
    PS   - POINT SOURCE                    (N, RB)
    AS   - AREA SOURCE                     (N, RB)
    FS   - AREA SOURCE FUEL SUMMARY        (N, RB)
    ES   - EMISSIONS SUMMARY REPORT        (N, RB)
    PO   - POLLUTANT NAMES                 (S, I)
    QS   - QUARTERLY SUMMARIES             (S, I)
    SI   - SITE DESCRIPTIONS               (S, I)
    UN   - UNIT TABLE                      (S, I)
    YS   - YEARLY SUMMARIES                (S, I)
    HELP - DESCRIPTION OF FUNCTIONS
    END  - END TERMINAL SESSION
FUNCTION?
[PO]


AIR POLLUTION POLLUTANT NAMES


GIVEN A VALID POLLUTANT CODE, THIS PROGRAM GIVES THE USER
THE CORPESPONDING POLLUTANT NAME.

IF YOU WISH A SHORT DESCRIPTION OF THE VALID COMMANDS,
REPLY YES. OTHERWISE, REPLY NO.
YES OR NO?
[YES]

COMMANDS USED IN THIS PROGRAM ARE:

'POLLUTANT=?????' -THE POLLUTANT CODE FOR WHICH A NAME
                   IS DESIRED
'FIND'            -GET THE POLLUTANT NAME FOR THE CODE
                   GIVEN
'NEXT ??'         -GET THE POLLUTANT NAME FOR THE NEXT
                   SEQUENTIAL POLLUTANT CODE.
                   IF ?? IS ENTERED AS BLANKS, 01 IS ASSUMED.
                   OTHERWISE, ?? MUST BE A 2 DIGIT NUMBER.
'END'             -SIGNALS THE END OF PROCESSING
```

```
THE ENTIRE COMMAND CAN BE ENTERED OR THE COMMAND CAN
BE ABBREVIATED TO THE FIRST TWO LETTERS OF THE COMMAND.
START  ENTERING COMMANDS

COMMAND?
NEXT

POLLUTANT CODE: 11101
POLLUTANT NAME IS PARTICULATE

COMMAND?
NEXT 02

POLLUTANT CODE: 11102
POLLUTANT NAME IS ORGANIC (TOTAL) FRACTION

POLLUTANT CODE: 11103
POLLUTANT NAME IS BENZENE SOLUBLE ORGANIC FRACTION

COMMAND?
PO=42401

POLLUTANT=42401

COMMAND?
FIND

POLLUTANT CODE: 42401
POLLUTANT NAME IS SULFUR DIOXIDE

COMMAND?
NEXT 05

POLLUTANT CODE: 42402
POLLUTANT NAME IS HYDROGEN SULFIDE

POLLUTANT CODE: 42403
POLLUTANT NAME IS CARBON DISULFIDE

POLLUTANT CODE: 42404
POLLUTANT NAME IS CARBON OXYSULFIDE

POLLUTANT CODE: 42405
POLLUTANT NAME IS SULFURIC ACID

POLLUTANT CODE: 42410
POLLUTANT NAME IS SULFATION RATE

COMMAND?
POLLUTANT=42404

POLLUTANT=42404
```

```
COMMAND?
FI

POLLUTANT CODE: 42404
POLLUTANT NAME IS CARBON OXYSULFIDE

COMMAND?
END


ALL POLLUTANT NAME REQUESTS ANSWERED.
PLEASE CHOOSE THE NEXT FUNCTION YOU WISH TO ACCESS.
FUNCTION?
END

END SESSION
```

4.2.2.9 SAROAD SITE DESCRIPTIONS (S, I, SI)

4.2.2.9.0 DESCRIPTION

The site description function is an interactive function that allows the user to retrieve either complete or abbreviated site information for the sites referenced in the SAROAD data bank. Sample of an interactive session using this function is included in this section.

4.2.2.9.1 STRUCTURED ENTRIES

When the function is first entered, the user may obtain a list of available functional commands by replying "YES" to the prompt, COMMAND LIST....YES OR NO?.

The user is then given the option for abbreviated or full description. The user should select one of the two options and enter either ABBR or FULL in response to the prompt, ABBR or FULL?. This function is now ready to receive functional commands. This fact is indicated by the system response, START ENTERING COMMANDS.

4.2.2.9.2 COMMANDS

After the preliminary responses have been entered, the user receives the prompt, COMMAND? The user should select and enter a command word from the list given below. The command word can be entered in its entirety or can be abbreviated to the first two characters of the work ("=" is entered after the first 2 characters where applicable).

The commands for this function are:

COMMAND	DESCRIPTION
STATE=??	2 digit code for the state desired.
AREA =????	4 digit code for the city or county desired.
SITE=???	3 digit code for site desired within the area.
AGENCY=?	1 character code of the sponsoring agency.

COMMAND	DESCRIPTION
PROJECT=??	2 digit code, specifying the type of sampling
KEY=???????????	12 characters, which is the combination of the above code in the same order they are given above.
FIND	List the description for the site identified by one or more of the above commands.
NEXT=??	List the description for the next ?? sequential sites. ?? must be a 2-digit number specifying the number of sequential site descriptions desired. If ?? is entered as blanks, the next site description is listed.
END	Signals end of processing.

4.2.2.9.3 SPECIAL NOTES

If a match is not found for the specified site, the fact is indicated and the KEY must be reentered, or a portion of the key may be reentered with the singular commands.

This function operates in an interactive mode. Therefore, the output produced will be displayed on the user's terminal immediately after the FIND or NEXT commands.

4.2.2.9.4 SAMPLE OF AN INTERACTIVE SESSION

```
[GATS]
AEROS TERMINAL SYSTEM (V.1)  DATE: 10/23/75      TIME: 12:53:43

ARE YOU USING A CRT TERMINAL? ( YES OR NO )
[YES]
DO YOU WISH FOR INSTRUCTIONS? ( YES OR NO )
[NO]

FUNCTION?
[SITE]

AIR POLLUTION SITE DESCRIPTIONS
COMMAND LIST---YES OR NO?
[YES]

THE COMMANDS USED BY THIS PROGRAM ARE LISTED BELOW:
'STATE=??'     THE STATE DESIRED
'AREA=????'    THE CODE NUMBER FOR THE CITY OR COUNTY
'SITE=???'     THE SITE NUMBER WITHIN THE AREA
'AGENCY=?'     THE CODE FOR THE SPONSORING AGENCY
'PROJECT=??'   THE CODE FOR THE TYPE OF SAMPLING
'KEY=??????????????' (12 CHARACTERS)
               THE COMPLETE KEY IS COMPOSED OF THE CODES ABOVE
               IN THE ORDER GIVEN.
'FIND'         GET THE DESCRIPTION FOR THE SITE SPECIFIED
'NEXT ??'      GET THE DESCRIPTION FOR THE NEXT SEQUENTIAL SITE
               COMBINATION.  IF ?? IS ENTERED AS BLANKS, 01 IS
               ASSUMED. OTHERWISE, ?? MUST BE A 2 DIGIT NUMBER.
'END'          SIGNALS END OF SESSION,PROGRAM ENDS
THE FULL COMMAND CAN BE USED OR THE COMMAND CAN BE
ABBREVIATED TO THE FIRST TWO (2) CHARACTERS.
IF A MATCH IS NOT FOUND FOR THE SPECIFIED SITE, THE FACT
IS INDICATED AND THE KEY MUST BE REENTERED.

PLEASE SPECIFY ABBREVIATED OR FULL DESCRIPTION
ABBR OR FULL?
[ABBR]

START ENTERING COMMANDS

COMMAND?
[NEXT]


SITECODE: 01        AGENCY/PROJECT:     AGENCY-TYPE: UNKNOWN
LOCATION: UNKNOWN                      ,ALABAMA
COUNTY (     ): UNKNOWN                       LATITUDE:      D.     M.     S.
ABBREV. SITE: DUMMY FOR TSO                   LONGITUDE:     D.     M.     S.

COMMAND?
[NEXT 03]


SITECODE: 010020001 AGENCY/PROJECT: F01 AGENCY-TYPE: STATE
LOCATION: ABBEVILLE                    ,ALABAMA
COUNTY (1780): HENRY CO                       LATITUDE:   31 D. 33 M. 15 S.N
```

```
ABBREV. SITE: U S HIGHWAY 431                    LONGITUDE:  85 D. 15 M. 14 S.W

SITECODE: 010030001 AGENCY/PROJECT: F01 AGENCY-TYPE: STATE
LOCATION: ALABASTER                        ,ALABAMA
COUNTY (3060): SHELBY CO                         LATITUDE:   33 D. 15 M. 10 S.N
ABBREV. SITE: SEWAGE TREATMENT PLANT             LONGITUDE: 086 D. 48 M. 59 S.W

SITECODE: 010160001 AGENCY/PROJECT: F01 AGENCY-TYPE: STATE
LOCATION: ALEXANDER CITY                   ,ALABAMA
COUNTY (3160): TALLAPOOSA CO                     LATITUDE:   32 D. 55 M. 48 S.N
ABBREV. SITE: ALEX CITY JR COLLEGE               LONGITUDE:  85 D. 56 M. 28 S.W

COMMAND?
ST=05

STATE=05

COMMAND?
FI


SITECODE: 05        AGENCY/PROJECT:     AGENCY-TYPE: UNKNOWN
LOCATION: UNKNOWN                          ,CALIFORNIA
COUNTY (     ): UNKNOWN                          LATITUDE:      D.     M.     S.
ABBREV. SITE: DUMMY FOR TSO                      LONGITUDE:     D.     M.     S.

COMMAND?
NE 03


SITECODE: 050100001 AGENCY/PROJECT: C05 AGENCY-TYPE: EPA/EFFECTS RES.
LOCATION: ALHAMBRA                         ,CALIFORNIA
COUNTY (4200): LOS ANGELES CO                    LATITUDE:   34 D. 05 M. 39 S.N
ABBREV. SITE: 220 S CHAPEL RD                    LONGITUDE: 118 D. 07 M. 16 S.W

SITECODE: 050180001 AGENCY/PROJECT: I01 AGENCY-TYPE: DISTRICT
LOCATION: ALTURAS                          ,CALIFORNIA
COUNTY (4740): MODOC CO                          LATITUDE:   41 D. 26 M. 38 S.N
ABBREV. SITE: 202 W FOURTH STREET                LONGITUDE: 123 D. 00 M. 00 S.W

SITECODE: 050230001 AGENCY/PROJECT: A01 AGENCY-TYPE: EPA/ATMOS. SURV.
LOCATION: ANAHEIM                          ,CALIFORNIA
COUNTY (4200): LOS ANGELES CO                    LATITUDE:   33 D. 49 M. 14 S.N
ABBREV. SITE: 1010 S HARBOR BLVD                 LONGITUDE: 117 D. 54 M. 48 S.W

COMMAND?
AG=G

AGENCY=G

COMMAND?
FI
```

```
NO SITE FILE ENTRY FOR  . 05        6     . ENTER VALID KEY

COMMAND?
NEXT

SITECODE: 050230001 AGENCY/PROJECT: I01 AGENCY-TYPE: DISTRICT
LOCATION: ANAHEIM                      ,CALIFORNIA
COUNTY (5440): ORANGE CO                        LATITUDE:   33 D. 49 M. 15 S.N
ABBREV. SITE: 1010 S HARBOR BLVD                LONGITUDE: 117 D. 54 M. 48 S.W

COMMAND?
NE

SITECODE: 050230002 AGENCY/PROJECT: C01 AGENCY-TYPE: EPA/EFFECTS RES.
LOCATION: ANAHEIM                      ,CALIFORNIA
COUNTY (4200): LOS ANGELES CO                   LATITUDE:   33 D. 48 M. 50 S.N
ABBREV. SITE: LOS CERRITOS & EUCLID AVE         LONGITUDE: 117 D. 56 M. 40 S.W

COMMAND?
AREA=3900

AREA=3900

COMMAND?
SITE=000

SITE=000

COMMAND?
PR=01

PROJECT=01

COMMAND?

INVALID COMMAND. REENTER

COMMAND?
FI

NO SITE FILE ENTRY FOR   053900000G01   . ENTER VALID KEY

COMMAND?
AG=I

AGENCY=I

COMMAND?
SITE=001
```

```
SITE=001

COMMAND?
FI


SITECODE: 053900001 AGENCY/PROJECT: I01 AGENCY-TYPE: DISTRICT
LOCATION: LENNOX                    ,CALIFORNIA
COUNTY (4200): LOS ANGELES CO                LATITUDE:   33 D. 55 M. 49 S.N
ABBREV. SITE: 11408 LA CIENEGA BLVD.         LONGITUDE: 118 D. 22 M. 08 S.W

COMMAND?
KEY=053900001F01

COMPLETE KEY ='053900001F01'

COMMAND?
FI


NO SITE FILE ENTRY FOR   053900001F01  . ENTER VALID KEY

COMMAND?
AG=

INVALID COMMAND. REENTER


COMMAND?
AG=I

AGENCY=I

COMMAND?
FI


SITECODE: 053900001 AGENCY/PROJECT: I01 AGENCY-TYPE: DISTRICT
LOCATION: LENNOX                    ,CALIFORNIA
COUNTY (4200): LOS ANGELES CO                LATITUDE:   33 D. 55 M. 49 S.N
ABBREV. SITE: 11408 LA CIENEGA BLVD.         LONGITUDE: 118 D. 22 M. 08 S.W

COMMAND?
END


ALL SITE INFORMATION REQUESTS ANSWERED.
PLEASE ENTER THE NEXT FUNCTION YOU WISH TO ACCESS.
FUNCTION?
END


END SESSION
```

4.2.2.10 SAROAD UNITS TABLE (S, I, UN)

4.2.2.10.0 DESCRIPTION

The units table function is an interactive function that will produce the AEROS units table. Sample output of this function is included in this section.

4.2.2.10.1 STRUCTURED ENTRIES

No structured entries are required by this function.

4.2.2.10.2 COMMAND

This function does not have any commands.

4.2.2.10.3 SPECIAL NOTES

This function operates in an interactive mode. Only one table is produced as output which is displayed on the user's terminal immediately after entering the function.

4.2.2.10.4 SAMPLE OF AN INTERACTIVE SESSION

```
WATS
AEROS TERMINAL SYSTEM (V.1)  DATE: 10/22/75      TIME: 16:34:03

ARE YOU USING A CRT TERMINAL? ( YES OR NO )
YES
DO YOU WISH FOR INSTRUCTIONS? ( YES OR NO )
NO

FUNCTION?
UNIT

NADB UNITS TABLE

(00)     (UNKNOWN                    )
(01)     (UG/CU METER (25 C)         )
(02)     (UG/CU METER (0  C)         )
(03)     (NG/CU METER (25 C)         )
(04)     (NG/CU METER (0  C)         )
(05)     (MG/CU METER (25 C)         )
(06)     (MG/CU METER (0 C)          )
(07)     (PARTS PER MILLION          )
(08)     (PARTS PER BILLION          )
(09)     (COHS/1,000 LINEAR FT       )
(10)     (RUDS/10,000 LINEAR FT      )
(11)     (METERS/SECOND              )
(12)     (MILES/HOUR                 )
(13)     (KNOTS                      )
(14)     (DEGREES, COMPASS           )
(15)     (DEGREES, FAHRENHEIT        )
(16)     (MILLIBARS                  )
(17)     (DEGREES, CENTIGRADE        )
(18)     (LANGLEYS                   )
(19)     (PER CENT REL. HUMIDITY     )
(20)     (MICRONS                    )
(21)     (INCHES (RAINFALL)          )
(22)     (INCHES(MERCURY)            )
(23)     (KCAL./SQ. CM./MIN.         )
(24)     (MILES (VISIBILITY)         )
(25)     (LANGLEYS/MINUTE            )
(30)     (PICOCURIES/CU. METER       )
(31)     (MICROCURIES/CU. METER      )
(32)     (PICOCURIES/SQ. METER       )
(33)     (MICROCURIES/SQ. METER      )
(34)     (PICOCURIES/CU. CM.         )
(35)     (PICOCURIES/GRAM            )
(40)     (PARTS/HUNDRED MILLION      )
(41)     (MG. SO3/100 SQ. CM./MO.    )
(42)     (RUDS/1,000 LINEAR FT.      )
(43)     (GRAMS/SQ. METER/MONTH      )
(44)     (UG/SQ. MILE/MONTH          )
(45)     (TONS/SQ. MI./DAY           )
(46)     (GRAMS/SQ. METER /DAY       )
(47)     (UG/SQ. METER/DAY           )
(48)     (1000 PARTICULES/SQ. IN.    )
(49)     (100 PARTICULES/SQ. IN.     )
(50)     (NO. THRESHOLD LEVELS       )
(61)     (PH UNITS                   )
(70)     (MG. F/100 SQ. CM./DAY      )
```

```
(71)      (UG.F/100 SQ. CM.-DAY    )
(80)      (MG. SO3/100 SQ. CM./DAY)
(81)      (UG. SO2/SQ. CM./DAY     )
(82)      (UG. SO2/SQ. CM.-DAY     )
(90)      (TONS/SQ. MI./MONTH      )
(91)      (MG./SQ. CM./MONTH       )
(92)      (UG./CU. M./MONTH        )
(93)      (GRAMS/SQ. METER/MONTH   )
(98)      (MG. SO4/SQ. CM./30 DAYS)
(99)      (MG./SQ. CM./30 DAYS     )

UNITS TABLE COMPLETE.  PLEASE ENTER NEXT FUNCTION YOU WISH TO ACCESS.
FUNCTION?
END

END SESSION
```

4.2.2.11 SAROAD YEARLY SUMMARIES (S,I,YS)

4.2.2.11.0 DESCRIPTION

The SAROAD yearly summaries function is an interactive function that allows the user to retrieve selected summary information for any site for a given pollutant. The following summary information is available:

- All statistics desired
- The number of observations
- The maximum value encountered
- The minimum value encountered
- The percentage of possible observations that are present
- One half the minimum detectable
- The number of times values occurred that were less than the minimum detectable
- Time maximum occurred (MM:DA:HR)
- Time second maximum occurred (MM:DA:HR)
- Second maximum value

For intervals other than Y or Z:

- The arithmetic mean. This value is blank for non-criteria data.
- The geometric mean. This value is blank for non-criteria data.
- The arithmetic standard deviation. This value is blank for non-criteria data.
- The geometric standard deviation. This value is blank for non-criteria data.
- Number of primary violations (blank if no standard)
- Number of secondary violations (blank if no standard)

For Y and Z intervals only:

- Number of non-overlapping primary violations (blank if interval not equal to Z or Y)
- Number of non-overlapping secondary violations (blank if interval not equal to Z or Y)
- Number of overlapping values that exceed the primary standard
- Number of overlapping values that exceed the secondary standard

4.2.2.11.1 STRUCTURED ENTRIES

When this function is entered, the user may ask for a listing of the available functional commands and instructions by replying "YES" to the prompt "COMMAND LIST...YES OR NO?"

When the program is ready for accepting functional commands, it will display START ENTERING COMMAND?

4.2.2.11.2 COMMANDS

After the preliminary responses have been processed, the user is prompted by the prompt, COMMAND? The user should select and enter a command word from the list below. The command word can be entered in its entirety or can be abbreviated to the first two characters of the word. Where "=" sign is present in the command, it should appear after the first two characters if the abbreviated mode is being used.

The yearly summary functional commands are of two types. The first type provides information for locating the desired information. The other type describes the summary information desired. Initially, the program is set up not to print any of the summary information. The summary information commands entered by the user define the extent of summary information output. If at a later point in the session the user desires to negate some or all of the commands he has entered, he should enter the command prefixed by "X". For example, if the user has requested number of observations by entering "OB" command and he no longer is interested in that information, he should enter "XOB" in response to the prompt COMMAND?

The following commands define the search parameter:

COMMAND	DESCRIPTION
STATE=??	State Code
AREA=????	City or County Code
SITE=???	Site Number within the Area
AGENCY=?	Sponsoring Agency Code
PROJECT=??	Code for the Type of Sampling
POLLUTANT=?????	Desired Pollutant Code
METHOD=??	Sampling Method Desired
INTERVAL=?	Sampling Interval Desired
YEAR=??	Year Desired
KEY=??????????????????????	22 Characters for the Complete Key Desired

The following commands describe the type of summary information desired.

COMMAND	DESCRIPTION
ALL	all statistics are desired
OBSERV	the number of observations
MAX	the maximum value encountered
MIN	the minimum value encountered
%OBSERV	the percentage of possible observations that are present
ZSUB	one half the minimum detectable
ZCNT	the number of times values occurred that were less than the minimum detectable
MT	time maximum occurred (MM:DA:HR)
ST	time second maximum occurred (MM:DA:HR)
SM	second maximum value

For intervals other than Y or Z:

AMEAN	the arithmetic mean. This value is blank for non-criteria data.
GMEAN	the geometric mean. This value is blank for non-criteria data.
ASTDEV	the arithmetic standard deviation. This value is blank for non-criteria data.
GSTDEV	the geometric standard deviation. This value is blank for non-criteria data.
PV	number of primary violations (blank if no standard)
SV	number of secondary violations (blank if no standard)

For Y and Z intervals only:

COMMAND	DESCRIPTION
NP	number of non-overlapping primary violations (blank if interval not equal to Z or Y)
NS	number of non-overlapping secondary violations (blank if interval not equal to Z or Y)
OP	number of overlapping values that exceed the primary standard
OS	number of overlapping values that exceed the secondary standard

The following commands direct the program to report the information desired or to end processing quarterly summaries.

COMMAND	DESCRIPTION
NEXT ??	get the inventory for the next sequential site-pollutant-year. ?? is the number records wanted. If ?? is entered as blanks, Ø1 is assumed. Otherwise, ?? must be a 2 digit number.
FIND	get the inventory for the specified site-pollutant-year combination
END	signals end of session, program ends

4.2.2.11.3 SPECIAL NOTES

This function operates in an interactive mode. Thus it will produce the requested summary reports upon the user's terminal immediately after the FIND or NEXT commands.

Initially this program will not produce any summary information. The user must select the extent of information he desires by entering the proper command. If later in the session he wants to exclude some or all of the information requested, he can do so by entering the proper command prefixed by "X".

4.2.2.11.4 SAMPLE OF AN INTERACTIVE SESSION

```
@ATS
AEROS TERMINAL SYSTEM (V.1)  DATE: 03/19/76     TIME: 10:47:38

ARE YOU USING A CRT TERMINAL? ( YES OR NO )
=NO
DO YOU WISH FOR INSTRUCTIONS? ( YES OR NO )
=YES

THE AEROS TERMINAL SYSTEM PROVIDES ACCESS TO THE AIR
QUALITY AND EMISSIONS DATA (SAROAD AND NEDS) THROUGH
THE FUNCTIONS LISTED BELOW. EACH FUNCTION DEFINES THE
SUB-SYSTEM AND THE MODE OF ACCESS. THIS IS INDICATED
BY THE FOLLOWING NOTATION:
   S = SAROAD
   N = NEDS
   I = INTERACTIVE ACCESS
  RB = REMOTE BATCH ACCESS
THE FOLLOWING IS THE LIST OF LEGAL FUNCTONS.
   PS   - POINT SOURCE                (N, RB)
   AS   - AREA SOURCE                 (N, RB)
   FS   - AREA SOURCE FUEL SUMMARY    (N, RB)
   ES   - EMISSIONS SUMMARY REPORT    (N, RB)
   PO   - POLLUTANT NAMES             (S, I)
   QS   - QUARTERLY SUMMARIES         (S, I)
   SI   - SITE DESCRIPTIONS           (S, I)
   UN   - UNIT TABLE                  (S, I)
   YS   - YEARLY SUMMARIES            (S, I)
   HELP - DESCRIPTION OF FUNCTIONS
   END  - END TERMINAL SESSION
FUNCTION?
=YS

AIR POLLUTION YEARLY DATA SUMMARY
THIS PROGRAM REPORTS THE SELECTED SUMMARY INFORMATION FOR
ANY SITE FOR THE POLLUTANTS SPECIFIED. IF YOU WISH A SHORT
DESCRIPTION OF THE COMMANDS, REPLY YES -- OTHERWISE REPLY NO
YES OR NO?
=YES
```

THE VALID SITE-POLLUTANT COMMANDS ARE:

```
'STATE=??'        THE STATE DESIRED
'AREA=????'        THE CODE NUMBER FOR THE CITY OR COUNTY
'SITE=???'         THE SITE NUMBER WITHIN THE AREA
'AGENCY=?'         THE CODE FOR THE SPONSORING AGENCY
'PROJECT=??'       THE CODE FOR THE TYPE OF SAMPLING
'POLLUTANT=?????' THE CODE FOR THE DESIRED POLLUTANT
'METHOD=??'        THE CODE FOR THE SAMPLING METHOD
'INTERVAL=?'       THE CODE FOR THE SAMPLING INTERVAL
'YEAR=??'          THE YEAR DESIRED
'KEY=??????????????????????'  (22 CHARACTERS) FOR THE
                   COMPLETE KEY DESIRED IN THE ORDER GIVEN
                   ABOVE

'FIND'             GET THE INVENTORY FOR THE SPECIFIED
                   SITE-POLLUTANT-YEAR COMBINATION
'NEXT ??'          GET THE INVENTORY FOR THE NEXT
                   SEQUENTIAL SITE-POLLUTANT-YEAR.
                   ?? IS THE NUMBER RECORDS WANTED.
                   IF ?? IS ENTERED AS BLANKS, Ø1 IS ASSUMED.
                   OTHERWISE, ?? MUST BE A 2 DIGIT NUMBER.
'END'              SIGNALS END OF SESSION, PROGRAM ENDS
```

THE VALID SUMMARY INFORMATION COMMANDS ARE:

```
'ALL'              ALL STATISTICS ARE DESIRED
'OBSERV'           THE NUMBER OF OBSERVATIONS
'MAX'              THE MAXIMUM VALUE ENCOUNTERED
'MIN'              THE MINIMUM VALUE ENCOUNTERED
'%OBSERV'          THE PER CENT OF POSSIBLE OBSERVATIONS
                   THAT ARE PRESENT
'ZSUB'             ONE HALF THE MINIMUM DETECTABLE
'ZCNT'             THE NUMBER OF TIMES VALUES OCCURRED
                   THAT WERE LESS THAN THE MINIMUM
                   DETECTABLE
'MT'               TIME MAXIMUM OCCURRED (MM:DA:HR)
'ST'               TIME SECOND MAXIMUM OCCURRED (MM:DA:HR)
'SM'               SECOND MAXIMUM VALUE'
FOR INTERVALS OTHER THAN Y OR Z --

'AMEAN'            THE ARITHMETIC MEAN. THIS VALUE IS
                   BLANK FOR NON-CRITERIA DATA.
'GMEAN'            THE GEOMETRIC MEAN. THIS VALUE IS
                   BLANK FOR NON-CRITERIA DATA.
'ASTDEV'           THE ARITHMETIC STANDARD DEVIATION.
                   THIS VALUE IS BLANK FOR NON-CRITERIA DATA
```

```
'GSTDEV'        THE GEOMETRIC STANDARD DEVIATION. THIS
                VALUE IS BLANK FOR NON-CRITERIA DATA.
'PV'            NUMBER OF PRIMARY VIOLATIONS
                (BLANK IF NO STANDARD)
'SV'            NUMBER OF SECONDARY VIOLATIONS
                (BLANK IF NO STANDARD)

FOR Y AND Z INTERVALS ONLY --

'NP'            NUMBER OF NON-OVERLAPPING PRIMARY
                VIOLATIONS (BLANK IF INTERVAL NOT
                EQUAL TO Z OR Y)
'NS'            NUMBER OF NON-OVERLAPPING
                VIOLATIONS
'OP'            NUMBER OF OVERLAPPING VALUES THAT
                EXCEED THE PRIMARY STANDARD
'OS'            NUMBER OF OVERLAPPING VALUES THAT
                EXCEED THE SECONDARY STANDARD

INITIALLY THE PROGRAM IS SET UP NOT TO PRINT ANY OF THE
SUMMARY INFORMATION. TO REQUEST THE INFORMATION ENTER THE
CORRECT COMMAND. IF AT A LATER DATE IN THE PROGRAM YOU NO
LONGER WANT THIS INFORMATION ENTER THE COMMAND PREFIXED
BY THE LETTER X. FOR ANY COMMAND EXCEPT THE NEGATIVE
SUMMARY INFORMATION COMMAND, YOU MAY ENTER THE ENTIRE
COMMAND OR THE FIRST TWO (2) CHARACTERS. FOR THE NEGATIVE
SUMMARY INFORMATION COMMANDS, THREE (3) CHARACTERS ARE
REQUIRED, SUCH AS XMA FOR 'NO MAXIMUM TO BE PRINTED'.
IF A MATCH IS NOT FOUND FOR A SITE-POLLUTANT-DATE
COMBINATION THE FACT IS INDICATED AND YOU MAY ENTER A
NEW COMBINATION OR REQUEST THE NEXT SEQUENTIAL COMBINATION.

START ENTERING COMMANDS
COMMAND?
ALL

ALL
COMMAND?
=KEY=02016000 2G014210111174

COMPLETE KEY='02016000 2G014210111174'
COMMAND?
=FIND
```

```
SITE CODE=020160002C01                          POLL/ME/UN=421011105                          UNITS  INT  YR
FAIRBANKS              ,ALASKA                  CARBON    MONOXIDE                              05    1   74
                                                INSTRUMENTAL  NONDISPERSIVE INFRA-RED
# OBSERVATIONS=                        6908     MAXIMUM=                                 48.3
MINIMUM=                                .2       ARITH. MEAN=                              6.4
GEOM. MEAN=                             4.6      ARITH. STANDARD DEVIATION=            5.389
GEOM. STANDARD DEVIATION=             2.322      PERCENT OBSERVATIONS=                 78.85
SUBSTITUTE VALUE =                      .2       # SUBSTITUTES MADE=                        2
# PRIMARY VIOLATIONS=                    0       # SECONDARY VIOLATIONS=                    0
TIME MAXIMUM OCCURRED=             01:30:16       TIME SECOND MAXIMUM OCCURED=       01:04:17
SECOND MAXIMUM VALUE=                  46.3
COMMAND?

KEY=020160002C014210111Z72

COMPLETE KEY='020160002C014210111Z72'
COMMAND?
=FIND

SITE CODE=020160002C01                          POLL/ME/UN=421011105                          UNITS  INT  YR
FAIRBANKS              ,ALASKA                  CARBON    MONOXIDE                              05    Z   72
                                                INSTRUMENTAL  NONDISPERSIVE INFRA-RED
# OBSERVATIONS=                        7315     MAXIMUM=                                 30.3
MINIMUM=                                .3       SUBSTITUTE VALUE =                        .3
# SUBSTITUTES MADE=                       0      # NON-OVLP PRI-VIOLATIONS =                0
# NON-OVLP SEC-VIOLATIONS =               0      TIME MAXIMUM OCCURRED=             11:16:16
TIME SECOND MAXIMUM OCCURRED=      12:28:19       SECOND MAXIMUM VALUE=                 29.2
# OVLP VALS EXCEEDING PRIMARY=            0      # OVLP VALS EXCEEDING SECONDARY=           0
COMMAND?

COMMAND?
=XALL

XALL

COMMAND?
=NEXT
```

```
SITE CODE=01002000 1F01                    POLL/ME/UN=111019101                    UNITS  INT  YR
ABBEVILLE            ,ALABAMA              SUSPENDED PART.                          01    7   74
                                           HI-VOL  GRAVIMETRIC

COMMAND?
=ALL

ALL
COMMAND?
=XMI

XMI
COMMAND?
=XOB

XOB
COMMAND?
=NEXT
```

```
SITE CODE=01006000 1F01                    POLL/ME/UN=111019101                    UNITS  INT  YR
ALEXANDER CITY       ,ALABAMA              SUSPENDED PART.                          01    7   74
                                           HI-VOL  GRAVIMETRIC

MAXIMUM=                          85       ARITH. MEAN=                        38
GEOM. MEAN=                       36       ARITH. STANDARD DEVIATION=       15.350
GEOM. STANDARD DEVIATION=       1.504      PERCENT OBSERVATIONS=
SUBSTITUTE VALUE =                 1       # SUBSTITUTES MADE=                   0
# PRIMARY VIOLATIONS=              0       # SECONDARY VIOLATIONS=               0
TIME MAXIMUM OCCURRED=       10:21:00       TIME SECOND MAXIMUM OCCURED=     07:11:00
SECOND MAXIMUM VALUE=             66
COMMAND?
=END

YEARLY SUMMARY REQUESTS COMPLETED, ENTER NEXT FUNCTION YOU WISH TO ACCESS.
FUNCTION?
=END

END SESSION
=
```

4.2.2.12 SAROAD QUARTERLY SUMMARIES (S,I,QS)

4.2.2.12.0 DESCRIPTION

The SAROAD Quarterly summaries function is an interactive function that allows the user to retrieve selected summary information for any site for a given pollutant. The following summary information is available:

- All statistics are desired
- The number of observations
- The maximum value encountered
- The minimum value encountered
- The percentage of possible observations that are present
- One half the minimum detectable
- The number of times values occurred that were less than the minimum detectable
- Time maximum occurred
- Time second maximum occurred
- Second maximum value

For intervals other than Y or Z:

- The arithmetic mean. This value is blank for non-criteria data.
- The geometric mean. This value is blank for non-criteria data.
- The arithmetic standard deviation. This value is blank for non-criteria data.
- The geometric standard deviation. This value is blank for non-criteria data.
- Number of primary violations (blank if no standard)
- Number of secondary violations (blank if no standard)

For Y and Z intervals only:

- Number of non-overlapping primary violations (blank if interval not equal to Z or Y)
- Number of non-overlapping secondary violations (blank if interval not equal to Z or Y)
- Number of overlapping values that exceed the primary standard
- Number of overlapping values that exceed the secondary standard

4.2.2.12.1 STRUCTURED ENTRIES

When this function is entered, the user may ask for a listing of the available functional commands and instructions by replying "YES" to the prompt "COMMAND LIST...YES OR NO?"

When the program is ready for accepting functional commands, it will display START ENTERING COMMAND?

4.2.2.12.2 COMMANDS

After the preliminary responses have been processed, the user is prompted by the prompt, COMMAND? The user should select and enter a command word from the list below. The command word can be entered in its entirety or can be abbreviated to the first two characters of the word. Where "=" sign is present in the command, it should appear after the first two characters if the abbreviated mode is being used.

The quarterly summary functional commands are of two types: The first type provides information for locating the desired information. The other type describes the summary information desired. Initially, the program is set up not to print any of the summary information. The summary information commands entered by the user define the extent of summary information output. If at a later point in the session the user desires to negate some or all of the commands he has entered, he should enter the command prefixed by "X". For example, if the user has requested number of observations by entering "OB" command and he is no longer interested in that information, he should enter "XOB" in response to the prompt COMMAND?

The following commands define the search parameter:

COMMAND	DESCRIPTION
STATE=??	State Code
AREA=????	City or County Code
SITE=???	Site Number within the Area
AGENCY=?	Sponsoring Agency Code
PROJECT=??	Code for the Type of Sampling
POLLUTANT=?????	Desired Pollutant Code
METHOD=??	Sampling Method Desired
INTERVAL=?	Sampling Interval Desired
YEAR=??	Year Desired
QUARTER=??	Quarter Desired
KEY=???????????????????????	24 Characters for the Complete Key Desired

The following commands describe the type of summary information desired:

COMMAND	DESCRIPTION
ALL	all statistics are desired
OBSERV	the number of observations
MAX	the maximum value encountered
MIN	the minimum value encountered
%OBSERV	the percentage of possible observations that are present
ZSUB	one half the minimum detectable
ZCNT	the number of times values occurred that were less than the minimum detectable
MT	time maximum occurred (MM:DA:HR)
ST	time second maximum occurred (MM:DA:HR)
SM	second maximum value

For intervals other than Y or Z.

AMEAN	the arithemtic mean. This value is blank for non-criteria data.
GMEAN	the geometric mean. This value is blank for non-criteria data.
ASTDEV	the arithemtic standard deviation. This value is blank for non-criteria data.
GSTDEV	the geometric standard deviation. This value is blank for non-criteria data.
PV	number of primary violations (blank if no standard)
SV	number of secondary violations (blank if no standard)

For Y and Z intervals only.

COMMAND	DESCRIPTION
NP	number of non-overlapping primary violations (blank if interval not equal to Z or Y)
NS	number of non-overlapping secondary violations (blank if interval not equal to Z or Y)
OP	number of overlapping values that exceed the primary standard
OS	number of overlapping values that exceed the secondary standard

The following commands direct the program to report the information desired or to end processing quarterly summaries.

COMMAND	DESCRIPTION
NEXT ??	get the inventory for the next sequential site-pollutant-year. ?? is the number records wanted. If ??=is entered as blanks, Ø1 is assumed. Otherwise, ?? must be a 2 digit number.
FIND	get the inventory for the specified site-pollutant-year combination
END	signals end of session, program ends

4.2.2.12.3 SPECIAL NOTES

This function operates in an interactive mode. Thus it will produce the requested summary reports upon the user's terminal immediately after the FIND or NEXT commands.

Initially this program will not produce any summary information. The user must select the extend of information he desires by entering the proper command. If later in the session he wants to exclude some or all of the information requested, he can do so by entering the proper command prefixed by "X".

4.2.2.12.4 SAMPLE OF AN INTERACTIVE SESSION

```
@ATS

AEROS TERMINAL SYSTEM (V.1)  DATE: 03/19/76      TIME: 10:36:08

ARE YOU USING A CRT TERMINAL? ( YES OR NO )
=NO
DO YOU WISH FOR INSTRUCTIONS? ( YES OR NO )
=YES

THE AEROS TERMINAL SYSTEM PROVIDES ACCESS TO THE AIR
QUALITY AND EMISSIONS DATA (SAROAD AND NEDS) THROUGH
THE FUNCTIONS LISTED BELOW. EACH FUNCTION DEFINES THE
SUB-SYSTEM AND THE MODE OF ACCESS. THIS IS INDICATED
BY THE FOLLOWING NOTATION:
    S = SAROAD
    N = NEDS
    I = INTERACTIVE ACCESS
   RB = REMOTE BATCH ACCESS
THE FOLLOWING IS THE LIST OF LEGAL FUNCTONS.
    PS   - POINT SOURCE                 (N, RB)
    AS   - AREA SOURCE                  (N, RB)
    FS   - AREA SOURCE FUEL SUMMARY     (N, RB)
    ES   - EMISSIONS SUMMARY REPORT     (N, RB)
    PO   - POLLUTANT NAMES              (S, I)
    QS   - QUARTERLY SUMMARIES          (S, I)
    SI   - SITE DESCRIPTIONS            (S, I)
    UN   - UNIT TABLE                   (S, I)
    YS   - YEARLY SUMMARIES             (S, I)
    HELP - DESCRIPTION OF FUNCTIONS
    END  - END TERMINAL SESSION
FUNCTION?
=QS


AIR POLLUTION QUARTERLY DATA SUMMARY

THIS PROGRAM REPORTS THE SELECTED SUMMARY INFORMATION FOR
ANY SITE FOR THE POLLUTANTS SPECIFIED. IF YOU WISH A SHORT
DESCRIPTION OF THE COMMANDS, REPLY YES -- OTHERWISE REPLY NO
YES OR NO?
=YES
```

THE VALID SITE-POLLUTANT COMMANDS ARE:

```
'STATE=??'        THE STATE DESIRED
'AREA=????'       THE CODE NUMBER FOR THE CITY OR COUNTY
'SITE=???'        THE SITE NUMBER WITHIN THE AREA
'AGENCY=?'        THE CODE FOR THE SPONSORING AGENCY
'PROJECT=??'      THE CODE FOR THE TYPE OF SAMPLING
'POLLUTANT=?????' THE CODE FOR THE DESIRED POLLUTANT
'METHOD=??'       THE CODE FOR THE SAMPLING METHOD
'INTERVAL=?'      THE CODE FOR THE SAMPLING INTERVAL
'YEAR=??'         THE YEAR DESIRED
'QUARTER=??'      THE QUARTER DESIRED
'KEY=??????????????????????????' (24 CHARACTERS) THE
                  COMPLETE KEY DESIRED IN THE ORDER GIVEN
                  ABOVE
'FIND'            GET THE INVENTORY FOR THE SPECIFIED
                  SITE-POLLUTANT-YEAR COMBINATION
'NEXT ??'         GET THE INVENTORY FOR THE NEXT
                  SEQUENTIAL SITE-POLLUTANT-YEAR.
                  ?? IS THE NUMBER RECORDS WANTED.
                  IF ??=IS ENTERED AS BLANKS, Ø1 IS ASSUMED.
                  OTHERWISE, ?? MUST BE A 2 DIGIT NUMBER.
'END'             SIGNALS END OF SESSION, PROGRAM ENDS
```

THE VALID SUMMARY INFORMATION COMMANDS ARE:

```
'ALL'             ALL STATISTICS ARE DESIRED
'OBSERV'          THE NUMBER OF OBSERVATIONS
'MAX'             THE MAXIMUM VALUE ENCOUNTERED
'MIN'             THE MINIMUM VALUE ENCOUNTERED
'%OBSERV'         THE PER CENT OF POSSIBLE OBSERVATIONS
                  THAT ARE PRESENT
'ZSUB'            ONE HALF THE MINIMUM DETECTABLE
'ZCNT'            THE NUMBER OF TIMES VALUES OCCURRED
                  THAT WERE LESS THAN THE MINIMUM
                  DETECTABLE
'MT'              TIME MAXIMUM OCCURRED (MM:DA:HR)
'ST'              TIME SECOND MAXIMUM OCCURRED (MM:DA:HR)
'SM'              SECOND MAXIMUM VALUE'
```

FOR INTERVALS OTHER THAN Y OR Z --

```
'AMEAN'           THE ARITHMETIC MEAN. THIS VALUE IS
                  BLANK FOR NON-CRITERIA DATA.
```

```
'GMEAN'        THE GEOMETRIC MEAN. THIS VALUE IS
               BLANK FOR NON-CRITERIA DATA.
'ASTDEV'       THE ARITHMETIC STANDARD DEVIATION.
               THIS VALUE IS BLANK FOR NON-CRITERIA DATA
'GSTDEV'       THE GEOMETRIC STANDARD DEVIATION. THIS
               VALUE IS BLANK FOR NON-CRITERIA DATA.
'PV'           NUMBER OF PRIMARY VIOLATIONS
               (BLANK IF NO STANDARD)
'SV'           NUMBER OF SECONDARY VIOLATIONS
               (BLANK IF NO STANDARD)

FOR Y AND Z INTERVALS ONLY --

'NP'           NUMBER OF NON-OVERLAPPING PRIMARY
               VIOLATIONS (BLANK IF INTERVAL NOT
               EQUAL TO Z OR Y)
'NS'           NUMBER OF NON-OVERLAPPING
               VIOLATIONS
'OP'           NUMBER OF OVERLAPPING VALUES THAT
               EXCEED THE PRIMARY STANDARD
'OS'           NUMBER OF OVERLAPPING VALUES THAT
               EXCEED THE SECONDARY STANDARD

INITIALLY THE PROGRAM IS SET UP NOT TO PRINT ANY OF THE
SUMMARY INFORMATION. TO REQUEST THE INFORMATION ENTER THE
CORRECT COMMAND. IF AT A LATER DATE IN THE PROGRAM YOU NO
LONGER WANT THIS INFORMATION ENTER THE COMMAND PREFIXED
BY THE LETTER X. FOR ANY COMMAND EXCEPT THE NEGATIVE
SUMMARY INFORMATION COMMAND, YOU MAY ENTER THE ENTIRE
COMMAND OR THE FIRST TWO (2) CHARACTERS. FOR THE NEGATIVE
SUMMARY INFORMATION COMMANDS, THREE (3) CHARACTERS ARE
REQUIRED, SUCH AS XMA FOR 'NO MAXIMUM TO BE PRINTED'.
IF A MATCH IS NOT FOUND FOR A SITE-POLLUTANT-DATE
COMBINATION THE FACT IS INDICATED AND YOU MAY ENTER A
NEW COMBINATION OR REQUEST THE NEXT SEQUENTIAL COMBINATION.
START ENTERING COMMANDS
COMMAND?
=ALL

ALL
COMMAND?
=NEXT
```

```
SITE CODE=02016000 2G01                          POLL/ME/UN=421011105                    UNITS  INT  YR  QR
FAIRBANKS              ,ALASKA                   CARBON    MONOXIDE                        05    1   74  04
                                                 INSTRUMENTAL  NONDISPERSIVE INFRA-RED
# OBSERVATIONS=                        1287      MAXIMUM=                              31.0
MINIMUM=                                .6       ARITH. MEAN=
GEOM. MEAN=                                      ARITH. STANDARD DEVIATION=
GEOM. STANDARD DEVIATION=                        PERCENT OBSERVATIONS=                 58.28
SUBSTITUTE VALUE =                       .2      # SUBSTITUTES MADE=                      0
# PRIMARY VIOLATIONS=                     0      # SECONDARY VIOLATIONS=                  0
TIME MAXIMUM OCCURRED=              11:13:14      TIME SECOND MAXIMUM OCCURED=       10:25:16
SECOND MAXIMUM VALUE=                   29.9
COMMAND?
=KEY=02016000 2G01421011 1Z7202


...PLETE KEY= '02016000 2G01421011 1Z7202'
COMMAND?
=FIND


SITE CODE=02016000 2G01                          POLL/ME/UN=421011105                    UNITS  INT  YR  QR
FAIRBANKS              ,ALASKA                   CARBON    MONOXIDE                        05    Z   72  02
                                                 INSTRUMENTAL  NONDISPERSIVE INFRA-RED
# OBSERVATIONS=                        1779      MAXIMUM=                              17.5
MINIMUM=                                .3       SUBSTITUTE VALUE =                      .3
# SUBSTITUTES MADE=                       0      # NON-OVLP PRI-VIOLATIONS =              0
# NON-OVLP SEC-VIOLATIONS =               0      TIME MAXIMUM OCCURRED=             04:01:20
TIME SECOND MAXIMUM OCCURRED=       04:03:17      SECOND MAXIMUM VALUE=                  14.9
# OVLP VALS EXCEEDING PRIMARY=            0
COMMAND?


...AND?
...


...


