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**OREGON EMISSION
INVENTORY DATA
CONVERSION TO
NEDS**

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

OREGON EMISSION INVENTORY DATA CONVERSION TO NEDS

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1.0 INTRODUCTION AND BACKGROUND

1.1 GENERAL DESCRIPTION OF THE NATIONAL EMISSIONS DATA SYSTEM (NEDS)

The National Emissions Data System (NEDS) was designed by the Office of Air Programs of the Environmental Protection Agency to be a central repository for all emissions inventory data. These data have for many years been stored by local or state agencies in forms ranging from hand-written entries on three by five index cards to highly sophisticated computer storage systems. As control officials began to recognize that air pollution problems knew no jurisdictional boundaries, they began to feel the need for a centralized data storage system in a standardized format which could be easily understood by everyone. NEDS was fashioned with these goals in mind.

When fully operational, NEDS will give air pollution officials at all levels an extremely valuable tool with which they can ascertain among other things:

- Where their problem areas lie
- The effect of existing control regulations
- The effect of proposed control regulations

The system will be easily accessible to all officials who have a need for the detailed data contained in the system. Additionally, abbreviated summaries will serve as a source of quick reference data whenever detailed data is not needed. The designers of the system designated a great amount of thus far unformatted storage space for use by the Regional or State agencies to store data uniquely related to their specific needs. This portion of the system is called the NEDS Variable Data Subsystem, and together with the basic system itself, should more than adequately satisfy all emission inventory related needs.

1.2 INITIAL DATA ACCUMULATION EFFORT

Since the inception of NEDS, the major concern of the Environmental Protection Agency has been the accumulation of an acceptable data base. Much of the work has been done by personnel from the Office of Air Programs,

but a great deal of it has been contracted out to private contractors. A task of this nature is beset with many inherent problems. In its development stages, the manual describing the NEDS system and its coding procedures was inadequate in many areas and left room for a great amount of personal interpretation of the rules. The fact that many different individuals were trying to use this manual further contributed to a lack of one of the principal goals of NEDS -- standardization. Other problems developed from the fact that many state inventories (the source of the initial data which were input to NEDS) were in various states of completeness, correctness, and currency.

After the state inventory data were converted to NEDS format, the NEDS inventories were submitted to the states for verification. Not surprisingly, in light of the above discussion of problems encountered, as well as the fact that the state personnel were unfamiliar with NEDS, many states were totally unable to find any correlation between the NEDS inventory, and their own. This posed a serious problem for EPA. Their solution, in the case of Oregon is the subject of the remainder of this report.

1.3 NEED FOR FURTHER EFFORT

Oregon was one of the states in which no correlation between the two inventories could be found. Not only could they establish no relationship between individual sources of emissions, but the Oregon agency was unable to make their plant-site or county totals agree with those of NEDS. It was obvious that a major updating and correcting effort was required before the Oregon NEDS data could be used for any purpose at all.

Partially because of the size of the Oregon inventory, EPA decided that another manual attempt at compiling a detailed emission inventory would be fruitless. Since the Oregon system contained many of the data elements required by NEDS with only minimal reformatting needed, EPA's Region X personnel agreed to attempt a computerized conversion to NEDS format.

Under an existing Emissions Inventory Basic Ordering Agreement (BOA), TRW was awarded a contract to develop and implement a computer program

which could read the Oregon data files and convert the data present to a format which was acceptable for input to the NEDS system. Section 2.0 of this report deals with the methodology used to develop this program.

2.0 PROGRAM DEVELOPMENT

2.1 THE OREGON DATA STORAGE SYSTEM

The Oregon data storage system is divided into two separate files. One file, called the Registration (abbreviated REG) File contains information about a plant site. This includes name and address, UTM coordinates, person to be contacted on air pollution matters, etc. The other file is the BEC File, and it contains information unique to a specific piece of equipment within a plant. Items stored in this file included emission rates, process rates, pollution control equipment, etc. To obtain all the information available about a particular source, it is necessary to examine two records -- one from each file.

The first step in the process of developing the conversion program was the investigation of the existing data storage system presently in use in Oregon. Table 2-1 shows the data elements contained in the Oregon system indicating their applicability to the NEDS system. Data elements required by NEDS are listed in Table 2-2 along with an indication of whether they are present in the Oregon system.

2.2 CONVERSION OF THE DATA

Some of the data elements in the Oregon system could be transferred directly to NEDS format with no change. However, much of the data required some degree of conversion. Following is a discussion of each of the three tables used by the program to convert the data which could not be used directly.

CITY/COUNTY Conversion Table - The Oregon System stores a two-digit number indicating the county in which a source is located, and another indicating the city. These two two-digit numbers are combined by the program to form a four-digit number (county first, then city), and this number is used as the argument for entering the CITY/COUNTY Conversion Table (Table 2-3). Since the Oregon system contains data on some sources in the State of Washington, code conversions for Washington (first two digits greater than or equal to 40) are included in the table. From this table, the

TABLE 2-1
Applicability of Oregon Data Elements to NEDS

<u>Applicability*</u>	<u>Data Elements</u>
A/c	County Number
A	Sequence Number
	SIC Number
A/c	Date of Record
A	Firm Name
A	Firm Mailing Address
A/c	City Code
	Zip Code
A/c	UTM Zone Code
A/c	UTM X-Coordinates
A/c	UTM Y-Coordinates
	Number of BEC cards
A	Air Pollution Contact
	Job Title Code
	Phone Number
	Primary Product
	Secondary Product
	Number of Employees
	Enclosed Floor Space
	Code for Space Heating Energy Source
	Refuse Disposal Method
	Haulaway Refuse
	Hourly Process Rate
	UTM Grid Number
	BEC Number
	ID Number
	Primary or Secondary Fuel Consumption Code
A/c	Type Factor
	Number of Identical units
	Reinspect Interval
A/c	Primary Control Equipment Code
A/c	Secondary Control Equipment Code
	Tertiary Control Equipment Code

TABLE 2-1 (Cont.)

