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May 1987

Stationary Source Compliance Series

EPA

CEMSS*
User's Guide

*Continuous Emission Monitoring Systems Subset

EPA 340/1-87-003

Continuous Emission Monitoring System Subset

User's Guide

U.S. ENVIRONMENTAL PROTECTION AGENCY
Stationary Source Compliance Division
Office of Air Quality Planning and Standards
Washington DC 20460

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUL 8 1987

OFFICE OF
AIR AND RADIATION

MEMORANDUM

SUBJECT: Continuous Emission Monitoring System Subset (CEMSS) Guidance

FROM: John Rasnic, Chief
Compliance Monitoring Branch
Stationary Source Compliance Division

TO: Regional CDS Managers
Regional CEMS Coordinators

In April we revised the CEMSS and sent the new User's Guide to all Regional CDS managers and CEMS coordinators. Because reviewers agreed that the changes represent major improvement, the revisions should be considered final with an implementation date of July 31, 1987.

The revisions respond to suggestions made at the CEMS technical forum in January, and input received when preliminary system revisions were tested. The major deficiencies addressed are: inappropriate focus on monitor rather than compliance information, unclear description of several data elements, no specification of minimum national reporting requirements, and weak reporting capabilities. Corrections are briefly described below:

STRONGER FOCUS ON COMPLIANCE RATHER THAN MONITOR INFORMATION

The most important change in the CEMSS is the partial incorporation of the Region V conventions, specifically, use of the 'channel' field to separate information concerning different pollutants, and to distinguish between compliance and comment information. We believe that this change will have minimal impact on data input and maintenance while making it much easier for users to query the database for nationwide data for any source-type and/or pollutant (see attached examples of the use of the 'channel' convention). Another Region V convention, identification of CEMSS data by

using special point numbers, was not incorporated as a requirement for two reasons. One, the system can work as desired without this convention; and two, several users found the convention conflicted with agreements they had reached with State and local agencies concerning CEMSS data input.

The Region V point convention facilitates description of the emissions points covered by a single EER. Those not using the Region V point convention will need to note via a comment (on card 60) when data for multiple units are combined in one EER.

IMPROVED DOCUMENTATION OF DATA ELEMENTS AND REQUIREMENTS

Other important improvements include clear definition of data elements and specification of required data elements. A brief description of required elements follows. For details see the User Guide and the attached list of mandatory data elements:

Card type 10 should only be submitted the first time a source is entered into CEMSS. The data elements which must be entered on this card are source ID and update code.

Card types 70, 71 and 72 are mandatory. The data elements which must be maintained on these card types are source ID, action number, action type, date achieved, update code, emission point, report quarter, channel, periods code, operating time, reasons values, number of incidents of excess emissions and monitor downtime.

For the optional card types, i.e., 51, 52, 60, and 80, the data elements which must be maintained to make the information useful are source ID, emission point, channel, update code, quarter, and line number.

REPORTING CAPABILITIES

The upgrade also includes a Statistics (Stat) Report which reports on monitor downtime normalized to total operating time. However, the Stat Report does not yet display data from a number of user selected sources in the most effective fashion. It is recommended therefore, that the Stat Report be used on only one source at a time. Your suggestions on improving the Stat Report are requested.

MISCELLANEOUS

In response to multiple requests, we have agreed to reload the existing CEMSS data into the new 'channel' format. This will be done on a State by State basis subject to veto by the Regional CEMS coordinator. The reload will make about 50-60 percent of the EER data meaningful and useful to all users. The data which had been entered more than once (e.g.

for several units reporting in a single EER), and the data which has an indeterminate time period ('P' in the time period field), probably are not meaningful now and will not be meaningful after the upgrade implementation. Bob Bowers at TRC will be available for consultation on procedures for saving this data; but it will be up to each Region to support conversion of this historic data. We do not encourage spending significant resources on correcting historic data.

The EER Review and Use Guidance of October, 1984, allows for engineering judgement of how much process or control equipment failure time is "unacceptable." Accordingly, the revised CEMSS allows for evaluation of "unacceptable" downtime "reasons." While the technical forum reviewers requested removal of these fields, we have since been asked to maintain them for use in coding Da source reports. We have therefore retained the fields while noting, both in the data dictionary and on the coding forms, that use of these fields is optional.

Reviewers noted that the User's Guide is oriented to the Wylbur environment rather than the TSO environment, even though the Agency is moving to TSO in fiscal year 1988. Rather than addressing this concern under the CEMSS development project, SSCD is developing TSO routines for CEMSS as a part of the larger process of preparing TSO routines for the entire CDS user community. You will receive instructions for use of CEMSS in a TSO environment as part of that larger task.

In summary, the upgraded CEMSS responds to many of your requests while remaining, as designed, fundamentally a system to track EER data not used directly for determining compliance.

Please continue to refer questions and comments on CEMSS to Mark Antell at (FTS) 382-2878 or E-Mail Box 6266.

cc: F. Smith, National CDS Manager
L. Paley, National CEMS Coordinator

Attachments:
1. CEMSS Required Data Elements
2. Sample Retrievals Using the 'Channel' Convention
3. CEMS Coordinators (list)

CEMSS REQUIRED DATA ELEMENTS — 3/87
(required cards)

A number of fields must be correctly coded to enter any data from an excess emission report (EER) to the Continuous Emission Monitoring System Subset (CEMSS). These fields are:

CARD	FIELD	SYMBOL	COLUMNS	WHY FIELD IS REQUIRED
10 — This card is only required to add or delete a source to CEMSS:				
10	Source ID		1-13	Defines source.
	Region	REGN	1-2	
	State	STTE	3-4	
	County	CNTY	5-8	
	Source number	SRCE	9-13	
10	Update Code	——	-80-	Update indicator.
70 — Compliance history card:				
70	Source ID		1-13	See above.
70	Action No#	ANUM	18-21	Indicates compliance history.
70	Action Type	ATPE	57-58	"
70	Date Achieved	DTAC	59-63	"
70	Update	——	-80-	See above.
71 — Excess emission reasons card:				
71	Source ID		1-13	See above.
71	Emission Point	PTNO	14-17	"
71	Quarter	RQTR	18-21	Indicates the period which the EER covers.
71	Channel	CHAN	24-26	See above.
71	Periods Code	TIME	-27-	Required to interpret reasons values.
71	Operating Time	OPER	28-33	Required to normalize EER data to % operating time. Defaults to whole quarter.
71	Reasons		34-75	Captures reported EER values. Defaults to 0.
	Start/shut	STAR	34-39	Startup/shutdown.
	Cleaning	SOOT	40-45	Cleaning/soot blowing.
	Unknown	EXUN	46-51	Unknown excess emission cause.
	Control Fail	EQPT	52-57	Control equipment failure.
	Cntrl Fail Unn	EQPU	58-63	Optional engineering judgement.
	Process Probs	PROC	64-69	Process problems.
	Pcss Probs Unn	PRUN	70-75	Optional engineering judgement.
71	Number Incidents	EEIN	76-78	Number of excess emission incidents.
71	Update	——	-80-	See above.

CEMSS REQUIRED DATA ELEMENTS — 3/87
(required cards - continued)

CARD	FIELD	SYMBOL	COLUMNS	WHY FIELD IS REQUIRED
72 — Excess emission reasons (continued) and monitor downtime reasons card:				
72	Source ID		1-13	See above.
72	Emission Point	PINO	14-17	"
72	Quarter	RQTR	18-21	"
72	Channel	CHAN	24-26	"
72	Reasons		27-68	"
	Fuel Probs	FUEL	27-32	Fuel causing excess emission.
	Other Probs	EEOT	33-38	Other causes excess emission.
	Monitor Malf	MOEQ	39-44	Monitor malf. causes monitor down.
	Non-mon Malf	NMEQ	45-50	Other equipment cause monitor down.
	QA	CALI	51-56	Calibration causes monitor down.
	Unknown	MOUN	57-62	Unknown cause monitor down.
	Other known	MOOT	63-68	Other cause monitor down.
72	Number Incidents	MOIN	69-71	Number incidents monitor down.
72	Update	——	-80-	See above.

CEMSS REQUIRED DATA ELEMENTS — 3/87
(optional cards)

CARD	FIELD	SYMBOL	COLUMNS	WHY FIELD IS REQUIRED
51 — This monitor description card is not required. If submitted, it must have:				
51	Source ID		1-13	See above.
51	Emission Point	PINO	14-17	Defines emission point.
51	Channel	CHAN	24-26	Defines data type.
51	Update	——	-80-	Update flag.
52 — This regulation description card is not required. If submitted, it must have:				
52	Source ID		1-13	See above.
52	Emission Point	PINO	14-17	"
52	Channel	CHAN	24-26	"
52	Update	——	-80-	"
60 — This comments card is not required. If submitted, it must have:				
60	Source ID		1-13	See above.
60	Update	——	-80-	"
80 — This comments card is not required. If submitted, it must have:				
80	Source ID		1-13	See above.
80	Emission Point	PINO	14-17	"
80	Quarter	RQTR	18-21	"
80	Channel	CHAN	24-26	"
80	Line No#	——	-27-	Chronological comment number.
80	Update	——	-80-	See above.

SAMPLE RETRIEVALS USING THE 'CHANNEL' CONVENTION

EXAMPLE 1
QUICK LOOK - CONTROL FAILURE CAUSED EXCESS EMISSIONS

```
01 00   SO2 EXCESS EMISSIONS CUASED BY CONTROL FAILURE
10 APST A
10 APST A O
10 CHAN M 299
20 QL
40 SNME RQTR EQPT PEQP
```

EXAMPLE 2
MILESTONE REPORT - NSPS COAL FIRED POWER PLANTS WITH SO2 CEMS

```
01 00   NSPS COAL FIRED POWER PLANTS WITH SO2 CEMS
10 APCD M 9
10 APST A O
10 APST A
10 SCC6 A 101001
10 SCC6 A 101002
10 SCC6 A 101003
10 CHAN G 200
10 CHAN L 299
20 MS
50 STTE CLAS A1   A2   B    UK
```

REGIONAL CEMS COORDINATORS

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REGION 02 -- DENNIS SANTELLA
REGION 03 -- GLEN HANSEN
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C	Final Technical Guidance on the Review and Use of Excess Emission Reports
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SECTION 1.0

INTRODUCTION

1.0 INTRODUCTION

Continuous Emissions Monitoring System (CEMS) programs provide the basis for the most comprehensive source surveillance networks available to the U.S. Environmental Protection Agency (EPA). The Stationary Source Compliance Division (SSCD), EPA's Regional Offices, and State and local agencies must implement an effective and successful CEMS program for numerous categories of pollutant source. These consist of several New Source Performance Standards (NSPS) sources categories and four categories of State Implementation Plan (SIP) sources. The SIP sources include fossil fuel-fired steam generators, sulfuric and nitric acid plants, and petroleum refineries. A partial listing of CEMS regulations can be found in Pate.*

The CEMS programs will help ensure the necessary reductions of emissions mandated by the Clean Air Act and its amendments. Proper CEMS procedures will contribute to the attainment and maintenance of National Ambient Air Quality Standards.

As part of the CEMS process, stationary sources subject to CEMS requirements submit Excess Emission Reports (EERs). These EERs are submitted generally on a quarterly basis to the appropriate Federal, State, or local enforcement agency. These reports allow enforcement staff to do the following:

- Determine the adequacy of the source's monitoring systems
- Track proper operation and maintenance procedures
- Indicate the procedural compliance of a source with all applicable monitoring requirements.

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*Pate, W.J. Regulation and Resource File of Continuous Monitoring Information. Kilkelly Environmental Associates, Inc. EPA Contract No. 68-01-008. January 1983.

EERs provide vital information to the enforcement staff about malfunctions of control equipment, and they monitor the performance and the duration of emissions that exceed legal limits.

Enforcement staff use the following strategies, which depend on EER data:

- Identify targets for potential enforcement actions by using frequency and duration of excess emissions.
- Measure source compliance by monitoring emissions results.
- Use historic EER data as a basis for changes in source performance, such as the reduction in the number of excesses, the increase in monitor up-time, and the improvement of control equipment.

SSCD has utilized technical reviews of EERs to determine the level of continuous compliance with applicable standards achieved by subject sources. Within the last few years, SSCD has placed an increased emphasis on continuous compliance. Because of the increased number of sources subject to CEMS regulations and the volume and complexity of the data, a subset of the Compliance Data System (CDS) was developed. This system, called the CEMS Subset (CEMSS), provides the capability to maintain and report monitor inventory and summarized EER data. The organization of data in the CEMSS is identical to that in CDS. In addition, the CEMS data is linked to CDS through the same source and point numbers used in CDS. The CEMS data are stored separately from the CDS Masterfile, but the CDS data on the CEMSS Masterfile are always identical to the data on the CDS Masterfile. The CEMSS provides most of the capabilities provided by the basic CDS.

This CEMSS User's Guide is designed to provide EPA management with the information needed to operate and use the CEMSS. Users not already familiar with CDS should review the Compliance Data System User's Guide (EPA-340/1-80-020), as well as this entire manual. Engineers and managers who need to obtain management reports should refer to Section 8.0, Retrie

Processing, and to Appendix A, the CEMSS Data Dictionary. Data analysts should refer to Section 5.0, Data Input Preparation, and to Appendix A, the EMSS Data Dictionary. Other helpful portions of this document include Appendix B, Memorandum: Guidance Concerning EPA's Use of Continuous Emission Monitoring Data, Kathleen M. Bennett, August 12, 1982. Appendix C, Final Technical Guidance on the Review and Use of Excess Emissions Reports; Appendix D, Suggested Continuous Emission Monitoring Excess Emissions Report Format; Appendix E, EPA Regional CEMS Contacts, and Appendix F, Changes Incorporated in CEMSS Under the CEMSS Upgrade Task.

Comments and suggestions regarding this manual should be directed to Mr. Mark Antell, the National Continuous Emission Monitoring System Subset Coordinator at FTS 382-2878.

SECTION 2.0

MANAGEMENT OVERVIEW

2.0 MANAGEMENT OVERVIEW

The CEMS Subset was originally developed for the SSCD by TRC, Environmental Consultants, Inc. In 1981, GEOMET Technologies, Inc., was asked to make this system operational and to provide data analysis services for EERs.

In 1985 the CEMS Subset was returned to TRC Environmental Consultants, Inc. at the request of SSCD. TRC's task was:

- To identify and eliminate problems in the operational areas of the CEMS Subset;
- To review "Technical Guidance on Review and Use of Excess Emission Reports (EPA-3410/1-84-015)" to document the information requirements relating to Subpart D sources and modify the CEMSS pursuant to this guidance.
- To modify the CEMS Subset's COBOL programs to track Subpart D, and other sources incorporating the new information requirements;
- To Design an updated Continuous Emission Monitoring Data Form which will contain a new card type (card 72) to allow space for the additional data;
- To design a new CEMSS Report (Retrieval) Request Form consistent with the changes herein;
- To develop new WYLBUR input and Rerieval Exec programs to accommodate the additional data in CEMSS;
- To modify the CEMSS data element, "TIME", to allow for several one letter codes which will represent the time period in which source operating time, durations of excess emissions, and monitor down times are records;
- To modify the CEMS Subset to track number of incidents for excess emissions and monitor down time;
- To modify the STAT Report;
- To add a three element milestone capability;
- To revise the titles and content of "compliance" fields on the DETAIL Report to eliminate the term "compliance";
- To provide documentation explaining the special handling and interpretation of Subpart D data; and
- To provide documentation of the changes made to the subset.

This revised user's guide is the resulting documentation of the above changes.

The primary purpose of the CEMSS is to assist the EPA and other agencies in carrying out their enforcement and surveillance programs. The CEMSS provides users with an effective tool for promptly and efficiently managing large quantities of CEMS-related stationary source information. Output reports from the system enable an agency to (1) maintain a complete inventory of facilities emitting regulated CEMS pollutants, (2) assess compliance and enforcement strategies, (3) monitor the success of continuous emissions monitors in detecting excess emissions, and (4) assess the effectiveness of corrective actions.

2.1 System Purposes

Regional Offices will use CEMSS in a number of ways in their enforcement programs. The CEMSS is used primarily for the following reasons:

- To provide an accurate and easily accessible inventory of facilities subject to CEMS regulations and their compliance status with respect to these regulations.
- To develop enforcement strategies by providing summaries of the compliance status of facilities tracked by the CEMSS.
- To determine the effectiveness of different types of pollution control and continuous monitoring equipment.
- To identify trends in control of emissions and maintenance of monitoring equipment.
- To provide various turnaround reports to be used by states in fulfilling their reporting requirements to the regions.

Appendix B is a memorandum from Kathleen Bennett that addresses EPA's use of CEMS data in enforcement of NSPS and SIP emission and operating and maintenance (O&M) provisions and in other general EPA activities.

2.2 System Capabilities

The CEMSS provides users with the capability to store, update, and retrieve information about all of the facilities placed on the CEMS Masterfile. The CEMSS is used to record information on identified major polluters; it provides information about the various types of monitors used at these facilities; it records the reason and duration for excess emissions; and it helps to track the enforcement actions taken by regulatory agencies against these facilities.

Multiple input record formats are used to enter data into the CEMSS by the Edit Program. The CEMSS tracks specific CEMS data, as well as facility, emission point, and action data maintained by the CDS. All facility data must be entered into CDS, but only monitoring and excess emissions data can be entered into the CEMSS. However, the CEMSS retrieval can print data entered into either CDS or CEMSS for sources subject to CEMS requirements.

The Update Program uses each of the different input record formats to add, change, or delete information on the CEMSS Masterfile. Once data is placed on the CEMSS Masterfile, the Retrieval Program can be used to create a wide variety of management reports based on the data on the Masterfile.

The CEMSS retrieval capabilities are highly flexible. Users can obtain reports based on all data on the CEMSS Masterfile or on only that portion of the data that meet user selection criteria. Four fixed-format reports as well as 2 flexible format reports can be designed to fit any particular user requirements. After a user determines a suitable report format and the portion of the Masterfile that should be included on the report, he or she can specify the sorting criteria for the report. Thus, the data can appear in any desired sequence. Because of this flexibility, the CEMSS adapts easily to changing reporting requirements.

2.3 System Functions

A number of computer programs have been developed to input, update, retrieve CEMS data. These computer programs and all associated data files are available at the EPA central computer facility. Currently, this facility is operated at the National Computer Center's IBM computer. All regional users have computer terminals connected by telephone lines to the EPA computer in Research Triangle Park, N.C.

Input transactions prepared by regional users or Headquarters can be transmitted at any time to the central computer facility. The Edit Program validates these transactions, and valid transactions are stored for further use in the Update Cycle. An Edit Report showing the Edit's action on each input transaction is returned to the user's terminal after the computer executes the Edit Program. Under normal operating conditions, the national DBC (Data Base Coordinator) schedules the Update Cycle to run weekly. During periods of high data entry activity, especially at the end of each quart more frequent updates may be scheduled at the discretion of the DBC. All valid transactions saved since the last update are applied to the CEMSS Masterfile during the Update Cycle.

The Update adds, changes, or deletes data on the Masterfile, based on the Update Code of each transaction. The Update produces an Update Report to show what action it took on each transaction. After each Update Cycle for which the user had input data, the DBC runs the CEMSS Update Report to show which transactions were successfully applied to the CEMSS Masterfile and which had Update errors.

Once data has been applied to the CEMSS Masterfile by the Update, users may request management reports through the Retrieval Program. The Retrieval extracts, sorts, and prints data from the most current version of the CEMSS Masterfile. Requests for retrievals may be made as often as necessary. Un

normal operating conditions, quick turnaround is available for short retrievals.

Regional users are responsible for data submission and retrieval requests. For those regions that have an inadequate staff to perform the data reduction and data entry of EERs, contractor assistance is available. The national DBC is responsible for scheduling Update Cycles and for maintaining adequate backup and security for computer programs and files stored at the central computer facility.

The CEMSS is closely associated with the CDS. Both systems use the source, emission point, and action data structure. All current source, point action, and comment data from CDS are picked up during the CEMSS Update Cycle and are merged with the data unique to the CEMSS. Thus, CEMSS retrievals represent a combination of the most recent CDS data together with the excess emission data submitted to the CEMSS. Regular source, point, and CDS action data should be entered directly to CDS; only CEMS action data, monitoring data, and excess emission data should be entered into the CEMSS.

Users are urged to become familiar with the CDS User's Guide (EPA Publication 340/1-87-001) in order to obtain the necessary background information on CDS. Users already familiar with CDS will find the CEMSS easy to use. This user's manual is designed to supplement the CDS User's Guide with features unique to CEMSS data handling problems.

SECTION 3.0

SYSTEM OVERVIEW

3.0 SYSTEM OVERVIEW

The CEMSS provides users with the ability to store, update, and retrieve large quantities of data useful to an enforcement program. To meet these objectives, the CEMSS has been designed to perform three distinct functions: edits, updates, and retrievals.

Users are responsible for preparing data for the CEMSS in order to maintain an up-to-date Masterfile. Once input data have been updated, regional users are responsible for the preparation of all retrieval requests from the system.

National Headquarters' responsibilities include the following:

- Developing and maintaining all CEMSS programs, data sets, and table values
- Scheduling all Update Cycles
- Providing definition and usage of all nationally controlled data elements
- Establishing retrieval guidelines for meeting national reporting requirements
- Providing user training for any region requesting training
- Responding to regional requests for system modifications
- Coordinating the transfer of data between the CEMSS and the CDS.

The following paragraphs describe the edit, update, and retrieval functions; subsequent sections of this manual will describe in detail the operational usage of the computer programs/which perform these functions.

3.1 Edit Program

CEMS data are initially processed for the Masterfile by the CEMSS Edit Program. Regional users gather data concerning sources subject to CEMS requirements, and then prepare this data in a format acceptable to the Edit Program. Multiple fixed-card formats are available to the user for preparing

data as input transactions to the Edit Program. Whenever users have a sufficient amount of data to be submitted, they initiate the Edit Program submitting the keypunched input transactions together with the appropriate Job Control Language (JCL) to their region's computer terminal.

The Edit Program examines every input transaction prepared for the system and produces an Edit Report for each Edit Program that is run. If an input transaction has no edit error messages next to it on the Edit Report, it is a valid transaction. Transactions in error will have one or more edit error messages next to it on the Edit Report. Errors are identified as either "warning" or "fatal".

The Edit Program stores all valid transactions on a disk file until the next scheduled Update Program. One or more fatal errors will prevent a transaction from being saved for the Update Program. A transaction with only warning errors will be saved for the weekly update, but the data elements in error are blanked out.

The Edit Program can be run as often as necessary in between update cycles. Each time that the Edit is run, an Edit Report is immediately produced and sent to regional users for review.

3.1.1 Input Data Processed by the CEMS

Data is input to the Edit Program on punched cards or 80-character card images on tape or disk. There are five card types extended by a level to provide maximum data entry capacity for monitoring and excess emissions data. The five card type groups are cards 1(10), 5(51,52), 6(60), 7(70,71,72), and 8(80). Section 5.0 describes the card formats available to the CEMSS.

The cards provide the following general information:

- Card 10 copies a source from the CDS to the CEMSS or deletes a source from the CEMSS.

- Cards 51 and 52 provide descriptive monitor data for various continuous emission monitors.
- Card 60 is a monitor comment record, which provides additional information for a given monitor.
- Card 70 describes specific CEMS enforcement actions.
- Cards 71 and 72 provide EER summary data for a given monitor.
- Card 80 is an action comment record, which provides additional information for information contained on a Card 70, 71 or 72.

3.1.2 Edits Performed by the CEMS

The CEMSS Edit Program examines and validates all input transactions processed on the multiple fixed-card formats. Errors, classified as either warning or fatal, will appear on the right side of the Edit Report next to the transaction containing the error. Warning errors will have one asterisk preceding the error message--for example, *REASON CODE MUST BE NUMERIC. Fatal errors will have three asterisks preceding the error message--for example, **INVALID STATE CODE. The data element in error will have asterisks directly beneath it on the Edit Report printout line. A transaction with multiple errors will have multiple error messages.

If an input transaction has no edit error messages next to it on the Edit Report, it is a valid transaction and will be stored on the CEMSS Mod File for processing in the next Update Cycle. One or more fatal errors next to a transaction will cause the transaction to be rejected by the Edit Program. Consequently, a transaction with one or more fatal errors will not be stored for processing by the Update Cycle. A transaction with only warning errors will be stored for processing, but the data elements in error will be blanked out.

All valid CEMSS transactions are stored on the CEMSS Mod File. Only an M3 Action Type (EER submitted) is transferred to the CDS Mod File for updating.

Each card type has its own validation procedure within the Edit Program. Certain data elements, such as County Code, Air Quality Control Region (AQCR), Action Type, Results Code, and Personnel Code, are validated by external table lookup procedures. To make a new code valid for any of these data elements, the national DBC must update the appropriate table so that it will contain the new value. Other data elements, such as Region, State, Reason Code, etc., are validated by internal computer tables. These edits can be changed only by changing the Edit Program logic. Only the national DBC has the authority to change these edits.

Although the Edit examines all input transactions for possible keypunching and coding errors, the program has its limitations. The Edit cannot detect valid but incorrect Update Codes; only the Update Program can determine whether it is possible to add, change, or delete a record on the CE Masterfile. The Edit cannot detect certain errors caused by punching data into the wrong card columns; if a valid date is placed in the Date Achieved columns, but the user meant to place the value in the Date Scheduled columns, the Edit will accept the data element as valid. Even those transactions containing no edit errors should be examined by new users to make sure that they are properly preparing data for the system.

Figure 3-1 is a flow chart of the Edit Program. Input to the Edit consists of the various input card formats together with the appropriate JCL needed to run the program. During the program, a number of external table files are used for validating changeable data elements, such as Action Type. There are four outputs from the program:

- The Edit Report

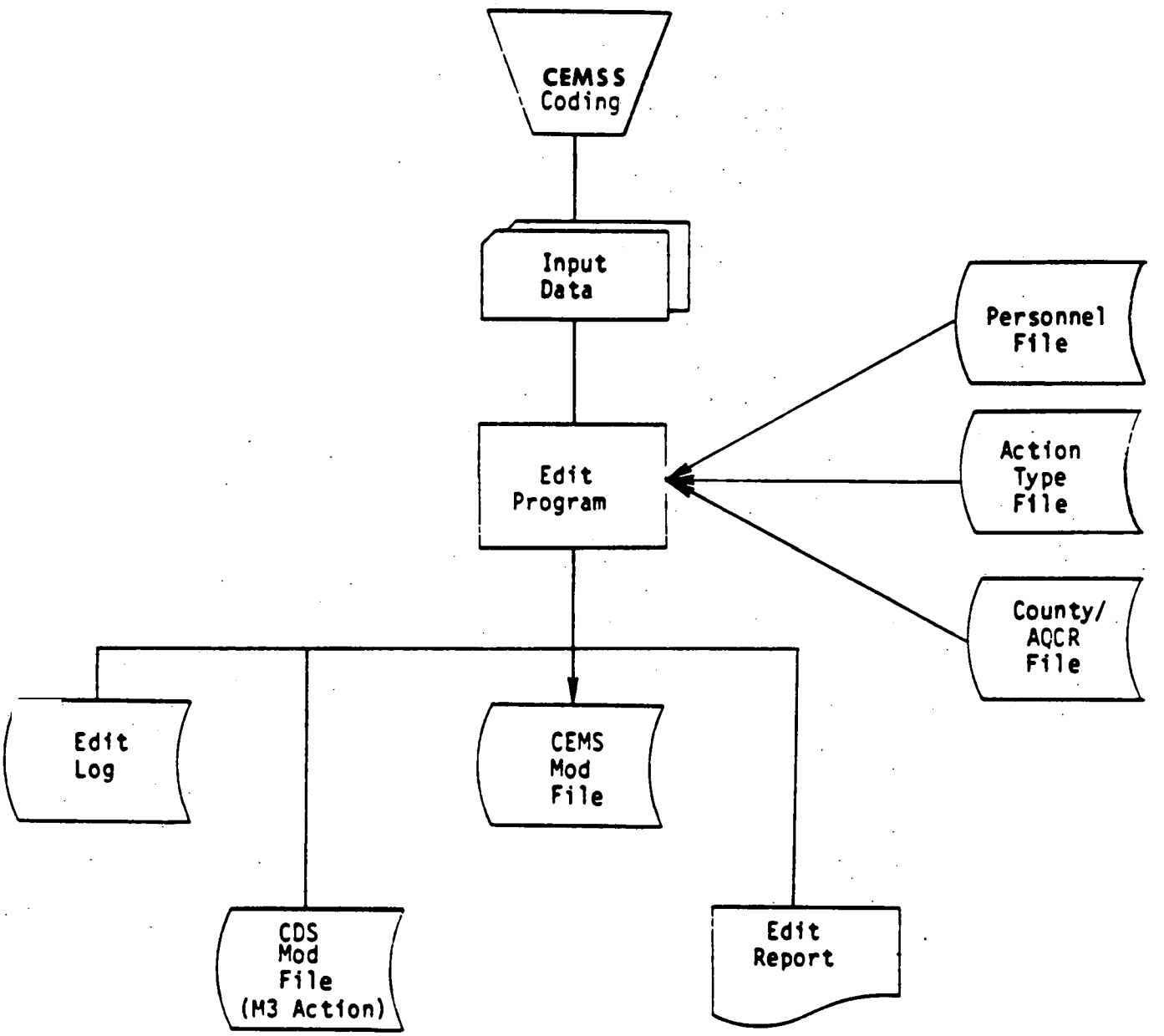

Figure 3-1. Edit Flow Chart

- The CEMSS Mod File containing all valid input transactions (With each run of the Edit, additional valid transactions are stored here until the Update Cycle applied these transactions to the Masterfile.)

- The CDS Mod File containing all valid CDS transactions (M3 Action Type)

- An Edit Log showing statistics, such as cards input, cards accepted, and cards rejected (These numbers are printed at the end of the Edit Report).

3.1.3 Edit Error Messages

The Edit Program identifies the two kinds of errors, warning and fatal, made on the multiple fixed-card formats submitted as input data transactions. An error message describing the cause of the error will appear on the right-hand side of the Edit Report, preceded by one or three asterisks, as explained in Section 3.1.2. Typical error messages are listed as follows:

FATAL		WARNING	
***	INVALID STATE CODE	*	REASON FIELD MUST BE NUMERIC
***	LINE NUMBER MUST BE NUMERIC	*	INVALID RESULTS CODE.

Valid values that can be entered on the card formats for each data element are listed in Appendix B. Each data element sheet lists the appropriate coding values and coding considerations necessary for preparing card formats and for making corrections.

3.1.4 CEMS Mod File

The CEMSS Mod File resides on a disk storage device. Input transactions validated by the Edit Program are saved on this file for use by the weekly Update Cycle. At the end of the Update Cycle, the data on the Mod File is erased to make room for input transactions for the next Update Cycle. As Edit Programs are run by the numerous regional users, transactions with nonfat

errors are added to this file. Any number of data submissions may be made to the Edit inbetween one Update Cycle and the next. Each submission adds ditional data to the Mod file. At the beginning of the next Update Cycle, the data on the Mod file are copied to magnetic tape. Then the transactions on the file are sorted into order by region, state, county, source, point, and action number. Within this major sort key, transactions are also sorted by Update Code and by chronological order. For transactions with the same record ID (region, state, county, source, point, action number, and channel number), delete transactions are applied first, then new transactions, and finally change transactions. For transactions with the same record ID and the same Update Code, transactions are applied chronologically.

Once a transaction has been added to the Mod File, it is no longer necessary to resubmit the transaction again when additional transactions are being submitted for the same Update Cycle. However, the user should keep input transactions in a file on cards or other information storage device for least 1 month for security and backup purposes.

3.2 Update Program

The CEMSS is updated periodically by the Update Program. All transactions stored on the CEMSS Mod File by the various runs of the Edit Program are processed by the Update Program. Input to the Update is the current CDS Masterfile, the old CEMSS Masterfile, and the current input transactions placed on the CEMSS Mod File by the Edit Program from all regional users. Output from the Update is an updated CEMSS Masterfile and the Update Reports.

Once the Update Cycle is complete, each regional user who had input data for the Update Program should review the Update Report. This report shows what action the Update Program took on each transaction passed to it by the various Edit runs. Whenever the Update Program cannot process the add,

change, or delete a transaction specified by the user, a reject message will explain why the transaction was not applied to the Masterfile.

Transactions stored on the CDS Mod File prior to Wednesday night will be processed by the CDS Update. The CEMSS Update uses the CDS Masterfile to update all related sources on the CEMSS Masterfile.

3.2.1 Update Actions to the CEMS

Card types 51 through 80 processed by the Edit Program are used to add, change, or delete information on the CEMSS Masterfile. The Masterfile contains records that correspond to the input card types. Input transactions perform the following functions:

NEW	When an Update Code 'N' is used in the Update Code column, the input transaction will add a new channel, action, EER, or comment record to the CEMSS Masterfile.
CHANGE	The Update Code 'C' is used to change one or more data elements on an existing Masterfile record.
DELETE	The Update Code 'D' is used to delete one or more Masterfile records for a given facility.

3.2.2 Update Cycle Steps

In addition to applying input transactions to the CEMSS Masterfile, a number of other steps are taken in each Update Cycle:

- Input transactions from the Mod File are saved on tape.
- Input transactions are sorted into the same sequence as the Masterfile.
- CEMSS data are copied from, or updated, by the CDS Masterfile.
- The Mod File transactions are erased to make room for the next cycle's input transactions.

Figure 3-2, Update Flow Chart, shows this process.

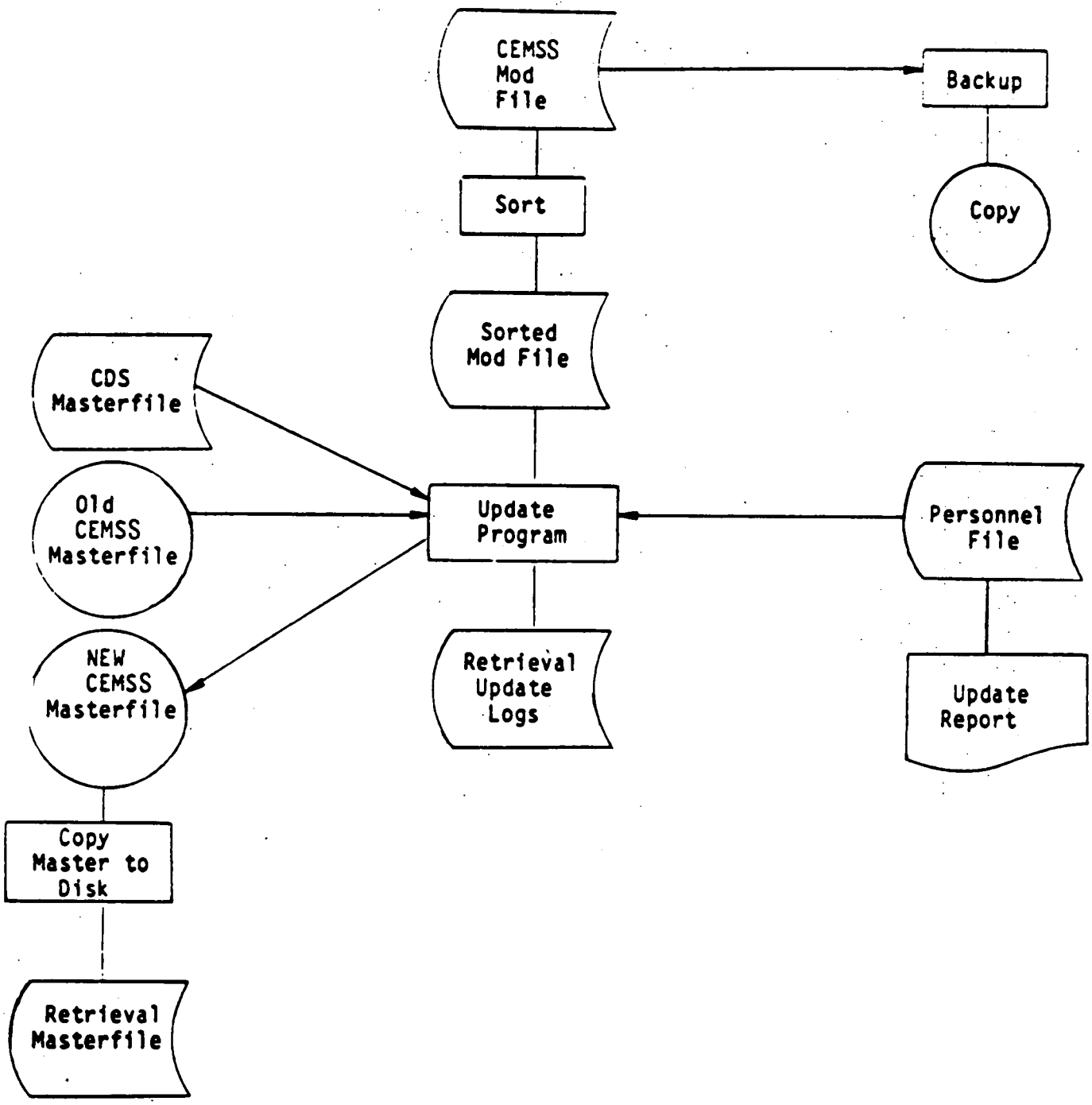

Figure 3-2. Update Flow Chart

3.2.3 Update Report Messages

On the Update Report are several column headings that indicate what acti has been taken by the Update Program on each transaction passed by the Edit. A normal update action message of ADDED, CHANGED, or DELETED will indicate a successful Update Action. The word REJECT in the Update Action column indicates that the Update Program could not perform the appropriate add, change, copy, or delete as indicated in the Update Code column. For each rejected transaction, a diagnostic error message is printed out under the Error Message column. Typical Update error messages are as follows:

- SOURCE NOT ON FILE
- POINT NOT ON FILE
- DUPLICATE TRANS
- ALREADY ON MASTERFILE.

An ampersand appearing in the Error Message column indicates that multi changes have been applied to the Masterfile in chronological order. Section 7.0 lists Update error messages and their causes.