COMMAND?
=NEXT
```

```
SITE CODE=010020001F01                    POLL/ME/UN=111019101                    UNITS  INT  YR  QR
ABBEVILLE            ,ALABAMA             SUSPENDED PART.                          01    7   74  01
                                          HI-VOL  GRAVIMETRIC

COMMAND?
=ALL

ALL
COMMAND?
=XOB

XOB
COMMAND?
=XMI

XMI
COMMAND?
=NEXT
```

```
SITE CODE=010020001F01                    POLL/ME/UN=111019101                    UNITS  INT  YR  QR
ABBEVILLE            ,ALABAMA             SUSPENDED PART.                          01    7   74  02
                                          HI-VOL  GRAVIMETRIC

MAXIMUM=                          104      ARITH. MEAN=                        51
GEOM. MEAN=                        46      ARITH. STANDARD DEVIATION=       28.218
GEOM. STANDARD DEVIATION=        1.685     PERCENT OBSERVATIONS=
SUBSTITUTE VALUE =                  1      # SUBSTITUTES MADE=                   0
# PRIMARY VIOLATIONS=               0      # SECONDARY VIOLATIONS=                0
TIME MAXIMUM OCCURRED=        04:01:00     TIME SECOND MAXIMUM OCCURED=    04:01:00
SECOND MAXIMUM VALUE=             104
COMMAND?
=END

QUARTERLY SUMMARY REQUESTS COMPLETED, ENTER NEXT FUNCTION YOU WISH TO ACCESS.
FUNCTION?
=END

   SESSION
```

Routine publications are defined as publications of a more permanent nature than those usually associated with computer-based reporting. They are typically published at regular intervals, either quarterly or annually, and most are permanently bound, printed volumes. In some cases, they consist of updated, verified, and corrected emissions or air quality data reports; others are digests or summaries of edited raw data.

Although EPA publishes a large number of documents each year, in this section only those based on data from the NEDS, SAROAD, or other AEROS subsystems are discussed. The preliminary reports are more informal in their organization, method of preparation, and type of binding; the final reports are prepared as permanent reference works. Some of the reports described in the following paragraphs are prepared by a computerized phototypesetting process known as LINOTRON. Others are printed by a photo offset process directly from computer printout or typewriter copy.

The emissions data publications are routine publications of emissions and fuel usage information. They are derived almost entirely from the NEDS data base. The publications included in this category are as follows:

National Emissions Report - a report of emissions of the criteria pollutants, broken down by emission category and by geographic region. (Printed by LINOTRON)

Fuel Usage Report - a report of fuel usage, broken down geographically and by fuel type and usage category.

5.1.1.1 GENERAL DESCRIPTION

This document, published annually by EPA, contains a NEDS emission summary report for each of the 55 "states" and each of the 247 Air Quality Control Regions (AQCR's) in the United States. The 1972 National Emissions Report (NER) was published in June 1974. The ordering of the tables of emissions that constitute the body of the document is as follows:

a. Summary for the United States.

b. Summary tables for each state in alphabetical order.

c. After each State Summary Table, the tables for each AQCR or portion of an (interstate) AQCR lying within that state are given in numerical order.

d. After the last individual state and its AQCR, the tables for all of the interstate AQCR's, each one in its entirety, appear in numerical order.

The individual tables are arranged according to the major categories of sources of emissions of the five pollutatns for which national standards have been promulgated.* The five major source categories are:

a. Fuel Combustion

b. Industrial Processing

c. Solid Waste Disposal

d. Transportation

e. Miscellaneous

The five "criteria" pollutants are:

a. Particulates

b. Sulfur Oxides

c. Nitrogen Oxides

d. Hydrocarbons

e. Carbon Monoxide

---

*A sixth substance, photochemical oxidants, is also considered to be a "criteria" pollutant because ambient air quality standards have been promulgated for it. Because it is a secondary or derived pollutant, however, no emissions standards exist as such.

The data in this document were compiled from source information of the National Emissions Data System (NEDS). Brief discussions of the NEDS basic elements used for the generation of the NER are included in the introduction to the document.

5.1.1.2 SAMPLE REPORT

Figure 5.1.1.a gives examples of the national, state, and AQCR-wide summaries described above. Note the order in which the tables for the two parts of the interstate AQCR appear, each portion in its own state's area of the NER document. The entire AQCR is summarized in its proper numerical order at the end of the document.

UNITED STATES

Emission categories	Pollutant, tons per year				
	Particulates	Sulfur oxides	Nitrogen oxides	Hydro-carbons	Carbon monoxide
GRAND TOTAL	18,566,748	32,023,487	24,051,210	26,632,852	101,693,648
-AREA	3,891,673	4,149,492	10,380,875	19,803,892	82,705,714
-POINT	14,675,075	27,873,995	13,670,335	6,828,960	18,987,934
FUEL COMBUSTION-AREA	2,217,301	3,475,451	1,486,484	255,225	668,638
-POINT	5,243,555	21,084,038	10,765,754	217,234	511,267
External Combustion-area	2,217,301	3,475,451	1,486,484	255,225	668,638
-point	5,237,045	21,067,582	9,847,280	173,050	472,428
Residential Fuel-area	299,520	894,519	292,572	137,801	593,634
Anthracite Coal	14,070	36,592	4,221	3,518	126,634
Bituminous Coal	81,291	312,305	12,194	81,291	365,809
Distillate Oil	85,428	479,855	102,514	25,628	42,714
Residual Oil	9,367	62,984	15,942	1,196	80
Natural Gas	51,029	1,611	134,287	21,486	53,715
Wood	56,535	1,171	23,414	4,683	4,683
Electric Generation-point	3,394,726	17,348,406	5,880,746	72,298	234,505
Anthracite Coal	19,420	54,891	13,798	165	3,635
Bituminous Coal	3,223,786	15,554,246	3,852,019	52,535	165,983
Lignite	58,973	107,023	64,311	923	3,122
Residual Oil	52,981	1,579,488	773,377	15,661	23,399
Distillate Oil	2,157	21,218	37,373	673	959
Natural Gas	25,609	19,744	1,104,415	2,089	36,137
Process Gas	590	14,113	31,794	182	788
Coke	460	37,692	3,358	6	187
Solid Waste/Coal	751	0	302	63	295
Other					
Industrial Fuel-area	1,604,488	1,382,156	599,993	79,696	28,204
-point	1,777,004	3,302,676	3,906,712	97,066	230,662
Anthracite Coal-area	106	352	86	1	11
-point	6,208	7,180	3,203	54	1,663
Bituminous Coal-area	1,534,028	1,058,041	202,898	13,527	27,053
-point	1,206,491	2,369,034	545,182	17,513	54,810
Lignite-point	13,239	4,917	3,126	210	421
Residual Oil-area	28,939	273,406	75,492	3,775	252
-point	68,424	841,355	206,827	11,443	33,165
Distillate Oil-area	13,120	49,614	52,479	2,624	175
-point	20,531	39,207	58,629	4,320	3,663
Natural Gas-area	26,839	895	268,386	39,641	596
-point	29,209	36,287	334,160	11,177	28,088
Process Gas-area	6	0	71	12	0
-point	168,923	123,501	2,581,326	13,161	68,523
Coke-point	2,044	24,795	3,003	40	406
Wood-area	1,451	29	580	116	116
-point	211,731	17,555	137,691	30,700	43,838
Liquid Petroleum Gas-point	115	23,308	4,964	132	653
Bagasse-point	41,958	0	5,490	5,499	5,499
Other-point	7,931	15,659	3,109	2,812	7,935
Commercial-Institutional Fuel-area	313,293	1,198,776	593,919	37,727	46,801
-point	75,315	176,305	59,823	3,686	7,261
Anthracite Coal-area	1,428	3,880	1,461	29	877
-point	6,798	2,622	824	51	284
Bituminous Coal-area	154,062	234,544	28,247	6,141	22,106
-point	52,185	82,613	17,158	1,249	3,313
Lignite-point	4,229	2,938	1,015	75	204
Residual Oil-area	67,358	701,296	175,717	8,786	586
-point	7,248	79,949	18,650	884	1,149
Distillate Oil-area	69,237	258,386	276,949	13,847	923
-point	1,024	5,929	4,350	206	285
Natural Gas-area	21,192	669	111,538	8,923	22,308
-point	3,130	2,404	17,088	1,069	1,881
Wood-area	15	0	6	1	1
-point	672	53	656	146	131
Liquid Petroleum Gas-point	14	1	78	6	15
Miscellaneous-point					
Internal Combustion-point	6,510	16,450	918,474	44,184	38,839
Electric Generation	3,519	5,640	51,288	1,527	3,124
Distillate Oil	3,205	4,431	24,114	201	38
Natural Gas	87	554	19,609	159	30
Diesel Fuel	176	356	4,911	699	2,963
Industrial Fuel	2,701	10,565	865,375	41,878	33,776
Distillate Oil	497	842	4,936	202	907
Natural Gas	1,651	9,532	857,712	40,597	28,459
Gasoline	33	5	262	691	3,611
Diesel Fuel	86	167	2,342	249	1,467

Emission categories	Pollutant, tons per year				
	Particulates	Sulfur oxides	Nitrogen oxides	Hydro-carbons	Carbon monoxide
Other	458	18	123	138	332
Commercial-Institutional	47	97	1,328	133	808
Diesel Fuel	47	97	1,328	133	808
Other					
Engine-Testing	241	148	482	646	1,132
Aircraft	241	148	482	646	1,132
Other					
Miscellaneous					
INDUSTRIAL PROCESS-POINT	9,265,436	6,753,242	2,876,497	6,450,840	17,469,013
Chemical Manufacturing	225,865	696,367	151,033	2,369,685	6,010,714
Food/Agriculture	401,505	1,659	443	31,602	1,334
Primary Metal	1,691,035	3,637,080	27,787	114,778	4,108,430
Secondary Metals	191,510	103,514	2,925	5,374	1,506,070
Mineral Products	5,211,908	446,210	142,701	11,732	23,316
Petroleum Industry	971,441	1,676,430	2,501,111	979,639	4,888,029
Wood Products	469,852	107,821	2,931	25,477	857,648
Evaporation	1,022	2,120	612	2,774,657	2,149
Metal Fabrication	3,924	1,069	298	1,861	38
Leather Products	59	26	4	418	0
Textile Manufacturing	596	38	18	7,339	1
Inprocess Fuel	87,330	60,496	36,885	22,880	38,092
Other/Not Classified	9,293	20,408	7,750	105,397	31,192
SOLID WASTE DISPOSAL-AREA	717,890	49,287	151,843	1,488,391	3,974,054
-POINT	166,020	36,689	28,084	160,886	1,007,634
Government-point	72,526	9,474	14,597	58,659	213,237
Municipal Incineration	49,780	8,084	6,495	17,472	95,577
Open Burning	22,070	1,346	8,003	40,869	116,348
Other	675	43	98	317	1,312
Residential-area	341,503	11,830	57,141	976,516	2,787,253
On Site Incineration	207,577	3,460	6,919	691,928	2,075,773
Open Burning	133,926	8,370	50,222	284,592	711,480
Commercial-Institutional-area	75,343	7,052	20,446	111,697	263,627
-point	2,951	870	850	1,678	12,610
On Site Incineration-area	37,480	4,685	6,247	31,233	62,466
-point	1,435	869	652	1,323	8,343
Open Burning-area	37,863	2,367	14,200	80,464	201,161
-point	1,442	0	170	339	4,243
Apartment-point	30	1	9	15	24
Other-point	44	0	19	0	0
Industrial-area	301,042	30,406	74,256	400,178	923,174
-point	90,544	26,345	12,638	100,550	781,807
On Site Incineration-area	185,447	23,181	30,908	154,539	309,079
-point	75,489	21,884	9,459	63,214	732,914
Open Burning-area	115,594	7,225	43,348	245,638	614,095
-point	12,900	348	2,939	37,123	48,404
Auto Body Incineration-point	55	0	2	8	42
Other-point	2,099	4,113	238	205	447
Miscellaneous-point					
TRANSPORTATION-AREA	773,643	624,755	8,721,038	16,278,605	77,417,707
Land Vehicles	523,543	508,209	8,515,400	14,613,519	76,005,100
Gasoline	409,020	245,806	6,615,686	14,333,123	74,821,954
Light Vehicles	359,980	215,908	5,159,706	10,981,127	59,529,745
Heavy Vehicles	33,273	19,964	1,109,090	2,262,031	9,320,184
Off Highway	15,768	9,855	346,890	1,089,944	5,972,025
Diesel Fuel	114,523	262,403	1,899,714	280,396	1,183,146
Heavy Vehicles	42,593	85,186	1,206,805	120,681	709,885
Off Highway	18,739	38,939	533,335	53,335	526,325
Rail	53,191	138,297	159,574	106,382	148,935
Aircraft	226,513	45,175	121,615	551,421	975,558
Military	156,563	29,896	75,213	364,265	991,015
Civil	9,501	1,887	8,583	42,079	240,649
Commercial	60,449	13,392	37,819	145,077	344,094
Vessels	23,586	71,371	84,022	102,173	437,050
Bituminous Coal	1,273	3,183	191	1,273	5,729
Diesel Fuel	14,292	37,159	42,876	28,584	40,017
Residual Oil	6,988	30,383	18,230	912	61
Gasoline	1,033	646	22,726	71,405	391,243
Gas Handling Evaporation Loss	0	0	0	1,011,491	0
MISCELLANEOUS-AREA	182,839	0	21,510	1,781,671	645,315
Slash Burning	182,839	0	21,510	215,105	645,315
Solvent Evaporation Loss	0	0	0	1,566,566	0
MISCELLANEOUS-POINT	70	26	0	0	0

Figure 5.1.1.a. National Emissions Report

OHIO

Emission categories	Pollutant, tons per year				
	Particulates	Sulfur oxides	Nitrogen oxides	Hydro-carbons	Carbon monoxide
GRAND TOTAL	1,946,743	3,285,255	1,214,163	1,271,508	5,738,323
-AREA	492,906	401,632	556,745	1,078,272	4,277,085
-POINT	1,453,837	2,883,622	657,418	193,236	1,461,238
FUEL COMBUSTION-AREA	417,216	375,186	110,465	17,655	48,036
-POINT	658,011	2,725,821	604,669	11,174	33,136
External Combustion-area	417,216	375,186	110,465	17,655	48,036
-point	658,021	2,725,810	604,426	10,846	33,067
Residential Fuel-area	13,843	41,175	15,867	8,822	36,377
Anthracite Coal	310	141	99	81	2,974
Bituminous Coal	6,101	28,217	915	6,101	27,464
Distillate Oil	2,321	12,663	2,785	696	1,160
Residual Oil	0	0	0	0	0
Natural Gas	4,495	142	11,810	1,893	4,732
Wood	594	12	237	47	47
Electric Generation-point	360,088	2,019,070	391,051	5,530	18,294
Anthracite Coal	657	6,353	855	13	488
Bituminous Coal	359,309	2,011,918	384,708	5,488	17,661
Lignite	0	0	0	0	0
Residual Oil	18	426	369	7	9
Distillate Oil	14	370	794	15	21
Natural Gas	90	3	3,723	6	98
Process Gas	0	0	601	1	17
Coke	0	0	0	0	0
Solid Waste/Coal	0	0	0	0	0
Other	0	0	0	0	0
Industrial Fuel-area	364,627	261,455	64,275	6,242	6,381
-point	285,624	682,515	208,534	5,031	13,864
Anthracite Coal-area	0	0	0	0	0
-point	8	719	63	1	36
Bituminous Coal-area	362,393	258,263	47,549	3,170	6,340
-point	274,492	622,373	97,757	3,469	8,714
Lignite-point	577	605	85	6	11
Residual Oil-area	0	0	0	0	0
-point	1,191	12,937	3,223	160	187
Distillate Oil-area	935	3,149	3,741	187	12
-point	104	314	1,087	54	69
Natural Gas-area	1,298	43	12,984	2,885	29
-point	1,638	1,185	16,521	186	655
Process Gas-area	0	0	0	0	0
-point	5,863	41,833	89,680	1,146	4,173
Coke-point	1,654	2,522	74	1	10
Wood-area	0	0	0	0	0
-point	98	7	44	9	9
Liquid Petroleum Gas-point	0	0	0	0	0
Bagasse-point	0	0	0	0	0
Other-point	0	0	0	0	0
Commercial-Institutional Fuel-area	38,746	70,556	30,323	2,590	5,277
-point	12,308	24,225	4,841	284	909
Anthracite Coal-area	0	0	0	0	0
-point	32	1,295	63	2	108
Bituminous Coal-area	32,816	52,059	5,866	1,275	4,591
-point	12,092	21,979	4,257	250	743
Lignite-point	30	141	6	3	10
Residual Oil-area	0	0	0	0	0
-point	100	690	261	13	17
Distillate Oil-area	5,345	18,479	21,381	1,069	71
-point	32	119	135	6	9
Natural Gas-area	585	18	3,077	246	615
-point	22	1	118	9	22
Wood-area	0	0	0	0	0
-point	0	0	0	0	0
Liquid Petroleum Gas-point	0	0	0	0	0
Miscellaneous-point	0	0	0	0	0
Internal Combustion-point	12	12	243	329	70
Electric Generation	4	3	27	0	0
Distillate Oil	4	3	27	0	0
Natural Gas	0	0	0	0	0
Diesel Fuel	0	0	0	0	0
Industrial Fuel	9	8	216	329	70
Distillate Oil	0	0	0	0	0
Natural Gas	0	0	1	0	0
Gasoline	5	0	101	317	0
Diesel Fuel	4	8	115	11	70
Other	0	0	0	0	0
Commercial-Institutional	0	0	0	0	0
Diesel Fuel	0	0	0	0	0
Other	0	0	0	0	0
Engine-Testing	0	0	0	0	0
Aircraft	0	0	0	0	0
Other	0	0	0	0	0
Miscellaneous	0	0	0	0	0
INDUSTRIAL PROCESS-POINT	790,132	153,070	51,831	177,736	1,415,011
Chemical Manufacturing	9,165	11,950	2,346	61,301	27,011
Food/Agriculture	6,114	0	0	119	18
Primary Metal	373,196	35,164	1,747	26,624	143,912
Secondary Metals	14,688	4,717	13	189	218,707
Mineral Products	365,828	9,240	809	26	37
Petroleum Industry	10,788	64,590	37,040	27,359	1,013,738
Wood Products	1,581	465	0	0	6,510
Evaporation	0	0	0	51,836	0
Metal Fabrication	2,384	1,068	22	3	0
Leather Products	0	0	0	0	0
Textile Manufacturing	11	0	0	2,858	0
Inprocess Fuel	3,271	9,976	2,621	6,198	5,019
Other/Not Classified	3,104	15,899	7,233	1,217	58
SOLID WASTE DISPOSAL-AREA	47,322	3,303	9,564	97,123	259,850
-POINT	5,672	4,731	918	4,325	13,090
Government-point	4,246	647	699	3,367	9,326
Municipal Incineration	3,767	618	519	2,469	6,781
Open Burning	479	30	180	898	2,545
Other	0	0	0	0	0
Residential-area	20,046	601	2,661	59,775	173,129
On Site Incineration	14,215	237	474	47,383	142,150
Open Burning	5,831	364	2,187	12,391	30,978
Commercial-Institutional-area	3,841	359	1,045	5,711	13,492
-point	187	23	32	210	1,147
On Site Incineration-area	1,896	237	316	1,580	3,160
-point	154	23	29	202	1,052
Open Burning-area	1,945	122	729	4,133	10,332
-point	32	0	4	8	95
Apartment-point	0	0	0	0	0
Other-point	0	0	0	0	0
Industrial-area	23,435	2,344	5,858	31,636	73,230
-point	1,240	4,061	186	749	2,617
On Site Incineration-area	14,062	1,758	2,344	11,718	23,437
-point	232	4,048	73	208	524
Open Burning-area	9,373	586	3,515	19,917	49,793
-point	975	13	113	537	2,078
Auto Body Incineration-point	13	0	1	3	16
Other-point	0	0	0	0	0
Miscellaneous-point	0	0	0	0	0
TRANSPORTATION-AREA	28,368	25,143	436,715	804,507	3,969,199
Land Vehicles	23,343	19,727	430,577	736,009	3,897,866
Gasoline	19,439	11,689	324,499	725,084	3,834,397
Light Vehicles	16,413	9,848	235,250	513,303	2,856,138
Heavy Vehicles	2,001	1,201	66,706	140,950	590,138
Off Highway	1,025	640	22,543	70,832	388,101
Diesel Fuel	3,904	8,038	106,078	10,925	63,469
Heavy Vehicles	2,167	4,334	61,404	6,140	36,120
Off Highway	1,550	3,219	44,115	4,412	26,827
Rail	186	485	559	373	322
Aircraft	3,146	652	1,995	8,725	26,808
Military	993	190	477	2,310	2,480
Civil	616	122	556	2,726	15,379
Commercial	1,537	341	962	3,689	8,749
Vessels	1,881	4,764	4,143	9,088	44,525
Bituminous Coal	1,177	2,942	177	1,177	5,296
Diesel Fuel	495	1,288	1,486	990	1,387
Residual Oil	108	471	283	14	1
Gasoline	100	62	2,198	6,906	37,842
Gas Handling Evaporation Loss	0	0	0	50,045	0
MISCELLANEOUS-AREA	0	0	0	158,987	0
Slash Burning	0	0	0	0	0
Solvent Evaporation Loss	0	0	0	158,987	0
MISCELLANEOUS-POINT	0	0	0	0	0

Figure 5.1.1.a (continued). National Emissions Report

AQCR 174 GREATER METROPOLITAN CLEVELAND (OHIO)

Emission categories	Pollutant, tons per year				
	Particulates	Sulfur oxides	Nitrogen oxides	Hydro-carbons	Carbon monoxide
GRAND TOTAL	359,389	732,219	291,939	404,965	1,568,828
-AREA	175,809	163,360	166,466	354,990	1,324,470
-POINT	183,580	568,859	125,474	49,975	244,358
FUEL COMBUSTION-AREA	151,133	154,963	37,025	4,531	9,772
-POINT	108,803	515,741	112,186	3,168	8,231
External Combustion-area	151,133	154,963	37,025	4,531	9,772
-point	108,798	515,741	112,085	2,850	8,231
Residential Fuel-area	2,906	6,297	4,845	1,596	5,798
Anthracite Coal	42	0	13	11	382
Bituminous Coal	784	4,144	118	784	3,528
Distillate Oil	423	2,102	507	127	211
Residual Oil	0	0	0	0	0
Natural Gas	1,588	50	4,179	669	1,672
Wood	69	1	27	5	5
Electric Generation-point	31,074	298,490	55,070	1,037	3,233
Anthracite Coal	0	0	0	0	0
Bituminous Coal	51,067	298,316	54,690	1,029	3,222
Lignite	0	0	0	0	0
Residual Oil	0	69	46	1	1
Distillate Oil	7	105	333	6	10
Natural Gas	0	0	0	0	0
Process Gas	0	0	0	0	0
Coke	0	0	0	0	0
Solid Waste/Coal	0	0	0	0	0
Other	0	0	0	0	0
Industrial Fuel-area	135,696	121,724	22,566	2,114	2,300
-point	72,184	208,766	55,711	1,719	4,785
Anthracite Coal-area	0	0	0	0	0
-point	0	0	0	0	0
Bituminous Coal-area	134,952	120,577	17,152	1,143	2,287
-point	70,180	205,459	32,181	1,335	3,046
Lignite-point	577	605	85	6	11
Residual Oil-area	0	0	0	0	0
-point	317	2,690	824	41	55
Distillate Oil-area	337	1,134	1,349	67	4
-point	23	150	187	9	12
Natural Gas-area	406	14	4,064	903	9
-point	94	3	1,177	50	90
Process Gas-area	0	0	0	0	0
-point	992	558	21,256	277	1,570
Coke-point	0	0	0	0	0
Wood-area	0	0	0	0	0
-point	0	0	0	0	0
Liquid Petroleum Gas-point	0	0	0	0	0
Bagasse-point	0	0	0	0	0
Other-point	0	0	0	0	0
Commercial-Institutional Fuel-area	12,531	26,942	9,614	821	1,674
-point	5,541	8,486	1,304	95	214
Anthracite Coal-area	0	0	0	0	0
-point	0	0	0	0	0
Bituminous Coal-area	10,651	21,333	1,861	404	1,456
-point	5,427	7,994	995	75	174
Lignite-point	30	141	6	3	10
Residual Oil-area	0	0	0	0	0
-point	46	256	120	6	8
Distillate Oil-area	1,695	3,603	6,779	339	23
-point	23	94	93	5	6
Natural Gas-area	185	6	974	78	195
-point	15	0	91	6	15
Wood-area	0	0	0	0	0
-point	0	0	0	0	0
Liquid Petroleum Gas-point	0	0	0	0	0
Miscellaneous-point	0	0	0	0	0
Internal Combustion-point	5	0	101	317	0
Electric Generation	0	0	0	0	0
Distillate Oil	0	0	0	0	0
Natural Gas	0	0	0	0	0
Diesel Fuel	0	0	0	0	0
Industrial Fuel	5	0	101	317	0
Distillate Oil	0	0	0	0	0
Natural Gas	0	0	0	0	0
Gasoline	5	0	101	317	0
Diesel Fuel	0	0	0	0	0

Emission categories	Pollutant, tons per year				
	Particulates	Sulfur oxides	Nitrogen oxides	Hydro-carbons	Carbon monoxide
Other	0	0	0	0	0
Commercial-Institutional	0	0	0	0	0
Diesel Fuel	0	0	0	0	0
Other	0	0	0	0	0
Engine-Testing	0	0	0	0	0
Aircraft	0	0	0	0	0
Other	0	0	0	0	0
Miscellaneous	0	0	0	0	0
INDUSTRIAL PROCESS-POINT	73,166	52,920	13,093	46,498	232,964
Chemical Manufacturing	4,056	8,213	314	7,913	1,320
Food/Agriculture	186	0	0	119	0
Primary Metal	26,110	17,383	1,595	11,119	56,255
Secondary Metals	2,069	3,888	0	189	101,289
Mineral Products	38,205	1,357	501	13	2
Petroleum Industry	378	2,726	632	148	69,000
Wood Products	0	0	0	0	0
Evaporation	0	0	0	23,025	0
Metal Fabrication	11	1,068	3	1	0
Leather Products	0	0	0	0	0
Textile Manufacturing	0	0	0	0	0
Inprocess Fuel	1,100	6,613	2,612	2,755	5,019
Other/Not Classified	1,050	11,669	7,233	1,217	58
SOLID WASTE DISPOSAL-AREA	16,329	1,181	3,365	32,569	86,483
-POINT	1,611	198	195	310	3,183
Government-point	1,496	179	175	193	3,002
Municipal Incineration	1,475	177	167	154	2,892
Open Burning	21	1	8	39	110
Other	0	0	0	0	0
Residential-area	6,348	190	843	18,928	54,821
On Site Incineration	4,501	75	150	15,002	45,007
Open Burning	1,847	115	693	3,925	9,813
Commercial-Institutional-area	1,215	113	331	1,807	4,758
-point	75	12	10	74	102
On Site Incineration-area	600	75	100	500	1,000
-point	74	12	10	74	98
Open Burning-area	615	38	231	1,307	3,268
-point	1	0	0	0	4
Apartment-point	0	0	0	0	0
Other-point	0	0	0	0	0
Industrial-area	8,766	877	2,191	11,834	27,394
-point	40	7	10	43	79
On Site Incineration-area	5,260	657	877	4,383	8,766
-point	26	7	9	33	45
Open Burning-area	3,506	219	1,315	7,451	18,628
-point	13	0	2	10	33
Auto Body Incineration-point	0	0	0	0	0
Other-point	0	0	0	0	0
Miscellaneous-point	0	0	0	0	0
TRANSPORTATION-AREA	8,147	7,216	126,076	243,584	1,228,215
Land Vehicles	6,913	5,642	124,854	224,360	1,213,686
Gasoline	5,895	3,542	97,502	221,519	1,197,356
Light Vehicles	5,089	3,053	72,938	167,455	932,929
Heavy Vehicles	602	361	20,053	43,890	186,766
Off Highway	205	128	4,511	14,174	77,662
Diesel Fuel	1,020	2,100	27,352	2,841	16,330
Heavy Vehicles	645	1,291	18,298	1,829	10,758
Off Highway	312	648	8,878	888	5,399
Rail	62	162	186	124	174
Aircraft	932	203	625	2,550	8,317
Military	8	2	4	19	20
Civil	155	31	140	646	3,918
Commercial	769	170	481	1,846	4,378
Vessels	500	1,371	597	1,255	6,212
Bituminous Coal	384	960	58	384	1,728
Diesel Fuel	29	74	86	57	80
Residual Oil	76	329	197	10	1
Gasoline	12	7	256	804	4,403
Gas Handling Evaporation Loss	0	0	0	15,419	0
MISCELLANEOUS-AREA	0	0	0	74,306	0
Slash Burning	0	0	0	0	0
Solvent Evaporation Loss	0	0	0	74,306	0
MISCELLANEOUS-POINT	0	0	0	0	0

Figure 5.1.1.a (continued). National Emissions Report

AQCR 178 NORTHWEST PENNSYLVANIA-YOUNGSTOWN (OHIO-PENN) PORTION IN OHIO

Emission categories	Pollutant, tons per year				
	Particulates	Sulfur oxides	Nitrogen oxides	Hydro-carbons	Carbon monoxide
GRAND TOTAL	189,484	237,627	100,382	80,687	331,522
-AREA	40,185	27,075	34,601	61,668	257,613
-POINT	149,299	210,552	65,781	19,018	73,909
FUEL COMBUSTION-AREA	35,772	25,554	6,961	1,137	3,216
-POINT	71,535	196,625	65,641	925	2,989
External Combustion-area	35,772	25,554	6,961	1,137	3,216
-point	71,531	196,617	65,526	914	2,919
Residential Fuel-area	892	2,623	953	589	2,474
Anthracite Coal	23	141	7	6	207
Bituminous Coal	425	1,937	64	425	1,913
Distillate Oil	147	536	177	44	74
Residual Oil	0	0	0	0	0
Natural Gas	263	8	693	111	277
Wood	34	1	13	3	3
Electric Generation-point	11,351	110,141	23,796	225	750
Anthracite Coal	0	0	0	0	0
Bituminous Coal	11,351	110,141	23,784	225	749
Lignite	0	0	0	0	0
Residual Oil	0	0	0	0	0
Distillate Oil	0	0	10	0	0
Natural Gas	0	0	0	0	0
Process Gas	0	0	0	0	0
Coke	0	0	0	0	0
Solid Waste/Coal	0	0	0	0	0
Other	0	0	0	0	0
Industrial Fuel-area	31,965	18,848	4,199	394	428
-point	86,116	86,154	41,709	678	2,135
Anthracite Coal-area	0	0	0	0	0
-point	0	0	0	0	0
Bituminous Coal-area	31,826	18,713	3,190	213	425
-point	56,530	80,325	11,751	275	776
Lignite-point	0	0	0	0	0
Residual Oil-area	0	0	0	0	0
-point	115	474	300	15	1
Distillate Oil-area	63	133	251	13	1
-point	13	31	43	2	0
Natural Gas-area	76	3	758	168	2
-point	465	14	5,940	78	399
Process Gas-area	0	0	0	0	0
-point	1,392	2,908	23,675	309	960
Coke-point	1,594	2,405	0	0	0
Wood-area	0	0	0	0	0
-point	0	0	0	0	0
Liquid Petroleum Gas-point	0	0	0	0	0
Bagasse-point	0	0	0	0	0
Other-point	0	0	0	0	0
Commercial-Institutional Fuel-area	2,915	4,083	1,808	154	315
-point	64	321	21	10	34
Anthracite Coal-area	0	0	0	0	0
-point	0	0	0	0	0
Bituminous Coal-area	2,562	3,385	350	76	274
-point	64	321	20	10	34
Lignite-point	0	0	0	0	0
Residual Oil-area	0	0	0	0	0
-point	0	0	0	0	0
Distillate Oil-area	319	697	1,275	64	4
-point	0	0	1	0	0
Natural Gas-area	35	1	183	15	37
-point	0	0	0	0	0
Wood-area	0	0	0	0	0
-point	0	0	0	0	0
Liquid Petroleum Gas-point	0	0	0	0	0
Miscellaneous-point	0	0	0	0	0
Internal Combustion-point	4	8	115	11	70
Electric Generation	0	0	0	0	0
Distillate Oil	0	0	0	0	0
Natural Gas	0	0	0	0	0
Diesel Fuel	0	0	0	0	0
Industrial Fuel	4	8	115	11	70
Distillate Oil	0	0	0	0	0
Natural Gas	0	0	1	0	0
Gasoline	0	0	0	0	0
Diesel Fuel	4	8	115	11	70
Other	0	0	0	0	0
Commercial-Institutional	0	0	0	0	0
Diesel Fuel	0	0	0	0	0
Other	0	0	0	0	0
Engine-Testing	0	0	0	0	0
Aircraft	0	0	0	0	0
Other	0	0	0	0	0
Miscellaneous	0	0	0	0	0
INDUSTRIAL PROCESS-POINT	77,291	13,896	76	17,839	69,829
Chemical Manufacturing	589	0	0	250	1,794
Food/Agriculture	0	0	0	0	0
Primary Metal	68,714	8,748	70	6,911	67,296
Secondary Metals	155	0	0	0	768
Mineral Products	3,710	0	6	0	0
Petroleum Industry	0	0	0	0	0
Wood Products	0	0	0	0	0
Evaporation	0	0	0	7,432	0
Metal Fabrication	0	0	0	0	0
Leather Products	0	0	0	0	0
Textile Manufacturing	0	0	0	0	0
Inprocess Fuel	2,069	917	0	3,243	0
Other/Not Classified	2,054	4,230	0	0	0
SOLID WASTE DISPOSAL-AREA	2,776	153	559	5,724	15,336
-POINT	473	32	63	254	1,091
Government-point	217	21	17	13	297
Municipal Incineration	217	21	17	13	297
Open Burning	0	0	0	0	0
Other	0	0	0	0	0
Residential-area	1,190	96	157	3,552	10,290
On Site Incineration	846	14	28	2,821	8,663
Open Burning	344	21	129	731	1,627
Commercial-Institutional-area	228	21	62	339	800
-point	18	3	4	18	93
On Site Incineration-area	113	14	19	94	188
-point	18	3	4	18	93
Open Burning-area	115	7	43	245	612
-point	0	0	0	0	0
Apartment-point	0	0	0	0	0
Other-point	0	0	0	0	0
Industrial-area	1,348	136	339	1,833	4,244
-point	238	8	43	224	701
On Site Incineration-area	815	102	136	679	1,358
-point	17	3	3	15	22
Open Burning-area	543	34	204	1,154	2,886
-point	221	5	40	209	679
Auto Body Incineration-point	0	0	0	0	0
Other-point	0	0	0	0	0
Miscellaneous-point	0	0	0	0	0
TRANSPORTATION-AREA	1,637	1,328	27,082	48,704	239,062
Land Vehicles	1,439	1,238	26,626	44,146	232,248
Gasoline	1,184	712	19,707	43,431	228,101
Light Vehicles	1,012	607	14,500	31,431	173,779
Heavy Vehicles	125	75	4,168	8,737	36,445
Off Highway	47	29	1,038	3,263	17,877
Diesel Fuel	255	526	6,919	713	4,147
Heavy Vehicles	129	258	3,658	366	2,152
Off Highway	113	235	3,223	322	1,960
Rail	13	33	38	25	35
Aircraft	172	55	105	465	1,318
Military	72	14	34	167	179
Civil	29	6	26	129	736
Commercial	71	16	44	170	403
Vessels	26	56	351	1,009	5,497
Bituminous Coal	0	0	0	0	0
Diesel Fuel	3	8	10	6	9
Residual Oil	9	38	23	1	0
Gasoline	14	9	319	1,001	5,487
Gas Handling Evaporation Loss	0	0	0	3,083	0
MISCELLANEOUS-AREA	0	0	0	6,104	0
Slash Burning	0	0	0	0	0
Solvent Evaporation Loss	0	0	0	6,104	0
MISCELLANEOUS-POINT	0	0	0	0	0

Figure 5.1.1.a.(continued). National Emissions Report

AQCR 178 NORTHWEST PENNSYLVANIA-YOUNGSTOWN (OHIO-PENN) PORTION IN PENNSYLVANIA

Emission categories	Pollutant, tons per year				
	Particulates	Sulfur oxides	Nitrogen oxides	Hydro-carbons	Carbon monoxide
GRAND TOTAL	131,549	295,932	105,639	78,138	364,399
-AREA	55,285	54,860	55,068	74,688	336,265
-POINT	76,264	241,073	50,571	3,450	28,134
FUEL COMBUSTION-AREA	51,521	49,347	13,342	3,271	10,486
-POINT	35,148	240,937	50,505	1,201	3,717
External Combustion-area	51,521	49,347	13,342	3,271	10,486
-point	35,148	240,937	50,505	1,201	3,717
Residential Fuel-area	2,704	9,248	1,494	2,233	9,573
Anthracite Coal	3	9	1	1	31
Bituminous Coal	2,016	7,660	302	2,016	9,071
Distillate Oil	221	1,366	265	66	110
Residual Oil	0	0	0	0	0
Natural Gas	332	10	873	140	349
Wood	132	3	53	11	11
Electric Generation-point	13,628	172,646	24,700	403	1,294
Anthracite Coal	874	4,471	729	7	18
Bituminous Coal	12,754	168,175	23,971	396	1,276
Lignite	0	0	0	0	0
Residual Oil	0	0	0	0	0
Distillate Oil	0	0	0	0	0
Natural Gas	0	0	0	0	0
Process Gas	0	0	0	0	0
Coke	0	0	0	0	0
Solid Waste/Coal	0	0	0	0	0
Other	0	0	0	0	0
Industrial Fuel-area	47,203	32,027	8,476	837	724
-point	21,394	68,287	25,271	745	2,290
Anthracite Coal-area	0	0	0	0	0
-point	0	0	0	0	0
Bituminous Coal-area	46,545	27,211	5,371	358	716
-point	20,040	66,969	9,894	502	1,090
Lignite-point	0	0	0	0	0
Residual Oil-area	470	4,810	1,225	61	4
-point	31	1,041	148	7	10
Distillate Oil-area	0	0	0	0	0
-point	119	228	669	33	45
Natural Gas-area	188	6	1,880	418	4
-point	1,203	48	14,560	202	1,145
Process Gas-area	0	0	0	0	0
-point	0	0	0	0	0
Coke-point	0	0	0	0	0
Wood-area	0	0	0	0	0
-point	0	0	0	0	0
Liquid Petroleum Gas-point	0	0	0	0	0
Bagasse-point	0	0	0	0	0
Other-point	0	0	0	0	0
Commercial-Institutional Fuel-area	1,614	8,071	3,372	201	189
-point	127	4	534	53	133
Anthracite Coal-area	0	0	0	0	0
-point	0	0	0	0	0
Bituminous Coal-area	634	831	101	22	79
-point	0	0	0	0	0
Lignite-point	0	0	0	0	0
Residual Oil-area	554	5,676	1,446	72	5
-point	0	0	0	0	0
Distillate Oil-area	330	1,562	1,320	66	4
-point	0	0	0	0	0
Natural Gas-area	96	3	505	40	101
-point	127	4	534	53	133
Wood-area	0	0	0	0	0
-point	0	0	0	0	0
Liquid Petroleum Gas-point	0	0	0	0	0
Miscellaneous-point	0	0	0	0	0
Internal Combustion-point	0	0	0	0	0
Electric Generation	0	0	0	0	0
Distillate Oil	0	0	0	0	0
Natural Gas	0	0	0	0	0
Diesel Fuel	0	0	0	0	0
Industrial Fuel	0	0	0	0	0
Distillate Oil	0	0	0	0	0
Natural Gas	0	0	0	0	0
Gasoline	0	0	0	0	0
Diesel Fuel	0	0	0	0	0
Other	0	0	0	0	0
Commercial-Institutional	0	0	0	0	0
Diesel Fuel	0	0	0	0	0
Other	0	0	0	0	0
Engine-Testing	0	0	0	0	0
Aircraft	0	0	0	0	0
Other	0	0	0	0	0
Miscellaneous	0	0	0	0	0
INDUSTRIAL PROCESS-POINT	41,021	122	54	2,161	24,274
Chemical Manufacturing	240	0	28	1,181	0
Food/Agriculture	0	0	0	0	0
Primary Metal	1,124	0	0	0	2,811
Secondary Metals	593	0	10	0	0
Mineral Products	38,827	63	16	4	2
Petroleum Industry	199	79	0	0	21,462
Wood Products	23	0	0	0	0
Evaporation	15	0	0	976	0
Metal Fabrication	0	0	0	0	0
Leather Products	0	0	0	0	0
Textile Manufacturing	0	0	0	0	0
Inprocess Fuel	0	0	0	0	0
Other/Not Classified	0	0	0	0	0
SOLID WASTE DISPOSAL-AREA	404	28	40	866	2,373
-POINT	95	14	13	87	143
Government-point	0	0	0	0	0
Municipal Incineration	6	0	6	0	0
Open Burning	0	0	0	0	0
Other	0	0	0	0	0
Residential-area	204	3	7	680	2,040
On Site Incineration	204	3	7	680	2,040
Open Burning	0	0	0	0	0
Commercial-Institutional-area	27	3	4	22	45
-point	0	0	0	0	1
On Site Incineration-area	27	3	4	22	45
-point	0	0	0	0	1
Open Burning-area	0	0	0	0	0
-point	0	0	0	0	0
Apartment-point	0	0	0	0	0
Other-point	0	0	0	0	0
Industrial-area	173	22	29	144	288
-point	95	14	12	87	142
On Site Incineration-area	173	22	29	144	288
-point	85	14	11	85	113
Open Burning-area	0	0	0	0	0
-point	10	0	1	2	29
Auto Body Incineration-point	0	0	0	0	0
Other-point	0	0	0	0	0
Miscellaneous-point	0	0	0	0	0
TRANSPORTATION-AREA	3,360	5,485	41,686	69,268	323,406
Land Vehicles	2,653	2,938	40,012	64,279	322,449
Gasoline	1,892	1,136	30,172	62,508	316,169
Light Vehicles	1,705	1,023	24,444	50,204	262,329
Heavy Vehicles	143	86	4,775	9,309	37,429
Off Highway	43	27	953	2,995	16,412
Diesel Fuel	761	1,802	9,840	1,771	6,280
Heavy Vehicles	276	551	7,812	781	4,595
Off Highway	22	47	638	64	388
Rail	463	1,204	1,389	926	1,297
Aircraft	100	22	65	262	769
Military	5	1	2	12	12
Civil	11	2	10	48	277
Commercial	84	19	53	202	480
Vessels	607	2,524	1,609	201	188
Bituminous Coal	0	0	0	0	0
Diesel Fuel	65	170	196	131	183
Residual Oil	542	2,354	1,413	71	5
Gasoline	0	0	0	0	0
Gas Handling Evaporation Loss	0	0	0	4,524	0
MISCELLANEOUS-AREA	0	0	0	1,303	0
Slash Burning	0	0	0	0	0
Solvent Evaporation Loss	0	0	0	1,303	0
MISCELLANEOUS-POINT	0	0	0	0	0

Figure 5.1.1.a (continued). National Emissions Report

AQCR 178 NORTHWEST PENNSYLVANIA-YOUNGSTOWN (OHIO-PENN)

Emission categories	Pollutant, tons per year				
	Particulates	Sulfur oxides	Nitrogen oxides	Hydro-carbons	Carbon monoxide
GRAND TOTAL	321,033	533,559	206,021	158,025	695,922
-AREA	95,471	81,935	89,669	136,356	593,878
-POINT	225,562	451,624	116,352	22,468	102,043
FUEL COMBUSTION-AREA	87,294	74,901	20,302	4,407	13,702
-POINT	106,683	437,562	116,146	2,126	6,706
External Combustion-area	87,294	74,901	20,302	4,407	13,702
-point	106,679	437,554	116,030	2,115	6,636
Residential Fuel-area	3,596	11,871	2,447	2,822	12,046
Anthracite Coal	27	150	8	7	239
Bituminous Coal	2,441	9,597	366	2,441	10,984
Distillate Oil	368	2,102	441	110	184
Residual Oil	0	0	0	0	0
Natural Gas	595	19	1,563	250	626
Wood	166	3	66	13	13
Electric Generation-point	24,979	282,787	48,496	628	2,044
Anthracite Coal	874	4,471	729	7	18
Bituminous Coal	24,105	278,316	47,757	621	2,025
Lignite	0	0	0	0	0
Residual Oil	0	0	0	0	0
Distillate Oil	0	0	10	0	0
Natural Gas	0	0	0	0	0
Process Gas	0	0	0	0	0
Coke	0	0	0	0	0
Solid Waste/Coal	0	0	0	0	0
Other	0	0	0	0	0
Industrial Fuel-area	79,168	50,876	12,676	1,231	1,152
-point	81,510	154,442	66,980	1,423	4,425
Anthracite Coal-area	0	0	0	0	0
-point	0	0	0	0	0
Bituminous Coal-area	78,371	45,924	8,561	571	1,141
-point	76,579	147,293	21,645	777	1,866
Lignite-point	0	0	0	0	0
Residual Oil-area	470	4,810	1,225	61	4
-point	146	1,315	448	22	11
Distillate Oil-area	63	133	251	13	1
-point	130	259	712	35	45
Natural Gas-area	264	9	2,638	586	6
-point	1,669	62	20,300	280	1,544
Process Gas-area	0	0	0	0	0
-point	1,392	2,908	23,675	309	960
Coke-point	1,594	2,405	0	0	0
Wood-area	0	0	0	0	0
-point	0	0	0	0	0
Liquid Petroleum Gas-point	0	0	0	0	0
Bagasse-point	0	0	0	0	0
Other-point	0	0	0	0	0
Commercial-Institutional Fuel-area	4,530	12,154	5,180	355	504
-point	190	325	555	64	167
Anthracite Coal-area	0	0	0	0	0
-point	0	0	0	0	0
Bituminous Coal-area	3,196	4,216	450	98	353
-point	64	321	20	10	34
Lignite-point	0	0	0	0	0
Residual Oil-area	554	5,676	1,446	72	5
-point	0	0	0	0	0
Distillate Oil-area	649	2,259	2,595	130	9
-point	0	0	1	0	0
Natural Gas-area	131	4	688	55	138
-point	127	4	534	55	133
Wood-area	0	0	0	0	0
-point	0	0	0	0	0
Liquid Petroleum Gas-point	0	0	0	0	0
Miscellaneous-point	0	0	0	0	0
Internal Combustion-point	4	8	115	11	70
Electric Generation	0	0	0	0	0
Distillate Oil	0	0	0	0	0
Natural Gas	0	0	0	0	0
Diesel Fuel	0	0	0	0	0
Industrial Fuel	4	8	115	11	70
Distillate Oil	0	0	0	0	0
Natural Gas	0	0	1	0	0
Gasoline	0	0	0	0	0
Diesel Fuel	4	8	115	11	70

Emission categories	Pollutant, tons per year				
	Particulates	Sulfur oxides	Nitrogen oxides	Hydro-carbons	Carbon monoxide
Other	0	0	0	0	0
Commercial-Institutional	0	0	0	0	0
Diesel Fuel	0	0	0	0	0
Other	0	0	0	0	0
Engine-Testing	0	0	0	0	0
Aircraft	0	0	0	0	0
Other	0	0	0	0	0
Miscellaneous	0	0	0	0	0
INDUSTRIAL PROCESS-POINT	118,312	14,016	130	20,000	94,104
Chemical Manufacturing	829	0	28	1,431	1,795
Food/Agriculture	0	0	0	0	0
Primary Metal	69,837	8,748	70	6,913	70,077
Secondary Metals	747	0	10	0	768
Mineral Products	42,537	41	22	4	2
Petroleum Industry	199	79	0	0	21,462
Wood Products	23	0	0	0	0
Evaporation	15	0	0	8,409	0
Metal Fabrication	0	0	0	0	0
Leather Products	0	0	0	0	0
Textile Manufacturing	0	0	0	0	0
Inprocess Fuel	2,069	917	0	3,243	0
Other/Not Classified	2,054	4,230	0	0	0
SOLID WASTE DISPOSAL-AREA	3,180	221	599	6,571	17,707
-POINT	568	46	76	342	1,214
Government-point	217	21	17	13	297
Municipal Incineration	217	21	17	13	297
Open Burning	0	0	0	0	0
Other	0	0	0	0	0
Residential-area	1,394	39	164	4,232	12,330
On Site Incineration	1,050	18	35	3,501	10,503
Open Burning	344	21	129	731	1,827
Commercial-Institutional-area	255	25	66	361	845
-point	18	3	4	18	93
On Site Incineration-area	140	17	23	116	233
-point	18	3	4	18	93
Open Burning-area	115	7	43	245	612
-point	0	0	0	0	0
Apartment-point	0	0	0	0	0
Other-point	0	0	0	0	0
Industrial-area	1,531	157	368	1,977	4,532
-point	332	22	53	311	843
On Site Incineration-area	988	123	165	823	1,646
-point	102	17	14	100	136
Open Burning-area	543	34	204	1,154	2,886
-point	231	5	41	211	707
Auto Body Incineration-point	0	0	0	0	0
Other-point	0	0	0	0	0
Miscellaneous-point	0	0	0	0	0
TRANSPORTATION-AREA	4,997	6,813	68,768	117,971	562,469
Land Vehicles	4,092	4,176	66,638	108,426	554,697
Gasoline	3,076	1,848	49,879	105,941	544,270
Light Vehicles	2,717	1,630	38,944	81,637	436,108
Heavy Vehicles	268	161	8,943	18,046	73,873
Off Highway	91	57	1,992	6,258	34,289
Diesel Fuel	1,016	2,328	16,759	2,485	10,427
Heavy Vehicles	405	810	11,470	1,147	6,747
Off Highway	136	282	3,861	386	2,348
Rail	476	1,237	1,427	951	1,332
Aircraft	272	57	170	728	2,087
Military	77	15	37	178	191
Civil	40	8	36	177	1,013
Commercial	155	34	97	372	883
Vessels	633	2,580	1,960	1,211	5,684
Bituminous Coal	0	0	0	0	0
Diesel Fuel	69	178	206	137	192
Residual Oil	550	2,392	1,435	72	5
Gasoline	14	9	319	1,001	5,487
Gas Handling Evaporation Loss	0	0	0	7,407	0
MISCELLANEOUS-AREA	0	0	0	7,407	0
Slash Burning	0	0	0	0	0
Solvent Evaporation Loss	0	0	0	7,407	0
MISCELLANEOUS-POINT	0	0	0	0	0

Figure 5.1.1.a (continued). National Emissions Report

This is the second NEDS routine publication. It is published annually concurrently with the National Emissions Report (NER). The source document for this publication is the NEDS Annual Fuel Summary Report. See page 2.1.2-3 for an example of the format of the report. The NEDS Fuel Use Report presents data in the format of the NEDS Annual Fuel Summary Report for the nation and each of the 55 states and territories included in NEDS.

The Air Quality Data publications are routine publications of ambient air quality information. They are derived entirely from the SAROAD data base. The publications included in this category are:

Criteria Pollutants Preliminary Reports - Preliminary reports of air quality data for a quarter or a full year. (Produced in limited quantities by offset printing.)

Criteria Pollutants Final Reports - Final reports of air quality data, for quarter or full year, compiled after review of the preliminary reports. (Produced by LINOTRON.)

Directory of Air Monitoring Sites - Annually updated directory of monitoring sites, giving site location agency and type.

Noncriteria Pollutants - These reports are undergoing modification and are not currently ready for publication.

5.2.1.1 QUARTERLY REPORTS

5.2.1.1.1 GENERAL DESCRIPTION

As can be seen by referring to the attached sample page from the Preliminary Report, Air Quality Data, Fourth Quarter, 1973, dated May 1974, the Preliminary Reports are reproduced by photo offset from typewritten copy in order to expedite their delivery to the using agencies. Also, they are not intended as permanent records because they are subject to additions and corrections as a result of the review of the data that is requested of the Regional Offices (RO's) by the NADB. The source documents for these reports are the SAROAD Quarterly Frequency Distributions (see paragraph 2.3.2.2 above). All of such data that have been submitted by the deadline as given in the schedule as shown in the Preliminary Report are included. Data that are submitted too late for inclusion in the Preliminary Report are available to the RO's through the regular distribution channels of the AEROS and are included in the Final Quarterly Reports and the Preliminary and Final Yearly Reports (see paragraphs 5.2,1.2, 5.2.2.1 and 5.2.2.2, below).

The Report is organized according to the following hierarchy:

a. Pollutant Type
b. Method of Collection and Analysis
c. Time Interval
d. State
e. AQCR Number and Name
f. Area
g. Site Number
h. Agency Type
i. Project Classification Code

The content of the body of the Report is similar to that of the SAROAD Quarterly Frequency Distribution; i.e., in order across the page the columnar headings are:

a. Number of Observations (next after Agency/Project Code)
b. Minimum Value Observed
c. Percentiles (10, 30, 50, 70, 90, 95, and 99)
d. Maximum Value Observed
e. Arithmetic Mean
f. Arithmetic Standard Deviation
g. Geometric Mean
h. Geometric Standard Deviation

The last four columns are filled in only for those sets of data satisfying the NADB criteria of quality and quantity (frequency) of observation. These "summary criteria" are defined and explained in Section 2.3.0.

5.2.1.1.2 SAMPLE REPORT

Figure 5.2.1.a is an example for the fourth quarter of 1973 and covers the first three AQCR's in Alabama and part of the fourth AQCR as well.

APR 24, 1974 NATIONAL AEROMETRIC DATA BANK PAGE 1

POLLUTANT: PARTICULATE

METHOD: HI-VOL GRAVIMETRIC INTERVAL: 24-HOUR UNITS: UG/CU METER (25 C)

STATE (01): ALABAMA

YEAR/QUARTER: 1973/04

AQCR NUMBER & NAME / AREA / SITE NO	AG/PROJ	NO OBS	MIN OBS	PERCENTILES 10	30	50	70	90	95	99	MAX OBS	ARITHMETIC MEAN	ARITHMETIC STD DEV	GEOMETRIC MEAN	GEOMETRIC STD DEV
001 ALABAMA AND TOMBIGBEE RIVERS															
CLARKE CO															
001	F01	9	13.	13.	30.	38.	42.	65.	55.	65.	65.	37.	14.86	34.26	1.58
DEMOPOLIS															
001	F01	2	41.	41.	41.	41.	55.	65.	65.	65.	65.				
EVERGREEN															
001	F01	14	14.	14.	19.	21.	29.	109.	114.	114.	114.	37.	33.31	28.00	1.99
SELMA															
001	F01	13	22.	24.	34.	45.	118.	141.	146.	146.	145.	57.	47.99	53.38	2.02
002 COLUMBUS-PHENIX CITY															
MONTGOMERY															
003	F05	14	51.	52.	69.	82.	163.	195.	244.	244.	244.	117.	52.81	132.31	1.73
007	F01	8	28.	28.	52.	56.	80.	142.	142.	142.	142.	71.	35.61	63.87	1.65
PHENIX CITY															
001	F01	15	24.	26.	47.	80.	96.	107.	109.	109.	109.	71.	30.74	63.57	1.69
TROY															
002	F01	15	23.	24.	35.	48.	65.	154.	155.	155.	155.	65.	46.87	52.87	1.90
003 EAST ALABAMA															
ANNISTON															
001	F01	12	3.	31.	49.	62.	77.	92.	100.	100.	100.	62.	27.70	49.46	2.57
GADSDEN															
002	F01	10	25.	25.	27.	28.	37.	42.	97.	97.	97.	38.	21.68	34.32	1.50
003	F01	10	45.	45.	137.	150.	164.	167.	189.	189.	189.	142.	40.53	133.74	1.51
004	F06	15	40.	60.	92.	113.	144.	313.	356.	356.	356.	136.	88.23	115.36	1.78
SYLACAUGA															
001	F01	14	27.	37.	54.	58.	71.	114.	138.	138.	138.	67.	29.59	61.63	1.53
TALLADEGA															
001	F01	15	21.	42.	64.	95.	116.	195.	207.	207.	207.	102.	56.41	86.21	1.89
004 METROPOLITAN BIRMINGHAM															
BESSEMER															
001	G01	82	34.	56.	88.	105.	138.	203.	255.	301.	301.	123.	61.33	109.42	1.65
BIRMINGHAM															
003	G01	15	51.	77.	98.	114.	149.	214.	217.	217.	217.	124.	47.52	115.59	1.47
005	G01	76	33.	73.	133.	189.	268.	442.	585.	679.	679.	230.	154.52	183.28	2.03
010	G01	14	60.	86.	94.	112.	135.	254.	311.	311.	311.	137.	70.08	124.20	1.56
011	G01	15	46.	48.	83.	93.	156.	255.	293.	293.	293.	128.	80.42	107.86	1.81
012	G01	74	30.	66.	93.	116.	159.	289.	338.	384.	384.	147.	86.89	125.32	1.75
CLANTON															
001	F01	15	13.	16.	30.	36.	59.	69.	86.	86.	86.	43.	21.20	37.66	1.72
FAIRFIELD															
003	G01	76	56.	83.	94.	116.	172.	264.	288.	369.	369.	145.	71.14	130.18	1.58
IRONDALE															
002	G01	12	54.	61.	92.	128.	157.	237.	256.	256.	256.	138.	65.70	123.54	1.65
JASPER															
001	F01	13	13.	51.	60.	73.	105.	141.	151.	151.	151.	83.	38.22	72.38	1.86
LEEDS															
003	G01	47	40.	69.	119.	137.	192.	311.	345.	358.	358.	165.	84.50	144.95	1.71

Figure 5.2.1.a. Quarterly Reports

5.2.1.2 YEARLY REPORTS

5.2.1.2.1 GENERAL DESCRIPTION

The format and content of this publication are identical to those of the Preliminary Quarterly Reports, with the obvious exceptions that the data pertain to one entire calendar year instead of a single quarter and that, as a result, the source document is the SAROAD Yearly Frequency Distribution rather than the Quarterly Frequency Distribution. See the description in the preceding paragraph (5.2.1.1) for the layout and content of the tables in the body of the report. These reports are also produced from computer printouts by means of an offset process.

5.2.1.2.2 SAMPLE REPORT

Figure 5.2.1.b shows the format of these reports.

APR 26, 1974 — NATIONAL AEROMETRIC DATA BANK — PAGE 544

POLLUTANT: TOTAL OXIDANTS
METHOD: INSTRUMENTAL COLORIMETRIC NEUTRAL KI — INTERVAL: 1-HOUR — UNITS: UG/CU METER (25 C)
STATE (07): CONNECTICUT
YEAR: 1973

AQCR NUMBER & NAME / AREA / SITE NO	AG/PROJ	NO OBS	MIN OBS	10	30	50	70	90	95	99	MAX OBS	ARITHMETIC MEAN	ARITHMETIC STD DEV	GEOMETRIC MEAN	GEOMETRIC STD DEV
043 NEW JERSEY-NEW YORK-CONNECTICUT															
GREENWICH															
001	F01	2168	10.	10.	10.	10.	10.	10.	10.	10.	294.				
004	F01	291	10.	10.	10.	10.	10.	10.	20.	31.	35.				

APR 26, 1974 — NATIONAL AEROMETRIC DATA BANK — PAGE 545

POLLUTANT: TOTAL OXIDANTS
METHOD: INSTRUMENTAL COLORIMETRIC NEUTRAL KI — INTERVAL: 1-HOUR — UNITS: UG/CU METER (25 C)
STATE (09): DISTRICT OF COLUMBIA
YEAR: 1973

AQCR NUMBER & NAME / AREA / SITE NO	AG/PROJ	NO OBS	MIN OBS	10	30	50	70	90	95	99	MAX OBS	ARITHMETIC MEAN	ARITHMETIC STD DEV	GEOMETRIC MEAN	GEOMETRIC STD DEV
047 NATIONAL CAPITAL															
WASHINGTON															
003	A10	46	10.	10.	10.	10.	10.	20.	20.	39.	39.				

APR 26, 1974 — NATIONAL AEROMETRIC DATA BANK — PAGE 546

POLLUTANT: TOTAL OXIDANTS
METHOD: INSTRUMENTAL COLORIMETRIC NEUTRAL KI — INTERVAL: 1-HOUR — UNITS: UG/CU METER (25 C)
STATE (10): FLORIDA
YEAR: 1973

AQCR NUMBER & NAME / AREA / SITE NO	AG/PROJ	NO OBS	MIN OBS	10	30	50	70	90	95	99	MAX OBS	ARITHMETIC MEAN	ARITHMETIC STD DEV	GEOMETRIC MEAN	GEOMETRIC STD DEV
050 SOUTHEAST FLORIDA															
WEST PALM BEACH															
001	G01	1643	10.	10.	10.	27.	39.	67.	88.	120.	155.				

Figure 5.2.1.b. Yearly Reports

APR 26, 1974 NATIONAL AEROMETRIC DATA BANK PAGE 547
POLLUTANT: TOTAL OXIDANTS
METHOD: INSTRUMENTAL COLORIMETRIC NEUTRAL KI INTERVAL: 1-HOUR UNITS: UG/CU METER (25 C)
STATE (14): ILLINOIS
YEAR: 1973

ACCR NUMBER & NAME AREA SITE NO	AG/PR ID	NO OBS	MIN OBS	PERCENTILES 10	30	50	70	90	95	99	MAX OBS	ARITHMETIC MEAN	STD DEV	GEOMETRIC MEAN	STD DEV
067 METROPOLITAN CHICAGO															
CHICAGO															
002	A10	3067	10.	10.	20.	39.	39.	78.	78.	118.	568.				

APR 26, 1974 NATIONAL AEROMETRIC DATA BANK PAGE 548
POLLUTANT: TOTAL OXIDANTS
METHOD: INSTRUMENTAL COLORIMETRIC NEUTRAL KI INTERVAL: 1-HOUR UNITS: UG/CU METER (25 C)
STATE (18): KENTUCKY
YEAR: 1973

ACCR NUMBER & NAME AREA SITE NO	AG/PR ID	NO OBS	MIN OBS	PERCENTILES 10	30	50	70	90	95	99	MAX OBS	ARITHMETIC MEAN	STD DEV	GEOMETRIC MEAN	STD DEV
072 PADUCAH-CAIRO															
PADUCAH															
020	F01	2537	10.	10.	10.	10.	10.	33.	49.	71.	118.				
102 BLUEGRASS															
LEXINGTON															
005	F01	99	10.	10.	10.	24.	49.	78.	88.	98.	98.				
006	F01	1583	10.	10.	10.	24.	35.	59.	71.	96.	114.				
103 HUNTINGTON-ASHLAND-PORTSMOUTH-IRONTON															
ASHLAND															
008	F01	3418	10.	10.	10.	20.	29.	59.	69.	98.	157.				

Figure 5.2.1.b.(continued). Yearly Reports

5.2.2.1 QUARTERLY REPORTS

5.2.2.1.1 GENERAL DESCRIPTION

These reports are published after the Preliminary reports have been issued, corrected and edited, and their contents validated by the several states and EPA Regional Offices (RO's). They are similar in nature to the Preliminary Reports described earlier (see paragraphs 5.2.1.1 and 5.2.1.2, above), but are prepared in a different format for printing by the LINOTRON process. The attached sample page demonstrates the format and content of the Final Reports. The Final Reports should include all corrections submitted by the states or the EPA Regional Offices.

5.2.2.1.2 SAMPLE REPORT

As can be seen from Figure 5.2.2.a., the Final Reports contain the same information as is given in the Preliminary Reports, the chief difference being that the format has been somewhat altered by the LINOTRON printing process. See paragraph 5.2.1.1, above, for a description of the sequencing of the major elements of the report, as well as the ordering of the data across the page.

PARTICULATE, micrograms per cubic meter (25 C)
HI-VOL GRAVIMETRIC, 24 hours

1973 Second Quarter

Site location	Site No.	Ag/ proj.	No. obs.	Min. obs.	Percentiles 10	30	50	70	90	95	99	Max. obs.	Arithmetic Mean	Arithmetic Std. dev.	Geometric Mean	Geometric Std. dev.
ALABAMA																
001 Clarke Co	001	F01	10	21.	21.	30.	38.	53.	71.	97.	97.	97.	47.	23.45	42.44	1.61
001 Demopolis	001	F01	14	28.	29.	49.	51.	54.	67.	79.	79.	79.	51.	13.89	49.09	1.35
001 Evergreen	001	F01	14	19.	30.	32.	35.	44.	52.	58.	58.	58.	39.	10.43	37.20	1.33
001 Selma	001	F01	15	26.	26.	34.	40.	52.	74.	79.	79.	79.	45.	16.94	42.33	1.44
002 Montgomery	002	F01	9	54.	54.	66.	72.	86.	91.	91.	91.	91.	73.	14.00	71.89	1.22
	003	F01	12	47.	59.	63.	97.	113.	165.	195.	195.	195.	101.	43.75	93.41	1.53
002 Phenix City	001	F01	14	43.	56.	65.	71.	79.	102.	134.	134.	134.	76.	22.32	73.36	1.32
002 Troy	001	F01	5	40.	40.	40.	48.	56.	78.	78.	78.	78.				
003 Anniston	001	F01	4	10.	10.	45.	45.	68.	69.	69.	69.	69.				
003 Gadsden	002	F01	14	22.	24.	39.	41.	50.	77.	198.	198.	198.	55.	43.59	46.27	1.70
	003	F01	7	32.	32.	98.	108.	108.	169.	169.	169.	169.	102.	41.78	92.14	1.69
003 Sylacauga	001	F01	13	33.	47.	52.	74.	99.	115.	146.	146.	146.	77.	31.92	71.02	1.52
003 Talladega	001	F01	15	46.	65.	74.	78.	121.	140.	238.	238.	238.	99.	47.07	91.57	1.50
004 Bessemer	001	G01	72	43.	70.	87.	95.	111.	132.	143.	172.	172.	99.	26.09	96.05	1.31
004 Birmingham	003	G01	12	47.	54.	92.	114.	144.	230.	238.	238.	238.	124.	62.28	109.63	1.69
	005	G01	86	45.	90.	123.	147.	192.	272.	292.	358.	358.	164.	68.56	150.60	1.54
	010	G01	14	70.	94.	105.	111.	127.	174.	199.	199.	199.	122.	33.18	117 85	1.30
	011	G01	13	60.	67.	90.	97.	123.	124.	229.	229.	229.	109.	42.03	102.61	1.40
	012	G01	60	47.	58.	94.	126.	152.	196.	229.	244.	244.	128.	52.82	116.85	1.55
004 Clanton	001	F01	15	30.	32.	35.	45.	58.	64.	67.	67.	67.	47.	13.75	45.18	1.35
004 Fairfield	003	G01	90	48.	64.	96.	116.	146.	210.	295.	434.	434.	136.	71.21	122.26	1.58
004 Irondale	002	G01	13	36.	59.	71.	98.	108.	207.	226.	226.	226.	103.	55.05	92.08	1.64
004 Jasper	001	F01	14	55.	62.	73.	75.	83.	100.	110.	110.	110.	79.	14.81	77.31	1.20
004 Leeds	003	G01	62	57.	81.	125.	150.	175.	236.	310.	338.	338.	158.	62.87	147.27	1.47
004 Oneonta	001	F01	13	27.	36.	48.	51.	57.	70.	72.	72.	72.	53.	12.96	51.06	1.31
004 Pell City	001	F01	14	32.	39.	59.	63.	68.	81.	82.	82.	82.	62.	14.65	60.13	1.31
004 Shelby Co	002	F01	12	36.	56.	59.	94.	100.	113.	139.	139.	139.	85.	29.23	80.31	1.47
004 Sumter Co	001	F01	13	8.	23.	27.	33.	55.	83.	104.	104.	104.	44.	27.76	35.97	1.96
004 Tarrant City	001	G01	12	58.	60.	111.	130.	176.	282.	493.	493.	493.	164.	121.07	134.60	1.88
004 Tuscaloosa	002	F01	13	36.	42.	53.	66.	74.	135.	259.	259.	259.	82.	58.61	70.49	1.66
005 Brewton	001	F01	12	33.	35.	49.	57.	65.	67.	76.	76.	76.	55.	14.15	53.54	1.33
005 Mobile	001	G01	10	72.	74.	89.	95.	102.	112.	112.	112.	138.	94.	21.06	92.13	1.24
005 Mobile Co	006	G01	17	57.	57.	75.	97.	130.	210.	210.	210.	392.	148.	90.15	127.31	1.74
	013	G01	11	22.	22.	31.	38.	38.	53.	53.	53.	179.	58.	42.17	49.82	1.70
	017	G01	14	28.	28.	29.	30.	43.	94.	94.	94.	99.	51.	22.73	47.45	1.49
005 Saraland	001	G01	13	31.	31.	34.	42.	60.	64.	64.	64.	64.	49.	10.74	47.78	1.26
006 Andalusia	001	F01	8	26.	26.	28.	37.	64.	80.	80.	80.	80.	47.	21.31	42.70	1.57
006 Dothan	001	F01	15	55.	68.	87.	115.	131.	150.	208.	208.	208.	114.	38.19	108.09	1.40
007 Athens	001	G01	15	36.	38.	65.	91.	101.	123.	130.	130.	130.	84.	30.56	78.02	1.51
	002	G01	10	33.	33.	60.	74.	78.	97.	103.	103.	103.	72.	21.96	68.74	1.43
007 Cullman	001	F01	15	37.	46.	53.	63.	70.	92.	100.	100.	100.	66.	18.64	63.10	1.33
007 Decatur	001	G01	24	8.	54.	75.	88.	104.	144.	147.	218.	218.	97.	42.94	85.32	1.85
	002	G01	15	35.	35.	59.	76.	83.	86.	92.	92.	92.	68.	19.89	64.46	1.41
	003	G01	16	33.	38.	50.	61.	83.	102.	106.	106.	106.	67.	23.28	63.04	1.44
	004	G01	3	33.	33.	33.	86.	131.	131.	131.	131.	131.				
	005	G01	8	44.	44.	59.	82.	105.	126.	126.	126.	126.	87.	32.57	81.57	1.51
007 Florence	001	F01	3	36.	36.	36.	56.	81.	81.	81.	81.	81.				
007 Fort Payne	001	F01	11	36.	39.	46.	50.	54.	60.	72.	72.	72.	50.	10.28	49.53	1.22
007 Guntersville	001	F01	14	22.	27.	42.	46.	58.	71.	91.	91.	91.	49.	18.12	46.38	1.46
007 Hartselle	001	G01	10	27.	27.	28.	41.	51:	59.	60.	60.	60.	44.	13.58	41.88	1.39
007 Huntsville	002	H01	15	37.	90.	114.	231.	498.	772.	772.	772.	772.	194.	199.79	130.72	2.48
	003	H01	47	31.	35.	47.	56.	68.	79.	86.	91.	91.	57.	16.80	54.79	1.36
	004	H01	15	21.	21.	41.	58.	65.	83.	83.	83.	83.	56.	16.76	52.84	1.42
	006	H01	15	23.	23.	25.	43.	44.	88.	88.	88.	88.	43.	18.09	39.75	1.50
	007	H01	15	29.	29.	38.	54.	58.	88.	88.	88.	88.	53.	14.99	50.67	1.34
	008	H01	15	24.	24.	44.	50.	62.	80.	80.	80.	83.	54.	18.08	51.40	1.44
	009	H01	14	24.	26.	29.	50.	56.	65.	65.	65.	69.	47.	16.01	44.30	1.46
007 Lawrence Co	001	G03	8	25.	25.	47.	54.	62.	83.	83.	83.	83.	55.	19.43	51.30	1.50
007 Scottsboro	001	F01	12	30.	35.	45.	48.	68.	86.	99.	99.	99.	57.	20.40	53.56	1.42
	002	F01	13	43.	48.	54.	63.	69.	73.	86.	86.	86.	62.	11.70	60.82	1.21
	003	F01	12	53.	74.	75.	86.	103.	131.	137.	137.	137.	94.	25.70	90.70	1.32
	004	F01	11	27.	34.	36.	43.	45.	48.	61.	61.	61.	42.	8.83	40.80	1.24
007 Tuscumbia	001	F01	6	50.	50.	51.	59.	69.	82.	82.	82.	82.				

Figure 5.2.2.2.a. Quarterly Reports (Final)

5.2.2.2 YEARLY REPORTS

5.2.2.2.1 GENERAL DESCRIPTION

This report, like the Preliminary Yearly Report, is arranged exactly like its corresponding Quarterly Report--the difference, as before, being that the data are for an entire year rather than for a single quarter of a year. The sequencing of the major elements in as in the Final Quarterly Reports; that is, by Pollutant Type, Method, Time Interval, State, AQCR, Area (City or County), Site Number, and Agency/Project Code. The physical arrangement of the numerical data across the page is as described in paragraph 5.2.1.1. Because of the review and editing of the Preliminary Reports and the longer time allowed for the submittal of late data, this is the most accurate and the most complete of all of the Air Quality Data Routine Publications.

5.2.2.2.2 SAMPLE REPORT

Figure 5.2.2.b shows a sample of this report format.

PARTICULATE, MICRO-GRAMS PER CUBIC METER (25 C)

HI-VOL GRAVIMETRIC, 24-hour

Site location	Site No.	Ag/ proj.	No. obs.	Min. obs.	Percentiles 10	30	50	70	90	95	99	Max. obs.	Arithmetic Mean	Arithmetic Std. dev.	Geometric Mean	Geometric Std. dev.
ALABAMA																
72 Decatur	001	F01	115	5.	27.	47.	63.	81.	129.	161.	194.	211.	71.	40.58	60.17	1.84
	002	F01	112	1.	31.	49.	62.	80.	103.	119.	156.	177.	66.	30.18	58.04	1.90
	003	F01	100	21.	63.	82.	95.	123.	165.	209.	287.	310.	110.	50.10	99.89	1.55
001 Clarke Co	001	F01	50	19.	24.	30.	38.	48.	59.	65.	69.	69.	40.	13.91	37.88	1.42
001 Demopolis	001	F01	27	41.	44.	61.	77.	96.	130.	130.	199.	199.				
001 Evergreen	001	F01	52	12.	17.	25.	30.	35.	43.	51.	67.	67.	30.	11.59	28.29	1.47
001 Selmo	001	F01	55	15.	24.	40.	52.	64.	83.	92.	104.	104.	53.	21.41	48.11	1.57
002 Montgomery	001	A01	30	14.	28.	42.	55.	69.	79.	105.	107.	107.	58.	22.09	53.24	1.55
	002	F01	51	10.	40.	65.	74.	84.	108.	129.	150.	150.				
	003	F01	50	7.	42.	81.	111.	152.	217.	224.	258.	258.	120.	62.24	96.99	2.22
	006	F01	22	8.	26.	30.	38.	47.	60.	65.	67.	67.				
002 Phenix City	001	F01	50	33.	49.	61.	67.	78.	94.	102.	123.	123.	71.	18.51	68.79	1.29
002 Troy	001	F01	49	20.	26.	36.	51.	60.	76.	78.	97.	97.	50.	18.89	46.00	1.50
003 Anniston	001	F01	39	38.	48.	59.	77.	94.	119.	130.	133.	133.				
003 Gadsden	001	A01	30	37.	42.	56.	79.	88.	119.	159.	166.	166.	82.	32.96	75.84	1.49
	002	F01	56	13.	19.	39.	46.	70.	104.	161.	181.	181.	58.	38.55	48.06	1.88
	003	F01	55	35.	63.	107.	159.	224.	598.	676.	857.	857.	238.	203.43	174.62	2.19
003 Sylacauga	001	F01	51	12.	36.	51.	62.	75.	97.	119.	124.	124.	64.	25.62	57.74	1.61
003 Talladega	001	F01	52	16.	52.	75.	91.	123.	138.	156.	179.	179.	95.	37.14	86.19	1.65
004 Bessemer	001	G01	186	25.	65.	103.	126.	149.	193.	217.	335.	337.	130.	54.37	119.21	1.55
004 Birmingham	003	G01	9	54.	54.	82.	117.	126.	182.	182.	182.	182.				
	003	A01	30	35.	51.	71.	87.	106.	146.	204.	297.	297.	101.	52.97	90.19	1.59
	005	G01	274	30.	89.	145.	196.	244.	342.	367.	488.	536.	206.	97.07	182.44	1.68
	009	G01	221	43.	88.	122.	149.	184.	246.	307.	378.	411.				
	010	G01	204	25.	67.	99.	122.	159.	205.	237.	373.	385.	134.	61.81	120.88	1.60
	011	G01	121	36.	68.	100.	115.	138.	183.	195.	224.	275.				
	012	G01	122	40.	68.	96.	125.	159.	223.	257.	321.	328.				
004 Clanton	001	F01	57	13.	23.	32.	42.	58.	84.	100.	112.	112.	48.	23.72	42.71	1.65
004 Fairfield	003	G01	253	46.	76.	106.	131.	149.	178.	210.	257.	347.				
004 Irondale	002	G01	27	56.	76.	93.	105.	126.	187.	188.	254.	254.				
004 Jasper	001	F01	53	28.	52.	75.	92.	111.	149.	181.	250.	250.	99.	43.68	90.05	1.56
004 Leeds	003	G01	87	29.	71.	110.	140.	176.	240.	266.	451.	451.				
004 Mountain Brook	001	G01	166	22.	39.	49.	58.	69.	91.	106.	143.	183.				
004 Oneonta	001	F01	47	18.	39.	59.	72.	83.	156.	180.	202.	202.	81.	42.76	71.07	1.69
004 Pell City	001	F01	53	17.	26.	45.	57.	70.	84.	91.	139.	139.	58.	24.23	52.91	1.57
004 Shelby Co	002	F01	44	24.	49.	64.	73.	84.	114.	129.	146.	146.				
004 Tarrant City	001	G01	185	40.	71.	111.	140.	182.	236.	267.	362.	400.	152.	65.76	137.76	1.56
004 Tuscaloosa	001	F01	11	54.	59.	64.	79.	91.	107.	127.	127.	127.				
	002	F01	45	30.	46.	68.	77.	92.	130.	148.	161.	161.				
005 Brewton	001	F01	52	21.	28.	37.	44.	51.	67.	81.	89.	89.	47.	15.75	44.01	1.40
005 Mobile	001	A01	22	59.	74.	77.	104.	135.	174.	192.	219.	219.	114.	44.40	106.27	1.45
	001	G01	29	54.	65.	103.	114.	136.	219.	248.	357.	357.				
	002	G01	57	18.	51.	75.	102.	158.	204.	246.	267.	267.	119.	61.70	102.40	1.78
005 Mobile Co	006	G01	58	47.	70.	104.	134.	193.	274.	385.	498.	498.	162.	92.00	139.74	1.72
	013	G01	25	1.	27.	35.	51.	70.	125.	125.	142.	142.				
	017	G01	27	23.	30.	42.	60.	78.	117.	126.	151.	151.				
005 Saraland	001	G01	28	24.	39.	57.	60.	73.	119.	124.	155.	155.				
006 Andalusia	001	F01	37	25.	33.	49.	56.	63.	85.	91.	118.	118.	58.	20.52	54.68	1.43
006 Dothan	001	F01	56	23.	32.	61.	76.	98.	126.	149.	275.	275.	83.	43.15	73.04	1.67
007 Collman	001	F01	51	23.	48.	60.	82.	128.	174.	199.	287.	287.	99.	56.41	85.96	1.73
007 Florence	001	F01	55	29.	49.	61.	85.	109.	161.	194.	373.	373.	101.	62.22	88.24	1.67
007 Fort Payne	001	F01	44	8.	33.	41.	61.	72.	101.	114.	127.	127.	62.	27.97	54.83	1.70
007 Gunterville	001	F01	57	20.	30.	44.	57.	66.	95.	116.	129.	129.	59.	24.81	54.36	1.53
007 Huntsville	001	A01	28	34.	36.	50.	62.	72.	112.	126.	132.	132.	68.	26.71	63.06	1.46
	002	H01	81	10.	24.	37.	48.	75.	132.	175.	370.	370.	70.	65.37	52.71	2.06
	003	H01	216	5.	33.	47.	58.	73.	98.	107.	122.	131.	62.	24.54	57.13	1.56
	004	H01	81	11.	27.	38.	49.	57.	84.	90.	135.	135.	52.	22.75	47.23	1.56
	006	H01	69	12.	22.	31.	39.	49.	66.	74.	90.	90.	42.	16.82	38.35	1.53
007 Scottsboro	001	F01	51	17.	31.	43.	52.	72.	92.	98.	109.	109.	58.	23.81	52.88	1.57
	002	F01	48	7.	34.	51.	60.	93.	114.	129.	249.	249.	75.	41.26	64.34	1.80
	003	F01	46	51.	68.	92.	107.	132.	145.	158.	192.	192.	110.	32.60	104.84	1.36
	004	F01	38	15.	25.	38.	51.	74.	121.	173.	224.	224.				
007 Tuscumbia	001	F01	38	30.	49.	81.	102.	124.	138.	142.	182.	182.				

Figure 5.2.2.b. Yearly Reports (Final)

5.2.3.1 GENERAL DESCRIPTION

This publication, which is a complete directory of all site data for SAROAD monitoring sites in the United States, is published annually by NADB. The 1972 edition (EPA-450/2-73-006, September 1973) contains 800 pages, of which pages i-vi contain the title page, table of contents, etc.; pages 1-4 are the introduction including the two-page SAROAD Site Identification Form and the Agency Type and Project Classification Codes; and the remaining 790 pages constitute the body of the report. Future directories will include only sites active in year X, and the pollutants that were reported will also be given by site.

The sequencing of the site information is by state and location name, both in alphabetical order. Within a given location, the ordering is by Site Code Number and Agency Type Code. The arrangement of the information is as shown in paragraph 2.3.1.5, which contains the description of the SAROAD Site Description Inventory, except for some format differences as shown in the sample report.

5.2.3.2 SAMPLE REPORT

Figure 5.2.3.a shows a sample page from the directory. The sequencing of the individual items may be seen in the data for Sites 020160001, in Fairbanks Alaska. The ordering extends to the Agency Type Code and, in the case of the Fairbanks site, to the Project Classification Code.

Figure 5.2.3.b shows a sample page from the Directory of Air Quality Monitoring Sites Active in 1973. This figure shows the site descriptions and the list of pollutants reported for each site.

ALASKA