	Height Above the Ground
	Ground Elevation Above Sea Level
A/c	Annual Process Weight
	Low Reactive HC Emissions
	High Reactive HC Emissions
A	Total Organic Emissions
	Fine Particulate Emissions
A	Total Particulate Emissions
A	NO _x Emissions
A	SO _x Emissions
A	CO Emissions
	Other Inorganic Emissions

* A = Directly applicable to NEDS

A/c = Applicable with conversion

TABLE 2-2
Presence of NEDS Data Elements in Oregon System

<u>Presence*</u>	<u>NEDS Data Elements</u>
P/c	State
P/c	County
P/c	AQCR
P	Plant ID
P/c	City
P/c	UTM Zone
P/c	Year of Record
P	Name and Address
P	Contact-Personal
	Ownership
	Point ID
P/c	SIC
P/c	IPP Process
P/c	UTM Coordinates
	Stack Data
	Boiler Design Capacity
P/c	Primary Particulate Control Equipment
P/c	Secondary Particulate Control Equipment
	Other Pollutants Control Equipment
	Estimated Control Efficiencies
	Percent Annual Throughput
	Operating Schedule
P	Emission Estimates
P/c	Emission Estimate Methods
	Percent Space Heat
	Compliance Data
P/c	SCC
P/c	Process Rate
	Maximum Design Rate
	Fuel Parameters
P/c	Source Type
	Confidentiality

* P = Present in Oregon System

P/c = Present after some conversion

TABLE 2-3

CITY/COUNTY Conversion Table

<u>Oregon</u>	<u>NEDS County</u>	<u>NEDS AQCR</u>	<u>NEDS City</u>	<u>Oregon</u>	<u>NEDS County</u>	<u>NEDS AQCR</u>	<u>NEDS City</u>
0100	0120	191		0364	0260	193	
0104	0120	"	0100	0367	"	"	
0110	0120	"		0370	"	"	1880
0112	0120	"		0373	"	"	
0114	0120	"		0400	0280	192	
0120	0120	"		0402	"	"	0080
0122	0120	"		0405	"	"	
0200	0200	193		0409	"	"	
0204	0200	"	0380	0412	"	"	
0208	0200	"		0417	"	"	
0210	0200	"		0420	"	"	
0300	0260	"		0500	0300	193	
0304	"	"		0504	"	"	
0307	"	"		0507	"	"	
0310	"	"		0510	"	"	
0313	"	"	0245	0513	"	"	
0316	"	"		0516	"	"	
0319	"	"		0519	"	"	
0322	"	"		0522	"	"	
0325	"	"		0525	"	"	
0328	"	"		0528	"	"	1560
0331	"	"	0640	0531	"	"	
0334	"	"		0534	"	"	
0337	"	"		0537	"	"	
0340	"	"	0990	0600	0320	194	
0343	"	"	1200	0604	"	"	
0346	"	"		0607	"	"	0340
0349	"	"		0610	"	"	0360
0352	"	"		0613	"	"	
0355	"	"	1380	0616	"	"	1260
0358	"	"		0619	"	"	1320
0361	"	"		0622	"	"	

TABLE 2-3 (Cont.)

0700	0420	190		1225	0660	191	
0704	"	"	1480	1300	0720	191	
0800	0440	194		1304	"	"	0240
0804	"	"	0220	1307	"	"	
0810	"	"		1400	0820	190	
0814	"	"		1404	"	"	
0900	0500	190		1407	"	"	0800
0904	"	"	0180	1500	0840	194	
0910	"	"	1500	1502	"	"	0060
0913	"	"		1505	"	"	
1000	0520	194		1508	"	"	0250
1004	"	"		1511	"	"	
1007	"	"		1514	"	"	
1010	"	"		1517	"	"	
1013	"	"		1520	"	"	1160
1015	"	"	1250	1523	"	"	
1018	"	"		1526	"	"	
1021	"	"	1520	1529	"	"	
1024	"	"		1600	0860	190	
1027	"	"	1540	1602	"	"	
1030	"	"	1690	1606	"	"	
1033	"	"		1609	"	"	
1036	"	"		1700	0880	194	
1100	0620	191		1704	"	"	
1102	"	"		1707	"	"	0680
1105	"	"		1800	0920	190	
1108	"	"		1804	"	"	
1200	0660	191		1807	"	"	
1204	"	"		1810	"	"	0940
1207	"	"		1813	"	"	
1210	"	"		1816	"	"	
1213	"	"		1900	0980	190	
1216	"	"		1906	"	"	1000
1219	"	"		1909	"	"	
1222	"	"		2000	1020	193	

TABLE 2-3 (Cont.)

2006	1020	193		2316	1120	191	
2009	"	"	0400	2400	1140	193	
2012	"	"		2402	"	"	
2015	"	"		2405	"	"	
2018	"	"	0560	2411	"	"	
2021	"	"		2414	"	"	
2024	"	"		2417	"	"	
2027	"	"		2420	"	"	
2030	"	"	1350	2423	"	"	
2033	"	"	1680	2426	"	"	
2036	"	"		2429	"	"	
2100	"	"		2432	"	"	
2106	1060	192	1065	2435	"	"	
2109	"	"	1300	2438	"	"	1580
2115	"	"	1300	2441	"	"	
2118	"	"	1760	2444	"	"	1660
2121	"	"		2447	"	"	1685
2124	"	"		2450	"	"	
2200	1080	193		2453	"	"	
2202	"	"	0020	2456	"	"	1920
2205	"	"		2500	1220	191	
2208	"	"		2504	"	"	
2211	"	"		2507	"	"	
2214	"	"	1040	2510	"	"	
2217	"	"		2513	"	"	
2220	"	"		2516	"	"	
2223	"	"		2600	1240	193	
2236	"	"		2602	"	"	
2229	"	"	1700	2605	"	"	
2232	"	"		2608	"	"	0700
2300	1120	191		2611	"	"	
2304	"	"		2614	"	"	1460
2307	"	"		2617	"	"	
2310	"	"	1340	2620	"	"	
2313	"	"	1360	2700	1440	193	

TABLE 2-3 (Cont.)