3.2.4 The CEMSS Masterfile

The CEMSS Masterfile resides on computer disc and magnetic tape. It contains data for stationary sources of air pollution for the 10 EPA regions. For each facility there are a number of Masterfile records containing facility, emission point, action, and comment information. Data from each card type is placed on one of seven Masterfile record formats. These Masterfile record formats are numbered 20, 21, 30, 34, 35, 46, or 47 for internal computer identification purposes. The seven Masterfile record formats contain information as follows:

- Record 20 contains facility-level data from CDS Cards 1 and 2. Each facility has one record 20. Region, state, county, and source numbers identify a unique facility. This data can be

entered only through CDS. This data is added to CEMSS by use of a card 10 add transaction.

- Record 21 contains comment information for the facility record. Up to 10 comments may be used for each facility. Each CDS Card 4 added to the Masterfile creates corresponding Record 21. This data can only be entered through CDS.

- Record 30 is the pollutant compliance record. One of these records is present whenever CDS Card 3 input is submitted to CDS. Data for up to 10 pollutants can be placed on this record. This data can be entered only through CDS.

- Record 34 is an emission point record created from the Card 51 and Card 52 input transactions. Each emission point identifies a unique physical point/pollutant/monitor. All emission point records defined for additional pollutants and/or monitors related to a single physical point may be associated by use of the multiple XREF field on a CDS Card 5.

- Record 35 contains comment information for an emission point or monitor. Each may have up to 10 comments. Each Card 60 added to the Masterfile creates a corresponding Record 35.

- Record 46 is an action record created from the Card 70. Card 70 is used to record CEMS/CDS actions; Cards 71 and Card 72 with an action number Quarter Date greater than 0099 record EER summary data.

- Record 47 contains comment information for an action record. Each action may have up to 10 comments. Each Card 80 added to the Masterfile creates a corresponding Record 47.

Figure 3-3 shows the hierarchical relationship between the various Masterfile record types.

3.2.5 CEMS Retrieval Masterfile

In one of the last steps of the Update Program, the updated CEMSS Masterfile tape is copied to create a retrieval Masterfile, which resides on a disk storage device. This file contains the most current version of the CEMSS Masterfile. All retrieval requests are based on the data contained on the retrieval Masterfiles.

Users should note that input transactions processed by the Edit are not retrievable until after the transactions have been applied to the retrieval Masterfile by the Update Cycle.

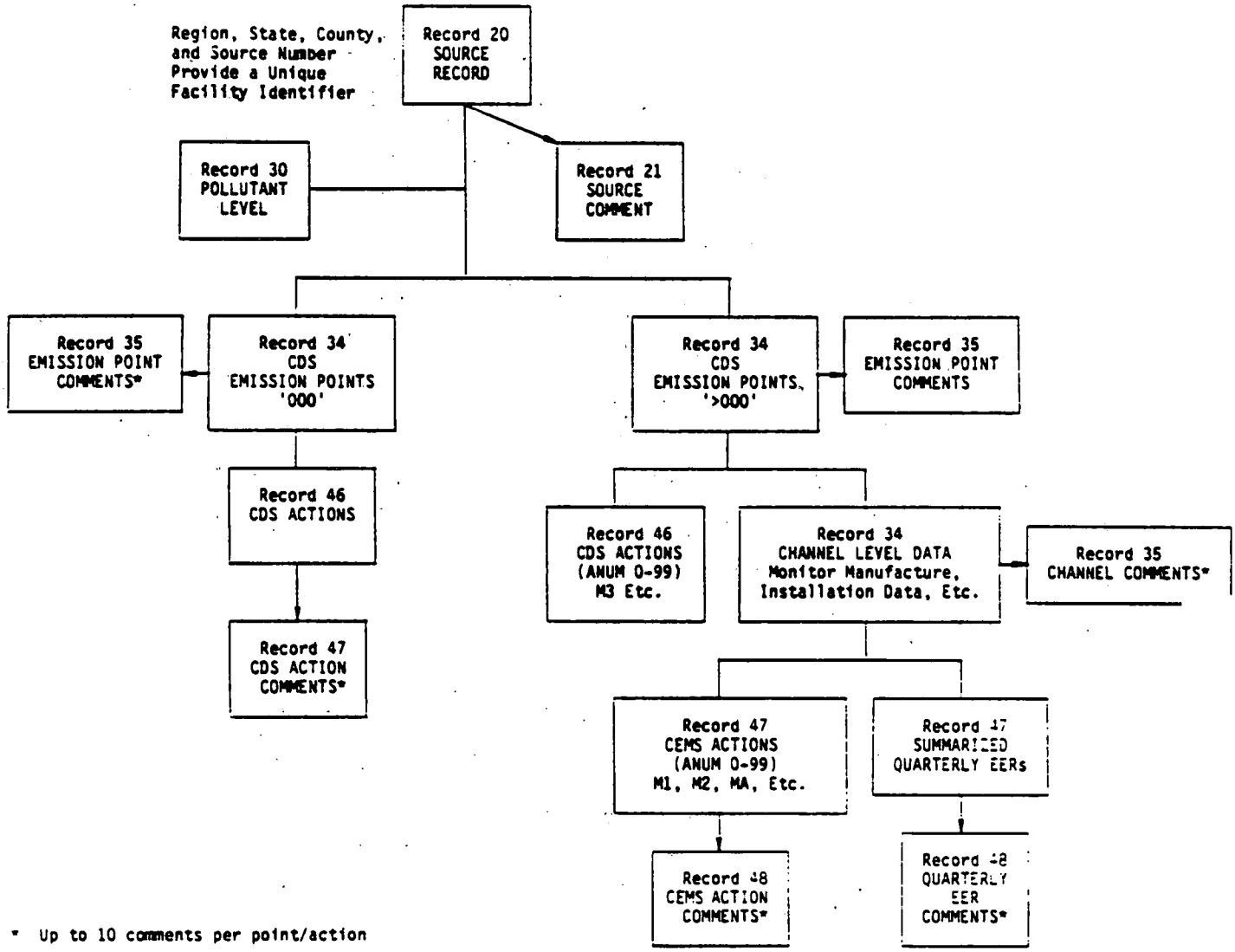

Figure 3-3. CEMS Masterfile Hierarchy

3.3 Retrieval Program

The CEMSS Retrieval Program is used to prepare management reports based on he CEMSS Masterfile and was designed to meet the specific requests of regional users. All output reports, other than the Edit Report and the Update Report, are available on request from the Retrieval Program. These requests may be made at any time because they are processed independently of the Update Program. The Retrieval Program will produce the following management reports:

- Quick Look Report
- Double-Spaced Quick Look Report
- CEMSS Detail Report
- Source Data Report
- Milestone Report
- CEMSS Statistical (Stat) Report.

These six reports are described in detail in Section 8.1, with examples of ach report type.

3.3.1 Retrieval Steps

Each time a user requests a management report through the Retrieval, the following steps are taken by the various computer programs constituting the Retrieval:

- Retrieval selection cards are checked for validity. An Edit Report page is printed to show the logic used in preparing the Retrieval.
- CEMSS Retrieval Masterfile records that satisfy all of the user's selection criteria are placed on a temporary extract file.
- Extracted records are sorted into a user-specified sort order.
- Sorted records are formatted for printing into user-specified print formats.

igure 3-4, Retrieval Flow Chart, shows this process graphically.

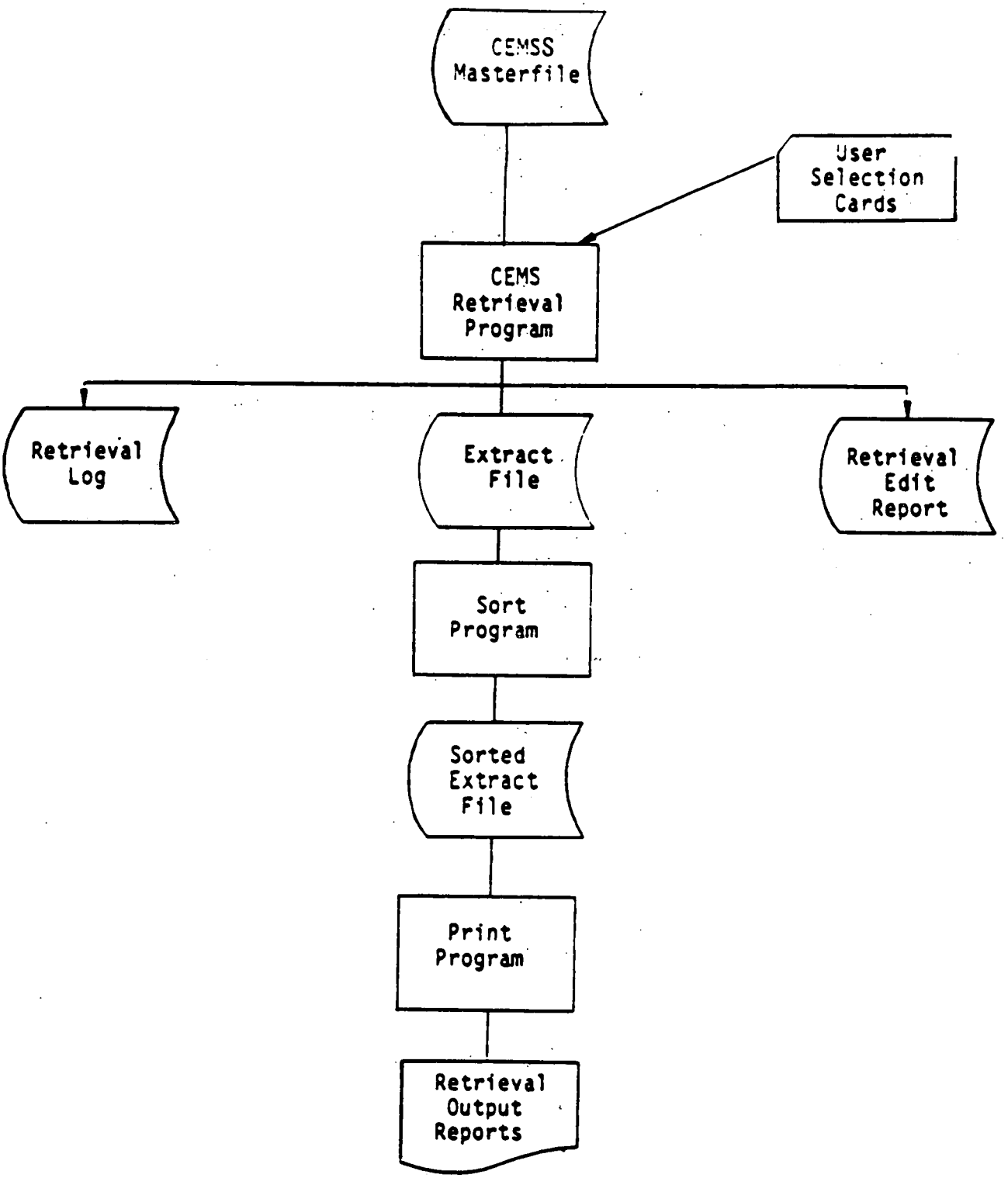

Figure 3-4 Retrieval Flow Chart

SECTION 4.0

DATA SUBMISSION PROCEDURES

4.0 DATA SUBMISSION PROCEDURES

The following steps describe the procedures for using the CEMSS. These steps outline in chronological order a general summary of how the CEMSS should be used by the regions. A detailed description of each step is provided in Sections 5.0, 6.0, 7.0, and 8.0.

1. Prepare the Data. Fill out the appropriate coding sheets as described in Section 5.0. Have the coding sheets keypunched or use the WYLBUR Interactive data-entry technique (Section 5.5).

2. Run the Edit Program. After the CEMS records have been entered, prepare the appropriate JCL cards for running the Edit Program. Submit the JCL and input transactions to the computer. Submissions should be made with a "TIME=(0,3)", because the Edit is both quick and inexpensive to run (approximately $2.00 per 1,000 cards with time = 3 seconds). The Edit will run within 1 hour.

   Because multiple runs of the Edit Program can be made between Update runs, experience indicates that it is best to submit data in several smaller batches during the week as soon as data are entered.

3. Examine Edit Report. When the Edit Program is completed, the user must examine the Edit Report to determine if there were any edit errors on the input data. All transactions submitted to the Edit are listed on the Edit Report; transactions that are error-free have no error messages printed on the right-hand column labeled Error Messages. These error-free entries should still be checked for validity.

   The Edit program identifies two types of errors--warning and fatal. Warning errors are identified on the report by an error message preceded by a single asterisk (such as *INVALID STAFF CODE). The Edit will blank out the data element in error, but the transaction will be passed to the output Mod File for processing in the Update Cycle. One warning message is issued for each data element containing a nonfatal error.

   Fatal errors are identified on the report by an error message preceded by three asterisks (such as ***INCORRECT COUNTY CODE FOR STATE). One or more fatal errors on a transaction will prevent that transaction from being placed on the Mod File, and consequently, the transaction will not reach the Update Cycle.

   Table 6-1 gives a complete list of all errors identified by the Edit Program.

For both warning and fatal errors, asterisks are placed directly underneath the data element found to be in error. These asterisks are designed to identify the data element that needs to be corrected.

4. Correct Edit Errors. Once edit errors have been located on the Edit Report, they must be corrected and resubmitted in another run of the Edit Program. All errors should be coded, keypunched, and submitted to the CEMSS by repeating steps 1, 2, and 3 described above. Keep in mind that all valid data from the previous run of the Edit Program are saved on the Mod Files. Once valid data has been accepted by the Edit, the data does not have to be resubmitted again. Only corrections and data not yet submitted to the Edit should be entered after steps 1, 2, and 3 have been performed.

5. The Update Cycle. All valid transactions submitted by the Edit in between Update Cycles are stored on the Mod File. The valid transactions on the Mod File are applied to the CEMSS Masterfile by the Update Program. The scheduling and the maintenance of the Update Cycle is the responsibility of the national DBC.

6. Verify Update Run. The national DBC will route a copy of the Update Report to the user's terminal (Remote Printer Site).

7. Examine Update Report. The Update Report has one print line for each transaction sent to the Update Program by the Edit Program. Next to each transaction on the report there is an Update Action, which shows that the transaction was either added, changed, deleted, or rejected from the CEMSS Masterfile. If the transaction was rejected, there will also be an error message explaining why the transaction could not be added, changed, or deleted.

8. Correct and Resubmit Update Errors. Transactions passing all of the validation routines of the Edit Program may still be rejected by the Update Program. The Update rejects all logic errors caused by an incorrect Update Code on the transaction; for example, the Update cannot apply a change transaction to a record that does not exist on the Masterfile. Table 7-1 shows the update error messages generated by the Update.

   All errors appearing on the Update Report must be researched and recoded. Corrections should be resubmitted to the CEMSS through the Edit Program.

9. Request Management Reports. The CEMSS can produce the following management reports:

   - CEMSS Detail Report
   - Quick Look Report
   - Double-Spaced Quick Look

- Milestone Report
- Three Element Milestone Report
- Source Data Report
- CEMSS Stat Report
- Questionnaire Report.

The user should consult Section 8.0 for the procedures to obtain the above reports.

SECTION 5.0

DATA INPUT PREPARATION

5.0 DATA INPUT PREPARATION

5.1 General

All input data to the CEMSS must be prepared in the format of one of the card layouts shown in Figure 5-1. These are the only formats that the system will accept. The data may be entered into actual 80-column records or prepared through a special WYLBUR screen-prompting data-entry technique. Each record must have columns 1-26 (region, state, county, source, point, action, channel, and card code) and column 80 (Update Code). The other data elements are unique for each card code.

The CEMSS card code consists of two characters. The first character (5-8) indicates the relationship to CEMSS Masterfile records. The second character (0-9) permits multiple input cards to be applied to each CEMSS Masterfile record. The following documentation usually refers only to the first character. The relation of card codes to Masterfile records is outlined below.

Record	Record Code	Card Code
Monitor Description	34	51, 52
Point Comment	35	60
Action Summary	46	70
EER Summary	46	71, 72
Action Comment	47	80

The following sections will describe the transfer of data from the EERs to the CEMS coding sheet and the specific procedures used to add new records, change records, or delete existing records from the CEMSS.

5.2 Excess Emissions Report

As mandated by 40 CFR 60, Paragraph 60.7(c), and by 40 CFR 51, Appendix P, all sources subject to CEMS requirements must submit an EER on a quarterly basis. The EER should include at a minimum the following items as stated by e CEMS regulations:

CONTINUOUS E ISSION MONITORING INPUT CODING SHEET

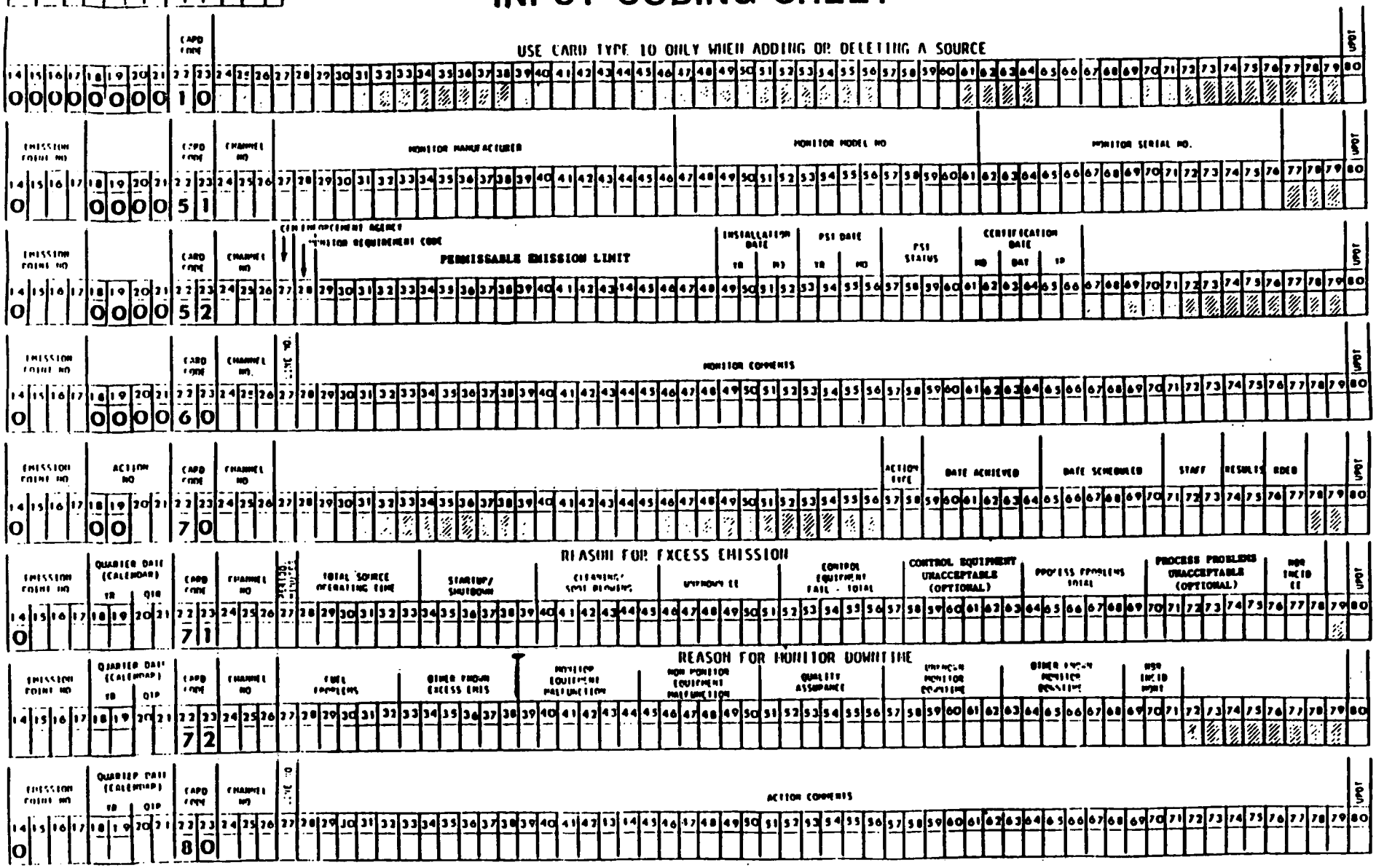

Figure 5-1. Sample Coding Sheet

- The magnitude, duration, and date of the excess emission period (see Appendix A for period definition)
- The identification of each excess period that can be attributed to startups, shutdowns, and malfunctions
- The cause of any malfunction and the corrective action or preventive measures adopted
- The date, time, and duration of any monitor outage for reasons other than zero checks and span checks
- The reason for monitor outage and corrective action taken
- If there are no excess emissions and no monitor outages, zero excess periods can be coded to indicate full compliance.

Appendix C shows a CEMS EER form that includes all of the information listed above. Unfortunately, not all EERs are submitted in a comprehensive format, as shown in Appendix C.

An example of a relatively complete EER submitted for the first quarter of 1981 is shown in Figure 5-2.

The EER contains all the needed background information on the monitoring equipment, describes all excess emission periods, gives reasons for the excess emissions, and documents all corrective actions. When coding EERs, the user may find that not all formats are as easy to follow as the example shown. Often the EER submitted is technically incorrect or has vital information missing. Some common errors include the following:

- Excess emissions were not reported for each period as defined by the regulations. Figure 5-3 is an EER that does not show specific magnitude or excesses.
- Information such as cause for excess emission and/or corrective actions are not reported for each excess emission period. Figure 5-4 is an EER with no corrective action information.

Some other common errors not shown in those particular EERs include the following:

- Monitor outage information not reported
- Failure to monitor all required pollutants

Illustration A - Example Report Format (Rev. 4, 12/80)

CONTINUOUS EMISSION MONITORING REPORT (CEMR)*

I. General Report Information *60.7(c)*

A. Date report submitted April 27,1981
B. Number of days in reporting period 90 days
C. Period ending (check one): year of 1981
X Mar. 31 _ Jun. 30 _ Sept. 30 _ Dec. 31 _ Other Specify _____

II. Company/Facility Data *(60.7(c) Some implied*

A. Owner/Operator Getty Refining and Marketing Company

1. Name Getty Refining and Marketing Company
2. Mailing Address P.O. Box 1121, El Dorado, KS 67042
3. Contact Name R.B. Miller
Title Pollution Control & Energy Conservation Director
4. Phone Number AC (316) - 321-2200 ext. 329

B. Facility description

1. Plant Name El Dorado Refinery
Unit or process name and number (etc.) Boiler B-107 and Boiler B-108
2. Mailing Address p.o. Box 1121, El Dorado, KS 67042
3. Plant Location El Dorado, Kansas
4. Type of product (steam, acid, etc.) Steam
5. Major input material(s) Water
6. Total hours of on-line production during reporting period See Below
7. Control device(s) operated None

**Brackets include citation of applicable regulation*

On-Line Production Time: January-March, 1981

B-107	2134 Hours
B-108	2126 Hours

(Continued)

Figure 5-2. EER Submitted for First Quarter of 1981

III. CEMS Operational Data *60.7 (b), 60.7 (d),* implied background)

A. Parameters monitored (specify)	Opacity	Opacity	_____
B. Equipment description (use foootnotes if needed)	B-107	B-108	_____
1. Manufacturer	LSI	LSI	_____
2. Model number	RM4	RM4	_____
3. Serial numbers: main chasis	1070	1646	_____
control unit	-	-	_____
4. Basis of measurement (wet or dry)	NA	NA	_____
5. Instrument span (range value, specify units)	100%	100%	_____
6. Span level check for daily calibration (ppm)	25%	25%	_____
C. Program information			
1. Units of emission limit	%	%	_____
2. Applicable emission limit	20%	20%	_____
3. Averaging time of limit (hrs, days, ext.)	6 Min.	6 Min.	_____
4. Reason(s) CEMS installed (NSPS, SIP, permit, etc.)	NSPS	NSPS	_____
5. Original installation date	1975	1977	_____
6. Last equipment start-up date	_____	_____	_____
7. Last PST date (attempt (include results of in this quarter)	1978	1978	_____
8. Last successful PST date	1978	1978	_____

NOTE: Only fuel gas was fired in B-107 and B-108 during this reporting period, so no SO_2 limits were applicable (40 CFR 60.43).

(Continued)

Figure 5-2. EER Submitted for First Quarter of 1981 (Continued)

IV. Excess Emissions Report (EER) *60.7 (c)(1) & (2)*

Illustion B is an example format for reporting these data. Table I may be used to format reports when using automatic-data handling equipment in CEMS. Attach a listing of cause codes to Table I. Causes must be explained in detail for each specific excess emission if Table I (a) is used to format reports prepared manually from hourly data.

V. Data Assessment Report (DAR) *New, 60.7(c)(8)*

When reporting quality assurance checks during the reporting period, Table II in Illustration C may be used as a guide. Minimum information to be included applies to precision and accuracy checks, traceability/certification of calibration materials, and maintenance actions for excessive calibration drift or error. Requirements are as specified either in the general provisions or the specific regulation for a specific industry.

VI. Monitor Status Report (MSR) *60.7(c)(3)*

Table III of Illustration D may be used to format reports of CEMS upsets, malfunctions, and downtime. Complete for each parameter monitored, including deluent and/or volumetric flow rate, as applicable.

VII. Certificaton of Report Integrity (by supervisory person, responsible for CEMS data validity) *60.7(c) *

THIS IS TO CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, THE INFORMAT PROVIDED IN THE ABOVE REPORT IS COMPLETE AND ACCURATE.

A. On-site person completing report		B. Environmental Program (on-site) Manager
	Signature	
R.B. Miller	Name	R.B. Miller
Poll. Cont & Enrg Cons Direct	Title	Poll. Cont & Enrg Consrv. Director
P.O. Box 1121	Address	P.O. Box 1121
El Dorado, KS 67042		El Dorado, KS 67042
AC (316)-321-2000 ext. 329	Phone	AC (316)-321-2200 ext. 329
_____ ____, 19____		_____ ____, 19_____

(Continued)

Figure 5-2. EER Submitted for First Quarter of 1981 (Continued)

EXCESS EMISSIO[illegible] UMMARY (by week)

Reporting Date(s) 2-15 to 21, 1981

Affected Facility[3] B-108

Parameter Monitored

Conversion Factor Method[1] N.A.

Value of Conversion Fa[illegible] Used

Number of on-line production hours during week 168

Date	Emission Period Begin	Emission Period End	Duration (Hours)	Magnitude[2]	Reason for Excess Emission(s)	Action Taken (if excess is caused by malfunction)
2-15	1311	1317	0.1	21.4%	Unknown	None
2-15	1317	1323	0.1	23.8%	Unknown	None

0.2 Total Excess Emission Hours During Week

[1]State that the factor was developed from plant test data or that a published conversion factor was used.
[2]To be reported in the units of applicable standard, e.g. lbs/10^6 BTU, lb./ton, etc.
[3]Be specific, e.g., Boiler No. 7, Acid plant E, etc.

(Continued)

Figure 5-2. EER Submitted for First Quarter of 1981 (Continued)

VI. MONITOR STATUS REPORT

B-107

Opacity meter out of service for a period of 101 hours from 3-13-81 to 3-17-81 to obtain and install a new blower motor. This opacity meter was out of service 4.7% of the boiler operating time during the quarter.

B-108

(1) Opacity meter out of service or giving unreliable data for a period of 44 hours from 2-10-81 to 2-12-81 dur to malfunctioning shutter.

(2) Opacity meter out of service for a period of 2 hours on 2-25-81 due to malfunctioning shutter.

(3) Opacity meter out of service for 57 hours from 3-28-81 to 3-30-81 due to foreign material blocking sight tubes.

This opacity meter was out of service 4.8% of the boiler operating time during the quarter.

Figure 5-2. EER Submitted for First Quarter of 1981 (Concluded)

SUMMARY OF OPACITY VIOLATIONS

Fourth Quarter, 19

STATION MYSTIC

UNIT	4		5		6		7			
	20-40%	>40%	20-40%	>40%	20-40%	>40%	20-40%	>40%	20-40%	>40%
	MINUTES		MINUTES		MINUTES		MINUTES		MINUTES	
CAUSES										
Sootblowing	131	10	32	98	8	82		1		
Startups		100	8	4	30	23	15	61		
Shutdowns		9		31		1		61		
Load Cycles	28	2	25	33	56	17		51		
Control Problems	7	30	1	8		1		9		
Other *		3		10		1		2		
TOTALS	166	154	66	184	94	125	15	185		
% Time In Compliance (All Occurrences)	99.76		99.81		99.83		99.85			
% Time In Compliance (W/O Sootblowing)	99.86		99.91		99.90		99.85			

* Includes cleaning ash pits, routine station checks, changing burners, adjusting precipitator rappers and auxiliary equipment failures.

Figure 5-3. EER That Shows No Specific Magnitude or Excesses

5-9

Mystic #4: Indicated Excess Visible Emissions

JUNE 29, 1980 THROUGH SEPTEMBER 27, 1980

DATE	TIME	DURATION* Hr Mn Sc	MAGNITUDE	CAUSE
8-18	1:20 PM	00:05:00	45%	Soot Blowers
8-18	1:35 PM	00:03:00	50%	Soot Blowers
8-18	1:40 PM	00:08:00	86%	Soot Blowers
8-18	2:07 PM	00:01:00	43%	Soot Blowing
8-18	2:10 PM	00:11:00	90%	Soot Blowing
8-18	2:20 PM	00:09:00	69%	Soot Blowing
8-18	2:30 PM	00:07:00	41%	Soot Blowing
8-18	2:45 PM	00:15:00	31%	Soot Blowing
8-18	3:20 PM	00:09:00	33%	Soot Blowing
8-18	4:00 PM	01:00:00	57%	Soot Blowing
8-18	5:02 PM	00:20:00	32%	Soot Blowing
8-18	5:50 PM	00:45:00	35%	Soot Blowing
8-18	7:03 PM	00:29:00	26%	Soot Blowing
8-18	8:40 PM	01:06:00	44%	#1 A.H.

* That period during which the opacity monitor indicated that emissions exceeded 20%. The magnitude listed is the maximum reading for that time period.

Figure 5-4. EER with No C ve Action Information

Figure 5-5 provides a reviewer's checklist for an excess emission report. The checklist will assist in evaluating the completeness of the EERs. Incomplete EERs should be analyzed and coded as completely as possible and the missing information obtained for later entry into the CEMSS.

5.3 Adding New Records to the CEMS Masterfile

5.3.1 Adding New CEM Source That Does Not Exist in CDS

Entries for all facilities subject to CEMS regulations should already exist in the CDS Masterfile. If not, the new facility must be coded and entered into CDS before the user performs any CEMSS coding for that facility. The following procedure should be followed to verify that the source is in CDS.

1. Request a CDS Quick Look Report to verify that the facility does not already exist on the CDS Masterfile.

   - Be sure to check different deviations of the facility's name and address. Because all CEMS-regulated facilities are major facilities, the source should exist on CDS in some form.

   - If a check of all apparent deviations of the facility's name and address does not locate the facility in CDS, a Quick Look Report can be run for the entire state. The facility may be entered in CDS in the wrong county or with the name or address spelled incorrectly.

2. If a CDS match cannot be found, before entering CEMS data, code and enter the facility into CDS; code and enter the necessary emission point for the CEMS data, Including:

   1. Identification of the pollutant being monitored

   2. description of the emission source or combination of sources being monitored/reported in the CDS point process description; then follow instructions in Section 5.3.2.

5.3.2 Adding New CEM Source that Already Exists in CDS

A facility may be added to the CEMSS Masterfile with or without any channel-level information (monitor background information, reduced EER, etc.).

EXCESS EMISSION REPORT - REVIEWER'S CHECKLIST

Source: _____

Reporting period: _____ Required monitors: SO_2, NO_x, opacity, O_2, or CO_2 (circle)

Reviewer's signature: _____ Date: _____

Yes	No	NR	NA		
☐	☐	☐	☐	1.	Is the excess emission report postmarked by the 30th day following the end of the reporting quarter?
☐	☐	☐	☐	2.	Were all required pollutants reported?
☐	☐	☐	☐	3.	If no excess emissions occurred during the quarter, has this been stated?
☐	☐	☐	☐	4.	If conversion factors are required to convert monitor data to units of the standard, is the method and value given?
☐	☐	☐	☐	5.	If the continuous monitoring system has been operative and no repairs or adjustments were made, has this information been stated?
☐	☐	☐	☐	6.	Has plant operating time been stated?
☐	☐	☐	☐	7.	Is the magnitude of the excess emission(s) reported in units of the applicable standard?
☐	☐	☐	☐	8.	Is date and time of commencement and completion of each period of excess emission stated?
☐	☐	☐	☐	9.	Is each period of excess emission, which occur during startup, shutdown, and malfunction identified?
☐	☐	☐	☐	10.	Is the nature and cause of the malfunction(s) in question 8 addressed?
☐	☐	☐	☐	11.	Is the corrective action taken or preventative measures accepted for 9 above addressed?
☐	☐	☐	☐	12.	Is the data for opacity reported in the applicable time period averages (i.e., either 6 minutes or 1 hour)?
☐	☐	☐	☐	13.	Is the data for SO_2 reported in the applicable time period averages (i.e., 2 hour, 3 hour, moving average)?
☐	☐	☐	☐	14.	Is the data for NO_x reported in the applicable time period averages (i.e., 3 hours, moving average)?
☐	☐	☐	☐	15.	Is the date and time of each period of the continuous monitoring system inoperativeness, excluding zero and span checks, stated?
☐	☐	☐	☐	16.	Is the type(s) of continuous monitoring system repair(s) and/or adjustment(s) addressed?
☐	☐	☐	☐	17.	Is the monitoring system unchanged since the last P.S. test?

Recommended action: _____

NR = Not Reported NA = Not Applicable

Source: John P. Wood and Ralph L. Roberson. Review of Excess Emission Reports (EERs) from Stationary Sources. Research Triangle Institute, EPA Contract No. 68-01-4141, Task 43. EPA Report No. 34013-81-003, June 1981.

Figure 5-5. Reviewer's Checklist for an EER

1. Code columns 1-13 (region, state, county, source number) with the codes obtained from the CDS report; enter zeros in columns 14-21 and enter '10' for Card Code and 'A' for Update Code.

2. All CDS information will appear on the CEMSS Masterfile after the next CEMSS Update.

To copy a facility onto the CEMSS Masterfile from the CDS Masterfile, with channel-level data:

1. Code columns 1-21 (region, state, county, source number, emission point number, and action number) with the codes obtained from the CDS report; enter an 'N' in the Update Code for all transactions to be entered (51, 52, 60, 70, 71, 72, and 80). The emission point number coded must be in the range of 0500 through 0599. See Appendix G for an explanation of this requirement.

2. All CDS and CEMS information will appear on the CEMSS Masterfile after the next CEMSS Update.

5.3.3 Card Types 51 and 52

These cards are used to add descriptive pollutant monitoring data for an isting emission point. A continuous emission monitor consists of a single device or group of devices monitoring an emission point; each monitor is pollutant-specific. Note that there may be more than one monitor for an emission point for three reasons:

- The same pollutant is being monitored separately for more than one unit vented by a particular stack.
- Duplicate monitors or multiple monitors of different manufacturers and/or types may be installed.
- The CDS emission point may not be pollutant-specific.

In addition to the data describing the characteristics of the monitor, Cards 51 and 52 contain information fields pertaining to Performance Specification Tests (PST) for the monitor. In particular, the PST status field is used by the Update Program to create counters in the monitor record. e counters maintain cumulative counts of reported tests, passes, and fails.

5.3.4 Card Type 60

Card 60 is a comment card used to add additional information about particular channel (monitor) that is different from the information supplied by the monitor data on Cards 51 or 52. There are 10 comment line numbers available on Card Type 60; up to 10 comments may be used to add information. A channel comment cannot be added to the Masterfile unless a corresponding channel already exists on the Masterfile.

5.3.5 Card Type 70

Card Type 70 is used to add information describing CEMS-related actions (M actions) taken by the local, state, or Federal regulatory agencies on a particular monitor. All non-CEMS actions should be entered through CDS. All M3 action types (EER submission) will be transferred to the appropriate CDS emission point.

Data Field	CEMSS User's Guide Number	Card 51 Coding Considerations
Emission Point Number (PTNO)	A.1-7	Each emission point number refers to pollutant type emitted from one emission point (stack or production process). The first digit (Column 14) is always coded '0'. In the next three columns (15-17), code the three-digit CDS/CEMSS emission point number. This emission point number must be in the range of 0500 through 0599. See Appendix G for an explanation of this requirement. If the emission point does not exist in CDS/CEMSS, the point must be entered and updated through CDS before CEMS transactions can be applied. CEMS information can be attached to all CDS/CEMS emission points <u>except</u> the '000' point central facility.

Channel Number (CHAN)	A.1-4	In order to properly identify, store, and retrieve multiple-monitor data, a channel number is part of the key identification (see Appendix A). This three-character code uniquely identifies a pollutant being monitored, single- or multiple-units points, and each monitor (up to 10 monitors are possible). The structure was designed to simplify certain routine retrievals expected as part of the CEMS process. Data that create a nonzero channel number must be entered only when a corresponding emission point already exists on the CEMSS Masterfile. Nonzero channels for Point '0000' are not permitted, because they have no meaning in the CEMSS. For data referred to specific monitors, the following rules apply:

<u>Column 24</u> identifies the pollutant being monitored and is numeric with the following allowable codes:

1 = Opacity (PT)
2 = SO_2 (sulfur dioxide)
3 = NOX (oxides of nitrogen)
4 = Diluent (oxygen (O_2) or carbon dioxide (CO_2)
5 = HC (hydrocarbons)
6 = TRS (total reduced sulfur)
7 = H2S (hydrogen disulfide)
8 = CO (carbon monoxide)
9 = Coal Sampling and Analysis

<u>Column 25</u> indicates the type of data being entered, is numeric, and is limited to the following codes:

1 - Monitor data
9 - Excess emission reports (EER) data or percent reduction (% RDX) data

<u>Column 26</u>

a. If column 25 = 1, column 26 represents a particular monitor in a multiple monitor installation and is numeric. For example, if a unit has two opacity monitors on the same emission point, the first would be coded "111" and the second coded as "112."

b. If column 25 = 9, column 26 indicates the type of emission data being entered/present in CEMS, is numeric, and, at present, is limited to the following codes:

5 = Percent reduction (% RDX) for SO_2 and NO_x
9 = Excess emission reports (EER) for all pollutants.