```
LOCATION: ANCHORAGE                 COUNTY (0060): ANCHORAGE ED                    UTM ZONE: 6
SITECODE: 020040011101              SITE ADDR: 4647 LAKE OTIS PARKWAY              UTM NORTHING: 6785768
AGENCY TYPE: DISTRICT               STATION TYPE (22): SUBURBAN - RESIDENTIAL      UTM EASTING:   367526
LATITUDE: 61 D. 10 M. 43 S. N       AQCR (009): COOK INLET                         ELEVATION ABOVE GROUND: 035 FT.
LONGITUDE: 149 D. 52 M. 08 S. W     DIFF. GMT: WEST 10 HOURS                       ELEVATION ABOVE MSL: 0140 FT.
SUPPORTING AGENCY: COOK INLET AIR RESOURCES MANAGEMENT DISTRICT
COMMENTS: THIS STATION IS NO LONGER IN OPERATION

LOCATION: ANCHORAGE                 COUNTY (0060): ANCHORAGE ED                    UTM ZONE: 6
SITECODE: 020040012101              SITE ADDR: CITY FIRE STATION 7TH & C STREET    UTM NORTHING: 6790141
AGENCY TYPE: DISTRICT               STATION TYPE (13): CENTER CITY - COMMERCIAL    UTM EASTING:   364608
LATITUDE: 61 D. 13 M. 00 S. N       AQCR (009): COOK INLET                         ELEVATION ABOVE GROUND: 015 FT.
LONGITUDE: 149 D. 53 M. 36 S. W     DIFF. GMT: WEST 10 HOURS                       ELEVATION ABOVE MSL: 0120 FT.
SUPPORTING AGENCY: COOK INLET AIR RESOURCES MANAGEMENT DISTRICT
COMMENTS:

LOCATION: ANCHORAGE DIVISION        COUNTY (0060): ANCHORAGE ED                    UTM ZONE: 6
SITECODE: 020060003101              SITE ADDR: FIRE STATION BOX 241 (EAGLE RIVER)  UTM NORTHING: 6801462
AGENCY TYPE: DISTRICT               STATION TYPE (12): CENTER CITY - RESIDENTIAL   UTM EASTING:   387269
LATITUDE: 61 D. 19 M. 30 S. N       AQCR (009): COOK INLET                         ELEVATION ABOVE GROUND: 017 FT.
LONGITUDE: 149 D. 33 M. 50 S. W     DIFF. GMT: WEST 10 HOURS                       ELEVATION ABOVE MSL: 0390 FT.
SUPPORTING AGENCY: COOK INLET AIR RESOURCES MANAGEMENT DISTRICT
COMMENTS:

LOCATION: FAIRBANKS                 COUNTY (0180): FAIRBANKS ED                    UTM ZONE: 6
SITECODE: 020160001A01              SITE ADDR: FAIRBANKS POST OFFICE 3RD + CUSHMAN UTM NORTHING: 7189861
AGENCY TYPE: EPA/ATMOS. SURV.       STATION TYPE (  1): NORTHERN ALASKA            UTM EASTING:   465993
LATITUDE: 64 D. 50 M. 00 S. N       AQCR (009): NORTHERN ALASKA                    ELEVATION ABOVE GROUND:  75 FT.
LONGITUDE: 147 D. 43 M. 00 S. W     DIFF. GMT:                                     ELEVATION ABOVE MSL:  515 FT.
SUPPORTING AGENCY: ARCTIC HEALTH RESEARCH LABORATORY
COMMENTS:

LOCATION: FAIRBANKS                 COUNTY (0180): FAIRBANKS ED                    UTM ZONE: 6
SITECODE: 020160001A50              SITE ADDR: FAIRBANKS POST OFFICE 3RD + CUSHMAN UTM NORTHING: 7189861
AGENCY TYPE: EPA/ATMOS. SURV.       STATION TYPE (  1): NORTHERN ALASKA            UTM EASTING:   465993
LATITUDE: 64 D. 50 M. 00 S. N       AQCR (009): NORTHERN ALASKA                    ELEVATION ABOVE GROUND:  75 FT.
LONGITUDE: 147 D. 43 M. 00 S. W     DIFF. GMT:                                     ELEVATION ABOVE MSL:  515 FT.
SUPPORTING AGENCY: ARCTIC HEALTH RESEARCH LABORATORY
COMMENTS:

LOCATION: FAIRBANKS                 COUNTY (0180): FAIRBANKS ED                    UTM ZONE: 06
SITECODE: 020160001G01              SITE ADDR: FAIRBANKS POST OFFICE #1 3RD & CUSHMAN UTM NORTHING: 7191200
AGENCY TYPE: COUNTY                 STATION TYPE (14): CENTER CITY - MOBILE        UTM EASTING: 0046500
LATITUDE: 64 D. 50 M. 44 S. N       AQCR (009): NORTHERN ALASKA                    ELEVATION ABOVE GROUND: 006 FT.
LONGITUDE: 147 D. 43 M. 16 S. W     DIFF. GMT: WEST 10 HOURS                       ELEVATION ABOVE MSL: 0450 FT.
SUPPORTING AGENCY: FAIRBANKS NORTH STAR BOROUGH, DIV OF ENVIRONMENTAL SERVICES
COMMENTS: SITE ON SIDE OF TURNER ST WEST OF P O BUILDING NEAR 3RD AVE AND NEAR CENTER OF TOWN

LOCATION: FAIRBANKS                 COUNTY (0180): FAIRBANKS ED                    UTM ZONE: 06
SITECODE: 020160002G01              SITE ADDR: FEDERAL BLDG., 2ND & CUSHMAN, FAIRBANKS UTM NORTHING: 7191200
AGENCY TYPE: COUNTY                 STATION TYPE (14): CENTER CITY - MOBILE        UTM EASTING: 0046800
LATITUDE: 64 D. 50 M. 44 S. N       AQCR (009): NORTHERN ALASKA                    ELEVATION ABOVE GROUND: 010 FT.
LONGITUDE: 147 D. 43 M. 16 S. W     DIFF. GMT: WEST 10 HOURS                       ELEVATION ABOVE MSL: 0460 FT.
SUPPORTING AGENCY: FAIRBANKS NORTH STAR BOROUGH, DIV. OF ENVIRONMENTAL SERVICES
COMMENTS: SAMPLES TAKEN THRU TUBES TEN FEET ABOVE SIDEWALK ON EAST SIDE OF  BUILDING NEAR MAIN STREETS OF TOWN, EQUIPMENT INC

LOCATION: FAIRBANKS                 COUNTY (0180): FAIRBANKS ED                    UTM ZONE: 06
SITECODE: 020160003G01              SITE ADDR: FEDERAL BLDG 2-3RD & CUSHMAN        UTM NORTHING: 7191200
AGENCY TYPE: COUNTY                 STATION TYPE (14): CENTER CITY - MOBILE        UTM EASTING: 0046500
LATITUDE: 64 D. 50 M. 44 S. N       AQCR (009): NORTHERN ALASKA                    ELEVATION ABOVE GROUND: 075 FT.
LONGITUDE: 147 D. 43 M. 16 S. W     DIFF. GMT: WEST 10 HOURS                       ELEVATION ABOVE MSL: 0515 FT.
SUPPORTING AGENCY: FAIRBANKS NORTH STAR BOROUGH,DIV. OF ENVIRONMENTAL SERVICES
COMMENTS: SITE ON ROOF OF FAIRBANKS POST OFFICE BUILDING

LOCATION: FAIRBANKS                 COUNTY (0180): FAIRBANKS ED                    UTM ZONE: 06
SITECODE: 020160006G01              SITE ADDR: HUNTER SCHOOL 16TH 17TH & GILLAM WAY UTM NORTHING: 7190000
AGENCY TYPE: COUNTY                 STATION TYPE (22): SUBURBAN - RESIDENTIAL      UTM EASTING: 0046300
LATITUDE: 64 D. 50 M.  5 S. N       AQCR (009): NORTHERN ALASKA                    ELEVATION ABOVE GROUND: 016 FT.
LONGITUDE: 147 D. 43 M. 53 S. W     DIFF. GMT: WEST 10 HOURS                       ELEVATION ABOVE MSL: 0450 FT.
SUPPORTING AGENCY: FAIRBANKS NORTH STAR BOROUGH, DIV. OF ENVIRONMENTAL SERVICES
COMMENTS: SITE ON ROOF OF SCHOOL'S SOUTH WEST WING

LOCATION: FAIRBANKS                 COUNTY (0180): FAIRBANKS ED                    UTM ZONE: 06
SITECODE: 020160008G01              SITE ADDR: UNIV PARK SCHOOL UNIV AVE           UTM NORTHING: 7192200
AGENCY TYPE: COUNTY                 STATION TYPE (22): SUBURBAN - RESIDENTIAL      UTM EASTING: 0046300
LATITUDE: 64 D. 51 M. 14 S. N       AQCR (009): NORTHERN ALASKA                    ELEVATION ABOVE GROUND: 015 FT.
LONGITUDE: 147 D. 48 M. 58 S. W     DIFF. GMT: WEST 10 HOURS                       ELEVATION ABOVE MSL: 0450 FT.
SUPPORTING AGENCY: FAIRBANKS NORTH STAR BOROUGH DIV. OF ENVIRONMENTAL SERVICES
COMMENTS: SITE ON ROOF OF MODULAR UNITS WEST OF SCHOOL

LOCATION: FAIRBANKS                 COUNTY (0180): FAIRBANKS ED                    UTM ZONE: 06
SITECODE: 020160009G01              SITE ADDR: JOY SCHOOL LEMETA STREET            UTM NORTHING: 7193100
AGENCY TYPE: COUNTY                 STATION TYPE (22): SUBURBAN - RESIDENTIAL      UTM EASTING: 0046500
LATITUDE: 64 D. 51 M. 45 S. N       AQCR (009): NORTHERN ALASKA                    ELEVATION ABOVE GROUND: 015 FT.
LONGITUDE: 147 D. 43 M. 33 S. W     DIFF. GMT: WEST 10 HOURS                       ELEVATION ABOVE MSL: 0450 FT.
SUPPORTING AGENCY: FAIRBANKS NORTH STAR BOROUGH,DIV. OF ENVIRONMENTAL SERVICES
COMMENTS: SITE ON ROOF OF MODULAR UNITS SOUTH WEST OF SCHOOL.

LOCATION: FAIRBANKS                 COUNTY (0180): FAIRBANKS ED                    UTM ZONEY 06
SITECODE: 020160010F01              SITE ADDR: 604 BARNETTE ST                     UTM NORTHING: 7190700
AGENCY TYPE: STATE                  STATION TYPE (13): CENTER CITY - COMMERCIAL    UTM EASTING: 0046700
LATITUDE: 64 D. 50 M. 27 S. N       AQCR (009): NORTHERN ALASKA                    ELEVATION ABOVE GROUND: 092 FT.
LONGITUDE: 147 D. 43 M. 23 S. W     DIFF. GMT: WEST 10 HOURS                       ELEVATION ABOVE MSL: 0450 FT.
SUPPORTING AGENCY: ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
COMMENTS: STATE BUILDING ROOF
```

Figure 5.2.3.a. Directory of Monitoring Sites

ALABAMA

```
SITE CODE: 010100001F01                    LATITUDE(D,M,S,):  31 14 20 N          EPA REGION: 04          UTM ZONE: 16
SITE ADDRESS: 300 WEST WATSON ST           LONGITUDE(D,M,S,):  86 29 19 W     ELEV ABOVE GROUND: 0003   UTM NORTHING: 3462420
CITY OR AREA: ANDALUSIA                      CITY POPULATION:    10,092          ELEV ABOVE MSL: 0237    UTM EASTING: 0084083
COUNTY(GRID): COVINGTON CO                   AQCR POPULATION:   236,164       TIME ZONE(REF GMT): WEST 06 HOURS
STATION TYPE: SUBURBAN - RESIDENTIAL                 AQCR(006): SOUTHEAST ALABAMA
AGENCY  TYPE: STATE                               SMSA(0000): NOT IN A STANDARD METROPOLITAN STATISTIC
SUPP. AGENCY: ALABAMA STATE HEALTH DEPT DIV OF AIR POLLUTION CONTROL

    PARTICULATE                      HI-VOL  GRAVIMETRIC                                24-HOUR   UG/CU METER (25 C)     33 OBS
    BENZENE SOLUBLE ORGANIC FRACTION HI-VOL  BENZENE EXTRACTION-SOXHLET                 24-HOUR   UG/CU METER (25 C)     13 OBS

SITE CODE: 010120001F01                    LATITUDE(D,M,S,):  33 39 23 N          EPA REGION: 04          UTM ZONE: 16
SITE ADDRESS: 309 E 8TH ST                 LONGITUDE(D,M,S,):  85 49 28 W     ELEV ABOVE GROUND: 0008   UTM NORTHING: 3724612
CITY OR AREA: ANNISTON                       CITY POPULATION:    31,633          ELEV ABOVE MSL: 0684    UTM EASTING: 0608908
COUNTY(1080): CALHOUN CO                     AQCR POPULATION:   400,943       TIME ZONE(REF GMT): WEST 06 HOURS
STATION TYPE: CENTER CITY - COMMERCIAL               AQCR(003): EAST ALABAMA
AGENCY  TYPE: STATE                               SMSA(0000): NOT IN A STANDARD METROPOLITAN STATISTIC
SUPP. AGENCY: ALABAMA STATE HEALTH DEPT DIV OF AIR POLLUTION CONTROL

    PARTICULATE                      HI-VOL  GRAVIMETRIC                                24-HOUR   UG/CU METER (25 C)     38 OBS
    BENZENE SOLUBLE ORGANIC FRACTION HI-VOL  BENZENE EXTRACTION-SOXHLET                 24-HOUR   UG/CU METER (25 C)      7 OBS

SITE CODE: 010160001601                    LATITUDE(D,M,S,):  34 49 10 N          EPA REGION: 04          UTM ZONE: 16
SITE ADDRESS: ELM STREET                   LONGITUDE(D,M,S,):  86 58 26 W     ELEV ABOVE GROUND: 0003   UTM NORTHING: 3858823
CITY OR AREA: ATHENS                         CITY POPULATION:    14,360          ELEV ABOVE MSL: 0713    UTM EASTING: 0085813
COUNTY(2160): LIMESTONE CO                   AQCR POPULATION:   971,933       TIME ZONE(REF GMT): WEST 06 HOURS
STATION TYPE: CENTER CITY - COMMERCIAL               AQCR(007): TENNESSEE RIVER VALLEY-CUMBERLAND MOUNTAINS
AGENCY  TYPE: COUNTY                              SMSA(0000): NOT IN A STANDARD METROPOLITAN STATISTIC
SUPP. AGENCY: TRI-COUNTY DISTRICT HEALTH SERVICE
LOCATED ACROSS THE STREET IN FRONT OF LIMESTONE COUNTY HEALTH CNTR

    PARTICULATE                      HI-VOL  GRAVIMETRIC                                24-HOUR   UG/CU METER (25 C)     42 OBS
    NITROGEN DIOXIDE                 UNACCEPTABLE  METHOD                               24-HOUR   PARTS PER MILLION      27 OBS

SITE CODE: 010160002601                    LATITUDE(D,M,S,):  34 47 48 N          EPA REGION: 04          UTM ZONE: 16
SITE ADDRESS: SOUTH JEFFERSON ST           LONGITUDE(D,M,S,):  86 58 19 W     ELEV ABOVE GROUND: 0003   UTM NORTHING: 3850201
CITY OR AREA: ATHENS                         CITY POPULATION:    14,360          ELEV ABOVE MSL: 0676    UTM EASTING: 0082895
COUNTY(2160): LIMESTONE CO                   AQCR POPULATION:   971,933       TIME ZONE(REF GMT): WEST 06 HOURS
STATION TYPE: CENTER CITY - COMMERCIAL               AQCR(007): TENNESSEE RIVER VALLEY-CUMBERLAND MOUNTAINS
AGENCY  TYPE: COUNTY                              SMSA(0000): NOT IN A STANDARD METROPOLITAN STATISTIC
SUPP. AGENCY: TRI-COUNTY DISTRICT HEALTH SERVICE
LOCATED BY STREAM RUNNING PARALLEL TO S. JEFFERSON ST. JUST SOUTH OF FORREST ST.

    PARTICULATE                      HI-VOL  GRAVIMETRIC                                24-HOUR   UG/CU METER (25 C)     38 OBS

SITE CODE: 010340001601                    LATITUDE(D,M,S,):  33 25 36 N          EPA REGION: 04          UTM ZONE: 16
SITE ADDRESS: 1800 FIRST AVE               LONGITUDE(D,M,S,):  82 55  0 W     ELEV ABOVE GROUND: 0006   UTM NORTHING: 3689680
CITY OR AREA: BESSEMER                       CITY POPULATION:    33,826          ELEV ABOVE MSL: 0597    UTM EASTING: 0080640
COUNTY(1980): JEFFERSON CO                   AQCR POPULATION:   1,093,529     TIME ZONE(REF GMT): WEST 06 HOURS
STATION TYPE: CENTER CITY - COMMERCIAL               AQCR(004): METROPOLITAN BIRMINGHAM
AGENCY  TYPE: COUNTY                              SMSA(1000): BIRMINGHAM, ALABAMA
SUPP. AGENCY: JEFFERSON COUNTY HEALTH DEPARTMENT

    PARTICULATE                      HI-VOL  GRAVIMETRIC                                24-HOUR   UG/CU METER (25 C)    289 OBS
    SULFUR DIOXIDE                   GAS BUBBLER  PARAROSANILINE-SULFAMIC ACID          24-HOUR   PARTS PER MILLION     310 OBS
    NITROGEN DIOXIDE                 UNACCEPTABLE  METHOD                               24-HOUR   PARTS PER MILLION     211 OBS

SITE CODE: 010380003A01                    LATITUDE(D,M,S,):  33 30 17 N          EPA REGION: 04          UTM ZONE: 16
SITE ADDRESS: 720 SOUTH 20TH STREET        LONGITUDE(D,M,S,):  86 47 48 W     ELEV ABOVE GROUND: 0045   UTM NORTHING: 3707044
CITY OR AREA: BIRMINGHAM                     CITY POPULATION:   300,910          ELEV ABOVE MSL: 0645    UTM EASTING: 0086830
COUNTY(1980): JEFFERSON CO                   AQCR POPULATION:   1,093,529     TIME ZONE(REF GMT): WEST 06 HOURS
STATION TYPE: CENTER CITY - COMMERCIAL               AQCR(004): METROPOLITAN BIRMINGHAM
AGENCY  TYPE: EPA/ATMOS. SURV.                    SMSA(1000): BIRMINGHAM, ALABAMA
SUPP. AGENCY: JEFFERSON COUNTY DEPARTMENT OF HEALTH

    PARTICULATE                      HI-VOL  GRAVIMETRIC                                24-HOUR   UG/CU METER (25 C)     27 OBS
    SULFUR DIOXIDE                   GAS BUBBLER  PARAROSANILINE-SULFAMIC ACID          24-HOUR   UG/CU METER (25 C)     27 OBS
    NITROGEN DIOXIDE                 UNACCEPTABLE  METHOD                               24-HOUR   UG/CU METER (25 C)      4 OBS
    NITROGEN DIOXIDE                 GAS BUBBLER  NASH SODIUM ARSENITE - FRIT           24-HOUR   UG/CU METER (25 C)     25 OBS

SITE CODE: 010380003G01                    LATITUDE(D,M,S,):  33 30 14 N          EPA REGION: 04          UTM ZONE: 16
SITE ADDRESS: 720 S 20TH ST                LONGITUDE(D,M,S,):  86 47 59 W     ELEV ABOVE GROUND: 0045   UTM NORTHING: 3707000
CITY OR AREA: BIRMINGHAM                     CITY POPULATION:   300,910          ELEV ABOVE MSL: 0650    UTM EASTING: 0086800
COUNTY(1980): JEFFERSON CO                   AQCR POPULATION:   1,093,529     TIME ZONE(REF GMT): WEST 06 HOURS
STATION TYPE: CENTER CITY - COMMERCIAL               AQCR(004): METROPOLITAN BIRMINGHAM
AGENCY  TYPE: COUNTY                              SMSA(1000): BIRMINGHAM, ALABAMA
SUPP. AGENCY: JEFFERSON COUNTY HEALTH DEPARTMENT

    PARTICULATE                      HI-VOL  GRAVIMETRIC                                24-HOUR   UG/CU METER (25 C)     52 OBS
    SULFUR DIOXIDE                   GAS BUBBLER  PARAROSANILINE-SULFAMIC ACID          24-HOUR   PARTS PER MILLION      21 OBS
    NITROGEN DIOXIDE                 UNACCEPTABLE  METHOD                               24-HOUR   PARTS PER MILLION      23 OBS

SITE CODE: 010380003P01                    LATITUDE(D,M,S,):  33 30 17 N          EPA REGION: 04          UTM ZONE: 16
SITE ADDRESS: 720 S 20TH ST                LONGITUDE(D,M,S,):  87 00 00 W     ELEV ABOVE GROUND: 0045   UTM NORTHING: 3707044
CITY OR AREA: BIRMINGHAM                     CITY POPULATION:   300,910          ELEV ABOVE MSL: 0645    UTM EASTING: 0081830
COUNTY(1980): JEFFERSON CO                   AQCR POPULATION:   1,093,529     TIME ZONE(REF GMT): WEST 06 HOURS
STATION TYPE: CENTER CITY - COMMERCIAL               AQCR(004): METROPOLITAN BIRMINGHAM
AGENCY  TYPE: EPA REGION                          SMSA(1000): BIRMINGHAM, ALABAMA
SUPP. AGENCY: ENVIRONMENTAL PROTECTION AGENCY, REG 4
FORMERLY NASH SITE 01-038A0-003 A-01