2704	1440	193	0460	3119	1800	191	
2707	"	"		3122	"	"	
2710	"	"	0830	3125	"	"	
2713	"	"	1210	3200	1820	191	
2800	1640	190		3204	"	"	
2804	"	"		3207	"	"	
2807	"	"		3210	"	"	
2810	"	"		3213	"	"	
2813	"	"		3300	1840	190	
2900	1740	192		3302	"	"	
2904	"	"		3305	"	"	
2907	"	"		3308	"	"	
2910	"	"		3311	"	"	
2913	"	"		3314	"	"	
2916	"	"		3317	"	"	0255
2919	"	"	1720	3400	1860	193	
2922	"	"		3404	"	"	
3000	1780	191		3407	"	"	
3002	"	"		3410	"	"	0160
3005	"	"		3413	"	"	
3008	"	"		3416	"	"	
3011	"	"		3419	"	"	
3014	"	"	0760	3422	"	"	
3017	"	"	1180	3425	"	"	0580
3020	"	"	1420	3428	"	"	
3023	"	"		3431	"	"	
3026	"	"		3434	"	"	0780
3029	"	"		3437	"	"	
3032	"	"		3440	"	"	
3100	1800	191		3443	"	"	
3104	"	"		3446	"	"	
3107	"	"		3449	"	"	
3110	"	"		3452	"	"	1710
3113	"	"		3455	"	"	
3116	"	"	0960	3458	"	"	

TABLE 2-3 (Cont.)

3500	1900	191		4390	0300	227	2340
3504	"	"		4400	0340	228	
3507	"	"		4426	"	"	
3510	"	"		4466	"	"	1600
3600	1940	193		4476	"	"	
3602	"	"		4500	0360	193	
3605	"	"		4506	"	"	
3608	"	"		4514	"	"	0240
3611	"	"		4544	"	"	
3614	"	"		4572	"	"	
3617	"	"	1100	4588	"	"	2220
3620	"	"	1280	4590	"	"	2320
3623	"	"		4596	"	"	
3626	"	"		4600	0440	062	
3629	"	"		4618	"	"	0500
4000	0040	062		4676	"	"	
4033	"	"		4700	0480	193	
4044	"	"		4714	"	"	
4060	"	"	1460	4740	"	"	
4072	"	"		4742	"	"	0920
4090	"	"		4744	"	"	1140
4100	0080	062		4790	"	"	
4102	"	"		4800	0520	227	
4114	"	"	0380	4806	"	"	
4200	0160	230		4822	"	"	
4206	"	"		4848	"	"	
4240	"	"	0940	4872	"	"	
4266	"	"	1660	4890	"	"	
4272	"	"	1780	4900	0680	227	
4290	"	"		4972	"	"	
4300	0300	227		5000	0720	230	
4314	"	"		5014	"	"	
4316	"	"		5040	"	"	
4322	"	"	0580	5048	"	"	
4344	"	"		5066	"	"	1500

TABLE 2-3 (Cont.)

5100	0760	062		5604	0980	229	0100
5166	"	"		5606	"	"	
5200	0820	062		5608	"	"	0120
5214	"	"		5610	"	"	
5222	"	"		5612	"	"	0170
5224	"	"	0620	5614	"	"	
5230	"	"		5616	"	"	0390
5231	"	"		5618	"	"	0510
5233	"	"		5620	"	"	
5240	"	"		5622	"	"	0600
5248	"	"		5633	"	"	
5250	"	"	1260	5635	"	"	
5270	"	"	1720	5637	"	"	0890
5272	"	"		5640	"	"	0960
5276	"	"		5642	"	"	1000
5290	"	"		5644	"	"	1090
5292	"	"		5648	"	"	1243
5294	"	"		5650	"	"	1246
5300	0840	228		5651	"	"	
5302	"	"	0020	5656	"	"	1340
5314	"	"		5658	"	"	
5322	"	"		5666	"	"	
5333	"	"	0860	5672	"	"	1750
5348	"	"		5674	"	"	1760
5350	"	"	1256	5676	"	"	1840
5360	"	"		5678	"	"	
5390	"	"		5680	"	"	
5400	0880	228		5682	"	"	2195
5414	"	"		5696	"	"	
5444	"	"		5700	1020	229	
5460	"	"	1360	5706	"	"	0180
5500	0900	228		5766	"	"	1620
5566	"	"	1640	5768	"	"	
5600	0980	229		5790	"	"	
5602	"	"		5800	1040	230	

TABLE 2-3 (Cont.)

5814	1040	230		6356	1380	227	
5822	"	"	0560	6360	"	"	
5840	"	"		6362	"	"	1420
5872	"	"		6364	"	"	
5876	"	"		6366	"	"	
5900	1060	230		6372	"	"	
5906	"	"		6382	"	"	
5930	"	"	0780	6384	"	"	
5990	"	"		6390	"	"	
6000	1100	193		6400	1480	228	
6014	"	"	0260	6437	"	"	
6016	"	"	0280	6444	"	"	
6048	"	"		6472	"	"	1740
6050	"	"		6476	"	"	
6056	"	"		6500	1540	227	
6066	"	"		6514	"	"	
6082	"	"		6537	"	"	
6088	"	"		6548	"	"	
6090	"	"		6550	"	"	
6100	1120	062		6556	"	"	
6102	"	"		6600	1560	229	
6114	"	"		6606	"	"	
6118	"	"		6608	"	"	0200
6133	"	"		6614	"	"	
6160	"	"		6618	"	"	
6172	"	"		6622	"	"	
6176	"	"		6626	"	"	
6190	"	"		6628	"	"	0700
6200	1220	228		6630	"	"	
6276	"	"	1900	6648	"	"	1250
6300	1380	227		6660	"	"	
6306	"	"		6666	"	"	1700
6314	"	"		6672	"	"	
6316	"	"		6674	"	"	
6322	"	"		6676	"	"	

TABLE 2-3 (Cont.)