Point Number/Channel Number (PTNO/CHAN) coding examples are follows:

Example 1: A source sends in three EERs (opacity, SO_2, and NO_x) per quarter for two boilers venting to one stack. There are two opacity monitors, one on each duct to the stack. A combined SO_2/NO_x monitor and CO_2 monitor are installed on the stack. In CDS there will be three PTNOs established for tracking this CEM/EER data in CEMS:

CEMS PTNO	CDS PRDS	CEMS CHAN
0500	OPAC EER; BOILERS 1 & 2	111 - Opacity monitor on one duct 112 - Opacity monitor on other duct 199 - Opacity EER for Boilers 1 & 2

CEMS PTNO	CDS PRDS	CEMS CHAN
0501	SO2 EER; BOILERS 1 & 2	211 - SO_2 monitor on stack 295 - % S_2 RDX 299 - SO_2 EER for Boilers #1 & 2 411 - CO_2 monitor on stack

CEMS PTNO	CDS PRDS	CEMS CHAN
0502	NOX EER; BOILERS 1 & 2	311 - NO_x monitor on stack 395 - % N_2 RDX 399 - NO_x EER for Boilers #1 & 2 411 - CO_2 monitor in stack

Example 2: A source sends in four EERs for two separate boilers, one of which is subject to SUBPART Da. One boiler (Boiler #1) has only an opacity monitor units stack. The SUBPART Da boiler (Boiler #2) has two opacity monitors: one on each section of the split breeching between the lectrostatic precipitator (ESP) and the flue gas desulfurization (FGD) unit. Two SO_2 monitors are present: one on the stack and the other monitoring the two inlet ducts to the FGD. One CO_2 monitor is on the stack and the other on the inlet to the ESP. In CDS, there will be four emission points coded:

CEMS PTNO	CDS PRDS	CEMS CHAN
0500	OPAC EER; BOILER #1	111 - Opacity monitor on boiler #1 199 - Opacity EER for Boiler #1

CEMS PRDS	CDS PRDS	CEMS CHAN
0501	OPAC EER; BOILER #2	111 - Opacity monitor, boiler #2, duct A 112 - Opacity monitor, boiler #2, duct B 199 - Opacity EER Boiler #2

CEMS PTNO	CDS PRDS	CEMS CHAN
0502	SO2 EER; BOILER #2	211 - SO_2 monitor, boiler #2, stack 212 - SO_2 monitor, boiler #2, ducts 295 - SO_2 % reduction report 299 - SO_2 EER, boiler #2 411 - CO_2 monitor, boiler #2 stack

CEMS PTNO	CDS PRDS	CEMS CHAN
0503	NOX EER; BOILER #2	311 - NO_x monitor on Boiler #2, stack 312 - NO_x monitor on Boiler #2, ESP duct 395 - NO_x % reduction report 399 - NO_x EER for Boiler #2 411 - CO_2 monitor on boiler #2 stack

dioxide monitors and one opacity monitor. Also, assume unit 3 has only an opacity monitor. The correct channel codes wou be:

111 Unit 1, 1 opacity monitor
121 Unit 2, 1 opacity monitor
131 Unit 3, 1 opacity monitor
231 Unit 3, SO_2 monitor #1
212 Unit 1, SO_2 monitor #2
221 Unit 2, SO_2 monitor #1.

All the channel numbers may be assigned at the user's discretion, but should be assigned sequentially in order to ensure correctness. When adding new channel numbers for a point, request a Source Data Report or a Quick Look Report to make sure that the new channel number does not already exist on the Masterfile.

Monitor Manufacturer (MANF)	A.1-9	These three alphabetic fields identify the manufacturer, serial number, and model number of the principal components of the monitoring unit. Obtain this information either from the EER or from data provided by the Plan Manager.
Monitor Model Number (MODL)	A.1-10	
Monitor Serial Number (SERL)	A.1-13	
Update Code (UPDT)	A.3-10	Code an 'N' in column 80 if Card 51 is new channel number on the CEMSS Masterfile; code a 'C' if information is being changed on an existing channel. Because basic monitor information usually is constant throughout the history of the source, Card 51 should only be entered during the initial coding for that particular source.

Date Field	CEMSS User's Guide Number	Card 52 Coding Considerations
CEMS Enforcement Agency (AGCY)	A.1-1	This one-digit code indicates the Federal or state agency with enforcement jurisdiction for the continuous emission monitor at the facility. The valid codes are: 1 - EPA-HEADQTRS 2 - EPA-REGION 3 - STATE 4 - LOCAL.

Data Field	CEMSS User's Guide Number	Card 52 Coding Considerations
quirement Code (REQT)	A.1-11	Code the Clean Air Act regulation requiring the continuous monitoring (NSPS or SIPS). In some cases a facility may be instructed to install continuous monitoring equipment by court order by a 114 Letter. In this case code either the air program (PSD) or enforcement action (ENF). If this data element cannot be filled by examining the EER, check the air program code listed in CDS for that facility. The valid codes are: 1 - SIP - STATE EMPLEMENTATION PLAN 3 - ENF - ENFORCEMENT ACTION 5 - OTHER 6 - PSD - PREVENTION OF SIGNIFICANT DETERMINATION 9 - NSPS - NEW SOURCE PERFORMANCE STANDARD.
Permissible Emission Limit (EMIS)	A.1-17	Code the units and values noted by the CEMS regulation number. Examples for a fossil-fuel power plant are: 0.3 LBS/MBTU NOX 20% OPAC/6 MIN PERD. Some of the regulated values for CEMS sources can be found in Appendix C or Pate (1983).
Installation Date (MIND)	A.1-8	Code the first two digits with the year the monitor was installed and the last two digits with the month of installation (01-12).
Performance Specification Test Date (PSTD)	A.1-18	This four-digit field indicates the date or year/month format that the latest PST occurred. The first PST is run within 60 days after achieving the maximum production rate or 180 days after the initial startup. Afterwards, a PST occurs if required by the Administrator under Section 114 of the Clean Air Act (Pate 1983).
Performance Specification Test Status (PSTS)	A.1-19	Code the results (PASS/FAIL) of the latest PST. The Update Program uses this data field to keep running total of PST passes and PST fails.

Data Field	CEMSS User's Guide Number	Card 52 Coding Considerations
Certification Date (CERF)	A.1-3	This six-digit field indicates in month/day/year format the date that the monitor was certified.
Update Code (UPDT)	A.3-10	Code a 'N' in column 80 if Card 52 is adding a new emission point to the Masterfile and being entered simultaneously with Card 51. If Card 52 is being entered after Card 51 was previously updated, code a 'C' in column 80. All data elements on Card 52 should only be entered during the initial update except PST date and PST status, which are updated after every PST.

Data Field	CEMSS User's Guide Number	Card 70 Coding Considerations
Emission Point Number (PTNO)	A.1-7	Each action must be associated with the corresponding four-digit emission point number on Card 51.
Action Number (ANUM)	A.2-7	When adding numerous actions during the same Update Cycle, code the action numbers in chronological order 0001-0098. If this is the facility's first entry into the CEMSS, start numbering at 0001. To add additional actions to an existing facility, examine a CDS/CEMSS retrieval and code the actions in sequential order, starting from the last action entered. If you are adding a new action, you may use action number 0099 to place the action on the Masterfile. The action number 0099 will automatically assign the next available action number in CDS/CEMSS. New action numbers cannot be added to the Masterfile unless the channel for that action has been added to the Masterfile during a previous CEMSS Update Cycle. Each action number must be associated with a specific channel except an M3 action, which is associated with a specific CDS emission point.

Data Field	CEMSS User's Guide Number	Card 70 Coding Considerations
hannel Number (CHAN)	A.1-4	Enter the corresponding three-digit channel number of the monitor for which the particular action (M1, M2, M$, MA, etc.) is being taken. Enter '000' for an action type M3.
Action Type (ATPE)	A.2-1	The two-character alphanumeric code outlines the history of the continuous emissions monitors at a facility. The CDS Action Table is accessed to determine the validity of each region's CEMS actions. Each region is responsible for defining the CEMS actions to be tracked by the CEMSS. Table 5-1 is the current list of CEMS actions by region. The national DBC, in coordination with TRC maintains the CDS/CEMS Action Table. Regions must obtain clearance from both before changes are made to maintain national consistency, at least with the CEMS actions. All M actions (except M3) will only appear on the CEMSs Masterfile. They can only be retrieved by a CEMSS Retrieval and entered by a CEMSS Edit Program. A Card 70 with action type M3 should be submitted for each EER received. Action type M3 is transferred to the CDS Masterfile as an emission point action. For this reason, be careful if two or more CEMSS exist under one CDS emission point. In that case, only one M3 action should be entered to indicate that all EERs have been submitted for all monitors existing at that CDS emission point.
Date Achieved (DTAC)	A.2-2	The six-digit data field displays the date an action is performed or completed. The date is given in month, day, and year format. The year must be >60, the month between 01-12, and the day between 01-31. When recording date achieved, refer to the EPA receiving stamp on the document.

TABLE 5-1

ACTION TYPES

	ACTION TYPES	SHORT DESCRIPTION	LONG DESCRIPTION
REGION 01	M1	NOTICE CM TEST	NOTIFICATION OF CM SPECIFICATION TEST DATE
	M2	CMS EVAL RSLT	CMS EVALUATION RESULTS FURNISHED
	M3	SUB QRTLY RPT	SUBMISSION OF QUARTERLY REP
	M4	PER TST RSLT	PERFORMANCE TEST RESULTS
	M5	CMS EVAL CONDUCT	CMS EVALUATION CONDUCTED (60.13)
	M6	NOT PERF TST DT	NOTIFICATION OF PERFORMANCE TESTING
	M7	PER TST EPA RQD	PERFORMANCE TEST EPA REQUIRED
	M8	PER TST WAIVED	PERFORMANCE TEST WAIVED
	M9	CON MON INSP	COMPLIANCE MONITORING INSPECTION
REGION 02	M1	NOTICE CM TEST	NOTIFICATION OF CM SPECIFICATION TEST DATE
	M2	SUBMIT CM RESLT	EXECUTION AND SUBMISSION OF CM SPEC TEST RESULT
	M3	EER SUBMISSION	EER SUBMISSION
	M4	CM TEST RESULTS	CMSYSTEM TEST RESULTS
REGION 03	MB	EPA MEET W/S&C	EPA MEETING WITH SATE AND COMPANY
	MC	EPA MEET W/COM	EPA MEETING WITH COMPANY
	MS	EPA MEET W/ST	EPA MEETING WITH STATE
	74	XS EMISSN RPT	EXCESS EMISSION REPORT
	75	EPA OBSRV PST	EPA OBSERVED CEMS PERFORMANC SPECIFICATION TEST
	76	ST OBSRV PST	STATE OBSERVED CEMS PERFORMANCE SPECIFICATION TEST
	77	CEMS PST	CEMS PERFORMANCE SPECIFICATION TEST (UNOBSERVED)
	78	CM REL ACC TST	CEMS RELATIVE ACCURACY TEST
REGION 04	M1	NOTICE CM TEST	NOTIFICATION OF CM SPECIFICATION TEST DAT
	M2	SUBMIT CM RESLT	EXECUTION AND SUBMISSION OF CM SPEC TEST RESULT
	M3	EER SUBMISSION	EER SUBMISSION
	M4	CM TEST RESULTS	CM SYSTEM TEST RESULTS
	M5	INSTALL DATE	INSTALLATION DATE
	M6	PLAN SUBMIT	PLAN SUBMITTED
	M8	CM UP/MAL DUR	CM UPSET/MALFUNCTION DURATION
	M9	CM UP/MAL REPT	CM UPSET/MALFUNCTION REPORT
	N1	AWRD CM CONTRCT	AWARD MONITOR CONTRACT
	N2	BEGIN CM INSTAL	BEGIN MONITOR INSTALLATION
	N3	COMPLETE CM INS	COMPLETE MONITOR INSTALLATION
	N4	COMPLETE CM CER	COMPLETE MONITOR CERTIFICATION TESTS
	N5	GAS MON SHIPMT	GAS MONITOR SHIPMENT
	N6	OP MON SHIP DT	OPACITY MONITOR SHIPMENT DATE
	N7	CM INSPECTION	CM INSPECTION
REGION 05	M1	NOTICE CM TEST	MODIFICATION OF CM SPECIFICATION TEST DATE
	M2	SUBMIT CM RESLT	EXECUTION AND SUBMISSION OF CM SPEC TEST RESULT
	M3	EER SUBMISSION	EER SUBMISSION

TABLE 5-1

ACTION TYPES (Continued)

	ACTION TYPES	SHORT DESCRIPTION	LONG DESCRIPTION
	M4	CM TEST RESULTS	CM SYSTEM TEST RESULTS
	M5	LTR OF INQUIRY	LETTER OF INQUIRY
	M6	LTR NONCOMPL	LETTER OF NONCOMPLIANCE
	M7	PER APPLICATION	PERMIT APPLICATION
	M8	PER RELEASE	PERMIT RELEASE
REGION 06	M1	NOTICE CM TEST	NOTIFICATION OF CM SPECIFICATION TEST DATE
	M2	SUBMIT CM RESLT	EXECUTION AND SUBMISSION OF CM SPEC TEST RESULT
	M3	EER SUBMISSION	EER SUBMISSION
	M4	CM TEST RESULTS	CMSYSTEM TEST RESULTS
	M5	REV CEMS TST RES	REVIEW OF CEMS TEST RESULTS
	M6	REV CEMS DATA	REVIEW CEMS DATA
	M7	CEMS AUDIT	CEMS AUDIT
REGION 07	M1	NOTICE CEMS TEST	NOTIFICATION OF CM SPECIFICATION TEST DATE
	M2	EXC CEMS SPEC TS	EXECUTION OF CEMS SPECIFICATION TEST
	M3	EER SUBMISSION	EER SUBMISSION
	M4	CEMSSYSTESTAUDIT	CEMS SYSTEM TEST AUDIT
	M5	SUB CEMS SPEC TR	SUBMISSION OF CEMS SPECIFICATION TEST RESULTS
REGION 08	MA	QA EVAL OF EER	QA EVALUATION OF EER
	M0	CEMS PERF AUDIT	CEMS PERFORMANCE AUDIT
	M1	NOT CONDUCT PST	NOTICE OF INTENT TO CONDUCT PST
	M2	EXEC OF PST	EXECUTION OF PST
	M3	EER SUBMISSION	EER RECEIVED BY AP
	M4	CEMS SYS AUDIT	CEMS SYSTEM TEST AUDIT
	M5	PST RPT RECVD	PST REPORT RECEIVED
	M6	AP AIR QA CORD	APPROVAL AIR QA CORD PST PROTOCOL AND OP QA PLAN
	M7	NOT PST SCHEDULE	NOTICE (30 DAY MINIMUM) OF PST SCHEDULE
	M8	PST REV COMPLETE	PST REPORT REVIEW COMPLETE
	M9	TRAN PST RCM AP	TRANSMITTAL OF PST RECOMMENDATIONS TO AP
REGION 09	M1	NOTICE CM TEST	NOTIFICATION OF CM SPECIFICATION TEST DATE
	M2	SUBMIT CM RESLT	EXECUTION AND SUBMISSION OF CM SPEC TEST RESULT
	M3	EER SUBMISSION	EER SUBMISSION
	M4	CM TEST RESULTS	CHSYSTEM TEST RESULTS
	M5	REFERRED TO ATB	FILE REFERRED TO ATB
REGION 10	M1	NOTICE CM TEST	NOTIFICATION OF CM SPECIFICATION TEST DATE
	M2	SUBMIT CM RESLT	EXECUTION AND SUBMISSION OF CM SPEC TEST RESULT
	M3	EER SUBMISSION	EER SUBMISSION
	M4	CM TEST RESULTS	CMSYSTEM TEST RESULTS

Data Field	CEMSS User's Guide Number	Card 70 Coding Considerations
Date Scheduled (DTSC)	A.2-3	The six-digit code gives the date on which an action is scheduled to be performed or completed in month, day, and year format. EER submissions (M3) are scheduled to be submitted 30 days after the end of each quarter. Quarterly reports are due on the following dates: Quarter — Scheduled Due Date 1 — 05/01 2 — 07/31 3 — 10/30 4 — 01/31
Staff Code (PERA)	A.2-4	The three-digit code indicated the staff member involved in completing the action (use CDS Staff Codes).
Results Code (STAC)	A.2-5	The two digit data field indicates whether an action has been carried out. The results code may also indicate the ne logical action. It does not, howeve.., infer the success of the action. Each action entered into the CEMSs need not have a results code. Use the CEMS Results Code Table to determine a valid results code. Changes to the CEMS Results Codes must be cleared through TRC and the national DBC. Table 5-2 is the current list of CEMS Results Codes.
Update Code (UPDA)	A.3-10	Enter an 'N' for a new action record not existing on the CEMSS Masterfile, and a 'C' to change a data element for a record already on file. Enter an 'A' on a card 10 only to add a new source to CEMS from CDS.

5.3.6 Card Type 71

Card Type 71 is used to add EER summary data. One record will be generated from each EER, recording seven of the nine basic reasons for excess emissions.

TABLE 5-2

RESULTS CODES

	RESULTS CODES	RESULTS DESCRIPTION
REGION 01	MA	QEER ADEQUATE
	MC	IN COMPLIANCE
	MD	CM RECERTIF REQ
	MI	QEER INADEQUATE
	MO	NUMEROUS SHUTDN
	MR	RETEST REQ
	MU	UNKNOWN CMST
	MV	IN VIOLATION
REGION 02	MA	QEER ADEQUATE
	MC	IN COMPLIANCE
	MD	CM RECERTIF REQ
	MI	QEER INADEQUATE
	MO	NUMEROUS SHUTDN
	MR	RETEST REQ
	MU	UNKNOWN CMST
	MV	INVIOLATION
REGION 03	MA	QEER ADEQUATE
	MC	IN COMPLIANCE
	MD	CM RECERTIF REQ
	MI	QEER INADEQUATE
	MO	NUMEROUS SHUTDN
	MR	RETEST REQ
	MU	UNKNOWN CMST
	MV	IN VIOLATION
	M1	INCREMENTS MET
	M2	ICRMTS NOT MET
REGION 04	MA	QEER ADEQUATE
	MC	INCOMPLIANCE
	MD	CM RECERTIF REQ
	MI	QEER INADEQUATE
	MO	NUMEROUS SHUTDN
	MR	RETEST REQ
	MU	UNKNOWN CMST
	MV	INVIOLATION
REGION 05	MA	QEER ADEQUATE
	MC	IN COMPLIANCE
	MD	CM RECERTIF REQ
	MI	QEER INADEQUATE
	MO	NUMEROUS SHUTDN
	MR	RETEST REQ
	MU	INKNOWN CMST
	MV	IN VIOLATION
REGION 06	MA	QEER ADEQUATE
	MB	SEE STAFF PERSON
	MC	IN COMPLIANCE
	MD	CM RECERTIF REQ

TABLE 5-2

RESULTS CODES (Continued)

	RESULTS CODES	RESULTS DESCRIPTION
	ME	IN VIOL-LEGAL
	MF	IN VIOL-STATE
	MG	IN VIOL-FILE
	MG	IN COMP-LEGAL
	MH	IN COMP-LEGAL
	MI	QEER INADEQUATE
	MJ	IN COMP-STATE
	MK	IN COMP-FILE
	ML	UNKNOWN-LEGAL
	MM	UNKNOWN-STATE
	MN	UNKNOWN-FILE
	MO	NUMEROUS SHUTDN
	MP	RETURNED TO S&A
	MR	RETEST REQ
	MS	ADDL INFO REQ
REGION 07	MA	QEER ADEQUATE
	MC	IN COMPLIANCE
	MD	CM RECERTIF REQ
	MI	QEER INADEQUATE
	MO	NUMEROUS SHUTDN
	MR	RETEST REQ
	MU	UNKNOWN CMST
	MV	IN VIOLATION
REGION 08	MA	QEER ADEQUATE
	MC	IN COMPLIANCE
	MD	CM RECERTIF REQ
	MI	QEER INADEQUATE
	MO	NUMEROUS SHUTDN
	MR	RETEST REQ
	MU	UNKNOWN CMST
	MV	IN VIOLATION
REGION 08	MA	QEER ADEQUATE
	MC	IN COMPLIANCE
	MD	CM RECERTIF REQ
	MF	FAIL
	MI	QEER INADEQUATE
	MO	NUMEROUS SHUTDN
	MP	PASS
	MR	RETEST REQ
	MU	UNKNOWN CMST
	MV	IN VIOLATION
REGION 09	MA	QEER ADEQUATE
	MC	IN COMPLIANCE
	MD	CM RECERTIF REQ
	MI	QEER INADEQUATE
	MO	NUMEROUS SHUTDN

TABLE 5-2

RESULTS CODES (Continued)

	MR	RETEST REQ
	MU	UNKNOWN CMST
	MV	IN VIOLATION
REGION 10	MA	QEER ADEQUATE
	MC	IN COMPLIANCE
	MD	CM RECERTIF REQ
	MI	QEER INADEQUATE
	MO	NUMEROUS SHUTDN
	MR	RETEST REQ
	MU	UNKNOWN CMST
	MV	IN VIOLATION

Data Field	CEMSS User's Guide Number	Card 71 Coding Considerations
Emission Point Number (PTNO)	A.1-7	Each action must be associated with the corresponding four-digit Emission Point Number on Card 51.
Quarter Date (Calendar Year)	A.2-8	Enter in the four-digit field in year/quarter format the quarter for which the EER was submitted. Quarter — Time Period 01 — 01/01 - 03/31 02 — 04/01 - 06/30 03 — 07/01 - 09/30 04 — 10/01 - 12/31
Time Period Code (Time)	A.2-44	Enter either 'M' (minutes) or the appropriate alphabetic time period code: 'A' (6 minute period), 'B' (15 minute period), 'C' (30 minute period), 'D' (1 hour period - 60 minutes), 'E' (2 hour period - 120 minutes), 'F' (3 hour period - 180 minutes), 'G' (24 hour period - 1440 minutes) or 'M' (minutes) depending on how the following excess emissions information has been summarized. The definition of an excess emission period is defined in the CEMS regulations (see either Appendix A, B, and C or Pate (1983)).
Total Source Operating Time (OPER)	A.2-47	Code the time (periods or minutes) that the source was operating during the quarter in question. This information is either given the EER or derived by subtracting the time the unit or process was shut down or off line (nonoperational time) from the total time in the quarter. Although this information is not required to be coded, elimination will result in inaccurate monitor availability, monitored operating source compliance, and overall operating source compliance. Maximum quarter times follow:

Data Field	CEMSS User's Guide Number	Card 71 Coding Considerations			
		Quarter	Minutes	6-min Periods	1-h Periods	3-h Periods
		01	129,600	21,600	2,160	720
	(leap year)	01	131,040	21,840	2,184	728
		02	131,040	21,840	2,184	728
		03	131,040	33,080	2,208	736
		04	132,480	33,080	2,208	736

The next eight data elements record seven of the nine basic reasons for quarterly excess emissions and the number of incidents of excess emission. For each reason, enter the number of excess emission periods or minutes in a right-justified format (see Figure 5-6). If none are reported for a particular reason, leave it blank. The number of total excess emission periods is determined by adding the nine basic reasons. For this reason, be sure to categorize every excess emission period or minutes during the quarter into one of the nine basic reason categories.

Data Field	CEMSS User's Guide Number	Card 71 Coding Considerations
Start up/Shut down (STAR)	A.2-23	Enter the number of excess emission periods or minutes due to startup or shutdown.
Cleaning/Soot Blowing (SOOT)	A.2-13	Enter the number of excess emission periods or minutes due to cleaning or soot blowing.
Unknown (EQUN)	A.2-25	Enter the number of excess emission periods or minutes due to an unknown reason.
Control Equipment Failure - Total (EQPT)	A.2-15	Enter the total number of excess emission periods or minutes due to a unit/control equipment malfunctions.
Control Equipment Unacceptable (optional)(EQPU)	A.2-17	Enter the number of excess emission periods or minutes due to control equipment malfunctions that one unacceptable excess emissions, as deemed by the engineers.

CONTINUOUS E SSION MONITORING INPUT CODING SHEET

USE CARD TYPE 10 ONLY WHEN ADDING OR DELETING A SOURCE

Emission Point No	Card Code	Channel No	Monitor Manufacturer	Monitor Model No	Monitor Serial No.
0503 0000	51	111	LEAR SIEGLER	RM-107	5901-201

Emission Point No	Card Code	Channel No	Permissable Emission Limit	Installation Date	PSI Date	PSI Status	Certification Date
0 0000	52						

Emission Point No	Card Code	Channel No	Monitor Comments
0 0000	60		

Emission Point No	Action No	Card Code	Channel No	Action Type	Date Achieved	Date Scheduled	Staff	Results	Rdcd
0503 0001		70	000	M3	040581	050181		MA	

REASON FOR EXCESS EMISSION

Emission Point No	Quarter Date (Calendar) YR	QTR	Card Code	Channel No	Total Source Operating Time	Startup/Shutdown	Cleaning/Soot Blowing	Unknown	Control Equipment Fail - Total	Control Equipment Unacceptable (Optional)	Process Problems Total	Process Problems Unacceptable (Optional)	Non Incid
0503	81	01	71	199 A	18567		26		1791				3

REASON FOR MONITOR DOWNTIME

Emission Point No	Quarter Date (Calendar) YR	QTR	Card Code	Channel No	Fuel Problems	Other Process Excess Emis	Monitor Equipment Malfunction	Non Monitor Equipment Malfunction	Quality Assurance	Unknown Monitor Downtime	Other Non Monitor Downtime	Non Incid Downt
0503	81	01	72	199			130			12		2

Emission Point No	Quarter Date (Calendar) YR	QTR	Card Code	Channel No	Action Comments
0503	81	01	80	199 1	MONITOR DOWN REASON UNKNOWN FIXED 061/01/81

Figure 5-6. CEMS Coding Sheet with New Data

Data Field	CEMSS User's Guide Number	Card 71 Coding Considerations
ocess Problems Total (PROC)	A.2-19	Enter the total number of excess emission periods or minutes due to process problems.
Process Problems Unacceptable (optional)(PRUN)	A.2-21	Enter the total number of excess emission periods or minutes due to process problems that are unacceptable excess emissions, as deemed by the engineers.
Number of Incidents of Excess Emissions (EEIN)	A.2-31	Enter the total number of incidents of excess emissions.

5.3.7 Card Type 72

Card Type 72 is used to add the remaining EER summary data. A card type 71 must be entered for each card 72. The first two data elements are used for the last two of the basic nine reasons for excess emissions.

The remaining six data elements are used to classify the quarterly monitor down-time into five basic reasons and to record the number of incidents of nitor downtime above. For each reason, enter the number of periods or minutes the monitor was not operating. The data must be entered in a right-justified format (see Figure 5-6).

If none are reported for a particular reason, leave it blank. The total monitor down-time is calculated by adding the five basic reasons. Therefore, be sure to categorize every monitor down-period or minute into one of the five basic reason categories.

Data Field	CEMSS User's Guide Number	Card 72 Coding Considerations
Fuel Problems (FUEL)	A.2-27	Enter the number of excess emission periods or minutes due to fuel problems.
Other Known Excess Emissions (EEOT)	A.2-29	Enter the number of excess emission periods or minutes due to other known reasons.

Data Field	CEMSS User's Guide Number	Card 72 Coding Considerations
Monitor Equipment Malfunction (MOEQ)	A.2-35	Enter the number of periods or minutes the monitor did not operate due to a monitor equipment malfunction while the source was operating.
Nonmonitor Equipment Malfunction (NMEQ)	A.2-37	Enter the number of periods or minutes the monitor did not operate due to a monitor equipment malfunction while the source was operating.
Calibration (CALI) (Quality Assurance)	A.2-33	Enter the number of periods or minutes the monitor did not operate due to calibration while the source was operating.
Unknown (MOUN)	A.2-41	Enter the number of periods or minutes the monitor did not operate due to an unknown reason while the source was operating.
Other Known Monitor Downtime (MOOT)	A.2-39	Enter the number of periods or minutes the monitor did not operate due to other known reasons.
Number of Incidents of Monitor Downtime (MOIN)	A.2-43	Enter the total number of incidents of monitor downtime.
		In addition, Update Code must be properly entered. Enter an 'N' for a new record that does not exist on the CEMSS file, a 'C' to change an element already on file, and a 'D' to delete an existing quarterly excess emission summary.

5.3.8 Card Type 80

Card Type 80 is a comment card used to add additional information about an action that is different from the information supplied by the data elements on Card Type 70 or Card Types 71 and 72. There are 10 comment line numbers available on Card Type 80; up to 10 comments may be used to add information. New action comments may be processed at the same time that a new action record is added to the Masterfile. However, an action comment cannot be added to the system unless there is a corresponding action record already in the Masterfil

Code columns 18-21 with the corresponding action number (Card 70) or quarter date (Card 71, 72) to which the action comment should be attached.

Code comment information in columns 28-79. Assign comment line numbers (column 27) starting sequentially with number 1 or 0. If an action has been previously added to the Masterfile, request a Source Data Report for that facility to determine what line numbers have already been used. A Card Type 8 comment must have a valid line number. The Update Code 'N' can be used only when the comment line number is not already on the Masterfile.

Use the action comments especially when existing reasons do not fully explain a specific reason why excess emissions have occurred or why a monitor is down. An example of a completed coding sheet is shown in Figure 5-6.

5.4 Changing Data on the CEMS Masterfile

Once a record has been added or copied to the CEMSS Masterfile by the Update Cycle, data on the Masterfile record can be changed in subsequent Update Cycles by using input transactions with an Update Code 'C' (M3 action types can be changed only through a CDS edit).

During a given Update Cycle, transactions with the same record identifier (region, state, county, source, point, action numbers, card type, and channel number) are applied in Update Code order. The Update will reject a change transaction if a delete or a new transaction is being applied for the same card type during the same Update Cycle. However, the Update will process multiple changes for an existing Masterfile record. Multiple changes are applied in chronological order; if a given data element is being changed by several input transactions, all input transactions are printed out on the Update Report, but only the latest change will be found on the Masterfile.

Card columns 11-26 and 80 must be coded when preparing a change transaction. However, the data elements in columns 1-26 cannot be changed by

processing as a change transaction. If transactions with incorrect state, county, source, point, action, or channel numbers have been added to the CEM Masterfile, those records in error can be deleted and the corrections reentered with an Update Code 'N', or the user can contact TRC to have the data elements in columns 1-26 changed by the CEMS SWAP programs. When any of the data elements in columns 24-70 need to be changed, only the data element that needs changing is coded on the input coding sheet.

The following steps should be performed for a change transaction:

1. Request a Source Data or Quick Look Report for that facility to determine what data values exist on the Masterfile.

2. Decide what data elements need to be changed, and decide what card type should be used.

3. Code columns 1-26 on a coding sheet. Code a 'C' in column 80.

4. Code only those data elements that need changing. The Update Program will change only those data elements that are entered on the card; other data elements on the Masterfile will not be changed.

5. Have coding sheets entered and submit the transaction records to the CEMSS Edit Program or use the WYLBUR Interactive data-entry technique.

6. Use a change transaction, and not a delete transaction, to remove one or more data elements from a Masterfile record. Data elements in columns 24-70 of Card Types 51, 52, 71, 72 or columns 27-70 can be blanked out be placing one or more asterisks (*) in the data element that is to be eliminated. An asterisk will remove only the data element to be blanked out and will not change any other data elements on the Masterfile record for that card type. On the Card 70, an asterisk on "date scheduled" or on "date achieved" will zero-fill the data element, because these data elements cannot be blanked. An asterisk cannot be used to change any data elements in card columns 1-21 and 24-26; if a record with an incorrect state, county, source number, point, channel, or action number has been placed on the Masterfile, the incorrect data must either be deleted with an Update code 'D; and the corrected cards reentered with an Update Code'N', or the error must be reported to TRC for correcting through the CEMS SWAP.

   Because asterisks are used on change transactions to blank out a data element, asterisks may not be used on new transactions. A warning message (*ASTERISKS FOR CHANGES) is issued by the Edit Program if asterisks are found on any transaction with an Update Code 'N'. Asterisks are not placed on the Masterfile in the Update Cycle.

Figure 5-7 is an example of change transactions for Cards 51, 52, 70, 71, and 72.

On Card 51 the monitor model was coded incorrectly when this source was initially entered, and the proper model number is being reentered.

Because many PSTs can occur during the history of a source, the data elements PST Date, PST Status, and PST Status, and PST Report Date will be changed periodically. In this case, a recent PST was conducted successfully on 2/15/81. The changes reflecting the new PST are shown in Figure 5-7 on Card 5-2. Also the date achieved was incorrectly coded and is being modified with a change command on Card 70.

The SOOT (cleaning/soot blowing) was coded incorrectly for that data element on Card 71. An asterisk is employed to delete the data element from the CEMSS Masterfile. Finally, the number of incidents of Monitor Down Time was coded incorrectly for that data element on Card 72. The correct value is being entered to replace the incorrect value on the CEMSS Masterfile.

5.5 WYLBUR Interactive Data Entry Technique

In some cases, the amount of CEMS data entry work may not justify the creation of a data entry routine on the regional or state minicomputer. For those users, a WYLBUR Interactive data entry technique is available.

The interactive features are as follows:

- Screen prompting for input of Card Types 10, 51, 52, 60, 70, 71, 72, and 80.
- Edit capabilities
  - Internal edits
  - After each card is entered
  - After all cards are entered
- Default operating times
- Restart capability if dropped from NCC

- Capability to add to or change an already created WYLBUR file
- Save data on WYLBUR file
- Automatic live edit and dummy edit capabilities
- Automatic assigning of proper edit JCL (USER ID, account, box).

To enter data using the WYLBUR Interactive technique, perform the following. An example of data entry for a 51 card is shown in Figure 5-8.

1. Sign on to the appropriate user ID and account.
2. Type CEMSINPUT
3. the screen prompting will begin.

CONTINUOUS EMISSION MONITORING INPUT CODING SHEET

USE CARD TYPE 10 ONLY WHEN ADDING OR DELETING A SOURCE

MONITOR MANUFACTURER | MONITOR MODEL NO | MONITOR SERIAL NO.

PERMISSABLE EMISSION LIMIT | INSTALLATION DATE | PSI DATE | PSI STATUS | CERTIFICATION DATE

MONITOR COMMENTS

ACTION NO | ACTION TYPE | DATE ACHIEVED | DATE SCHEDULED | STAFF | RESULTS

REASONS FOR EXCESS EMISSION

REASON FOR MONITOR DOWNTIME

ACTION COMMENTS

Figure 5-7. CEMS Coding Sheet with Change Transactions

```
* CEMINPUT
DO YOU WISH TO USE THE INPUT PROGRAM
FOR EXPERIENCED USERS .. (Y/N)->N
THIS EXEC WILL PRODUCE FORMATTED CEM EDIT
TRANSACTIONS AND SUBMIT A CEM EDIT RUN.................
     - HIT CARRIAGE RETURN FOR NO DATA ENTERED
     - ENTER  END    FOR NO MORE DATA TO BE ENTERED
     - ENTER  KILL   FOR NO MORE DATA FOR PRESENT CARD
     - ENTER  EXEC   IN RESPONSE TO 'EXEC BREAK' MESSAGE
     - ENTER  REJECT TO REJECT THIS CARD AND START AGAIN

ARE YOU RESTARTING THIS ROUTINE
AFTER THE SYSTEM HAS DROPPED YOU  (DROP)......
DO YOU WISH TO ADD TO A DATA FILE
SAVED DURING A PREVIOUS SESSION   (ADD)....
OR ARE THESE YOUR INITIAL ENTRIES (FIRST)....
ENTER DROP, FIRST OR ADD ->FIRST
ENTER CEM EDIT TRANSACTION CARD TYPE (10,51,52,60,70,71,80) ->52
IS TRANSACTION SIMILAR TO THE PRVIOUS TRANSACTION AT THE
            SOURCE, POINT AND CHANNEL LEVEL  (ENTER 'C')
            SOURCE AND POINT LEVEL ONLY      (ENTER 'P')
            SOURCE LEVEL ONLY                (ENTER 'S')
OR IS TRANSACTION  FOR A NEW SOURCE ?        (ENTER 'N')
ENTER  C,P,S OR N ->N
ENTER TRANSACTION TYPE  - N  FOR NEW
                          C  FOR CHANGE
                          D  FOR DELETE ->C
ENTER 2 DIGIT REGION CODE ->07
ENTER 2 DIGIT STATE CODE ->17
ENTER 4 DIGIT COUNTY CODE ->2222
ENTER 5 DIGIT SOURCE CODE ->90001
ENTER 4 DIGIT EMMISSION POINT NO  CODE ->00001
 EMMISSION POINT NO  IS A 4 DIGIT NUMERIC CODE...
ENTER 4 DIGIT EMMISSION POINT NO  CODE ->0001
ENTER 3 DIGIT CHANNEL NUMBER ->001
ENTER CEM ENFORCEMENT AGENCY ->1
ENTER REQUIREMENT CODE FOR MONITOR ->9
ENTER 20 CHARACTER PERMIS EMISSION LIMIT ->20% OPAC/6 MIN PERD
ENTER MONITOR INSTALLATION DATE (YYMM) ->7901
ENTER PST DATE (YYMM) ->8601
ENTER PST STATUS (PASS OR FAIL) ->PASS
ENTER MONITOR CERTIFICATION DATE (MMDDYY) ->123181
    1.      07172222900010001000052001192 0% OPAC/6 MIN PERD 79018601PASS123
          C
DO YOU WISH TO MODIFY OR DELETE THE TRANSACTION JUST CREATED...
ENTER "MOD" "DELETE" OR "NO" ->NO
ENTER CEM EDIT TRANSACTION CARD TYPE (10,51,52,60,70,71,80) ->END
DO YOU WISH TO LIST THE DATA JUST ENTERED (YES OR NO) ->YES
    1.      07172222900010001000052001192 0% OPAC/6 MIN PERD 79018601PASS123
          C
DO YOU WISH TO MODIFY OR DELETE THE TRANSACTION(S) JUST CREATED...
ENTER "MOD" "DELETE" OR "NO" ->NO
DO YOU WISH TO SAVE THIS DATA? ->YES
PLEASE ENTER A DATASET NAME TO SAVE THIS DATA UNDER ->EDIT0886
EDIT0886 SAVED AND CATLG'D ON USR013
DO YOU WISH TO SUBMIT AN EDIT (YES OR NO) ->YES
ENTER THE 2 DIGIT REGION CODE (EX. 07)
OR STATE ABBREVIATION (EX. IA) ->07
DO YOU WISH TO SUBMIT A LIVE OR DUMMY EDIT?
ENTER LIVE OR DUMMY ->DUMMY
ENTER PRIORITY (DEFAULT IS 4) ->2
JOB 5374 CDS03 SUBMITTED
JOB SUBMITTED .....  CEMINPUT COMPLETE......
```

Figure 5-8. WYLBUR Interactive Data Entry

SECTION 6.0

EDIT PROCESSING

6.0 EDIT PROCESSING

6.1 Edit Program Usage

Once data for the CEMSS has been coded and entered, users must validate the input transactions by running the CEMSS Edit Program. The Edit can be run at any time, and it can be run any number of times in between Update Cycles. However, it is best to coordinate the scheduling of Edit runs to correspond to the scheduling of the Update Cycle. Allow time to correct any errors that may be detected by the Edit.