    PARTICULATE                      HI-VOL  GRAVIMETRIC                                24-HOUR   UG/CU METER (25 C)      1 OBS
    SULFUR DIOXIDE                   GAS BUBBLER  PARAROSANILINE-SULFAMIC ACID          24-HOUR   UG/CU METER (25 C)      1 OBS
    NITROGEN DIOXIDE                 GAS BUBBLER  NASH SODIUM ARSENITE - FRIT           24-HOUR   UG/CU METER (25 C)      1 OBS
```

Figure 5.2.3.b. Directory of Air Quality Sites Active in 1973

5.2.4.1 GENERAL DESCRIPTION

The format of these reports is currently being revised.

In this section, the usage of AEROS reports will be illustrated by descriptions of typical application problems in which some of the major AEROS reports have been utilized.

Perhaps the most important of the AEROS output is the emissions (NEDS) information and the air quality (SAROAD) information. These sets of data are frequently used in concert to relate emission levels to air quality in a region or to observe long term trends in emissions and air quality levels. One example application of these data concerns tha problem of achieving the air quality standards for total suspended particulates under current emission regulations (Section 6.1.1). SAROAD data are utilized in this application to assess the magnitude of the particulate problem in a region and to observe the recent trends in particulate levels. The NEDS output is useful in identifying the major sources of the problem as well as providing a base for evaluating the impact of alternatives for remedial action.

Another application is in the development of the transportation control plans required to ensure achieving air quality standards for carbon monoxide and photochemical oxidants (Section 6.1.2). In this application, NEDS information is used to provide data on the nonautomotive sources of these pollutants, and these data, along with recent SAROAD air quality data, provide baseline information for application of a rollback calculation to estimate the required reductions in automotive emissions.

In assessing alternative emissions control plans, diffusion modeling is a useful tool to aid in estimating the impacts of specific emission reduction measures. However, before it can be useful, any diffusion model must be validated and then calibrated for the conditions under which it is to be applied. NEDS and SAROAD data can be utilized for the validation and calibration of models that are used in assessing emission control plans for a region (Section 6.3.1).

The third major AEROS system is the source test data system. This system, accumulating data from numerous stack tests, is useful in estimating emission factors for different source types. These emission factors can be updated, improved, or modified as technology changes through application of the data stored in SOTDAT. (Section 6.2.1)

In addition to the three major components, AEROS includes a number of other smaller systems that are generally useful in conjunction with the major systems. The Air Quality Assurance System is useful in conjunction with SAROAD to to determine the type of aerometric data available in a region as well as the quality of those data. The State Implementation Plan System is also useful in conjunction with NEDS and SAROAD data in assessing the effectiveness of specific emissions regulations by observing time trends. These systems find important applications in the development and evaluation of State Implementation Plans (Sections 6.3 and 6.4).

Another system, the Federal Power Commission - Form 67 data system, is important in the evaluation of the contribution to air pollution from electric generating plants. A particularly significant application of this system is in the assessment of effects of fuel switching by power companies (Section 6.5.1) - for example, if oil shortages require a switch to coal burning.

The various auxiliary data files included within AEROS are important sources of information concerning various point and area sources of air pollution. One important application of these files is in providing timely data sources for the semiannual updating of emission inventories for NEDS (Section 6.6). Census data provide a base for updating various categories of area source fuel usage. Polk data provide basic information for estimation of automotive emissions.

The emissions data system (NEDS) and the air quality data system (SAROAD) are the major components of AEROS. These systems were originally developed to provide a classification and inventory of air pollution sources (NEDS) and to provide a history of air quality trends (SAROAD). The systems are kept up-to-date by the Federal requirement of semiannual updating for NEDS files and quarterly reporting of SAROAD information.

The systems are important in recognizing trends in emissions levels or in air quality in order to anticipate potential problems in meeting air quality standards. They are also important as baseline information for use in evaluating the "potential"control" measures and in evaluating and calibrating diffusion models for application to the assessment of regional problems.

The systems provide over 20 different types of data reports for displaying emissions and air quality data and, in addition, they have the capability of providing selected raw data from NEDS or SAROAD in a computer-readable form (cards or tape) for further analysis.

In many urban areas, presently employed emission control procedures are proving inadequate for achieving air quality standards for total suspended particulates (TSP). In view of the fact that the Clean Air Act requires that these standards be attained, many agencies* are concerned that the degree of noncompliance be determined and that the reasons for noncompliance be identified so that appropriate remedial action can be taken.

The sources of suspended particulates can vary considerably and include:

- Stationary sources engaged in activities generating combustion products and industrial dust (utilities, coal and oil-fired boilers, smelters, etc.)
- Area sources including automotive/diesel exhaust, tire wear particles, and space heating exhaust.
- Fugitive dust sources including sand, unpaved roads, cattle feedlots, construction activities, quarrying, mining, and storage operations.

The nature and magnitude of the particulates problem in any given location is dependent on the local geography and meteorology and on the nature and density of local land use activities.

It is important that the agency identify the source of the TSP problem in its particular location. If a city is currently exceeding TSP air quality standards in spite of compliance by major stationary sources with emission regulations, the implication is that further stationary source controls may be futile and that achievement of particulate standards may be contingent upon application of more difficult to implement control measures for fugitive and area sources.

Those factors to be considered in a TSP study include, among other things, (1) an up-to-date reassessment of the nature and magnitude of the TSP problem, (2) compliance status and emissions data for the area as a whole and for the sources particularly affecting sites not meeting the standards, (3) control regulations and enforcement action and the nature of control practices prompted thereby, and (4) background information to characterize the geographical distribution and nature of the industrial mix of the area.

*Whenever this section refers to the "agency" performing air quality planning or analysis the reference is intended to be general and can be interpreted to mean EPA, the state air quality agency, a substate air agency, or consultants to any of these.

6.1.1.1 APPLICATIONS OF AIR QUALITY DATA

Information available in the SAROAD files is useful in assessing the magnitude of the TSP problem in an area. Federal Primary Standards require that the annual geometric mean of 75 $\mu g/m^3$ not be exceeded for TSP. By comparing current TSP levels to this standard, the degree of total reduction required to achieve the standards can be estimated.

A readily available and up-to-date SAROAD file provides sufficient information for an agency to assess current TSP levels in an area relative to the national standards. Specifically, Standard SAROAD Reports (Paragraph 2.3.1.4) show, for each monitoring site within a specified geographical region, the daily and annual geometric mean TSP levels. The report flags with an asterisk all measurements that exceed the primary standard.

To investigate seasonal variations in TSP levels, Quarterly Frequency Distributions Summary Reports (Paragraph 2.3.2.2) provide quarterly geometric mean TSP levels. Both reports can save the agency considerable effort in calculating geometric mean TSP levels.

For the purpose of analyzing the TSP problem in a given area, the agency will want to retrieve Quarterly Frequency Distribution Summary Reports for all monitoring sites in the study area for as far back as data have been collected so that trends can be established and analyzed. The agency will also evaluate the site locations and the monitoring procedures to aid in interpreting the observed trends. The QAMIS reports (see Section 6.3.0) may be used to evaluate the reliability of reported data.

The data in the SAROAD file will also help the agency determine the effects of past regulations on particulate levels. Several sites' data prior to the regulation can be compared to data after the regulation became effective and two sets of observations can be analyzed for statistically significant differences. Graphs of ambient air levels can be generated to show trends of particulate levels before and after the regulation.

6.1.1.2 APPLICATION OF EMISSIONS DATA

The degree to which TSP levels in a given area are dependent on particulate emissions in that area has been the subject of a major research effort funded by EPA. Preliminary indications are that, although TSP levels and particulate emissions are closely related, other factors including meteorology and particulates transport over long distances are also important.

When analyzing the TSP problem in a specific area, it is important that the agency assess the relationship between TSP levels and particulate emissions from measurable sources so that effective strategies for controlling TSP levels can be identified.

To conduct such an analysis it is necessary to have at hand an emissions inventory of measurable sources, summarized by type, including historical trends of the summary and future projections as well as an indication of likely fugitive dust, mobile sources, or other noninventoried sources around each monitoring site.

The NEDS files do not provide detailed information on likely fugitive dust or mobile sources around particular monitoring sites. These require a land use inventory that can be obtained from aerial photos, land use maps, or a brief on-site survey and from detailed traffic data available from local traffic engineers.

Information available in the NEDS files is useful in assessing the point and area sources of the particulates problem in an area. Several readily available NEDS reports provide sufficiently detailed information on both point sources and nonvehicular area sources for the agency to determine the nature of the TSP problem and the likely impact of proposed remedial action on TSP levels. The following NEDS reports are useful:

- Raw Data Reports (Paragraph 2.1.1.0)

  - A listing of emissions by all point sources is available in a "Point Source Report" (Paragraph 2.1.1.1). This is particularly valuable in identifying major sources, the nature and location of the activity in relation to the monitoring site, and the status of compliance with existing regulations.

  - A listing of emissions by point sources emitting over a specified level of particulates is available in a "Condensed Point Source Report" (Paragraph 2.1.1.2). This limits the amount of source-level data, is more expeditious and may still serve the purpose.

  - Emissions from area sources are available in an "Area Source Report" (Paragraph 2.1.1.3) and are useful in analyzing the contribution of minor stationary and miscellaneous sources to total TSP emissions in an area.

- Summary Reports (Paragraph 2.1.2.0)

  - A listing of major plants and the tons of particulates emitted by each is available from a "Plant Emission Summary Report" (Paragraph 2.1.2.1) and is useful when analyzing the impact of further emission reductions at specific sources rather than at entire industries.

- A listing of pollutants emitted by Source Classification Code (SCC) category is available from an "SCC Emission Report" (Paragraph 2.1.2.5) and is useful when analyzing the impact of further emission reductions required of entire industries rather than of specific sources.

- An "Emission Summary Report" (Paragraph 2.1.2.1) presents total particulate emissions by SCC and may be useful in comparing the relationship between emissions and TSP levels for several geographical areas.

The data provided in these files provides information that is useful in identifying the source of the TSP problem as well as in identifying and analyzing the impact of additional controls that may be proposed to remedy the problem.

The Clean Air Act requires EPA to establish national "primary" air quality standards strict enough to protect all members of the population from adverse health effects caused by air pollutants including carbon monoxide and photochemical oxidants. It then requires each state to have in effect an "implementation plan" (SIP) to achieve these standards throughout its territory. If the state does not submit an appropriate implementation plan the Act requires EPA to promulgate an appropriate plan for the state.

The automobile is the source of nearly all carbon monoxide and a majority of the hydrocarbons that form photochemical oxidants. Although the Federal Motor Vehicle Emissions Control Program ("FMVECP") established by the Clean Air Act requires all new automobiles to meet strict emission standards for these pollutants, this program taken together with stationary sources controls proposed in the SIP will, in many cases, not assure that the national primary air quality standards will be achieved. As a result many SIP's require further control of emissions from vehicular sources for EPA approval. The document that incorporates such controls into the SIP is called a Transportation Control Plan (TCP).

Those factors to be considered in the TCP include, among other things: (1) an up-to-date verification and reassessment of the nature and magnitude of the air pollution problem, (2) a re-evaluation of the impact of stationary source controls and FMVECP proposed in other sections of the SIP, (3) an analysis of the impact of proposed transportation control measures on air quality, and (4) a comparison of the total estimated emission reductions achieved by all proposed control measures and the total estimated emission to achieve the national air quality standards.

In many cases, FMVECP and first cut stationary source and transportation controls will not be sufficient to achieve the standards. In these cases it is necessary to iterate through the SIP to propose additional controls that will further reduce nonvehicular and vehicular emissions until the required reductions are achieved.

6.1.2.1 APPLICATION OF AIR QUALITY DATA

Information available in the SAROAD files is useful in assessing the magnitude of the air quality problem in an Air Quality Control Region (AQCR). Federal regulations require that the following air quality standards not be exceeded for carbon monoxide and for photochemical oxidants:

- Carbon Monoxide
  - The second-highest hourly average concentration must not exceed 35 ppm.

- The second-highest nonoverlapping 8-hour average concentration must not exceed 9 ppm.

- Oxidants
  - The second-highest hourly average concentration must not exceed 0.08 ppm.

By comparing current values of these measures to the national standards, the degree of total emissions reduction required to achieve the standards can be estimated.

A readily available and up-to-date SAROAD file provides sufficient information for an agency* to assess the air quality of an area. Specifically, Standard SAROAD Reports (Paragraph 2.3.1.4) show, for each pollutant-site combination within a specified geographical region, the individual hourly observation of that pollutant. To reduce the effort in identifying the second-highest hourly average, these reports flag with an asterisk all measurements that exceed the standards. Also, a standard SAROAD report is available that shows the 8-hour running average concentration of carbon monoxide and also flags those values that exceed the standards. This report saves the agency considerable effort in calculating these averages and in identifying the second-highest nonoverlapping 8-hour average.

For the purpose of analyzing a typical TCP, the agency will want to retrieve these three reports for all monitoring sites in an AQCR for a specified base year, and for earlier years, in order to assess the air quality problem and to recognize trends in the air quality to the region.

6.1.2.2 APPLICATION OF EMISSIONS DATA

Because concentrations of pollutants by which the air quality of an AQCR is judged are highly correlated with the emissions of those pollutants within the AQCR, it follows that the air quality will improve when emissions are reduced. It then becomes essential to have available an emissions source inventory and an estimate of future emissions describing the nature of each source and the contribution of related emissions to the total emissions so that effective control strategies can be proposed and their impact on air quality analyzed. The following information is required to estimate emissions of carbon monoxide and of hydrocarbons:

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*Whenever this section refers to the "agency" performing air quality planning or analysis the reference is intended to be general and can be interpreted to mean EPA, the state air quality agency, a sub-state air agency, or consultants to any of these.

- Carbon Monoxide
  - Because nearly all CO is produced by vehicular sources it is not necessary to analyze CO emissions from nonvehicular sources.
  - It is necessary to calculate CO emissions as a function of vehicle miles traveled by vehicle age and type and of typical vehicular operating characteristics (speed) over the street network.
- Hydrocarbons
  - In addition to vehicular sources, oxidant-forming hydrocarbons are produced by fossil fuel combustion, evaporation from storage facilities, and direct discharge by various industrial processes. Although the formation of oxidants is dependent on meteorological conditions, the formation of oxidants in an area is directly proportional to the hydrocarbons emitted in that area.

It is necessary to estimate hydrocarbon emissions from both vehicular and nonvehicular sources. Nonvehicular sources are further segmented into "area" and "point" sources. The distinction between area and point sources is arbitrarily made on the basis of the spatial distribution and magnitude of emissions from the source. For example, a power plant that emits 500 tons of hydrocarbons per year warrants individual attention and is treated as a point source. On the other hand a gas station that emits 5 tons of hydrocarbons per year may not warrant the individual attention afforded a point source but together with 100 other gas stations may warrant collective attention as an area source.

The NEDS files do not provide sufficiently detailed information to assess the magnitude of carbon monoxide and hydrocarobn emissions from vehicular sources. This analysis requires detailed traffic information described above. However, the NEDS "Area Source Report" (Paragraph 2.1.1.3) provides an estimate of fuel used by mobile sources by state and county. This information, used together with average fuel consumption rates, provides a "ballpark" check of total vehicle miles traveled in a study area.

Information available in the NEDS files is useful in assessing the nonvehicular sources of the oxidants problem in an AQCR. Several readily available NEDS reports provide sufficient information on both point sources and nonvehicular area sources for the agency to determine the impact of proposed stationary source controls on air quality. The degree of detail required for the analysis is dependent on the control strategy to be analyzed and the technique used to perform the analysis. For example, the linear rollback

technique implies that all sources will reduce their emissions by an amount proportional to the total required emission reduction from all sources. In other words, if it is desired that stationary sources emit 40 percent fewer hydrocarbons, then it is assumed that all sources will reduce their existing emissions by 40 percent.

Linear rollback is a technique that allows one to convert changes in total emissions to changes in pollutant concentrations. The technique assumes that the concentration of a pollutant is equal to the background concentration of that pollutant plus some linear function of the emission rate of the pollutant.

The emission reduction required to meet a national standard is equal to the difference between the existing emissions and the allowable emissions, which can be calculated by comparing the national standard to the background concentration (which is usually quite small). The required reduction can be expressed as a percentage as follows:

$$\text{\% reduction required} = \frac{\text{(existing emissions)} - \text{(allowable emissions)}}{\text{(existing emissions)}} \times 100$$

The data required to perform this analysis are found in an aggregate summary of total emissions from stationary sources in a given AQCR available from NEDS "Emissions Summary Reports" (Paragraph 2.1.2.1).

An emission control strategy that distinguishes among stationary sources requires a more disaggregate analysis. For example, if it is desired that particular point sources (e.g., power plants) or area sources categories (e.g., dry cleaning industry) reduce their emissions by certain percentages, it is necessary to know the existing emissions from those particular sources or specific industries. The data required to perform an analysis on this level are found in the following NEDS Reports:

- Raw Data Reports (Paragraph 2.1.1.0)
  - A listing of emissions by all point sources is available in "Point Sources Report" (paragraph 2.1.1.1) but may not be necessary unless point sources are to be controlled individually.
  - A listing of emissions by point sources emitting over a specified level of pollutants is available in the""Condensed Point Source Report" (Paragraph 2.1.1.2) and may be more to the point.

- Emissions from area sources are available in the "Area Source Report" (Paragraph 2.1.1.3) that will be useful in analyzing emissions from stationary and miscellaneous sources by state and county.

- Summary Reports (Paragraph 2.1.2.0)
  - A listing of major plants and the pollution emitted by each is available from the "Plant Emission Summary Report" (Paragraph 2.1.2) and is useful when analyzing the impact of controls aimed at specific sources rather than industries.
  - A listing of pollutant emitted by Source Classification Code (SCC) category is available from the "SCC Emission Report" (Paragraph 2.1.2.5) and is useful when analyzing the impact of controls aimed at industry categories rather than specific sources.

The information provided in these files is not only useful in analyzing the air quality impact of proposed controls of stationary sources but also provides useful information for developing more effective control strategies through greater understanding of the sources of the problem.

Data from the NEDS and SAROAD systems can be of considerable value in the development of Air Quality Maintenance Plans. Maintenance plans are required by EPA regulations as a supplement to the air quality planning in State Implementation Plans, which have related primarily to the initial attainment of air quality standards. Maintenance planning is directed toward ensuring that air quality standards will not be violated over the long term. In the development of these plans, a modeling approach can be employed to relate future air quality trends to forecasted emission patterns resulting from residential and industrial growth or new source performance standards. A multi-source diffusion model such as CDM* can be validated for a given base year using point and area source emissions from NEDS and monitoring information from SAROAD. Point source parameters used in the modeling exercise include location by UTM coordinates, emission rate, stack height, stack diameter, gas exit velocity, and gas temperature. Countywide total area source emissions for the industrial, commercial, residential, and transportation sectors may be disaggregated by means of the Computer Assisted Area Source Emissions (CAASE) allocation procedure. These point and area source emissions, assigned to a grid system, serve as input to a diffusion model that will calculate, for appropriate meteorological variables, pollutant concentrations for a number of actual receptor locations. Measured and calculated concentrations are then compared to determine whether an acceptable correlation exists between the two sets of values.

If the measured concentrations are well correlated with the model-calculated concentrations, the model is suitably validated for the study region. The model may then be calibrated for background concentrations and for modeling bias by relating the measured and calculated observations by means of a linear least squares fit. The least squares fit finds a linear relationship of the form:

$$X_f = aX_c + b$$

where X_c is a model-calculated concentration

X_f is a "fitted" concentration

The coefficients a and b are determined from the calculated and measured concentrations so as to make X_f (fitted concentration) a statistically best estimate of the actual concentrations, for a given calculated concentration.

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*Climatological Dispersion Model. For example see Busse, A.D. and J.R. Simmermen. Users Guide for the Climatological Dispersion Model. U.S. Environmental Protection Agency, Research Triangle Park, N.C. Publication No. EPA-R4-73-024. December 1973.

Once the model is calibrated for a base year, the NEDS point and area emissions for that year can be projected on the basis of expected growth in population, industrial employment or earnings. Large point sources and expected new sources may be considered separately to estimate future emission rates.

The calibrated model can then be applied to the NEDS projected emissions, and pollutant concentrations calculated for an array of receptor locations. Application of the calibraton equation to each of the calculated concentrations then yields the statistically best estimate of pollutant concentrations under the projected growth.

The SOTDAT System is designed to store and retrieve all of the relevant technical data collected during the measurement of pollutant emissions from point sources. The process whereby these measurements are generated is called stack testing; hence, the term "Source Test Data" or SOTDAT. The original purpose of the SOTDAT system was to provide an automated means of updating and improving emission factors for specific Source Classification Codes in the NEDS Emission Factor File. During the 2 years since the initial design of SOTDAT, however, other applications have been developed for that system. Examples of these are equipment performance evaluations, cost analyses of pollution control equipment, and support to the EPA surveillance and enforcement activities.

The primary use for SOTDAT remains the development and introduction of modifications and improvements to the EPA emission factors. This application is described in further detail in the following section.

Ideally, actual measurement results (stack test data, etc.) would be used to compute emissions from all point sources and area source categories. As a practical matter, however, because of the very large number of sources and their great diversity it would be difficult and expensive to conduct field measurements at the point of release of emissions on a source-by-source basis for the entire nation or any large part thereof. The alternative that has been employed is to develop and apply generalized estimates of typical emissions from each of the various source types, taking into account as many of the determining factors and parameters as can be feasibly done in each case.

These generalized estimates of emissions are usually made through the use of emission factors. An emission factor is defined as an estimate of the rate at which a pollutant is released to the ambient atmosphere as a result of some activity, such as combustion or industrial processing, divided by the level of that activity. In other words, an emission factor relates the quantity of pollutant emitted to some activity level such as production rate, quantity of fuel burned or vehicle miles traveled. Some emission factors are quite reliable, being based on relatively precise empirical formulas involving the various design or process parameters such as storage tank diameter, ambient temperature, or reactant concentrations. Most factors, however, are based upon statistical averages of source test measurements or on process material balances or mere engineering estimates of a given process.

Because most of the emission factors currently available for use were based on a limited number of source test data at best, and in some cases not even a single measurement, it is of great importance to improve and update these factors as often as new or more reliable data from actual source tests become available. The SOTDAT system was developed for this purpose. As of early 1975, approximately 500 source tests, each one consisting of from three to five separate "runs," had been incorporated into the SOTDAT files. As the number of source test results increases, the SOTDAT system will prove to be more and more valuable in serving as the basis for the steady improvement of the reliability of the NEDS emission factors. In addition the SOTDAT system provides basic data for the calculation of emission factor precision (measured as standard deviation). This is required in the emission inventory precision analysis of the Source Inventory and Emission Factor Analysis System (SIEFA - Section 3.1.0).

The SOTDAT output provides the following information relative to emission factors for each stack test run:

- Measured emissions of a pollutant
- Plant process rate in the appropriate SCC units
- Fuel composition (% sulfur and % ash)

An estimate of the emission factor for the measured pollutant as emitted by the tested SCC is made by the following equations:

$$\text{Emission factors} = \frac{\text{measured emissions}}{\text{process rate}}$$

or, in the case of SO_2 or particulate emission factors:

$$\text{Emission factors} = \frac{\text{measured emissions}}{\text{process rate x \% composition}}$$

where % composition is % sulfur in the fuel or % ash in the fuel for SO_2 and particulate emissions, respectively.

An emission factor based on the above calculation for a single stack test is insufficient to establish a reliable value, however. Only after stack test data for numerous sources within a given SCC have been analyzed, can this factor be established with some precision. When sufficient data are available from SOTDAT, a statistically unbiased emission factor is derived by averaging the estimates from each stack test or each run. An estimate of emission factor precision (for use in SIEFA) is derived by taking the standard deviation of the individual emission factor estimates.

Because of the ever-changing nature of industrial processes, transportation systems, and fuel consumption, the process of updating and improving emission factors is a continuing activity. However, the attainment of a major set of validated emission factors based on many well-conducted source tests, particularly when industrial parameters can be incorporated therein, is essential in obtaining reliable, precise, and accurate emissions inventory data.

The Quality Assurance Information System (QAMIS) is designed to store information on the quality control measures observed by agencies in their air quality monitoring activities. This system provides a rating for each agency in order to give an indication of the reliability of the air quality data generated by that agency's monitoring activities. This quality control information should be utilized whenever SAROAD data are used, so as to establish the reliability of projections and calculations that are based on SAROAD information.

The primary purpose of QAMIS is to evaluate existing procedures and to aid in the effort to establish standards of quality control in all air monitoring activities.

The State Implementation Plan System was designed to provide an automatic procedure for referencing the rules and regulations of the various State Implementation plans. The states are required, by Federal regulation, to have in effect an "implementation plan" (SIP) that will ensure attainment of national air quality standards. The primary thrust of the SIP is to enact regulations designed to control emissions from known pollutant sources to the extent that these air quality standards will be achieved and maintained.

A typical SIP includes specific information regarding (1) what pollutants are controlled, (2) what geographical areas are affected, (3) what industries are affected, (4) an assessment of current emission regulations, and (5) a description and estimated impact of planned regulatory action on air quality.

Information available in the SIP's files, in conjunction with air quality data available in the SAROAD files and an emissions inventory available in the NEDS files, is useful in assessing the effectiveness of specific emissions regulations. This can be accomplished by observing the historical trend of specific pollutant levels (SAROAD) in relation to emission regulations specified in the SIP (SIP's) and the status of compliance to these regulations (NEDS). For example, if concentration levels at a specific site decreased during a time when emission reductions were achieved as a result of compliance to a specific set of regulations, it is possible to credit the improvement in air quality to the regulations (assuming that all other important variables remained constant or changed in a manner such that the impact of that change is quantifiable). Research leading to a quantifiable relationship between various degrees of compliance to specific regulations and corresponding air quality improvement may be of substantial value to states contemplating the enactment of similar regulations.

A useful feature of SIP's allows a state to retrieve the text of all existing regulations controlling emissions from any one of 21 types of sources of a pollutant for all states. Information available in the text such as legal authority requirements, general control strategy, etc., will provide some guidance to other states in promulgating technically and politically feasible regulations to control that pollutant.

The Federal Power Commission - Form 67 (FPC-67) is a compilation, collected each year by the Federal Power Commission, of operating data from each of the major power plants in the United States. Included with the FPC data for each plant is an estimate of pollutant emissions for each of the criteria pollutants.

Because emissions from electric generation form a major part of a nationwide air pollutant emission inventory, the FPC-67 data are important to the EPA in assessing the impact of this source type and in evaluating control measures for emissions from power plants. For example, where the impact of fuel shortages require consideration of conversion of power plants to less clean forms of fuel (such as coal), it is necessary to carefully assess the adverse impact on air quality of such a switch. The FPC-67 system provides all of the power plant operating information that is required for such an assessment. The application of diffusion modeling techniques, using these data, provides a sound basis for assessing the impact of a fuel switch.

Another application of the FPC-67 data has been to utilize the boiler design and operational data to relate combustion system characteristics to emissions characteristics. The purpose of this work was to provide information that may help direct future activities in emission control studies, source testing, and emissions factor improvement. The two applications are discussed in greater detail in the following sections.

One important application of FPC Form 67 data system is in the construction of model input data for the analysis of the air quality impact of fuel switching alternatives at major electric generating facilities (e.g., coal conversion). The detailed modeling approach employed in this analysis requires the following input parameters--all available from the FPC-67 data system.

- Monthly fuel consumption
- Sulfur content of fuel
- Ash content of fuel
- Efficiency of particle collection and gas cleaning equipment
- Stack height
- Stack diameter
- Exit gas temperature (for different loading conditions)
- Exit gas velocity (for different loading conditions)

With representative meteorological data, diffusion model calculations may be carried out to estimate SO_2 or particulate concentrations for a wide range of receptor locations at various distances and headings from the power plant. If actual measurement data exist for some of these locations, then a comparison may be made between observed and calculated emissions for reported operating conditions. This validation comparison may be made between the cumulative frequency distributions of concentrations as measured and as predicted. If sufficient data points are available, they may also be utilized to calibrate the model for the particular conditions under study by a linear regression of measured concentrations on the calculated concentrations (see Section 6.1.3). In any event, before carrying out a validation exercise, some effort must be made to determine background concentration levels of the pollutants in question and to subtract these levels from observed concentrations in order to isolate the effect of the plant under study. Generally, background concentrations are sufficiently well estimated by averaging the concentration observations gathered from those monitoring stations upwind of the emission point.

Once the model has been suitably validated and calibrated, a new set of fuel consumption data must be generated to reflect the fuel switchover alternatives. The new fuel consumption figures will reflect equivalent generating capacity to that reported in the FPC-67 system. Using the new source data as a basis for plant emission rates, the calibrated model is then run to predict emission levels due to the modified plant. These predicted emissions must be corrected to include background concentrations, or if a calibration equation has been generated, they must be modified by the calibration equation to provide comparible estimates of air quality under the proposed switchover.

Because the FPC-67 system provides monthly fuel consumption information, the modeling effort can be carried out using monthly or quarterly data in order to estimate the seasonal variations in the impact of the power plant emissions, and thus the fuel switching options can be evaluated on a seasonal basis.

One recent application of the data compiled by the FPC-67 system has been to relate emissions characteristics for conventional combustion systems to boiler type and boiler design characteristics. For this purpose, the FPC-67 file was obtained in computer-readable form (tape), and the data contained therein were categorized and summarized by the following classifications:

- Boiler size
- Furnace type
- Fuel(s) burned
- Firing patterns
- Fly ash reinjection (yes or no)

The information summarized in this classification included the following:

- Fuel consumption
- Steam and electric capacity
- Age
- Emissions

There are many areas in which EPA or other Federal, state, or local agencies may use these data. For instance, NO_x emissions and control method effectiveness appear to be related to boiler size, furnace type, and firing pattern. Therefore, the Control System Laboratory of EPA may use the data to prioritize NO_x control research and development programs. Similarly, particulate emissions and control device performance are affected by furnace types and the data summaries may help to plan testing and development efforts. Other agencies or groups may use the summaries

for emission factor improvements (including trace elements), estimating effects of various fuel switching strategies, and planning combustion technology research and development.

A number of auxiliary data files are maintained by the EPA, primarily as base data sources for calculating and apportioning air pollution emissions, or for recognizing possible point emission sources. Some of these files are maintained by the EPA; others are generated and updated by other agencies or organizations and are purchased by the EPA for use in their activities.

The primary activity supported by the auxiliary files is the updating of emission inventories for NEDS. In these activities, files such as census data and Polk vehicle registration data are used to estimate and apportion area source emissions. These applications are discussed in detail in the following sections.

An important step in maintaining the air quality in a region is to provide an accurate inventory of sources and components of air pollution. This requirement is provided for by the emission inventory of the National Emissions Data System (NEDS). The identification of sources, pollutants, locations, and quantities of emissions provide the initial step for a plan of action for improving the air quality, and therefore the maintenance and updating of this inventory is vital for the abatement of emissions and for monitoring sources.

In order to insure that the data in the NEDS system are current and as correct as possible, the Environmental Protection Agency requires all states to update their emission inventory semi-annually. Any changes with respect to existing point sources, such as process flow rates, stack data, control equipment, etc., are to be incorporated into the semi-annual updates. Any new point sources are to be reported in the updates using the NEDS point source format. (See Section 2.1.1.e.)

Emissions from area sources (numerous sources too small to be considered point sources) are to be estimated and updated using the best available information. The area source form shown in Figure 2.1.1.f. is used in reporting this data.

Various auxiliary data files available from the EPA are a useful aid to an agency in updating its emission inventory. Two examples of these applications are given below.

6.6.1.1 APPLICATION OF CENSUS DATA TAPES

The information available on the Census Data Tapes is used as a basis for allocation of NEDS area source data. The census data may be used to apportion emissions from the state level to the county level or, in conjunction with emission factors, may be used to estimate emissions within the county.

Emissions from some area source categories are based on population and can be calculated from population-based emission factors. Examples of these are emissions from:

- Waste disposal - based on pounds of solid waste per urban person per day
- Dry cleaning - based on pound of solvent evaporated per person per year
- Surface coating - based on pounds of solvent evaporated per person per year

In other cases, population information is required as a basis for apportioning emission data down to the county level. If, for example, total residential fuel usage is known for the entire state, it will be necessary, in order to complete the area source emissions inventory, to apportion that total among the counties (area sources) within the state. A proper basis for this apportionment is the census of housing. Thus housing census data are used to divide the state total residential fuel usage among counties in direct proportion to the number of residences within each county.

Other examples of emissions data that may be apportioned on the basis of census information (provided accurate data are not otherwise available at the county level) are the following:

- Railroad fuel use - apportioned by population on the assumption that most rail operations take place within population centers.
- Commercial and institutional fuel use - apportioned by population on the assumption that these activities take place in population centers.
- Industrial fuel use - apportioned by manufacturing employment.
- Residential, commercial, institutional on site incineration - apportioned by population.
- Motor vehicle gasoline use - apportioned by population if vehicle-mile data or service station sales data are not available.

It should be noted that where more detailed apportioning may be required (e.g., to a relatively fine grid system) the Computer Assisted Area Source Emission Gridding Procedure (CAASE) can be used. This system utilizes data from the census of population as a basis for allocating emissions from the county level to an appropriate grid network.

6.6.1.2 APPLICATION OF POLK VEHICLE REGISTRATION DATA

To determine the extent of emissions generated from motor vehicle sources, the number of light-duty (under 6,000 pounds gross weight) and heavy duty (over 6,000 pounds gross vehicle weight) vehicles is required. The Polk Vehicle Registration Data contains the number of registered automobiles and registered trucks by make and model year for the past 10 most recent years. By using these data, it is possible to determine the vehicle "mix" within a county. Based on the vehicle "mix," both gasoline and diesel fuel can be apportioned to the county based on the total state consumption of gasoline and diesel fuel.

The Polk data file can also be used to apportion evaporative emissions resulting from the marketing of gasoline. Usually state figures are available for the quantity of gasoline sold within a state. By using the number of registered vehicles within a county, compared to the number of registered vehicles in the state, county gasoline evaporative losses can be determined. Polk vehicle mix data will also be used to calculate county-specific automotive emission factors to be used to calculate area source emissions.

Any user who has established valid account codes and user identification codes at NCC has access to the AEROS data files. He may develop his own custom programs to access these files and output the data in the format(s) he desires. Any such custom programming that is done is requested to be brought to the attention of the Reports and Information Section for NADB's analysis of potential application for other users.

The following section contains AEROS file descriptions and record layouts of the more significant NADB files. These descriptions will be updated and expanded as needed. These file descriptions are given for the use of those experienced programmers who wish to do their own programming against the NADB files. Users are warned never to exclusively assign a NADB file. These file descriptions will also be in the NADB-DESC library and it is recommended that programmers use the COBOL Copy or the FORTRAN Include to insert these definitions into their programs. By doing this, program modifications necessitated by changes to the NADB file definitions will be minimized. NADB is providing these definitions as a convenience only. Programming UNIVAC system questions should be directed to the National Computer Center, User Services Section. Potential users should also read Volume IV, Section 4.3.7 (Non-NADB Development).

7.2.1.1 CITY-COUNTY

AEROS FILE DESCRIPTION

QUALIFIER	FILE NAME	DATE
NADB	AERO-CTYCNTY	June 5, 1975

FILE DESCRIPTION AND USE

Contains the names, populations, and state/area keys for every county (and/or analogous area) in the U. S. and each city with a population equal to or greater than 2500 (in Vermont this includes every village). Flags are entered to distinguish counties from cities. If a flag is equal to a blank, a city or state is indicated. If a flag is equal to a '*' a county is indicated.

USES:

Cross-reference; ID file for most reports. Also used by some NEDS report programs.

FILE TYPE

- [ ] SDF
  - [ ] PRINT FILE
  - [ ] PUNCH FILE
  - [ ] _____
- [X] ASCII COBOL
  - [ ] SEQUENTIAL
  - [ ] DIRECT
  - [X] INDEXED-SEQUENTIAL
- [ ] FORTRAN
  - [ ] FORMATTED
  - [ ] UNFORMATTED
  - [ ] _____
- [ ] OTHER _____

STORAGE MEDIUM

- [X] DISK
- [ ] TAPE { [X] LABELED / [ ] UNLABELED }
- [ ] CARDS
- [ ] Standard

FILE AVAILABILITY

- [ ] RESTRICTED
- [X] PERMANENT
- [ ] TEMPORARY
- [ ] _____

CATALOGED FILE DESCRIPTION

- [ ] NO
- [X] YES: FILE NAME NADB-DESC
  PROC NAME NADBCITYISAM

RECORDING MODE

- [X] INTERNAL
- [ ] COMPACT
- [ ] CFH
- [ ] F [ ] AN
- [ ] U [ ] AN
- [ ] V [ ] AN

RECORD SIZE

- [X] FIXED LENGTH: 39 CHARACTERS
- [ ] VARIABLE LENGTH: _____ THRU _____ CHARACTERS

BLOCKING

- [ ] UNBLOCKED
- [X] BLOCKED: 88 { [ ] CHARACTERS / [X] RECORDS } PER BLOCK

KEY (IF APPLICABLE)

6 CHARACTERS LONG

CONTENT: STATE, CITY OR COUNTY OR 4 BLANKS

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: AE026 (PROGRAM NAME)

FILE SIZE: 127 tracks AS OF 09/4/75

UPDATE FREQUENCY: Every ten years (TIME INTERVAL)

ANTICIPATED GROWTH: 25 to 50 [X] RECORD [ ] TRACKS PER _____

FILE BACKUP

TYPE: [ ] NONE [X] SYSTEM [X] SPECIAL

MEDIUM: [ ] CARDS [X] TAPE [ ] DISK

LOCATED AT: _____

FILE NAME: AERO-CTYCNTY-T

FREQUENCY: Every Ten years

NO. OF GENERATIONS KEPT: 2

FILE NAME/DESCRIPTION: AERO-CTYCNTY

RECORD NAME/DESCRIPTION: CITY-REC-IS

APPLICATION: SAROAD

DATE: June 5, 1975

PAGE 1 OF 1

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	39	39	X(39)	CITY-REC-IS	
1	6	6	X(6)	C-IS-KEY	Six Digit Key
1	2	2	X(2)	C-IS-STATE	State Code
3	6	4	X(4)	C-IS-CITY-COUNTY	City/County Code
7	7	1	X	C-IS-CNTY-FLG	One Digit Flag
8	35	28	X(28)	C-IS-NAME	Name of City
36	39	4	9(8) Comp	C-IS-POPL	Area Population

IF C-IS-CNTY-FLAG EQ	THEN C-IS-CTY-COUNTY CONTAINS AND	C-IS-NAME CONTAINS
ß	ßßßß	STATE NAME
ß	AREA CODE	CITY NAME
*	AREA CODE	COUNTY NAME

7.2.1.2 AERO-AQCR

AEROS FILE DESCRIPTION

QUALIFIER	FILE NAME	DATE
NADB	AERO-AQCR	

FILE DESCRIPTION AND USE

File consists of one record for each of 247 Air Quality Control Regions (AQCR), containing AQCR code, name, area in square miles, population, pollutant classification codes, number of counties making up the AQCR, and a six-digit identifier for each state (county within the AQCR, up to 100 counties).

FILE TYPE

- ☐ SDF
  - ☐ PRINT FILE
  - ☐ PUNCH FILE
  - ☐ _____
- ☒ ASCII COBOL
  - ☐ SEQUENTIAL
  - ☐ DIRECT
  - ☒ INDEXED-SEQUENTIAL
- ☐ FORTRAN
  - ☐ FORMATTED
  - ☐ UNFORMATTED
  - ☐ _____
- ☐ OTHER _____

STORAGE MEDIUM

- ☒ DISK
- ☐ TAPE { ☒ LABELED / ☐ UNLABELED }
- ☐ CARDS
- ☐ _____

FILE AVAILABILITY

- ☐ RESTRICTED
- ☒ PERMANENT
- ☐ TEMPORARY
- ☐ _____

CATALOGED FILE DESCRIPTION

- ☐ NO
- ☒ YES: FILE NAME NADB-DESC
  PROC NAME AERO-AQCR

RECORDING MODE

- ☒ INTERNAL
- ☐ COMPACT
- ☐ CFH
- ☐ F ☐ AN
- ☐ U ☐ AN
- ☐ V ☐ AN

RECORD SIZE

- ☐ FIXED LENGTH: _____ CHARACTERS
- ☒ VARIABLE LENGTH: 95 THRU 689 CHARACTERS

BLOCKING

- ☐ UNBLOCKED
- ☒ BLOCKED: 2083 { ☒ CHARACTERS / ☐ RECORDS } PER BLOCK

KEY (IF APPLICABLE)

3 CHARACTERS LONG

CONTENT: AQCR

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: AE029 (PROGRAM NAME)

FILE SIZE: 25 tracks AS OF 09/4/75

UPDATE FREQUENCY: N/A (TIME INTERVAL)

ANTICIPATED GROWTH: ~~N/A~~ ☐ RECORD ☐ TRACKS PER _____

FILE BACKUP

TYPE: ☐ NONE ☒ SYSTEM ☐ SPECIAL

MEDIUM: ☐ CARDS ☐ TAPE ☐ DISK

LOCATED AT: _____

FILE NAME: _____

PROCEDURE: _____

NUMBER OF GENERATIONS KEPT: _____

FILE NAME/DESCRIPTION: AERO-AQCR

RECORD NAME/DESCRIPTION: AQCR-REC

APPLICATION: AEROS

DATE:

PAGE 1 OF 2

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	95	95		AQCR-REC	Air quality control region record
1	3	3	X(3)	IS-AQCR-NBR	Control region number
4	58	55	X(55)	IS-AQCR-NME	Control region name
59	65	7	ZZZ,ZZZ	IS-AQCR-AREA	Control region area