6678	1560	229	2070	7080	2000	229	
6680	"	"	2100	7090	"	"	
6682	"	"	2140	7100	2060	062	
6690	"	"		7102	"	"	
6700	1820	228		7114	"	"	0320
6726	"	"		7118	"	"	
6800	1940	228		7126	"	"	
6802	"	"	0060	7144	"	"	
6806	"	"	0220	7148	"	"	1240
6814	"	"		7150	"	"	
6833	"	"		7172	"	"	
6844	"	"		7176	"	"	
6846	"	"		7178	"	"	2040
6848	"	"	1300	7190	"	"	
6876	"	"	1860	7200	2080	227	
6900	1960	193		7214	"	"	
6956	"	"		7216	"	"	0460
6976	"	"		7240	"	"	
7000	2000	229		7248	"	"	
7002	"	"		7256	"	"	
7006	"	"	0190	7276	"	"	
7018	"	"		7300	2180	228	
7022	"	"	0540	7306	"	"	
7024	"	"	0640	7344	"	"	1080
7030	"	"		7360	"	"	1400
7031	"	"		7372	"	"	
7037	"	"		7382	"	"	
7044	"	"		7384	"	"	2200
7046	"	"	1180	7396	"	"	
7048	"	"	1200	7400	2240	193	
7050	"	"	1253	7414	"	"	
7052	"	"	1280	7500	2280	230	
7054	"	"		7514	"	"	0420
7076	"	"	1980	7566	"	"	
7078	"	"		7590	"	"	

TABLE 2-3 (Cont.)

7592	2280	230	2260	7882	2460	230	
7600	2400	228		7884	"	"	
7606	"	"	0140	7886	"	"	
7608	"	"		7890	"	"	2300
7622	"	"		7896	"	"	2400
7626	"	"		7898	"	"	
7644	"	"	1160				
7656	"	"					
7676	"	"					
7700	2420	062					
7702	"	"					
7714	"	"	0400				
7716	"	"					
7722	"	"					
7726	"	"					
7730	"	"					
7744	"	"					
7746	"	"					
7748	"	"					
7760	"	"					
7766	"	"					
7768	"	"	1680				
7772	"	"					
7776	"	"					
7782	"	"					
7786	"	"					
7800	2460	230					
7830	"	"	0800				
7831	"	"					
7833	"	"					
7848	"	"					
7850	"	"					
7856	"	"					
7876	"	"	1880				
7878	"	"	2120				

program determines the NEDS county number, AQCR number, and city number (if applicable).

CONTROL DEVICE Conversion Table - Three two-digit numbers are stored in the Oregon system to indicate the type of primary, secondary, and tertiary pollution control equipment utilized by each source. The NEDS system only allows for the recording of a primary and secondary device. The primary and secondary numbers from the Oregon file are used as entering arguments for the CONTROL DEVICE Conversion Table (Table 2-4) to determine the correct NEDS control device number.

BEC/SCC Conversion Table (Appendix A) - The State of Oregon has designed a coding scheme whereby each piece of pollution generating equipment is given a three-digit number indicating the type of equipment and its use. They call this number the Basic Equipment Code (BEC). With a few exceptions, these BEC numbers correspond quite well with the eight-digit Source Classification Code (SCC) used in the NEDS system. Other data elements required by NEDS which can be determined from the BEC number are the Standard Industrial Classification (SIC), the Process Code, and the Source Type. The BEC number defines a unique process weight unit (i.e. tons, thousands of gallons, etc) for each type of equipment, and these are the units in which annual process weight is reported. The NEDS system operates in exactly the same way. Each SCC number defines the process weight units for that source. In most cases the SCC number which corresponds to a given BEC number requires the same units as the BEC. However, occasionally a conversion is required. The applicable conversion factor is also contained in the BEC/SCC conversion table. Quite often the NEDS SCC number does not thoroughly define the source, and comments are required. These comments are a part of the BEC/SCC conversion table.

The remainder of this section is devoted to an explanation of the source of each data element required by NEDS. It lists item by item each NEDS data element, followed by its source from the Oregon system.

TABLE 2-4
Control Device Conversion Table

<u>Oregon</u>	<u>NEDS</u>	<u>Oregon</u>	<u>NEDS</u>	<u>Oregon</u>	<u>NEDS</u>
00	000	34	007	68	002
01	019	35	007	69	002
02	021	36	0	70	002
03	021	37	0	71	002
04	023	38	0	72	002
05	023	39	0	73	005
06	021	40	005	74	047
07	021	41	005	75	047
08	0	42	008	76	002
09	0	43	008	77	002
10	048	44	0	78	002
11	048	45	0	79	002
12	048	46	0	80	012
13	048	47	0	81	012
14	048	48	0	82	011
15	040	49	0	83	011
16	048	50	017	84	010
17	0	51	017	85	010
18	0	52	017	86	010
19	0	53	017	87	010
20	049	54	017	88	0
21	049	55	017	89	0
22	050	56	0	90	0
23	052	57	0	91	0
24	051	58	0	92	015
25	001	59	0	93	0
26	0	60	002	94	0
27	0	61	001	95	0
28	0	62	001	96	0
29	0	63	002	97	0
30	005	64	002	98	0
31	005	65	002	99	0
32	009	66	002		
33	008	67	002		

- State - The NEDS state code is found using the county code in the REG file.

If county code = 1-36 state = 38 (Oregon)

If county code = 40-78 state = 49 (Washington)

- County - The NEDS county code is found using the county and city codes from the REG file, and the CITY/COUNTY conversion table.
- AQCR - The AQCR number is also found in the CITY/COUNTY conversion table.
- Plant ID Number - The last four digits of the Oregon emission inventory number (EI Number) are used for the plant ID.
- City - The NEDS city code is found in the CITY/COUNTY conversion table.
- UTM Zone - The UTM zone is obtained by using the zone code in the REG file.