The Edit validates each of the punched card types one at a time. Note that some transactions that pass the Edit may be rejected later by the Update. In the Update Cycle, all of the transactions for a given facility will be rejected if the facility and emission point level data are not already present in the CEMSS. With the hierarchical relationship among sources, point, and action transactions, an error at a higher level can create additional errors in the Update Cycle for transactions accepted by the Edit. For this reason it is very important to correct and resubmit errors as quickly as possible.

Valid transactions related to CDS-associated data are stored on the CDS Mod File; all other valid transactions are stored on the CEMSS Mod File. The CDS Masterfile is updated on Wednesday night.

Transactions that meet the following criterion are passed to the CDS Mod File:

- Action type is M3 for a Card Type 70.
- Changes to the CDS-CEMS Indicator (CEMI) for sources added to or deleted from CEMS.

All transactions are validated by the Edit Program. The Edit Report produced by the Edit Program lists the action taken on each input

transaction. If an input transaction has no edit error messages next to it on the Edit Report, it is a valid transaction. One or more error messages printed on the Edit Report next to transactions in error. Errors are identified as either warning or fatal. One or more fatal errors will prevent the transaction from being saved for the Update Cycle. A transaction with only warning errors will be saved for the Update, but the data elements in error are blanked out. The user must review the Edit Report carefully to verify accepted data and to make appropriate corrections for rejected data.

6.2 Edit Error Messages

All of the errors identified by the Edit Program are listed in Table 6-1. All error messages preceded by three asterisks indicate a fatal error. Error messages preceded by one asterisk indicate a warning error.

Transactions with one or more fatal errors will not be placed on the CEMSS Mod File. Transactions with no errors or with only warning errors will placed on the CEMSS Mod File for future processing by the Update. Keep in mind that a data element flagged with a warning message is blanked by the Edit.

For a detailed explanation of the valid values for each data element in the CEMS system, see Appendix A. Coding instructions are given for each data element; edit error messages by data element are repeated in this appendix. Certain data elements in Appendix A contain no edit error messages; these data elements are not validated by the Edit and may contain any alphanumeric characters.

6.3 CEMS Edit Report

Each page of the report contains the report title, the region name, the date, and the time at which the Edit was run by the computer. The report also contains column headings for the following data elements: Region, St

TABLE 6-1

EDIT ERROR MESSAGES

DATA ELEMENT NAME	MESSAGE
REGION	*** INVALID REGION CODE
STATE	*** INVALID STATE CODE
COUNTY CODE	*** INCORRECT COUNTY CODE FOR STATE *** COUNTY CODE MUST BE NUMERIC
SOURCE NUMBER	***SOURCE NUMBER MUST BE NUMERIC
CARD CODE	*** CARD TYPE AND/OR LEVEL IS INVALID
CARD 1-0	* CARD 10 CEMSI TRANSFERRED TO CDS *** NO DATA IN COL. 24-79 FOR CARD 10
UPDATE CODE	*** INVALID UPDATE CODE *** INVALID UPDATE CODE FOR CARD 10
EMISSION POINT	*** EMISSION POINT MUST BE ZEROS *** EMISSION POINT MUST BE NUMERIC *** POINT MUST BE GREATER THAN ZERO *** EMISSION POINT MUST BE NUMERIC *** POINT NO. MUST BE LESS THAN 1000
ACTION NUMBER	*** ACTION NUMBER MUST BE ZEROS *** ACTION NUMBER MUST BE > THAN ZERO *** ACTION NUMBER MUST BE ZEROS *** ACTION NUMBER MUST BE NUMERIC *** ACTION NUMBER MUST BE LESS THAN 0099 * ANUM 0099 ON M3 NEW - 0099 ASSUMED
QUARTER DATE (ANUM)	*** INVALID QUARTER DATE
CHANNEL NUMBER	*** CHANNEL MUST BE GREATER THAN 100 *** CHANNEL NUMBER MUST BE NUMERIC
AGENCY CODE	* AGENCY CODE MUST BE 1, 2, 3, or 4
REQUIREMENT	* REQ. CODE MUST BE 0, 3, 5, 6, or 9
PST STATUS	* PST STATUS MUST BE PASS OR FAIL
LINE NUMBER	*** LINE NUMBER MUST BE NUMERIC

TABLE 6-1

EDIT ERROR MESSAGES (Continued)

DATA ELEMENT NAME	MESSAGE
ACTION TYPE	*** INVALID ACTION TYPE
	*** ACTION TYPE REQUIRED ON NEW ENTRY
	* INVALID DATE VALUE - OUTPUT SPACES
EER DATA (M3 ACTION)	* CARD 70 DATA TRANSFERRED TO CDS
	* CHAN 000 ON M3 NEW - ZEROS ASSUMED
	*** M3 CHANGE NOT VALID ON CHAN > 000
DATE FIELDS	* INVALID DATE VALUE - OUTPUT ZEROS
DATE ACHIEVED	* INVALID DATE ACHVD - OUTPUT ZEROS
DATE SCHEDULED	* INVALID DATE SCHED - OUTPUT ZEROS
STAFF CODE	* INVALID STAFF CODE
RESULTS CODE	* INVALID RESULTS CODE
ACTION DELETE	*** INVALID ACTION DELETE
	* DT SCHED SHOULD BE ON NEW-OP ZEROS
USE OF ASTERISKS	* ASTERISKS ONLY FOR CHANGE TRANS
TIME PERIOD	*** TIME PERIOD MUST BE A-G OR M
SOURCE OPERATING TIME	* OPER TIME CHANGED TO EER DEFAULT
	*** OPERATING TIME MUST BE NUMERIC
	* SOURCE OPERATING TIME IS ZERO
	* SOURCE OPERATING TIME IS BLANK
	* OPERATING TIME CHANGED TO ZERO
	* OPERATING TIME NOT IN PERIODS
REASON FIELDS	*** REASON FIELD MUST BE NUMERIC
	* REASON NOT IN PERIODS
EXCESS EMISSIONS	* TOTAL EXCESS EMIS > OPERATING TIME
	* TOTAL EXCESS EMIS > MONITOR UPTIME
MONITOR DOWNTIME	* MONITOR DOWNTIME > OPERATING TIME
DELETES	*** NO DATA IN COL. 27-79 FOR DELETES
	*** NO DATA IN COL. 28-79 FOR DELETES

County, Source, Point, Action, Channel Number, Card Type, Card Level, and Update Code. Directly beneath these column headings are two rows of numbers ndicating card columns; the position of any data on the card can be determined by referring to these card column identifiers.

Error messages are identfied on the right-hand side of the report. In addition, data elements in error will have one or more asterisks directly beneath the data element to help pinpoint the problem area that needs to be corrected. Figure 6-1 is a sample of the Edit Report produced by the Edit Program.

6.4 Edit Job Control Language

To execute the Edit Program, use the JCL shown in Figure 6-2. A number of options are available with the Edit Program:

1. Card input on a dummy basis. This option enables the user to see the Edit Report produced by the input transactions without actually placing the transactions on the output Mod File. The dummy mode is particularly useful if the user is expecting a considerable number of errors, which can be corrected and resubmitted prior to the Update Cycle. The user should remember that no valid transactions on the Edit Report are passed to the Update when the dummy mode is being used. Use the type of JCL shown in Figure 6-3.

2. Input form tape or disk. Input from a disk or a tape file can be processed by the Edit just as easily as punchcard input.

```
                    CONTINUOUS EMISSIONS MONITORING EDIT REPORT
                                REGION 1-BOSTON
                 TRANSACTIONS ENTERED ON 08/14/86 AT 20:33
.......................................................................................................
                          C C      CT=CARD TYPE/CL=CARD LEVEL                    UPDATE.     ERROR MESSAGES
RG ST CNTY SRCE  PTNO ANUM T L CHAN                CARD COLUMNS:                  CODE. *   WARNING - DATA ELEMENT REJECTED
0            1         2         3         4         5         6         7         8 . *** FATAL   - CARD REJECTED
12 34 5678 90123 4567 8901 2 3 456789012345678901234567890123456789012345678901234567890123456789  0
.......................................................................................................

01 20 0885 60005 0001 8502 7 1 111M131000000000000000000000000186000024000000000000005   C .
01 20 0885 60005 0001 8502 7 2 111000000000000000000000186000024000000000000003           C .
01 20 0885 60005 0001 8502 7 1 211M131000000000000000000000000000000000000030000000005   C .
01 20 0885 60005 0001 8502 7 2 211000000000000000000000000000000000030000000003           C .
01 20 0885 60005 0001 8502 7 1 511M131000000000000000000000000000000000000864000000005   C .
01 20 0885 60005 0001 8502 7 2 511000000000000000000000000000000000864000000003           C .
01 20 0885 60005 0001 8503 7 1 111M123730000156000000000000000810000810000000000000005   C .
01 20 0885 60005 0001 8503 7 2 111000156000000000000000810000810000000000000003           C .
01 20 0885 60005 0001 8503 7 1 211M123730000000000000000000000100500100500000000000005   C .
01 20 0885 60005 0001 8503 7 2 211000000000000000000000100500100500000000000003           C .
01 20 0885 60005 0001 8503 7 1 511M123730000720000000000000000000000000000630000000005   C .
01 20 0885 60005 0001 8503 7 2 511000720000000000000000000000000000630000000003           C .
01 20 0885 60005 0001 8504 7 1 111M132078000000000000000000000000840000840000000000005   C . *** OPERATING TIME > MAX FOR ONE QTR
                                   ******                                                  .
01 20 0885 60005 0001 8504 7 2 111000000000000000000000000840000840000000000003           C . *** CARD 7-2 REQUIRES VALID CARD 7-1
                                                                                           .
01 20 0885 60005 0001 8504 7 1 211M132078000000000000000000000106500106501242000000005   C . *** OPERATING TIME > MAX FOR ONE QTR
                                   ******                                                  .
01 20 0885 60005 0001 8504 7 2 211000000000000000000000106500106501242000000003           C . *** CARD 7-2 REQUIRES VALID CARD 7-1
                                                                                           .
01 20 0885 60005 0001 8504 7 1 511M132078000000000000000000000000000000001435000000005   C . *** OPERATING TIME > MAX FOR ONE QTR
                                   ******                                                  .
01 20 0885 60005 0001 8504 7 2 511000000000000000000000000000000001435000000003           C . *** CARD 7-2 REQUIRES VALID CARD 7-1
                                                                                           .
01 20 0885 60005 0001 8601 7 1 111M129600000000000000000000000348000348000000000000005   C .
01 20 0885 60005 0001 8601 7 2 111000000000000000000000348000348000000000000003           C .
01 20 0885 60005 0001 8601 7 1 211M129600000000000000000000000000000000000000000000005   C .
01 20 0885 60005 0001 8601 7 2 211000000000000000000000000000000000000000000003           C .
01 20 0885 60005 0001 8601 7 1 511M129600000000000000000000000000000000000001830000000005   C .
01 20 0885 60005 0001 8601 7 2 511000000000000000000000000000000000001830000000003           C .
01 22 1291 00010 0501 8601 7 1 141M000000000000000000000000000000000000000000000000005   C .
01 22 1291 00010 0501 8601 7 2 141000000000000000000000000000000000000000000000003           C .
01 22 1291 00012 0501 8403 7 1 111M042060000010000057000000000000000000000000000000005   C .
01 22 1291 00012 0501 8403 7 2 111000010000057000000000000000000000000000000000003           C .
01 22 1291 00012 0501 8404 7 1 111M004320000010000010000000000000000000000000000000005   C .
01 22 1291 00012 0501 8404 7 2 111000010000010000000000000000000000000000000000003           C .
01 22 1291 00012 0501 8501 7 1 111M083760000173000149000000000007000007000000000000005   C .
01 22 1291 00012 0501 8501 7 2 111000173000149000000000007000007000000000000003           C .
01 22 1291 00012 0501 8502 7 1 111M125040000181000717000000000010000010000000000000005   C .
01 22 1291 00012 0501 8502 7 2 111000181000717000000000010000010000000000000003           C .
01 22 1291 00012 0501 8503 7 1 111M132480000110000460000002000019000019000000000000005   C . *** OPERATING TIME > MAX FOR ONE QTR
                                   ******                                                  .
01 22 1291 00012 0501 8503 7 2 111000110000460000002000019000019000000000000003           C . *** CARD 7-2 REQUIRES VALID CARD 7-1
                                                                                           .
01 22 1291 00012 0501 8504 7 1 111M132480000022000357000002000023000023000000000000005   C . *** OPERATING TIME > MAX FOR ONE QTR
                                   ******                                                  .
01 22 1291 00012 0501 8504 7 2 111000022000357000002000023000023000000000000003           C . *** CARD 7-2 REQUIRES VALID CARD 7-1
                                                                                           .
01     *   00012 0501 8601 7 1 111M126600000019001661000000      000069000000000000005   C .
01         00012 0501 8601 7 2 111000019001661000000000006900      000000000000003           C .
```

Figure 6-1. Sample Edit Report

FIGURE 6-2

CEMSS EDIT JOB CONTROL

```
//III JOB (AAAAUID,MIII),'USER ID',TIME=(0,3),PRTY=2

/*ROUTE PRINT RMTRR

//CEMSEDIT EXEC CEMSEDIT

//STEP1.SORTIN DD *

                    -- Input Transactions --

//
```

where: RR is the user's remote number or RMTRR is replaced with the user's N number designation for the new printers where available.
III is the user's initials.
AAAAUID is the user's account number and user ID.

FIGURE 6-3

USING CEMSEDIT WITH DUMMY MODE

```
//III JOB (AAAAUID,MIII),'User ID',TIME=(0,3),PRTY=2

/*ROUTE PRINT RMTRR

//CEMSEDIT EXEC CEMSEDIT,TYPE='DUMMY,'

//STEP1.SORTIN DD *

                    -- Input Transactions --

//
```

where: RR is the user's remote number or RMTRR is replaced with the user's N number designation for the new printers where available.
III is the user's initials.
AAAAUID is the user's account number and user ID.

SECTION 7.0

UPDATE PROCESSING

7.0 UPDATE PROCESSING

The Update Cycle applies input transactions to the Masterfile. All input transactions that contain no fatal errors are stored on the Mod File by the Edit Program. During the Update Cycle, all transactions placed on the Mod File since the last update are applied to the Masterfile by the Update Program.

7.1 Update Program Description

Prior to the Update Program, all input transactions from the Mod File are sorted into the same sequence as used in the Masterfile. The output Masterfile from the previous Update Cycle becomes the input Masterfile on the current cycle. The Update applies input transactions to the Masterfile to produce a new version of the Masterfile as output.

The Update Program performs the following functions:

1. Copies entire CDS sources subject to CEMS regulations to the CEMSS Masterfile, automatically updating all CDS-associated data on the CEMSS Masterfile.
2. Adds monitor, EER summary data, and comments
3. Changes monitor, EER summary data, and comments
4. Deletes monitors, actions, EER summaries, and comments.

Delete transactions are allowed for Card Type 51, 60, 70 (except for M3 actions), 71, and 80 records. In addition, a Card 10 delete is valid if a user wishes to remove a source from the CEMSS Masterfile; a Card 1 delete has no effect on the CDS Masterfile other than to clear the CEMS Indicators at all levels and will not remove any data from CDS.

7.2 Update Scheduling

The scheduling and maintenance of the update cycle is the responsibility of the National Compliance Data System DBC, Franklin C. Smith. The valid

transactions on the Mod File are applied to the CEMSS Masterfile by the Update Program. Call the national CDS DBC at FTS 382-2881 or 1-202-382-2881 if need a special Update Cycle in order to apply your transactions to the CDS/CEMSS Masterfiles.

7.3 Update Report

The Update Program produces an Update Report, which is stored on a computer file. If the user had transactions that were entered into the Update Cycle, the National CDS DBC will have the Update Report run for each user, and it will print at the user's remote printer.

The Update Report has one print line for each transaction sent to the Update Program by the Edit Program. Next to each transaction on the report, there is an Update Action column, which shows that the transaction was either added, changed, deleted, or rejected from the CEMSS Masterfile. If the transaction was rejected, there will also be an error message explaining y the transaction could not be added, changed, or deleted.

All errors appearing on the Update Report should be corrected, coded, and then resubmitted to the CEMSS through the Edit Program.

Figure 7-1, is a sample of the Update Report produced by the Update Cycle.

7.4 Update Report Messages

On the Update Report, the Update Action column indicates the action taken by the Update Program on each transaction passed by the Edit. The normal Update Action message is ADDED, CHANGED, COPIED, OR DELETED.

The word REJECT in the Update Action column indicates that the Update Program could not perform the appropriate add, change, or delete indicated by the transaction's Update Code. For each rejected transaction, a diagnostic error message is printed out. Table 7-1 lists all of the errors identifie y the Update. An explanation of the corrective procedures for each Update error message is also given in this table.

```
                                        UPDATE REI _ .

08/14/86                                CONTINUOUS MONITORING SYSTEM                                    PAGE 001
                                              REGION  1-BOSTON
                                            OUTPUT SERIAL 000197

 ST  CNTY  SOURCE EMIS CHAN  ACT  CARD                                                          UPDT UPDATE  ERROR
CODE CODE  CODE   PT   NO   NO  CODE-LEVEL      CARD COLUMNS:                                     CODE ACTION  MESSAGE
 0          1          2                  3         4         5         6         7              8
 34  5678  90123  4567 890  1234   5    6  789012345678901234567890123456789012345678901234567890123456789  0

 20  0277  00016  0011 111  8501   7    1  M12960000000000000000000000006900000120000000000000        0   C  CHANGED
 20  0277  00016  0011 111  8501   7    2  00000000000000000000000690000012000000000000        00000000   C  CHANGED
 20  0277  00016  0011 211  8501   7    1  M12960000000000000000000000028800028800003102000000        0   C  CHANGED
 20  0277  00016  0011 211  8501   7    2  00000000000000000000028800028800003102000000        00000000   C  CHANGED
 20  0277  00016  0011 311  8501   7    1  M12960000000000000000000000054000054000003102000000        0   C  CHANGED
 20  0277  00016  0011 311  8501   7    2  00000000000000000000054000054000003102000000        00000000   C  CHANGED
 20  0277  00016  0011 111  8502   7    1  M13104000000000000000000060000180000120007440000000        0   C  *REJECT  NO MATCH-CMT/CDS
 20  0277  00016  0011 111  8502   7    2  00000000000000000060000180000120007440000000        00000000   C  *REJECT  NO MATCH-CMT/CDS
 20  0277  00016  0011 311  8502   7    1  M13104000000000000000000000000000000000000240000000        0   C  CHANGED
 20  0277  00016  0011 311  8502   7    2  00000000000000000000000000000000240000000        00000000   C  CHANGED
 20  0277  00016  0011 111  8503   7    1  M12396000069600000600000600262200262200000000000        0   C  *REJECT  NO MATCH-CMT/CDS
 20  0277  00016  0011 111  8503   7    2  00069600000600000600262200262200000000000        00000000   C  *REJECT  NO MATCH-CMT/CDS
 20  0277  00016  0011 311  8503   7    1  M12396000000000000000000004260004260009300000000        0   C  CHANGED
 20  0277  00016  0011 311  8503   7    2  00000000000000000004260004260009300000000        00000000   C  CHANGED
 20  0277  00016  0011 111  8601   7    1  M12960000000000000000001200000600000600000000000        0   C  *REJECT  NO MATCH-CMT/CDS
 20  0277  00016  0011 111  8601   7    2  00000000000000001200000600000600000000000        00000000   C  *REJECT  NO MATCH-CMT/CDS
 20  0277  00016  0011 311  8601   7    1  M12960000000000000000000000000000000002220000000        0   C  CHANGED
 20  0277  00016  0011 311  8601   7    2  00000000000000000000000000000002220000000        00000000   C  CHANGED
 20  0277  90004  0001 111  8501   7    1  M05766000238800028200000000330100323100017400051 6        0   C  CHANGED
 20  0277  90004  0001 111  8501   7    2  00238800028200000000330100323100017400051 6        00000000   C  CHANGED
 20  0277  90004  0001 311  8501   7    1  M05766000000000000000000000900000900000198001518        0   C  CHANGED
 20  0277  90004  0001 311  8501   7    2  00000000000000000000900000900000198001518        00000000   C  CHANGED
 20  0277  90004  0001 111  8502   7    1  M03066000551400000000000000084600084600109300000        0   C  *REJECT  NO MATCH-CMT/CDS
 20  0277  90004  0001 111  8502   7    2  00551400000000000000084600084600109300000        00000000   C  *REJECT  NO MATCH-CMT/CDS
 20  0277  90004  0001 111  8503   7    1  M05124000530700000600001800206400206400048000184 2        0   C  *REJECT  NO MATCH-CMT/CDS
 20  0277  90004  0001 111  8503   7    2  00530700000600001800206400206400048000184 2        00000000   C  *REJECT  NO MATCH-CMT/CDS
 20  0277  90004  0001 111  8504   7    1  M10914000284400000000000000073200073200006000055 8        0   C  *REJECT  NO MATCH-CMT/CDS
 20  0277  90004  0001 111  8504   7    2  00284400000000000000073200073200006000055 8        00000000   C  *REJECT  NO MATCH-CMT/CDS
 20  0277  90004  0001 111  8601   7    1  M10764000201600000000000000034200034200018000051 0        0   C  *REJECT  NO MATCH-CMT/CDS
 20  0277  90004  0001 111  8601   7    2  00201600000000000000034200034200018000051 0        00000000   C  *REJECT  NO MATCH-CMT/CDS
 20  0277  90004  0003 311  8502   7    1  M03066000000000000000000000084000084000223300000 0        0   C  CHANGED
 20  0277  90004  0003 311  8502   7    2  00000000000000000000084000084000223300000 0        00000000   C  CHANGED
 20  0277  90004  0003 311  8503   7    1  M05124000000000000000000000300000300000216000184 2        0   C  CHANGED
 20  0277  90004  0003 311  8503   7    2  00000000000000000000300000300000216000184 2        00000000   C  CHANGED
 20  0277  90004  0003 311  8504   7    1  M10914000210000000000000000000000000000300001122        0   C  CHANGED
```

Figure 7-1. Sample Update Report

TABLE 7-1

UPDATE ERROR MESSAGES

Update Error Message	Explanation
NO MATCH-CMT/CDS	Card 10 and Cards 51 through 80 cannot be applied to the Masterfile as change or delete transactions if a corresponding Masterfile record does not exist. Make sure that the source exists on the Masterfile; verify that the correct state, county, and source number are being used on the transaction.
INVALID NEW COMMENT	An emission point comment Card 60 cannot be added to the Masterfile unless the corresponding point and channel numbers already exist on the Masterfile. An action comment Card 80 cannot be added to the Masterfile unless the corresponding point, channel, and action numbers already exist on the Masterfile.
DUPLICATE TRANS	If two or more transactions with the same region, state, county, source, point, and action numbers have an Update code 'N', the first transaction is added to the Masterfile; and the second and subsequent transactions are rejected with this message. A change transaction following a new transaction for the same record IDis rejected. Duplicate delete transactions are also rejected.
ALREADY ON FILE	A transaction with an Update Code 'N' cannot be added to the Masterfile if a Masterfile record already exists with the same region, state, county, source, point, and action numbers. Also a new comment cannot be added if a comment with the same record identifier line number already exists on the Masterfile.
ANUMS DEPLETED	This message occurs when the user attempts to add a CEMS action and the system-generated action number for e point and channel number has exc[illegible]d 98.

TABLE 7-1

UPDATE ERROR MESSAGES (Concluded)

Update Error Message	Explanation
INVALID NEW CH-ADD-1	Card 51 cannot be added to the Masterfile with an Update Code'N' unless there is a corresponding emission point already on the Masterfile. Make sure that the emission point exists on the Masterfile if channel number information is being added to the Masterfile.
INVALID NEW CH-ADD-2	Card 52 cannot be added to the Masterfile with an Update Code 'N' unless there is a corresponding emission point already on the Masterfile or the channel number has already been established on the Masterfile. Check to see that the emission point already exists on the Masterfile.
INVALID NEW ACTN-ADD-0	Card 70 cannot be added to the Masterfile with Update Code 'N' unless there is a corresponding emission point and channel number that already exist on the Masterfile. Check to see that the emission point and channel number already exist on the Masterfile.
INVALID NEW ACTN-ADD-1	Card 71 cannot be added to the Masterfile with Update Code 'N' unless there is a corresponding emission point and channel number that already exist on the Masterfile. Check to see that the emission point and channel number already exist on the Masterfile.

SECTION 8.0

RETRIEVAL PROCESSING

8.0 RETRIEVAL PROCESSING

The CEMSS Retrieval is used to prepare management reports based on information on the Masterfile. The Retrieval has been developed to provide a great deal of flexibility to users in selecting and formatting management reports. Data can be formatted, sequenced, and selected on the basis of criteria developed to meet specific needs.

All output reports other than the Edit Report and the Update Report are produced on request from the Retrieval Program. Requests for management reports may be made at any time, because they are processed independently of the Update Cycle. The retrieval provides users with the capability of seeing what data is on the Masterfile in a format that meets the user's needs.

To obtain reports from the Retrieval Program, the user must carefully prepare a Retrieval request form and submit this form to have the selection cards entered and submitted to the National Computer Center computer through WYLBUR. The selection cards and appropriate JCl cards are used to run the Retrieval. The user submits this input to the central computer site through the terminal using WYLBUR. Output from the Retrieval Program consists of a Retrieval Edit Report and the management reports requested by the user.

The Retrieval Program provides the following features:

- Quick turnaround - the Retrieval operates on a "demand" basis and will usually provide overnight or faster turnaround, depending on the backlog of work at the computer center.

- Improved selectivity - Information can be selected from the Masterfile to meet the specific needs of the user so that smaller, more pertinent reports can be prepared. For example, a user who needs a list of point source facilities with a monitor installation date between 10/1/80 and 9/30/81 could get a Quick Look Report that shows only these facilities and the particular information wanted (name, size, monitor emission limits, etc.) on a single line.

- Selection logic - Each user can select from the CEMSS Masterfile only the data of interest for a particular need. The user can select data based on the presence or absence of information on the

Masterfile, depending on the type of selection criteria specified on the logic selection input card.

- Variable sequence - The Retrieval program permits the user to select the sequence for viewing the selected data.

- Variable output format - The users can select from nine print formats, depending on need. One format is a single-line report with a user option allowing inclusion of any specific data elements desired.

Because all management reports are based on the CEMSS retrieval capability, users should place data on the Masterfile in a manner that permits efficient retrievals. Comment information cannot be used in the Retrieval's selection or sorting criteria. When preparing input data for the CEMSS, users should be aware of the validation procedures for each data element performed by the CEMSS Edit as well as the selection, sorting, and printing criteria available in the Retrieval.

8.1 Reports Available from the Retrieval

Management reports are not automatically generated; users must request reports from the CEMSS Retrieval system to suit their particular needs. Only sources subject to CEMS regulations are stored on the CEMSS Masterfile. From these sources, users must determine what information available on the CEMSS Masterfile is of interest. Users may obtain all of the information on the Masterfile or a limited amount based on their needs.

Any of the defined data elements can be used as a selection criteria. Because the selection, sorting, and printing criteria of the Retrieval Program operate independently, users may select a report on one set of data elements, sort on another set of data elements, and select different data elements for printing. Selection criteria cannot be based on information found in comment records.

Reports are printed in region, state, county, and source number sequence unless users elect their own sorting sequences. Up to six defined data elements may be used to create the user sort sequence.

The CEMSS Detail Report, the Source Data Report, the Statistical Report, the Questionnaire Report, and the Milestone Report will present user-selected and sorted information in a fixed format. The Quick Look Report allows users to design their own report formats. All data elements other than comments can be formatted for printing in a user-selected sequence. The CEMSS Stat Report will present elementary statistics on a user-specified portion of the Masterfile (region, state, source, etc.). A detailed description of each report is provided in the following paragraphs.

8.1.1 CEMS Detail Report

This report provides a complete, detailed listing of all monitor and excess emission data for CEMS sources only. This report is similar to a Source Data Report, but it presents only source-level data such as facility name and address together with a complete listing of monitor manufacturers, model number, emission limits, PST dates, CEMS actions, monitor comments, and excess emission periods. No information for emission point data or enforcement data from CDS appears on this report. Users interested in the complete CDS and the CEMSS data for a given source should request a Source Data Report as described in Section 8.1.4. Figure 8-1 is a sample of a CEMSS Detail Report.

8.1.2 Quick Look Report

The Quick Look is the most widely used report type available from the Retrieval. For each CEMS source, point, action, or channel that meets the user's selection criteria, a single line containing user-selected CDS/CEMSS

```
                                   SOURCE DETAIL REPORT
08/14/86                                                                                  PAGE      1
                                   CONTINUOUS MONITORING
                          CONFIDENTIAL REPORT - FOR EPA INTERNAL USE ONLY
                             DETAIL REPORT OF CEM SOURCES IN CEM SUBSET AS OF 8/14/86
CONN LIGHT & POWER
STATE  CT     COUNTY FAIRFIELD
COUNTY 0265   SOURCE 00142  AQCR 043

   SOURCE NAME    CONN LIGHT & POWER
   ADDRESS        WOODWARD AV
   CITY, STATE    NORWALK CT 06854

   SOURCE COMPLIANCE STATUS: 3 IN COMPL-INSPECTION
   AIR PROGRAM DESCRIPTION:  0 SIP SOURCE                  SOURCE CLASSIFICATION:    A1

                             POLLUTANT                    LOADING AQCR INDICATOR
                             PT PARTICULATE MATTER          524   2 ATTAINED SECONDARY
                             S2 SULFUR OXIDES              9625   A
                             HC HYDROCARBONS                 47   N NON-ATTAINMENT
                             CO CARBON MONOXIDE             304   N NON-ATTAINMENT
                             N2 NITROGEN OXIDES            4061   A

   POINT NUMBER  0002
   POLLUTANT     PT
   DESCRIPTION   STEAM BLR BRNNG RES OIL

     ---------------------------------------------------------------------------------------

 *** CHANNEL NUMBER:   111
     TYPE OF MONITOR:  OPACITY MO

      MONITOR MANUFACTURER:  BAILEY                 CERTIFICATION DATE:                    LATEST PST DATE:
      MONITOR MODEL NUMBER:                         MONITOR REQUIRED FOR:                  LATEST PST RESULTS:
      MONITOR SERIAL NUMBER:                        ENFORCEMENT AGENCY:                    TOTAL PST PASSES:   00
      MONITOR INSTALLED:        /60                 PERMISSIBLE EMIS LIMIT:                TOTAL PST FAILS:    00

   POINT NUMBER  0005
   POLLUTANT     PT
   DESCRIPTION   STEAM BLR BRNNG RES OIL

     ---------------------------------------------------------------------------------------
```

Figure 8-1. CEMS Detail Report

```
                                        SOURCE DETAIL     RT
..........................................................................................................
 08/14/86                                CONTINUOUS MONITORING                                  PAGE      2
                          CONFIDENTIAL REPORT - FOR EPA INTERNAL USE ONLY
                             DETAIL REPORT OF CEM SOURCES IN CEM SUBSET AS OF 8/14/86
 CONN LIGHT & POWER
 STATE  CT     COUNTY FAIRFIELD
 COUNTY 0265   SOURCE 00142  AQCR 043
..........................................................................................................

 *** CHANNEL NUMBER:   111
     TYPE OF MONITOR:  OPACITY MO

      MONITOR MANUFACTURER:  BAILEY                CERTIFICATION DATE:                      LATEST PST DATE:
      MONITOR MODEL NUMBER:                        MONITOR REQUIRED FOR:                    LATEST PST RESULTS:
      MONITOR SERIAL NUMBER:                       ENFORCEMENT AGENCY:                      TOTAL PST PASSES:   00
      MONITOR INSTALLED:        /60                PERMISSIBLE EMIS LIMIT:                  TOTAL PST FAILS:    00
..........................................................................................................
```

Figure 8-1. CEMS Detail Report (Continued)

data elements is formatted for printing. The user may specify what data elements are printed and also the spacing of these data elements.

A standard Quick Look print line contains state, county, source, point, action number, and channel number together with up to 14 other user-selected data elements. The only restriction is the print line length of 104 characters. Users may suppress state, county, source, point, action number, and channel number on each Quick Look line by using the no-header (NOHD) option. This option allows the full use of the 132 character print line for user-selected data elements. Figure 8-2 is a sample Quick Look showing monitor data for CEMS sources in Maine and Massachusetts.

Data elements are printed on the Quick Look line in the same order they are requested on the print-format selection card. For spacing purposes, the user may select one of the two special data elements: BLK1 produces a blank column five characters wide; BLK2 produces a blank column 15 characters wide. These two data elements may be used repeatedly for spacing as required. 1 and BLK2 are especially useful when the Quick Look is used as a turnaround document.

At the end of the Quick Look Report, a total is given for the number of lines printed. This total represents the sum of all items meeting the user's selection criteria. A page break and subtotals are also available on the user-selected data elements. The user is cautioned to request page breaks and subtotals only for those data elements that produce logical groupings, such as State, AQCR, Action Type, etc.

Users may select their own sequencing for the Quick Look Report. Often two Quick Look Reports with the same selection criteria provide users with a great deal of insight when the reports are sequenced differently.

QUICK LOOK REPORT

08/15/86 CONTINUOUS EMISSION MONITORING SYSTEM PAGE 2

CONFIDENTIAL REPORT - FOR EPA INTERNAL USE ONLY

SOURCES IN CEM SUBSET AS OF 8/14/86

ST	CNTY	SOURC	PTNO	CHA	ANUM	PTNO	MONITOR	REQD	AGCD	MONITOR MANUFACTURER	CERT DTE	MIND	PSTD	PERMIS EMIS LIMIT
			0011	311	0000	0011	NOX	NSPS	EPA-RGN	LEAR SIEGLER	11/02/82	82/02	82/11	0.7 LBS/MBTU NOX
20	0277	90004	0000	000	0000	0000		UNKNOWN	UNKNOWN		/ /	/	/	
			0001	000	0000	0001		UNKNOWN	UNKNOWN		/ /	/	/	
			0001	111	0000	0001	OPACITY	NSPS	EPA-RGN	ENV. DATA CORP(EDC)	03/20/80	78/11	79/07	20 % OPACITY
			0001	311	0000	0001	NOX	NSPS	EPA-RGN	ENV. DATA CORP(EDC)	03/20/80	78/11	79/07	0.3 LBS/MBTU NOX
			0002	000	0000	0002		UNKNOWN	UNKNOWN		/ /	/	/	
			0003	000	0000	0003		UNKNOWN	UNKNOWN		/ /	/	/	
			0003	311	0000	0003	NOX	NSPS	UNKNOWN		/ /	/	/	0.7 LB/MBTU 3 HR PRD
20	0885	60005	0000	000	0000	0000		UNKNOWN	UNKNOWN		/ /	/	/	
			0001	000	0000	0001		UNKNOWN	UNKNOWN		/ /	/	/	
			0001	111	0000	0001	OPACITY	NSPS	EPA-RGN	LEAR SIEGLER	06/11/81	81/04	81/06	35 % OPACITY
			0001	211	0000	0001	SO2	NSPS	EPA-RGN	LEAR SIEGLER	11/17/81	81/03	81/11	39 GRAMS/SEC.
			0001	511	0000	0001	HC	NSPS	EPA-RGN	ITT BARTON	08/14/84	81/04	/	5 PPM/12 HR PERIOD
			0002	000	0000	0002		UNKNOWN	UNKNOWN		/ /	/	/	
22	1291	00010	0000	000	0000	0000		UNKNOWN	UNKNOWN		/ /	/	/	
			0001	000	0000	0001		UNKNOWN	UNKNOWN		/ /	/	/	
			0002	000	0000	0002		UNKNOWN	UNKNOWN		/ /	/	/	
			0501	000	0000	0501		UNKNOWN	UNKNOWN		/ /	/	/	
			0501	141	0000	0501	OPACITY	ENFORCE	UNKNOWN	PHOTOMATION	/ /	77/	77/	20% OPAC/6 MIN PERD
			0501	151	0000	0501	OPACITY	ENFORCE	UNKNOWN	PHOTOMATION	/ /	77/	77/	
			0501	161	0000	0501	OPACITY	ENFORCE	UNKNOWN	PHOTOMATION	/ /	77/	77/	
			0502	000	0000	0502		UNKNOWN	UNKNOWN		/ /	/	/	
			0999	000	0000	0999		UNKNOWN	UNKNOWN		/ /	/	/	
22	1291	00012	0000	000	0000	0000		UNKNOWN	UNKNOWN		/ /	/	/	
			0001	000	0000	0001		UNKNOWN	UNKNOWN		/ /	/	/	
			0002	000	0000	0002		UNKNOWN	UNKNOWN		/ /	/	/	
			0501	000	0000	0501		UNKNOWN	UNKNOWN		/ /	/	/	
			0501	111	0000	0501	OPACITY	OTHER	EPA-RGN	PHOTOMATION	/ /	77/03	77/	20% OPACITY
			0502	000	0000	0502		UNKNOWN	UNKNOWN		/ /	/	/	
			0502	111	0000	0502	OPACITY	OTHER	EPA-RGN	PHOTOMATION	/ /	77/03	77/	20% OPACITY
			0999	000	0000	0999		UNKNOWN	UNKNOWN		/ /	/	/	
22	1291	00128	0000	000	0000	0000		UNKNOWN	UNKNOWN		/ /	/	/	
			0001	000	0000	0001		UNKNOWN	UNKNOWN		/ /	/	/	
			0002	000	0000	0002		UNKNOWN	UNKNOWN		/ /	/	/	
			0003	000	0000	0003		UNKNOWN	UNKNOWN		/ /	/	/	
			0004	000	0000	0004		UNKNOWN	UNKNOWN		/ /	/	/	
			0005	000	0000	0005		UNKNOWN	UNKNOWN		/ /	/	/	
			0006	000	0000	0006		UNKNOWN	UNKNOWN		/ /	/	/	
			0007	000	0000	0007		UNKNOWN	UNKNOWN		/ /	/	/	
			0008	000	0000	0008		UNKNOWN	UNKNOWN		/ /	/	/	

Figure 8-2. Quick Look Report

Three different Retrieval report formats can be requested from the same Retrieval. Thus, the Quick Look Report can serve as a summary or index to one of the longer report formats such as the Source Data Report.