66	75	10	ZZ,ZZZ,ZZZ	IS-AQCR-POP	Population of area
76	87	12	X(12)	FILLER	Unused (See Note 1)
88	89	2	S9(5)COMP	ST-CO-CNT	State county count
90	95	6	X(6)	SFCO-COD	County identifier (occurs 1 to 100 times depending on ST-CO-CNT)

(Note 1) This field contains Priority and Classification Codes The priorties are based on an observed air quality levels or estimates. A level '1' area has poor air quality and a level '3' area has clean air. If AQCR is level '1' primarily due to one source it is qualified as a level '1A' AQCR.

Particulates and SULFUR-DIOXIDE, can have levels of '1','2', and '3'. NITROGEN DIOXIDE, HYDROCARBONS, CARBON-MONOXIDE AND PHOTOCHEMICAL = OXIDANTS can only have values '1' and '3'.

SUGGESTED REDEFINITION OF FILLER:

76	77	2		PARTICULATE	
76	76	1	X	PART-CLASS	Classification
77	77	1	X	PART-PRIO	Single Point Emission Significance
78	79	2		SULFUR-DIOXIDE	
78	78	1	X	SOL-CLASS	Classification
79	79	1	X	SOL-PRIO	Single Point Emission Significance
80	81	2		NITROGEN-DIOXIDE	
80	80	1	X	NOX-CLASS	Classification
81	81	1	X	NOX-PRIO	Single Point Emission Significance
82	83	2		HYDROCARBONS	
82	82	1	X	HC-CLASS 7.2.1-4	Classification

FILE NAME/DESCRIPTION: AERO-AQCR

RECORD NAME/DESCRIPTION: AQCR-REC

APPLICATION: AEROS

DATE:

PAGE 2 OF 2

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
83	83	1	X	HC-PRIO	Single Point Emission Significance
84	85	2		CARBON-MONOXIDE	
84	84	1	X	CO-CLASS	Classification
85	85	1	X	CO-PRIO	Single Point Emission Significance
86	87	2		PHOTOCHEMICAL-OXIDANTS	
86	86	1	X	PC-CLASS	Classification
87	87	1	X	PC-PRIO	Single Point Emission Significance

7.2.1.3 AERO-SMSA

AEROS FILE DESCRIPTION

QUALIFIER	FILE NAME	DATE
NADB	AERO-SMSA	Ø5-19-75

FILE DESCRIPTION AND USE

This is an indexed-sequential mass-storage file of numbers and corresponding names of Standard Metropolitan Statistical Areas (SMSA). It contains one SMSA number and name per record, and the index key for each record is the 4-digit SMSA number.

USE: To be used by report programs to retrieve an SMSA name when the SMSA number is known.

FILE TYPE

- ☐ SDF
  - ☐ PRINT FILE
  - ☐ PUNCH FILE
  - ☐ _____
- ☒ ASCII COBOL
  - ☐ SEQUENTIAL
  - ☐ DIRECT
  - ☒ INDEXED-SEQUENTIAL
- ☐ FORTRAN
  - ☐ FORMATTED
  - ☐ UNFORMATTED
  - ☐ _____
- ☐ OTHER _____

STORAGE MEDIUM

- ☒ DISK
- ☐ TAPE { ☒ LABELED / ☐ UNLABELED }
- ☐ CARDS
- ☐ Standard

FILE AVAILABILITY

- ☐ RESTRICTED
- ☒ PERMANENT
- ☐ TEMPORARY
- ☐ _____

CATALOGED FILE DESCRIPTION

- ☒ NO
- ☐ YES: FILE NAME _____
  PROC NAME _____

RECORDING MODE

- ☐ INTERNAL
- ☐ COMPACT
- ☐ CFH
- ☐ _____

☒ F ☒ AN
☐ U ☐ AN
☐ V ☐ AN

RECORD SIZE

- ☒ FIXED LENGTH: 45 CHARACTERS
- ☐ VARIABLE LENGTH: _____ THRU _____ CHARACTERS

BLOCKING

- ☒ UNBLOCKED
- ☐ BLOCKED: _____ { ☐ CHARACTERS / ☐ RECORDS } PER BLOCK

KEY (IF APPLICABLE)

4 CHARACTERS LONG

CONTENT: SMSA Number

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: AEØ33 (PROGRAM NAME)

FILE SIZE: 243 records AS OF Ø5-19-75

UPDATE FREQUENCY: only when lost (TIME INTERVAL)

ANTICIPATED GROWTH: none ☐ RECORD / ☐ TRACKS / ☐ _____ PER _____

FILE BACKUP

TYPE: ☐ NONE / ☒ SYSTEM / ☐ SPECIAL

MEDIUM: ☒ CARDS / ☐ TAPE / ☐ DISK

LOCATED AT: NADB

FILE NAME: SMSA CARDFILE

FREQUENCY: Permanent

NUMBER OF GENERATIONS KEPT: 1

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
NADB*AERO-SMSA	SMSA-REC (Output record)

APPLICATION	DATE	PAGE 1 OF 1
AEØ33	22 November 1974	

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	4	4	X(4)	SMSA-NBR	SMSA Number
5	45	41	X(41)	SMSA-NME	SMSA Name

Read key for indexed-sequential access = SMSA Number (4 digits)

7.2.1.4 AERO-SMSA-NM

FILE DESCRIPTION AND USE

This file contains the numbers and names of the Standard Metropolitan Statistical Areas.

FILE TYPE

- ☐ SDF
  - ☐ PRINT FILE
  - ☐ PUNCH FILE
  - ☐ _____
- ☒ ASCII COBOL
  - ☐ SEQUENTIAL
  - ☐ DIRECT
  - ☒ INDEXED - SEQUENTIAL
- ☐ FORTRAN
  - ☐ FORMATTED
  - ☐ UNFORMATTED
  - ☐ _____
- ☐ OTHER _____

CATALOGUED FILE DESCRIPTION

☒ YES: FILE NAME NADB-DESC

☐ NO PROC NAME SMSAFILEISAM

BLOCKING

☒ BLOCKED: 615 ☒ CHARACTERS ☐ RECORDS PER BLOCK

☐ UNBLOCKED

RECORD SIZE

☒ FIXED LENGTH: 615 CHARACTERS

☐ VARIABLE LENGTH: _____ THROUGH _____ CHARACTERS

KEY (IF APPLICABLE)

4 CHARACTERS LONG

CONTENT: SMSA NUMBER

RECORDING MODE

☒ INTERNAL ☐ F ☐ AN

☐ COMPACT ☐ U ☐ AN

☐ CFH ☐ V ☐ AN

☐ _____

FILE AVAILABILITY

☐ RESTRICTED

☒ PERMANENT

☐ TEMPORARY

☐ _____

STORAGE MEDIUM

☒ DISK

☐ TAPE ☐ LABELED ☐ UNLABELED

☐ CARDS

☐ _____

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: NAØ38 (PROGRAM NAME)

FILE SIZE: 1 Track AS OF 1Ø/7/75

UPDATE FREQUENCY: Whenever needed (TIME INTERVAL)

ANTICIPATED GROWTH: None ☐ RECORD ☐ TRACKS ☐ _____ PER _____

FILE BACKUP

TYPE: ☐ NONE ☒ SYSTEM ☐ SPECIAL

MEDIUM: ☐ CARDS ☐ TAPE ☐ DISK

LOCATED AT: _____

FILE NAME: _____

FREQUENCY: _____

NUMBER OF GENERATIONS KEPT:

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
AERO-SMSA-NM	SMSA-REC

APPLICATION	DATE	PAGE 1 OF 1
AERO		

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	615	615		SMSA-REC	RECORD NAME
			X(41)	SMSA-NME	OCCURS 15 TIMES STANDARD METROPOLITAN AREA.

7.2.1.4 AERO-STEAQCR

FILE DESCRIPTION AND USE

NADB*AERO-STEAQCR is an indexed sequential file containing an AQCR number, a twelve character site identifier, and a single blank. The key is the AQCR-site identifier.

USE: This file is used primarly in AQCR-oriented site retrievals such as the Emissions/Air Quality Report.

FILE TYPE

- ☐ SDF
  - ☐ PRINT FILE
  - ☐ PUNCH FILE
  - ☐ _____
- ☒ ASCII COBOL
  - ☐ SEQUENTIAL
  - ☐ DIRECT
  - ☒ INDEXED - SEQUENTIAL
- ☐ FORTRAN
  - ☐ FORMATTED
  - ☐ UNFORMATTED
  - ☐ _____
- ☐ OTHER _____

CATALOGUED FILE DESCRIPTION

- ☐ YES: FILE NAME _____
- ☒ NO PROC NAME _____

BLOCKING

- ☒ BLOCKED: 66 ☐ CHARACTERS ☒ RECORDS PER BLOCK
- ☐ UNBLOCKED

RECORD SIZE

- ☒ FIXED LENGTH: 16 CHARACTERS
- ☐ VARIABLE LENGTH: _____ THROUGH _____ CHARACTERS

KEY (IF APPLICABLE)

15 CHARACTERS LONG

CONTENT: AQCR-state-area-site-agency-project

RECORDING MODE

- ☒ INTERNAL ☐ F ☐ AN
- ☐ COMPACT ☐ U ☐ AN
- ☐ CFH ☐ V ☐ AN
- ☐ _____

FILE AVAILABILITY

- ☐ RESTRICTED
- ☒ PERMANENT
- ☐ TEMPORARY
- ☐ _____

STORAGE MEDIUM

- ☒ DISK
- ☐ TAPE ☒ LABELED ☐ UNLABELED
- ☐ CARDS
- ☐ _____

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: NA041B (PROGRAM NAME)

FILE SIZE: _____ AS OF _____

UPDATE FREQUENCY: Monthly (TIME INTERVAL)

ANTICIPATED GROWTH: Small ☐ RECORD ☐ TRACKS ☐ _____ PER _____

FILE BACKUP

TYPE: ☐ NONE ☒ SYSTEM ☐ SPECIAL

MEDIUM: ☐ CARDS ☐ TAPE ☐ DISK

LOCATED AT: _____

FILE NAME: _____

FREQUENCY: _____

NUMBER OF GENERATIONS KEPT:

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
AERO-STEAQCR	AQCRFILE-RECORD

APPLICATION	DATE	PAGE 2 OF 2
SAROAD		

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	16	16		AQCRFILE-RECORD	Record
1	16	16	X(16)	FILLER	AQCR + SITE IDENTIFICATION and 1 blank AQCR (3) STATE (2) AREA (4) SITE (3) AGENCY (1) PROJECT (2) 1 BLANK

7.2.1.5 AERO-FPC-SUM

FILE NAME: NADB*AERO-FPC-SUM. (NADB*AERO-FPC-SBK. is used when this is an output file.)

ABSTRACT:
The tapes described by this file name contain the summary file of FPC Form 67 data from 1969 to the latest year included in the file. Records are sorted by company code, plant code, page, sheet, line and column of the form and year.

USES:
The file is used as input to program AEØ32 to produce an updated summary file and as input to program AE2Ø3 which generates reports displaying all data in the file for selected plants.

MEDIA AND AVAILABILITY:
File Media Tape x Disk____ Cards____

File Availability: Permanent Mounted____ Restricted Use____

FILE CHARACTERISTICS:
Label Usage: Standard x Non-Standard____ Unlabeled____

Record Format: Blocked x Unblocked____ Blocksize 90 records

Record Type____ Record Size 80 characters

ORGANIZATION AND STRUCTURE:
ORGANIZATION SEQUENTIAL, ACCESS MODE SEQUENTIAL Records are in ascending order by company code, plant code, page, sheet, line, column, and year. Record layout appears on the following page.

SIZE AND ANTICPATED GROWTH:
The summary file containing data for 1969 to 1971 consists of two 2400-inch tape reels. It is estimated that one additional reel will be required for each additional year's data included in the summary file.

UPDATED FREQUENCY:
Annually when a new tape of FPC Form 67 data is received.

BACKUPS:
The file can be recreated by rerunning program AEØ32 with the previous edition of this file and the latest update tape.

ASSOCIATED PROGRAMS:
AEØ32 - produces an updated summary file
AE203 - generates reports displaying all data in the file

COMMENTS:
When created as output to AE032, this file (NADB*AERO-FPC-SBK.) is assigned with options T and F so that the file may be assigned as NADB*AERO-FPC-SUM. for input and only reel-number verification will occur.

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION	INTERNAL FILE NAME
NADB*AERO-FPC-SUM.	INPUT-RECORD	INPUT-FILE

APPLICATION	DATE	PAGE 1 OF 1
AE2Ø3	January 31, 1975	

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	70	70		INFO	Information on tape record.
1	4	4	X(4)	YEAR	Year of report.
5	8	4	X(4)	FILLER	'1215'
9	14	6	X(6)	COMPANY	FPC company code.
15	15	1	X	FILLER	'-'
16	19	4	X(4)	PLANT	FPC plant code.
20	26	7		ITEM-NO	Data item in Form 67.
20	21	2	99	PAGE-NO	Page in Form 67.
22	23	2	99	SHEET	Sheet in Form 67.
24	25	2	99	LINE-NO	Line in Form 67.
26	26	1	X	COL	Column in Form 67.
27	27	1	X	COL-27	Marks footnote record
28	28	1	X	COL-28	Type of data field.
29	70	42	X(42)	DATA-FIELD	Value of data item.
29	70	42		FOOT-NOTE-RECORD	Part of footnote text.
29	30	2	99	FT-NOTE-PART	Number of part.
31	70	40	X(40)	FT-NOTE	Text.
71	79	9	X(9)	FILLER	Record sequence number.
80	80	1	X	COL-80	Marks non-standard data.

7.2.1.6 AERO-FPC-NED

FILE NAME: NADB*AERO-FPC-NED

ABSTRACT:
Table of correspondences between FPC steam generating plant codes and NEDS point-IDs giving Source Classification Codes, ownership codes, Standard Industrial Classification codes, Air Quality Control Region numbers and UTM zones and coordinates where known and reason for any uncertainties.

USES:
Used by program AE2Ø3 to select FPC company and plant codes corresponding to any NEDS selection criteria.

MEDIA AND AVAILABILITY:
File Media Tape____ Disk x Cards____

File Availability: Permanent Mounted____ Restricted Use____

File Characteristics:
Label Usage: Standard x Non-Standard____ Unlabeled____

Record Format: Blocked x Unblocked____ Blocksize 90 records

Record Type____ Record Size 55 characters

ORGANIZATION AND STRUCTURE:
ORGANIZATION IS SEQUENTIAL. ACCESS MODE IS SEQUENTIAL. Record layout appears on next page.

SIZE AND ANTICPATED GROWTH:
Current size is 2730 records. Requires one additional record for each point added to FPC system.

UPDATED FREQUENCY:
Updated only when additional points are added to FPC system or additional information about correspondences is obtained.

BACKUPS:
Cards.

ASSOCIATED PROGRAMS:
AE2Ø3, AEØ34 (loads file)

COMMENTS:

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION	INTERNAL FILE NAME
NADB*AERO-FPC-NED.	LOOKUP-TABLE	LOOKUP-FILE

APPLICATION	DATE	PAGE 1 OF 2
AE2Ø3	January 31, 1975	

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	10	10		FPC-CODE	Federal Power Commission Company Plant Code.
1	6	6	X(6)	COMPANY-CODE	Code for power company.
7	10	4	XXXX	PLANT-CODE	Code for power plant.
11	12	2	XX	BOILER	Boiler number.
13	14	2	XX	PROBLEM-CODE	One or two codes for reason for uncertainty in correspondence.*
15	26	12		NEDS-CODE	NEDS point identification for boiler.
15	16	2	XX	STATE-NO	State code.
17	20	4	XXXX	COUNTY-NO	County code.
21	24	4	XXXX	PLANT-NO	Plant code.
25	26	2	XX	POINT-NO	Point code.
27	34	10		ACC-CODE	Source Classification Code.
27	27	1	X	I-CODE	Sub-field I.
28	29	2	XX	II-CODE	Sub-field II.
30	32	3	XXX	III-CODE	Sub-field III.
33	34	2	XX	IV-CODE	Sub-field IV.
35	37	3	XXX	AQCR-CODE	Air Quality Control Region Number.
38	38	1	X	OWNERSHIP	Code for type of ownership.

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
NADB*AERO-FPC-NED.	LOOKUP-TABLE

APPLICATION	DATE	PAGE 2 OF 2
AE2Ø3	January 31, 1975	

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
39	42	4	XXXX	SIC-CODE	Standard Industrial Classification.
43	44	4	XX	UTM-ZONE	UTM zone.
45	54	10		UTM-COORDINATES	UTM coordinates.
45	49	5	9(5)	EASTING	UTM easting x 10 (i.e. no decimal point)
50	54	5	9(5)	NORTHING	UTM northing x 10 (i.e. no decimal point)
55	55	1	X	EST-CODE	Code for Estimation Method (not used)

*See following page for list of codes and their explanations.

The following codes appearing in column 13 or 14 of the NADB*AERO-FPC-NED record represent notes on the point-boiler correspondences and reasons for any uncertainties. The explanations are printed by the report program, AE2Ø3.

Code	Explanation
A	More point sources than boilers
B	Boiler not in NEDS printout
C	County not in NEDS printout
D	Plant not in NEDS printout
E	More boilers than point sources
F	Boilers combimed as one point
G	Point ID missing from NEDS printout
H	No FPC info available
I	Point coded as boiler. Actually a combustion turbine.
J	Name incorrect in NEDS printout
K	Boiler listed on two sheets
L	Boiler retired or on cold standby
M	Discrepancy between boiler nos. in FPC form
N	FPC lists plant in another county
O	Several boilers on same sheet
P	Data on page 9 in FPC form does not match NEDS
Q	New plant
R	Two plants on same FPC form-same code
S	Two plants with same name and location
T	Two plants at one station
U	Company not in NEDS printout
X	Correspondence not certain

7.2.2.1 USERFILE

WARNING: NADB*NEDS-USER. CONTAINS CONFIDENTIAL DATA. EACH USER IS INDIVIDUALLY RESPONSIBLE FOR ASSURING THAT THESE DATA ARE NOT RELEASED OUTSIDE THE AGENCY.

AEROS FILE DESCRIPTION

QUALIFIER	FILE NAME	DATE
NADB	NEDS-USER	June, 1975

FILE DESCRIPTION AND USE

This file contains emissions in tons/year of five criteria pollutants (particulate, SO_x, NO_x, HC, CO) from point- and area-source, including estimated and calculated emissions. The first record (key = all zeros) contains the file creation date. Each state is preceeded by a dummy record (key = all zeros except state code) for use in positioning the file. Contains stack parameters, UTM coordinates and various other items of descriptive infromation about plants, points and source classification codes.

The file is used by NEØØ1A to create a selected subfile and by numerous NEDS reporting programs.

FILE TYPE

- [ ] SDF
  - [ ] PRINT FILE
  - [ ] PUNCH FILE
  - [ ] _____
- [X] ASCII COBOL
  - [ ] SEQUENTIAL
  - [ ] DIRECT
  - [X] INDEXED-SEQUENTIAL
- [ ] FORTRAN
  - [ ] FORMATTED
  - [ ] UNFORMATTED
  - [ ] _____
- [ ] OTHER _____

STORAGE MEDIUM

- [X] DISK
- [ ] TAPE { [X] LABELED / [ ] UNLABELED }
- [ ] CARDS
- [ ] _____

FILE AVAILABILITY

- [ ] RESTRICTED
- [X] PERMANENT
- [ ] TEMPORARY
- [ ] _____

CATALOGED FILE DESCRIPTION

- [X] NO
- [ ] YES: FILE NAME _____ PROC NAME _____

RECORDING MODE

- [X] INTERNAL
- [ ] COMPACT
- [ ] CFH
- [ ] F [ ] AN
- [ ] U [ ] AN
- [ ] V [ ] AN

RECORD SIZE

- [X] FIXED LENGTH: 552 CHARACTERS
- [ ] VARIABLE LENGTH: _____ THRU _____ CHARACTERS

BLOCKING

- [ ] UNBLOCKED
- [X] BLOCKED: 6 [ ] CHARACTERS [X] RECORDS } PER BLOCK

KEY (IF APPLICABLE)

23 CHARACTERS LONG

CONTENT: State (2), County (4), AQCR* (3), Plant (4), Point (2), SCC (8).

*Point-source records contain '999' in this field.

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: NEØ28 (PROGRAM NAME)

FILE SIZE: 151 Positions AS OF 6 June 1975

UPDATE FREQUENCY: 1 Month (TIME INTERVAL)

ANTICIPATED GROWTH: 5% [X] RECORD [ ] TRACKS PER Year

FILE BACKUP

TYPE: [X] NONE MEDIUM: [ ] CARDS LOCATED AT: _____

AEROS FILE DESCRIPTION (Continued)
NEDS-USER
COMMENTS

There is one "dummy" point ('P') record at the beginning of each state sequence on file and one at the end of the file. Its record key is '99000 000000000000000000' where the 99 is replaced by the state code. The first record for each county within a state is an area source; it can be followed by any number of point source records. This sequence is repeated for each state until a dummy record with a state number of 99 is reached; this record indicates the end of file.

The first record in the file and for each state is a dummy record and contains the date of creation. This record beginsin position 36. The remaining positions of the identification file contains zeros allowing the user thru the COBOL 'start' command, by later programs, to access the first record and the following records for any state. The last record on NEDS-USER is a dummy point record that contains 99 for the state identification.

AREA RECORDS

KEY IS:	STATE	2 CHARACTERS	State Code
	COUNTY	4 CHARACTERS	County Code
	AQCR	3 CHARACTERS	AQCR Code
	PLANT	4 CHARACTERS	Contains Zeros
	POINT	2 CHARACTERS	Contains Zeros
	SCC	8 CHARACTERS	Contains Zeros

POINT RECORDS

KEY IS:	STATE	2 CHARACTERS	State Code
	COUNTY	4 CHARACTERS	County Code
	AQCR	3 CHARACTERS	Contains 9's
	PLANT	4 CHARACTERS	Plant Code
	POINT	2 CHARACTERS	Point Code
	SCC	8 CHARCTERS	SCC Code

EXAMPLE:

KEY	PLANT-NAME-ADDR
0100000-0000	Date File Was Created
0200000-0000	Date File Was Created

NEDS-USER FILE | AREA RECORD

APPLICATION: NEDS | DATE | PAGE 1 OF 11

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	8	8	x(8)	NUA-FILLER	Unused
9	9	1	X	NUA-KEY-IND	Indicates area record
10	11	2	9(2)	NUA-KEY-ST	State code
12	15	4	9(4)	NUA-KEY-CNTY	County code
16	18	3	9(3)	NUA-KEY-AQCR	AQCR number
19	32	14	X(14)	NUA-KEY-FILLER	spaces
33	33	1	9	NUA-NXT-REC	next record code
34	36	3	9(3)	NUA-AQCR	AQCR number
37	38	2	9(2)	NUA-YEAR	Year of record
39	43	5	9(5)	NUA-EST-EMIS-PART	Emission Estimate for particulates (10^2 tons)
4	48	5	9(5)	NUA-EST-MIS-SO	Emission Estimate for SO_2 (10^2 tons)
49	52	4	9(4)	NUA-EST-EMIS-NO	Emission Estimate for NO_x (10^2 tons)
53	57	5	9(5)	NUA-EST-EMIS-HC	Emission Estimate for HC (10^2 tons)
58	62	5	9(5)	NUA-EST-EMIS-CO	Emission Estimate for CO (10^2 tons)
63	64	2	9V9	NUA-SC-ANT	sulfur content for anthracite coal (%)
65	66	2	9V9	NUA-SC-BIT	sulfur content for bituminous coal (%)
67	68	2	9V9	NUA-SC-DO	sulfur content for distillate oil (%)
69	70	2	9V9	NUA-SC-RO	sulfur content for residual oil (%)
71	73	3	9(2)V9	NUA-AC-ANT	ash content for anthracite coal (%)
74	76	3	9(2)V9	NUA-AC-BIT	ash content for bituminous coal (%)

FILE NAME/DESCRIPTION: NEDS-USER FILE

RECORD NAME/DESCRIPTION: AREA RECORD (continued)

APPLICATION: NEDS

DATE: -

PAGE 2 OF 11

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
77	80	4	9(4)	NUA-RES-FUEL-ANT	residential fuel - anthracite coal (10^1 tons) ??
81	85	5	9(5)	NUA-RES-FUEL-BIT	residential fuel - bituminous coal (10^1 tons)
86	90	5	9(5)	NUA-RES-FUEL-DO	residential fuel - distillate oil (10^4 gallons)
91	95	5	9(5)	NUA-RES-FUEL-RO	residential fuel - residual oil (10^4 gallons)
96	100	5	9(5)	NUA-RES-FUEL-GAS	residential fuel - natural gas (10^7 cu. ft.)
101	104	4	9(4)	NUA-RES-FUEL-WD	residential fuel - wood (10^2 tons)
105	109	5	9(5)	NUA-C-I-ANTH	commercial and institutional fuel - anthracite coal (10^1 tons)
110	114	5	9(5)	NUA-C-I-BIT	commercial and institutional fuel - bituminous coal (10^1 tons)
115	119	5	9(5)	NUA-C-I-DIST	commercial and institutional fuel - distillate oil (10^4 gallons)
120	124	5	9(5)	NUA-C-I-RESID	commercial and institutional fuel - residual oil (10^4 gallons)
125	128	4	9(4)	NUA-C-I-GAS	commercial and institutional fuel - natural gas (10^7 feet)
129	130	2	9(2)	NUA-C-I-WD	commercial and institutional fuel - wood (10^2 tons)

NEDS-USER FILE | AREA RECORD (continued)

APPLICATION NEDS | DATE | PAGE 3 OF 11

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
131	136	6	9(6)	NUA-INDUS-FUEL-ANT	industrial fuel - anthracite coal (10^1 tons)
137	142	6	9(6)	NUA-INDUS-FUEL-BIT	industrial fuel - bituminous coal (10^1 tons)
143	146	4	9(4)	NUA-INDUS-FUEL-COKE	industrial fuel - coke (10^1 tons)
147	151	5	9(5)	NUA-INDUS-FUEL-DIST	industrial fuel - distillate oil (10^4 gallons)
152	156	5	9(5)	NUA-INDUS-FUEL-RES	industrial fuel - residual oil (10^4 gallons)
157	161	5	9(5)	NUA-INDUS-FUEL-NG	industiral fuel - natural gas (10^7 ft.^{3})
162	164	3	9(3)	NUA-INDUS-FUEL-WOOD	industrial fuel - wood (10^2 tons)
165	168	4	9(4)	NUA-INDUS-FUEL-GAS	industrial fuel - process gas (10^7 ft.^{3})
169	174	6	9(6)	NUA-RESIDENTIAL-OCI	residential on site incineration (10^1 tons)
175	179	5	9(5)	NUA-INDUS-OCI	industrial on site incineration (10^2 tons)
180	183	4	9(4)	NUA-C-I-OCI	commercial and institutional on site incineration (10^2 tons)
184	189	6	9(6)	NUA-RESIDENTIAL-OB	residential open burning (10^2 tons)
190	195	6	9(6)	NUA-INDUS-OB	industrial open burning (10^2 tons)
196	201	6	9(6)	NUA-C-I-OB	commercial and institutional open burning (10^2 tons)
202	208	7	9(7)	NU-GAS-FUEL-LT-VEH	gasoline fuel - light vehicle (10^3 gallons)

NEDS-USER FILE | AREA RECORD (continued)

APPLICATION: NEDS | DATE | PAGE 4 OF 11

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
209	213	5	9(5)	NUA-FUEL-HV-VEH	gasoline fuel-heavy vehicle (10^3 gallons)
214	218	5	9(5)	NUA-GAS-FUEL-OH	gasoline fuel-off highway (10^3 gallons)
219	223	5	9(5)	NUA-D-FUEL-HV	diesel fuel-heavy vehicle (10^3 gallons)
224	226	3	9(3)	NUA-D-FUEL-OH	diesel fuel-off highway (10^4 gallons)
227	231	5	9(5)	NUA-D-FUEL-RAIL	diesel fuel - railroad locomotive (10^4 gallons)
232	235	4	9(4)	NUA-CNTY-POP	county population (10^3)
236	236	1	9	NUA-DENSITY-CD	density code
237	240	4	9(4)	NUA-MIL-AIRC	military aircraft-LTO cycles (10^2)
241	245	5	9(5)	NUA-CIV-AIRC	civil aircraft-LTO cycles (10^1)
246	250	5	9(5)	NUA-COMM-AIRC	commercial aircraft-LTO cycle (10^1)
251	254	4	9(4)	NUA-VES-FUEL-ANT	vessels-anthracite coal (10^1 tons)
255	258	4	9(4)	NUA-VES-FUEL-DIES	vessels-diesel oil (10^4 gallons)
259	263	5	9(5)	NUA-VES-FUEL-RESID	vessels-residual oil (10^4 gallons)
264	267	4	9(4)	NUA-VES-FUEL-GAS	vessels-gasoline (10^3 gallons)
268	273	6	9(6)	NUA-EVAP-SOLVENT	evaporation-solvent purchase (tons/year)
274	278	5	9(5)	NUA-EVAP-GAS	evaporation-gasoline markets (10^5 gallons)
279	284	6	9(6)	NUA-VEH-MI-LAR	measured vehicle miles-limited access rds. (10^4 m

NEDS-USER FILE | AREA RECORD (continued)

APPLICATION: NEDS | DATE: | PAGE 5 OF 11

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
285	290	6	9(6)	NUA-VEH-MI-RUR-RD	measured vehicle miles-rural roads (10^4 miles)
291	296	6	9(6)	NUA-VEH-MI-SUR-RD	measured vehicle miles-suburban roads (10^4 mile
297	303	7	9(7)	NUA-VEH-MI-URBAN-RD	measured vehicle miles-urban roads (10^4 miles)
304	310	7	9(7)	NUA-DIRT-ROADS	dirt roads traveled (10^3 miles)
311	315	5	9(5)	NUA-LTO-DIRT	dirt air strips - LTO cycle
316	320	5	9(5)	NUA-CONST-AREA	construction land area (10^3 acres)
21	325	5	9(5)	NUA-ROCK-H-S	rock handling and storing (10^3 tons)
326	332	7	9(7)	NUA-FOR-FIRES-AREA	forest fires area (acre
333	335	3	9(3)	NUA-FF-QU	forest fires quantity (tons/acre)
336	341	6	9(6)	NUA-SLASH-BRN-AREA	slash burning area (acr
342	344	3	9(3)	NUA-SB-SQ	slash burning quantity (tons/acres)
345	348	4	9(4)	NUA-ORCH-HTR	frost control-orchard heaters (10^2)
349	351	3	9(2)V9	NUA-DA-FIR	frost control-days fire (days/year)
352	355	4	9(4)	NUA-STRUCT-FIR	structure fires (#/year
356	361	6	9(6)	NUA-COAL-REF-BRN	coal refuse burning-size of bank (10^2 yard^3
362	364	4	9(4)	NUA-CRB-PD-YR	coal refuse burning - (#/year)
65	432	67	x(67)	NUA-COMMENTS	area source comments
433	442	10	9(7)V9(3)	NUA-PARTICULATE-EMIS	particulate emissions (tons/year)

FILE NAME/DESCRIPTION
NEDS-USER FILE

RECORD NAME/DESCRIPTION
AREA RECORD (continued)

APPLICATION
NEDS

DATE

PAGE 6 OF 11

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
443	452	10	9(7)V9(3)	NUA-SO-EMIS	SO_2 emissions (tons/year
453	462	10	9(7)V9(3)	NUA-NO-EMIS	NO_x emissions (tons/year
463	472	10	9(7)V9(3)	NUA-HC-EMIS	HC emissions (tons/year)
473	482	10	9(7)V9(3)	NUA-CO-EMIS	CO emissions (tons/year)
483	552	70	X(70)	NUA-RESERVED	reserved for up to seven additional pollutants

NEDS-USER FILE | POINT RECORD

APPLICATION: NEDS | DATE: | PAGE 7 OF 11

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	8	8	X(8)	NUP-FILLER	Unused
9		1	X	NUP-KEY-IND	defines point record
10	11	2	9(2)	NUP-KEY-ST	state code
12	15	4	9(4)	NUP-KEY-CNTY	county code
16	18	3	X(3)	NUP-KEY-AQCR	9's filler
19	22	4	9(4)	NUP-KEY-PLANT	plant identification #
23	24	2	9(2)	NUP-KEY-POINT	point identification #
25	32	8	9(8)	NUP-KEY-SCC	source classification #
33	33	1	9	NUP-NXT-REC	next record code
34	36	3	9(3)	NUP-AQCR	AQCR number
37	38	2	9(2)	NUP-YEAR	year of record
[illegible]	42	4	9(4)	NUP-CITY	city code
[illegible]3	44	2	9(2)	NUP-UTM-Z	utm zone
45	84	40	X(40)	NUP-NAME-ADDR	establishment name and address
85	96	12	X(12)	NUP-PERSONAL-CONT	personal contact
97		1	X	NUP-OWNER-C	ownership code
98	99	2	9(2)	NUP-YROFREC-1	year of record
100	103	4	9(4)	NUP-SIC-CODE	standard industrial classification code
104	105	2	9(2)	NUP-IPP-PR	IPP process code
106	109	4	9(3)V9	NUP-UTM-X	horizontal utm coordinat (km)
110	114	5	9(4)V9	NUP-UTM-Y	vertical utm coordinate (km)
115	118	4	9(4)	NUP-STACK-HT	stack height (ft)
119	121	3	9(2)V9	NUP-ST-D	stack diameter (ft)
122	125	4	9(4)	NUP-STACK-T	stack temperature (^oF)
126	132	7	9(7)	NUP-FLOW-RATE	flow rate (ft^3/min.)
133	136	4	9(4)	NUP-PLUME-HT	plume height
137	138	2	9(2)	NUP-MB-1	first multiple boiler code

FILE NAME/DESCRIPTION: NEDS-USER FILE

RECORD NAME/DESCRIPTION: POINT RECORD

APPLICATION: NEDS

DATE:

PAGE 8 OF 11

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
139	140	2	9(2)	NUP-MB-2	last multiple boiler code
141	142	2	9(2)	NUP-YROFREC-2	year of record
143	147	5	9(5)	NUP-BOIL-DES-CAP	boiler design capacity (10^6 BTU/hr)
148	150	3	9(3)	NUP-C-E-PART-1	primary control equipment particulates
151	153	3	9(3)	NUP-C-E-PART-2	secondary control equipment particulates
154	156	3	9(3)	NUP-C-E-SO-1	primary control equipment SO_2
157	159	3	9(3)	NUP-C-E-SO-2	secondary control equipment SO_2
160	162	3	9(3)	NUP-C-E-NO-1	primary control equipment NO_x
163	165	3	9(3)	NUP-C-E-NO-2	secondary control equipment NO_x
166	168	3	9(3)	NUP-C-E-HC-1	primary control equipment HC
169	171	3	9(3)	NUP-C-E-HC-2	secondary control equipment HC
172	174	3	9(3)	NUP-C-E-CO-1	primary control equipment CO
175	177	3	9(3)	NUP-C-E-CO-2	secondary control equipment CO
178	180	3	9(2)V9	NUP-ECE-PART	estimated control efficiency particulates (%)
81	183	3	9(2)V9	NUP-ECE-SO	estimated control efficiency SO_2(%)
184	186	3	9(2)V9	NUP-ECE-NO	estimated control efficiency NO_x (%)

FILE NAME/DESCRIPTION: _DS-USER FILE

RECORD NAME/DESCRIPTION: POINT RECORD

APPLICATION: NEDS

DATE:

PAGE 9 OF 11

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
187	189	3	9(2)V9	NUP-ECE-HC	estimated control efficiency HC (%)
190	192	3	9(2)V9	NUP-ECE-CO	estimated control efficiency CO (%)
193	194	2	9(2)	NUP-YR	year of record
195	196	2	9(2)	NUP-PERC-WIN	% annual thruput (Dec-Feb)
197	198	2	9(2)	NUP-PERC-SPG	%annual thruput (Mar - May)
199	200	2	9(2)	NUP-PERC-SUM	%annual thruput (June - Aug)
1	202	2	9(2)	NUP-PERC-FAL	%annual thruput (Sept - Nov)
203	204	2	9(2)	NUP-NO-HR-DA	normal operating hours per day
205	205	1	9	NUP-NO-HR-WK	normal operating hours per week
206	207	2	9(2)	NUP-NO-HR-YR	normal operating per year
208	214	7	9(7)	NUP-EMIS-EST-PART	estimated emissions-particulates (tons/year
215	221	7	9(7)	NUP-EMIS-EST-SO	estimated emissions-SO_2 (tons/year)
222	228	7	9(7)	NUP-EMIS-EST-NO	estimated emissions-NO_x (tons/year)
229	235	7	9(7)	NUP-EMIS-EST-HC	estimated emissions-HC (tons/year)
236	242	7	9(7)	NUP-EMIS-EST-CO	estimated emissions-CO (tons/year)
243	243	1	9	NUP-EST-METH-PAR	estimation method-Particulate

NEDS-USER FILE | POINT RECORD

APPLICATION: NEDS | DATE: - | PAGE 10 OF 11

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
244	244	1	9	NUP-EST-METH-SO	estimation method-SO
245	245	1	9	NUP-EST-METH-NO	estimation method-NO
246	246	1	9	NUP-EST-METH-HC	estimation method HC
247	247	1	9	NUP-EST-METH-CO	estimation method CO
248	250	3	9(2)V9	NUP-PERC-S-HEAT	% space heat
251	252	2	9(2)	NUP-YROFREC-2	year of record
253	259	7	9(7)	NUP-ALLOW-EMIS-PART	allowable emissions- particulates (tons/y
260	266	7	9(7)	NUP-ALLOW-EMIS-SO	allowable emissions- (tons/year)
267	273	7	9(7)	NUP-ALLOW-EMIS-NO	allowable emissions-((tons/year)
274	280	7	9(7)	NUP-ALLOW-EMIS-HC	allowable emissions-((tons/year)
281	287	7	9(7)	NUP-ALLOW-EMIS-CO	allowable emissions-((tons/year)
288	288	1	9	NUP-COMPL-STATUS	compliance status
289	290	2	9(2)	NUP-COMPL-SCH-YR	compliance schedule-y
291	292	2	9(2)	NUP-COMPL-SCH-MO	compliance schedule-m
293	294	2	9(2)	NUP-COMPL-SCH-YR	compliance status upc - year
295	296	2	9(2)	NUP-STAT-UP-MO	compliance status upc - month
297	298	2	9(2)	NUP-C-STAT-UP-DA	compliance status update - day
299	299	1	9	NUP-ECAP-STAT	emergency control act program status
300	303	4	X(4)	NUP-REG-1	control regulation #1
304	307	4	X(4)	NUP-REG-2	control regulation #2
308	311	4	X(4)	NUP-REG-3	control regulation #3
312	313	2	9(2)	NUP-YROFREC-3	year of record

FILE NAME/DESCRIPTION: NEDS-USER-FILE

RECORD NAME/DESCRIPTION: POINT RECORD

APPLICATION: NEDS

DATE:

PAGE 11 OF 11

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
314	320	7	9(7)	NUP-OPER-RATE	fuel, process, solid waste operating rate
321	327	7	9(4)V9(3)	NUP-MAX-D-RATE	maximum design rate
328	330	3	9v9(2)	NUP-PERC-SUL-CONT	% sulfur content
331	333	3	9(2)V9	NUP-PERC-ASH-CONT	% ash content
334	338	5	9(5)	NUP-HEAT-CONT	heat content (10^6 btu)
339	358	20	X(20)	NUP-COMMENTS	comments
359	359	1	X	NUP-SOURCE-CO	source code
360	360	1	9	NUP-CONFIDENTIAL	confidentiality of data
361	432	72	X(72)	FILLER	spaces
433	442	10	9(7)V9(3)	NUP-PAR-EMIS	particulate emissions (tons/year)
443	452	10	9(7)V9(3)	NUP-SO-EMIS	SO_2 emissions (tons/yr)
453	462	10	9(7)V9(3)	NUP-NO-EMIS	NO_x emissions (tons/yr)
463	472	10	9(7)V9(3)	NUP-HC-EMIS	HC emissions (tons/year)
483	552	70	X(70)	NUP-RESERVED	reserved for up to seven additional pollutants

FILE NAME/DESCRIPTION: NEDS-USER FILE

RECORD NAME/DESCRIPTION: POINT DATE RECORD

APPLICATION: NEDS

DATE: October 1975

PAGE 1 OF 1

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	8	8	X(8)	NUPD-FILLER	Unused
9	9	1	X	NUPD-KEY-IND	defines point record
10	11	2	9(2)	NUPD-KEY-ST	state code
12	15	4	9(4)	NUPD-KEY-CNTY	county code
16	18	3	X(3)	NUPD-KEY-AQCR	9's filler
19	22	4	9(4)	NUPD-KEY-PLANT	plant identification
23	24	2	9(2)	NUPD-KEY-POINT	point identification
25	32	8	9(8)	NUPD-KEY-SCC	source classification
33	33	1	9	NUPD-NXT-REC	next record code
34	36	3	9(3)	NUPD-AQCR	AQCR number
37	38	2	9(2)	NUPD-YEAR	year of record
39	42	4	9(4)	NUPD-CITY	city code
43	44	2	9(2)	NUPD-UTM-Z	utm zone
45	84	40	X(40)	NUPD-DATE	Date of Creation: DAY, MONTH DAY, YEAR Example: Friday, October 24,197
85	552	467	X(467)	FILLER	NOT USED

7.2.2.2 NEDS-SUBFILE

AEROS FILE DESCRIPTION

QUALIFIER	FILE NAME	DATE
Not Applicable	NEDS-SUBFILE	June, 1975

FILE DESCRIPTION AND USE

This is a temporary tape subfile containing area-source and/or point-source records selected from the NEDS-USER file by program NEØØ1A and sorted by NEØØ1B. Preceeding the data records are two header records and one or more select records which describe the selection/sort parameters.

The file is for use by NEDS reporting programs.

FILE TYPE

- [ ] SDF
  - [ ] PRINT FILE
  - [ ] PUNCH FILE
  - [ ] _____
- [X] ASCII COBOL
  - [X] SEQUENTIAL
  - [ ] DIRECT
  - [ ] INDEXED-SEQUENTIAL
- [ ] FORTRAN
  - [ ] FORMATTED
  - [ ] UNFORMATTED
  - [ ] _____
- [ ] OTHER _____

STORAGE MEDIUM

- [ ] DISK
- [X] TAPE { [ ] LABELED / [X] UNLABELED
- [ ] CARDS
- [ ] _____

FILE AVAILABILITY

- [ ] RESTRICTED
- [ ] PERMANENT
- [X] TEMPORARY
- [ ] _____

CATALOGED FILE DESCRIPTION

- [ ] NO
- [X] YES: FILE NAME NADB*NADB-DESC
  PROC NAME SUBFILENEDS

RECORDING MODE

- [X] INTERNAL
- [ ] COMPACT
- [ ] CFH
- [ ] F [ ] AN
- [ ] U [ ] AN
- [ ] V [ ] AN

RECORD SIZE

- [X] FIXED LENGTH: 552 CHARACTERS
- [ ] VARIABLE LENGTH: _____ THRU _____ CHARACTERS

BLOCKING

- [ ] UNBLOCKED
- [X] BLOCKED: 6 [ ] CHARACTERS [X] RECORDS } PER BLOCK

KEY (IF APPLICABLE)

23 CHARACTERS LONG

CONTENT: STATE/COUNTY/AQCR*/PLANT/POINT/SCC

~~*Point Source records contain '999' in~~ this field.

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: NEØØ1A and NEØØ1B (PROGRAM NAME)

FILE SIZE: Depends on selection AS OF _____

UPDATE FREQUENCY: Re-created each time NEØØ1 is run (TIME INTERVAL)

ANTICIPATED GROWTH: _____ [ ] RECORD [ ] TRACKS PER _____

FILE BACKUP

TYPE: [X] NONE [ ] SYSTEM [ ] SPECIAL

MEDIUM: [ ] CARDS [ ] TAPE [ ] DISK

LOCATED AT: _____

FILE NAME: _____

FREQUENCY: _____

NUMBER OF GENERATIONS KEPT: _____

FILE NAME/DESCRIPTION: .EDS-SUBFILE

RECORD NAME/DESCRIPTION: HEADER-REC1

DESCRIPTION: First record in file; contains control-card parameters

DATE: June, 1975

PAGE 1 OF 2

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	1	1	9(1)	REC-CODE	Code = 1 for header records.
2	8	7	9(7)	REC-NUMBER	Contains 1 for this record (used in sorting the file)
9	9	1	X(1)	FILL-H	Contains "H" for header records
10	10	1	9(1)	POLLUTANT-CODE	Identifies pollutant selected: Ø = all, 1 = Part., 2 = SO_X, 3 = NO_X, 4 = HC, 5 = CO
11	11	1	S9(1)	MIN-VAL-SWITCH	Emission level selectio code: -1 = missing valu Ø = all values, +1 = values ≧ MINIMUM-VALUE
	17	6	9(6)	MINIMUM-VALUE	Minimum annual emission selected (if MIN-VAL-SWITCH = 1)
18	18	1	9(1)	UNIT-SYSTEM	Unit system selected: 1 = Metric, 2 = English
19	19	1	9(1)	SIGNIFICANT-DIGITS	Number of significant digits specified (default = 3)
20	20	1	9(1)	CONFIDENTIALITY	Confidentiality code for selected data
21	21	1	9(1)	SOURCE-TYPE	Type of emission source selected: "A" = area, "P" = point, "B" = both
22	49	28	X(28)	NEDS-USER-DATE	Contains file creation date of NEDS-USER (Day of Week Month Day, Year.)
50	77	28	X(28)	NEDS-SUBFILE-DATE	Contains file creation date of NEDS-SUBFILE (Day of Week Month Day, Year.)

FILE NAME/DESCRIPTION: DS-SUBFILE

RECORD NAME/DESCRIPTION: HEADER-REC1 (continued)

APPLICATION: First record of file; contains control-card parameters

DATE: June, 1975

PAGE 2 OF 2

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
78	209	132	X(132)	REPORT-HEADER-LINE	Line of text for pa header
210	341	132	X(132)	REPORT-HEADER-DATE	Line of text to sho file creation dates
342	552	214	X(211)	FILLER	Not used

FILE NAME/DESCRIPTION: NEDS-SUBFILE

RECORD NAME/DESCRIPTION: HEADER-REC2

APPLICATION: Second record in file contains text describing control card parameters

DATE: June, 1975

PAGE 1 OF 1

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	1	1	9(1)	REC-CODE	Code = 1 header recor
2	8	7	9(7)	REC-NUMBER	Contains 2 for this record (used in sorti the file)
9	9	1	X(1)	FILL-H	Contains "H" for head records
10	141	132	X(132)	CONTROL-PARM-LINE1	Two lines of text suitable for use by reporting programs which describe the co trol card parameters used in selection of data.
142	273	132	X(132)	CONTROL-PARM-LINE2	
274	405	132	X(132)	SORT-LIST-LINE1	Two lines of text sui able for use by repor ing programs which de scribe the sort sequence of the subfi
406	537	132	X(132)	SORT-LIST-LINE2	
538	552	15	X(15)	FILLER	Not used

LE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
NE -SUBFILE	SELECT-REC

PLICATION	DATE	PAGE 1 OF 2
One record per select rd, describes parameters; llows HEADER-REC2 in file	June, 1975	

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	1	1	9(1)	REC-CODE	Code = 2 for select record
2	8	7	9(7)	REC-NUMBER	Contains select card number
9	9	1	X(1)	FILL-S	Contains "S"
10	11	2	X(2)	STATE-CODE	2-digit state code; spaces = all states, 'NA' = nationwide
12	15	4	X(4)	COUNTY-CODE	4-digit county-code; spaces = all counties
16	18	3	X(3)	AQCR-CODE	3-digit AQCR number; spaces = all AQCRs
19	22	4	X(4)	PLANT-CODE	4-digit plant code; spaces = all plants
23	24	8	X(8)	POINT-CODE	2-digit point code; spaces = all points
25	32	8	X(8)	SCC-CODE	8-digit SCC code, four subfields; for any subfield spaces = all values selected
25	25	1	X(1)	SCC1-CODE	
26	27	2	X(2)	SCC2-CODE	
28	30	3	X(3)	SCC3-CODE	
31	32	2	X(2)	SCC4-CODE	
33	33	1	X(1)	OWNERSHIP-CODE	1-character ownership code; spaces = all codes selected
34	37	4	X(4)	SIC-CODE	4-digit SIC code; spaces = all SICs selected
38	38	1	X(1)	ESTIMATION-CODE	1-digit estimation method code; space = all codes selected
39	66	28	X(28)	STATE-NAME	Name of state selected or "ALL STATES" or "NATIONWIDE SELECTION"
67	94	28	X(28)	COUNTY-NAME	Name of county selected or "ALL COUNTIES"
95	149	55	X(55)	AQCR-NAME	Name of AQCR selected or "ALL AQCRS"

FILE NAME/DESCRIPTION: NEDS-SUBFILE

RECORD NAME/DESCRIPTION: SELECT-REC (Continued)

APPLICATION:

DATE: June, 1975

PAGE 2 OF 2

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
15Ø	281	132	X(132)	SELECT-PARM-LINE1	Three lines of text which describe the parameters specified on the select card.
282	413	132	X(132)	SELECT-PARM-LINE2	
414	545	132	X(132)	SELECT-PARM-LINE3	
546	552	7	9(7)	REC-COUNT	Number of records selected by the selec card described by thi record.

NEDS-SUBFILE | POINT-REC

CATION: Same format as NEDS-USER records

DATE: June, 1975

PAGE 1 OF 5

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	552	552		POINT-REC	
1	1	1	9(1)	REC-CODE	Code = 3 for data recor
2	8	7	X(7)	FILL-P	Not used
9	9	1	X(1)	RECORD-TYPE	Contains 'P'
10	11	2	X(2)	STATE	2-digit state code
12	15	4	X(4)	COUNTY	4-digit county code
16	18	3	X(3)	FILLER	Contains '999'
19	22	4	X(4)	PLANT	4-digit plant code
23	24	2	X(2)	POINTT	2-digit point code
25	32	8		SCC.	8-digit SCC code
25	25	1	X(1)	SCC1	Four subfields
26	27	2	X(2)	SCC2	
28	30	3	X(3)	SCC3	
31	32	2	X(2)	SCC4	
33	33	1	X(1)	FILLER	Not used
34	36	3	X(3)	AQCR	3-digit AQCR number
37	38	2	X(2)	YEAR-OF-RECORD-PLANT	2-digit year-date plant info last updated
39	42	4	X(4)	CITY	4-digit city code
43	44	2	X(2)	UTM-ZONE	2-digit UTM zone
45	84	40	X(40)	PLANT-NAME-ADDR	Plant name and address
85	96	12	X(12)	PLANT-CONTACT	Person responsible for filling out NEDS forms
97	97	1	X(1)	OWNERSHIP	Code designating type o ownership of plant
98	99	2	X(2)	YEAR-OF-RECORD-POINT	2-digit year -date poi info last updated
100	103	4	X(4)	SIC	4-digit SIC code
104	105	2	X(2)	IPP	2-digit IPP code
106	109	4	9(3)V9	UTM-EASTING	UTM x-coord (kilometer
110	114	5	9(4)V9	UTM-NORTHING	UTM y-coord (kilometer
115	118	4	9(4)	STACK-HEIGHT	In feet
119	121	3	9(2)V9	STACK-DIAMETER	In feet

FILE NAME/DESCRIPTION: NEDS-SUBFILE

RECORD NAME/DESCRIPTION: POINT-REC (continued)

APPLICATION: NEDS

DATE: June, 1975

PAGE 2 OF 5

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
122	125	4	9(4)	STACK-TEMPERATURE	Stack temperature in degrees F.
126	132	7	9(7)	FLOW-RATE	In cubic feet per minut
133	136	4	9(4)	PLUME-HEIGHT	In feet
137	138	2	X(2)	MULT-BOILER-FIRST	First and last point codes which feed common stack
139	14Ø	2	X(2)	MULT-BOILER-LAST	
141	142	2	X(2)	YR-OF-RECORD-CONTROL	Year control info last updated
143	147	5	9(5)	BOILER-DESIGN-CAP	Mega-BTU per hour
148	177	3Ø		CONTROL EQUIPMENT	3-digit codes for prim and secondary control equipment for particula SO_2, NO_x, HC and CO.
148	15Ø	3	9(3)	PRIMARY-PART	
151	153	3	9(3)	SECONDARY-PART	
154	156	3	9(3)	PRIMARY-SOX	
157	159	3	9(3)	SECONDARY-SOX	
16Ø	162	3	9(3)	PRIMARY-NOX	
163	165	3	9(3)	SECONDARY-NOX	
166	168	3	9(3)	PRIMARY-HC	
169	171	3	9(3)	SECONDARY-HC	
172	174	3	9(3)	PRIMARY-CO	
175	177	3	9(3)	SECONDARY-CO	
148	177	3Ø		CONTROL-EQUIP-RDEF	Redefines Control-Equipment
		6	occurs 5	CONTROL-EQUIP	
		3	9(3)	PRI-CONTROL-EQUIP	
		3	9(3)	SEC-CONTROL-EQUIP	
178	192	15	99V9	CONTROL-EFFICIENCY	Estimated efficiency of control equipment (percent)
178	18Ø	3	99V9	PART	
181	183	3	99V9	SOX	
[illegible]	[illegible]	3	[illegible]	NOX	
[illegible]	[illegible]	3	[illegible]	HC	
19Ø	192	3	99V9	CO	

ODS-SUBFILE | POINT-REC (continued)

APPLICATION: NEDS | DATE: June, 1975 | PAGE 3 OF 5

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
178	192	15		CONTROL-EFFIC-RDEF	Redefines Control-Efficiency
			99V9 occurs 5	CONTROL-EFFIC	
193	194	2	X(2)	YEAR-OF-RECORD-PRODUCTION	Year production info v last updated
195	202	8		PERCENT-ANNUAL-THRUPUT	Percent of annual production which occurs i each of four "quarters
195	196	2	9(2)	WINTER	
197	198	2	9(2)	SPRING	
199	200	2	9(2)	SUMMER	
201	202	2	9(2)	FALL	
5	202	8		PERC-ANNUAL-THRU	Redefines Percent-Annu Thruput
			9(2) occurs 4	PERCENT-THRUPUT	
203	207	5	9(5)	OPERATING-SCHEDULE	Operating rate for th plant/point
203	204	2	9(2)	HOURS-PER-DAY	99 for missing value
205	205	1	9(1)	DAYS-PER-WEEK	9 for missing value
206	207	2	9(2)	WEEKS-PER-YEAR	99 for missing value
208	242	35	9(7)	ESTIMATED-POINT-EMISSIONS	Estimated emissions c each pollutant in ton year
208	214	7	9(7)	PART	
215	221	7	9(7)	SOX	
222	228	7	9(7)	NOX	
229	235	7	9(7)	HC	
236	242	7	9(7)	CO	
208	242	35		EST-POINT-EMISSIONS	Redefines Estimated-Point-Emissions
			9(7) occurs 5	EST-POINT-EMIS	
243	247	5		[illegible]	[illegible] estimated-point [illegible] codes 0 thru 7 curre assigned

NEDS-SUBFILE | POINT-REC (continued)

APPLICATION: NEDS | DATE: June, 1975 | PAGE 4 OF 5

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
243	243	1	X(1)	PART	
244	244	1	X(1)	SOX	
245	245	1	X(1)	NOX	
246	246	1	X(1)	HC	
247	247	1	X(1)	CO	
243	247	5		ESTIMATION-METH	Redefines Estimation-Method
			X(1) occurs 5	ESTIM-METHOD	
248	250	3	99V9	PERCENT-SPACE-HEAT	
251	252	2	X(2)	YEAR-OF-RECORD-REGULATORY	Year regulatory info w last updated
253	287	35	9(7)	ALLOWABLE-EMISSIONS	Maximum allowable emis of each pollutant
253	259	7	9(7)	PART	
260	266	7	9(7)	SOX	
267	273	7	9(7)	NOX	
274	280	7	9(7)	HC	
281	287	7	9(7)	CO	
253	287	35		ALLOWABLE-EMISSION-RDEF	Redefines Allowable Emissions
			9(7) occurs 5	ALLOWABLE-EMIS	
288	288	1	X(1)	COMPLIANCE-STATUS	Code for compliance st
289	292	4	X(4)	COMPLIANCE-DATE	Date for plant to be i compliance
289	290	2	X(2)	COMPLIANCE-YEAR	
291	292	2	X(2)	COMPLIANCE-MONTH	
293	298	6	X(6)	DATE-OF-RECORD-COMPLIANCE	Date compliance info updated
293	294	2	X(2)	COMPLIANCE-UPDATE-YEAR	
295	296	2	X(2)	COMPLIANCE-UPDATE-MONTH	
297	298	2	X(2)	[illegible] DAT	
299	299	1	X(1)	EMERGENCY-CONTROL-STATUS	Code for status of emergency control program

FILE NAME/DESCRIPTION: NEDS-SUBFILE

RECORD NAME/DESCRIPTION: POINT-REC (continued)

APPLICATION: NEDS

DATE: June, 1975

PAGE 5 OF 5

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
300	311	12	X(4)	CONTROL-REGULATIONS	Anything can be entered
300	303	4	X(4)	REG1	
304	307	4	X(4)	REG2	
308	311	4	X(4)	REG3	
312	313	2	X(2)	YEAR-OF-RECORD-EMISSIONS	Year emissions info last updated
314	320	7	9(7)	OPERATING-RATE	In SCC-units per year
321	327	7	9999V999	MAXIMUM-DESIGN-RATE	In SCC-Units per hour
328	330	3	9V99	SULFUR-CONTENT	In percent
331	333	3	99V9	ASH-CONTENT	In percent
334	338	5	9(5)	HEAT-CONTENT	In mega-BTU per SCC-unit
339	358	20	X(20)	CARD6-COMMENT	
359	359	1	X(1)	SOURCE-CODE	B = boiler, P = process O = other, S = solid wa
360	360	1	X(1)	CONFIDENTIALITY-CODE	Code for confidentialit of data in this record.
361	396	36	X(54) Display-1	PLANT-COMMENT	Plant and Point comment from card 7.
397	433	36	X(54) Display-1	POINT-COMMENT	
433	482	50		COMPUTED-POINT-EMISSIONS	Computed emissions in tons/year of five crite pollutants
433	442	10	9(7)V9(3)	PART	
443	452	10	9(7)V9(3)	SOX	
453	462	10	9(7)V9(3)	NOX	
463	472	10	9(7)V9(3)	HC	
473	482	10	9(7)V9(3)	CO	
433	482	50		COMPUTED-EMIS-RDEF	Redefines Computed-Poi Emissions
			9(7)V9(3) occurs 5	COMPUTED EMISSIONS	
483	518	36	X(54) Display-1	SCC-COMMENT	SCC comments from card
519	552	34	X(51) Display-1	FILLER	Not used

NEDS-SUBFILE | AREA-REC

LOCATION: NEDS | DATE: June, 1975 | PAGE 1 OF 4

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	552	552		AREA-RECORD	
1	1	1	9(1)	REC-CODE	Code = 3 for data rec
2	8	7	X(7)	FILL-A	Not used
9	9	1	X(1)	RECORD-TYPE	Contains 'A' for area-source records
10	11	2	X(2)	STATE	2-digit state code
12	15	4	X(4)	COUNTY	4-digit county code
16	18	3	X(3)	FILLER	Contains AQCR code
19	33	15	X(15)	FILLER	Not used
34	36	3	X(3)	AQCR	3-digit AQCR code
37	38	2	X(2)	YEAR-OF-RECORD-AREA	Year when data last updated
39	62	24	9(24)	ESTIMATED-AREA-EMISSIONS	Estimated emissions of 5 pollutants in 10[illegible] tons/year
39	43	5	9(5)	PART	
44	48	5	9(5)	SOX	
49	52	4	9(4)	NOX	
53	57	5	9(5)	HC	
58	62	5	9(5)	CO	
63	70	8		FUEL-SULFUR-CONTENT	% sulfur content of anthracite and bitumi coal, diesel oil and residual oil
63	64	2	9V9	ANTHRACITE-COAL	
65	66	2	9V9	BITUMINOUS-COAL	
67	68	2	9V9	DIESEL-OIL	
69	70	2	9V9	RESIDUAL-OIL	
71	76	6		FUEL-ASH-CONTENT	%ash content of anthracite and bitumi coal
71	73	3	99V9	ANTHRACITE-COAL	
74	76	3	99V9	BITUMINOUS-COAL	
77	10[illegible]	28		RESIDENTIAL-FUEL	Residential fuel used (per year)
81	85	5	9(5)	BITUMINOUS-COAL	bitum, coal [illegible]

FILE NAME/DESCRIPTION: NEDS-SUBFILE

RECORD NAME/DESCRIPTION: AREA-REC (continued)

APPLICATION: NEDS

DATE: June, 1975

PAGE 2 OF 4

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
86	90	5	9(5)	DISTILLATE-COAL	distillate oil (10^4 gallons)
91	95	5	9(5)	RESIDUAL-OIL	residual-oil (10^4 gallons)
96	100	5	9(5)	NATURAL GAS	natural gas (10^7 cu.ft
101	104	4	9(4)	WOOD	wood (10^2 tons)
105	130	26		COMMERICAL-INSTITUTIONAL -FUEL	Commerical/Institution fuel used (per year)
105	109	5	9(5)	ANTHRACITE-COAL	anthracite coal (10 to
110	114	5	9(5)	BITUMINOUS-COAL	bituminous coal (10 to
115	119	5	9(5)	DISTILLATE-OIL	dist. oil (10^4 gallon
120	124	5	9(5)	RESIDUAL-OIL	resid. oil (10^4 gallo
125	128	4	9(4)	NATURAL-GAS	nat. gas (10^7 cu. ft.
129	130	2	9(2)	WOOD	wood (10^2 tons)
131	168	38		INDUSTRIAL-FUEL	Industrial fuel used (per year)
131	136	6	9(6)	ANTHRACITE-COAL	anthracite coal (10 t
137	142	6	9(6)	BITUMINOUS-COAL	bitum. coal (10 tons)
143	146	4	9(4)	COKE	coke (10 tons)
147	151	5	9(5)	DISTILLATE-OIL	dist. oil (10^4 gallon
152	156	5	9(5)	RESIDUAL-OIL	resid. oil(10^4 gallon
157	161	5	9(5)	NATURAL-GAS	nat. gas (10^7 cu. ft.
162	164	3	9(3)	WOOD	wood (10^2 tons)
165	168	4	9(4)	PROCESS-GAS	process gas (10^7 cu. f
169	183	15	9(15)	ONSITE-INCINERATION	fuel used to incinera
169	174	6	9(6)	RESIDENTIAL	residential (10 tons)
175	179	5	9(5)	INDUSTRIAL	industrial (100 tons)
180	183	4	9(4)	COMMERICAL-INSTITUTIONAL	commerical/institutio (100 tons)
184	201	18	9(18)	OPEN-BURNING	Fuel use due to open burning (100 tons/ye
184	189	6	9(6)	RESIDENTIAL	residential
190	195	6	9(6)	INDUSTRIAL	industrial
196	201	6	9(6)	COMMERICAL-INSTITUTIONAL	commerical/institutio
202	218	17		VEHICULAR-FUEL-GASOLINE	Fuel used by vehicle (per year)
202	208	7	9(7)	LIGHT-VEHICLES	light vehicle gas. (10^3 gal.)

FILE NAME/DESCRIPTION: NEDS-SUBFILE

RECORD NAME/DESCRIPTION: AREA-REC (continued)

APPLICATION: NEDS

DATE: June, 1975

PAGE 3 OF 4

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
209	213	5	9(5)	HEAVY VEHICLES	heavy vehicle gasoline (10^3 gal.)
214	218	5	9(5)	OFF-HIGHWAY	off-highway gasoline (10^3 gal.)
219	231	13		VEHICULAR-FUEL-DIESEL	
219	223	5	9(5)	HEAVY VEHICLES	heavy vehicle diesel (10^3 gal.)
224	226	3	9(3)	OFF-HIGHWAY	off-higway diesel (10^4 gal.)
227	231	5	9(5)	RAILWAY-LOCOMOTIVES	railway locomotive die (10^4 gal.)
232	235	4	9(4)	COUNTY-POPULATION	10^3 persons
236	236	1	9(1)	URBAN-POPULATION-CODE	0 = <10% urban 1 = 10-19%urban, etc.
237	250	14		AIRCRAFT-LTO-CYCLES	landing-takeoff-cycles of aircraft
237	240	4	9(4)	MILITARY	military aircraft (10^2 LTO)
241	245	5	9(5)	CIVILIAN	civilian aircraft (10 LTO)
246	250	5	9(5)	COMMERICAL	commerical aircraft
251	267	17	9(17)	VESSELS	fuel used by water vessels (per year)
251	254	4	9(4)	ANTHRACITE-COAL	anthracite coal (10 ton
255	258	4	9(4)	DIESEL-OIL	diesel fuel (10^4 gal.)
259	263	5	9(5)	RESIDUAL-OIL	residual fuel (10^4 gal.
264	267	4	9(4)	GASOLINE	gasoline (10^3 gal.)
268	278	11		EVAPORATION	evaporated fuel
268	273	6	9(6)	SOLVENT-PURCHSED	tons per year
274	278	5	9(5)	GASOLINE-MARKETED	10^5 gallons per year
279	303	25	9(25)	MEASURED-VEHICLE-MILES	10^4 miles/year
279	284	6	9(6)	LIMITED ACCESS	limited access roads
285	290	6	9(6)	RURAL	rural roads
291	296	6	9(6)	SURBURBAN	surburban roads
297	303	7	9(7)	URBAN	urban roads
304	364	61	9(61)	MISCELLANEOUS	

FILE NAME/DESCRIPTION: NEDS-SUBFILE

RECORD NAME/DESCRIPTION: AREA-REC (continued)

APPLICATION: NEDS

DATE: June, 1975

PAGE 4 OF 4

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
304	310	7	9(7)	DIRT-ROAD-TRAVEL	10^3 miles/year
311	315	5	9(5)	DIRT-AIRFIELD-LTO	LTO cycles/year
316	320	5	9(5)	CONSTRUCTION	10^3 acres/year under construction
321	325	5	9(5)	ROCK-HANDLING	10^3 tons/year rock handled and stored
326	332	7	9(7)	FOREST-FIRES-AREA	acres burned/year
333	335	3	9(3)	FOREST-FIRES-QUAN	tons material/acre
336	341	6	9(6)	SLASH-BURNING-AREA	acres burned/year
342	344	3	9(3)	SLASH BURNING-QUAN	tons material/acre
345	348	4	9(4)	FROST-CONROL-HEATERS	number of operating orchard heaters (10^2)
349	351	3	9(3)	FROST-CONTROL-DAYS	days/year heaters were fired
352	355	4	9(4)	STRUCTURAL-FIRES	number fires/year
356	361	6	9(6)	COAL-REF-BURN-VOL	total volume of buring coal banks (10^2 cu. yds.
362	364	3	9(3)	COAL-REF-BURN-NUM	total number of burning fires/year
365	432	68	X(68)	AREA-COMMENTS	Area-source comments
433	482	50		COMPUTED-AREA-EMISSIONS	calculated area-source emissions of 5 pollutan in tons per year
433	442	10	9(7)V9(2)	PART	
443	452	10	9(7)V9(2)	SOX	
453	462	10	9(7)V9(2)	NOX	
463	472	10	9(7)V9(2)	HC	
473	482	10	9(7)V9(2)	CO	
433	482	50		COMPUTED-EMIS-RDEF	redefines Computed Area-Emissions
			9(7)V9(2) occurs 5	COMPUTED-EMISSIONS	
483	552	70	X(70)	FILLER	Not used

7.2.2.3 NEDS-SOT-MST

FILE DESCRIPTION AND USE

This file is the SOTDAT master file. Each record includes all source test information coded on one SOTDAT Input Form. Site identification data, point number and SCC code, run information, stack height, plant capacity, run rate, fuel type and quality, fuel rate, flow rate, pressure, temperature, velocity, percentages of excess air, isokinetic, water, CO_2, CO, Oxygen, and Nitrogen, pollutant test data and results, device parameters, and comments are included.

USE: To generate reports using program NE256.

FILE TYPE

- ☐ SDF
  - ☐ PRINT FILE
  - ☐ PUNCH FILE
  - ☐ _____
- ☒ ASCII COBOL
  - ☒ SEQUENTIAL
  - ☐ DIRECT
  - ☐ INDEXED - SEQUENTIAL
- ☐ FORTRAN
  - ☐ FORMATTED
  - ☐ UNFORMATTED
  - ☐ _____
- ☐ OTHER _____

CATALOGUED FILE DESCRIPTION

- ☐ YES: FILE NAME _____
- ☒ NO PROC NAME _____

BLOCKING

- ☒ BLOCKED: 3 ☐ CHARACTERS ☒ RECORDS PER BLOCK
- ☐ UNBLOCKED

RECORD SIZE

- ☒ FIXED LENGTH: 2867 CHARACTERS
- ☐ VARIABLE LENGTH: _____ THROUGH _____ CHARACTERS

KEY (IF APPLICABLE)

35 CHARACTERS LONG

CONTENT: SOURCEM/MONTH/DAY1/YEAR RUNCNT

RECORDING MODE

- ☒ INTERNAL ☐ F ☐ AN
- ☐ COMPACT ☐ U ☐ AN
- ☐ CFH ☐ V ☐ AN
- ☐ _____

FILE AVAILABILITY

- ☐ RESTRICTED
- ☒ PERMANENT
- ☐ TEMPORARY
- ☐ _____

STORAGE MEDIUM

- ☒ DISK
- ☐ TAPE ☐ LABELED ☐ UNLABELED
- ☐ CARDS
- ☐ _____

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: Updated by NEØ59 (PROGRAM NAME)

FILE SIZE: 455 Tracks AS OF 1 December 1975.

UPDATE FREQUENCY: Irregular (TIME INTERVAL)

ANTICIPATED GROWTH: 1 ☒ RECORD ☐ TRACKS ☐ _____ PER Source test

FILE BACKUP

TYPE: ☐ NONE ☐ SYSTEM ☒ SPECIAL

MEDIUM: ☐ CARDS ☒ TAPE ☐ DISK

LOCATED AT: _____

FILE NAME: NADB*NEDS-SOT-BKP

FREQUENCY: Each Update Time thru NEØ59

NUMBER OF GENERATIONS KEPT: 4

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
SOTSET ASSIGN TO MASS-STORAGE NEDS-SOT-MST	MASTER

APPLICATION	DATE	PAGE 1 OF 4
SOTDAT	1 DEC 75	

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	6	6	X(6)	FORM	Form Number
7	21	15		SOURCEM	Source Identification
7	8	2	XX	STATE	State
9	12	4	XXXX	COUNTY	County
13	15	3	XXX	AQCR	AQCR
16	19	4	XXXX	PLANT	Plant
20	21	2	XX	TPOINT	Point
22	23	2	XX	MONTH	Month
24	25	2	XX	DAY1	Day
26	27	2	XX	YEAR	Year
28	29	2	XX	RUNCNT	Run Count
30	37	8		SCC	Source Classification
30	30	1	X	SCC1	Code X-
31	32	2	XX	SCC2	XX-
33	35	3	XXX	SCC3	XXX-
36	37	2	XX	SCC4	XX
38	38	1	X	REASON	Reason Tested
39	39	1	X	TESTBY	Test By
40	41	2	XX	RUNNOM	Run No.
42	48	7	X(7)	PLCAPT	Plant Capacity
49	55	7	X(7)	RNRATE	Run Rate
56	56	1	X	FTYPE	Fuel Type
57	61	5	X(5)	SULFUR	% Sulfur

FILE NAME/DESCRIPTION: SOTSET ASSIGN TO MASS-STORAGE NEDS-SOT-MST

RECORD NAME/DESCRIPTION: MASTER

APPLICATION: SOTDAT

DATE: 1 DEC 75

PAGE 2 OF 4

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
62	66	5	X(5)	ASH	% Ash
67	71	5	X(5)	NITRO	% Nitrogen
72	72	1	X	HUNITS	Heat Units
73	79	7	X(7)	HVALUE	Heat Value
80	80	1	9	GSCOND	Gas Rate Reported
81	88	8	X(8)	FLRATE	Flow Rate
89	94	6	X(6)	XSECT	Cross Section
95	98	4	X(4)	GSTEMP	Gas Temp
99	103	5	X(5)	GSPRES	Gas Pressure
104	105	2	XX	TRVPTS	Traverse Points
106	111	6	X(6)	GMOLWT	Estimated Gas Molecular Weight
112	116	5	X(5)	EXSAIR	Percent Excess Air
117	121	5	X(5)	ISOKIN	Percent Isokinetic
122	126	5	X(5)	WATER	% Water in Gas
127	131	5	X(5)	CO_2	% CO_2 in Gas
132	136	5	X(5)	CO_1	% CO in Gas
137	141	5	X(5)	OXYGEN	% Oxygen in Gas
142	146	5	X(5)	NITREN	% Nitrogen in Gas
147	151	5	X(5)	SPCDAT	Special Data
152	155	4	X(4)	STKHT	Stack Height
156	159	4	X(4)	STKVEL	Average Stack Velocity
160	160	1	X	SMPLOC	Sampling Location

FILE NAME/DESCRIPTION: SOTSET ASSIGN TO MASS-STORAGE NEDS-SOT-MST

RECORD NAME/DESCRIPTION: MASTER