If zone code = 0 UTM zone = 10

If zone code = 1 UTM zone = 11

- Year of Record - The year of record is obtained by using the last two digits of the date of record from the REG file.
- Establishment Name and Address - Since the NEDS system allows only 40 spaces for this information and the REG file uses 44 (20 for the name, and 24 for the address), it was necessary to drop four spaces. The last four spaces of the firm name were selected for elimination since they are less important than the last four of the address. Therefore, the NEDS name and address field is constructed by using the first 16 spaces of the name field and all 24 spaces of the address field found in the REG file.
- Contact-Personal - The name of the person to contact about air pollution matters comes directly from the REG file.
- Ownership - This information is not available from the Oregon system and is left blank by the program.
- Point ID - The point ID number is generated by the program starting with one and numbering consecutively within a facility.

- SIC - The SIC number is obtained from the BEC/SCC conversion table.
- UTM Coordinates - UTM coordinates are found in the REG file. However, the units are different. NEDS requires kilometers to one decimal place but Oregon stores them in meters (horizontal) and tens of meters (vertical). Therefore the numbers found in the REG file must be divided by 100 (horizontal) and 10 (vertical). These numbers are then printed onto the output NEDS coding form and are correct since there is an assumed decimal point in each field.
- Stack Data - No stack data are available from the Oregon file and these fields are left blank by the program.
- Boiler Design Capacity - Boiler capacity information is not available from the Oregon file. It is left blank for boiler sources, and a zero is entered for others.
- Control Equipment - Primary and secondary particulate control device codes are found in the control device conversion table. Information on devices for the other pollutants is not available in the Oregon system.
- Control Efficiencies - Control efficiencies are not stored in the Oregon system, and the program leaves these fields blank.
- Percent Annual Throughput - Percentage throughput data are not available from the Oregon system.
- Normal Operating - Operating schedules are not contained in the Oregon files.
- Emission Estimates - Annual emission estimates are taken directly from the BEC file. Particulate emissions are those given as total particulate in the BEC file, and hydrocarbons are those listed as total organic. If a BEC record indicates that it represents more than one identical unit, the emissions are divided by the number of units, and printed on the appropriate number of output forms.

- Estimation Methods - Estimation methods are printed only for pollutants which have a value greater than zero. The number used is based on the type factor in the BEC file.
 - If type factor = 1-4 print 5 (estimate based on a non-EPA factor)
 - If type factor = 5 print 1 (estimate based on a stack test)
- Percent Space Heat - Space heat data are not included in the Oregon files.
- Compliance Data - The compliance data which should be entered on card five is not available, and the entire line is left blank by the program.
- SCC - The SCC number is obtained from the BEC/SCC conversion table.
- Fuel, Process, Solid Waste Operating Rate - The annual process weight rate is taken from the BEC file and multiplied by the unit conversion factor in the BEC/SCC table to correct for any differences in units used. The resulting value is then divided by the number of identical sources which the BEC record represents, and then printed on an appropriate number of forms.
- Maximum Design Rate - Maximum design process rate is not available in the Oregon System.
- Fuel Parameters - Sulfur content, ash content, and heat content are not stored in the Oregon files. These fields are left blank for combustion sources and a zero is entered for all others.
- Comments - Any comments which are needed are taken from the BEC/SCC conversion table.
- Source Type - Source type is obtained from the BEC/SCC conversion table.
- Confidentiality - A two is entered in this field by the computer indicating that the source data is not confidential.

3.0 PROGRAM DESCRIPTION

3.1 PROGRAM ELEMENTS

Due primarily to the size of the BEC/SCC conversion table, the program requires a large amount of core space to run. To reduce this requirement, the program was divided into three subprograms; a file conversion program, a matching program, and a print program. The purpose of each program is described below, and a system flow chart is shown in Figure 3-1.

- File Conversion Program - The State of Oregon required that the program be written in COBOL. However, the emissions data and the annual process rates are stored in the BEC file in a format which cannot be read by a COBOL program. Therefore, before the COBOL portion of the program can operate, these values must be changed to a COBOL readable format. That is the purpose of this subprogram. The file conversion program reads the original BEC file and prints a converted BEC file on tape to be used with the original REG file by the next subprogram.
- BEC-REG Matching Program - This subprogram is the portion of the system which matches a BEC record with the corresponding REG records, extracts the required data from the two records, and creates the output NEDS form. All the output forms for the entire file are created and stored on tape for use by the following system. A detailed flow chart is presented in Figure 3-2.
- Print Program - This subprogram reads the file created by the matching program and prints the output NEDS form.

Even after dividing the system into three smaller subprograms, the matching program still requires 118 K of core space to run. Again, this is due primarily to the great size of the BEC/SCC conversion table. A possible method of reducing the core requirement would be to eliminate that portion of the CITY/COUNTY conversion table which deals with parts of Washington for which there are no sources in the Oregon file.