8.1.3 Double-Spaced Quick Look Report

This report is identical to the Quick Look Report, except that a double space is provided between print lines. This feature is especially useful when the report is to be used as a turnaround document. The Quick Look and Double-Spaced Quick Look Reports cannot be requested simultaneously. Figure 8-3 is a sample of a Double-Spaced Quick Look Report.

8.1.4 Two-Line Quick Look Report

The Two-Line Quick Look Report prints the source name (SNME), street address (STRT), city name (CYNM), state abbreviation (STAB), air program code (APCD), air program status (APST), SIC code (SICC), source classification code (CLAS), and source compliance code (SCMS) on the first line of a Quick Look Report. The items selected by the user on the "40" card appear on the second line of the report. The first line, containing only source information, will print only once per source and is available both with and without suppression and the use of the NOHD options.

Use "QD" (Quick Look Double Line) on the "20" card in place of "QL" or "Q2." Figure 8-3.1 shows a Two-Line Quick Look Report.

8.1.5 Source Data Report

The Source Data Report is the most comprehensive report available from the Retrieval. All CDS/CEMSS data elements are included on this report for CEMS sources only; this is the only report that gives complete source information, source comment information, point information, point comment informat

QUICK LOOK REPORT

09/14/86 CONTINUOUS EMISSION MONITORING SYSTEM PAGE 3

CONFIDENTIAL REPORT - FOR EPA INTERNAL USE ONLY

SOURCES IN CEM SUBSET AS OF 8/14/86

ST	CNTY	SOURC	PTNO	CHA	ANUM	PTNO	MONITOR	REQD	AGCD	MONITOR MANUFACTURER	CERT DTE	MIND	PSTD	PERMIS EMIS LIMIT
			0011	311	0000	0011	NOX	NSPS	EPA-RGN	LEAR SIEGLER	11/02/82	82/02	82/11	0.7 LBS/MBTU NOX
20	0277	90004	0000	000	0000	0000		UNKNOWN	UNKNOWN		/ /	/	/	
			0001	000	0000	0001		UNKNOWN	UNKNOWN		/ /	/	/	
			0001	111	0000	0001	OPACITY	NSPS	EPA-RGN	ENV. DATA CORP(EDC)	03/20/80	78/11	79/07	20 % OPACITY
			0001	311	0000	0001	NOX	NSPS	EPA-RGN	ENV. DATA CORP(EDC)	03/20/80	78/11	79/07	0.3 LBS/MBTU NOX
			0002	000	0000	0002		UNKNOWN	UNKNOWN		/ /	/	/	
			0003	000	0000	0003		UNKNOWN	UNKNOWN		/ /	/	/	
			0003	311	0000	0003	NOX	NSPS	UNKNOWN		/ /	/	/	0.7 LB/MBTU 3 HR PRD
20	0885	60005	0000	000	0000	0000		UNKNOWN	UNKNOWN		/ /	/	/	
			0001	000	0000	0001		UNKNOWN	UNKNOWN		/ /	/	/	
			0001	111	0000	0001	OPACITY	NSPS	EPA-RGN	LEAR SIEGLER	06/11/81	81/04	81/06	35 % OPACITY
			0001	211	0000	0001	SO2	NSPS	EPA-RGN	LEAR SIEGLER	11/17/81	81/03	81/11	39 GRAMS/SEC.
			0001	511	0000	0001	HC	NSPS	EPA-RGN	ITT BARTON	08/14/84	81/04	/	5 PPM/12 HR PERIOD
			0002	000	0000	0002		UNKNOWN	UNKNOWN		/ /	/	/	
22	1291	00010	0000	000	0000	0000		UNKNOWN	UNKNOWN		/ /	/	/	
			0001	000	0000	0001		UNKNOWN	UNKNOWN		/ /	/	/	
			0002	000	0000	0002		UNKNOWN	UNKNOWN		/ /	/	/	
			0501	000	0000	0501		UNKNOWN	UNKNOWN		/ /	/	/	
			0501	141	0000	0501	OPACITY	ENFORCE	UNKNOWN	PHOTOMATION	/ /	77/	77/	20% OPAC/6 MIN PERD
			0501	151	0000	0501	OPACITY	ENFORCE	UNKNOWN	PHOTOMATION	/ /	77/	77/	

Figure 8-3. Double-Spaced Quick Look Report

ST	CNTY	SOURC	PTNO	CHA	ANUM	SOURCE NAME / AGCD	STREET ADDRESS / MONITOR MANUFACTURER	CITY NAME / MONITOR MODEL	ST	MONITOR SERIAL	APCD / MINO	APST / CERT	SICC / DTE	CLAS / MONITOR	SCMS / REQD
			0010	000	0000	UNKNOWN					/	/	/		UNKNOWN
			0011	000	0000	UNKNOWN					/	/	/		UNKNOWN
			0011	111	0000	EPA-RGN LEAR SIEGLER	RM41			0201766	82/02	11/02/82		OPACITY	NSPS
			0011	211	0000	EPA-RGN LEAR SIEGLER	SM810			0214470	82/02	11/02/82		SO2	NSPS
			0011	311	0000	EPA-RGN LEAR SIEGLER	SM810			0214470	82/02	11/02/82		NOX	NSPS
20	0277	90004	0000	000	0000	WYMAN STA.UNIT 4	CENTRAL MAINE POWER	YARMOUTH	ME		9	0	4911	A1	2
						UNKNOWN					/	/	/		UNKNOWN
			0001	000	0000	UNKNOWN					/	/	/		UNKNOWN
			0001	111	0000	EPA-RGN ENV. DATA CORP(EDC)	DIGA SERIES			2538-1	78/11	03/20/80		OPACITY	NSPS
			0001	311	0000	EPA-RGN ENV. DATA CORP(EDC)	DIGA SERIES			2538-1	78/11	03/20/80		NOX	NSPS
			0002	000	0000	UNKNOWN					/	/	/		UNKNOWN
			0003	000	0000	UNKNOWN					/	/	/		UNKNOWN
			0003	311	0000	UNKNOWN					/	/	/	NOX	NSPS
20	0885	60005	0000	000	0000	BOISE-CASCADE CORP.	OXFORD PAPER DIV.	RUMFORD	ME		6	0	2621	A1	4
						UNKNOWN					/	/	/		UNKNOWN
			0001	000	0000	UNKNOWN					/	/	/		UNKNOWN
			0001	111	0000	EPA-RGN LEAR SIEGLER	RM41			0301534	81/04	06/11/81		OPACITY	NSPS
			0001	211	0000	EPA-RGN LEAR SIEGLER	SM810			040365U	81/03	11/17/81		SO2	NSPS
			0001	511	0000	EPA-RGN ITT BARTON	411			129	81/04	08/14/84		HC	NSPS
			0002	000	0000	UNKNOWN					/	/	/		UNKNOWN
22	1291	00010	0000	000	0000	BOSTON ED-L STREET	776 SUMMER ST	BOSTON	MA		0	0	4911	A1	3
						UNKNOWN					/	/	/		UNKNOWN
			0001	000	0000	UNKNOWN					/	/	/		UNKNOWN
			0002	000	0000	UNKNOWN					/	/	/		UNKNOWN
			0501	000	0000	UNKNOWN					/	/	/		UNKNOWN
			0501	141	0000	UNKNOWN PHOTOMATION	SIR-88				77/	/	/	OPACITY	ENFORCE
			0501	151	0000	UNKNOWN PHOTOMATION	SIR-88				77/	/	/	OPACITY	ENFORCE
			0501	161	0000	UNKNOWN PHOTOMATION	SIR-88				77/	/	/	OPACITY	ENFORCE
			0502	000	0000	UNKNOWN					/	/	/		UNKNOWN
			0999	000	0000	UNKNOWN					/	/	/		UNKNOWN
22	1291	00012	0000	000	0000	BOSTON ED-NEW BOSTON	776 SUMMER ST	BOSTON	MA		0	0	4911	A1	3
						UNKNOWN					/	/	/		UNKNOWN
			0001	000	0000	UNKNOWN					/	/	/		UNKNOWN
			0002	000	0000	UNKNOWN					/	/	/		UNKNOWN
			0501	000	0000	UNKNOWN					/	/	/		UNKNOWN
			0501	111	0000	EPA-RGN PHOTOMATION	SIR-8				77/03	/	/	OPACITY	OTHER
			0502	000	0000	UNKNOWN					/	/	/		UNKNOWN
			0502	111	0000	EPA-RGN PHOTOMATION	SIR-8				77/03	/	/	OPACITY	OTHER
			0999	000	0000	UNKNOWN					/	/	/		UNKNOWN

Figure 8-3.1. Two-Line Quick Look Report

action comment information, and monitor and excess emission information. Figure 8-4 presents a three page sample of a Source Data Report with both CDS nd CEMSS data on it.

Each new facility is printed on a new page. Facilities with many points and actions use multiple pages per facility.

For those in charge of maintaining the accuracy of the CEMSS Masterfile, Source Data Reports by state provide an essential coding tool. For those interested only in part of the Masterfile, report selection criteria can be based on any retrievable data elements.

Although Source Data Reports can be sorted by any user-selected data elements retrieval on the Masterfile, users should not select point or action-level data elements as their major sort key. To produce a meaningful report, users should keep all of the records for a given facility together by sorting on the source level. If no user sort key is specified, Source Date Reports are printed in the Masterfile sort order: region, state, county, ource, point, action number, and channel number.

8.1.6 Milestone Report

The Milestone Report produces a tally of data based on two data elements selected by the user. Any two retrievable CDS/CEMSS data elements at the source, point, or action level may be chosen. One data element determines the rows produced; the other data element determines the columns produced. Note that the user chooses the row data element and that the Milestone Report will produce one line of output for each different value found on the file for that data element. To determine which values for the column data element are to be printed, the user must supply the column data element and the specific values for that data element. A maximum of 10 values will be accepted.

```
                                   SOURCE DATA REPORT
.......................................................................................................
03/14/86                    CONTINUOUS EMISSION MONITORING SYSTEM                          PAGE      1
                         CONFIDENTIAL REPORT - FOR EPA INTERNAL USE ONLY
                            DETAIL REPORT OF CEM SOURCES IN CEM SUBSET AS OF 8/14/86
                                                                          FEDF   NON-FED        RDE1 1
CONN LIGHT & POWER                                                        APCD 0 SIP SOURCE     RDE2
STATE  CT    COUNTY FAIRFIELD                                             APST 0 OPERATING      RDE3
COUNTY 0265  SOURCE 00142  AQCR 043  CITY 0820
.......................................................................................................
  SOURCE NAME    CONN LIGHT & POWER     -  STATE REGIST  137-014          SIC  4911          RDE6
  ADDRESS        WOODWARD AV               NEDS XREF     4214             RDE4               STAFF MEMBER
  CITY, STATE    NORWALK CT 06854          PRIORITY      0                RDE5               LAST-UPDATE    1/24/86

                        COMMENTS: 1  HARBOUR STATION
                                  2  ELECTRIC CO
                                  3  FACILITY BURNS SOME PROPANE
.......................................................................................................
  DUN & BRADSTREET NO.      CTD980191407                SOURCE CLASSIFICATION:   A1                SIGNIFICANT VIOLATION IND
  SOURCE COMPLIANCE STATUS  3 IN COMPL-INSPECTION                                                  LOAD DRV A-ACTUAL
  FACILITY CAPACITY           RDE 9                     RDE 10                   RDE 11            RDE 12
  POLLUTANT                   COMPLIANCE                                         AQCR INDICATOR                        LOADING
  PT PARTICULATE MATTER       2 IN COMPL-SOURCE TEST                             2 NON-ATTAINMENT-SEC
  S2 SULFUR OXIDES            2 IN COMPL-SOURCE TEST                             A ATTAINMENT AREA
  HC HYDROCARBONS             0 COMPL STATUS UNKNOWN                             N NON-ATTAINMENT
  CO CARBON MONOXIDE          0 COMPL STATUS UNKNOWN                             N NON-ATTAINMENT
  N2 NITROGEN OXIDES          2 IN COMPL-SOURCE TEST                             A ATTAINMENT AREA
.......................................................................................................
  POINT NUMBER  0000    MULT                SOURCE CMPL 3 IN COMPL-INSPECTION     STATE/LOC REGUL                    RDE7
  PCLLUTANT                                 SOURCE-SIP    NO SCHEDULE
  DESCRIPTION   ELECTRIC SERVICES           CAPACITY                              SCC8 CODE

                        COMMENTS: 1  STATE REGIS NO:0028,0030,0031

        CEM ACTION 0004   SCHD  2/ 3/77   ACHV  2/ 3/77   ACT-TYPE A8   STTE NOTICE OF VIOLATION
                                     STAFF                                                RESULTS  01 ACTION ACHIEVED
                          COMMENTS: 1  NOV #4472 - 19-508-22(A)(2)
        CEM ACTION 0006   SCHD 10/ 3/77   ACHV 10/ 3/77   ACT-TYPE 13   STATE INSPECTION
                                     STAFF                                                RESULTS  01 ACTION ACHIEVED
        CEM ACTION 0007   SCHD  1/12/79   ACHV  1/12/79   ACT-TYPE 13   STATE INSPECTION
                                     STAFF                                                RESULTS  01 ACTION ACHIEVED
        CEM ACTION 0008   SCHD  2/16/79   ACHV  2/16/79   ACT-TYPE 63   EPA INSPECTION OVERVIEW
                                     STAFF                                                RESULTS  01 ACTION ACHIEVED
        CEM ACTION 0009   SCHD  3/20/80   ACHV  3/20/80   ACT-TYPE A8   STTE NOTICE OF VIOLATION
                                     STAFF                                                RESULTS  01 ACTION ACHIEVED
                          COMMENTS: 1  NOV #7613 - 19-508-20(A)(3)
        CEM ACTION 0010   SCHD  6/15/81   ACHV  6/15/81   ACT-TYPE 13   STATE INSPECTION
                                     STAFF                                                RESULTS
        CEM ACTION 0011   SCHD  5/ 7/82   ACHV  5/ 7/82   ACT-TYPE 13   STATE INSPECTION
                                     STAFF                                                RESULTS
        CEM ACTION 0012   SCHD  7/ 6/83   ACHV  7/ 6/83   ACT-TYPE 13   STATE INSPECTION
```

Figure 8- Source Data Report

```
                                        SOURCE DATA R    T
08/14/00                        CONTINUOUS EMISSION MONITORING SYSTEM                          PAGE      2
                             CONFIDENTIAL REPORT - FOR EPA INTERNAL USE ONLY
                                DETAIL REPORT OF CEM SOURCES IN CEM SUBSET AS OF 9/14/86
CONN LIGHT & POWER                                                                    FEDF   NON-FED        RDE1 1
STATE  CT    COUNTY FAIRFIELD                                                         APCD 7 UNKNOWN        RDE2
COUNTY 0265  SOURCE 00142  AQCR 043  CITY 0820                                        APST 0 OPERATING      RDE3
                                                STAFF                                 RESULTS
          CEM ACTION 0013   SCHD  3/20/84   ACHV  3/20/84   ACT-TYPE 13   STATE INSPECTION
                                                STAFF                                 RESULTS
          CEM ACTION 0014   SCHD  3/ 6/85   ACHV  3/ 6/85   ACT-TYPE 13   STATE INSPECTION
                                                STAFF                                 RESULTS
   POINT NUMBER  0001    MULT              POINT CMPL  4 IN COMPL-CERTIFICATN    STATE/LOC REGUL 19-508-19(A)(2)
   POLLUTANT     S2                        POINT-SIP     NO SCHEDULE                                          RDE7
   DESCRIPTION   STEAM BLR BRNNG RES OIL   CAPACITY                              SCC8 CODE       10100403

                            COMMENTS: 2  #6 OIL
   POINT NUMBER  0002    MULT 001          POINT CMPL  2 IN COMPL-SOURCE TEST    STATE/LOC REGUL 19-508-18(D)(1)
   POLLUTANT     PT                        POINT-SIP     NO SCHEDULE                                          RDE7
   DESCRIPTION   STEAM BLR BRNNG RES OIL   CAPACITY                              SCC8 CODE       10100403

                            COMMENTS: 2  CYCLONE & ELECTROSTATIC PRECIPITATOR

   ---------------------------------------------------------------------------------------------------------

 *** CHANNEL NUMBER:   111
     TYPE OF MONITOR:  OPACITY

      MONITOR MANUFACTURER:  BAILEY                 CERTIFICATION DATE:                          LATEST PST DATE:
      MONITOR MODEL NUMBER:                         MONITOR REQUIRED FOR:   UNKNOWN              LATEST PST RESULTS:
      MONITOR SERIAL NUMBER:                        ENFORCEMENT AGENCY:     UNKNOWN              TOTAL PST PASSES:   00
      MONITOR INSTALLED:        /60                 PERMISSIBLE EMIS LIMIT:                      TOTAL PST FAILS:    00
   POINT NUMBER  0003    MULT 001          POINT CMPL  2 IN COMPL-SOURCE TEST    STATE/LOC REGUL 19-508-22(A)(2)
   POLLUTANT     N2                        POINT-SIP     NO SCHEDULE                                          RDE7
   DESCRIPTION   STEAM BLR BRNNG RES OIL   CAPACITY                              SCC8 CODE       10100403
```

Figure 8-4. Source Data Report (Continued)

```
04/14/86                    CONTINUOUS EMISSION MONITORING SYSTEM                                PAGE      3
                      CONFIDENTIAL REPORT - FOR EPA INTERNAL USE ONLY
                         DETAIL REPORT OF CEM SOURCES IN CEM SUBSET AS OF 8/14/86
CONN LIGHT & POWER                                                                    FEDF   NON-FED        RDE1 1
STATE  CT    COUNTY FAIRFIELD                                                         APCD   SIP SOURCE     RDE2
COUNTY 0265  SOURCE 00142  AQCR 043  CITY 0820                                        APST O OPERATING      RDE3
.......................................................................................................................
   POINT NUMBER  0004    MULT              POINT CMPL  4 IN COMPL-CERTIFICATN    STATE/LOC REGUL 19-508-19(A)(2)
   POLLUTANT     S2                        POINT-SIP     NO SCHEDULE                                          RDE7
   DESCRIPTION   STEAM BLR BRNNG RES OIL   CAPACITY                              SCC8 CODE       10100403
.......................................................................................................................
   POINT NUMBER  0005    MULT 004          POINT CMPL  2 IN COMPL-SOURCE TEST    STATE/LOC REGUL 19-508-18(D)(1)
   POLLUTANT     PT                        POINT-SIP     NO SCHEDULE                                          RDE7
   DESCRIPTION   STEAM BLR BRNNG RES OIL   CAPACITY                              SCC8 CODE       10100403

                          COMMENTS: 2  ELECTROSTATIC PRECIPITATOR
.......................................................................................................................

     -----------------------------------------------------------------------------------------------------------------

 *** CHANNEL NUMBER:   111
     TYPE OF MONITOR:  OPACITY

      MONITOR MANUFACTURER:  BAILEY                 CERTIFICATION DATE:                          LATEST PST DATE:
      MONITOR MODEL NUMBER:                         MONITOR REQUIRED FOR:   UNKNOWN              LATEST PST RESULTS:
      MONITOR SERIAL NUMBER:                        ENFORCEMENT AGENCY:     UNKNOWN              TOTAL PST PASSES:   00
      MONITOR INSTALLED:       /60                  PERMISSIBLE EMIS LIMIT:                      TOTAL PST FAILS:    00
.......................................................................................................................
   POINT NUMBER  0006    MULT 004          POINT CMPL  2 IN COMPL-SOURCE TEST    STATE/LOC REGUL 19-508-22(A)(2)
   POLLUTANT     N2                        POINT-SIP     NO SCHEDULE                                          RDE7
   DESCRIPTION   STEAM BLR BRNNG RES OIL   CAPACITY                              SCC8 CODE       10100403
```

Figure 8-4. Source Data Report (Concluded)

The totals produced by the Milestone Report reflect only data selected by the retrieval. Users care should carefully prepare retrieval selection cards so that the report produced is meaningful.

Figure 8-5 shows a tally of various monitor manufactuers state-by-state basis in EPA Region VII.

8.1.7 Single-Spaced Milestone Report

The Single-Spaced Milestone Report provides the same information as the normal Variable Milestone Report. The lines are single-spaced, which allows for twice as many printed lines per page. To obtain this report, use "M1" on the "20" card in place of "MS". Figure 8.5-1 gives a sample of the Single-Spaced Milestone Report.

8.1.8 Three Element Milestone Report

A third or controlling data element is available for use on the Milestone Report. A page break will occur each time the values of this third controlling data element changes.

To request a Three Element Milestone Report, enter "MS" on the "20" card, the same as for a regular Milestone Report. Enter the "50" card as for a regular Milestone Report, and enter the third or controlling data element in Columns 4 through 7 of the new "51" card (after the "50" card) to get the Three Element Milestone Report.

Figure 8-5.2 gives a sample of the Three Element Milestone Report.

8.1.9 CEMS Statistical Report

The CEMSS Stat Report is a fixed-format report that provides elementary statistical analysis for a selected portion of the CEMSS Masterfile. The CEMSS

MILESTONE REPORT

08/14/86 CONTINUOUS EMISSION MONITORING SYSTEM PAGE 2

CONFIDENTIAL REPORT - FOR EPA INTERNAL USE ONLY

SOURCES IN CEM SUBSET AS OF 8/14/86

MONITOR MANUFACTURER	REGION 7 TOTAL	STAB IA	STAB KS	STAB MO	STAB NE
LEAR SIEGLER	53	33	13	7	0
LEEDS & NORTHRUP	1	0	0	0	1
LSI	18	0	3	11	4
MEASUREX	10	2	8	0	0
NONE	2	0	0	2	0
TECO	2	1	0	1	0
TELEDYNE	2	0	0	2	0
THEMOELECTRON	1	0	0	1	0
THERMOELECTRON	2	0	0	2	0
THERMOX	3	2	0	1	0
UNKNOWN	3	0	0	3	0
WATER TO FUEL RATIO	1	0	0	1	0
WESTERN RESEARCH	2	2	0	0	0
REGIONAL STAB TOTALS	2,249	747	120	1,300	82
REGIONAL MANF ITEMS	35				

Figure 8-5. Milestone Report

MILESTONE REPOR

08/18/86 CONTINUOUS EMISSION MONITORING SYSTEM PAGE 1

CONFIDENTIAL REPORT - FOR EPA INTERNAL USE ONLY

SOURCES IN CEM SUBSET AS OF 8/14/85

MONITOR MANUFACTURER	REGION 1 TOTAL	MINY 85	MINY 85	MINY 84	MINY 83	MINY 82	MINY 81	MINY 80	MINY 79	MINY 78	MINY 77
BLANK	2	0	0	0	0	0	2	0	0	0	0
DYNATRON	1	0	0	0	0	0	0	0	1	0	0
EDC	1	0	0	0	0	0	0	0	0	0	1
EDC/THERMO ELECTRON	2	0	0	0	0	2	0	0	0	0	0
ENV. DATA CORP(EDC)	2	0	0	0	0	0	0	0	0	2	0
ENVIRONMENTAL DATA	2	0	0	0	0	0	0	0	0	2	0
ITT BARTON	1	0	0	0	0	0	1	0	0	0	0
LEAR SIEGLER	11	0	0	0	0	3	2	0	6	0	0
MONITOR LABORATORIES	2	0	0	0	0	0	2	0	0	0	0
PHOTOMATION	10	0	0	0	0	0	0	0	0	0	10
REGIONAL MINY TOTALS	34	0	0	0	0	5	7	0	7	4	11
REGIONAL MANF ITEMS	10										

Figure 8-5.1. Single Spaced Milestone Report

MILESTONE REPORT

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CONFIDENTIAL REPORT - FOR I INTERNAL USE ONLY

MONITOR INSTALLATION BY MANUFACTURER BY CHANNEL (3 ELE. MS)

CHANNEL DESCRIPTION OPACITY MONITOR MANUFACTURER	TOTAL	MINY 86	MINY 85	MINY 84	MINY 83	MINY 82	MINY 81	MINY 80	MINY 79	MINY 78	MINY 77
BLANK	2	0	0	0	0	0	2	0	0	0	0
DYNATRON	1	0	0	0	0	0	0	0	1	0	0
EDC	1	0	0	0	0	0	0	0	0	0	1
EDC/THERMO ELECTRON	2	0	0	0	0	2	0	0	0	0	0
ENV. DATA CORP(EDC)	1	0	0	0	0	0	0	0	0	1	0
ENVIRONMENTAL DATA	2	0	0	0	0	0	0	0	0	2	0
LEAR SIEGLER	8	0	0	0	0	1	1	0	6	0	0
PHOTOMATION	10	0	0	0	0	0	0	0	0	0	10
CHANNEL DMINY TOTALS	27	0	0	0	0	3	3	0	7	3	11
CHANNEL DMANF ITEMS	8										

Figure 8-5.2. Three Element Milestone Report

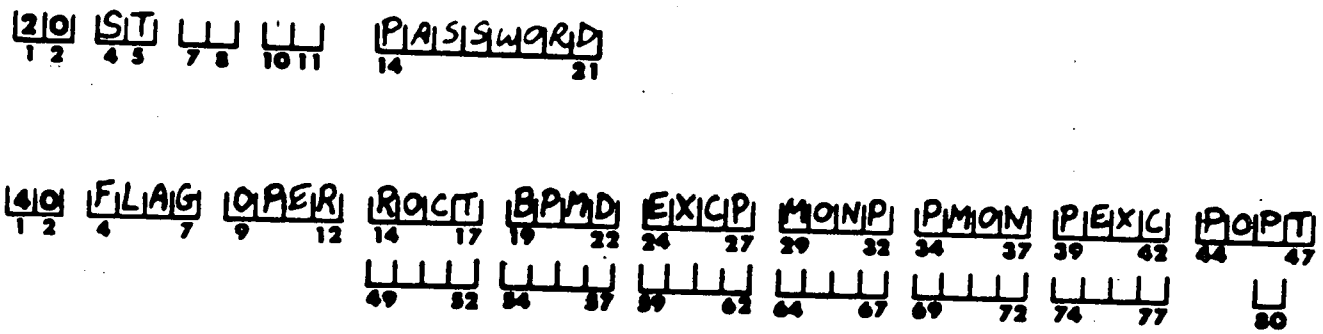
Stat Report provides ranges and mean of monitor unavailability, monitored operation without exceedances, and reported operating time with exceedances. Ranges, means, and percent of operating time are available for total excess emissions, monitor downtime, and their corresponding reason codes. The number of sources, emission points, monitors, and EERs used to calculate these statistics are included.

The above statistics are calculated for the entire country and for each region by Source Classification Code and by each CEM monitor.

The user is allowed to select any portion of the CEMS Masterfile to be examined. Following are examples of such selection criteria:

- Selection by monitor manufacturer (Lear Seigler)
- Selection by a specific Source Classification Code
- Selection by a specific monitor (opacity, SO_2, etc.)
- Selection by state
- Selection by source.

Because the CEMS Stat Report is fixed-format, the 20 and 40 cards are fixed format. A 30 card is not needed. The standard formats are shown below.



Remember that the accuracy of the statistics produced are in direct relationship to the quality of the data entered.

Figure 8-6 shows an example of the CEMS Stat Report for electrical services and opacity monitors throughout the nation.

CONTINUOUS EMI NS MONITORING SYSTEM
SAMPLE CEM STAT REPORT TESTING (NEW)
REGIONAL / NATIONAL REPORT
SOURCES ACTIVELY SUBMITTING ERRS
AS OF 08/15/86

REGION 11

TOTAL SOURCES :	11	TOTAL CHANNELS :	30
TOTAL EMISSION POINTS :	21	TOTAL QUARTERS :	121

CONTROL :

TYPE MONITOR : OPACITY MONITOR

NUMBER SOURCES :	9	NUMBER CHANNELS :	15
NUMBER EMISSION POINTS :	15	NUMBER QUARTERS :	72

	SOURCE OPERATION (M)	MONITOR UNAVAILABILITY	MONITORED OPER. W/O EXCEED.	REPORTED OPER. W/ EXCEED.
RANGE :	3360- 165780		.100- .100	
MEAN :	97442		.100	

	EXCESS EMISSIONS	STARTUP/ SHUTDOWN	CLEANING/ SOOT BLOWING	UNKNOWN EE	CONTROL EQUIP FAILURE-TOTAL	PROCESS PROBLEMS	FUEL PROBLEMS	OTHER KNOWN EXCESS EMIS.
RANGE :	999999	0- 55140	0- 86800	0- 79001	0- 30000	0- 18420	0- 7	0- 93000
MEAN :		2864	10198	18196	264184	586		233073
%OPER TIME :		2.939	10.466	18.673	271.118	.601		239.190

	MONITOR DOWNTIME	MONITOR EQUIP MALF	NON-MONITOR EQUIP MALF	UNKNOWN MONITOR DOWN	CALIBRATION	OTHER KNOWN MONITOR DOWN
RANGE :	0	0- 3200	0- 65005	9- 10	0- 4800	99999
MEAN :		290354	16175	18065	36615	
%OPER TIME :		287.712	16.600	18.539	37.578	

Figure 8-6. CEMS Stat Report

8.1.10 Questionnaire Report

This report has been used by some regions for direct reporting by state agencies. The report format provides a turnaround document used to report the status of various actions. Identifying data is printed on the Questionnaire Report, and it is then sent to the state agency for completion. After the state returns the coded report, the data is keypunched for reentry to the CDS data base. Figure 8-6.1 shows an example of the Questionnaire Report.

8.2 Checklist for Request Submission

The following list of steps will guide users submitting requests for retrievals. The list is sequential in that an inexperienced user would proceed in chronological order. Section 8-3 provides details for each item in this checklist.

A. Determine what you want.

1. Review the need for information from the data base. Determine the best way to respond using the Retrieval Package. What information does the user ultimately need?

B. Code the form.

1. Formulate a meaningful title for the report(s) and enter it on the card line 01. The title will be printed on each output page.

2. Create the selection logic (on Card 10) to extract needed data items. This is the most complex part of the job, and it is suggested that the instructions be reviewed the first few times the package is used. If no selection is used, all facilities on the CEMSS Masterfile will be selected.

3. Select the best format from those available. Use more than one if appropriate. Put the correct format on card line 20, using the proper two-digit report abbreviation (QL for Quick Look, Q2 for Double Spaced Quick Look, QD for Two Line Quick Look, SD for Source Data Report, MS for Milestone Report and Three Element Milestone Report, M1 for Single Spaced Milestone Report, ST for Statistical Report, DT for Detail Report, and QT for Questionnaire Report).

4. Select the sequence of the items in the report, and fill in the card line 30 on the form. If no sequence is specified, the report will be in region, state, county order.

* SOURCE LEVEL DATA * *CDS ID #: 02-31-3060-00003 *

SOURCE NAME: CIL CHEMICALS INC. STATE OF NJ COUNTY OF MIDDLESEX AIR PROGRAM CODE: 9
ADDRESS: CHEVALIER AVENUE
SAYREVILLE NJ 08872 AIR PROGRAM DESCRIPTION: NSPS STATE REGISTRATION: 15879

HAVE YOU RECEIVED EERS FOR THIS SOURCE? YES - NO (CIRCLE ONE)

* POINT LEVEL DATA * * CEMS ID #: POINT-0001 *

PROCESS DESCRIPTION: NSPS SULFURIC ACID PLANT EMISSION POINT #: 0001 STATE REGULATION: SUBPT H,60.80

EMISSION POINT COMMENTS
_____(IF ANY)_____ ADDITIONAL EMISSION POINT COMMENTS? _____

* MONITOR LEVEL DATA * * CEMS ID #: CHAN-211 *

PLEASE GIVE UPDATED AND ADDITIONAL INFORMATION, AS NEEDED

	EXISTING DATA	UPDATES/ADDITIONS		EXISTING DATA	UPDATES/ADDITIONS
CHANNEL # DESCRIPTION:	SO2	_____	MONITOR INSTALL. DATE (YY/MM):	/	_____
ENFORCEMENT AGENCY:	STATE	_____	REQUIREMENT FOR MONITOR:	NSPS	_____
MONITOR MANUFACTURER:	DUPONT	_____	LATEST PST DATE (YY/MM):	75/04	_____
MONITOR MODEL #:	460	_____	LATEST PST STATUS (PASS/FAIL):	PASS	_____
MONITOR SERIAL #:	E73431014-20	_____	CERTIFICATION DATE (MM/DD/YY):	/ /	_____

MONITOR COMMENTS
___(IF ANY)_____ ADDITIONAL MONITOR COMMENTS? _____

UNIT NO. 1 _____
_____

* POINT LEVEL DATA * * CEMS ID #: POINT-0002 *

PROCESS DESCRIPTION: NSPS SULFURIC ACID PLANT EMISSION POINT #: 0002 STATE REGULATION: SUBPT H,60.80

EMISSION POINT COMMENTS
_____(IF ANY)_____ ADDITIONAL EMISSION POINT COMMENTS? _____

Figure 8-6.1. Questionnaire Report

*COS ID #: 02-31-3060-00003 *

* MONITOR LEVEL DATA * * CEMS ID #: CMAN-211 *

PLEASE GIVE DETAILED AND ADDITIONAL INFORMATION, AS NEEDED

	EXISTING DATA	UPDATES/ADDITIONS		EXISTING DATA	UPDATES/ADDITIONS
CHANNEL # DESCRIPTION:	SO2	_____	MONITOR INSTALL. DATE (YY/MM):	/	_____
ENFORCEMENT AGENCY:	STATE	_____	REQUIREMENT FOR MONITOR:	NSPS	_____
MONITOR MANUFACTURER:	DUPONT	_____	LATEST PST DATE (YY/MM):	75/04	_____
MONITOR MODEL #:	400	_____	LATEST PST STATUS (PASS/FAIL):	PASS	_____
MONITOR SERIAL #:	E73-41014-13	_____	CERTIFICATION DATE (MM/DD/YY):	/ /	_____

MONITOR COMMENTS
___CIL_LEWIS_____

ADDITIONAL MONITOR COMMENTS? _____

ACID UNIT NO. 2

_____

_____

* END OF DATA FOR CIL CHEMICALS INC. * * END OF DATA FOR 00003 *

Figure 8-6.1 Questionnaire Report (Concluded)

5. Review entries on the form to see that all data element abbreviations are correct.

8.3 Preparing Retrieval Selection Cards

To request reports from the Reporting Program, you should prepare a Report Request form as shown in Figure 8-7. The Report Request form contains a layout of the standardized retrieval card formats that will be submitted to the central data center. In addition, the Report Request form contains pertinent information needed in filling out the form.

The standardized cards used for requesting reports are listed here and described in detail in the following paragraphs.

CARD	TITLE
01	Title Card
10	Logic Selection Card(s)
20	Report Format Card
30	Report Sequence Card
40	Quick Look Data Selection Card
50	Milestone Data Selection Card
51	Three Element Milestone Control Data Element

Card 01 - Title Card

Card 01 has entry spaces for the card code number, region, and report title. The card code number, 01, must be put into columns 1 and 2. The region code, columns 4 and 5, is the numeric region number of the EPA region requesting the report. All users should use '00' in this field. Currently, unlike CDS retrievals, CEMSS retrievals are run for the entire country. To get a regional retrieval, users must specify the region using the selection criteria (Card 10).

The report title (columns 9-80) is the user-specified title, which will appear on every page of the output report. Titles should be carefully cl n

CONTINUOUS EMISSION MONITORING SUBSET REPORT REQUEST FORM

See reverse side for a list of all CEM/CDS data elements and their abbreviations.