APPLICATION: SOTDAT

DATE: 1 DEC 75

PAGE 3 OF 4

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
161	164	4	X(4)	TENTH1	Particulate Size .1 % by Weight
165	168	4	X(4)	TENTH5	.5 % by Weight
169	172	4	X(4)	ONEP	1 % by Weight
173	176	4	X(4)	TWOP	2 % by Weight
177	180	4	X(4)	FIVEP	5 % by Weight
181	184	4	X(4)	TENP	10 % by Weight
185	188	4	X(4)	TWENTP	20 % by Weight
189	192	4	X(4)	GRTWEN	GT 20 % by Weight
193	204	12	X(12)	PSIZER	Particle Sizer
205	223	19	X(19)	COMNTS	Comments
224	1375	24		PODATA Occurs 48 Times	Pollutant Data
		6	X(6)	POLLUT	Pollutant
		2	XX	TMETHD	Test Method
		1	9	POLUNT	Units
		5	X(5)	SMPMIN	Sample Time (Minutes)
		1	X	SMPPOS	Sampling Position
		6	X(6)	RESULT	Test Result
		3	XXX	POLTMP	Pollutant Temperature
1376	2075	140		CODATA Occurs 5 Times	Control Device Data
		3	XXX	DVCCOD	Device Code
		66		CONPOL6	6 CONPOL
		11		CONPOL Occurs 6 Times	Controlled Pollutants
		6	X(6)	POLNOM	Pollutant No.

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
SOTSET ASSIGN TO MASS-STORAGE NEDS-SOT-MST	MASTER

APPLICATION	DATE	PAGE 4 OF 4
SOTDAT	1 DEC 75	

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
		1	X	FILLER	Not Used
		8	X(8)	DSNFLW	Design Flow Rate
		2	XX	INSTYR	Year Installed
		60		DVCPRM10	10 DVCPRM
		6	X(6)	DVCPRM Occurs 10 Times	Device Parameters
2076	2795	72	X(72)	CMMMMT Occurs 10 Times	Comments
2796	2867	72		NAMADD	Name, Address
2796	2867	1	X	NAMCHAR Occurs 72 Times	Character of NAMADD

7.2.2.4 NEDS-SICNMS

FILE DESCRIPTION AND USE

This is a reference file containing the 4-character codes and 65-character names of Standard Industrial Classifications (SIC). It is used by NEDS programs to verify SIC codes and to obtain names of valid SIC codes.

FILE TYPE

- ☐ SDF
  - ☐ PRINT FILE
  - ☐ PUNCH FILE
  - ☐ _____
- ☒ ASCII COBOL
  - ☐ SEQUENTIAL
  - ☐ DIRECT
  - ☒ INDEXED - SEQUENTIAL
- ☐ FORTRAN
  - ☐ FORMATTED
  - ☐ UNFORMATTED
  - ☐ _____
- ☐ OTHER _____

CATALOGUED FILE DESCRIPTION

☒ YES: FILE NAME NADB*NADB-DESC

☐ NO PROC NAME NEDS-SICNMS

BLOCKING

☒ BLOCKED: 15 ☐ CHARACTERS ☒ RECORDS PER BLOCK

☐ UNBLOCKED

RECORD SIZE

☒ FIXED LENGTH: 69 CHARACTERS

☐ VARIABLE LENGTH: _____ THROUGH _____ CHARACTERS

KEY (IF APPLICABLE)

4 CHARACTERS LONG

CONTENT: SIC code

RECORDING MODE

☒ INTERNAL ☐ F ☐ AN

☐ COMPACT ☐ U ☐ AN

☐ CFH ☐ V ☐ AN

☐ _____

FILE AVAILABILITY

☐ RESTRICTED

☒ PERMANENT

☐ TEMPORARY

☐ _____

STORAGE MEDIUM

☒ DISK

☐ TAPE ☐ LABELED ☐ UNLABELED

☐ CARDS

☐ _____

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: NEØ63 (PROGRAM NAME)

FILE SIZE: 1496 records. 2Ø tracks AS OF 11/17/75

UPDATE FREQUENCY: When new SIC codes are added (TIME INTERVAL)

ANTICIPATED GROWTH: 1 ☒ RECORD ☐ TRACKS ☐ _____ PER SIC code

FILE BACKUP

TYPE: ☐ NONE ☐ SYSTEM ☒ SPECIAL

MEDIUM: ☒ CARDS ☐ TAPE ☐ DISK

LOCATED AT: Mutual

FILE NAME: N.A.

FREQUENCY: N.A.

NUMBER OF GENERATIONS KEPT: 1

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
NADB*NEDS-SICNMS	SIC-RECORD

APPLICATION	DATE	PAGE 1 OF 1
NEDS	11/17/75	

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	4	4	X(4)	SIC-CODE	SIC code
5	69	65	X(65)	SIC-NAME	SIC name
		KEY:	X(4)	SIC-KEY	Same as SIC-CODE

7.2.3.1 RAWDATA

AEROS FILE DESCRIPTION

QUALIFIER	FILE NAME	DATE
NADB	NADB-ND-TAPE	June 12, 1975

FILE DESCRIPTION AND USE

This is the SAROAD Master File of raw data. A 28-character 'key field', containing codes for state/area/site/agency/project/pollutant/method/interval/year/month/da/unit is followed by a variable number of 7-character data value fields. Each value field contains codes for the time when the value was sampled in addition to the value itself.

USE: To construct 'working' files such as the 'Summary' Files, the 'Standard' Files and 'Raw-Data' Files.

FILE TYPE

- ☐ SDF
  - ☐ PRINT FILE
  - ☐ PUNCH FILE
  - ☐ _____
- ☒ ASCII COBOL
  - ☒ SEQUENTIAL
  - ☐ DIRECT
  - ☐ INDEXED-SEQUENTIAL
- ☐ FORTRAN
  - ☐ FORMATTED
  - ☐ UNFORMATTED
  - ☐ _____
- ☐ OTHER _____

STORAGE MEDIUM

- ☐ DISK
- ☒ TAPE { ☒ LABELED / ☐ UNLABELED }
- ☐ CARDS
- ☐ Standard _____

FILE AVAILABILITY

- ☐ RESTRICTED
- ☒ PERMANENT
- ☐ TEMPORARY
- ☐ _____

CATALOGED FILE DESCRIPTION

- ☐ NO
- ☒ YES: FILE NAME NADB*NADB-DESC
  PROC NAME NADBNOWDATA

RECORDING MODE

- ☐ INTERNAL
- ☒ COMPACT
- ☐ CFH
- ☐ _____
- ☐ F ☐ AN
- ☐ U ☐ AN
- ☐ V ☐ AN

RECORD SIZE

- ☐ FIXED LENGTH: _____ CHARACTERS
- ☒ VARIABLE LENGTH: 37 THRU 401 CHARACTERS

BLOCKING

- ☐ UNBLOCKED
- ☒ BLOCKED: 3520 { ☒ CHARACTERS / ☐ RECORDS } PER BLOCK

KEY (IF APPLICABLE)

28 CHARACTERS LONG

CONTENT: ST/AREA/SITE/AGCY/PROJECT/POLLUT/METHOD/INTERVAL/YR/MO/DA/UNIT

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: NA029 (PROGRAM NAME)

FILE SIZE: 48 millionvalues, 15 tapes AS OF 07-15-75

UPDATE FREQUENCY: Bi-weekly (TIME INTERVAL)

ANTICIPATED GROWTH: 3 Million { ☐ RECORD / ☐ TRACKS / ☐ Values } PER Qtr.

FILE BACKUP

TYPE: ☐ NONE ☐ SYSTEM ☒ SPECIAL

MEDIUM: ☐ CARDS ☒ TAPE ☐ DISK

LOCATED AT: EPA-RTP

FILE NAME: NADB-ND-TAPE

FREQUENCY: Bi-weekly

NUMBER OF GENERATIONS KEPT: 4

FILE NAME/DESCRIPTION: NADB-ND-TAPE

RECORD NAME/DESCRIPTION: ND-REC

APPLICATION: SAROAD

DATE: 14 July 1975

PAGE 1 OF 3

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	401	401max		ND-REC	Now Data record
1	28	28		ND-KEY	Record key
1	2	2	X(2)	ND-STATE	State
3	6	4	X(4)	ND-AREA	Area
7	9	3	X(3)	ND-SITE	Site
10	10	1	X	ND-AGY	Agency
11	12	2	X(2)	ND-PRJ	Project
13	17	5	X(5)	ND-POLL	Pollutant
18	19	2	X(2)	ND-METH	Method
	20	1	X	ND-INTVL	Interval
21	22	2	X(2)	ND-YR	Year
23	24	2	X(2)	ND-MON	SEE NOTE 4
23	24	2		ND-C	Redefines ND-MON
23	23	1	X	ND-C-INTVL	Composite interval (see NOTE 4)
24	24	1	X	ND-C-PER	Composite Period (see NOTE 4)
25	26	2	X(2)	ND-DAY	SEE NOTE 5
27	28	2	X(2)	ND-UNITS	Units'
29	29	1	X	ND-SUM	Not used
30	30	1	99 COMP	ND-VAL-CNT	Number of value fields
31	37	7	X(7)	ND-DATA	Occurs 1 to 53 times depending on ND-VAL-C
31	32	2	99	ND-PER	See note 1
	37	5	X(5)	ND-MOVE	Contains two of the [illegible] items per data value

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
NADB-ND-TAPE	ND-REC

APPLICATION	DATE	PAGE 2 OF 3
SAROAD	14 July, 1975	

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
33	36	4	X(4)	ND-VAL	See note 2
37	37	1	X(1)	ND-NBR-SMP	See note 3

NOTE 1: This field content varies with interval code:

a) <24-hour - start hour
b) ≧24-hour - day of month
c) composite - number of the composited value (e.g., Ø1 thru Ø4 for quarterly compostes)

NOTE 2: This field contains the sampled value in floating-point format (COMP-1). It is stored in the file as X(4) to avoid word aligment problems, and must be moved to a field defined as X(4) which is redefined as COMP-1 before it can be used by a COBOL program.

NOTE 3: This field's content varies with interval code:

a) <24-hour - contains zero
b) ≧24-hour - contains start hour
c) composite - contains number of values composited.

This field contains a 2-digit integer (PIC 99 COMP). This field is stored as a X and must be moved to another field as a X which is redefined as 99 COMP before it can be used.

NOTE 4:

ND-INTVL	Contents of ND-MON
less than or equal to 24 HR, or MONTHLY	month code (Ø1-12)
QUARTERLY	quarter code (Ø1-Ø4)
COMPOSITE	1st character - sampling interval of composited data 2nd character - period over which data was composited (1=quarterly, 2=seasonal, 3=monthly, 4=weekly, 5=annual)
WEEKLY	contains "ØØ"

NOTE 5: ND-DAY
If this ND field contains day of month.
For all other intervals field contains "Ø".

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
SAROAD-ND-TAPE	ND-TAPE

APPLICATION	DATE	PAGE 3 OF 3
SAROAD	14 JULY 1975	

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
Notes:					

***'ND-PER' is a 2 byte character code which preceeds each value per reading giving: the hour of the day for hourly values, the day for daily values, the week for weekly values, the quarter for quarterly values, the month for monthly values, or "00" for yearly values. If the interval is hourly, each record contains 1 day (i.e., 24 hour value fields, maximum). If the interval is daily each record contains one month (i.e 31 daily value field maximum). If the interval is weekly, monthly, quarterly, or yearly, then each record contains one year (a maximum of 53, 14, 4 or 1 value fields respectively; i.e., 53 weeks can start in a year; one month and 4 weeks are treated equivalent (365 days/28 days = 13 1/28 or 14 intervals).

7.2.3.2 NA235-SELECT

AEROS FILE DESCRIPTION

QUALIFIER	FILE NAME	DATE
	NA235-SELECT	

FILE DESCRIPTION AND USE

File is a subfile of SAROAD Raw Data containing selected records meeting selection criteria.

USE: Used by program which has the capability of reading SAROAD raw data.

FILE TYPE

- ☐ SDF
  - ☐ PRINT FILE
  - ☐ PUNCH FILE
  - ☐ _____
- ☒ ASCII COBOL
  - ☒ SEQUENTIAL
  - ☐ DIRECT
  - ☐ INDEXED-SEQUENTIAL
- ☐ FORTRAN
  - ☐ FORMATTED
  - ☐ UNFORMATTED
  - ☐ _____
- ☐ OTHER _____

STORAGE MEDIUM

- ☐ DISK
- ☒ TAPE { ☒ LABELED / ☐ UNLABELED }
- ☐ CARDS
- ☐ _____

FILE AVAILABILITY

- ☐ RESTRICTED
- ☐ PERMANENT
- ☒ TEMPORARY
- ☐ _____

CATALOGED FILE DESCRIPTION

- ☐ NO
- ☒ YES: FILE NAME NADB*NADB-DESC
  PROC NAME NADBNOWDATA

RECORDING MODE

- ☐ INTERNAL
- ☒ COMPACT
- ☐ CFH
- ☐ _____
- ☐ F ☐ AN
- ☐ U ☐ AN
- ☐ V ☐ AN

RECORD SIZE

- ☐ FIXED LENGTH: _____ CHARACTERS
- ☒ VARIABLE LENGTH: 37 THRU 401 CHARACTERS

BLOCKING

- ☐ UNBLOCKED
- ☒ BLOCKED: 3520 ☒ CHARACTERS ☐ RECORDS } PER BLOCK

KEY (IF APPLICABLE)

29 CHARACTERS LONG

CONTENT: State/Area/Agy/Proj/Polt/Meth/ Intvl/ Yr/Mo/Da/Unit/Sum

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: NA235 (PROGRAM NAME)

FILE SIZE: Max Size: Same as NADB-ND-TAPE AS OF _____

UPDATE FREQUENCY: whenever NA235 is run (TIME INTERVAL)

ANTICIPATED GROWTH: _____ ☐ RECORD ☐ TRACKS ☐ _____ PER _____

FILE BACKUP

TYPE: ☒ NONE ☐ SYSTEM ☐ SPECIAL

MEDIUM: ☐ CARDS ☒ TAPE ☐ DISK

LOCATED AT: _____

FILE NAME: NADB-ND-TAPE

FREQUENCY: Bi-Weekly

NUMBER OF GENERATIONS KEPT: 4

Can be re-created by re-running NA235.

FILE/DESCRIPTION: NA235-SELECT

RECORD NAME/DESCRIPTION: SN-REC

LOCATION: SAROAD

DATE: JULY, 1975

PAGE 2 OF 2

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	401	401	X(401)	SN-REC	Selected Raw Data Record
	29	29	X(29)	SN-KEY	State
					Area
					Site
					Agency
					Project
					Pollutant
					Method
					Interval
					Year
					Month
					Day
					Units
					Sum
30	30	1	99-COMP	SN-VAL-CNT	Number of elements in variable portion of record
31	37	7	X(7)	SN-DATA	Reported data occurs 1 to 53 times depending on SN-VAL-CNT

NOTE: FOR A MORE DETAILED RECORD DESCRIPTION, SEE RECORD DESCRIPTION FOR NAUB-ND-TAPE.

7.2.3.3 QUARTERLY SUMMARIES

AEROS FILE DESCRIPTION

QUALIFIER	FILE NAME	DATE
NADB	NADB-QRSUM-D	

FILE DESCRIPTION AND USE One record for each pollutant/site/time period. The record contains: % of possible observations, maximum, minimum, median values, the value substituted for Ø in constructing of statistics, number of substitutions, number of observations, sum of values, sum of squares, sum of natural logs (ln), sum of ln^2, units reported NADB criteria met flag, arithmetic mean and standard deviation, ln mean and standard deviation, geometric mean and standard deviation and second moment. Also contained in the record are: second maximum value, number of violations of primary standards, number of violations sencondary standards, time at which maximum value occurred (MO/DA/HR), and time at which second maximum value occurred (MO/DA/HR).

USE: Used for quarterly inventories, quarterly frequency and most quarterly reports.

FILE TYPE

- ☐ SDF
  - ☐ PRINT FILE
  - ☐ PUNCH FILE
  - ☐ _____
- ☒ ASCII COBOL
  - ☒ SEQUENTIAL
  - ☐ DIRECT
  - ☐ INDEXED-SEQUENTIAL
- ☐ FORTRAN
  - ☐ FORMATTED
  - ☐ UNFORMATTED
  - ☐ _____
- ☐ OTHER _____

STORAGE MEDIUM

- ☒ DISK
- ☐ TAPE { ☒ LABELED / ☐ UNLABELED
- ☐ CARDS
- ☐ Standard

FILE AVAILABILITY

- ☐ RESTRICTED
- ☒ PERMANENT
- ☐ TEMPORARY
- ☐ _____

CATALOGED FILE DESCRIPTION

- ☐ NO
- ☒ YES: FILE NAME NADBDESC
  PROC NAME QTRSUMFILE

RECORDING MODE

- ☒ INTERNAL
- ☐ COMPACT
- ☐ CFH
- ☐ _____
- ☐ F ☐ AN
- ☐ U ☐ AN
- ☐ V ☐ AN

RECORD SIZE

- ☒ FIXED LENGTH: 140 CHARACTERS
- ☐ VARIABLE LENGTH: _____ THRU _____ CHARACTERS

BLOCKING

- ☐ UNBLOCKED
- ☒ BLOCKED: 36 ☐ CHARACTERS / ☒ RECORDS } PER BLOCK

KEY (IF APPLICABLE)

24 CHARACTERS LONG

CONTENT: STATE/AREA/SITE/AGENCY/PROJECT/POLLUTANT/METHOD/INTERVAL/YEAR/INDICATOR

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: NABØ34 (NAØ5Ø tape to disk) (PROGRAM NAME)

FILE SIZE: 99 POS AS OF 9/4/75

UPDATE FREQUENCY: Bi-Weekly (TIME INTERVAL)

ANTICIPATED GROWTH: 8000 ☒ RECORD / ☐ TRACKS / ☐ _____ PER Update

FILE BACKUP

TYPE: ☐ NONE ☐ SYSTEM ☒ SPECIAL

MEDIUM: ☐ CARDS ☒ TAPE ☐ DISK

LOCATED AT: _____

FILE NAME: NADB-QRSUM-T

FREQUENCY: BI-WEEKLY

FILE NAME/DESCRIPTION: NADB-QRSUM-D

RECORD NAME/DESCRIPTION: QRSUMS-REC

APPLICATION: SAROAD

DATE:

PAGE 1 OF 2

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	14Ø	14Ø		QTRSUMS-REC	Summary Record
1	24	24		QS-KEY	Access Key
1	22	22		QS-SUB-KEY	Primary portion of Key
1	2	2	X(2)	QS-STATE	State Code
3	6	4	X(4)	QS-AREA	Area Code
7	9	3	X(3)	QS-SITE	Site Code
1Ø	1Ø	1	X	QS-AGENCY	Agency
11	12	2	X(2)	QS-PROJECT	Project
13	17	5	X(5)	QS-POLUTCOD	Pollutant Code
18	19	2	X(2)	QS-METHOD	Source Method Code for Test
2Ø	2Ø	1	X	QS-INTVLCOD	Interval Code
21	22	2	9(2)	QS-YEAR	Last 2 digits of Year
23	24	2	9(2)	QS-QTR-IND	Indicator Code
25	28	4	Comp-1	QS-PERC-OBS	Percentage of Observatio
29	32	4	Comp-1	QS-ARIT-MEAN	Arithmetic Mean
33	36	4	Comp-1	QS-LN-MEAN	Log of Mean
37	4Ø	4	Comp-1	QS-GEO-MEAN	Geometric Mean
41	44	4	Comp-1	QS-ARIT-STD-DEV	Arithmetic Standard Deviation
45	48	4	Comp-1	QS-LN-STD-DEV	Log of Standard Deviation
49	52	4	Comp-1	QS-GEO-STD-DEV	Geometric Standard Deviation
53	56	4	Comp-1	QS-2ND-MOM	Second Moment
57	60	4	Comp-1	QS-MAX-VAC	Maximum Value
61	64	4	Comp-1	QS-MED-VAL	Medium Value
65	68	4	Comp-1	QS-MIN-VAL	Minimum Value
69	72	4	Comp-1	QS-ZERO-SUB	Zero Sub
[illegible]	[illegible]	2	S9(4)	QS-NUMB-OBS	Number of Observations
77	8Ø	2	S9(4)	QS-SUBS-MADE	Number of Subs Made

FILE NAME/DESCRIPTION: NADB-QRSUM-D

RECORD NAME/DESCRIPTION: QRSUMS-REC

APPLICATION: SAROAD (continued)

DATE:

PAGE 2 OF 2

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
81	84	4	Comp-1	QS-SUM-X	Sum X
85	88	4	Comp-1	QS-SUM-XX	Sum X^2
89	92	4	Comp-1	QS-SUM-LN-X	Sum Ln(X)
93	95	4	Comp-1	QS-SUM-LN-XX	Sum $[Ln(X)]^2$
97	98	2	X(2)	S-UNIT	Reporting Units
99	99	1	9	QS-VAC-QTR-CNT	Number of Quarters
100	100	1	X	QS-CRIT	If valid contains '1'
101	144	44	X(44)	FILLER	Unused

IF QS-INTVLCOD IS EQUAL TO QUARTERLY

QS-QTR-IND CONTAINS QUARTER CODE (01-04)

OTHER USE:

1ST CHARACTER: SAMPLING INTERVAL OF COMPOSITED DATA

2ND CHARACTER: PERIOD OVER WHICH DATA WAS COMPOSITED

(1 = Quarterly, 2 = Seasonal, 3 = monthly, 4 = weekly, 5 = annual)

for composite.

DB-QRSUM-D

QRAVG-RECORD
(Record formats for intervals of Y and Z cn

APPLICATION: SAROAD

DATE:

PAGE 1 OF 2

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	24	24	X(24)	AVGKEY	SAROAD key for this record (see note 1)
25	28	4	COMP-1	PERCENT-OBS	% of possible running averages present (see note 2)
29	64	36	COMP-1 (occurs 9)	HI-VALUE	The 9 highest running average values (see not 3)
65	68	4	COMP-1	SECOND-MAX	The non-overlapping second maximum value (see note 4)
69	72	4	COMP-1	MIN-VALUE	The smallest running average value
73	74	2	SH9(5)	NUMBER-OBS	# of running average values present
75	76	2	SH9(5)	PRI-VIOLATIONS	Total # of violations o the primary standard
77	78	2	SH9(5)	PRI-NOVL-VIOLATIONS	# of non-overlapping violations of the primary standard (see note 5)
79	80	2	SH9(5)	SEC-VIOLATIONS	Total # of violations o the secondary standard
81	82	2	SH9(5)	SEC-NOVL-VIOLATIONS	# of non-overlapping violations of the secondary standard (see note 5)
83	86	4	X(6) Display-1	LAST-PRI-VIOLATION	Time of the last viola of the primary standar (See note 6)
87	90	4	X(6) Display-1	LAST-SEC-VIOLATION	Time of the last viola of the secondary stand (see note 6)
91	92	2	X(2)	FILLER	Not used
93	94	2	X(2)	UNITS-CODE	Code for standard units
95	95	1	SH9(1)	VALID-QTRS	See note 7
96	96	1	X(1)	CRITERIA	Criteria flag (see note
97	132	36	X(6) Display-1 Occurs 9	HI-VAL-TIME	Time of occurence of t 9 highest running avg

FILE NAME/DESCRIPTION: ADB-QRSUM-D

RECORD NAME/DESCRIPTION: QRSAVG-RECORD (Record formats for intervals Y and Z only)

APPLICATION: SAROAD

DATE:

PAGE 2 OF 2

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
133	136	4	X(6) Display-1	SEC-MAX-TIME	Time of occurrence of SECOND-MAX (see note 6)
137	14Ø	4	X(6) Display-1	MIN-VAL-TIME	Time of occurence of MIN-VALUE (see note 6)

NOTE 1. SAROAD key contains keys for: state(2), area(4), site(3), agency(1), project(2), pollutant(5), method(2), interval(1), year(2) and month(2); numbers in parentheses indicate the number of characters for each code. In monthly, quarterly and yearly summary records the 'month-code' contains a 2-digit month number (Ø1-12), quarter number (Ø1-Ø4), or ØØ respectively.

NOTE 2. Since the maximum possible number of 8-hour running average values may be 6, 12, or 24 (depending on sampling interval), the value -1.Ø is assigned to PERCENT-OBS when interval code is Y or Z.

NOTE 3. Values are in descending magnitude; i.e., HI-VALUE (1) is the largest, HI-VALUE (9) is the smallest of the 9 values. The nine values are not necessarily unique; if the largest value occurs 3 times, for example, then HI-VALUE (1) = HI-VALUE (2) = HI-VALUE (3), and the time of occurrence (HI-VAL-TIME) are not necessarily in chronologic order. If fewer than 9 values are present, the excess HI-VALUE items have the value -1.Ø.

NOTE 4. This item has the value -1.Ø if a non-overlapping average value cannot be found.

NOTE 5. Non-overlapping violations are those which occur at times separated by at least the duration of the averaging interval.

NOTE 6. Times of occurrence consist of month, day and end-hour codes (2-digits each), stored as FIELDATA (rather than ASCII). If a time is undefined the time of occurrence field contains FIELDATA zeros.

NOTE 7. In monthly and quarterly summary records, VALID-QTRS contains zero and CRITERIA contains '1'. In yearly summary records, VALID-QTRS contains the number of quarterly summary records present; CRITERIA contains '1' if all four quarters are present or blank otherwise.

MADB-QRSUM-TD

QRSUM-RECORD
(Record formats for intervals other than Y a
7)

APPLICATION: SAROAD

DATE:

PAGE 1 OF 3

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	24	24	X(24)	SUMKEY	SAROAD key for this record (see note 1)
25	28	4	COMP-1	PERCENT-OBSERVATIONS	% of possible observa reported (see note 2)
29	32	4	COMP-1	ARITHMETIC-MEAN	Arithmetic mean of reported values (see note 3)
33	36	4	COMP-1	LOG-MEAN	Natural log of ARITHM MEAN (see note 3)
37	40	4	COMP-1	GEOMETRIC-MEAN	Geometric mean of rep ed values (see note 3
41	44	4	COMP-1	ARITH-STD-DEVIATION	Standard deviation ab the arithmetic mean (see note 4)
45	48	4	COMP-1	LOG-STD-DEVIATION	Natural log of ARITH-S DEVIATION (see note 4
49	52	4	COMP-1	GEOM-STD-DEVIATION	Standard deviation ab the geom. mean (see n 4)
53	56	4	COMP-1	SECOND-MOMENT	Variance about the arithmetic mean (see note 4).
57	60	4	COMP-1	MAXIMUM	Maximum reported valu
61	64	4	COMP-1	MEDIAN	Median reported value
65	68	4	COMP-1	MINIMUM	Minimum reported valu
69	72	4	COMP-1	ZEROSUB	The value substituted for reported values s er than the minimum d tectable value.
73	74	2	SH9(5)	OBSERVATIONS	# of reported values
75	76	2	SH9(5)	ZEROCNT	# of times ZEROSUB wa substituted for repor values
77	80	4	COMP-1	SUMX	Sum of reported value
[illegible]	[illegible]	4	COMP-1	SUMX2	Sum of [illegible] ported values
85	88	4	COMP-1	SUMLX	Sum of natural logs o reported values

SAROAD-QRSUM-D

QRSUM -RECORD

(Record formats for intervals other than Y and

APPLICATION	DATE	PAGE 2 OF 3
SAROAD		

RECORD POSITION FIRST	LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
89	92	4	COMP-1	SUMLX2	Sum of squares of natural logs of reported values
93	94	2	X(2)	UNITS	Code for units in which values were reported (see note 5)
95	95	1	SH9(1)	VALID-QUARTERS	See note 6
96	96	1	X(1)	CRIT-FLAG	Criteria flag (see note
97	1ØØ	4	COMP-1	SECOND-MAXIMUM	Second highest reported value
1Ø1	1Ø2	2	SH9(5)	PRIMARY-VIOLATIONS	# of violations of the primary standard or zero of no standard exists
1Ø3	1Ø4	2	SH9(5)	SECONDARY-VIOLATIONS	# of violations of the secondary standard or zero if no standard ex
1Ø5	1Ø8	4	X(6) Display-1	TIME-OF-SEC-MAX	Month, day and end-hou when second maximum value was reported
1Ø9	112	4	X(6) Display-1	TIME-OF-PRI-MAX	Month, day and end-hou when maximum value was reported
113	14Ø	28	X(28)	FILLER	Not used

NOTE 1. SAROAD key contains key for: state(2), area(4), site(3), agency(1), project(2), pollutants(5), method(2), interval(1), year(2) and month(2); number in parenthesis indicates the number of characters for each code. For composite data records, the 'month code' contains the sampling interval of the composited data and the period of compositing (1 character each). For monthly, quarterly and yearly summary records the 'month code' contains the month number (Ø1-12), quarter number (Ø1-Ø4) or ØØ, respectively.

NOTE 2. PERCENT-OBSERVATIONS is undefined for data sampled at 24-hour intervals (interval code Y) and for quarter averages (interval code X) and a value of -1.Ø is entered.

NOTE 3. This item has a value of -1.Ø (undefined) if the sampling interval is less than 24 hours and % observations is not greater than 75.

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
NADB-QRSUM-D	QRSUM-RECORD (Record formats for intervals other than Y an

FILE LOCATION	DATE	PAGE 3 OF 3
SAROAD		

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION

NOTE 4. This item has a value of -1.Ø (undefined) if:

a) sampling interval is less than 24 hours and % observations is not greater than 75

b) sampling interval is 24 hours or greater and there is only 1 reported value.

NOTE 5. The reporting units code is taken from the last record used in constructing monthly summary records and from the first record used in constructing quarterly and yearly summary records. All values in the summary record are in standard units for each pollutant/method.

NOTE 6. This item is meaningful in yearly summary records only, and indicates the number of quarters during which criteria weremet regarding the number of reported values. In monthly and quarterly summary records, this item contains zero.

NOTE 7. The "criteria flag" contains "1" if the sampling criteria for the summarization interval (month, quarter, or year) are satisfied, or contains a blank otherwise.

7.2.3.4 YEARLY SUMMARIES

AEROS FILE DESCRIPTION

QUALIFIER	FILE NAME	DATE
NADB	NADB-YRSUM-D	

FILE DESCRIPTION AND USE One record for each pollutant/site/time period. The record contains: % of possible observations, maximum, minimum, median values, the value substituted for Ø in constructing statistics, number of substitutions, number of observations, sum of values, sum of squares, sum of natural logs (ln), sum of ln^2, units reported NADB criteria met flag, arithmetic mean and standard deviation, and second moment. Also contained in the record are: second maximum value, number of violations of primary standards, number of violations of secondary standards, time at which maximum value occurred (MO/DA/HR), and time at which second maximum occurred (MO/DA/HR).

USE: Retrieval programs use this file with both interactive and batch access.

FILE TYPE

- [ ] SDF
  - [ ] PRINT FILE
  - [ ] PUNCH FILE
  - [ ] _____
- [X] ASCII COBOL
  - [X] SEQUENTIAL
  - [ ] DIRECT
  - [ ] INDEXED-SEQUENTIAL
- [ ] FORTRAN
  - [ ] FORMATTED
  - [ ] UNFORMATTED
  - [ ] _____
- [ ] OTHER _____

STORAGE MEDIUM

- [X] DISK
- [X] TAPE { [X] LABELED [ ] UNLABELED
- [ ] CARDS
- [ ] Standard

FILE AVAILABILITY

- [ ] RESTRICTED
- [X] PERMANENT
- [ ] TEMPORARY
- [ ] _____

CATALOGED FILE DESCRIPTION

- [ ] NO
- [X] YES: FILE NAME NADB*NADB-DESC
  PROC NAME NADBYRSUM

RECORDING MODE

- [X] INTERNAL [ ] F [ ] AN
- [ ] COMPACT [ ] U [ ] AN
- [ ] CFH [ ] V [ ] AN

RECORD SIZE

- [X] FIXED LENGTH: 140 CHARACTERS
- [ ] VARIABLE LENGTH: _____ THRU _____ CHARACTERS

BLOCKING

- [ ] UNBLOCKED
- [X] BLOCKED: 36 { [ ] CHARACTERS [X] RECORDS } PER BLOCK

KEY (IF APPLICABLE)

24 CHARACTERS LONG

CONTENT: STATE, AREA, SITE, AGENCY, PROJECT, POLLUTANT, METHOD, INTERVAL, YEAR, YEAR INDICATOR

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: NAC034 (NA050 tape to disk) (PROGRAM NAME)

FILE SIZE: 36 POS AS OF 9/4/75

UPDATE FREQUENCY: BI-WEEKLY (TIME INTERVAL)

ANTICIPATED GROWTH: 1600 [X] RECORD [ ] TRACKS PER Update

FILE BACKUP

TYPE: [X] NONE [ ] SYSTEM [X] SPECIAL

MEDIUM: [ ] CARDS [X] TAPE [ ] DISK

LOCATED AT: EPA

FILE NAME: NADB*NADB-YRSUMS-T

FREQUENCY: BI-WEEKLY

NUMBER OF GENERATIONS KEPT: 4

NADB-YRSUMS-D | YRSUMS REC

LOCATION: SAROAD | DATE: OCTOBER 1975 | PAGE 1 OF 2

RECORD POSITION FIRST	LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	140	140	X(140)	YRSUMS-REC:	Data Record
1	96	96	X(96)	DATA-PART:	Data Portion
1	24	24	X(24)	YS-KEY:	YRSUM Key
1	22	22	X(22)	YS-SUB-KEY:	Sub Key
1	2	2	X(2)	YS-STATE	State
3	6	4	X(4)	YS-AREA	Area
7	9	3	X(3)	YS-SITE	Site
10	10	1	X	YS-AGENCY	Agency
11	12	2	X(2)	YS-PROJECT	Project
13	17	5	X(5)	YS-POLUTCOD	Pollutant
18	19	2	XX	YS-METHOD	Method
20	20	1	X	YS-INTVLCOD	Interval
21	22	2	XX	YS-YEAR	Year
23	24	2	XX	YS-YR-IND	Quarter
23	23	1	X	YS-YR-INT	Interval
24	24	1	X	YS-YR-PERIOD	Period
25	28	4	COMP-1	YS-PERC-OBS	& observations
29	32	4	COMP-1	YS-ARIT-MEAN	Arithmetic mean
33	36	4	COMP-1	YS-LN-MEAN	Natural logs
37	40	4	COMP-1	YS-GEO-MEAN	Geometric mean
41	44	4	COMP-1	YS-ARIT-STD-DEV	Arithmetic standard deviation
45	48	4	COMP-1	YS-LN-STD-DEV	Logs standard deviation
49	52	4	COMP-1	YS-GEO-STD-DEV	Geometric standard deviation
53	56	4	COMP-1	YS-2ND-MOM	Second moment
57	60	4	COMP-1	YS-MAX-VAL	Maximum value
61	64	4	COMP-1	YS-MED-VAL	Median value
65	68	4	COMP-1	YS-MIN-VAL	Minimum value
69	72	4	COMP-1	YS-ZERO-SUB	Zero substitutions
73	74	2	S9(4(COMP	YS-NUMB-OBS	# observations

FILE NAME/DESCRIPTION: MADR-YRSUMS-D

RECORD NAME/DESCRIPTION: YRSUMS-REC

APPLICATION: SAROAD

DATE: August, 1975

PAGE 2 OF 2

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
75	76	2	S9(4)COMP	YS-SUBS-MADE	# substitutions made
77	80	4	COMP-1	YS-SUM-X	Sum of values in QRT
81	84	4	COMP-1	YS-SUM-XX	Sum of values in QRT
85	88	4	COMP-1	YS-SUM-LN-X	Sum of logs
89	92	4	COMP-1	YS-SUM-LN-XX	Sum of logs squared
93	94	2	XX	YS-UNITS	Units reported
95	95	1	9	YS-VAL-QRT-CNT	# valid quarters
96	96	1	X	YS-CRIT	Criteria flag
97	140	44	X(44)	FILLER	Not used

'DB-YRSUM-T) | YRAVG-RECORD (Record formats for intervals of Y and Z only)

APPLICATION: SAROAD | DATE | PAGE 1 OF 2

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	24	24	X(24)	AVGKEY	SAROAD key for this record (see note 1)
25	28	4	COMP-1	PERCENT-OBS	% of possible running averages present (see note 2)
29	64	36	COMP-1 (occurs 9)	HI-VALUE	The 9 highest running average values (see note 3)
65	68	4	COMP-1	SECOND-MAX	The non-overlapping second maximum value (see note 4)
69	72	4	COMP-1	MIN-VALUE	The smallest running average value
73	74	2	SH9(5)	NUMBER-OBS	# of running average values present
75	76	2	SH9(5)	PRI-VIOLATIONS	Total # of violations of the primary standard
77	78	2	SH9(5)	PRI-NOVL-VIOLATIONS	# of non-overlapping violations of the primary standard (see note 5)
79	80	2	SH9(5)	SEC-VIOLATIONS	Total # of violations of the secondary standard
81	82	2	SH9(5)	SEC-NOVL-VIOLATIONS	# of non-overlapping violations of the secondary standard (see note 5)
83	86	4	X(6) Display-1	LAST-PRI-VIOLATION	Time of the last violat of the primary standard (See note 6)
87	90	4	X(6) Display-1	LAST-SEC-VIOLATION	Time of the last violat of the secondary standa (see note 6)
91	92	2	X(2)	FILLER	Not used
93	94	2	X(2)	UNITS-CODE	Code for standard units
95	95	1	SH9(1)	VALID-QTRS	See note 7
[illegible]	[illegible]	1	X(1)	CRITERIA	Criteria
97	132	36	X(6) Display-1 Occurs 9	HI-VAL-TIME	Time of occurance of the 9 highest [illegible]

FILE NAME/DESCRIPTION: NADB-YRSUM-T

RECORD NAME/DESCRIPTION: YRAVG-RECORD (Record format for intervals of Y and Z only)

APPLICATION: SAROAD

DATE:

PAGE 2 OF 2

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
133	136	4	X(6) Display-1	SEC-MAX-TIME	Time of occurrence of SECOND-MAX (see note 6)
137	14Ø	4	X(6) Display-1	MIN-VAL-TIME	Time of occurence of MIN-VALUE (see note 6)

NOTE 1. SAROAD key contains keys for: state(2), area(4), site(3), agency(1), project(2), pollutant(5), method(2), interval(1), year(2) and month(2); numbers in parentheses indicate the number of characters for each code. In monthly, quarterly and yearly summary records the 'month-code' contains a 2-digit month number (Ø1-12), quarter number (Ø1-Ø4), or ØØ respectively.

NOTE 2. Since the maximum possible number of 8-hour running average values may be 6, 12, or 24 (depending on sampling interval), the value -1.Ø is assigned to PERCENT-OBS when interval code is Y or Z.

NOTE 3. Values are in descending magnitude; i.e., HI-VALUE (1) is the largest, HI-VALUE (9) is the smallest of the 9 values. The nine values are not necessarily unique; if the largest value occurs 3 times, for example, then HI-VALUE (1) = HI-VALUE (2) = HI-VALUE (3), and the time of occurrence (HI-VAL-TIME) are not necessarily in chronologic order. If fewer than 9 values are present, the excess HI-VALUE items have the value -1.Ø.

NOTE 4. This item has the value -1.Ø if a non-overlapping average value cannot be found.

NOTE 5. Non-overlapping violations are those which occur at times separated by at least the duration of the averaging interval.

NOTE 6. Times of occurrence consist of month, day and end-hour codes (2-digits each), stored as FIELDATA (rather than ASCII). If a time is undefined the time if occurrence field contains FIELDATA zeros.

NOTE 7. In monthly and quarterly summary records, VALID-QTRS contains zero and CRITERIA contains 'l'. In yearly summary records, VALID-QTRS contains the number of quarterly summary records present; CRITERIA contains 'i' if all four quarters are present or blank otherwise.

FILE NAME/DESCRIPTION
NADB-YRSUM-D

RECORD NAME/DESCRIPTION
YRSUM-RECORD
(Record formats for intervals other than Y and 3

LOCATION
SAROAD

DATE

PAGE 1 OF 3

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	24	24	X(24)	SUMKEY	SAROAD key for this record (see note 1)
5	28	4	COMP-1	PERCENT-OBSERVATIONS	% of possible observation reported (see note 2)
9	32	4	COMP-1	ARITHMETIC-MEAN	Arithmetic mean of reported values (see note 3)
3	36	4	COMP-1	LOG-MEAN	Natural log of ARITHMETIC MEAN (see note 3)
7	40	4	COMP-1	GEOMETRIC-MEAN	Geometric mean of reported values (see note 3)
1	44	4	COMP-1	ARITH-STD-DEVIATION	Standard deviation about the arithmetic mean (see note 4)
5	48	4	COMP-1	LOG-STD-DEVIATION	Natural log of ARITH-STD-DEVIATION (see note 4)
9	52	4	COMP-1	GEOM-STD-DEVIATION	Standard deviation about the geom. mean (see note 4)
53	56	4	COMP-1	SECOND-MOMENT	Variance about the arithmetic mean (see note 4).
57	60	4	COMP-1	MAXIMUM	Maximum reported value
61	64	4	COMP-1	MEDIAN	Median reported value
65	68	4	COMP-1	MINIMUM	Minimum reported value
69	72	4	COMP-1	ZEROSUB	The value substituted for reported values smaller than the minimum detectable value.
73	74	2	SH9(5)	OBSERVATIONS	# of reported values
75	76	2	SH9(5)	ZEROCNT	# of times ZEROSUB was substituted for reported values
77	80	4	COMP-1	SUMX	Sum of reported values
81	84	4	COMP-1	SUMX2	Sum of squares of reported values
85	88	4	COMP-1	SUMLX	Sum of natural logs of reported values

FILE NAME/DESCRIPTION
(DB-YRSUM-T)

RECORD NAME/DESCRIPTION
YRSUM -RECORD

APPLICATION
SAROAD

DATE

PAGE 2 OF 3

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
89	92	4	COMP-1	SUMLX2	Sum of squares of natural logs of report values
93	94	2	X(2)	UNITS	Code for units in whic values were reported (see note 5)
95	95	1	SH9(1)	VALID-QUARTERS	See note 6
96	96	1	X(1).	CRIT-FLAG	Criteria flag (see not
97	1ØØ	4	COMP-1	SECOND-MAXIMUM	Second highest reporte value
1Ø1	1Ø2	2	SH9(5)	PRIMARY-VIOLATIONS	# of violations of the primary standard or zero of no standard exists
1Ø3	1Ø4	2	SH9(5)	SECONDARY-VIOLATIONS	# of violations of the secondary standard or zero if no standard ex
1Ø5	1Ø8	4	X(6) Display-1	TIME-OF-SEC-MAX	Month, day and end-hou when second maximum value was reported
1Ø9	112	4	X(6) Display-1	TIME-OF-PRI-MAX	Month, day and end-hou when maximum value was reported
113	14Ø	28	X(28)	FILLER	Not used

NOTE 1. SAROAD key contains key for: state(2), area(4), site(3), agency(1), project(2), pollutants(5), method(2), interval(1), year(2) and month(2); number in parenthesis indicates the number of characters for each code. For composite data records, the 'month code' contains the sampling interval of the composited data and the period of compositing (1 character each). For monthly, quarterly and yearly summary records the 'month code' contains the month number (Ø1-12), quarter number (Ø1-Ø4) or ØØ, respectively.

NOTE 2. PERCENT-OBSERVATIONS is undefined for data sampled at 24-hour intervals [illegible] code X) and a value or -1.Ø is entered.

NOTE 3. This item has a value of -1.Ø (undefined) if the sampling interval is less than 24 hours and % observations is not greater than 75.

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
NADB-YRSUM-TD	YRSUM-REOCRD (Record formats for intervals other Y and Z

APPLICATION	DATE	PAGE 3 OF 3
SAROAD		

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION

NOTE 4. This item has a value of -1.Ø (undefined) if:
a) sampling interval is less than 24 hours and % observations is not greater than 75
b) sampling interval is 24 hours or greater and there is only 1 reported value.

NOTE 5. The reporting units code is taken from the last record used in constr ing monthly summary records and from the first record used in construc ing quarterly and yearly summary records. All values in the summary record are in standard units for each pollutant/method.

NOTE 6. This item is meaningful in yearly summary records only, and indicates the number of quarters during which criteria weremet regarding the number of reported values. In monthly and quarterly summary records, this item contains zero.

NOTE 7. The "criteria flag" contains "1" if the sampling criteria for the summarization interval (month, quarter, or year) are satisfied, or contains a blank otherwise.

7.2.3.5 QUARTERLY FREQUENCIES

AEROS FILE DESCRIPTION

QUALIFIER	FILE NAME	DATE
NADB	NADB-QRFRQ-D	Ø5-21-75

FILE DESCRIPTION AND USE

All Frequency Files

One record for each pollutant/site/time period. Key field contains state, area, site, agency, pollutant, method, interval, and date codes. Percentile value field contains value for the following percentiles: 1Ø-16-2Ø-3Ø-4Ø-5Ø-6Ø-7Ø-8Ø-84-9Ø-95-96-97-98-99. A high values field has 1st, 2nd, and 3rd highest unique values. A high-count field has counts of the 1st, 2nd, and 3rd highest unique values. A field gives the reporting units and another field contains the number of observations. Note: There are no composite records on the frequency files (Interval Code of 'C').

FILE TYPE

- ☐ SDF
  - ☐ PRINT FILE
  - ☐ PUNCH FILE
  - ☐ _____
- ☒ ASCII COBOL
  - ☒ SEQUENTIAL
  - ☐ DIRECT
  - ☐ INDEXED-SEQUENTIAL
- ☐ FORTRAN
  - ☐ FORMATTED
  - ☐ UNFORMATTED
  - ☐ _____
- ☐ OTHER _____

STORAGE MEDIUM

- ☒ DISK
- ☐ TAPE { ☒ LABELED / ☐ UNLABELED }
- ☐ CARDS
- ☐ Standard

FILE AVAILABILITY

- ☐ RESTRICTED
- ☒ PERMANENT
- ☐ TEMPORARY
- ☐ _____

CATALOGED FILE DESCRIPTION

- ☐ NO
- ☒ YES: FILE NAME NADB-DESC
  PROC NAME NADBYRFRQ

RECORDING MODE

- ☒ INTERNAL
- ☐ COMPACT
- ☐ CFH

☐ F ☐ AN
☐ U ☐ AN
☐ V ☐ AN

RECORD SIZE

- ☒ FIXED LENGTH: 136 CHARACTERS
- ☐ VARIABLE LENGTH: _____ THRU _____ CHARACTERS

BLOCKING

- ☐ UNBLOCKED
- ☒ BLOCKED: 32 { ☐ CHARACTERS / ☒ RECORDS } PER BLOCK

KEY (IF APPLICABLE)

24 CHARACTERS LONG

CONTENT: STATE, AREA, SITE, AGENCY, PROJECT, POLLUTANT, METHOD, INTERVAL, YEAR.

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: NADØ34 (NAØ51 tape to disk) QTR INDICATOR (PROGRAM NAME)

FILE SIZE: 71 POS. AS OF 9/4/75

UPDATE FREQUENCY: BI-WEEKLY (TIME INTERVAL)

ANTICIPATED GROWTH: 1700 ☒ RECORD ☐ TRACKS PER Update

FILE BACKUP

TYPE: ☐ NONE ☐ SYSTEM ☐ [illegible]

MEDIUM: ☐ CARDS ☒ TAPE ☐ [illegible]

LOCATED AT: _____

FILE NAME: NADB-QRFRQ-T

[illegible]: _____

NUMBER OF GENERATIONS KEPT: 4

FILE NAME/DESCRIPTION: NADB-QRFRQ-D

RECORD NAME/DESCRIPTION: QRFREQ-REC

APPLICATION: SAROAD

DATE:

PAGE 1 OF 2

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	136	136		QR-FREQ-REC	Frequency record
1	114	114		DATA-PART	Data portion of record
1	24	24		QF-KEY	Key
1	22	22		QF-SUB-KEY	Main part of key
1	2	2	XX	QF-STATE	State code
3	6	4	X(4)	QF-AREA	Area code
7	9	3	XXX	QF-SITE	Site code
1Ø	1Ø	1	X	OF-AGENCY	Agency code
11	12	2	XX	QF-PROJECT	Project code
13	17	5	X(5)	QF-POLUTCOD	Pollutant code
18	19	2	XX	QF-METHOD	Method used for test
2Ø	2Ø	1	X	QF-INTVLCOD	Interval code
21	22	2	XX	QF-YEAR	Year
23	24	2	99	QF-YEAR-IND	Quarter Code
25	28	4	COMP-1	QF-1Ø-PCT	1Ø Percentile
29	32	4	COMP-1	QF-16-PCT	16 Percentile
33	36	4	COMP-1	QF-2Ø-PCT	2Ø Percentile
37	4Ø	4	COMP-1	QF-3Ø-PCT	3Ø Percentile
41	44	4	COMP-1	QF-4Ø-PCT	4Ø Percentile
45	48	4	COMP-1	QF-5Ø-PCT	5Ø Percentile
49	52	4	COMP-1	QF-6Ø-PCT	6Ø Percentile
53	56	4	COMP-1	QF-7Ø-PCT	7Ø Percentile
57	6Ø	4	COMP-1	QF-8Ø-PCT	8Ø Percentile
61	64	4	COMP-1	QF-84-PCT	84 Percentile
65	68	4	COMP-1	QF-9Ø-PCT	9Ø Percentile
69	72	4	COMP-1	QF-95-PCT	95 Percentile
73	76	4	COMP-1	QF-96-PCT	96 Percentile
77	8Ø	4	COMP-1	QF-97-PCT	97 Percentile
81	84	4	COMP-1	QF-98-PCT	98 Percentile
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

FILE NAME/DESCRIPTION: NADB-QRFRQ-5

RECORD NAME/DESCRIPTION: QRFREQ-REC

APPLICATION: SAROAD

DATE: -

PAGE 2 OF 2

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
89	92	4	COMP-1	QF-1ST-HIVAL	1st high value
93	96	4	COMP-1	QF-2ND-HIVAL	2nd high value
97	100	4	COMP-1	QF-3RD-HIVAL	3rd high value
101	102	2	S9(4)	QF-1ST-HICNT	1st high count
103	104	2	S9(4)	QF-2ND-HICNT	2nd high count
105	106	2	S9(4)	QF-3RD-HICNT	3rd high count
107	108	2	XX	QF-UNITS	Reporting units
109	110	2	SH9(5)	QF-OBSERVATIONS	# Reported observations
111	136	26	X(26)	FILLER	Unused

7.2.3.6 YEARLY FREQUENCIES

AEROS FILE DESCRIPTION

QUALIFIER	FILE NAME	DATE
NADB	NADB-YRFRQ-D	

FILE DESCRIPTION AND USE ALL FREQUENCY FILES

One record for each pollutant/site/time period. Key field contains state, area, site, agency, pollutant, method, interval and date codes. Percentile value field contains values for the following percentiles: 10-16-20-30-40-50-60-70-80-84-90-95-96-97-98-99. A high-values field has 1st, 2nd, and 3rd highest unique values. A high count field has counts of the 1st, 2nd, and 3rd highest unique values. A field gives the reporting units and another field contains the number of observations. Note: There are no composite records on the frequency files (Interval Code of 'C'). USE: Input to frequency distribution programs.

FILE TYPE

- [ ] SDF
  - [ ] PRINT FILE
  - [ ] PUNCH FILE
  - [ ] _____
- [x] ASCII COBOL
  - [x] SEQUENTIAL
  - [ ] DIRECT
  - [ ] INDEXED-SEQUENTIAL
- [ ] FORTRAN
  - [ ] FORMATTED
  - [ ] UNFORMATTED
  - [ ] _____
- [ ] OTHER _____

STORAGE MEDIUM

- [ ] DISK
- [x] TAPE { [x] LABELED [ ] UNLABELED }
- [ ] CARDS
- [ ] _____

FILE AVAILABILITY

- [ ] RESTRICTED
- [x] PERMANENT
- [ ] TEMPORARY
- [ ] _____

CATALOGED FILE DESCRIPTION

- [ ] NO
- [x] YES: FILE NAME NADB-DESC
  PROC NAME NADBYRFRQ

RECORDING MODE

- [x] INTERNAL
- [ ] COMPACT
- [ ] CFH

[ ] F [ ] AN
[ ] U [ ] AN
[ ] V [ ] AN

RECORD SIZE

- [x] FIXED LENGTH: 136 CHARACTERS
- [ ] VARIABLE LENGTH: _____ THRU _____ CHARACTERS

BLOCKING

- [ ] UNBLOCKED
- [x] BLOCKED: 32 { [ ] CHARACTERS [x] RECORDS } PER BLOCK

KEY (IF APPLICABLE)

24 CHARACTERS LONG

CONTENT: STATE, AREA, SITE, AGENCY, PROJECT, POLUTANT, METHOD, INTERVAL, YEAR, YEAR INDICATOR

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: NAE034 (NA051 tape to disk) (PROGRAM NAME)

FILE SIZE: 31 POS AS OF 9/4/75

UPDATE FREQUENCY: BI-WEEKLY (TIME INTERVAL)

ANTICIPATED GROWTH: 1400 [x] RECORD [ ] TRACKS PER Update

FILE BACKUP

TYPE: [ ] NONE [ ] SYSTEM [x] SPECIAL

MEDIUM: [ ] CARDS [x] TAPE [ ] DISK

LOCATED AT: EPA-RTP

FILE NAME: NADB-YRFRQ-T

FREQUENCY: BI-WEEKLY

NUMBER OF GENERATIONS KEPT: _____

FILE NAME/DESCRIPTION: NADB-YRFRQ-D

RECORD NAME/DESCRIPTION: YRFREQ-REC

APPLICATION: SAROAD

DATE:

PAGE 1 OF 2

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	136	136		YRFREQ-REC	Frequency Record
1	114	114		DATA-PART	Data Portion of Record
1	24	24		YF-KEY	Key
1	22	22		YF-SUB-KEY	Main Part of Key
1	2	2	X(2)	YF-STATE	State Code
3	6	4	X(4)	YF-AREA	Area Code
7	9	3	X(3)	YF-SITE	Site Code
1Ø	1Ø	1	X	YF-AGENCY	Agency Code
11	12	2	X(2)	YF-PROJECT	Project Code
13	17	5	X(5)	YF-POLUTCOD	Polutant Code
18	19	2	X(2)	YF-METHOD	Method Used for Test
2Ø	2Ø	1	X	YF-INTVLCOD	Interval Code
21	22	2	X(2)	YF-YEAR	Year
23	24	2	9(2)	YF-YEAR-IND	Contains 'ØØ'
25	28	4	Comp-1	YF-1Ø-PCT	10 Percentile
29	32	4	Comp-1	YF-16-PCT	16 Percentile
33	36	4	Comp-1	YF-2Ø-PCT	2Ø Percentile
37	4Ø	4	Comp-1	YF-3Ø-PCT	3Ø Percentile
41	44	4	Comp-1	YF-4Ø-PCT	4Ø Percentile
45	48	4	Comp-1	YF-5Ø-PCT	5Ø Percentile
49	52	4	Comp-1	YF-6Ø-PCT	6Ø Percentile
53	56	4	Comp-1	YF-7Ø-PCT	7Ø Percentile
57	60	4	Comp-1	YF-8Ø-PCT	8Ø Percentile
61	64	4	Comp-1	YF-84-PCT	84 Percentile
65	68	4	Comp-1	YF-9Ø-PCT	9Ø Percentile
69	72	4	Comp-1	YF-95-PCT	95 Percentile
73	76	4	Comp-1	YF-96-PCT	96 Percentile
77	8Ø	4	Comp-1	YF-97-PCT	97 Percentile
81	84	4	Comp-1	YF-98-PCT	98 Percentile
85	88	4	Comp-1	YF-99-PCT	99 Percentile

FILE NAME/DESCRIPTION: NADB-YRFRQ-D

RECORD NAME/DESCRIPTION: YRFREQ-REC

APPLICATION: SAROAD (continued)

DATE:

PAGE 2 OF 2

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
89	92	4	Comp-1	YF-1ST-HIVAL	First High Value
93	96	4	Comp-1	YF-2ND-HIVAL	Second High Value
97	100	4	Comp-1	YF-3RD-HIVAL	Third High Value
101	102	4	Comp-1	YF-1ST HICNT	First High Count
103	104	4	Comp-1	YF-2ND-HICNT	Second High Count
105	106	4	Comp-1	YF-3RD-HICNT	Third High Count
107	108	2	X(2)	YF-UNITS	Reporting Units
109	110	2	SH9(5)	YF-OBSERVATIONS	#Reported Observations
111	136	26	X(26)	FILLER	Unused

7.2.3.7 SITEFILE

AEROS FILE DESCRIPTION

QUALIFIER	FILE NAME	DATE
NADB	NADB-STE-INX	June 5, 1975

FILE DESCRIPTION AND USE Sampling Site Description data from SAROAD "Site Identification" forms. Contains codes for state, area, site, agency, project, AQCR, county, EPA-region and SMSA. Contains city name and population, county name, UTM and grid coordinates, latitutde and longitude, supporting agency, site address, station type, AQCR population, elevation above ground and mean sea level time zone and comments.

USES: Used in the interactive system.

FILE TYPE

- ☐ SDF
  - ☐ PRINT FILE
  - ☐ PUNCH FILE
  - ☐ ____
- ☒ ASCII COBOL
  - ☐ SEQUENTIAL
  - ☐ DIRECT
  - ☒ INDEXED-SEQUENTIAL
- ☐ FORTRAN
  - ☐ FORMATTED
  - ☐ UNFORMATTED
  - ☐ ____
- ☐ OTHER ____

STORAGE MEDIUM

- ☒ DISK
- ☐ TAPE { ☒ LABELED / ☐ UNLABELED }
- ☐ CARDS
- ☐ Standard

FILE AVAILABILITY

- ☐ RESTRICTED
- ☒ PERMANENT
- ☐ TEMPORARY
- ☐ ____

CATALOGED FILE DESCRIPTION

- ☐ NO
- ☒ YES: FILE NAME NADB-DESC
  PROC NAME NADBSITEISAM

RECORDING MODE

- ☒ INTERNAL
- ☐ COMPACT
- ☐ CFH
- ☐ F ☐ AN
- ☐ U ☐ AN
- ☐ V ☐ AN

RECORD SIZE

- ☒ FIXED LENGTH: 421 CHARACTERS
- ☐ VARIABLE LENGTH: ____ THRU ____ CHARACTERS

BLOCKING

- ☐ UNBLOCKED
- ☒ BLOCKED: 9 { ☐ CHARACTERS / ☒ RECORDS } PER BLOCK

KEY (IF APPLICABLE)

12 CHARACTERS LONG

CONTENT: STATE, AREA, SITE, AGENCY, PROJECT

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: NAØ3ØB (PROGRAM NAME)

FILE SIZE: 12 POS AS OF 9/4/75

UPDATE FREQUENCY: As needed (TIME INTERVAL)

ANTICIPATED GROWTH: Minimal { ☐ RECORD / ☐ TRACKS } PER ____

FILE BACKUP

TYPE: ☐ NONE ☒ SYSTEM ☐ PRIM

MEDIUM: ☐ CARDS ☒ TAPE

LOCATED AT: ____

FILE NAME: NADB-STE-T

FREQUENCY: As needed

NUMBER OF GENERATIONS KEPT: ____

FILE NAME/DESCRIPTION: NADB-STE-INX

RECORD NAME/DESCRIPTION: SITE-REC

APPLICATION: SAROAD

DATE: June 5, 1975

PAGE 1 OF 2

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	421	421		SITE-REC	Site record
1	1	1	X	FILLER	Unused
2	13	12		SR-KEY	Identification key
2	1Ø	9		SR-CODE	Code
2	3	2	X(2)	SR-STATE	State Code
4	7	4	X(4)	SR-AREA	Area Code
8	1Ø	3	X(3)	SR-SITE	Site Code
11	13	3		SR-AP	Agency/project
11	11	1	X	SR-AGENCY	Agency Code
12	13	2	X(2)	SR-PROJECT	Project Code
14	36	23	X(23)	SR-CITY-NAME	City Name
37	51	15	X(15)	SR-COUNTY-NAME	County Name
52	59	8	9(8)	SR-CITY-POPL	City Population
6Ø	61	2	X(2)	SR-UTM-ZONE	UTM Zone
62	69	8	X(8)	SR-UTM-EAST	UTM Easting
7Ø	76	7	X(7)	SR-UTM-NORTH	UTM Northing
77	84	8		SR-LONGITUDE	Longitude
77	77	1	X	SR-LON-DIR	Longitude Direction
78	8Ø	3	X(3)	SR-LON-DEG	Longitude Degrees
81	82	2	X(2)	SR-LON-MIN	Longitude Minutes
83	84	2	X(2)	SR-LON-SEC	Longitude Seconds
85	91	7		SR-LATITUDE	Latitude
85	85	1	X	SR-LAT-DIR	Latitude Direction
86	87	2	X(2)	SR-LAT-DEG	Latitude Degrees
88	89	2	X(2)	SR-LAT-MIN	Latitude Minutes
9Ø	91	2	X(2)	SR-LAT-SEC	Latitude Seconds
92	92	1	X	SR-REGION	Region
93	96	4	X(4)	SR-SMSA-NBR	SMSA Number
97	157	61	X(61)	SR-SUPP-AGCY	Supporting Agency
158	223	66	X(66)	SR-COMMENT-1	Comment
224	289	66	X(66)	SR-COMMENT-2	Comment

FILE NAME/DESCRIPTION: NADB-STE-INX

RECORD NAME/DESCRIPTION: SITE-REC

APPLICATION: SAROAD (continued)

DATE: June 5, 1975

PAGE 2 OF 2

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
290	314	25	X(25)	SR-ABV-ADDR	Site Abbreviation
315	355	41	X(41)	SR-ADDR	Site Address
356	357	2	X(2)	SR-STA-TYP	Station Type
338	361	4	X(4)	SR-CNTY-NBR	County Number
362	264	3	X(3)	SR-AQCR-NBR	AQCR Number
365	372	8	9(8)	SR-AQCR-POPL	AQCR Population
373	375	3	X(3)	SR-ELEV-ABOVE-G	Elevation Above Ground
376	379	4	X(4)	SR-ELEV-ABOVE-MSL	Elevation Above Sea Level
380	381	2	X(2)	SR-TIME-ZONE	Time Zone of Sampling
382	421	40	X(40)	FILLER	Unused

7.2.3.8 PARAMETER FILE

AEROS FILE DESCRIPTION

QUALIFIER	FILE NAME	DATE
NADB	NADB-PARMFL	June 5, 1975

FILE DESCRIPTION AND USE Contains the monitored air pollutant and meteorlogical parameters their methods of collection and analysis and associated codes: name of parameter, name of collection method, name of analysis method, time-interval code, approximation to the minimum detectable value, reporting decimal point, standard units code, conversion factor for units.

USE: Input to all SAROAD reporting programs other than publication programs NA25Ø, NA217, and NA218.

Is used for Summary and Frequency File Creation.

FILE TYPE

- ☐ SDF
  - ☐ PRINT FILE
  - ☐ PUNCH FILE
  - ☐ _____
- ☒ ASCII COBOL
  - ☐ SEQUENTIAL
  - ☐ DIRECT
  - ☒ INDEXED-SEQUENTIAL
- ☐ FORTRAN
  - ☐ FORMATTED
  - ☐ UNFORMATTED
  - ☐ _____
- ☐ OTHER _____

STORAGE MEDIUM

- ☒ DISK
- ☐ TAPE { ☒ LABELED ☐ UNLABELED
- ☐ CARDS
- ☐ Standard

FILE AVAILABILITY

- ☐ RESTRICTED
- ☒ PERMANENT
- ☐ TEMPORARY
- ☐ _____

CATALOGED FILE DESCRIPTION

- ☐ NO
- ☒ YES: FILE NAME NADB-DESC
  PROC NAME NADBPARAISM

RECORDING MODE

- ☒ INTERNAL
- ☐ COMPACT
- ☐ CFH _____
- ☐ F ☐ AN
- ☐ U ☐ AN
- ☐ V ☐ AN

RECORD SIZE

- ☒ FIXED LENGTH: 94 CHARACTERS
- ☐ VARIABLE LENGTH: _____ THRU _____ CHARACTERS

BLOCKING

- ☐ UNBLOCKED
- ☒ BLOCKED: 3Ø { ☐ CHARACTERS ☒ RECORDS } PER BLOCK

KEY (IF APPLICABLE)

1Ø CHARACTERS LONG

CONTENT: POLLUTANT, METHOD, UNITS AND INTERVAL

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: NAØ31B (PROGRAM NAME)

FILE SIZE: 1 POS AS OF 05/22/75

UPDATE FREQUENCY: As Needed (TIME INTERVAL)

ANTICIPATED GROWTH: Minimum ☐ RECORD ☐ TRACKS PER _____

FILE BACKUP

TYPE: ☐ NONE MEDIUM: ☐ CARDS LOCATED AT: _____

☐ PRINTER ☐ TAPE FILE NAME: NADB-PARM-T

☐ SPECIAL ☐ DISK FREQUENCY: As needed

NUMBER OF GENERATIONS KEPT: 2

FILE NAME/DESCRIPTION: NADB-PARMFL

RECORD NAME/DESCRIPTION: PARAMETER REC

APPLICATION: SAROAD

DATE: June 5, 1975

PAGE 1 OF 1

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	94	94		PARAMETER-REC	Record
1	1Ø	1Ø		IR-KEY	Identification key
1	5	5	X(5)	IR-POLT-COD	Pollutant Code
6	7	2	X(2)	IR-METH	Method
8	9	2	X(2)	IR-UNITS	Units
1Ø	1Ø	1	X	IR-INTVL	Interval
11	14	4	Comp-1	IR-CONV-FAC	Conversion Factor
15	18	4	Comp-1	IR-UR-MIN-DETC	Urban Minimum Detectable
19	22	4	Comp-1	IR-NU-MIN-DETC	Non-Urban Minimum Detectable
23	23	1	9	IR-UR-DP	Urban Decimal Point
24	24	1	9	IR-NU-DP	Non-Urban Decimal Po
25	26	2	X(2)	IR-STD-UTS	Standard Units
27	36	1Ø	X(1Ø)	IR-POL-NME-1	Pollutant Name Part 1
37	46	1Ø	X(1Ø)	IR-POL-NME-2	Pollutant Name Part 2
47	6Ø	14	X(14)	IR-MET-COL	Method of Collection
61	94	34	X(34)	IR-MET-ANAL	Method Analysis

7.2.3.9 POLLUTANT FILE (Names of)

AEROS FILE DESCRIPTION

QUALIFIER	FILE NAME	DATE
NADB	NADB-POLTFL	June 5, 1975

FILE DESCRIPTION AND USE

File contains pollutant code and the name of the associated pollutant.

USES: Accessed by five-digit pollutant code. Is used by standard retrieval programs and in editing routines also by programs producing a listing.

FILE TYPE

- [ ] SDF
  - [ ] PRINT FILE
  - [ ] PUNCH FILE
  - [ ] _____
- [x] ASCII COBOL
  - [ ] SEQUENTIAL
  - [ ] DIRECT
  - [x] INDEXED-SEQUENTIAL
- [ ] FORTRAN
  - [ ] FORMATTED
  - [ ] UNFORMATTED
  - [ ] _____
- [ ] OTHER _____

STORAGE MEDIUM

- [x] DISK
- [ ] TAPE { [x] LABELED / [ ] UNLABELED }
- [ ] CARDS
- [ ] Standard

FILE AVAILABILITY

- [ ] RESTRICTED
- [x] PERMANENT
- [ ] TEMPORARY
- [ ] _____

CATALOGED FILE DESCRIPTION

- [ ] NO
- [x] YES: FILE NAME NADB-DESC
  PROC NAME NADBPOLTISAM

RECORDING MODE

- [x] INTERNAL
- [ ] COMPACT
- [ ] CFH
- [ ] _____
- [ ] F [ ] AN
- [ ] U [ ] AN
- [ ] V [ ] AN

RECORD SIZE

- [x] FIXED LENGTH: 50 CHARACTERS
- [ ] VARIABLE LENGTH: _____ THRU _____ CHARACTERS

BLOCKING

- [ ] UNBLOCKED
- [x] BLOCKED: 10 { [ ] CHARACTERS / [x] RECORDS } PER BLOCK

KEY (IF APPLICABLE)

5 CHARACTERS LONG

CONTENT: POLLUTANT CODE

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: NA032 _____ (PROGRAM NAME)

FILE SIZE: 1 POS AS OF 09/4/75

UPDATE FREQUENCY: Irregular when new pollutant cataloged (TIME INTERVAL)

ANTICIPATED GROWTH: _____ [ ] RECORD [ ] TRACKS [ ] _____ PER _____

FILE BACKUP

TYPE: [ ] NONE [x] SYSTEM [x] SPECIAL

MEDIUM: [ ] CARDS [x] TAPE [ ] DISK

LOCATED AT: _____

FILE NAME: NADB-POLT-T

FREQUENCY: _____

NUMBER OF GENERATIONS KEPT: 2

FILE NAME/DESCRIPTION: NADB-POLTFL

RECORD NAME/DESCRIPTION: POLT-REC

APPLICATION: SAROAD

DATE: June 5, 1975

PAGE 1 OF 1

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	50	50		POLT-REC	Record
1	1	1	X	PF-DELETE	Space
2	6	5		PF-KEY	Pollutant key
2	6	5	X(5)	PF-POLT-COD	Pollutant code
7	50	44	X(44)	PF-POLT-NME	Pollutant name

7.2.3.10 NADB-YRSUM-B

FILE DESCRIPTION AND USE

One record for each pollutant/site/time period. The record contains: % of possible observations, maximum, minimum, median values, the value substituted for Ø in constructing statistics, number of substitutions, number of observations, sum of values, sum of squares, sum of natural logs(ln), sum of ln^2, units reported NADB criteria met flag, arithmetic mean and standard deviation, and second moment. Also contained in the record are: second maximum value, number of violations of primary standard, number of violations secondary standards, time at which maximum value occurred (MO/DA/HR), and time at which second maximum occurred (MO/DA/HR).

USE: Retrieval programs use this file with both interactive and batch access.

FILE TYPE

- ☐ SDF
  - ☐ PRINT FILE
  - ☐ PUNCH FILE
  - ☐ _____
- ☒ ASCII COBOL
  - ☐ SEQUENTIAL
  - ☒ DIRECT
  - ☐ INDEXED - SEQUENTIAL
- ☐ FORTRAN
  - ☐ FORMATTED
  - ☐ UNFORMATTED
  - ☐ _____
- ☐ OTHER _____

CATALOGUED FILE DESCRIPTION

☒ YES: FILE NAME NADB*NADB-DESC
☐ NO PROC NAME NADBYRSUM

BLOCKING

☐ BLOCKED: _____ ☐ CHARACTERS ☐ RECORDS PER BLOCK
☒ UNBLOCKED

RECORD SIZE

☒ FIXED LENGTH: 5040 CHARACTERS
☐ VARIABLE LENGTH: _____ THROUGH _____ CHARACTERS

KEY (IF APPLICABLE) *Actual pointer is record number.
24 CHARACTERS LONG
CONTENT: STATE,AREA,SITE,AGENCY,PROJECT, POLLUTANT,METHOD,INTERVAL,YR,YR INDICATOR

RECORDING MODE

☒ INTERNAL ☐ F ☐ AN
☐ COMPACT ☐ U ☐ AN
☐ CFH ☐ V ☐ AN
☐ _____

FILE AVAILABILITY

☐ RESTRICTED
☒ PERMANENT
☐ TEMPORARY
☐ _____

STORAGE MEDIUM

☒ DISK
☐ TAPE ☒ LABELED ☐ UNLABELED
☐ CARDS
☐ Standard

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: NAØ34Y (PROGRAM NAME)
FILE SIZE: 35 POS AS OF 9/4/75
UPDATE FREQUENCY: BI-WEEKLY, EXCEPT FOR JAN., APR.,JULY,& OCT (TIME INTERVAL)
ANTICIPATED GROWTH: 16ØØ ☒ RECORD ☐ TRACKS ☐ _____ PER Update

FILE BACKUP

TYPE: ☐ NONE ☐ SYSTEM ☒ SPECIAL
MEDIUM: ☐ CARDS ☐ TAPE ☐ DISK
LOCATED AT: EPA
FILE NAME: NADB*NADB-YRSUMS-T
FREQUENCY: BI-WEEKLY
NUMBER OF GENERATIONS KEPT: 4

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
NADB-YRSUM-B	YRSUM-RECORD (Record formats for intervals other than Y and Z only)

APPLICATION	DATE	PAGE 1 OF 4
SAROAD		

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	5040	5040		RECORD1-BLOCK	Occurs 36 Times