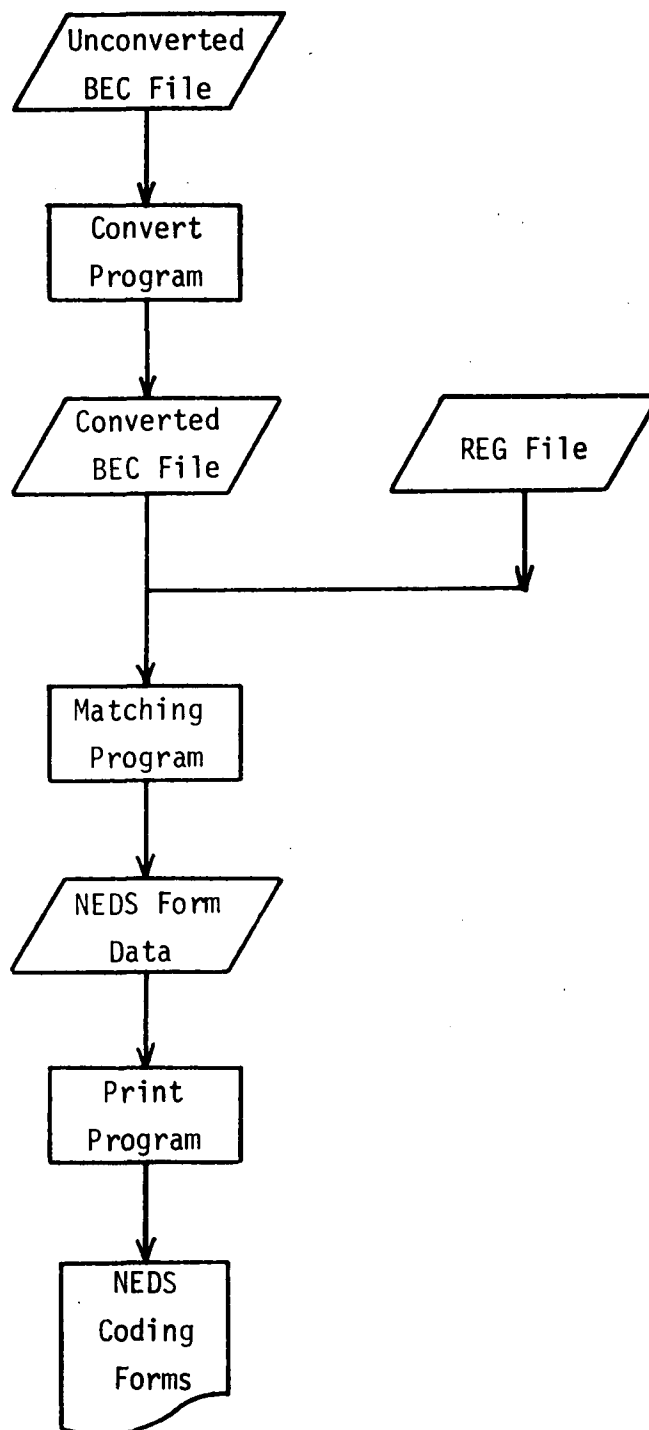
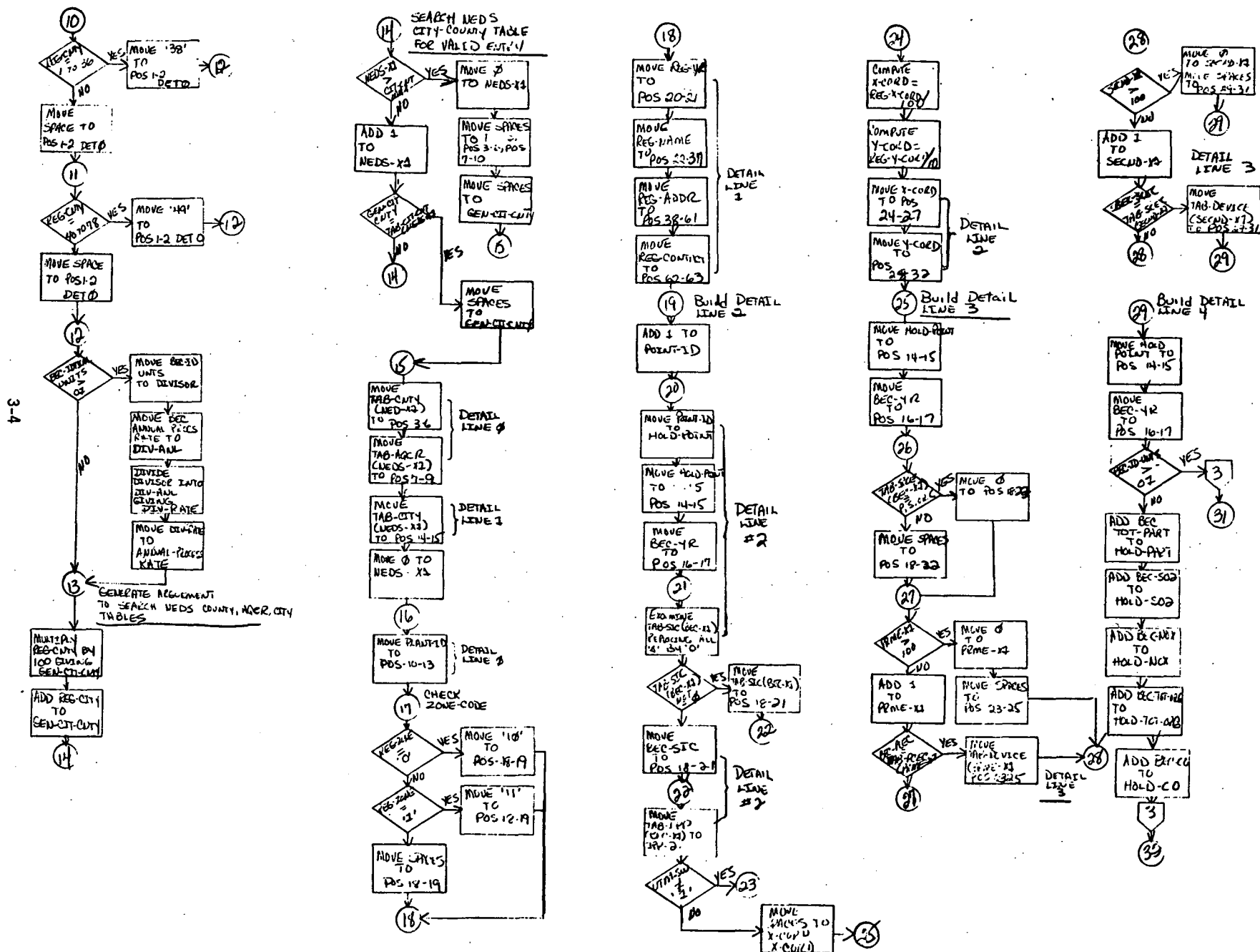