DATE SUBMITTED _____ TIME _____

RETURN REPORT TO _____

1 (1–2) | (4–5) | (7) | (9–20, 30, 40, 50)

REGION LEVEL REPORT TITLE (51–60, 70, 80)

REPORT LOGIC SELECTION

10 (1–2) | DATA ELEMENT (4–7) | (9) | COND. VALUE (LEFT JUSTIFIED) (11–30)

10 | | |

10 | | |

10 | | |

10 | | |

10 | | |

10 | | |

10 | | |

10 | | |

10 | | |

10 | | |

10 | | |

10 | | |

10 | | |

(LIMIT - 40 "10" CARDS)

LEVEL CODES (01 CARD)

REQUIRED FOR SD REPORT ONLY.
VALID ARE:

S - SOURCE ONLY
P - POINT AND SOURCE
A - ALL DATA (Default)
C - CRITERIA MATCH ONLY

CONDITION CODES (10 CARD)

M - MUST EQUAL
A - ALTERNATE (used for multiple values of a given data element)
U - UNEQUAL
G - EQUAL OR GREATER THAN
L - EQUAL OF LESS THAN
P - PRESENT ANY ENTRY
B - BLANK OR ZEROS

REPORT FORMATS (20 CARD)

PROC name for all reports is CEMRTVL

QL - QUICK LOOK
Q2 - DOUBLE SPACED QL
QD - TWO LINE QL
SD - SOURCE DATA REPORT
MS - MILESTONE REPORT
M1 - SINGLE SPACED MILESTONE
ST - STATISTICAL REPORT
DT - DETAIL REPORT
QT - QUESTIONNAIRE REPORT

REPORT FORMATS

20 (1–2) | (4–5) | (7–8) | (10–11) | PASSWORD (Required to Access Confidential Data Elements) (14–21)

REPORT SEQUENCE

30 (1–2) | (4–7) | (9–12) | (14–17) | (19–22) | (24–27) | (29–32) | Number of Subtotaling Data Elements on Quick Look (39)

(SEQUENCE LIMITED TO 40 CHARACTERS)

QUICK LOOK REPORT FORMAT

40 (1–2) | (4–7) | (9–12) | (14–17) | (19–22) | (24–27) | (29–32) | (34–37) | (39–42) | (44–47) | (49–52) | (54–57) | (59–62) | (64–67) | (69–72) | (74–77) | (80)

ENTER DATA ELEMENTS TO BE INCLUDED ON REPORT
LIMITED TO 132 CHARACTERS WITH NOHD OPTION
LIMITED TO 104 WITH STANDARD HEADING

"2" STOPS SUPPRESSION

.ESTONE REPORT FORMAT

(1–2) | ROWS DATA ELEMENT (4–7) | COLUMNS DATA ELEMENT (9–12) | VALUES OF COLUMN DATA ELEMENTS (USE "BLNK" FOR BLANK VALUE) (14–17) | (19–22) | (24–27) | (29–32) | (34–37) | (39–42) | (44–47) | (49–52) | (54–57) | (59–62)

51 (1–2) | (4–7)

Figure 8-7. Report Request Form

CEM/CDS DATA ELEMENT	ABBR	DATA TYPE	NUMBER OF DIGITS 10 & 30 CARD	NUMBER OF DIGITS 40 CARD	SPECIAL CHARS
RAM CODE	APCD	S	1	5	
RAM CODE DESCRIPTION	APDS	S	10	12	
AIR PROGRAM STATUS	APST	S	1	5	
AIR PROGRAM STATUS DESCRIPTION	APSD	S	10	11	
AIR QUALITY CONTROL REGION	AQCR	S	3	5	
BASIC POLLUTANT INFORMATION	BPLT	S	20 & 40	61	
CITY CODE	CYCD	S	4	5	
CITY NAME	CYNM	S	15	16	
COUNTY CODE	CNTY	S	4	5	
COUNTY NAME	CTNM	S	17	18	
DATE LAST UPDATED	UPDA	S	6	9	
DUN & BRADSTREET NUMBER	DBNO	S	12	13	
FACILITY CAPCITY	FCAP	S	7	8	
GOVERNMENTAL FACILITY CODE	FEDF	S	1	5	
LOADING DERIVATION CODE	LDRC	S	1	5	
NEDS CROSS-REFERENCE NUMBER	NEXS	S	4	5	
POLLUTANT AIR QUALITY CONTROL INDICATOR	PAQC	S	1	5	
POLLUTANT CODE - SOURCE	PLLT	S	2	5	
POLLUTANT COMPLIANCE STATUS	PCMS	S	1	5	
POLLUTANT LOADING	LOAD	S	5	6	
PRIORITY CODE	PRIO	S	1	5	
REGION CODE	REGN	S	2	5	
REGION-STATE-COUNTY	RGSC	S	8	9	
REGION-STATE-COUNTY-SOURCE	RSCS	S	13	14	
REGIONAL DATA ELEMENT 1	RDE1	S	1	5	
REGIONAL DATA ELEMENT 2	RDE2	S	1	5	
REGIONAL DATA ELEMENT 3	RDE3	S	1	5	
REGIONAL DATA ELEMENT 4	RDE4	S	5	6	
REGIONAL DATA ELEMENT 5	RDE5	S	5	6	
REGIONAL DATA ELEMENT 6	RDE6	S	10	11	
REGIONAL DATA ELEMENT 9	RDE9	S	7	8	
REGIONAL DATA ELEMENT 10	RD10	S	2	5	
REGIONAL DATA ELEMENT 11	RD11	S	2	5	
REGIONAL DATA ELEMENT 12	RD12	S	1	5	
SIC CODE	SICC	S	4	5	
SIC CODE DESCRIPTION	SICD	S	30	31	
SOURCE CLASSIFICATION CODE	CLAS	S	2	5	
SOURCE CLASSIFICATION GROUP	CLAG	S	1	5	
SOURCE COMPLIANCE STATUS	SCMS	S	1	5	
SOURCE COMPLIANCE STATUS DESCRIPTION	SCSD	S	20	21	
SOURCE COMPLIANCE STATUS - 8 QUARTERS	SCSO	S	8	9	
SOURCE COMPLIANCE STATUS - 1ST QUARTER THROUGH	SCS1-	S	1	5	
SOURCE COMPLIANCE STATUS - 8TH QUARTER	SCS8	S	1	5	
SOURCE NAME	SNME	S	20	21	
SOURCE NAME - SHORT	SNMS	S	10	11	
SOURCE NUMBER	SRCE	S	5	6	
STAFF NAME - SOURCE	STFS	S	15	16	
STAFF PERSONNEL CODE - SOURCE	PERS	S	3	5	
STATE ABBREVIATION	STAB	S	2	5	
STATE CODE	STTE	S	2	5	
STATE-COUNTY-SOURCE	STCS	S	11	--	
STATE REGISTRATION NUMBER	STRG	S	15	16	
STREET ADDRESS	STRT	S	20	21	
ZIP CODE	ZIPC	S	5	6	
CAPACITY CODE	CAPC	P	2	5	
COMPLIANCE STATUS CODE	CMST	P	1	5	
COMPLIANCE STATUS DESCRIPTION	CMDS	P	20	21	
EMISSION POINT NUMBER	PTNO	P	4	5	
MULTIPLE CROSS-REFERENCE	MULT	P	3	5	
OLD COMPLIANCE STATUS - 8 QUARTERS	OCSO	P	8	9	
OLD COMPLIANCE STATUS - 1ST QUARTER THROUGH	OCS1	P	1	5	
OLD COMPLIANCE STATUS - 8TH QUARTER	OCS8	P	1	5	
POLLUTANT CODE - POINT	PLUT	P	2	5	
PROCEDURAL COMPLIANCE	CMS2	P	1	5	
PROCESS DESCRIPTION	PRDS	P	20 & 25	26	
REGIONAL DATA ELEMENT 7	PRD7	P	1	5	
SCC 3-DIGIT CODE	SCC3	P	3	5	
SCC 6-DIGIT CODE	SCC6	P	6	7	
SCC 8-DIGIT CODE	SCC8	P	8	9	
SIP CODE	SIPC	P	1	5	
SIP CODE DESCRIPTION	SIDS	P	20	21	
STATE REGULATION	SREG	P	15	16	
ACTION DESCRIPTION	ADES	A	15	16	
ACTION NUMBER	ANUM	A	4	5	
ACTION STAFF CODE	PERA	A	3	5	
ACTION TYPE	ATPE	A	2	5	C
CIVIL PENALTY AMOUNT	PLTY	A	7	11	
DATE ACHIEVED	DTAC	A	6	9	
DATE ACHIEVED YEAR	DATY	A	2	5	
DATE ACHIEVED YEAR/MONTH	DATM	A	4	5	

CEM/CDS DATA ELEMENT	ABBR	DATA TYPE	NUMBER OF DIGITS 10 & 30 CARD	NUMBER OF DIGITS 40 CARD	CHARS
DATE SCHEDULED	DTSC	A	6	9	
DATE SCHEDULED YEAR	DSTY	A	2	5	
DATE SCHEDULED YEAR/MONTH	DSTM	A	4	5	
REGIONAL DATA ELEMENT 8	RDE8	A	2	5	
REPORT QUARTER	RQTR	A	4	5	
RESULTS CODE	STAC	A	2	5	
RESULTS CODE DESCRIPTION	RSTD	A	15	16	
STAFF NAME - ACTION	STFA	A	15	16	
STAFF TITLE	TITL	A	15	16	
CEM ENFORCEMENT AGENCY	AGCY	CP	1	5	
CEM ENFORCEMENT AGENCY DESCRIPTION	AGCD	CP	7	8	
CERTIFICATION DATE	CERF	CP	6	9	
CERTIFICATION MONTH	CERM	CP	2	5	
CERTIFICATION YEAR	CERY	CP	2	5	
CHANNEL NUMBER	CHAN	CP	3	5	
CHANNEL NUMBER DESCRIPTION	CHAD	CP	7	9	
CHANNEL NUMBER SHORT	CHAS	CP	1	5	
TIME PERIOD - ALL CHANNELS	TCHC	CA	3	-	
TIME PERIOD - CHANNEL 1	TCH1	CA	3	-	
TIME PERIOD - CHANNEL 2	TCH2	CA	3	-	
TIME PERIOD - CHANNEL 3	TCH3	CA	3	-	
TIME PERIOD - CHANNEL 4	TCH4	CA	3	-	
TIME PERIOD - CHANNEL 5	TCH5	CA	3	-	
TIME PERIOD - CHANNEL 6	TCH6	CA	3	-	
TIME PERIOD - CHANNEL 7	TCH7	CA	3	-	
TIME PERIOD - CHANNEL 8	TCH8	CA	3	-	
TIME PERIOD - CHANNEL 9	TCH9	CA	3	-	
INSTALLATION DATE	MIND	CP	4	5	
INSTALLATION MONTH	MINM	CP	2	5	
INSTALLATION YEAR	MINY	CP	2	5	
MONITOR MANUFACTURER	MANF	CP	20	21	
MONITOR MODEL NUMBER	MODL	CP	15	16	
MONITOR SERIAL NUMBER	SERL	CP	15	16	
NUMBER OF TESTS	PSRC	CP	2	5	
NUMBER OF PASSES	PSRP	CP	2	5	
NUMBER OF FAILS	PSRF	CP	2	5	
PERMISSIBLE EMISSION LIMIT	EMIS	CP	20	21	
PST DATE	PSTD	CP	4	6	
PST MONTH	PSTM	CP	2	5	
PST YEAR	PSTY	CP	2	5	
PST STATUS	PSTS	CP	4	5	
MONITOR REQUIREMENT CODE	REQT	CP	1	5	
MONITOR REQUIREMENT CODE DESCRIPTION	REQD	CP	7	8	
MONITOR AVAILABILITY PERCENT	PMON	CA	4	6	
MONITORED OPERATING SOURCE EXCEEDANCE PERCENT	POPT	CA	4	6	
OVERALL OPERATING SOURCE EXCEEDANCE PERCENT	PEXC	CA	4	6	
REASONS FOR EXCESS EMISSIONS	ROCT	CA	54	55	
START-UP/SHUTDOWN	STAR	CA	6	7	
START-UP/SHUTDOWN PERCENT	PSTA	CA	6	8	
CLEANING/SOOT BLOWING	SOOT	CA	6	7	
CLEANING/SOOT BLOWING PERCENT	PSOO	CA	6	8	
UNKNOWN EXCESS EMISSION	EXUN	CA	6	7	
UNKNOWN EXCESS EMISSION PERCENT	PEXU	CA	6	8	
CONTROL EQUIPMENT FAIL TOTAL	EQPT	CA	6	7	
CONTROL EQUIPMENT FAIL TOTAL PERCENT	PEQP	CA	6	8	
PROCESS PROBLEMS UNACCEPT TOTAL	PROC	CA	6	7	
PROCESS PROBLEMS UNACCEPT TOTAL PERCENT	PPRO	CA	6	9	
UNACCEPT PROCESS PROBLEMS	PRUN	CA	6	7	
PERCENT UNACCEPT PROCESS PROBLEMS	PPRU	CA	6	8	
FUEL PROBLEMS	FUEL	CA	6	7	
FUEL PROBLEMS PERCENT	PFUE	CA	6	8	
OTHER EXCESS EMISSIONS	EXOT	CA	6	7	
PERCENT OTHER EXCESS EMISSIONS	PEXO	CA	6	8	
MONITOR EQUIPMENT MALFUNCTION	MMEQ	CA	6	7	
MONITOR EQUIPMENT MALFUNCTION PERCENT	PMME	CA	6	9	
NON-MONITOR EQUIPMENT MALFUNCTION	NMEQ	CA	6	7	
NON-MONITOR EQUIPMENT MALFUNCTION PERCENT	PNME	CA	6	8	
CALIBRATION	CALI	CA	6	7	
CALIBRATION PERCENT	PCAL	CA	6	9	
UNKNOWN MONITOR DOWNTIME	MDUN	CA	6	-	
UNKNOWN MONITOR DOWNTIME PERCENT	PMDU	CA	6	9	
OTHER KNOWN MONITOR DOWNTIME	MDOT	CA	6	7	
PERCENT OTHER KNOWN MONITOR DOWNTIME	PMDO	CA	6	9	
MONITOR DOWNTIME INCIDENT	MDID	CA	6	7	
STATE-COUNTY-SOURCE-POINT-CHANNEL	SCSC	CA	18	--	
TIME PERIOD (PERIOD/MINUTES)	TIME	CA	1	5	
TIME CONVERSION FLAG	FLAG	CA	6	7	
TOTAL EXCESS EMISSION	ESCP	CA	6	-	
TOTAL MONITOR DOWNTIME	MDWP	CA	6	-	
TOTAL SOURCE OPERATING TIME	OPER	CA	6	7	
BLANKS (5 SPACES)	BLK1	--	--	5	
BLANKS (15 SPACES)	BLK2	--	--	15	

In the Data Type column, "S" indicates Source Level Data "P" indicates Point Level Data, "A" indicates Action Level Data, "CP" indicates Channel Point Level Data, and "CA" indicates Channel Action Level Data. In the Special Characters column, "C" indicates a Confidential Data Element and "R" indicates a Repeating Data Element.

Figure 8-7. Report Request Form (Concluded)

and should include an English-language description of the selection criteria to identify the various printouts produced. Experience has shown that if a number of reports are prepared without adequate titles, it is difficult to remember the specific criteria for each report, and information may be misused.

Card 10 - Logic Selection Card

Card 10 provides the user with entry spaces for the card code number, data element, condition code, and value. Specific data records to be selected for inclusion in the output reports are obtained by using Card 10. Up to 40 cards can be submitted in a given retrieval. The data element (columns 4-7) field is used to specify a particular data element to be used in the logic selection of records. The condition codes are identified by the abbreviations shown in the box in the center of the request form. For example, the abbreviation for region is "REGN." The use of other abbreviations will cause an error, and the run will be aborted. Only the data elements indicated in the table can be used for logic selection purposes.

The condition code (column 9) is used to specify how the data element is selected. The entry is a single alphabetic character selected from the codes shown on the right side of the form. A brief explanation of the codes follows:

- M - Must Equal. A record will be excluded unless it equals the value specified in the value field. When testing for a value of blank, use the condition code M with no value entry in columns 11 through 30.

- A - Alternate. This code provides the capability of including records with different values for the same data elements. For example, three states might be selected and all given the condition code of A on three separate 10 cards. The output report would include the data for all three states. If an M had been used, no output would be received because clearly no record will match all three state codes. For example,

- U - Unequal. This code excludes records of the value specified in the value field. It would be used where specific values are not wanted on the report but all other data are desired.

- G - Equal or Greater Than. Use this code to include values greater than or equal to a specified value. Or this code may be used in combination with the L code (equal or less than) to provide a range of values, such as all the action types equal to or above 50, and equal to or below 70. More important, it can be used with the date scheduled or date achieved file to provide a chronological range. The date should be entered in month, day, year sequence. For example, the following entries would provide a range between January 1 and the end of 1980.

```
|10| |DTAC| |G| |01,01,80                    |
 1 2  4    7  9 11
      DATA
      ELEMENT  COND. VALUE (Left Justified)
|10| |DTAC| |L| |12,31,80                    |
```

- L - Equal or Less Than. This code is the opposite of the G code and includes items equal or less than the value specified. If a comparison is made using a field that is either alphabetic or blank, the results will depend on the exact entries found in the data base. Letters will compare lower than numbers, and blanks will compare the lowest.

- P - Present-Any-Entry. This condition code will qualify an entry if the entire field is not blank or zero. That is, if any entry has been made, the record will qualify for inclusion on the output. No value entry is required in columns 11-30.

- B - Blank. This is the opposite of the P code and will qualify an entry if the specified field is completely blank or zero. No value entry is required. Use the condition code M to select only blanks or only zeros.

Value field (columns 11-30) is used to enter the actual value to be used for comparison with the data base. In some cases, this is the coded data actually carried in the data field. It is not used if the condition code does not call for a value. Entries should be made beginning in column 11, the left most portion of the field.

The number of digits for each data element is given on the Retrieval Request form immediately to the right of the retrieval abbreviation for that data element. If a data element has fewer than eight positions, the number of digits in columns 11 through 30 must correspond exactly to the numbe:

digits on the data element. For example, if a selection is based on state code, only columns 11 and 12 may be used on the selection card.

If a data element, such as Source Number, is a five-digit field, users must code 00069 in columns 11 through 15; the retrieval logic will not work if only 69 is coded into columns 11 and 12.

If a data element has more than 20 digits, the Retrieval will base its selection logic only on the first 20 positions of Source Name. No value may be made on the selection card beyond column 30.

Note that entries in the value field must be exactly as shown in the data base. For example, if a state code is desired, the numeric code must be entered. If a regulation has been entered in several ways, such as REG 31 or REG-31, two alternate entries must be made to obtain both results.

Card 20 - Report Format Card

This card, which allows the region to select up to three output formats in a given run, must be included. The codes to be used are shown below. Entries should be made in columns 4-5, 7-8, and 10-11. Start with the left most field. The available report formats are as follows:

QL - QUICK LOOK
Q2 - DOUBLE SPACED QL
QD - TWO LINE QL
SD - SOURCE DATA REPORT
MS - MILESTONE REPORT
M1 - SINGLE SPACED MILESTONE
ST - STATISTICAL REPORT
DT - DETAIL REPORT
QT - QUESTIONNAIRE REPORT

The cataloged procedure "CEMSRTVL" is executed for all CEMSS Retrieval Reports desired CEMSS report.

The same password valid for CDS is also valid for the CEMSS. Passwords must be used for all SD reports and for obtaining confidential data on Q Look and Milestone Reports. The back of the Retrieval Request form and Appendix A specify which data elements are confidential and which are not. To obtain the appropriate password, contact the national DBC at FTS 382-2881.

Card 30 - Report Sequence Card

The report sequence card permits the user to select the sequence of entries on the selected reports. For example, sources might be alphabetized within a state or grouped by pollutant code. In every case, reports will be sequenced by the following elements after (or in the absence of) the selected user sequence: region, state, county, source, point, action number, and channel number for all reports (a 30 card is not needed for a CEMSS Stat Report).

Entries are made using the four-digit abbreviation for individual a elements shown on the second side of the Retrieval Request form. For example, to sequence by source name, 'SNME' is entered. Care must be used in limiting the length of the sequence elements to 40 digits. For example, a sequence of source name (20 digits) and process description (25 digits) would result in a fatal error because the sequence length is 45 digits. However, the use of all six possible sequence entries with SIC Code (5 digits), Federal Facility Code (1 digit), Pollutant (2 digits), and SIP Code (1 digit), would total 11 digits, well within the 40-digit limit.

Note that in certain cases it is possible to request a meaningless report because of illogical sequencing. For example, a user sequence of data scheduled, especially on a Source Data Report, would results in the action records of several sources being separated and grouped away from their sources. However, the date schedule sorting within a source may be ach d

by requesting a sequence of source number followed by date schedule. This request would keep all the actions with the correct source. A rule of thumb is to ensure that the primary, or first, sequencing element is on the source level and that it is unique to each source (such as source number or source name). This rule is critical for Source Data Reports and CEMS Detail Reports. Because Quick Look Reports are one-line reports for which no line must be related to any other line, they may be sequenced in any manner with no problem.

Page breaks and subtotals are available on the Quick Look Report by placing a number ranging from 1 to 6 in column 39 of Card 30. For example, if column 39 of the Card 30 is left blank, no page breaks are produced. A '1' in column 39 will produce a page break on the first data element of Card 30. A '2' in column 39 will produce a page break on the first two data elements of Card 30. A '3' in column 39 will produce a page break on the first three data elements of Card 30. Page breaks can be obtained on a maximum of six data elements.

REPORT SEQUENCE

30	STTE	AQCR					2
1 2	4 7	9 12	14 17	19 22	24 27	29 32	39

(SEQUENCE LIMITED TO 40 CHARACTERS)

Number of Subtotaling Data Elements on Quick Look

The above card will provide page breaks with subtotals by state and by AQCR.

Card 40 - Quick Look Data Selection Card

Card 40 provides a means of requesting specific data elements for inclusion on the single line printed for each selected source, point, or action on the Quick Look Report output. Data elements should be entered from left to right in the same sequence as required on the report. The data

element abbreviations used should be the same as those shown on the second page of Figure 8-7 (use the standard card 40 shown in 8.1.6 for a CEMSS S Report).

Note that state, county, source number, emission point number, action number, and channel number will automatically be placed at the leftmost side of the line by the system. However, if the user does not wish to have these elements on the Quick Look Report, these data elements can be suppressed by coding 'NOHD' in columns 4-7. The total Quick Look print line length is determined as follows:

- With the NOHD option, up to 132 print positions are available. The sum of the digits listed in the column for number of digits - Card 40 of the Report Request form must equal 132 or less for the data elements.
- With the regular heading of state, county, source, point, action number, and channel number, up to 104 print positions are available. The sum of the digits listed next to each selected data element in the number of digits - Card 40 column of the Report Request form must equal 104 or less for the data elements.

If the data elements on Card 40 require more space than is available on the 132-character print line, the Quick Look Report will not be produced. Data elements are printed left to right in the same sequence they are coded.

Card 50 - Milestone Data Selection Card

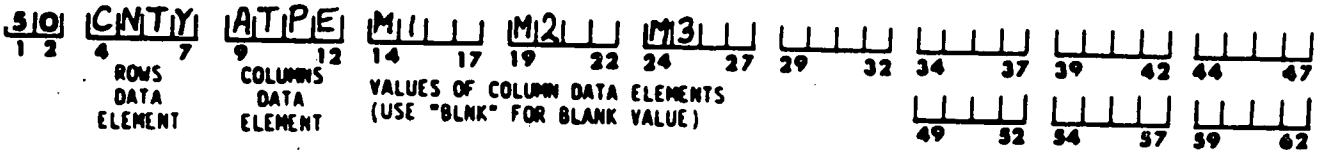
Card 50 provides a means of requesting the row and column data elements to be shown on the Milestone Report. Data element abbreviations should be the same as shown on the second page of Figure 8-7. The first data element determines the columns. Column data element values should be entered from left to right in the sequence desired on the report.

If users desire to have all blanks as one of the column values, they should enter 'BLNK' as the corresponding value on Card 50.

Note that Card 50 will be rejected if a Milestone Report was not requested on Card 20. It is the presence of Card 50 that causes the Milestone Report to be produced. If a Milestone Report was requested on Card 20 and no Card 50 is found, no Milestone will be produced.

To produce a Milestone Report showing the number of actions for action types M1, M2, and M3 for all the counties within a state, perform the following steps:

1. Choose an appropriate title on a Card 01
2. Use a Card 10 to select the appropriate state
3. Use Card 10 to select the desired action types
4. Code MS on Card 20
5. Code Card 50 as follows:



This request will produce four columns of numbers - one column for each of the selected action types. On the left-hand side of the page, totals are generated for all actions for a given county. One line is produced for each value of county code selected by the retrieval. At the end of the report, totals are produced for each action type and for the number of counties selected.

Up to 10 values may be coded on Card 50 - one value for each column to be totaled. If the data element values to be totaled are less than four positions, the values must be left justified. If the data element values to be totaled are greater than four positions, totals are produced only on the first four positions of the specified data element values.

Card 51 - Three Element Milestone Data Control Card

The 51 card selects the third controlling data element on the Miles Report. A page break occurs for each value of the controlling data element. Only one data element may be selected on the 51 card.

8.4 Job Control Language for Using Retrieval Program

The CDS Retrieval Package operates on a Remote Job Entry basis at the EPA's National Computer Center. Input must be submitted from a high-speed terminal. Frequent and complicated requests should be stored on a WYLBUR data set. To submit a job request, add the JCL cards shown in Figure 8-8 or 8-9 to Cards 01, 10, 20, 30, 40, 50, and 51 on the Retrieval Request.

Use the JCL in Figure 8-8 for producing all CEMSS Reports. Figure 8-9 shows an example of this JCL for producing a CEMSS Detail Report and Figure 8-10 shows an example for producing a CEMSS Statistical Report.

8.5 Retrieval Edits Performed by System

The Retrieval Program edits the request Cards 01, 10, 20, 30, 40, 50, and 51 to determine if they are convertible into logic that the system can process. Errors on the request cards will appear as error messages on the Edit Report. These error messages are classified as warning or fatal.

Table 8-1 lists the type of edits performed, the correct possibilities, and the action taken by the system if an error is detected.

Table 8-2 contains a list of all possible error messages and causes of their appearance on the Retrieval Edit Report.

FIGURE 8-8

RETRIEVAL JOB CONTROL LANGUAGE

```
//IIICM JOB (AAAACDSYP,MIII),'USER NAME',TIME=(0,7)
/*ROUTE PRINT RMTNN
//*     ***************************************************
//*     USE THIS JCL ONLY FOR QL's, MS's AND SD's
//*     CHANGE            III TO YOUR USERID
//*                       AAAA TO YOUR ACCOUNT
//*                       MIII TO YOUR BOX
//*                       USER NAME TO YOUR NAME IN   LINE 1
//*                       NN TO YOUR REMOTE NUMBER IN LINE 2
                          or replace RMTNN with your N
                          number designation for the new
                          printers where available
//*     ***************************************************
//CMTRTVL EXEC CEMSRTVL
//SYS005 DD *
01 00   RETRIEVAL REQUEST CARDS
10
20
30
40
50
51
```

FIGURE 8-9

CEMSS DETAIL REPORT JOB CONTROL LANGUAGE

```
//IIICM JOB (AAAACDSYP,MIII),'USER NAME',TIME=2
/*ROUTE PRINT RMTNN
//*     ***************************************************
//*     USE THIS JCL ONLY FOR CM DETAIL REPORT
//*     CHANGE            III TO YOUR USERID
//*                       AAAA TO YOUR ACCOUNT
//*                       MIII TO YOUR BOX
//*                       USER NAME TO YOUR NAME IN   LINE 1
//*                       NN TO YOUR REMOTE NUMBER IN LINE 2
                          or replace RMTNN with your N
                          number designation for the new
                          printers where available
//*     ***************************************************
//CMTRTVL EXEC CEMSRTVL
//SYS005 DD *
01 00   RETRIEVAL REQUEST CARDS
10
20 DT
30
```

FIGURE 8-10

CEMSS STAT REPORT JOB CONTROL LANGUAGE

```
//IIICM JOB (AAAACDSYP,MIII),'USER NAME',TIME=(0,7)
/*ROUTE PRINT RMTNN
//*     ***************************************************
//*     USE THIS JCL ONLY FOR QL's, MS's AND SD's
//*     CHANGE            III TO YOUR USERID
//*                       AAAA TO YOUR ACCOUNT
//*                       MIII TO YOUR BOX
//*                       USER NAME TO YOUR NAME IN   LINE 1
//*                       NN TO YOUR REMOTE NUMBER IN LINE 2
                          or replace RMTNN with your N
                          number designation for the new
                          printers where available
//*     ***************************************************
//CEMSRTVL REPORT EXEC CEMSRTVL
//SYS005 DD *
01 00   RETRIEVAL REQUEST CARDS
10
20 ST  PASSWORD
40 TIME OPER ROCT BPMD EXCP MONP MOAV OOSC MOSC
```

FIGURE 8-10.1

CEMSS QUESTIONNAIRE REPORT JOB CONTROL LANGUAGE

```
//IIICM JOB (AAAACDSYP,MIII),'USER NAME',TIME=2
/*ROUTE PRINT RMTNN
//*     ***************************************************
//*     USE THIS JCL ONLY FOR CM QUESTIONNAIRE REPORT
//*     CHANGE            III TO YOUR USERID
//*                       AAAA TO YOUR ACCOUNT
//*                       MIII TO YOUR BOX
//*                       USER NAME TO YOUR NAME IN   LINE 1
//*                       NN TO YOUR REMOTE NUMBER IN LINE 2
                          or replace RMTNN with your N
                          number designation for the new
                          printers where available
//*     ***************************************************
//CEMSRTVL EXEC CEMSRTVL
//SYS005 DD *
01 00   RETRIEVAL REQUEST CARDS
10
20 QT
30
```

TABLF 8-1

RETRIEVAL PACKAGE EDITS

Card Type	Item Checked	Correct Possibilities	Action in Error
01	Number of 01 Cards	One or None	Only first Card 01 accepted
10	Data Element	Listed on input form	Fatal - processing stops after Edit
	Condition	M, A, U, G, L, P, B	Fatal - processing stops after Edit
	Value	1. Anything	1. Ignored if not blank for condition
		2. Numeric for numeric items, i.e., REGN, SSTE, CNTY, SRCE, PTNO, ATPE, DTSC, DTAC, STAC	2. Fatal - processing stops after Edit
		3. Number of digits less than or equal to number of digits on input form	3. Fatal if the wrong length is used
	Number of 10 Cards	0 to 40	Fatal - Processing stops after Edit
20	Report Format	1. QL, Q2, QD, MS, M1, SD, DT ST, QT. Up to three reports are available from one retrieval	1. Processing will continue if at at least one valid format
	Number of 20 Cards	one	Fatal - Processing stops after Edit
30	Report sequence	Valid abbreviations from the Report Request form	Fatal - Processing stops after Edit
	Data element sequence length	Total of 40	Fatal - Processing stops after Edit

Table 8-1. Retrieval Package Edits

TABLE 8-1

RETRIEVAL PACKAGE EDITS (Continued)

Card Type	Item Checked	Correct Possibilities	Action in Error
01	Number of 01 Cards	One or None	Only first Card 01 accepted
40	Quick Look Data element	Valid abbreviations from the Report Request form	QL format request ignored
	Length	Total length (including one blank between each item) is 132 with NOHD, 104 without NOHD	QL format requested ignored
	Number of 40 Cards	1. One if QL format requested 2. Zero if no QL format requested	1. QL format requested ignored 2. QL format assumed (if only one 40 Card)
50	Milestone data element	List on input form (BLK1, BLK2) excluded	Fatal - processing stops after Edit at least one valid format
	Column values	Must be present	Fatal - processing stops after Edit
	Relation to other cards	1. MS must be requested on 20 card	Fatal - processing stops after Edit
	Number of 50 Cards	One or none	MS format request ignored
51	Milestone Control data element	List on input from (BLK1, BLK2) excluded	Fatal - processing stops after Edit
All General card type		01, 10, 20, 30, 40, 50, 51	Fatal - processing stops after Edit

Table 8-1. Retrieval Package Edits (Concluded)

8.6 WYLBUR Interactive Retrieval Technique

In some cases, the amount of CEMS retrievals may not justify the creation an interactive retrieval program for regional or state minicomputers. For those users, there is available a WYLBUR Interactive retrieval technique.

The interactive features are as follows:

- Screen prompting for all retrieval cards
- Edit capabilities
  - Internal edits
  - After each card is entered
  - After all cards are entered
- Restart capability if dropped from NCC
- Capability to add to or change an already created WYLBUR file
- Save data on WYLBUR file
- Automatic job submission.

An example of the retrieval prompting is shown in Figure 8-11. To use the BUR Interactive to create a Retrieval Program, perform the following:

- Sign on to the appropriate user ID and account
- Type CEMSRTVL
- The screen prompting begins.

```
* CEMRTVL
 THIS EXEC WILL PROVIDE A CEM RETRIEVAL
 ENTER  EXEC  IN RESPONSE TO 'EXEC BREAK' MESSAGE
IS RETRIEVAL STATE (S), REGIONAL (R) OR NATIONAL (N) ->R
ENTER REGION CODE ->07
      CARD 01 - REPORT IDENTIFICATION

REPORT LEVEL VALID ONLY FOR SOURCE DATA REPORT..
ENTER THE REPORT LEVEL (S FOR SOURCE LEVEL ONLY, P FOR POINT
AND SOURCE,C FOR CRITERIA MATCH AND  A FOR ALL LEVELS)

ENTER 1 DIGIT REPORT LEVEL OR RETURN ->A
ENTER REPORT TITLE (0-72 CHARACTERS)....
     TITLE  ->CEMS SUBSET QUICK LOOK REPORT
   1.      01 00 A CEMS SUBSET QUICK LOOK REPORT
IS THIS LINE CORRECT (YES OR NO) ->YES
     CARD 10 - SELECTION CRITERIA

ENTER DATA ELEMENT ABBREVIATION OR RETURN ->STAB
ENTER SELECTION CONDITION - A (OR), U (UNEQUAL), M (EQUAL),
G (GREATER THAN), L (LESS THAN), P (PRESENT), B (BLANK OR ZERO)....

ENTER 1 CHARACTER CONDITION ->M
ENTER 1-20 DIGIT SELECTION VALUE ->IA
   3.      10 STAB M IA
IS THIS LINE CORRECT (YES OR NO) ->YES
DO YOU WISH TO ENTER ANOTHER SELECTION CRITERIA (YES OR NO) ->NO

        CARD 20 REPORT FORMAT(S)

ENTER THE REQUIRED REPORT......
QUICKLOOK REPORT (QL OR Q2)
2 LINE QUICKLOOK (QD)
MILESTONE REPORT (MS)
SINGLE SPACED MILESTONE (M1)
CEM DETAIL REPORT (DT)
SOURCE DATA (SD)
STAT REPORT (ST)
QUESTIONAIRE REPORT (QT)
ENTER REPORT TYPE ->QL
ENTER ANOTHER REPORT TYPE OR RETURN ->
   4.      20 QL        SUBSET
           ----+----1----+----2----+----3----+----4----+----5----+----6----+--
DO YOU WISH TO MODIFY THIS LINE? ->NO
```

Figure 8-11. WYLBUR Interactive Retrieval

```
      CARD 30 - REPORT SEQUENCE

ENTER THE 4 CHARACTER DATA ELEMENT ABBREVIATION
   EACH SORT FIELD, MAJOR TO MINOR, OR RETURN ->STAB
ENTER THE 4 CHARACTER DATA ELEMENT ABBREVIATION
OF EACH SORT FIELD, MAJOR TO MINOR, OR RETURN ->SNME
ENTER THE 4 CHARACTER DATA ELEMENT ABBREVIATION
OF EACH SORT FIELD, MAJOR TO MINOR, OR RETURN ->
ENTER SORT PAGE BREAKS (1-6) OR RETURN ->
    5.      30 STAB SNME
            ----+----1----+----2----+----3----+----4----+----5----+----6----+
DO YOU WISH TO MODIFY THIS LINE? ->NO
     CARD 40 - QUICK LOOK REPORT FORMAT

ENTER  NOHD  TO SUPRESS THE STANDARD HEADING REGION,
STATE, COUNTY, SOURCE NUMBER, POINT NUMBER, CHANNEL
NUMBER AND ACTION NUMBER OR RETURN ->NOHD

ENTER THE 4 CHARACTER DATA ELEMENT ABBREVIATION (EXCLUDING NOHD)
OF EACH ABBREVIATION OF EACH QUICK LOOK FIELD, OR RETURN ->STAB

ENTER THE 4 CHARACTER DATA ELEMENT ABBREVIATION (EXCLUDING NOHD)
OF EACH ABBREVIATION OF EACH QUICK LOOK FIELD, OR RETURN ->SNME

ENTER THE 4 CHARACTER DATA ELEMENT ABBREVIATION (EXCLUDING NOHD)
OF EACH ABBREVIATION OF EACH QUICK LOOK FIELD, OR RETURN ->APDS

ENTER THE 4 CHARACTER DATA ELEMENT ABBREVIATION (EXCLUDING NOHD)
OF EACH ABBREVIATION OF EACH QUICK LOOK FIELD, OR RETURN ->MANF

   ER THE 4 CHARACTER DATA ELEMENT ABBREVIATION (EXCLUDING NOHD)
   EACH ABBREVIATION OF EACH QUICK LOOK FIELD, OR RETURN ->MIND

ENTER THE 4 CHARACTER DATA ELEMENT ABBREVIATION (EXCLUDING NOHD)
OF EACH ABBREVIATION OF EACH QUICK LOOK FIELD, OR RETURN ->
ENTER '2' TO CANCEL STANDARD....
SUPPRESSION OF SOURCE INFO OR RETURN ->
    6.      40 NOHD STAB SNME APDS MANF MIND
            ----+----1----+----2----+----3----+----4----+----5----+----6----+
DO YOU WISH TO MODIFY THIS LINE? ->
 ENTER YES OR NO.....
DO YOU WISH TO MODIFY THIS LINE? ->NO
DO YOU WISH TO LIST THE DATA JUST ENTERED (YES OR NO) ->YES
    1.      01 00 A CEMS SUBSET QUICK LOOK REPORT
    2.      10 REGN M 07
    3.      10 STAB M IA
    4.      20 QL        SUBSET
    5.      30 STAB SNME
    6.      40 NOHD STAB SNME APDS MANF MIND
ENTER 4 DIGIT ACCOUNT NUMBER (EX. A026)->A026
ENTER ADP IDENTIFIER (EX. CDSYP)->CDSYP
ENTER 4 DIGIT BIN/BOX (EX. MGEO)->MCDS
ENTER PRIORITY (DEFAULT IS 4) ->2
ENTER EST. TIME (FORMAT MIN,SEC), DEFAULT 30 SECS ->
ENTER YOUR REMOTE NUMBER (NNN), DEFAULT 20 ->37
DO YOU WISH TO SUBMIT A LIVE RETRIEVAL (YES OR NO) ->YES
JOB 3784 CDSCM SUBMITTED
DO YOU WISH TO SAVE THIS DATA? (YES OR NO) ->YES
    ER DATASET NAME TO SAVE REPORT ON  ->RTVQL
    L SAVED AND CATLG'D ON USR013
```

Figure 8-11. WYLBUR Interactive Retrieval (Concluded)

TABLE 8-2

RETRIEVAL PACKAGE ERROR MESSAGES

Error Message	Cause
FATAL - INVALID RETRIEVAL CARD	Card Type not 01, 10, 20, 30, 40, 50, or 51.
WARNING - DUPLICATE TITLE (01) CARD	More than one 01 Card entered; only the first one is accepted.
FATAL - OVER 40 SELECTION CRITERIA	Limit of forty Type 10 Cards exceeded.
FATAL - INVALID DATA ELEMENT	Four-digit data element abbreviation does not correspond to any listed on input form. This error can occur on Card Types 10, 30, 40, or 50.
FATAL - INVALID CONDITION	The condition code entered on Card Type 10 was not M, A, U, G, L, P, B.
WARNING - VALUE NOT USED FOR COND P OR B	An entry was made in the value portion of Card Type 10 with a condition of P or B. These conditions do not utilize any value.
FATAL - THIS VALUE MUST BE NUMERIC	An alphabet letter was entered in tl value portion of Card Type 10, which requires a numeric value, e.g., the value for DTSC must be a date consisting of six digits (0-9).
WARNING - VALUE TOO LONG (TRUNCATED)	The number of digits entered in the value portion of Card Type 10 was larger than the number of digits specified for that data element on the list on the input form.
WARNING - INVALID REPORT FORMAT WILL CONTINUE IF ANY VALID FORMATS	A code other than QL, Q2, SD, or MS was entered on Card Type 20.
WARNING - QL FORMAT ASSUMED	A Card Type 40 was entered, but QL was not requested on Card Type 20. Q1 will be assumed as entered.