1	24	24	X(24)	SUMKEY	SAROAD key for this record (see note 1)
25	28	4	COMP-1	PERCENT-OBSERVATIONS	% of possible observations reported (see note 2)
29	32	4	COMP-1	ARITHMETIC-MEAN	Arithmetic mean of reported values
33	36	4	COMP-1	LOG-MEAN	Natural log of ARITHMETIC MEAN
37	40	4	COMP-1	GEOMETRIC-MEAN	Geometric mean of reported values
41	44	4	COMP-1	ARITH-STD-DEVIATION	Standard deviation about the arithmetic mean (see note 3)
45	48	4	COMP-1	LOG-STD-DEVIATION	Natural log of ARITH-STD-DEVIATION (see note 3)
49	52	4	COMP-1	GEOM-STD-DEVIATION	Standard deviation about the geom. mean (see note 3)
53	56	4	COMP-1	SECOND-MOMENT	Variance about the arithmetic mean (see note 3)
57	60	4	COMP-1	MAXIMUM	Maximum reported value
61	64	4	COMP-1	MEDIAN	Median reported value
65	68	4	COMP-1	MINIMUM	Minimum reported value

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
NADB-YRSUM-B	YRSUM-RECORD (Record formats for intervals other than Y and Z only)

APPLICATION	DATE	PAGE 2 OF 4
SAROAD		

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
69	72	4	COMP-1	ZEROSUB	The value substituted for reported values smaller than the minimum detectable value
73	74	2	SH9(5)	OBSERVATIONS	# of reported values
75	76	2	SH9(5)	ZEROCNT	# of times ZEROSUB was substituted for reported values
77	8Ø	4	COMP-1	SUMX	Sum of reported values
81	84	4	COMP-1	SUMX2	Sum of squares of reported values
85	88	4	COMP-1	SUMLX	Sum of natural logs of reported values
89	92	4	COMP-1	SUMLX2	Sum of squares of natural logs of reported values
93	94	2	X(2)	UNITS	Code for units in which values were reported (see note 4)
95	95	1	SH9(1)	VALID-QUARTERS	See note 5
96	96	1	X(1)	CRIT-FLAG	Criteria flag (see note 6)
97	1ØØ	4	COMP-1	SECOND-MAXIMUM	Second highest reported value
1Ø1	1Ø2	2	SH9(5)	PRIMARY-VIOLATIONS	# of violations of the primary standard or zero if no standard exists

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
NADB-YRSUM-B	YRSUM-RECORD

APPLICATION	DATE	PAGE 3 OF 4
SAROAD		

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1Ø3	1Ø4	2	SH9(5)	SECONDARY-VIOLATIONS	# of violations of the secondary standard or zero if no standard exists
1Ø5	1Ø8	4	X(6) Display-1	TIME-OF-SEC-MAX	Month, day and end-hour when second maximum value was reported
1Ø9	112	4	X(6) Display-1	TIME-OF-PRI-MAX	Month, day and end-hour when maximum value was reported
113	140	28	X(28)	FILLER	Not used

NOTE 1. SAROAD key contains key for: state(2), area(4), site(3), agency(1), project(2), pollutants(5), method(2), interval(1), year(2), and month(2); number in parenthesis indicates the number of characters for each code. For composite data records, the 'month code' contains the sampling interval of the composited data and the period of compositing (1 character each). For monthly, quarterly and yearly summary records the 'month code' contains the month number (Ø1-12), quarter number (Ø1-Ø4) or ØØ, respectively.

NOTE 2. PERCENT-OBSERVATIONS is undefined for data sampled at 24-hour intervals (interval code 7) and for 24-hour averages (interval code X) and a value of -1.Ø is entered.

NOTE 3. This item has a value of -1.Ø (undefined) if:
sampling interval is 24 hours or greater and there is only 1 reported value.

NOTE 4. The reporting units code is taken from the last record used in constructing monthly summary records and from the first record used in constructing quarterly and yearly summary records. All values in the summary record are in standard units for each pollutant/method.

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
NADB-YRSUM-B	YRSUM-RECORD (Record formats for intervals of Y and Z)

APPLICATION	DATE	PAGE 4 OF 4
SAROAD		

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION

NOTE 5. This item is meaningful in yearly summary records only, and indicates the number of quarters during which criteria were met regarding the number of reported values. In monthly and quarterly summary records, this item contains zero.

NOTE 6. The "criteria flag" contains "1" if the sampling criteria for the summarization interval (month, quarter, or year) are satisfied, or contains a blank otherwise.

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
NADB-YRSUM-B	YRAVG-RECORD (Record formats for intervals of Y and Z only)

APPLICATION	DATE	PAGE 1 OF 3
SAROAD		

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	5Ø4Ø	5Ø4Ø		RECORD 2-BLOCK	OCCURS 36 TIMES
1	24	24	X(24)	AVGKEY	SAROAD key for this record (see note 1)
25	28	4	COMP-1	PERCENT-OBS	% of possible running averages present (see note 2)
29	64	36	COMP-1 (occurs 9)	HI-VALUE	The 9 highest running average values (see note 3)
65	68	4	COMP-1	SECOND-MAX	The non-overlapping second maximum value (see note 4)
69	72	4	COMP-1	MIN-VALUE	The smallest running average value
73	74	2	SH9(5)	NUMBER-OBS	# of running average values present
75	76	2	SH9(5)	PRI-VIOLATIONS	Total # of violations of the primary standard
77	78	2	SH9(5)	PRI-NOVL-VIOLATIONS	# of non-overlapping violations of the primary standard (see note 5)
79	8Ø	2	SH9(5)	SEC-VIOLATIONS	Total # of violations of the secondary standard
81	82	2	SH9(5)	SEC-NOVL-VIOLATIONS	# of non-overlapping violations of the secondary standard (see note 5)

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
DB-YRSUM-B	YRAVG-RECORD (Record formats for intervals of Y and Z only)

APPLICATION	DATE	PAGE 2 OF 3
SAROAD		

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
83	86	4	X(6) Display-1	LAST-PRI-VIOLATION	Time of the last violation of the primary standard (see note 6)
87	9Ø	4	X(6) Display-1	LAST-SEC-VIOLATION	Time of the last violation of the secondary standard (see note 6)
91	92	2	X(2)	FILLER	Not used
93	94	2	X(2)	UNITS-CODE	Code for standard unit
95	95	1	SH9(1)	VALID-QTRS	See note 7
96	96	1	X(1)	CRITERIA	Criteria flag
97	132	36	X(6) Display-1 Occurs 9	HI-VAL-TIME	Time of occurrence of 9 highest run. avg. values
133	136	4	X(6) Display-1	SEC-MAX-TIME	Time of occurrence of SECOND-MAX (see note 6)
137	14Ø	4	X(6) Display-1	MIN-VAL-TIME	Time of occurrence of MIN-VALUE (see note 6)

NOTE 1. SAROAD key contains keys for: state(2), area(4), site(3), agency(1), project(2), pollutant(5), method(2), interval(1), year(2) and month (2); numbers in parentheses indicate the number of characters for each code. In monthly, quarterly and yearly summary records the 'month code' contains a 2-digit month number (Ø1-12), quarter number (Ø1-Ø4), or ØØ respectively.

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
DB-YRSUM-B	YRAVG-RECORD (Record formats for intervals of Y and Z only)

APPLICATION	DATE	PAGE 3 OF 3
SAROAD		

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION

NOTE 2. Since the maximum possible number of 8-hour running average values may be 6, 12, or 24 (depending on sampling interval), the value -1.Ø is assigned to PERCENT-OBS when interval code is Y or Z.

NOTE 3. Values are in descending magnitude; i.e., HI-VALUE (1) is the largest, HI-VALUE (9) is the smallest of the 9 values. The 9 highest run. avg. necessarily unique; if the largest value occurs 3 times, for example, then HI-VALUE (1) = HI-VALUE (2) = HI-VALUE (3), and the time of occurrence (HI-VAL-TIME) are not necessarily in chronologic order. If fewer than 9 values are present, the excess HI-VALUE items have the value -1.Ø.

NOTE 4. This item has the value -1.Ø if a non-overlapping average value cannot be found.

NOTE 5. Non-overlapping violations are those which occur at times separated by at least the duration of the averaging interval.

NOTE 6. Times of occurrence consist of month, day and end-hour codes (2-digits each), stored as FIELDATA (rather than ASCII). If a time is undefined the time of occurrence field contains FIELDATA zeros.

NOTE 7. In monthly and quarterly summary records, VALID-QTRS contains zero and CRITERIA contains '1'. In yearly summary records, VALID QTRS contains the number of quarterly summary records present; CRITERIA contains '1' if all four quarters are present or blank otherwise.

7.2.3.11 NADB-YRSUM-I

FILE DESCRIPTION AND USE

This is a file of indices based on the record keys read from the NADB-QRSUM-T tape file. The indices allow Quarterly Summary Data (from NADB-QRSUM-B) to be accessed in a special mode. This will enable TSO to approximate an ISAM structure.

File is created sequentially, accessed randomly.

FILE TYPE

- ☐ SDF
  - ☐ PRINT FILE
  - ☐ PUNCH FILE
  - ☐ _____
- ☒ ASCII COBOL
  - ☐ SEQUENTIAL
  - ☒ DIRECT
  - ☐ INDEXED - SEQUENTIAL
- ☐ FORTRAN
  - ☐ FORMATTED
  - ☐ UNFORMATTED
  - ☐ _____
- ☐ OTHER _____

CATALOGUED FILE DESCRIPTION

- ☐ YES: FILE NAME _____
- ☐ NO PROC NAME _____

BLOCKING

- ☐ BLOCKED: _____ ☒ CHARACTERS ☐ RECORDS PER BLOCK
- ☒ UNBLOCKED

RECORD SIZE

- ☒ FIXED LENGTH: 2280 CHARACTERS
- ☐ VARIABLE LENGTH: _____ THROUGH _____ CHARACTERS

KEY (IF APPLICABLE) *Actual key is record number.

24 CHARACTERS LONG

CONTENT: STATE/AREA/SITE/AGENCY/PROJECT/POLLUTANT/METHOD/INTERVAL/YEAR/INDICATOR

RECORDING MODE

- ☒ INTERNAL ☐ F ☐ AN
- ☐ COMPACT ☐ U ☐ AN
- ☐ CFH ☐ V ☐ AN
- ☐ _____

FILE AVAILABILITY

- ☐ RESTRICTED
- ☒ PERMANENT
- ☐ TEMPORARY
- ☐ _____

STORAGE MEDIUM

- ☒ DISK
- ☐ TAPE ☐ LABELED ☐ UNLABELED
- ☐ CARDS
- ☐ _____

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: NA034Y (PROGRAM NAME)

FILE SIZE: 97 POS AS OF _____

UPDATE FREQUENCY: Bi-Weekly (TIME INTERVAL)

ANTICIPATED GROWTH: 8000 ☐ RECORD ☐ TRACKS ☐ _____ PER _____

FILE BACKUP

TYPE: ☐ NONE ☐ SYSTEM ☒ SPECIAL

MEDIUM: ☐ CARDS ☒ TAPE ☐ DISK

LOCATED AT: _____

FILE NAME: NADB-YRSUM-T

FREQUENCY: _____

NUMBER OF GENERATIONS KEPT: 4

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
NADB-YRSUM-I	OUTPUT-Q-RECORD

APPLICATION	DATE	PAGE 1 OF 1
SAROAD		

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	228Ø			OUTPUT-Q-RECORD	Data Record
1	228Ø	228Ø	X(228Ø)	FILLER	

The record consists of 95 24-character keys. Each key is in the following format:

STATE
AREA
SITE
AGENCY
PROJECT
POLLUTANT
METHOD
INTERVAL
DATE (YR/QTR)

7.2.3.12 NADB-QRSUM-B

FILE DESCRIPTION AND USE One record for each pollutant/site/time period. The record contains: % of possible observations, maximum, minimum, median values, the value substituted for Ø in constructing statistics, number of substitutions, number of observations, sum of values, sum of squares, sum of natural logs (ln), sum of $\ln^2$ units reported NADB criteria met flag, arithmetic mean and standard deviation, ln mean and standard deviation, geometric mean and standard deviation and second moment. Also contained in the record are: second maximum value, number of violations of primary standards, number of violations secondary standards, time at which maximum value occurred (MO/DA/HR), and time at which second maximum value occurred (MO/DA/HR).
USE: Used primarily for the interactive SAROAD terminal system. Also for active site report.

FILE TYPE
- ☐ SDF
  - ☐ PRINT FILE
  - ☐ PUNCH FILE
  - ☐ _____
- ☒ ASCII COBOL
  - ☐ SEQUENTIAL
  - ☒ DIRECT
  - ☐ INDEXED - SEQUENTIAL
- ☐ FORTRAN
  - ☐ FORMATTED
  - ☐ UNFORMATTED
  - ☐ _____
- ☐ OTHER _____

CATALOGUED FILE DESCRIPTION
- ☒ YES: FILE NAME NADBDESC
- ☐ NO PROC NAME QTRSUMFILE

BLOCKING
- ☐ BLOCKED: _____ ☐ CHARACTERS ☐ RECORDS PER BLOCK
- ☒ UNBLOCKED

RECORD SIZE
- ☒ FIXED LENGTH: 5040 CHARACTERS
- ☐ VARIABLE LENGTH: _____ THROUGH _____ CHARACTERS

KEY (IF APPLICABLE) *Actual key is of record within file.
24 CHARACTERS LONG
CONTENT STATE/AREA/SITE/AGENCY/PROJECT/POLLUTANT/METHOD/INTERVAL/YEAR/INDICATOR

RECORDING MODE
- ☒ INTERNAL ☐ F ☐ AN
- ☐ COMPACT ☐ U ☐ AN
- ☐ CFH ☐ V ☐ AN
- ☐ _____

FILE AVAILABILITY
- ☐ RESTRICTED
- ☒ PERMANENT
- ☐ TEMPORARY
- ☐ _____

STORAGE MEDIUM
- ☒ DISK
- ☐ TAPE ☒ LABELED ☐ UNLABELED
- ☐ CARDS
- ☐ _____

FILE CREATION AND MAINTENANCE
FILE CREATED OR UPDATED BY: NAØ340 (PROGRAM NAME)
FILE SIZE: 97 Pos AS OF 9/4/75
UPDATE FREQUENCY: Bi-Weekly (TIME INTERVAL)
ANTICIPATED GROWTH: 8000 ☒ RECORD ☐ TRACKS ☐ _____ PER Update

FILE BACKUP
TYPE: ☐ NONE ☐ SYSTEM ☒ SPECIAL
MEDIUM: ☐ CARDS ☒ TAPE ☐ DISK
LOCATED AT: _____
FILE NAME: NADB-QRSUM-T
FREQUENCY: BI-WEEKLY
NUMBER OF GENERATIONS KEPT: 4

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
NADB-QRSUM-B	QRSUM-RECORD (Record formats for intervals other than Y and Z only)

APPLICATION	DATE	PAGE 1 OF 4
SAROAD		

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	5040	5040		RECORD-BLOCK	Occurs 36 times
1	24	24	X(24)	SUMKEY	SAROAD key for this record (see note 1)
5	28	4	COMP-1	PERCENT-OBSERVATIONS	% of possible observations reported (see note 2)
9	32	4	COMP-1	ARITHMETIC-MEAN	Arithmetic mean of reported values (see note 3)
33	36	4	COMP-1	LOG-MEAN	Natural log of ARITHMETIC MEAN (see note 3)
37	40	4	COMP-1	GEOMETRIC-MEAN	Geometric mean of reported values (see note 3)
41	44	4	COMP-1	ARITH-STD-DEVIATION	Standard deviation about the arithmetic mean (see note 4)
45	48	4	COMP-1	LOG-STD-DEVIATION	Natural log of ARITH-STD-DEVIATION (see note 4)
49	52	4	COMP-1	GEOM-STD-DEVIATION	Standard deviation about the geom. mean (see note 4)

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
NADB-QRSUM-B	ORSUM-RECORD (Record formats for intervals other than Y and Z only)

APPLICATION	DATE	PAGE 2 OF 4
SAROAD		

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
53	56	4	COMP-1	SECOND-MOMENT	Variance about the arithmetic mean (see note 4)
57	60	4	COMP-1	MAXIMUM	Maximum reported value
61	64	4	COMP-1	MEDIAN	Median reported value
65	68	4	COMP-1	MINIMUM	Minimum reported value
69	72	4	COMP-1	ZEROSUB	The value substituted for reported values smaller than the minimum detectable value.
73	74	2	SH9(5)	OBSERVATIONS	# of reported values
75	76	2	SH9(5)	ZEROCNT	# of times ZEROSUB was substituted for reported values
77	80	4	COMP-1	SUMX	Sum of reported values
81	84	4	COMP-1	SUMX2	Sum of squares of reported values
85	88	4	COMP-1	SUMLX	Sum of natural logs of reported values

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
NADB-QRSUM-B	QRSUM-RECORD-(Record formats for intervals other than Y and Z only.)

APPLICATION	DATE	PAGE 3 OF 4

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
133	136	4	x(6) Display-1	SEC-MAX-TIME	Time of occurence of SECOND-MAX (see note 6)
137	140	4	x(6) Display-1	MIN-VAL-TIME	Time of occurrence of MIN-VALVE (see note 6)

NOTE 1. SAROAD key contains keys for: state(2), area(4), site(3), agency(1), project(2), pollutant(5), method(2), interval(1), year(2) and month(2); numbers in parentheses indicate the number of characters for each code. In monthly, quarterly and yearly summary records the 'month-code' contains a 2-digit month number (Ø1-12), quarter number (Ø1-Ø4), or ØØ respectively.

NOTE 2. Since the maximum possible number of 8-hour running average values may be 6, 12, or 24 (depending on sampling interval), the value -1.0 is assigned to PERCENT-OBS when interval code is Y or Z.

NOTE 3. Values are in descending magnitude; i.e., HI-VALUE (1) is the largest, HI-VALUE (9) is the smallest of the 9 values. The nine values are not necessarily unique; if the largest value occurs 3 times, for example, then HI-VALUE (1) = HI-VALUE (2_ = HI-VALUE (3), and the time of occurence (HI-VAL-TIME) are not necessarily in chronologic order. If fewer than 9 values are present, the excess HI-VALUE items have the value -1.0.

NOTE 4. This item has the value - 1.0 if a non-overlapping average value cannot be found.

NOTE 5. Non-overlapping violations are those which occur at time separated by at least the duration of the averaging interval.

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
NADB-QRSUM-B	QRSUM-RECORD-(Record formats for intervals other than Y and Z only.

APPLICATION	DATE	PAGE 4 OF 4

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION

NOTE 6. Times of occurrence consist of month, day and end-hour codes (2-digits each), stored as FIELDATA (rather than ASCII). If a time is undefined the time of occurrence field contains FIELDATA zeros.

NOTE 7. In monthly and quarterly summary records, VALID-QTRS contains zero and CRITERIA contains '1'. In yearly summary records, VALID-QTRS contains the number of quarterly summary records present; CRITERIA contains '1' if all four quarters are present or blank otherwise.

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
NADB-QRSUM-B	ORAVG-RECORD (Record formats for intervals of Y and Z only)

APPLICATION	DATE	PAGE 1 OF 4
SAROAD		

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	5040	5040		RECORD-BLOCK	OCCURS 36 TIMES
1	24	24	X(24)	AVGKEY	SAROAD key for this record (see note 1)
25	28	4	COMP-1	PERCENT-OBS	% of possible running averages present (see note 2)
29	64	36	COMP-1 (occurs 9)	HI-VALUE	The 9 highest running average values
65	68	4	COMP-1	SECOND-MAX	The non-overlapping second maximum value (see note 4)
69	72	4	COMP-1	MIN-VALUE	The smallest running average value
73	74	2	SH9(5)	NUMBER-OBS	# of running average values present
75	76	2	SH9(5)	PRI-VIOLATIONS	Total # of violations of the primary standard
77	78	2	SH9(5)	PRI-NOVL-VIOLATIONS	# of non-overlapping violations of the secondary standard (see note 5)
79	80	2	SH9(5)	SEC-VIOLATIONS	Total # of violations of the secondary standard

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
NADB-QRSUM-B	ORAVG-RECORD-Record formats for intervals of Y and Z only.

APPLICATION	DATE	PAGE 2 OF 4
SAROAD		

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
81	82	2	SH9(5)	SEC-NOVL-VIOLATIONS	# of non-overlapping violations of the secondary standard (see note 5)
83	86	4	X(6) Display-1	LAST-PRI-VIOLATION	Time of the last violation of the primary standard (See note 6)
87	90	4	X(6) Display-1	LAST-SEC-VIOLATION	Time of the last violation of the secondary standard (see note 6)
91	92	2	X(2)	FILLER	Not used
93	94	2	X(2)	UNITS-CODE	Code for standard units
95	95	1	SH9(1)	VALID-QTRS	See note 7
96	96	1	X(1)	CRITERIA	Criteria flag (See note 7)
97	132	36	X(6)	HI-VAL-TIME	Time of occurrence of the 9 highest run. avg. values

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
NADB-QRSUM-B	ORSUM-RECORD (Record formats for intervals other than Y and Z only.)

APPLICATION	DATE	PAGE 3 OF 4
SAROAD		

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
89	92	4	COMP-1	SUMLX2	Sum of squares of natural logs of reported values
93	94	2	X(2)	UNITS	Code for units in which values were reported (see note 4)
95	95	1	SH9(1)	VALID-QUARTERS	See note 5
96	96	1	X(1)	CRIT-FLAG	Criteria flag (see note 6)
97	100	4	COMP-1	SECOND-MAXIMUM	Second highest reported value
101	102	2	SH9(5)	PRIMARY-VIOLATIONS	# of violations of the primary standard or zero if no standard exists
102	104	2	SH9(5)	SECONDARY-VIOLATIONS	# of violations of the secondary standard or zero if no standard exists
105	108	4	X(6) Display-1	TIME-OF-SEC-MAX	Month, day and end-hour when second maximum value was reported
109	112	4	X(6) Display-1	TIME-OF-PRI-MAX	Month, day and end-hour when maximum value was reported
113	140	28	X(28)	FILLER	Not used

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
NADB-QRSUM-B	ORSUM-RECORD-Record formats for intervals other than Y and Z only.

APPLICATION	DATE	PAGE 4 OF 4
SAROAD		

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION

NOTE 1. SAROAD key contains key for: state(2), area(4), site(3), agency(1), project(2), pollutants(5), method(2), interval(1), year(2) and month(2); number in parenthesis indicates the number of characters for each code. For composite data records, the 'month code' contains the sampling interval of the composited data and the period of compositing (1 character each). For monthly, quarterly and yearly summary records the 'month code' contains the month number (Ø1-12), quarter number (Ø1-Ø4) or ØØ, respectively.

NOTE 2. PERCENT-OBSERVATIONS is undefined for data samplied at 24-hour intervals (interval code 7) and for 24-hour averages (interval code X) and a value of -1.0 is entered.

NOTE 3. This item has value of -1.0 (undefined) if:

sampling interval is 24 hours or greater and there is only 1 reported value.

NOTE 4. The reporting units code is taken from the last record used in constructing monthly summary records and from the first record used in constructing quarterly and yearly summary records. All values in the summary record are in standard units for each pollutant/method.

NOTE 5. This item is meaningful in yearly summary records only, and indicates the number of quarters during which criteria were met regarding the number of reported values. In monthly and quarterly summary records, this item contains zero.

NOTE 6. The "criteria flag" contains "1" if the sampling criteria for the summarization interval (month, quarter, or year) are satisfied, or contains a blank otherwise.

7.2.3.13 NADB-QRSUM-I

FILE DESCRIPTION AND USE

This is a file of indices based on the record keys read from the NADB-QRSUM-T tape file. The indices allow Quarterly Summary Data (from NADB-QRSUM-B) to be accessed in a special mode. This will enable TSO to approximate an ISAM structure.

File is created sequentially, accessed randomly.

FILE TYPE

- ☐ SDF
  - ☐ PRINT FILE
  - ☐ PUNCH FILE
  - ☐ _____
- ☒ ASCII COBOL
  - ☐ SEQUENTIAL
  - ☒ DIRECT
  - ☐ INDEXED - SEQUENTIAL
- ☐ FORTRAN
  - ☐ FORMATTED
  - ☐ UNFORMATTED
  - ☐ _____
- ☐ OTHER _____

CATALOGUED FILE DESCRIPTION

☐ YES: FILE NAME _____

☐ NO PROC NAME _____

BLOCKING

☐ BLOCKED: _____ ☐ CHARACTERS ☐ RECORDS PER BLOCK

☒ UNBLOCKED

RECORD SIZE

☒ FIXED LENGTH: 2280 CHARACTERS

☐ VARIABLE LENGTH: _____ THROUGH _____ CHARACTERS

KEY (IF APPLICABLE) *Actual key is

24 CHARACTERS LONG

CONTENT: STATE/AREA/SITE/AGENCY/PROJECT/POLLUTANT/METHOD/INTERVAL/YEAR/INDICATOR

RECORDING MODE

☒ INTERNAL ☐ F ☐ AN

☐ COMPACT ☐ U ☐ AN

☐ CFH ☐ V ☐ AN

☐ _____

FILE AVAILABILITY

☐ RESTRICTED

☒ PERMANENT

☐ TEMPORARY

☐ _____

STORAGE MEDIUM

☒ DISK

☐ TAPE ☐ LABELED ☐ UNLABELED

☐ CARDS

☐ _____

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: NAØ340 (PROGRAM NAME)

FILE SIZE: 97 POS AS OF _____

UPDATE FREQUENCY: Bi-Weekly (TIME INTERVAL)

ANTICIPATED GROWTH: 8ØØØ ☐ RECORD ☐ TRACKS ☐ _____ PER _____

FILE BACKUP

TYPE: ☐ NONE ☐ SYSTEM ☒ SPECIAL

MEDIUM: ☐ CARDS ☒ TAPE ☐ DISK

LOCATED AT: _____

FILE NAME: NADB-QRSUM-T

FREQUENCY: _____

NUMBER OF GENERATIONS KEPT: 4

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
NADB-QRSUM-I	OUTPUT-Q-RECORD

APPLICATION	DATE	PAGE 1 OF 1
SAROAD		

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	228Ø			OUTPUT-Q-RECORD	Data Record
1	228Ø	228Ø	X(228Ø)	FILLER	

The record consists of 95 24-character keys. Each key is in the following format:

STATE
AREA
SITE
AGENCY
PROJECT
POLLUTANT
METHOD
INTERVAL
DATE(YR/QTR)

7.2.3.14 NADB-MOSUM-T

FILE DESCRIPTION AND USE One record for each pollutant/site/time period. The record contains: % of possible observations, maximum, minimum, median values, the value substituted for Ø in constructing statistics, number of substitutions, number of observations, sum of values, sum of squares, sum of natural logs (ln), sum of ln^2, units reported NADB criteria met flag, arithmetic mean and standard deviation, ln mean and standard deviation, geometric mean and standard deviation and second moment. Also contained in the record are: second maximum value, number of violations of primary standards, number of violations secondary standards, time at which maximum value occurred (MO/DA/HR), and time at which second maximum occurred (MO/DA/HR).

USE: Used primarily to update the monthly summary file.

FILE TYPE
- ☐ SDF
  - ☐ PRINT FILE
  - ☐ PUNCH FILE
  - ☐ _____
- ☒ ASCII COBOL
  - ☒ SEQUENTIAL
  - ☐ DIRECT
  - ☐ INDEXED - SEQUENTIAL
- ☐ FORTRAN
  - ☐ FORMATTED
  - ☐ UNFORMATTED
  - ☐ _____
- ☐ OTHER _____

CATALOGUED FILE DESCRIPTION
- ☐ YES: FILE NAME _____
- ☒ NO PROC NAME _____

BLOCKING
- ☒ BLOCKED: 36 ☐ CHARACTERS ☒ RECORDS PER BLOCK
- ☐ UNBLOCKED

RECORD SIZE
- ☒ FIXED LENGTH: 140 CHARACTERS
- ☐ VARIABLE LENGTH: _____ THROUGH _____ CHARACTERS

KEY (IF APPLICABLE)
24 CHARACTERS LONG
CONTENT: STATE/AREA/SITE/AGENCY/PROJECT/POLLUTANT/METHOD/INTERVAL/YEAR/INDICATOR

RECORDING MODE
- ☒ INTERNAL ☐ F ☐ AN
- ☐ COMPACT ☐ U ☐ AN
- ☐ CFH ☐ V ☐ AN
- ☐ _____

FILE AVAILABILITY
- ☐ RESTRICTED
- ☒ PERMANENT
- ☐ TEMPORARY
- ☐ _____

STORAGE MEDIUM
- ☐ DISK
- ☒ TAPE ☒ LABELED ☐ UNLABELED
- ☐ CARDS
- ☐ _____

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: NAB034 (PROGRAM NAME)

FILE SIZE: 6 Volumes AS OF _____

UPDATE FREQUENCY: Bi-Weekly (TIME INTERVAL)

ANTICIPATED GROWTH: 8000 ☒ RECORD ☐ TRACKS ☐ _____ PER Update

FILE BACKUP

TYPE: ☐ NONE ☐ SYSTEM ☒ SPECIAL

MEDIUM: ☐ CARDS ☒ TAPE ☐ DISK

LOCATED AT: EPA-RTP

FILE NAME: NADB-MOSUM-T (-1)

FREQUENCY: Bi-Weekly

NUMBER OF GENERATIONS KEPT: 4

FILE NAME/DESCRIPTION: NADB-MOSUM-T

RECORD NAME/DESCRIPTION: MOSUM-RECORD (Record formats for intervals other than Y and Z only.)

APPLICATION: SAROAD

DATE:

PAGE 1 OF 4

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	24	24	X(24)	SUMKEY	SAROAD key for this record (see note 1)
25	28	4	COMP-1	PERCENT-OBSERVATIONS	% of possible observations reported (see note 2)
29	32	4	COMP-1	ARITHMETIC-MEAN	Arithmetic mean of reported values
33	36	4	COMP-1	LOG-MEAN	Natural log of ARITHMETIC MEAN
37	4Ø	4	COMP-1	GEOMETRIC-MEAN	Geometric mean of reported values
41	44	4	COMP-1	ARITH-STD-DEVIATION	Standard deviation about the arithmetic mean (see note 3)
45	48	4	COMP-1	LOG-STD-DEVIATION	Natural log of ARITHMETIC DEVIATION (see note 3)
49	52	4	COMP-1	GEOM-STD-DEVIATION	Standard deviation about the geom. mean (see note 3)
53	56	4	COMP-1	SECOND-MOMENT	Variance about the arithmetic mean (see note 3)
57	6Ø	4	COMP-1	MAXIMUM	Maximum reported value
61	64	4	COMP-1	MEDIAN	Median reported value
65	68	4	COMP-1	MINIMUM	Minimum reported value

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
NADB-MOSUM-T	MOSUM-RECORD (Record formats for intervals other than Y and Z only.)

APPLICATION	DATE	PAGE 2 OF 4
SAROAD		

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
69	72	4	COMP-1	ZEROSUB	The value substituted for reported values smaller than the minimum detectable value.
73	74	2	SH9(5)	OBSERVATIONS	# of reported values
75	76	2	SH9(5)	ZEROCNT	# of time ZEROSUB was substituted for reported values
77	8Ø	4	COMP-1	SUMX	Sum of reported values
81	84	4	COMP-1	SUMX2	Sum of squares of reported values
85	88	4	COMP-1	SUMLX	Sum of natural logs of of reported values
89	92	4	COMP-1	SUMLX2	Sum of squares of natural logs of reported values
93	94	2	X(2)	UNITS	Code for units in which values were reported (see note 4)
95	95	1	SH9(1)	VALID-QUARTERS	See note 5
96	96	1	X(1)	CRIT-FLAG	Criteria flag (see note 6)
97	1ØØ	4	COMP-1	SECOND-MAXIMUM	Second highest reported value
1Ø1	1Ø2	2	SH9(5)	PRIMARY-VIOLATIONS	# of violations of primary standard or zero if no standard exists

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
NADB-MOSUM-T	MOSUM-RECORD (Record formats for intervals other than Y and Z only)

APPLICATION	DATE	PAGE 3 OF 4
SAROAD		

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
103	104	2	SH9(5)	SECONDARY-VIOLATIONS	# of violations of secondary standard or zero if no standard exists
105	112	4	X(6) Display-1	TIME-OF-SEC-MAX	Month, day and end-hour when second maximum value was reported
109	112	4	X(6) Display-1	TIME-OF-PRI-MAX	Month, day and end-hour when maximum value was reported
113	140	28	X(28)	FILLER	Not used

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
NADB-MOSUM-T	MOSUM-RECORD (Record formats for intervals other than y and Z only)

APPLICATION	DATE	PAGE 4 OF 4
SAROAD		

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION

NOTE 1. SAROAD key contains key for: state(2), area(4), site(3), agency(1), project(2), pollutants(5), method(2), interval(1), year(2) and month(2); number in parenthesis indicates the number of characters for each code. For composite data records, the 'month-code' contains the sampling interval of the composited data and the period of compositing (1 character each). For monthly, quarterly and yearly summary records the 'month code' contains the month number (Ø1-12), quarter number (Ø1-Ø4) or ØØ, respectively.

NOTE 2. PERCENT-OBSERVATIONS is undefined for data sampled at 24-hour intervals (interval code 7) and for 24-hour averages (interval code X) and a value of -1.Ø is entered.

NOTE 3. This item has a value of -1.Ø (undefined) if:
Sampling interval is 24 hours or greater and there is only 1 reported value.

NOTE 4. The reporting units code is taken from the last record used in constructing monthly summary records and from the first record used in constructing quarterly and yearly summary records. All values in the summary record are in standard units for each pollutant/method.

NOTE 5. This item is meaningful in yearly summary records only, and indicates the number of quarters during which criteria weremet regarding the number of reported values. In monthly and quarterly summary records, this item contains zero.

NOTE 6. The "criteria flag" contains "1" if the sampling criteria for the summarization interval (month, quarter, or year(are satisfied, or contains a blank otherwise.

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
NADB-MOSUM-T	MOAVG-RECORD (Record formats for intervals of Y and Z only)

APPLICATION	DATE	PAGE 1 OF 3
SAROAD		

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	24	24	X(24)	AVGKEY	SAROAD key for this record (see note 1)
25	28	4	COMP-1	PERCENT-OBS	% of possible running averages present (see note 2)
29	64	36	COMP-1 (occurs 9)	HI-VALUE	The 9 highest running average values (see note 3)
65	68	4	COMP-1	SECOND-MAX	The non-overlapping second maximum value (see note 4)
69	72	4	COMP-1	MIN-VALUE	The smallest running average value
73	74	2	SH9(5)	NUMBER-OBS	# of running average values present
75	76	2	SH9(5)	PRI-VIOLATIONS	Total # of violations of the primary standard
77	78	2	SH9(5)	PRI-NOVL-VIOLATIONS	# of non-overlapping violations of the primary standard (see note 5)
79	8Ø	2	SH9(5)	SEC-VIOLATIONS	Total # of violations of the secondary standard
81	82	2	SH9(5)	SEC-NOVL-VIOLATIONS	# of non-overlapping violations of the secondary standard (see note 5)

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
NADB-MOSUM-T	MOAVG-RECORD (Record formats for intervals of Y and Z only)

APPLICATION	DATE	PAGE 2 OF 3
SAROAD		

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
83	86	4	X(6) Display-1	LAST-PRI-VIOLATION	Time of the last violation of the primary standard (see note 6)
87	9Ø	4	X(6) Display-1	LAST-SEC-VIOLATION	Time of the last violation of the secondary standard (see note 6)
91	92	2	X(2)	FILLER	Not used
93	94	2	X(2)	UNITS-CODE	Code for standard units
95	95	1	SH9(1)	VALID-QTRS	See note 7
96	96	1	X(1)	CRITERIA	Criteria flag (See note 7)
97	132	36	X(6) Display-1	HI-VAL-TIME	Time of occurrence of 9 highest run. avg. values
133	136	4	X(6)	SEC-MAX-TIME	Time of occurrence of SECOND-MAX (see note 6)
137	14Ø	4	X(6) Display-1	MIN-VAL-TIME	Time of occurrence of MIN-VALUE (see note 6)

NOTE 1. SAROAD key contains keys for: state(2), area(4), site(3), agency(1), project(2), pollutant(5), method(2), interval(1), year(2), and month(2); numbers in parentheses indicate the number of characters for each code. In monthly, quarterly and yearly summary records the 'month-code' contains a 2-digit month number (01-12), quarter number (Ø1-Ø4), or ØØ, respectively.

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
NADB-MOSUM-T	MOAVG-RECORD (Record formats for intervals of Y and Z only)

APPLICATION	DATE	PAGE 3 OF 3
SAROAD		

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION

NOTE 2. Since the maximum possible number of 8-hour running average values may be 6, 12, or 24 (depending on sampling interval), the value -1.Ø is assigned to PERCENT-OBS when interval code is Y or Z.

NOTE 3. Values are in descending magnitute; i.e., HI-VALUE (1) is the largest, HI-VALUE (9) is the smallest of the 9 values. The nine values are not necessarily unique; if the largest value occurs 3 times, for example, then HI-VALUE (1) = HI-VALUE (2) = HI-VALUE (3), and the time of occurrence (HI-VAL-TIME) are not necessarily in chronological order. If fewer than 9 values are present, the excess HI-VALUE items have the value -1.0.

NOTE 4. This item has the value -1.0 if a non-overlapping average value cannot be found.

NOTE 5. Non-overlapping violations are those which occur at times separated by at least the duration of the averaging interval.

NOTE 6. Times of occurrence consist of month, day and end-hour codes (2-digits each), stored as FIELDATA (rather than ASCII). If a time is undefined the time if occurrence field contains FIELDATA zeros.

NOTE 7. In monthly and quarterly summary records, VALDI-QTRS contains zero and CRITERIA contains'1'. In yearly summary records, VALID-QTRS contains the number of quarterly summary records present; CRITERIA contains '1' if all four quarters are present or blank otherwise.

7.2.3.15 QAMIS-TAPE

FILE NAME: QAMIS-TAPE. CASG,A NADB*QAMIS-TAPE.

ABSTRACT:
HISTOLD & HISTNEW are the QAMIS data file. HISTOLD is the old tape input to NA242. NA042 updates HISTOLD and produces HISTNEW, the new data tape. HISTOLD is input to QAMR; which produces reports based on the data in the file.

USES:
HISTOLD & HISTNEW are used by NA042 to store QAMIS data to use as input to the NA242 Report Generating Program.

MEDIA AND AVAILABILITY:
File Media Tape x Disk ____ Cards ____

File Availability: Permanent Mounted ____ Restricted Use ____

FILE CHARACTERISTICS:
Label Usage: Standard x Non-Standard ____ Unlabeled ____

Record Format: Blocked ____ Unblocked x Blocksize ____

Record Type Fixed Length Record Size 139

ORGANIZATION AND STRUCTURE:
Sequential

SIZE AND ANTICPATED GROWTH:
This file will grow as more QAMIS Data is submitted to NADB.

UPDATED FREQUENCY:
Updated with each run of NA042

BACKUPS:
HISTOLD and the input to NA042 are a backup to HISTNEW. Two level backup is recommen-ed: current (HISTNEW) and two previous (HISTOLD).

ASSOCIATED PROGRAMS: NA042, NA242

COMMENTS:
HISTOLD is merely the output tape, HISTNEW, from the previous run of NA042 (NA042 does not test the file name in the tape's label). Thus HISTOLD and HISTNEW are different generations of the same file.

AEROS RECORD LAYOUT

Card Code	State Code	Site Area Code	Site Code	Agency Code	Project Code	Method Code	Lab ID	Agency ID	DATA
01	02 03	04 05 06	07 08 09	10 11	12 13	14 15	16 17	18 19	20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48

DATA

49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98

DATA | Score | Grade | Qlt

99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148

149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198

199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248

APPLICATION _____

RECORD NAME HISTOLD RECORD

DATE _____

FILE DESCRIPTION

8.1.0.0 BACKGROUND

The NEDS point source coding form includes a one-column field on card 6 to depict the confidentiality status of all or part of the point source data on NEDS cards 1 through 6. A number "1" in this field indicates that someone (the state agency, the local agency, the source) considers the data to be proprietary in nature and unsuitable for public release. The number "2", on the other hand, indicates that the originator considers the data suitable for public dissemination.

The original NADB collection effort in 1971-73 revealed that many states desired that their data be treated as confidential; consequently, many point sources in the NEDS data bank were coded as such into the NEDS system. (This understanding was often necessary before the data could even be obtained from the state files.) It must be emphasized that no official decision was necessarily made on the true legal status of the data. Thus, a status of "confidential" might have been assigned by a technician, engineer, or other person inexperienced in law. In 1973, more than 2500 facilities contained in the NEDS data bank had one or more emission points coded as "confidential."

Throughout 1972, 1973, and 1974, NADB worked with the Office of General Counsel (OGC) to resolve the issue of confidential NEDS data. Although this matter requires an official, legal determination for each individual source, OGC has not taken any action as of July 1975.

Discussions with OGC, however, indicated the following:

1. EPA personnel (and presumably their contractors) can have access to all NEDS data including "confidential" information.

2. In all liklihood, no NEDS data are truly proprietary under Federal law. The only NEDS data that could possibly be a trade secret are capacity and annual throughput.

3. EPA has the legal right to collect data essential for enforcement of the Clean Air Act; this includes emissions and/or the technical data required to calculate emissions.

4. Data contained in NEDS are subject only to the Federal Statute on Trade Secrets, not state laws on the subject.

OGC also indicated that the most feasible way to resolve the issue would be for an EPA legal representative to correspond directly with each facility and require them to document any claim of proprietary NEDS data within 30 days. In all liklihood, the great majority of facilities would not even respond; for these sources, the status of the data could be reclassified as a code "2." As of July 1975, the above procedure had not yet been initiated by either OGC or the Regional Counsels.

8.2.0.0 NADB CODING POLICY REGARDING CONFIDENTIAL NEDS DATA

In addition to codes 1 and 2, NADB has authorized a code 3 to be assigned to a NEDS point source. This code (not yet extensively used) reflects the fact that OGC has determined that all or part of the NEDS data for that source is officially and legally a trade secret. This code may be assigned only by the AEROS representative in each Regional Office only upon written statement from the Regional Counsel. Upon such notification the AEROS contact makes this change from code 1 to code 3 and also removes the confidential data in accordance with established update procedures.

NEDS edit checks require that a code 1, 2, or 3 must be assigned to each point source; data with a blank field are rejected. Thus, the NEDS data bank is composed of the following:

Code 1: Data considered to be confidential by the originator but no EPA documentation has been made.

Code 2: Public information.

Code 3: All data officially determined to be a trade secret have been removed by the Regional Offices; thus the remaining information is releasable to the public.

8.3.0.0. NADB REQUEST PROCEDURES FOR CONFIDENTIAL DATA

NADB has modified the NEDS report program to allow the following data items to be deleted for point sources with a confidentiality code of "1".

1. Annual throughput

2. Production capacity

3. Emission estimation method

It should be emphasized that this is merely one report option and only affects the complete and condensed point source listings. Thus two separate point source listings are obtainable upon request:

1. A listing containing <u>all</u> data for <u>all</u> sources with codes of 1, 2, and 3.

2. A listing containing <u>all</u> data for <u>all</u> sources with codes 2 and 3 plus all data except <u>throughput</u>, <u>capacity</u>, and <u>estimation method</u> for all sources with a code 1.

Report 1 is provided to EPA users with warnings that the listing may contain proprietary data and should be safeguarded. Report 2 is provided to non-EPA users, including requestors under the Freedom of Information Act, with statements that certain data have been omitted from the listings due to the question of confidentiality.

In the event of a request for point source listing by a non-EPA user who requests the entire information under the Freedom of Information Act, the procedures for a determination of confidentiality according to 40 CFR Part 2 should be formally initiated by the designated FIA officer.

8.4.0.0 PROCEDURES TO CHANGE CONFIDENTIALITY STATUS FROM CODE 1 TO CODES 2 or 3

The objective is to minimize or eliminate the number of NEDS point sources having a "code 1" confidentiality status. At the same time, such "code 1" data should be in the NEDS system so that information is accessible to users. NEDS data transmitted from the states to the Regional Offices are processed through the terminal edit system; all sources with a blank space in the confidential fields are automatically rejected and must be returned to the originator for correction. Valid data are updated into NEDS. A point source listing is then obtained for all sources having a code 1 and is given to the Regional Counsel along with a request for a legal determination of confidentiality. He then advises the AEROS contact (in writing) which data, if any, are confidential under Federal statutes for a given source. The AEROS representative either recodes the confidentiality status to a "code 2" or deletes the proprietary data and recodes to a "code 3". A log should be kept within the Regional Office showing the following items for each source forwarded to Regional Counsel for determination of confidentiality:

1. Date provided to Regional Counsel
2. Date received by Regional Counsel
3. NEDS ID number
4. Action taken (e.g., recorded to Code 2 or Code 3?)
5. Confidential items deleted if any

These procedures are graphically presented in the following chart.

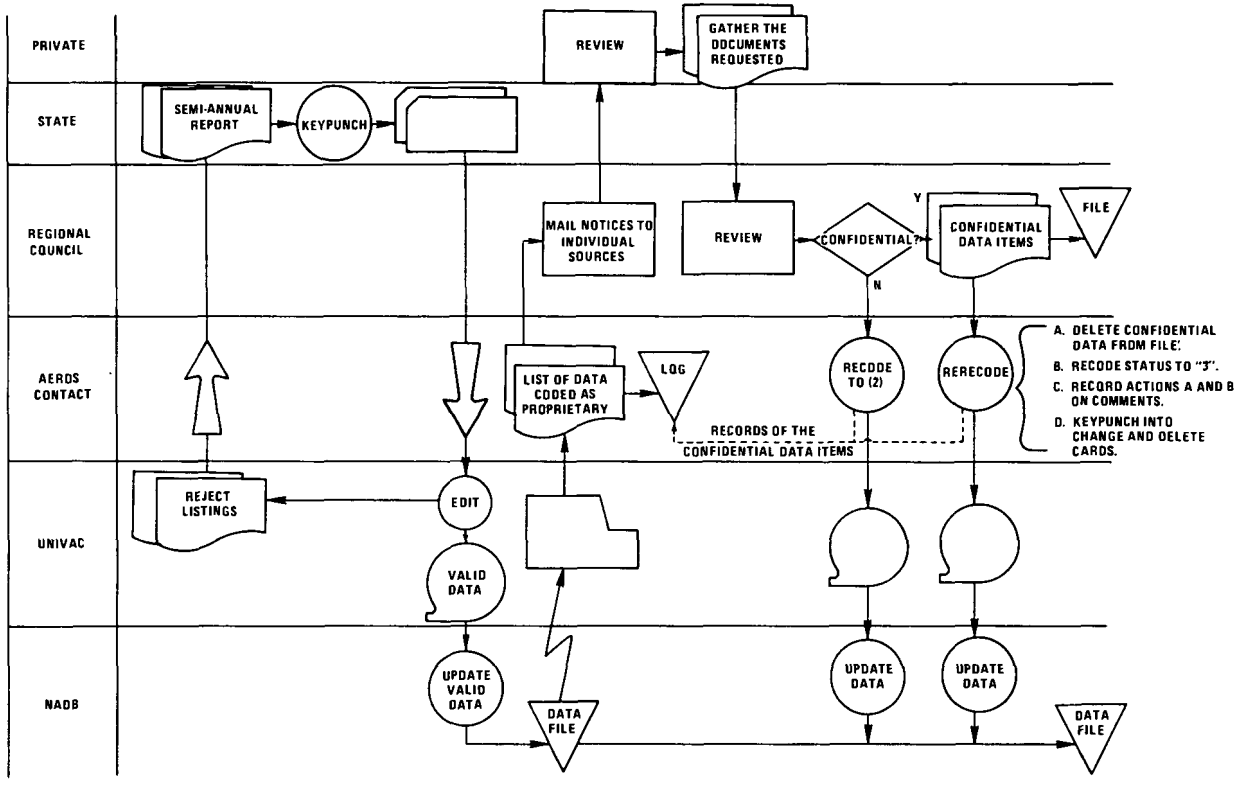

Figure 8.4.0.a. Flowchart for dealing with NEDS data coded as "confidential."

8.5.0.0 RATIONALE FOR NADB POLICY ON CONFIDENTIAL DATA

1. It is consistent with the position that there can be no privileged and confidential information in the data, based on a pledge of confidentiality to the states, since EPA may make no such pledge [40 CFR Part 2, section 2.107a(b)(3)] in connection with information it is entitled by law to demand (under section 114 of the act and 40 CFR 51.7); this is covered in Chapter 8.1.0.0 of the draft procedures.

2. It holds that, the foregoing being correct, NADB is not required to and will not set in place any security measures for data with a code 1. NEDS/NADB uses code 1 as (a) the key to identify emission points in NEDS for which it will set aside (omit from the computer printout of the emission point data listing) certain data items as exempt from public disclosure [40 CFR Part 2, Public Information, section 2.105(a)(4)] because they may disclose trade secrets, and (b) the key for the initiation of the procedures described in 40 CFR Part 2, sections 2.105(b) and 2.107a(a) for the making of a determination of the trade secret status of the data.

3. It provides that security measures need be, and will only be taken after trade secret status has been established, and that the data involved should be removed from the data bank and appurtenances (other record containing devices) because it would be virtually impossible to provide security for the entire data system.

4. Consistent with the Regional Offices' other responsibilities for the data, those offices are required to remove and maintain security for the data determined to have trade secret status in simple manual files.

The Comprehensive Data Handling System (CDHS) was originally developed by EPA in response to state and local requirements for controlling atmospheric pollution. These agencies needed a data handling sytem similar to, but on a smaller scale than the EPA system. A fraction of the number of report capabilities available on the EPA system meet their needs, and generally they utilize a smaller data base.

At present CDHS consists of three categories:

1. Air Quality Data Handling Subsystem-II (AQDHS-II)
2. Enforcement Management Subsystem (EMS)
3. Emissions Inventory Subsystem/Permit and Registration (EIS/P&R)

Each of these subsystems performs a function equivalent to one of the EPA computer software systems. AQDHS-II can store and retrieve air quality monitoring data and thus corresponds functionally to EPA's SAROAD system. EMS, which corresponds functionally to the Compliance Data System of EPA, can store and retrieve compliance data and also schedule enforcement activities. EIS/P&R corresponds functionally to EPA's NEDS. This system will store, retrieve, and maintain emissions data and data pertinent to permit and registration operations.

The file formats of the CDHS subsystems do not match those of the corresponding EPA systems. The CDHS subsystems often provide state and local authorities with information beyond what is offered by the EPA subsystems. For example, in addition to the data required by NEDS, EIS/P&R stores information such as plant telephone number, principal product, exhaust velocity, control equipment cost, etc.

In order to avoid placing upon state and local authorities the burden of collecting data to satisfy both systems, CDHS was created with the capability to convert its file formats to the input formats used by the EPA systems. Thus, quarterly and semi-annual data can be submitted directly from CDHS, expediting the flow of data into regional offices and EPA. For example, EIS/P&R has the capacity to produce emissions data in suitable format for updating the NEDS systems as well as to accept emissions data created by NEDS for its own initial file creation. This simplifies the procedures by which a state can meet the semi-annual reporting requirements of NEDS while maintaining the currency of its own data system.

The mutually supportive aspects of the CDHS subsystems and the corresponding EPA systems offer many advantages to state and local agencies. In addition, by installing CDHS on their own computers or on computers to which they have access, state and local agencies avoid the substantial cost involved in developing and maintaining duplicate computer software systems.

The Air Quality Data Handling Subsystem-II was created to provide a central source from which information necessary to air pollution control might be obtained. In order to accomplish this purpose, AQDHS-II needed to provide a systematic method for collecting air quality control data into a data base, for accessing and analyzing the information contained therein, and for printing this information in usable form.

To this end, the basic AQDHS-II system consists of the following:

1. A file maintenance program that provides for the creation of a data base, and for options to keep the information in that data base current and useful.

2. A retrieval program that provides the means of extracting desired information form the data base.

3. A program for performing statistical analysis on the data contained in the data base.

4. A program for calculating sliding averages on the data contained in the data base.

5. Three output-print programs with the ability to convert information extracted from the data base into reader usable form.

In addition to the basic system outlined above, AQDHS-II contains several preprocessor and postprocessor programs that make it compatible with files produced by the old AQDHS systems, the old AQDHS or SAROAD input transactions, and the SAROAD system.

A more detailed discussion of the components of the basic AQDHS-II system follows.

The data base created by the File Maintenance Program is called the AQDHS-II Master File. The AQDHS-II Master File consists of records, each of which is designed to contain all data related to a particular parameter collected at a specific test site. The records in the Master File differ somewhat in format according to the time period they represent. The period of time represented by a record is determined by the interval at which the samples for that record were taken. A record representing one day's worth of data results from a sampling interval of less than 24 hours; one representing a month's worth of data results from a daily or weekly sampling interval; and one representing a year of data from a monthly or quarterly sampling interval. Composite data may also be stored. Composite readings may represent either weekly, monthly, quarterly, or a full year's worth of data.

The input card formats are presented in Figure 9.1.1.a. Format 1 is used to enter readings taken at less than daily intervals. Formats 2 and 3 are used for all other readings. Readings for multiple parameters are entered in Format 2. Readings from multiple stations are entered in Format 3. Composite data are entered in Format 2. The corresponding SAROAD input format is shown on each load sheet.

The formats for the various file maintenance transactions are presented in Figure 9.1.1.b.

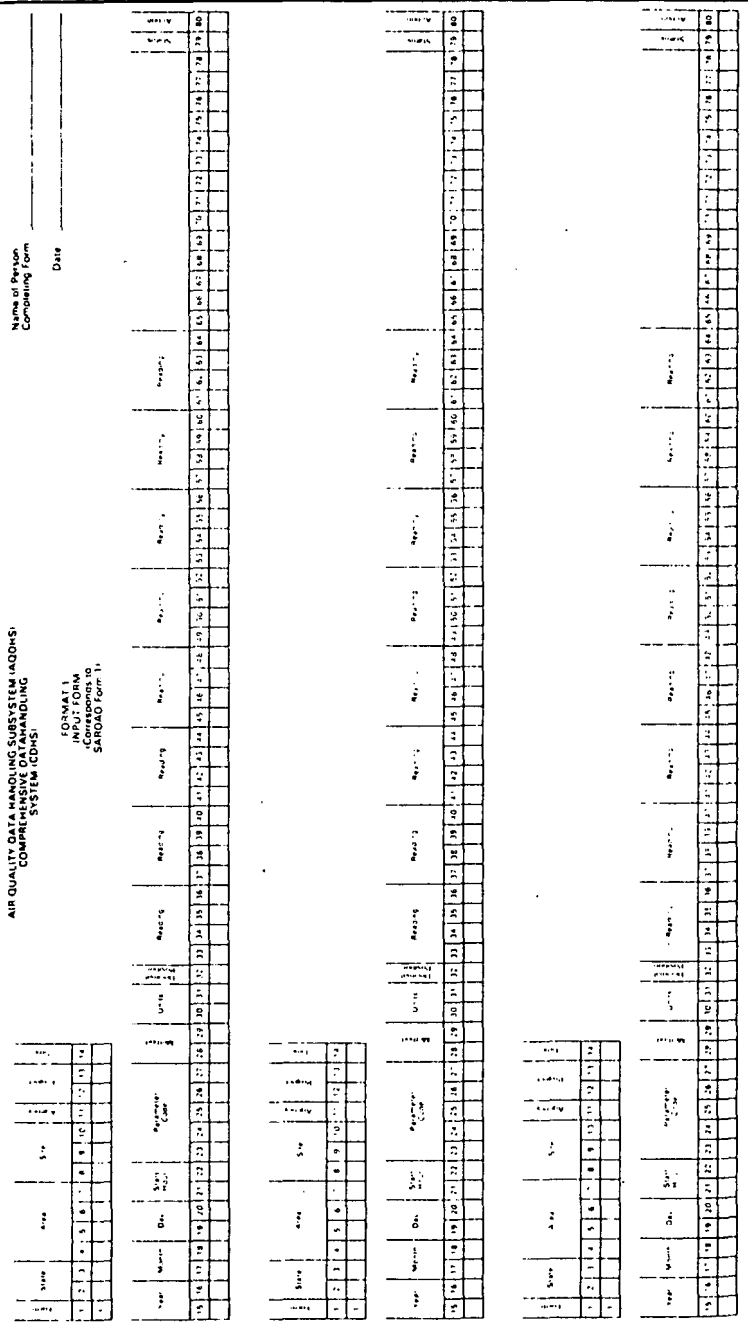

Figure 9.1.1.a. AQDHS-II Input Card Form

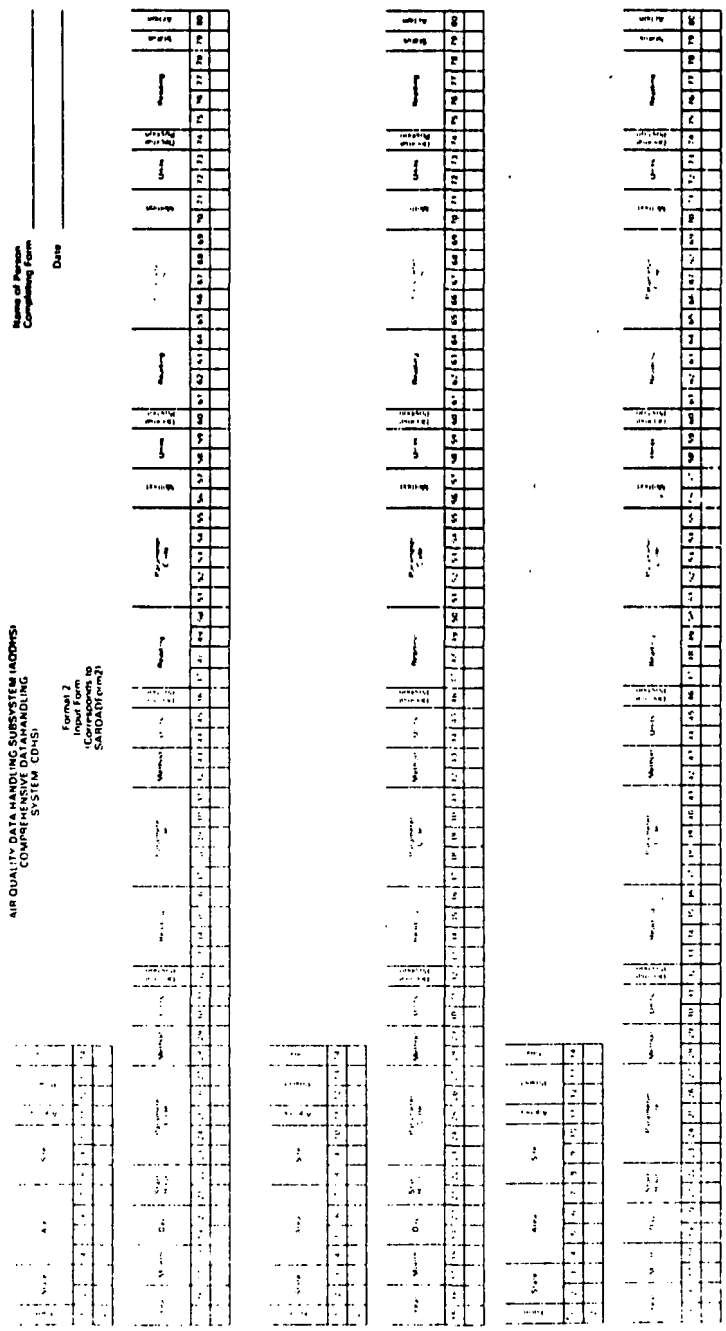

Figure 9.1.1.a (continued). AQDHS-II Input Card Form

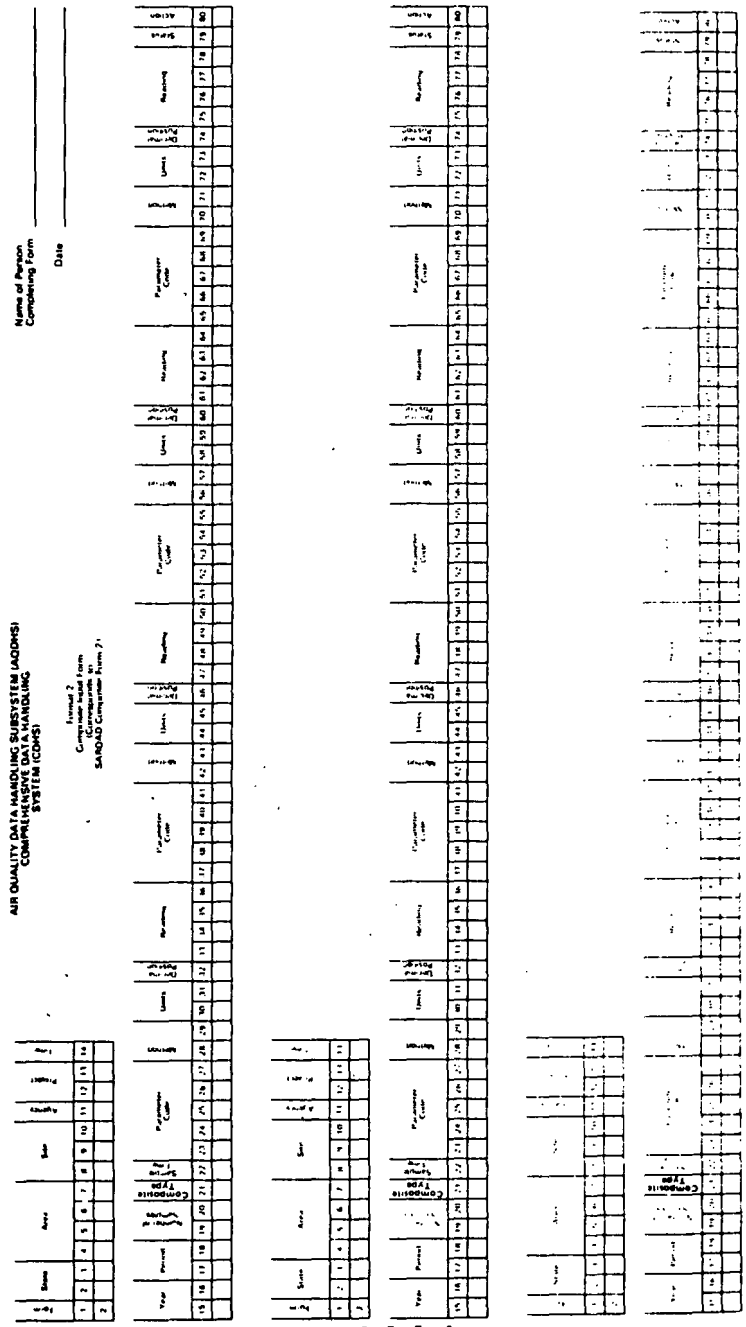

Figure 9.1.1.a (continued). AQDHS-II Input Card Form

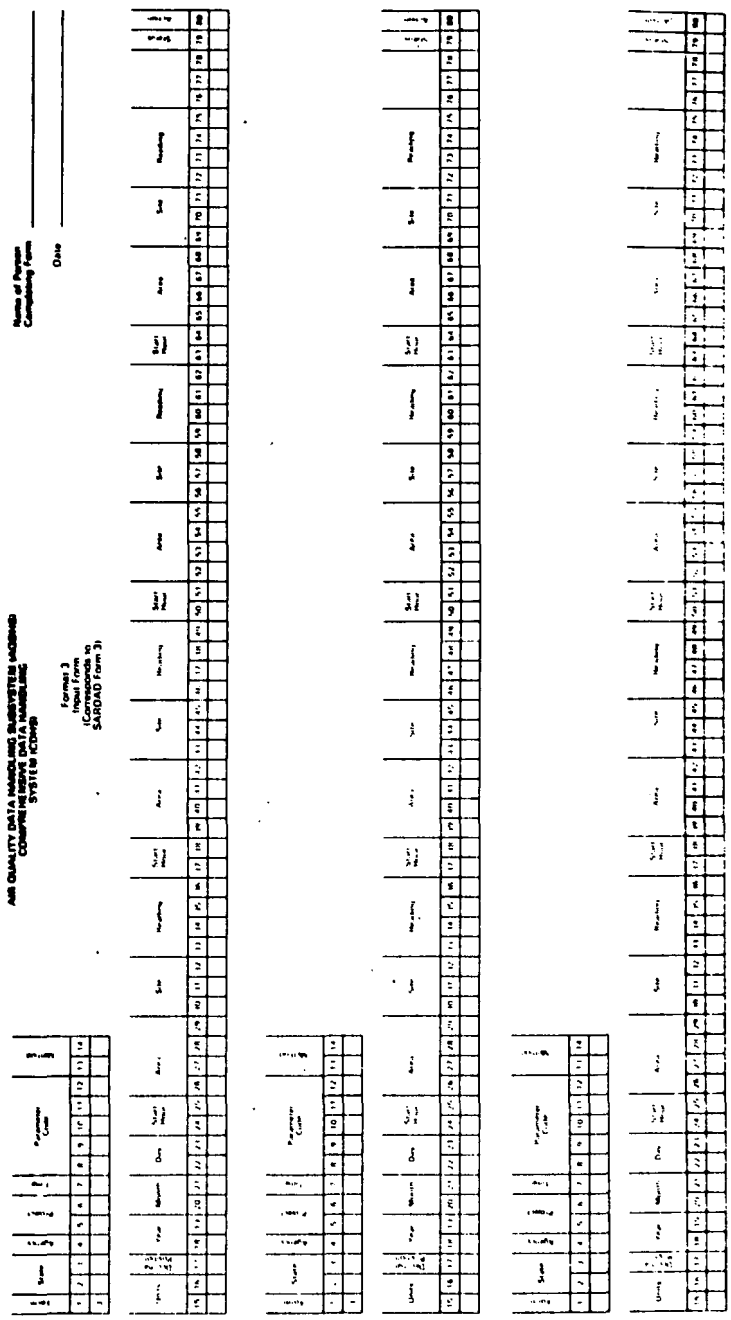

Figure 9.1.1.a (continued). AQDHS-II Input Card Form

Format 1 AQDHS-II Transaction

Columns	Format	Symbol	Description
1	9	Numeric	Form Code
2-3	XX	Alphameric	State Code
4-7	9999	Numeric	Area Code
8-10	999	Numeric	Site Code
11	A	Alphabetic	Agency Code
12-13	99	Numeric	Project Code
14	9	Numeric	Time Code
15-16	99	Numeric	Year
17-18	99	Numeric	Month
19-20	99	Numeric	Day
21-22	99	Numeric	Start Hour
23-27	99999	Numeric	Parameter Code
28-29	99	Numeric	Method Code
30-31	99	Numeric	Units Code
32	9	Numeric	Decimal Position
33-36	9999	Numeric	Reading
37-40	9999	Numeric	Reading
41-44	9999	Numeric	Reading
45-48	9999	Numeric	Reading
49-52	9999	Numeric	Reading
53-56	9999	Numeric	Reading
57-60	9999	Numeric	Reading
61-64	9999	Numeric	Reading
65-78			Unused
79	A	Alphabetic	Status Flag
80	9	Numeric	Action Code

Figure 9.1.1.b. AQDHS-II File Maintenance Transactions

Format 2 AQDHS-II Transactions

Columns	Format	Symbol	Description
1	9	Numeric	Form Code
2-3	XX	Alphameric	State Code
4-7	9999	Numeric	Area Code
8-10	999	Numeric	Site Code
11	A	Alphabetic	Agency Code
12-13	99	Numeric	Project Code
14	X	Alphameric	Time Code
15-16	99	Numeric	Year
17-18	99	Numeric	Month
19-20	99	Numeric	Day
21-22	99	Numeric	Start Hour
23-27	99999	Numeric	Parameter Code
28-29	99	Numeric	Method Code
30-31	99	Numeric	Units Code
32	9	Numeric	Decimal Position
33-36	9999	Numeric	Reading
37-50			Repeat Columns 23-36
51-64			Repeat Columns 23-36
65-78			Repeat Columns 23-36
79	A	Alphabetic	Status Flag
80	9	Numeric	Action Code

Figure 9.1.1.b (continued). AQDHS-II File Maintenance Transactions

Format 2 AQDHS-II Composite Transactions

Columns	Format	Symbol	Description
17-18	99	Numeric	Period
19-20	99	Numeric	Number of Samples
21	9	Numeric	Composite Type
22	X	Alphameric	Time Code*

All other fields have the same format and meaning as those in the standard Format 2 transaction.

* Use SAROAD time code (Volume V) instead of AQDHS time code.

Figure 9.1.1.b (continued). AQDHS-II File Maintenance Transactions

Format 3 AQDHS-II Transaction

Columns	Format	Symbol	Description
1	9	Numeric	Form Code
2-3	XX	Alphameric	State Code
4	A	Alphabetic	Agency Code
5-6	99	Numeric	Project Code
7	X	Alphameric	Time Code
8-12	99999	Numeric	Parameter Code
13-14	99	Numeric	Method Code
15-16	99	Numeric	Units Code
17	9	Numeric	Decimal Position
18-19	99	Numeric	Year
20-21	99	Numeric	Month
22-23	99	Numeric	Day
24-25	99	Numeric	Start Hour
26-29	9999	Numeric	Area Code
30-32	999	Numeric	Site Code
33-36	9999	Numeric	Reading
37-49			Repeat Columns 24-36
50-62			Repeat Columns 24-36
63-75			Repeat Columns 24-36
76-78			Unused
79	A	Alphabetic	Status Flag
80	9	Numeric	Action Code

Figure 9.1.1.b (continued). AQDHS-II File Maintenance Transactions

The following data names are valid references in an AQDHS-II retrieval specification statement:

ACTION-CODE	KEY-3
AGENCY	METHOD-CODE
AREA-CODE	MONTH
COMPOSITE-KEY-2	NBR-OF-READINGS
COMPOSITE-PERIOD	PARAMETER-CODE
COMPOSITE-SAMPLES	PROJECT
COMPOSITE-TIME-CODE	RPTING-SECTION*
COMPOSITE-TYPE	SITE
DATA-FIELDS*	START-HOUR
DAY-CODE	STATE
DECIMAL-CODE	STATUS-FLAG*
FORM-CODE	TIME-CODE
IDENT-KEY	UNIT-CODE
KEY-1	YEAR
KEY-2	

An AQDHS-II retrieval specification statement may be written in one of three language forms: AQDHS-II retrieval language, inline COBOL language, or copied COBOL language. Each of these language forms allows the user the option of restricting the retrieval requested by using a string of conditional statements. The Boolean operators AND and OR may be used to connect these conditional statements. The subject field of one of these conditional statements may be any valid data field in an AQDHS-II master file record whose contents is to be tested or a literal to be

*Repeating data names.

compared against the object field. Likewise the object field of one of these conditional statements may be any valid data field or literal to be compared. The following relations may be used:

= equal

> greater than

< less than

the legation of each of the above

As an example of the use of the retrieval language specifications described above, consider the following series of retrieval commands which specify records with required sets of parameter, method, and unit codes.