FIGURE 3-1
System Flowchart
3-2



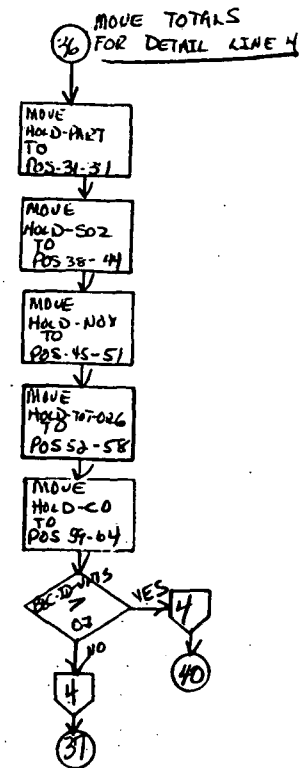
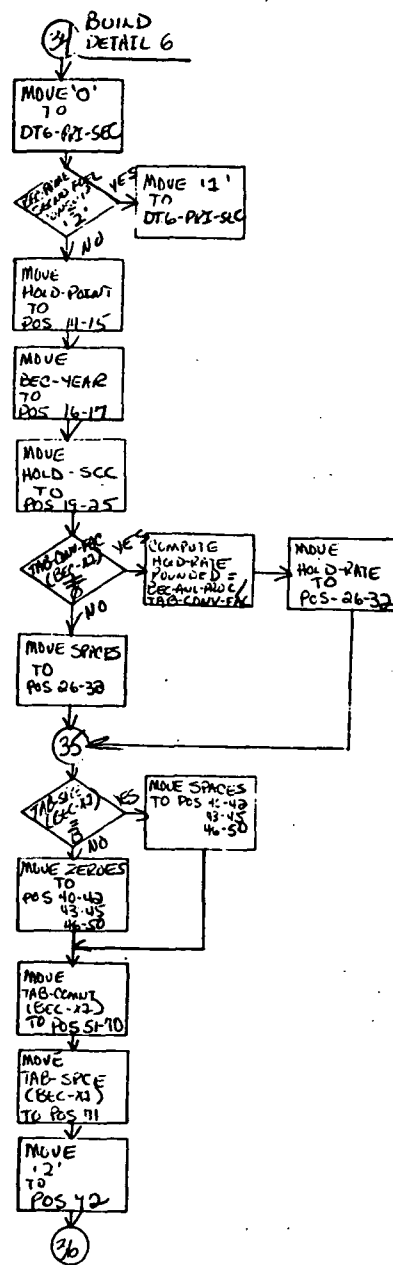
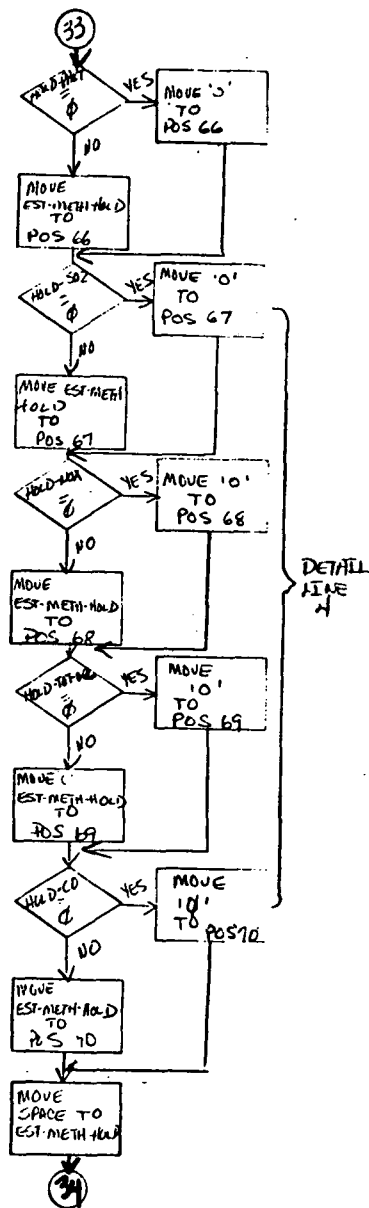
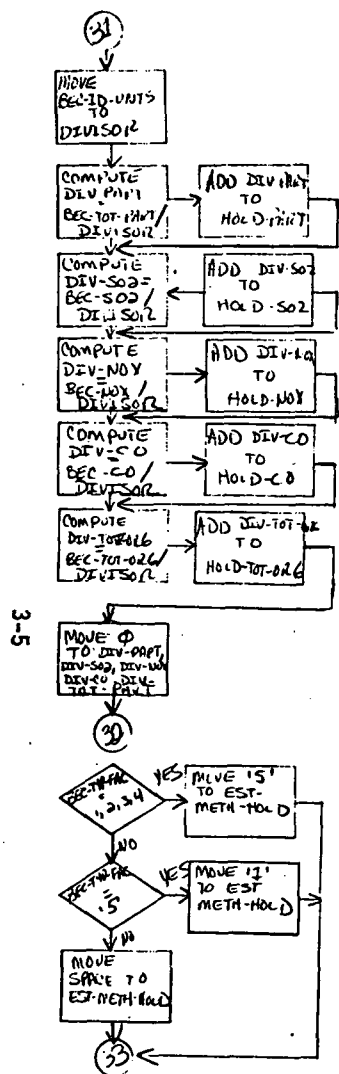


FIGURE 3-2 (Cont.)

THE FOLLOWING LOGIC IS USED TO GENERATE SCC IF THE SCC CODE OF THE BEC-SCC CONVERSION TABLE IS 1.