TABLE 8-2

RETRIEVAL PACKAGE ERROR MESSAGES (Continued)

Error Message	Cause
FATAL - REPORT FORMAT (20) CARD REQUIRED	No Card Type 20 was entered. This card type is required.
WARNING - QL (40) MISSING, QL DELETED	No Card Type 40 was entered, although QL was entered on Card Type 20. QL report format is ignored.
WARNING - QL TOO BIG, QL DELETED	The total length of the QL line is greater than 104 digits with the default header information, or it is greater than 132 digits with NOHD.
FATAL - DUPLICATE FORMAT (20) CARD	More than one Card Type 20 was entered.
FATAL - DUPLICATE SEQUENCE (30) CARD	More than one Card type 30 was entered.
FATAL - SEQUENCE KEY TOO LONG	The sum of the number of digits of the data elements requested for the user sequence (Card Type 30) was greater than 40.
[illegible]AL - INVALID MS DATA ELEMENT COMBO	Only source-level data elements may be requested on a Milestone together with repeating pollutant data on a Card 50.
FATAL - REPEAT AND POINT OR ACTION ON QL	The Card 40 may specify only source-level data together with repeating pollutant data on the Quick Look.
PASSWORD NOT ACCEPTED - NO CONFIDENTIAL DATA WILL BE PRINTED	Either no password was used or an incorrect password was used. No confidential data will be selected, sorted, or printed on any output report.
PASSWORD HAS BEEN ACCEPTED - CONFIDENTIAL REPORT - FOR EPA INTERNAL USE ONLY	When a correct password is used, each output report page is labeled as confidential.
FATAL - *NOHD* USED ONLY FOR QL REPORT	NOHD was used as other than the first data element on the QL Card Type 40.

TABLE 8-2

RETRIEVAL PACKAGE ERROR MESSAGES (Continued)

Error Message	Cause
FATAL - *BPLT* CAN NOT BE IN SORT KEY	BPLT (55 Char. Length) is larger than the maximum 40 characters allowed for the sort key.
WARNING - BAD LEVEL, SD FORMAT DELETED	An invalid SD report level code was entered the SD report will not be produced.
WARNING - SD TYPE DELETED, LEVEL MISSING	No level was specified for the SD report, the report will not be produced.
WARNING - LEVEL FOR SD FORMAT ONLY	The SD level code was entered with no SD report requested, report requested will be produced.
WARNING - DUPLICATE QL (40), QL DELETED	Multiple QL 40 cards were entered, no QL report will be produced.
FATAL - ROWS DATA ELEMENT INVALID	An invalid data element (not in CDS or CEMS data element table) was requested for the MS rows data element. The MS report will not be produced.
FATAL - COLUMNS DATA ELEMENT INVALID	An invalid data element (not in CDS or CEMS data element table) was requested for the MS rows data element. The MS report will not be produced.
FATAL - COLUMNS DATA ELEMENT INVALID	An invalid data element (not in CDS or CEMS data element table) was requested for the MS columns data element. The MS report will not be produced.
FATAL - NO X VALUES SUPPLIED	No data element was requested for the rows data element on the MS 50 card. The MS report will not be produced.
FATAL - MS NOT REQUESTED 50 INVALID	A MS Card Type was entered with no MS report requested. The MS report will not be produced.
FATAL - MS NOT REQUESTED 51 INVALID	A MS Card Type 51 was entered with no MS report requested. The MS report will not be produced.

TABLE 8-2

RETRIEVAL PACKAGE ERROR MESSAGES (Continued)

Error Message	Cause
FATAL - CONTROL DATA ELEMENT INVALID	An invalid data element (not in CDS or CEMS data element table) was requested for the MS control data element. The MS report will not be produced.
FATAL - STANDARD MILESTONE NOT AVAILABLE	MS report was requested with no Card Type 50. This CDS standard MS report is not available in CEMS. The MS report will not be produced.
MASTER FILE OUT OF SEQUENCE-PREVIOUS KEY IS	The master file records are not in the proper order. The last record in sequence is displayed. The reports will not be produced.
WARNING - DUPLICATE MS (50), MS DELETED	Multiple card type 51's were requested for a MS report. The MS report will not be produced.
WARNING - DUPLICATE MS (51), MS DELETED	Multiple card type 51's were requested for a MS report. The MS report will not be produced.
WARNING - CONFIDENTIAL, MS DELETED	A confidential data element was requested on the MS report with no password entered. The MS report will not be produced.
WARNING - CONFIDENTIAL, WILL BE IGNORED	A confidential data element was requested on the Card Type 30 (sequence) or the card type 40 (QL). The data element will not be used on this report.
WARNING - INVALID TIME CHANNEL PERIOD	An invalid time period code has been requested in the card type 10 selection. The selection will not be used for this report.
FATAL - CONDITION MUST BE M FOR MUST EQUAL	A channel time period was used in the card type 10 selection with a condition code other than "M" for "Must Equal". The report will not be produced.

TABLE 8-2

RETRIEVAL PACKAGE ERROR MESSAGES (Continued)

Error Message	Cause
WARNING - DUPLICATE TIME CHANNEL CARD	Multiple card type 10 selection cards were requested for the same channel. Only the last selection entered will be used.
FATAL - TIME CHANNEL VALID ON CARD 10 ONLY	A selection channel time period code was used on a report request card other than a card type 10. The report will not be produced.
WARNING - CHANNEL TIME OF P NOT COVERED	The time period code is "P". The EER data for time period "P" has not been converted. The EER data is printed as entered.

APPENDIX A

CEMS DATA ELEMENT DICTIONARY

A.1 Point Level Data Elements
A.2 Action Level Data Elements
A.3 Other Data Elements

APPENDIX A

CEMS DATA ELEMENT DICTIONARY

	Data Element	Abbr.	Data Type
A.1	Point Level		
A.1-1	CEM Enforcement Agency	AGCY	P (Point
A.1-2	CEM Enforcement Agency Description	AGCD	P Level)
A.1-3	Certification Date	CERF	P
A.1-4	Channel Number	CHAN	P
A.1-6	Channel Number Description	CHAD	P
A.1-7	Emission Point Number	PTNO	P
A.1-8	Installation Date	MIND	P
A.1-9	Monitor Manufacturer	MANF	P
A.1-10	Monitor Model Number	MODL	P
A.1-11	Monitor Requirement Code	REQT	P
A.1-12	Monitor Requirement Code Description	REQD	P
A.1-13	Monitor Serial Number	SERL	P
A.1-14	Number of Tests	PSRC	P
A.1-15	Number of Fail	PSRF	P
A.1-16	Number of Pass	PSRP	P
A.1-17	Permissible Emission Limit	EMIS	P
A.1-18	PST Date	PSTD	P
A.1-19	PST Status	PSTS	P
A.2	Action Level		
·1	Action Type	ATPE	A (Action
·2	Date Achieved	DTAC	A Level)
A.2-3	Date Scheduled	DTSC	A
A.2-4	Action Staff Code	PERA	A
A.2-5	Results Code	STAC	A
A.2-6	Regional Data Element 8	RDE8	A
A.2-7	Action Number	ANUM	A
A.2-8	Report Quarter	RQTR	A
A.2-9	Monitor Unavailability	PMON	A
A.2-10	Monitored Operation without Exceedances	POPT	A
A.2-11	Reported Operating Time with Exceedances	PEXC	A
A.2-12	Reasons for Excess Emissions	ROCT	A
A.2-13	Cleaning/Soot Blowing	SOOT	A
A.2-14	Cleaning/Soot Blowing (Percent)	PSOO	A
A.2-15	Control Equipment Malfunction Total	EQPT	A
A.2-16	Control Equipment Malfunction Total (Percent)	PEQP	A
A.2-17	Control Equipment Malfunction Unacceptable	EQPU	A
A.2-18	Control Equipment Malfunction Unacceptable (Percent)	PEQU	A
A.2-19	Process Problems Total	PROC	A
A.2-12	Process Problems Total (Percent)	PPRO	A
A.2-21	Process Problems Unacceptable	PRUN	A
A.2-22	Process Problems Unacceptable (Percent)	PPRU	A
A.2-23	Startup/Shutdown	STAR	A
A.2-24	Startup/Shutdown (Percent)	PSTA	A
A.2-25	Unknown Excess Emissions	EXUN	A
·26	Unknown Excess Emissions (Percent)	PEXU	A

APPENDIX A

CEMS DATA ELEMENT DICTIONARY

...ge	Data Element	Abbr.	Data Type
A.2	Action Level (Continued)		
A.2-27	Fuel Problems	FUEL	A
A.2-28	Fuel Problems (Percent)	PFUE	A
A.2-29	Other Known Excess Emissions	EEOT	A
A.2-30	Other Known Excess Emissions (Percent)	PEEO	A
A.2-31	Number of Incidents of Excess Emissions	EEIN	A
A.2-32	Reasons for Monitor Downtime	BPMD	A
A.2-33	Calibrations (Quality Assurance)	CALI	A
A.2-34	Calibrations (Percent)	PCAL	A
A.2-35	Monitor Equipment Malfunctions	MOEQ	A
A.2-36	Monitor Equipment Malfunctions (Percent)	PMOE	A
A.2-37	Non-monitor Equipment Malfunctions	NMEQ	A
A.2-38	Non-monitor Equipment Malfunctions (Percent)	PNME	A
A.2-39	Other Known Monitor Downtime	MOOT	A
A.2-40	Other Known Monitor Downtime (Percent)	PMOO	A
A.2-41	Unknown Monitor Downtime	MOUN	A
A.2-42	Unknown Monitor Downtime (Percent)	PMOU	A
A.2-43	Number of Incidents of Monitor Downtime	MOIN	A
A.2-44	Time Period Code	TIME	A
A.2-45	Total Excess Emission	EXCP	A
A.2-46	Total Monitor Downtime	MONP	A
A.2-47	Total Source Operating Time	OPER	A
...3	Other Data Elements		
A.3-1	Region Code	REGN	S,P,A
A.3-3	State Code	STTE	S,P,A
A.3-5	County Code	CNTY	S,P,A
A.3-6	Source Number	SRCE	S,P,A
A.3-7	Card Code	--	S,P,A
A.3-8	Comment Line Number	--	S,P,A
A.3-9	Comments	--	S,P,A
A.3-10	Update Code	--	S,P,A

(S=Source Level)
(P=Point Level)
(A=Action Level)
(S,P,A,=All Levels)

A.1

POINT LEVEL DATA ELEMENTS

Definition: CEM ENFORCEMENT AGENCY is the state or Federal agency with enforcement jurisdiction for the continuous emissions monitoring installation.

Retrieval Abbreviation	AGCY	Valid Values: 1-4, blank	
Card Type	52		
Card Columns	27		
Data Element Length	1		
Data Type	ALPHANUMERIC		
Justified	NO	Masterfile Record Type	34
Required on New Entry	NO	Masterfile Position	96
tionally Controlled	N/A	Masterfile Length	1

Edit Error Messages:

* AGENCY CODE MUST BE 1-4

*** = Fatal Error * = Warning Error

Coding Considerations:

Code one of the following values:

blank	UNKNOWN
1	EPA-HQ
2	EPA-RGN
3	STATE
4	LOCAL

Definition: CEM ENFORCEMENT AGENCY DESCRIPTION is the English language translation of the enforcement agency code.

Retrieval Abbreviation	AGCD	Valid Values:	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	7		
Data Type	ALPHABETIC		
Justified	LEFT	Masterfile Record Type	N/A
Required on New Entry	N/A	Masterfile Position	N/A
Nationally Controlled	N/A	Masterfile Length	N/A

Edit Error Messages:

*** = Fatal Error

* = Warning Error

Coding Considerations:

1	=	EPA-HQ
2	=	EPA-RGN
3	=	STATE
4	=	LOCAL
blank	=	UNKNOWN

Definition: CEMS POINT DATA IDENTIFIER is a system generated identifier to indicate that there is CEMS data present at a CDS point.

Retrieval Abbreviation	CEMP	Valid Values: System-generated for CDS points with CEMS data (cards 51, 52, 70, 71, 72) associated with them. CEMS points will be indicated by a 'C' in the CEMS POINT DATA IDENTIFIER.	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	1		
Data Type	ALPHANUMERIC		
Justified	N/A	Masterfile Record Type	34
Required on New Entry	N/A	Masterfile Position	87
Nationally Controlled	N/A	Masterfile Length	1

Edit Error Messages:

*** = Fatal Error

*** = Fatal Error

* = Warning Error

Coding Considerations:

Definition: CERTIFICATION DATE is the date the monitor receives certification.

Retrieval Abbreviation	CERF, CERM, CERY	Valid Values:	
Card Type	52	Must be numeric and a valid date "MMDDYY" DD = DAY	
Card Columns	61-66	MM = MONTH YY = YEAR	
Data Element Length	6		
Data Type	NUMERIC		
Justified	NO	Masterfile Record Type	34
Required on New Entry	NO	Masterfile Position	250-255
Nationally Controlled	NO	Masterfile Length	6

Edit Error Messages:

* INVALID DATE VALUE

*** = Fatal Error * = Warning Error

Coding Considerations:

CERF - refers to the entire six-character field
CERM - refers to the month field
CERY - refers to the year field

Definition: CHANNEL NUMBER is a three digit numeric code used to uniquely identify a CEM monitor.

Retrieval Abbreviation	CHAN	Valid Values:	
Card Type	51, 52, 60, 70, 71, 72, 80		
Card Columns	24-26		
Data Element Length	3		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	34, 35, 46, 47
Required on New Entry	YES	Masterfile Position	18-20
Nationally Controlled	YES	Masterfile Length	3

Edit Error Messages:

*** = Fatal Error

* = Warning Error

Coding Considerations:

For data referred to specific monitors, the following rules apply:

Column 24 identifies the parameter being monitored and is numeric.

1 = Opacity Monitor
2 = SO_2 Monitor
3 = NO_x Monitor
4 - Diluent Monitor
5 = Hydrocarbon
6 = Tot reduced SO_2
7 = Hydrogen disulf
8 = Carbon monoxide
9 = Coal Sampling and Analysis

Column 25 is numeric and identifies the type of data being entered.

1 = Monitor data
9 = Excess Emission Reports (EER) data

Column 26 is numeric (1-9) and is dependant on the value of column 25:

EXAMPLE: See Section 5.3.5 for examples of proper point/channel assignment.

a. If column 25 = 1, column 26 represents a particular monitor in a multiple monitor installation and is numeric. For example, if a unit has two opacity monitors on the same emission point, the first would be coded "111" and the second coded as "112".

b. If column 25 = 9, column 26 indicates the type of emission data being entered/present in CEMS, is numeric, and, at present, is limited to the following codes:

5 = Percent reduction (% RDX) for SO_2 and NO_x
9 = Excess emission reports (EER) for all pollutants.

Definition: CHANNEL NUMBER DESCRIPTION is the English language translation of the first digit of the channel number.

Retrieval Abbreviation	CHAD	Valid Values:	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	15		
Data Type	ALPHANUMERIC		
Justified	LEFT	Masterfile Record Type	N/A
Required on New Entry	N/A	Masterfile Position	N/A
Nationally Controlled	N/A	Masterfile Length	N/A

it Error Messages:

*** = Fatal Error

* = Warning Error

Coding Considerations:

Column 24	Column 25	Column 26
1 = Opacity Monitor 2 = SO_2 Monitor 3 = NO_x Monitor 4 - Diluent Monitor 5 = Hydrocarbon 6 = Tot reduced SO_2 7 = Hydrogen disulf 8 = Carbon monoxide 9 = Coal Sampling	1 = Monitor data 9 = EER data	If column 25 = 1 Column 26 = a particular monitor in a multiple monitor installation. 1 = first monitor 2 = second monitor etc. If column 25 = 9, column 26 = type of emissions data entered. 5 = Percent Reduction (%RDX) for So_2 and NO_x. 9 = Excess Emission Reports (EER) for all pollutants.

Definition: EMISSION POINT NUMBER is a four digit numeric emission point identifier. If one physical emission point produces several pollutants, each pollutant is assigned to separate emission point number. Emission point ØØØØ refers to the entire source.

Retrieval Abbreviation	PTNO	Valid Values: 0000, 0500 through 0599	
Card Type	10, 51, 52, 60, 70, 71, 72, 80		
Card Columns	14-17		
Data Element Length	4		
Data Type	NUMERIC		
Justified	LEFT	Masterfile Record Type	20-47
Required on New Entry	YES	Masterfile Position	14-17
Nationally Controlled	NO	Masterfile Length	4

Edit Error Messages:

*** EMISSION POINT MUST BE ZEROS
*** POINT NO. MUST BE GREATER THAN ZERO
*** EMISSION POINT MUST BE NUMERIC

*** = Fatal Error * = Warning Error

Coding Considerations:

Point number must be zero for card type 10. It must be greater than zero for cards 51, 52, 60, 70, 71, 72, and 80.

Enter the CDS emission point. If an emission point does not exist in CDS for the EER being entered, an emission point must be entered through CDS. An emission point cannot be added to CEM, see pages 5-14 through 5-16 for an explanation of how the point number should be matched to the channel number.

Definition: INSTALLATION DATE is the date on which the monitor was installed and is in year/month format.

Retrieval Abbreviation	MIND, MINM, MINY	Valid Values: Numeric and a valid date "YYMM."	
Card Type	52	MM = MONTH	YY = YEAR
Card Columns	49-52		
Data Element Length	4		
Data Type	NUMERIC		
Justified	NO	Masterfile Record Type	34
Required on New Entry	YES	Masterfile Position	102-105
" tionally ntrolled	NO	Masterfile Length	4

Edit Error Messages:

* INVALID DATE VALUE

*** = Fatal Error * = Warning Error

Coding Considerations:

MIND - refers to the entire four-character field
MINM - refers to the month field
MINY - refers to the year field

Definition: MONITOR MANUFACTURER identifies the manufacturer of the primary component of the monitoring unit.

Retrieval Abbreviation	MANF	Valid Values: All alphanumeric characters.	
Card Type	51		
Card Columns	27-46		
Data Element Length	20		
Data Type	ALPHANUMERIC		
Justified	N/A	Masterfile Record Type	34
Required on New Entry	N/A	Masterfile Position	186-205
Nationally Controlled	N/A	Masterfile Length	20

Edit Error Messages:

*** = Fatal Error

* = Warning Error

Coding Considerations:

When one or more monitors is attached to a physical emission point, separate channel numbers should be assigned for each pollutant monitored.

finition: MONITOR MODEL NUMBER identifies the type of monitor in use.

Retrieval Abbreviation	MODL	Valid Values: All alphanumeric characters	
Card Type	51		
Card Columns	47-61		
Data Element Length	15		
Data Type	ALPHANUMERIC		
Justified	N/A	Masterfile Record Type	34
Required on New Entry	N/A	Masterfile Position	206-220
Nationally ontrolled	N/A	Masterfile Length	15

Edit Error Messages:

*** = Fatal Error

* = Warning Error

Coding Considerations:

See Monitor Manufacturer for applicable comments.

Definition: MONITOR REQUIREMENT CODE states the regulation type requiring the continuous monitor.

Retrieval Abbreviation	REQT	Valid Values: 0, 3, 5, 6, 9, BLANK	
Card Type	52		
Card Columns	28		
Data Element Length	1		
Data Type	ALPHANUMERIC		
Justified	LEFT	Masterfile Record Type	34
Required on New Entry	NO	Masterfile Position	97
Nationally Controlled	YES	Masterfile Length	1

Edit Error Messages:

* REQUIREMENT CODE MUST BE 1-5

*** = Fatal Error * = Warning Error

Coding Considerations:

Code on the following values:

blank	UNKNOWN
0	SIP
3	ENFORCEMENT ACTION COMPLIANCE ORDER OR CONSENT DECREE
5	OTHER
6	PSD
9	NSPS

Definition: MONITOR REQUIREMENT CODE DESCRIPTION is an English language description of the requirement code.

Retrieval Abbreviation	REQD	Valid Values:	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	7		
Data Type	ALPHANUMERIC		
Justified	LEFT	Masterfile Record Type	N/A
Required on New Entry	N/A	Masterfile Position	N/A
"-tionally ntrolled	N/A	Masterfile Length	N/A

Edit Error Messages:

*** = Fatal Error

* = Warning Error

Coding Considerations:

0 - State Implementation Plan
3 - Enforcement Action
5 - Other
6 - Prevention of Significant Deterioration
9 - New Source Performance Standard

Definition: MONITOR SERIAL NUMBER positively identifies a unit. May be used to determine replacements.

Retrieval Abbreviation	SERL	Valid Values: All alphanumeric characters	
Card Type	51		
Card Columns	62-76		
Data Element Length	15		
Data Type	ALPHANUMERIC		
Justified	N/A	Masterfile Record Type	34
Required on New Entry	N/A	Masterfile Position	221-235
Nationally Controlled	N/A	Masterfile Length	15

Edit Error Messages:

*** = Fatal Error

* = Warning Error

Coding Considerations:

See Monitor Manufacturer for applicable comments.

inition: NUMBER OF TESTS is the cumulative total of performance specification tests performed for a monitor since its installation. Normally, such a test is performed at the initial installation of the monitor.

Retrieval Abbreviation	PSRC	Valid Values:	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	2		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	34
Required New Entry	N/A	Masterfile Position	118-119
Nationally Controlled	N/A	Masterfile Length	2

Edit Error Messages:

*** = Fatal Error * = Warning Error

Coding Considerations:

This data is generated by the update program; it cannot be input by the user but can be retrieved from the CEM masterfile. This field is incremented each time a "PASS" or "FAIL" is coded in the PST STATUS field.

Definition: NUMBER OF FAIL is the total number of performance specificatic tests reported with a result of "FAIL" since the monitor installation.

Retrieval Abbreviation	PSRF	Valid Values:	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	2		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	34
Required on New Entry	N/A	Masterfile Position	122-123
Nationally Controlled	N/A	Masterfile Length	2

Edit Error Messages:

*** = Fatal Error * = Warning Error

Coding Considerations:

This data is generated by the update program; it cannot be input by the user but can be retrieved from the CEM masterfile. This field is incremented each time a "FAIL" is coded in the PST STATUS field.

Definition: NUMBER OF PASS is the total number of performance specification tests reported with a result of "PASS" since the monitors installation.

Retrieval Abbreviation	PSRP	Valid Values:	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	2		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	34
Required on New Entry	N/A	Masterfile Position	120-121
ionally controlled	N/A	Masterfile Length	2

Edit Error Messages:

*** = Fatal Error

* = Warning Error

Coding Considerations:

This data is generated by the update program; it cannot be input by the user but can be retrieved from the CEM masterfile. This field is incremented each time a "PASS" is coded in the PST STATUS field.

Definition: PERMISSIBLE EMISSION LIMIT is the units and values specified by the regulation noted by the CEM Regulation Number

Retrieval Abbreviation	EMIS	Valid Values: All alphanumeric characters	
Card Type	52		
Card Columns	29-48		
Data Element Length	20		
Data Type	ALPHANUMERIC		
Justified	NO	Masterfile Record Type	34
Required on New Entry	N/A	Masterfile Position	256-275
Nationally Controlled	N/A	Masterfile Length	15

Edit Error Messages:

*** = Fatal Error * = Warning Error

Coding Considerations:

Typical values might include:

20% OPAC/6 MIN PERD

0.8 LBS/MBTU SO2

Code the EMIS the same for every monitor subject to the same regulation.

Definition: PST DATE is the date the latest Performance Specification Test was performed and is coded in year/month format.

Retrieval Abbreviation	PSTD, PSTM, PSTY	Valid Values: "YYMM" MM = MONTH YY = YEAR	
Card Type	52		
Card Columns	53-56		
Data Element Length	4		
Data Type	NUMERIC		
Justified	NO	Masterfile Record Type	34
Required on New Entry	NO	Masterfile Position	106-109
Nationally ntrolled	NO	Masterfile Length	4

Edit Error Messages:

* INVALID DATE VALUE

*** = Fatal Error * = Warning Error

Coding Considerations:

PSTD--refers to the entire four character field
PSTM--refers to the month field
PSTY--refers to the year field

Retrieval selection of PSTD data should be in year/month format. To code or select October 1981, enter 8110.

Definition: PST STATUS is the result of the latest performance specification test.

Retrieval Abbreviation	PSTS	Valid Values: "PASS"	
Card Type	52	"FAIL"	
Card Columns	57-60	blank	
Data Element Length	4		
Data Type	ALPHANUMERIC		
Justified	NO	Masterfile Record Type	34
Required on New Entry	NO	Masterfile Position	110-113
Nationally Controlled	NO	Masterfile Length	4

Edit Error Messages:

*PST STATUS MUST BE PASS OR FAIL

*** = Fatal Error * = Warning Error

Coding Considerations:

When either "PASS" or "FAIL" is entered, the appropriate pass or fail counter (PSRP or PSRF) and the cumulative test counter (PSRC) are incremented by the UPDATE program.

A.2

ACTION LEVEL DATA ELEMENTS

Definition: ACTION TYPE is a two-position alphanumeric action description identifier.

Retrieval Abbreviation	ATPE	Valid Values:	
Card Type	70	Must be on Action Table controlled by National CDS DBC.	
Card Columns	57-58	Action Type 00 indicates an action type which is user defined.	
Data Element Length	2		
Data Type	ALPHANUMERIC		
Justified	LEFT	Masterfile Record Type	46
Required on New Entry	YES	Masterfile Position	27-28
Nationally Controlled	YES	Masterfile Length	2

Edit Error Messages:

***INVALID ACTION TYPE
***ACTION TYPE REQUIRED ON NEW ENTRY
*ACT DESC IGNORED - ATPE NOT 00

*** = Fatal Error * = Warning Error

Coding Considerations:

Please call the National CDS DBC to add, change, or delete entries on the Action Table for your region.

Certain action types are required to input to CDS. Please consult the current FY air enforcement program plans and the most recent SSCD guidance material for the most current requirement.

To obtain the most current version of a region's action types, please contact TRC.

Since many action types are confidential, users should use a password on the 20 card of the Retrieval Request Form to obtain action level information on retrievals.

Definition: DATE ACHIEVED is the date on which an action is completed in month/day/year format.

Retrieval Abbreviation	DTAC	Valid Values:	
Card Type	70	Blanks or zeros are acceptable. If numeric other than zero, day must be between 01 and 31, month must be between 01 and 12, and year must greater than 60.	
Card Columns	59-64		
Data Element Length	6		
Data Type	NUMERIC		
Justified	LEFT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	29-34
Nationally Controlled	NO	Masterfile Length	6

Edit Error Messages:

*INVALID DATE ACHVD - OUTPUT SPACES

*** = Fatal Error * = Warning Error

Coding Considerations:

If an error is encountered in the date field, the bad month, day, or year is zeroed out by the Edit Program. An asterisk on a change transaction for this field will zero out the field on the Masterfile.

Definition: DATE SCHEDULED is the date which an action is scheduled to be performed. Use the month/day/year format.

Retrieval Abbreviation	DTSC	Valid Values: Blanks or zeros are not acceptable. Day must be between 01 and 31, month must be between 01 and 12, and year must be greater than 60.	
Card Type	70		
Card Columns	65-70		
Data Element Length	6		
Data Type	NUMERIC		
Justified	LEFT	Masterfile Record Type	46
Required on New Entry	YES	Masterfile Position	35-40
-- tionally ntrolled	NO	Masterfile Length	6

Edit Error Messages:

*DT SCHED SHOULD BE ON NEW - OP ZEROS
*INVALID DATE SCHED - OUTPUT SPACES

*** = Fatal Error * = Warning Error

Coding Considerations:

If an error is encountered in the date field, the bad month, day, or year is zeroed out. If this field is left blank on a new transaction and if the Date Achieved is valid, the Date Achieved is moved into this field by the Edit Program.

Definition: ACTION STAFF CODE is a three-position code referring to the staff member assigned to complete the action.

Retrieval Abbreviation	PERA	Valid Values: The Staff Code must exist on the Personnel Table controlled by the National CDS DBC. The first position must be alphabetic; the next two numeric. When requesting changes to this table, be sure to give CDS the DBC full title information as well.	
Card Type	70		
Card Columns	71-73		
Data Element Length	3		
Data Type	ALPHANUMERIC		
Justified	LEFT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	41-43
Nationally Controlled	YES	Masterfile Length	3

Edit Error Messages:

*INVALID STAFF CODE

*** = Fatal Error * = Warning Error

Coding Considerations:

Please call the National CDS DBC to make additions, changes or deletions to the Personal Table.

Definition: RESULTS CODE indicates the results of an action, such as action achieved, action not achieved, or action rescheduled.

Retrieval Abbreviation	STAC	Valid Values:	
Card Type	70	May be a blank. If not a blank, it must be a two-digit numeric field. The Results Code must exist on the Results Code Table controlled by the National CDS DBC.	
Card Columns	74-75		
Data Element Length	2		
Data Type	NUMERIC		
Justified	LEFT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	61-62
ıtionally ɔntrolled	YES	Masterfile Length	2

Edit Error Messages:

*INVALID RESULTS CODE

*** = Fatal Error * = Warning Error

Coding Considerations:

The results code can indicate the success of an action, including whether or not the action was carried out.

Please call the National CDS DBC to add, change, or delete entries on the Results Code Table for your region. Please contact TRC to obtain most current Results Code Table for your region.

Definition: REGIONAL DATA ELEMENT 8 is user supplied.

Retrieval Abbreviation	RDE8	Valid Values:	
Card Type	70		
Card Columns	76-77		
Data Element Length	2		
Data Type	ALPHANUMERIC		
Justified	LEFT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	63-64
Nationally Controlled	NO	Masterfile Length	2

Edit Error Messages:

*** = Fatal Error

* = Warning Error

Coding Considerations:

Definition: ACTION NUMBER is a four digit numberic sequential action identifier.

Retrieval Abbreviation	ANUM	Valid Values:	
Card Type	10, 51, 52, 60, 70	ØØØØ through 0099	
Card Columns	18-21		
Data Element Length	4		
Data Type	YES NUMERIC		
Justified	NO	Masterfile Record Type	20-47
Required on New Entry	NO	Masterfile Position	21-24
Nationally ntrolled	NO	Masterfile Length	4

Edit Error Messages:

***Action Numbers must be zeros (card type 10-60)

***Action Numbers must be greater than zero (card type 70)

*** = Fatal Error * = Warning Error

Coding Considerations:

For Card types 10, 51, 52, and 60: the action number is 0000 .'

For a 70 Card type:

Actions should be assigned sequentially starting with 0001. When adding a new action to the data base, code 0099, the system will convert the 0099 to the next highest sequential action number for that emission point. If several actions and action comments are entered at the same time with action Number 0099, comments will not be associated with the proper action. Therefore, users must not enter multiple actions and comments with Action Number 0099 simultaneously since these will produce rejects on the Update Report.

An action number cannot be added to the data base unless the emission point and channel number for that action are also being added or already exist on the data base. Each action number must be associated with an emission point and channel number. This channel number should be "000" for entry of "M3" action types which are passed to CDS.

Definition: REPORT QUARTER (QUARTER DATE) is a four digit numberic date identifying the year and quarter of the excess emission report.

Retrieval Abbreviation	RQTR	Valid Values:	
Card Type	71,72,80	7001 through 9904	
Card Columns	18-21	YYQQ	
Data Element Length	4	YY = Calendar Year	
Data Type	YES NUMERIC	QQ = Calendar Quarter	
Justified	NO	Masterfile Record Type	20-47
Required on New Entry	NO	Masterfile Position	21-24
Nationally Controlled	NO	Masterfile Length	4

Edit Error Messages:

***Action Numbers must be greater than zero (card type 70)

*** = Fatal Error * = Warning Error

Coding Considerations:

For a 71, 72 or 80 Card type:

In the case of the 71, 72 and 80 card coding, the Report Quarter is in columns 18-21 where the action number is found on the two last digits of the year are recorded in columns 18-19 and the two digit quarter is recorded in columns 20-21.

Report Quarter is the Calendar quarter (year/quarter) in which the excess emission took place on the 71, 72 card, and if any comments apply to the 71, 72 card data, that same quarter number is used on the 8-0 card comment, in order to match it up.

Definition: MONITOR UNAVAILABILITY is the percent that the monitor is unavailable as a percent of the total plant operating time.

Retrieval Abbreviation	PMON	Valid Values: 000.000 - 100.000	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	6		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	379-384
Conditionally Controlled	N/A	Masterfile Length	6

Edit Error Messages:

*** = Fatal Error * = Warning Error

Coding Considerations:

Percent of source operating time that the monitor was unavailable.

$$\frac{\text{Total Monitor Downtime Minutes}}{\text{Total Source Operating Minutes}} \times 100$$

Definition: MONITORED OPERATION WITHOUT EXCEEDANCES is the percent of time that the source was operating, monitored, and with no incidents of excess emissions.

Retrieval Abbreviation	POPT	Valid Values:	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	4		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	391-396
Nationally Controlled	N/A	Masterfile Length	4

Edit Error Messages:

*** = Fatal Error * = Warning Error

Coding Considerations:

Percent of monitored time that the source was able to operate with no excess emission.

100% - (% of Reported Operating Time With Exceedances & Monitor Unavailability)

Definition: REPORTED OPERATING TIME WITH EXCEEDANCES is the total amount of time that the source was operating and had exceedances.

Retrieval Abbreviation	PEXC	Valid Values:	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	4		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	281-284
Nationally ntrolled	N/A	Masterfile Length	4

Edit Error Messages:

*** = Fatal Error * = Warning Error

Coding Considerations:

Percent of source operating time that the monitor was operational and the source had excess emissions.

$$\frac{\text{Total Excess Emission Minutes}}{\text{Total Source Operating Minutes}} \times 100$$

Definition: REASONS FOR EXCESS EMISSIONS is designed to provide a single quick look data element showing all 7 excess emission reasons, the equipment malfunction (unacceptable), the process problems unacceptable and the number of incidents of excess emissions.

Retrieval Abbreviation	ROCT	Valid Values:	
Card Type	71, 72		
Card Columns	Card 71=34-78 Card 72=28-38		
Data Element Length	57		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	193-249
Nationally Controlled	N/A	Masterfile Length	57

Edit Error Messages:

*** = Fatal Error * = Warning Error

Coding Considerations:

STAR - startup/shutdown
SOOT - cleaning/soot blowing
EXUN - unknown
EQPT - equipment malfunction (total)
EQPU - equipment malfunction (unacceptable)
PROC - process problems (total)
PPRO - process problems (unacceptable)
FUEL - fuel problems
EEOT - other known causes of excess emissions
EEIN - number of incidents of excess emissions

Definition: CLEANING/SOOT BLOWING is a count of the number of excess emission periods/minutes due to cleaning/soot blowing.

Retrieval Abbreviation	SOOT	Valid Values: Must be numeric	
Card Type	71		
Card Columns	40-45		
Data Element Length	6		
Data Type	NUMERIC		
Justified	RIGHT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	199-204
Nationally Controlled	NO	Masterfile Length	6

Edit Error Messages:

*REASON FIELD MUST BE NUMERIC

*** = Fatal Error * = Warning Error

Coding Considerations:

Definition: CLEANING/SOOT BLOWING (Percent) is the percent of the total quarterly excess emission periods/minutes due to cleaning/soo blowing.

Retrieval Abbreviation	PS00	Valid Values: 000.000 - 100.000	
Card Type	N/A		
Card Columns	6		
Data Element Length	NUMERIC		
Data Type	N/A		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	295-300
Nationally Controlled	N/A	Masterfile Length	6

Edit Error Messages:

*** = Fatal Error * = Warning Error

Coding Considerations:

$$PS00 = \frac{\text{CLEANING/SOOT BLOWING (SOOT)}}{\text{TOTAL NUMBER OF EXCESS EMISSION PERIODS (EXCP)}} \times 100$$

Definition: CONTROL EQUIPMENT FAILURE (TOTAL) is the sum of excess emission periods/minutes both acceptable and unacceptable due to unit/control equipment failure or malfunction.

Retrieval Abbreviation	EQPT	Valid Values: Must be numeric	
Card Type	71		
Card Columns	52-57		
Data Element Length	6		
Data Type	NUMERIC		
Justified	RIGHT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	211-216
tionally ntrolled	NO	Masterfile Length	6

Edit Error Messages:

*REASON FIELD MUST BE NUMERIC

*** = Fatal Error * = Warning Error

Coding Considerations:

Includes--control equipment malfunction
--unit equipment malfunction

Definition: CONTROL EQUIPMENT FAILURE (TOTAL) percent is the percent of the total excess emission periods/minutes, acceptable and unacceptable, due to unit/control equipment failure or malfunction.