```
$$SELECT
(PARAMETER-CODE      = '11101'        AND
METHOD-CODE          = '91'           AND
UNIT-CODE            = '01')          OR
((PARAMETER-CODE     = '44101'        OR
PARAMETER-CODE       = '44102')       AND
METHOD-CODE          = '83'           AND
UNIT-CODE            = '01')          OR
PARAMETER-CODE       = '42401'        AND
METHOD-CODE          = '11'           AND
UNIT-CODE            = '07'
$$END
```

These retrieval specification cards are then processed by the system to produce a source retrieval program which is then compiled and used to retrieve the desired information. With the above retrieval specification, the following would be retrieved from the User's Master File:

All records having either a parameter-code of 11101 with a method-code of 91 and a unit of 01; or a parameter code of 44101 or 44102 if the method-code is 83 and the unit is 01; or a parameter-code of 42401 with a method-code of 11 and a unit-code of 07.

9.1.3.1 DETAILED LIST REPORT

The Detailed List Report produces a detailed, formatted listing of the data contained in the AQDHS-II master file or the retrieval answer file. The format of this report varies according to the sampling interval of the data contained in the records being processed. The sampling interval may represent an hourly (or multiples thereof), daily, weekly, monthly, quarterly, or composite period. The readings for each interval and the number of such readings are always included in the report. In addition, the user may elect to produce either a mean or sum report. In the mean report, the number of readings, the mean reading, and the maximum reading for each line and column are also printed. In the sum report, the number of readings and the sum of the readings for each line are printed.

9.1.3.2 SLIDING AVERAGE REPORT

The Sliding Average Report presents the readings contained in each record in the AQDHS-II master file or answer file, along with the sliding averages of these readings. Also printed are the number of readings and the mean and maximum values of the readings. When specified, the sum of the readings is printed rather than their mean and maximum values. The number of readings in each average is specified by the user. Readings for hourly, daily, weekly, monthly, or quarterly periods may be used. Composite data readings are excluded.

9.1.3.3 DATA ANALYSIS/STATISTICAL LIST PROGRAMS

The Data Analysis/Statistical List program set presents the following statistical information for data contained in the AQDHS-II master file:

Minimum and maximum observations
Second and third highest observations
Arithmetic mean
Arithmetic standard deviation
Geometric mean
Geometric standard deviation
Percentage of readings present
10th, 30th, 50th, 70th, 90th, 95th, 97th, 98th, and 99th percentile occurence

Composite data are not acceptable as input for this program set. A heading consisting of agency, state, project, standards, etc. is printed.

The Emissions Inventory Subsystem/Permits and Registration Subsystem (EIS/P&R) was created to provide a central source from which information necessary to air pollution control might be obtained. In order to accomplish this purpose, EIS/P&R contains a systematic method for collecting emission data into a data base, for updating and accessing the information contained in the data base, and for printing this information in usable form.

The File Maintenance and Retrieval programs form the nucleus of the EIS/P&R. The File Maintenance Program may be employed to create a new master file or update an existing master file. Each record contained on the master file is broken into three hierarchical segment types dealing with plant, point source, and machine process and/or permit and registration information. The master file is developed from the data contained on EIS/P&R point and area source transaction cards, which can either be punched from EIS/P&R load sheets or generated from NEDS data by means of a conversion program. Because permit and registration information may vary significantly from one agency to the next, the P&R data are recorded on the Master File in free format. This format also allows the user to store other types of information, such as that resulting from legal and surveillance activities. The File Maintenance Program requires two input files, the first containing the master file to be updated and the second containing the transactions that have been arranged in Master File sequence by means of a sorting program. One column on each transaction card is used to indicate whether a new file is to be added or an existing file is to be deleted or changed.

The data base created by the File Maintenance Program is called the EIS/P&R master file. The EIS/P&R master file is a three-level heirarchical file with three different segment types. The highest level segment is the plant segment. Subordinate to each plant segment are a maximum of 99 point source segments. Point sources are individual emission points in a plant, such as stacks within a given plant. Subordinate to each point source segment are up to six process segments. Each process segment describes a source classification or process emitting through a given point source. Each segment type on the master file has its own format consisting of various data fields. Each data field is related directly to a data field on one of the EIS/P&R input transaction cards. Just as these are three different segment types in the master file, there are three classes of input transaction cards. The 01 through 03 cards contain general plant identification, cards 11 through 13 the point source parameters, cards 21 through 23 the fuel and process parameters, and card 30 the permit and registration information. Figure 9.2.0.a shows the format of the EIS/P&R input transaction cards, and illustrates the type of information stored in the EIS/P&R master file.

The EIS/P&R Retrieval Program is more complex than the File Maintenance Program because of the greater number of options that must be accommodated. The first step in the retrieval procedure is the actual generation of a retrieval program based upon control cards inserted in the job stream. The "SORT" control card determines the field which is to be sorted and the order of the sort. The EIS/P&R retrieval language, containing a number of different relational operations, may then be employed to allow the retrieval of a selected set of data. This retrieval language used in the EIS/P&R system is similar to that used in the other CDHS subsystems. The user also has the option of specifying his own retrieval commands in COBOL rather than using the special retrieval language.

The EIS/P&R Summary Program can be used on the master file or a retrieval master file. Summations may be generated for the following quantities: source count, estimated emissions, actual emissions, allowable emissions, and control equipment cost. Up to five levels (e.g., SIC, county, etc.) may be specified for the summary report with the order of the summary levels determined by the "SORT" command used in the Master File Sort Program.

In addition to the programs just discussed, the EIS/P&R subsystem contains several programs that provide largely service functions. These include routines for NEDS to EIS/P&R emission conversion, emission factor table generation, formatted master file listing, transaction sorting, transaction generation, and emission factors insertions.

Card Columns 1-18 of all Cards (Key)

CC	Format	Symbol	Description
1 - 2	xx	Numeric Code	State Code
3 - 6	xxxx	Numeric Code	County Code
7 - 9	xxx	Numeric Code	AQCR Number
10 - 13	xxxx	Numeric Code	Plant Id
14 - 18	xxxxx	Numeric	Date of Record

Card Ø1 - Plant Identification

CC	Format	Symbol	Description
19 - 21	xxx	Alphanumeric Code	Control Region
22 - 23	xx	Alphanumeric Code	Local Control
24 - 35	x-x	Alphanumeric Code	Plant Id
36 - 39	xxxx	Numeric Code	City
40 - 41	xx	Numeric Code	UTM ZONE
42	A	Alphabetic Code	Ownership
43 - 57	A-A	Alphabetic	Contact
58 - 67	x-x	Alphanumeric	Telephone
68 - 77	x-x	Alphanumeric	Principal Product
78 - 79	xx	Numeric	Card Number
80	x	Alphabetic Code	Transaction Code

Figure 9.2.0.a. Description of EIS/P&R Transaction Cards

Card Ø2 - Plant Identification

CC	Format	Symbol	Description
19 - 66	x-x	Alphanumeric	Name and Address
67 - 70	x-x	Numeric	Number of Employees
71 - 76	xxxxx.x	Numeric	Property Area
77			Not Used
78 - 79	xx	Numeric	Card Number
80	x	Alphabetic Code	Transaction Code

Card Ø3 - Plant Identification

CC	Format	Symbol	Description
19 - 66	x-x	Alphanumeric	Mailing Address
67 - 77			Not Used
78 - 79	xx	Numeric	Card Number
80	x	Alphabetic Code	Transaction Code

Figure 9.2.0.a (continued). Description of EIS/P&R Transaction Cards

CARD LEVEL ONE

Card 11 - Point Source Parameters

CC	Format	Symbol	Description
19 - 20	xx	Numeric	Segment ID
21 - 22	xx	Numeric	Point Id (NEDS)
23 - 25	xxx	Alphanumeric	Point Id (Local)
26 - 29	xxxx	Numeric	SIC Code
30 - 31	xx	Numeric	IPP Code
32 - 35	xxx.x	Numeric	UTM Horizontal Coordinates
36 - 40	xxxx.x	Numeric	UTM Vertical Coordinates
41 - 46	x-x	Numeric	Latitude
47 - 53	x-x	Numeric	Longitude
54 - 61	x-x	Numeric	% Annual Throughput
62 - 66	xxxxx	Numeric	Normal Operating
67 - 71	xxxxx	Numeric	Boiler Design Capacity
72 - 74	xx.x	Numeric	Space Heat %
75 - 77			Not Used
78 - 79	xx	Numeric	Card Number
80	x	Alphabetic Code	Transaction Code

Figure 9.2.0.a (continued). Description of EIS/P&R Transaction Cards

Card 12 - Point Source Parameters

CC	Format	Symbol	Description
19 - 20	xx	Numeric	Segment ID
21 - 24	xxxx	Numeric	Stack Height
25 - 27	xx.x	Numeric	Stack Equivalent Diameter
28 - 31	xxxx	Numeric	Stack Temperature
32 - 38	x-x	Numeric	Exhaust Flow Rate
39 - 43	xxxxx	Numeric	Velocity
44 - 47	xxxx	Numeric	Plume Height
48 - 51	xxxx	Numeric	Points with Common Stack
52	x	Numeric	Compliance Status
53 - 56	xxxx	Numeric	Compliance Schedule
57 - 62	xxxxxx	Numeric	Compliance Update
63	x	Numeric	ECAP
64 - 75	x-x	Numeric	Control Regulations
76 - 77			Not Used
78 - 79	xx	Numeric	Card Number
80	x	Alphabetic Code	Transaction Code

Figure 9.2.0.a (continued). Description of EIS/P&R Transaction Cards

Card 13 - Point Source Parameters

CC	Format	Symbol	Description
19 - 20	xx	Numeric	Segment ID
21 - 25	xxxxx	Numeric	Pollutant ID
26 - 32	xxxxxx.xx	Numeric	Control Equipment Cost
33 - 35	xxx	Numeric	Primary Control Equipment
36 - 38	xxx	Numeric	Secondary Control Equipment
39 - 41	xx.x	Numeric	Estimated Control Efficiency
42 - 48	xxxxxxxx	Numeric	Emissions Estimate
49 - 55	xxxxxxxx	Numeric	Emissions Measured
56 - 62	xxxxxxxx	Numeric	Allowable Emissions
63	x	Numeric	Emission Units
64	x	Numeric	Estimation Method
65	x	Numeric	Test Method
66 - 77			Not Used
78 - 79	xx	Numeric	Card Number
80	x	Alphabetic	Transaction Code

Figure 9.2.0.a (continued). Description of EIS/P&R Transaction Cards

Card 21 - Fuel, Process Parameters

CC	Format	Symbol	Description
19 - 20	xx	Numeric	Segment 1 ID
21 - 22	xx	Numeric	Segment 2 ID
23 - 30	x-x	Numeric Code	SCC Code
31 - 35	xxxxx	Numeric Code	BEC Code
36	x	Numeric Code	Fuel Units
37 - 43	xxxxxxx	Numeric	Fuel, Process, Solid Waste
44 - 50	xxxxx.xxx	Numeric	Maximum Design
51 - 53	x.xx	Numeric	Sulfer Content
54 - 56	xx.x	Numeric	Ash Content
57 - 61	xxxxx	Numeric	Heat Content
62 - 77			Not Used
78 - 79	xx	Numeric	Card Number
80	x	Alphabetic Code	Transaction Code

Figure 9.2.0.a (continued). Description of EIS/P&R Transaction Cards

Card 22 - Fuel, Process Parameters

CC	Format	Symbol	Description
19 - 20	xx	Numeric	Segment 1 ID
21 - 22	xx	Numeric	Segment 2 ID
23	x	Numeric	Confidentiality of data
24	x	Alphabetic	Source Code
25 - 49	x-x	Alphanumeric	Source Description
50	x	Alphabetic	Emission Factor Source
51 - 77			Not Used
78 - 79	xx	Numeric	Card Number
80	x	Alphabetic Code	Transaction Code

Figure 9.2.0.a (continued). Description of EIS/P&R Transaction Cards

Card 23 - Fuel, Process Parameters

CC	Format	Symbol	Description
19 - 20	xx	Numeric	Segment 1 ID
21 - 22	xx	Numeric	Segment 2 ID
23 - 27	xxxxx	Numeric	Pollutant ID Code
28 - 36	xxxxxxx.xxx	Numeric	Emission Factor
37	x	Alphabetic Code	Ash/Sulfur Code
38	x	Numeric Code	Emission Factor Units
39 - 54			Repeat CC 23 - 38
55 - 70			Repeat CC 23 - 38
71 - 77			Not Used
78 - 79	xx	Numeric	Card Number
80	x	Alphabetic Code	Transaction Code

Figure 9.2.0.a (continued). Description of EIS/P&R Transaction Cards

Card 30 - Permits and Registration Parameters

CC	Format	Symbol	Description
19 - 20	xx	Numeric	Segment 1 ID
21 - 22	xx	Numeric	Segment 3 ID
23 - 25	xxx	Numeric	Line Number
26	x	Alphabetic	Comment Flag
27 - 77	x-x	Alphanumeric	Comment
78 - 79	xx	Numeric	Card Number
80	x	Alphabetic	Transaction Code

Figure 9.2.0.a (continued). Description of EIS/P&R Transaction Cards

The following fields from the plant segment may be referenced in an EIS/P&R retrieval specification statement:

AQCR	OWNER	SEG-0-SET-ID
CITY	PLANT-ID	SEGMENT-0-ID
CONTACT	PRINCIPAL-PRODUCT	STATE
COUNTY	PROPERTY-AREA	TELEPHONE
DATE-OF-RECORD	RECORD-0-DAY	USER-CONTROL-REGION
LOCAL-CONTROL	RECORD-0-YEAR	USER-PLANT-ID
NUMBER-OF-EMPLOYEES	SEG-0-ID	UTM-ZONE

Under certain circumstances, the fields ESTABLISHMENT and MAILING-ADDRESS may also be referenced in a retrieval specification in COBOL language.

The following fields from the point source segment may be referenced in an EIS/P&R retrieval specification statement:

ANNUAL-THRUPUT	LATITUDE-MINUTE	SCHEDULE-MONTH
BOILER-DESIGN-CAPACITY	LATITUDE-SECOND	SCHEDULE-YEAR
COMPLIANCE-STATUS	LONGITUDE	SEG-1-ID
COMPLIANCE-STATUS-UPDATE	LONGITUDE-DEGREE	SEG-1-SET-1-ID
CONTROL-REGULATIONS	LONGITUDE-MINUTE	SEGMENT-1-ID
DATE-OF-1-RECORD	LONGITUDE-SECOND	SEP-NOV
DAY-WEEK	MAR-MAY	SIC
DEC-FEB	NBR-OF-POLLUTANTS	SPACE-HEAT
DIAMETER	NEDS-POINT-ID	STACK-DATA
ECAP	NORMAL-OPERATING	STATUS-DAY
FLOW-RATE	PLUME	STATUS-MONTH
HEIGHT	POINT-ID	STATUS-YEAR
HORIZONTAL	POINTS-PER-STACK	TEMPERATURE
HOURS-DAY	RECORD-1-DAY	USER-POINT-ID
IPP	RECORD-1-YEAR	UTM-COORDINATES
JUN-AUG	REG-1	VELOCITY
LATITUDE	REG-2	VERTICAL
LATITUDE-DEGREE	REG-3	WEEK-YEAR

The following fields from the repeating portion of the point source segment may be referenced:

ALLOWABLE	ESTIMATION-METHOD
CNTL-EQUIP-COST	MEASURED
CONTROL-EQUIPMENT	POLLUTANT-ID
EMISSIONS-UNITS	PRIMARY-CNTL
EMISSIONS	SECONDARY-CNTL
EST-CONTROL-EFF	TEST-METHOD
ESTIMATES	

The following list of names from the machine process segment may be referenced in either the EIS/P&R retrieval specification language or in COBOL language specifications

ASH-CONTENT	RECORD-2-DAY
BEC	SCC
BEC-ID	SCC-I
BEC-NUMBER	SCC-II
CONFIDENTIALITY	SCC-III
DATE-OF-2-RECORD	SCC-IV
EMISSION-FACTOR-SOURCE	SEG-2-ID
FUEL-PROCESS-RATE	SEG-2-SET-1-ID
FUEL-UNITS	SEG-2-SET-2-ID
HEAT-CONTENT	SEGMENT-2-ID
MAX-DESIGN-RATE	SOURCE-CODE
NUMBER-OF-EF	SOURCE-DESCRIPTION
RECORD-2-YEAR	SULFUR-CONTENT

The following list of names from the permits and registration segment may be referenced in either the EIS/P&R retrieval specification language or in COBOL language specifications.

DATE-OF-3-RECORD	SEG-3-ID
LINE-NUMBER	SEG-3-SET-1-ID
RECORD-3-DAY	SEG-3-SET-3-ID
RECORD-3-YEAR	SEGMENT-3-ID

The following three names from the permits and registration segment may be referenced in a retrieval specification in the COBOL language only.

COMMENT-L	COMMENTS
COMMENT-R	

The master file sort program can be used to sort all fields referenced in an EIS/P&R retrieval specification statement. They may be sorted either in ascending or descending order.

An EIS/P&R retrieval specification statement may be modified either by subordinate EIS/P&R fixed format clauses or by a short COBOL program. Regardless of the method employed, the result is to restrict the retrieval requested by using a string of conditional statements. For example, the restrictions that data will be retrieved only if the state code is greater than 40 or if the code is less than 10 may be imposed. In general, any data field name acceptable for retrieval may be used as

the subject or object of a restricting conditional statement. A numeric literal or an alphanumeric literal may also be used as the object. The following are relations that may be used:

CODE	MEANING
=	equal
<	less than
>	greater than
N=	not equal
N<	not less than
N>	not greater than

TECHNICAL REPORT DATA
(Please read Instructions on the reverse before completing)

1. REPORT NO. EPA-450/2-76-009a	2.	3. RECIPIENT'S ACCESSION NO.
4. TITLE AND SUBTITLE AEROS MANUAL SERIES; VOLUME III: SUMMARY AND RETRIEVAL (Second Edition)		5. REPORT DATE July 1977
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15. SUPPLEMENTARY NOTES

16. ABSTRACT

The AEROS Summary and Retrieval Manual, Volume III of the OAQPS Guidelines Manual Series, describes and illustrates the reporting and analysis capabilities of the various AEROS systems. It also describes the analysis packages available for use in the evaluation of AEROS data and describes the user access procedures for obtaining AEROS reports. It describes the standard publications available from the NADB to provide quarterly or annual information on emissions and air quality. In an applications section, the manual provides specific examples of applications of AEROS data. It also gives an overview of the Comprehensive Data Handling System (CDHS), which is an AEROS-related system for storing and reporting air quality and emissions data.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
Air Quality Data Data Base Retrievals Emissions Data Environmental Data System National Emissions Data System (NEDS) SAROAD		

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