Retrieval Abbreviation	PEQP	Valid Values: 000.000 - 100.000	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	6		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	307-312
Nationally Controlled	N/A	Masterfile Length	6

Edit Error Messages:

*** = Fatal Error

* = Warning Error

Coding Considerations:

Definition: CONTROL EQUIPMENT MALFUNCTION (UNACCEPTABLE) is the sum of excess emission periods/minutes due to control equipment malfunctions that were deemed unacceptable.

Retrieval Abbreviation	EQPU	Valid Values: Must be numeric	
Card Type	71		
Card Columns	58-63		
Data Element Length	6		
Data Type	NUMERIC		
Justified	RIGHT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	217-222
ıtionally ɔntrolled	NO	Masterfile Length	6

Edit Error Messages:

*REASON FIELD MUST BE NUMERIC

*** = Fatal Error * = Warning Error

Coding Considerations:

Used only if the control Equipment malfunctions are a large portion of the total excess emissions, and a breakdown to acceptable malfunctions and unacceptable malfunctions is deemed necessary.

This field is not required and is included as an option for those who desire to enter this information.

Definition: CONTROL EQUIPMENT MALFUNCTION (UNACCEPTABLE) PERCENT is the percentage of the total quarterly excess emissio periods/minutes that are equipment malfunction (unacceptable). The use of the equipment malfunction (unacceptable) field is optional.

Retrieval Abbreviation	PEQU	Valid Values: 000.000-100.000	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	6		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	313-318
Nationally Controlled	N/A	Masterfile Length	6

Edit Error Messages:

*** = Fatal Error

* = Warning Error

Coding Considerations:

Definition: PROCESS PROBLEMS TOTAL is the sum of excess emission periods/minutes both acceptable and unacceptable due to process problems.

Retrieval Abbreviation	PROC	Valid Values: Must be numeric	
Card Type	71		
Card Columns	64-69		
Data Element Length	6		
Data Type	NUMERIC		
Justified	RIGHT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	235-240
tionally controlled	NO	Masterfile Length	6

Edit Error Messages:

*REASON FIELD MUST BE NUMERIC

*** = Fatal Error * = Warning Error

Coding Considerations:

Definition: PROCESS PROBLEMS TOTAL (Percent) is the percent of the total quarterly excess emission periods/minutes due to process problems.

Retrieval Abbreviation	PPRO	Valid Values: 000.000-100.000	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	6		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	319-324
Nationally Controlled	N/A	Masterfile Length	6

Edit Error Messages:

*** = Fatal Error

* = Warning Error

Coding Considerations:

Definition: PROCESS PROBLEMS (Unacceptable) is the sum of excess emission periods/minutes due to process problems that were deemed unacceptable.

Retrieval Abbreviation	PRUN	Valid Values:	
Card Type	71		
Card Columns	70-75		
Data Element Length	6		
Data Type	NUMERIC		
Justified	RIGHT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	241-246
tionally ntrolled	NO	Masterfile Length	6

Edit Error Messages:

*REASON FIELD MUST BE NUMERIC

*** = Fatal Error * = Warning Error

Coding Considerations:

Used only if the process problems are a large portion of the total excess emissions, and a breakdown to acceptable process problems and unacceptable process problems is deemed necessary.

Definition: PROCESS PROBLEMS UNACCEPTABLE (Percent) is the percent of the total quarterly excess emission periods/minutes due to process problems that were deemed unacceptable. The use of the process problems (unacceptable) field is optimal.

Retrieval Abbreviation	PPRU	Valid Values: 000.000-100.000	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	6		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	325-330
Nationally Controlled	N/A	Masterfile Length	6

Edit Error Messages:

*** = Fatal Error

* = Warning Error

Coding Considerations:

Definition: STARTUP/SHUTDOWN is a count of the number of excess emission periods/minutes due to the starting up or shutting down of the source.

Retrieval Abbreviation	STAR	Valid Values: Must be numeric	
Card Type	71		
Card Columns	34-39		
Data Element Length	6		
Data Type	NUMERIC		
Justified	RIGHT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	193-198
tionally controlled	NO	Masterfile Length	6

Edit Error Messages:

*** = Fatal Error

* = Warning Error

Coding Considerations:

Definition: STARTUP/SHUTDOWN (Percent) is the percent of the total quarterly excess emission periods/minutes due to startup or shutdown of the source.

Retrieval Abbreviation	PSTA	Valid Values: 000.000-100.000	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	6		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	289-294
Nationally Controlled	N/A	Masterfile Length	6

Edit Error Messages:

***.= Fatal Error

* = Warning Error

Coding Considerations:

Definition: UNKNOWN EXCESS EMISSIONS is the percent of the total number of periods/minutes the monitor recorded excess emissions due to unknown reasons.

Retrieval Abbreviation	EXUN	Valid Values: must be numeric	
Card Type	71		
Card Columns	46-51		
Data Element Length	6		
Data Type	NUMERIC		
Justified	RIGHT	Masterfile Record Type	46
Required on New Entry	No	Masterfile Position	205-210
tionally Controlled	No	Masterfile Length	6

Edit Error Messages:

* = Reason field must be numeric

*** = Fatal Error

* = Warning Error

Coding Considerations:

Definition: UNKNOWN EXCESS EMISSIONS (Percent) is the percent of the total quarterly excess emission periods/minutes due to unknown reasons.

Retrieval Abbreviation	PEXU	Valid Values: 000.000-100.000	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	6		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	301-306
Nationally Controlled	N/A	Masterfile Length	6

Edit Error Messages:

*** = Fatal Error

* = Warning Error

Coding Considerations:

Definition: FUEL PROBLEMS is the number of periods/minutes the monitor recorded excess emissions due to fuel problems.

Retrieval Abbreviation	FUEL	Valid Values: Must be numeric	
Card Type	72		
Card Columns	27-32		
Data Element Length	6		
Data Type	NUMERIC		
Justified	RIGHT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	223-228
Nationally Controlled	NO	Masterfile Length	6

Edit Error Messages:

*REASON FIELD MUST BE NUMERIC

*** = Fatal Error * = Warning Error

Coding Considerations:

Definition: FUEL PROBLEMS (Percent) is the percent of the total quarterly excess emissions periods/minutes due to fuel problems.

Retrieval Abbreviation	PFUE	Valid Values: 000.000-100.000	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	6		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	331-336
Nationally Controlled	N/A	Masterfile Length	

Edit Error Messages:

*** = Fatal Error

* = Warning Error

Coding Considerations:

Definition: OTHER KNOWN EXCESS EMISSIONS is the number of periods/minutes the monitor recorded excess emissions due to other known reasons.

Retrieval Abbreviation	EEOT	Valid Values: Must be numeric	
Card Type	72		
Card Columns	33-38		
Data Element Length	6		
Data Type	NUMERIC		
Justified	RIGHT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	229-234
Nationally ontrolled	NO	Masterfile Length	6

Edit Error Messages:

*REASON FIELD MUST BE NUMERIC

*** = Fatal Error * = Warning Error

Coding Considerations:

Definition: OTHER KNOWN EXCESS EMISSIONS (Percent) is the percent of the total quarterly excess emissions periods/minutes due to other known reasons.

Retrieval Abbreviation	PEEO	Valid Values: 000.000-100.000	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	6		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	337-342
Nationally Controlled	N/A	Masterfile Length	6

Edit Error Messages:

*** = Fatal Error

* = Warning Error

Coding Considerations:

NUMBER OF INCIDENTS OF EXCESS EMISSIONS

Definition: NUMBER OF INCIDENTS OF EXCESS EMISSIONS is the total number of incidents of excess emissions recorded by the monitor.

Retrieval Abbreviation	EEIN	Valid Values: Must be numeric	
Card Type	71		
Card Columns	76-78		
Data Element Length	3		
Data Type	NUMERIC		
Justified	RIGHT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	247-249
Nationally ntrolled	NO	Masterfile Length	3

Edit Error Messages:

*NUMBER OF INCIDENTS NOT NUMERIC

*** = Fatal Error * = Warning Error

Coding Considerations:

Definition: REASONS FOR MONITOR DOWN TIME is designed to provide a single quick look data element showing all reasons the monitor is down. These are the 5 most common reasons, and the number of incidents of monitor downtime.

Retrieval Abbreviation	BPMD	Valid Values:	
Card Type	72		
Card Columns	39-71		
Data Element Length	33		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	250-282
Nationally Controlled	N/A	Masterfile Length	33

Edit Error Messages:

*** = Fatal Error * = Warning Error

Coding Considerations:

The 5 reasons are:

MOEQ - monitor equipment malfunction
NMEQ - non-monitor equipment malfunction
CALI - calibration
MOUN - unknown
MOOT - other known monitor downtime

MOIN - number of incidents of monitor downtime

Definition: CALIBRATION is the number of monitor downtime periods/minutes due to calibration of the monitor.

Retrieval Abbreviation	CALI	Valid Values: Must be numeric	
Card Type	72		
Card Columns	51-56		
Data Element Length	6		
Data Type	NUMERIC		
Justified	RIGHT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	262-267
Nationally Controlled	NO	Masterfile Length	6

Edit Error Messages:

*REASON FIELD MUST BE NUMERIC

*** = Fatal Error * = Warning Error

Coding Considerations:

Definition: CALIBRATION (Percent) is the percentage of the total quarterly monitor down time periods/minutes due to monitor calibration.

Retrieval Abbreviation	PCAL	Valid Values: 000.000-100.000	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	6		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	361-366
Nationally Controlled	N/A	Masterfile Length	6

Edit Error Messages:

*** = Fatal Error

* = Warning Error

Coding Considerations:

Definition: MONITOR EQUIPMENT MALFUNCTION is the number of monitor down time periods/minutes due to malfunction of the monitor equipment.

Retrieval Abbreviation	MOEQ	Valid Values: Must be numeric	
Card Type	72		
Card Columns	39-44		
Data Element Length	6		
Data Type	NUMERIC		
Justified	RIGHT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	250-255
ıtionally ɔntrolled	NO	Masterfile Length	6

Edit Error Messages:

*REASON FIELD MUST BE NUMERIC

*** = Fatal Error * = Warning Error

Coding Considerations:

Definition: MONITOR EQUIPMENT MALFUNCTION (Percent) is the percentage of the total quarterly monitor down time periods/minutes resulting from monitor equipment failure.

Retrieval Abbreviation	PMOE	Valid Values: 000.000-100.000	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	6		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	349-354
Nationally Controlled	N/A	Masterfile Length	6

Edit Error Messages:

*** = Fatal Error

* = Warning Error

Coding Considerations:

Definition: NON-MONITOR EQUIPMENT MALFUNCTION is the number of monitor down time periods/minutes due to non-monitor equipment malfunction.

Retrieval Abbreviation	NMEQ	Valid Values: Must be numeric	
Card Type	72		
Card Columns	45-50		
Data Element Length	6		
Data Type	NUMERIC		
Justified	RIGHT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	256-261
Nationally ntrolled	NO	Masterfile Length	

Edit Error Messages:

*REASON FIELD MUST BE NUMERIC

*** = Fatal Error * = Warning Error

Coding Considerations:

Non-monitor equipment malfunctions include:

- data processor malfunction
- running out of paper
- running out of ink

Definition: NON-MONITOR EQUIPMENT MALFUNCTION (Percent) is the percentage of the total quarterly monitor down time periods/minutes due to non-monitor equipment failure.

Retrieval Abbreviation	PNME	Valid Values: 000.000-100.000	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	6		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	355-360
Nationally Controlled	N/A	Masterfile Length	6

Edit Error Messages:

*** = Fatal Error

* = Warning Error

Coding Considerations:

Definition: OTHER KNOWN MONITOR DOWN TIME is the number of monitor down time periods/minutes due to other known reasons.

Retrieval Abbreviation	MOOT	Valid Values: Must be numeric	
Card Type	72		
Card Columns	63-68		
Data Element Length	6		
Data Type	NUMERIC		
Justified	RIGHT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	274-279
''tionally ntrolled	NO	Masterfile Length	6

Edit Error Messages:

*REASON FIELD MUST BE NUMERIC

*** = Fatal Error * = Warning Error

Coding Considerations:

Definition: OTHER KNOWN MONITOR DOWN TIME (Percent) is the percentage of the total quarterly monitor down time periods/minutes for othe known reasons.

Retrieval Abbreviation	PMOO	Valid Values: 000.000-100.000	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	6		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	373-378
Nationally Controlled	N/A	Masterfile Length	6

Edit Error Messages:

*** = Fatal Error

* = Warning Error

Coding Considerations:

Definition: UNKNOWN MONITOR DOWN TIME is the number of monitor down time periods/minutes due to unknown reasons.

Retrieval Abbreviation	MOUN	Valid Values: Must be numeric	
Card Type	72		
Card Columns	57-62		
Data Element Length	6		
Data Type	NUMERIC		
Justified	RIGHT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	268-273
Nationally Controlled	NO	Masterfile Length	6

Edit Error Messages:

*REASON FIELD MUST BE NUMERIC

*** = Fatal Error * = Warning Error

Coding Considerations:

Definition: UNKNOWN MONITOR DOWN TIME (Percent) is the percentage of the total quarterly monitor down time periods/minutes for reasons unknown.

Retrieval Abbreviation	PMOU	Valid Values: 000.000-100.000	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	6		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/a	Masterfile Position	367-372
Nationally Controlled	N/A	Masterfile Length	6

Edit Error Messages:

*** = Fatal Error

* = Warning Error

Coding Considerations:

NUMBER OF INCIDENTS OF MONITOR DOWN TIME

Definition: NUMBER OF INCIDENTS OF MONITOR DOWN TIME is the total number of incidents of monitor down time.

Retrieval Abbreviation	MOIN	Valid Values: Must be numeric	
Card Type	72		
Card Columns	69-71		
Data Element Length	3		
Data Type	NUMERIC		
Justified	RIGHT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	280-282
Nationally Controlled	NO	Masterfile Length	3

Edit Error Messages:

*NUMBER OF INCIDENTS NOT NUMERIC

*** = Fatal Error * = Warning Error

Coding Considerations:

Definition: TIME PERIOD is a 1-digit code indicating whether the excess emissions from the EER's are reduced and coded for a specified period of time, or in minutes.

Retrieval Abbreviation	TIME	Valid Values: M,A,B,C,D,E,F,G	
Card Type	71		
Card Columns	27		
Data Element Length	1		
Data Type	ALPHABETIC		
Justified	NO	Masterfile Record Type	46
Required on New Entry	YES	Masterfile Position	186
Nationally Controlled	NO	Masterfile Length	1

Edit Error Messages:

*TIME PERIOD MUST BE P OR M

*** = Fatal Error * = Warning Error

Coding Considerations:

M = Minutes
A = 6 minutes
B = 15 minutes
C = 30 minutes
D = 1 hour (60 minutes)
E = 2 hours (120 minutes)
F = 3 hours (180 minutes)
G = 24 hours (1440 minutes)

Definition: TOTAL EXCESS EMISSION is the number of periods/minutes during a quarter that the source had excess emissions of a specific pollutant.

Retrieval Abbreviation	EXCP	Valid Values: System-generated from reasons for excess emission (ROCT)	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	6		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	283-288
ionally trolled	N/A	Masterfile Length	6

Edit Error Messages:

*** = Fatal Error * = Warning Error

Coding Considerations:

"Period" is a duration of time specified by the regulation defining excess emissions for the specified pollutants (PATE 1983).

Definition: TOTAL MONITOR DOWN TIME is the number of periods/minutes a monitor has malfunctioned and is out of service during a given quarter.

Retrieval Abbreviation	MONP	Valid Values: System-generated from reason for monitor down time (BPMD).	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	6		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	343-346
Nationally Controlled	N/A	Masterfile Length	6

Edit Error Messages:

*** = Fatal Error

* = Warning Error

Coding Considerations:

See comment for total excess emission.

Definition: TOTAL SOURCE OPERATING TIME is the total number of minutes/periods that a source is operating.

Retrieval Abbreviation	OPER	Valid Values: Must be numeric. Not required, but important.	
Card Type	71		
Card Columns	28-33		
Data Element Length	6		
Data Type	NUMERIC		
Justified	RIGHT	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	187-192
Nationally Controlled	NO	Masterfile Length	6

Edit Error Messages:

*OPERATING PERIODS MUST BE NUMERIC.

*** = Fatal Error * = Warning Error

Coding Considerations:

Enter the number of operating periods in periods or minutes.

The total number of operating periods is a function of the definition of a period as defined in 40 CFR 60.7. This unit varies depending on the pollutant. (PATE 1983)

A.3

OTHER DATA ELEMENTS

inition: REGION CODE is a two-position numeric region identifier.

Retrieval Abbreviation	REGN	Valid Values: 01 through 10 See attachment showing the region locations and the states associated with each region.	
Card Type	10,51,52,60,70,71 72,80		
Card Columns	1-2		
Data Element Length	2		
Data Type	NUMERIC		
Justified	LEFT	Masterfile Record Type	20, 21, 30, 34, 35, 46, 47
Required New Entry	YES	Masterfile Position	1-2
Nationally Controlled	YES	Masterfile Length	2

Edit Error Messages:

***INVALID REGION CODE
***INVALID REGION ON CONTROL CARD

*** = Fatal Error * = Warning Error

Coding Considerations:

Region must be present on all input transactions. State code and region are cross-validated; the user may not use a state code which is not valid for his region.

Region cannot be changed or blanked out once it has been put on the database. If it must be changed, the entire source must be deleted and reentered with the correct region code.

REGION CODE

States have been assigned to regions as follows:

01 - Boston	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont
02 - New York	New Jersey, New York, Puerto Rico, Virgin Islands
03 - Philadelphia	Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia
04 - Atlanta	Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee
05 - Chicago	Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin
06 - Dallas	Arkansas, Louisiana, New Mexico, Oklahoma, Texas
07 - Kansas City	Iowa, Kansas, Missouri, Nebraska
08 - Denver	Colorado, Montana, North Dakota, South Dakota, Utah
09 - San Francisco	Arizona, California, Hawaii, Nevada, Guam, American Samoa, Trust Territories
10 - Seattle	Alaska, Idaho, Oregon, Washington

DATA DICTIONARY

Definition: STATE CODE is a two-position numeric field. The state codes are derived from the Storage and Retrieval of Aerometric Data Manual (SAROAD) published by OAQPS.

Retrieval Abbreviation	STTE	Valid Values: 01-56	
Card Type	10, 51, 52, 60, 70, 71, 72, 80	See attached list showing the states associated with each state code.	
Card Columns	3-4		
Data Element Length	2		
Data Type	NUMERIC		
Justified	LEFT	Masterfile Record Type	20, 21, 30, 34, 35, 46, 47
Required on New Entry	YES	Masterfile Position	3-4
Nationally Controlled	YES	Masterfile Length	2

Edit Error Messages:

***INVALID STATE CODE
***STATE NOT IN REGION

*** = Fatal Error * = Warning Error

Coding Considerations:

State code must be present on all transactions. State must be valid for the region. State cannot be changed or blanked out on the database. If it must be changed, the entire source must be deleted and reentered with the correct state code.

STATE CODE

The CDS System use the following two-digit SAROAD state codes:

01	Alabama	31	New Jersey
02	Alaska	32	New Mexico
03	Arizona	33	New York
04	Arkansas	34	North Carolina
05	California	35	North Dakota
06	Colorado	36	Ohio
07	Connecticut	37	Oklahoma
08	Delaware	38	Oregon
09	District of Columbia	39	Pennsylvania
10	Florida	40	Puerto Rico
11	Georgia	41	Rhode Island
12	Hawaii	42	South Carolina
13	Idaho	43	South Dakota
14	Illinois	44	Tennessee
15	Indiana	45	Texas
16	Iowa	46	Utah
17	Kansas	47	Vermont
18	Kentucky	48	Virginia
19	Louisiana	49	Washington
20	Maine	50	West Virginia
21	Maryland	51	Wisconsin
22	Massachusetts	52	Wyoming
23	Michigan	53	American Samoa
24	Minnesota	54	Guam
25	Mississippi	55	Virgin Islands
26	Missouri	56	Trust Territories
27	Montana		
28	Nebraska		
29	Nevada		
30	New Hampshire		

DATA DICTIONARY

Definition: COUNTY CODE is a four-digit numeric county identifier. The county codes are derived from the SAROAD Manual.

Retrieval Abbreviation	CNTY	Valid Values: All county codes must be present on the CDS County Code/AQCR table.	
Card Type	10, 51, 52, 60, 70, 71, 72, 80		
Card Columns	5-8		
Data Element Length	4		
Data Type	NUMERIC		
Justified	LEFT	Masterfile Record Type	20, 21, 30, 34, 35, 46, 47
Required New Entry	YES	Masterfile Position	5-8
Nationally Controlled	YES	Masterfile Length	4

Edit Error Messages:

***INCORRECT COUNTY CODE FOR STATE

*** = Fatal Error * = Warning Error

Coding Considerations:

Please contact the National DBC to update the county code file. County code must be present on all transactions; it cannot be changed or blanked out on the database.

Definition: SOURCE NUMBER is a five-digit numeric facility identifier.

Retrieval Abbreviation	SRCE	Valid Values: All numeric values	
Card Type	10, 51, 52, 60, 70, 71, 72, 80		
Card Columns	9-13		
Data Element Length	5		
Data Type	NUMERIC		
Justified	LEFT	Masterfile Record Type	20, 21, 30, 34, 35, 46, 47
Required on New Entry	YES	Masterfile Position	9-13
Nationally Controlled	NO	Masterfile Length	5

Edit Error Messages:

***SOURCE NUMBER MUST BE NUMERIC

*** = Fatal Error * = Warning Error

Coding Considerations:

The first digit of the CDS Source Number must correspond to the Air Program Code. For sources subject to more than one air program, the last four digits of the CDS Source Number must be entered the same. This can be done easily by using the NEDS source numbering convention: use the NEDS Cross-Reference Number (NEDS Plant ID). If the NEDS Cross-Reference Number is not available, the next highest sequential number within the county can be assigned.

Definition: CARD CODE is a one-digit numeric field which identifies the type of fixed-format information found on the CDS input punch card.

Retrieval Abbreviation	N/A	Valid Values:	
Card Type	10, 51, 52, 60,	10 = Source Record 51 = Monitor Record 52 = Monitor Record 60 = Monitor Comments 70 = Action Record 71 = Action Record (Excess Emissions Report) 72 = Action Record (Excess Emissions Report) 80 = Action Comment	
Card Columns	22-23		
Data Element Length	2		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	N/A
Required on New Entry	YES	Masterfile Position	N/A
Nationally Controlled	YES	Masterfile Length	N/A

Edit Error Messages:

*** INVALID CARD CODE

*** = Fatal Error * = Warning Error

Coding Considerations:

Card Colums 14-21 must contain zeros for card 10.
Card Columns 18-21 must contain zeros for cards 51,52 and 60.

Definition: LINE NUMBER is used by the computer to distinguish one comment line from another.

Retrieval Abbreviation	N/A	Valid Values: 0 through 9	
Card Type	60, 80		
Card Columns	27		
Data Element Length	1		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	35, 47
Required on New Entry	YES	Masterfile Position	27
Nationally Controlled	YES	Masterfile Length	1

Edit Error Messages:

***LINE NUMBER MUST BE NUMERIC

*** = Fatal Error * = Warning Error

Coding Considerations:

Assign line numbers sequentially. Before assigning a line number, refer to the Source Data Report to be sure the number you code is not already on the database for that particular emission point. Although Line Number is carried on the Masterfile, it is not a retrievable data element.

inition: COMMENTS can be used to place on the CEM Masterfile data which does not fit into any fixed card format.

Retrieval Abbreviation	N/A	Valid Values: All alphanumeric values.	
Card Type	60, 80		
Card Columns	28		
Data Element Length	52		
Data Type	ALPHANUMERIC		
Justified	LEFT	Masterfile Record Type	35, 47
Required on New Entry	NO	Masterfile Position	28-79
ıtionally ›ntrolled	NO	Masterfile Length	52

Edit Error Messages:

*** = Fatal Error * = Warning Error

Coding Considerations:

All comments can be retrieved on a Source Data Report and only action comments can be retrieved on an Action Summary Report.

Use: Card 60 for a point comment.
Card 80 for an action comment.

Do not use comment records to carry enforcement action information or compliance status information; other card types are available for these purposes.

Definition: UPDATE CODE tells the update program to add, change, or delete a transaction. This data element is not carried on the masterfile but serves to tell the update program what to do with other data on the input transaction.

Retrieval Abbreviation	N/A	Valid Values:	
Card Type	10, 51, 52, 60,	N = New	
Card Columns	80	C = Change	
Data Element Length	1	D = Delete	
Data Type	ALPHA	A = Add (Card 10 only)	
Justified		Masterfile Record Type	N/A
Required on New Entry	YES	Masterfile Position	N/S
Nationally Controlled	YES	Masterfile Length	N/A

Edit Error Messages:

***INVALID UPDATE CODE
***DO NOT DELETE POINT 000
***NO DATA IN COL 27-79 FOR DELETES

*** = Fatal Error * = Warning Error

Coding Considerations:

The CEM EDIT only validates the existence of the update code; it is the Update report which points out incorrect or illogical update codes.

Each card type has a corresponding record type on the CEM data base. If a card type 51, 60, 70, 71 or 80 has not already created a masterfile record type, it must be added as New. Each point, action, or comment record must be associated with a corresponding source record. Each point comment must be associated with a point. Each action must be associated with a point. Each action comment must be associated with an action. A new source is added to CEM with a card type 10, with an update code of "A".

Key data elements (region, state, county, source, point and action numbers cannot be changed. Other data elements can be changed by using the updat code "C". Only those record types which have been successfully added as new

prior to this update cycle can be changed. Only those data elements which are actually being changed need to be added on a change transaction. By coding an asterisk anywhere in a data field, that data field will be changed to spaces a values will be zeroed out).

The update code 'D' deletes one or more records on the CEM data base. A card type 10 delete will delete all masterfile records for a given source.

A card type 51 will delete a point together with all associated comments, actions, and action comments. Point 0000 cannot be deleted unless a card type 10 is used for the delete function.

A card type 70 or 71 will delete an action together with all associated action comments.

A card type 60 or 80 delete must have a valid line number. One delete card is needed to delete each comment line number.

If a 'D' is entered in column 80, no data may be punched in columns 27 through 79. This protects the data base against a mispunched delete update code.

APPENDIX B

MEMORANDUM: GUIDANCE CONCERNING EPA'S USE OF CONTINUOUS EMISSION MONITORING DATA; KATHLEEN M. BENNET, AUGUST 12, 1982

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

AUG 12 1982

OFFICE OF
AIR, NOISE AND RADIATION

MEMORANDUM

SUBJECT: Guidance Concerning EPA's Use of Continuous Emission Monitoring Data

FROM: Kathleen M. Bennett
Assistant Administrator for Air, Noise and Radiation

TO: Directors, Air and Waste Management Divisions, Regions II-IV, VI-VIII, and X

Directors, Air Management Divisions, Regions I, V and IX

This memorandum addresses EPA's use of Continuous Emission Monitoring (CEM) data in enforcement of NSPS and SIP emission and operating and maintenance (O&M) provisions and in other general EPA activities. It provides guidance as to when, as a legal matter, continuous emission monitoring constitutes the test method associated with an emission limitation. It is not intended to preclude the exercise of reasoned discretion by an enforcing agency based on a review of the representativeness of the data and the circumstances giving rise to the excess emissions.

Use of CEMs that are Specified as the Source Compliance Test Method

In each instance where CEMs have been promulgated or approved by the Agency as an official method to determine source compliance with the applicable emission limitations, the Agency can rely upon CEM data when making compliance determinations. CEMs have been specifically prescribed as the method to establish emission violations for one or more pollutants in the following instances:

- NSPS electric utility steam generating units, regulated by 40 CFR Part 60 Subpart Da;
- NSPS primary nonferrous smelters, regulated by 40 CFR Part 60 Subparts P, Q and R;
- NSPS stationary gas turbines, regulated by 40 CFR Part 60 Subpart GG;
- various sources regulated by permits, orders, or consent decrees in which CEM has been specifically designated as the test method;

(Continued)

- various types of sources which are regulated by SIPs (e.g., Nevada SIP, 40 CFR §52.1475(d)) where the State has specified CEM as the test method.

Some sources object to EPA's reliance upon CEM data to enforce SIP emission provisions for source categories for which EPA has not specified the use of CEMs in comparable NSPS regulations. Such an objection is not legally supportable, since States have the right to specify their own methods in their SIPs, even if they are different from those imposed by EPA for NSPS sources. Section 1.0 of Appendix P to 40 CFR Part 51 delineates that SIPs may specify that CEM data be used "directly or indirectly for compliance determinations or any other purpose deemed appropriate by the State." The Agency can rely upon CEM data for compliance determinations whenever such methods are specified in the EPA-approved SIP.

Use of CEMs in SIPs where an Emission Compliance Test Method is Not Specified

There are some instances when SIPs do not specify a compliance test method. When that occurs, the applicable regulation, 40 CFR §52.12(c)(1), states that for the purpose of Federal enforcement:

> "sources subject to plan provisions which do not specify a test procedure... will be tested by means of the appropriate procedures and methods prescribed in Part 60 of this chapter; unless otherwise specified in this part."

Generally, Part 60 does not specify CEM as the compliance test method and therefore EPA cannot use CEM data to determine source compliance with a SIP emission limitation. However, in accordance with §52.12(c)(1), CEM data would be the applicable test method for the two categories of sources for which it is the NSPS performance test method, nonferrous smelters (as in Subparts P, Q and R); and stationary gas turbines (as in Subpart GG).

The Agency shall rely upon CEM data to determine a source's compliance status with a SIP emission limit for smelters (for SO_2) and for stationary gas turbines (for NO_x). Since CEM is the only compliance test method specified in Part 60 for these source categories, CEM is clearly the "appropriate" method under Part 60 for purposes of §52.12(c)(1).

In addition, there is some ambiguity regarding the appropriate procedures for fossil-fuel-fired steam generators prescribed in Part 60 because Part 60 contains two significantly different types of SO_2 and NO_x performance test methods. Specifically, Subpart D specifies

(Continued

Reference (stack test) Methods 6 and 7 as the performance test methods for SO_2 and NO_x emissions, respectively. However, Subpart Da specifies use of CEM data to determine compliance with the SO_2 and NO_x emission standards.

The Agency shall rely upon the performance test methods specified in Subpart D (Reference Methods 6 and 7) to determine a source's compliance status with SIP SO_2 and NO_x emission limits for fossil-fuel-fired steam generators. For this category of sources, it is more consistent with the development of the SIPs to use these methods since they are the traditional compliance test methods for this source category. (For new sources actually subject to Subpart Da, we would not expect this issue to arise since new source permits should specify the applicable test method.)

Use of CEM's where State Regulations Contain Discretionary Authority as to Compliance Test Methods

A problem in interpreting the SIP continually arises because most SIPs specify test methods (often adopting EPA methods by reference) but also allow for discretionary acceptance of an "equivalent" or an appropriate "alternative" by the State. Relying on such language, many States have accepted CEM data as an adequate demonstration of compliance and have used such data to determine the existence of a violation.

Since EPA's enforcement authority is guided by State regulations specifically approved in the SIP, questions have been raised as to whether EPA will independently apply State discretionary authority and interpret what is reasonable as an "equivalent" or "alternative" compliance test method, or, if not, whether EPA may follow the State's lead, if the State chooses to allow CEM as the test method.

The answer is that EPA will not independently exercise such authority. Only when the State has exercised such authority to adopt CEM as a test method and when the exercise of that authority has been reflected in the SIP, will EPA use CEM as the test method.

Use of CEM Data for Determining Potential Operations and Maintenance (O&M) Violations

NSPS regulations (40 CFR 60.11(d)) specify that "at all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information

(Continued)

available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source." Many SIP's have similar provisions requiring proper operation and maintenance. Use of CEM data, while not necessarily conclusive, is a valid indicator of compliance with requirements such as §60.11(d) and can be used as such.

Use of CEMs as a General Compliance Monitoring Tool

CEMs can provide the Agency with useful data for circumstances other than those delineated above. For instance, CEM data can be used to: (1) screen a source's compliance status (with both emission limitations and O&M requirements); (2) select which sources should be inspected or compliance (stack) tested; (3) document the severity (e.g., duration, magnitude and frequency) of a source's excess emissions; and (4) document that a compliance test was performed during "non-representative" operating conditions.

APPENDIX C

FINAL TECHNICAL GUIDANCE ON THE REVIEW AND USE OF EXCESS EMISSION REPORTS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OCT 5 1984

OFFICE OF
AIR AND RADIATION

MEMORANDUM

SUBJECT: Final Technical Guidance on the Review and Use of Excess Emission Reports

FROM: Director
Stationary Source Compliance Division
Office of Air Quality Planning and Standards

TO: Directors, Air and Waste Management Division
Regions II, IV, VI-VIII, and X

Directors, Air Management Division
Regions I, III, V, and IX

This memorandum presents final technical guidance on the review and use of Excess Emission Reports (EERs) being submitted by NSPS Subpart D sources and others where the monitoring data are not used directly to determine compliance with the emission limits. This guidance is in direct support of the Agency's Continuous Compliance Strategy and SPMS items A/ER-8 thru 10 for FY 1985. The guidance may be helpful to State/local agencies as well and may be forwarded at the discretion of each Region.

On August 3, 1984, a draft of this guidance was distributed to the Regional Offices and interested Headquarters Offices. Comments were received from six Regional Offices, three Headquarters offices, and the State of Wisconsin. In general, these comments were very supportive of the draft, included a number of detailed suggestions for improvement, and encouraged the expeditious issuance of final guidance. We recognize that the FY 1985 continuous emission monitoring system (CEMS) program is a major initiative for many of the Regions and is based to a large extent on the availability of this guidance. Therefore, we have judged it appropriate to issue the guidance now and to supplement the guidance as appropriate in an EER "Users Handbook" during FY 1985.

A discussion of the major areas of comment and the responses received to the questions posed in the August 3rd memorandum is presented in the following sections.

I. MAJOR COMMENTS

A. Form of Guidance/Regional Office Responsibilities

The subject document is intentionally being issued as "technical guidance" rather than as "program guidance", providing a great deal of detailed information, forms, and example decision criteria adaptable to a wide range of circumstances. We recognize that since the CEMS program is a relatively new program for most Regional Offices, program-related issues will also arise. Such issues are outside the scope of this guidance and will be addressed separately.

B. Importance of EER Review and Use

Based upon the experience of some Regional Offices, particularly Region V's, SSCD revised the text of the draft to emphasize the three primary EER activities of: (1) inventory development; (2) assessment of source compliance with the CEMS installation and operation requirements; and (3) review and use of EERs. This doesn't mean that other elements of the program to acquire valid, representative data are unimportant. It's just that such activities (e.g., performance specification testing) are solely the responsibility of the source, not the Agency. By the Agency primarily concentrating its CEMS program resources on EERs review and follow-up, most sources will find that it is in their own best interest to achieve all of the CEMS requirements, and to verify the quality of their data before submitting it to the Agency.

II. RESPONSES TO SSCD's EER QUESTIONS

A. Dual Reporting of EERs to State and Federal Agencies

In general, commenters supported the need for a limited period of dual reporting. They stressed that EPA should initially obtain and (at least) spot-check duplicate copies of EERs from sources in States which have received NSPS delegation in order to conduct effective oversight audits of the State's enforcement of the CEMS regulations. Furthermore, they strongly supported the concept of reducing the quantity of dual reporting and the level of oversight audits once the State had demonstrated its ability to implement the program. Subsequent oversight could be achieved by receiving and reviewing a small, random fraction of a State's EERs or by receiving summary reports from the State. (Regional Offices and their States are free to establish any mutually-acceptable arrangement consistent with assuring, at a minimum, accomplishment of the FY 1985 SPMS requirements.)

B. Source Submission of Summaries of Their Excess Emissions

Commenters strongly supported the concept of requiring the sources to include summaries of their excess emissions in their quarterly EERs. They also supported the idea of specifying a standard format, content, and reason codes for the summaries as well as the traditional EER data in order to minimize the burden upon agencies and sources. The commenters also strongly supported our recommendations that: (1) all CEMS-affected sources should initially submit both the summaries and the traditional EERs; and (2) once a source demonstrated its commitment and capability to implement a high quality CEMS program, their reporting burden might be reduced to submission of only the summary data portion of the EER report.

The comments included a wide range of recommendations on how the Agency should proceed to obtain source submission of the summary data from the sources. These included: (1) use of §114 letters on a case-by-case basis or in a national promulgation; (2) a regulatory revision; and (3) simply thorough implementation of this guidance.

SSCD intends to work with ESED and other parts of the Agency to develop a consensus on which changes should be made to the reporting requirements and how to proceed most effectively. Careful consideration of the requirements of the Paperwork Reduction Act is an essential element of this review.

C. Applicability of Guidance to Subpart Da Sources

Most respondents to our question on this subject indicated that, based on their limited experience, they thought that the proposed guidance would assist them in reviewing CEMS compliance reports from Subpart Da and other sources where the monitor provides compliance data. A few commenters volunteered their assistance and recommended that the Agency obtain some additonal experience before it attempts to develop a guideline on this subject. One Regional Office with considerable CEMS program experience stated that, "We do not think the discretionary, probabilistic, comparative philosophy of this screening strategy is appropriate for sources subject to clear requirements for self-documenting their continuous compliance status". We agree with this statement and with the need to obtain additional experience before guidance is developed. Accordingly, the draft guidance was not changed with respect to its inapplicability to Subpart Da or other sources where the CEMS is the compliance method.

In summary, the comments received on the draft guidance urged that final guidance be issued as soon as possible, incorporating relatively few major changes to the draft. SSCD intends to

continue to support the program by issuing supplementary information and program guidance. Furthermore, SSCD plans to work with other elements of the Agency to try to address the remaining issues such as revision of the EER reporting requirements and possible applications of CEMS as the compliance method on additional source categories.

Edward E. Reich

Attachment

cc: J. Farmer, Director, ESED
D. Tyler, Director, CPDD
E. Salo, OGC
M. Alushin, OECM
Air Branch Chiefs, Regions I-X
Air Compliance Branch Chiefs, Regions II, III, V, VII, IX
Directors, Environmental Services Division, Regions I-X