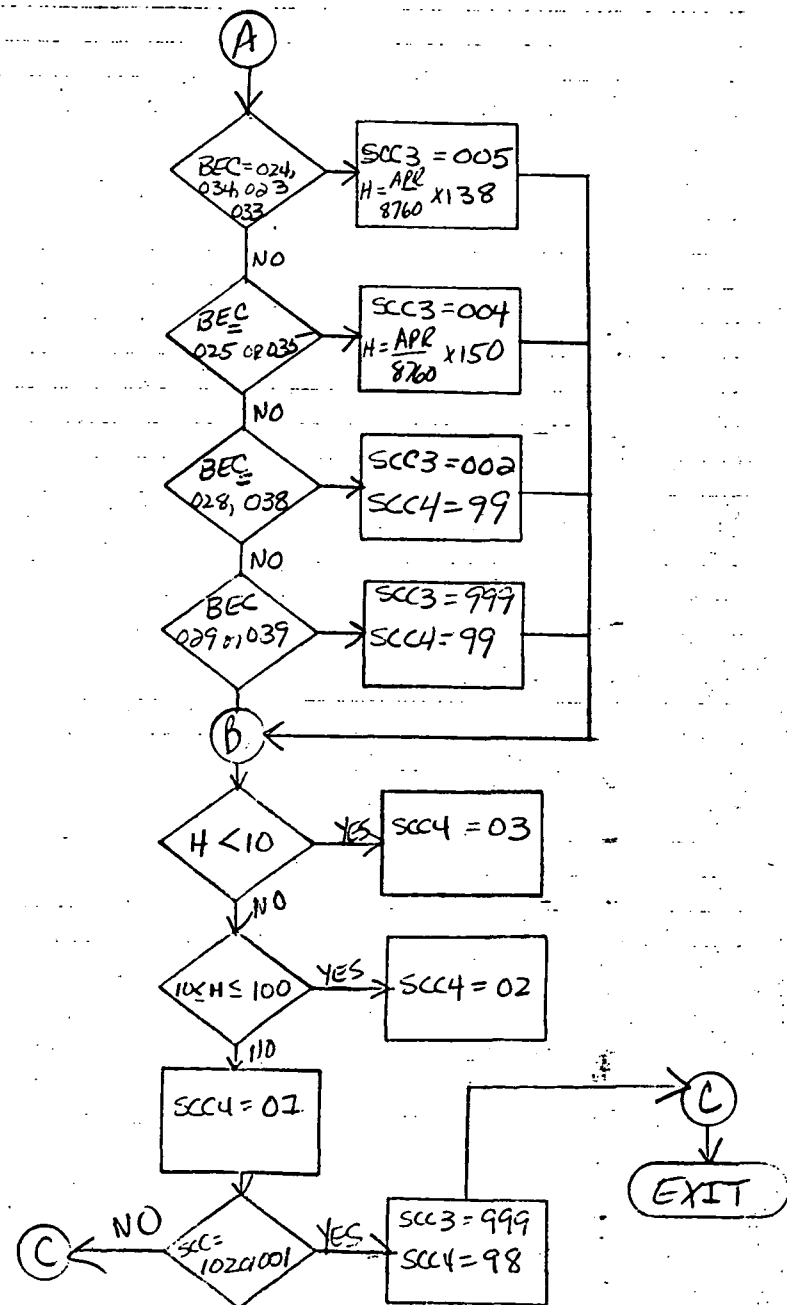
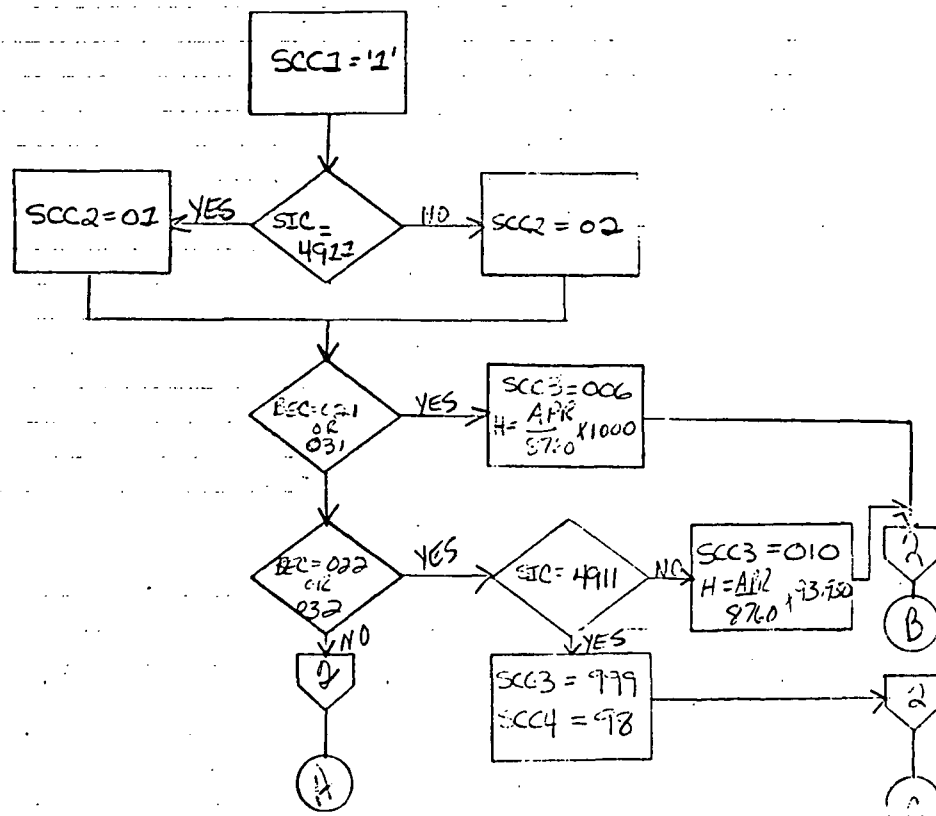
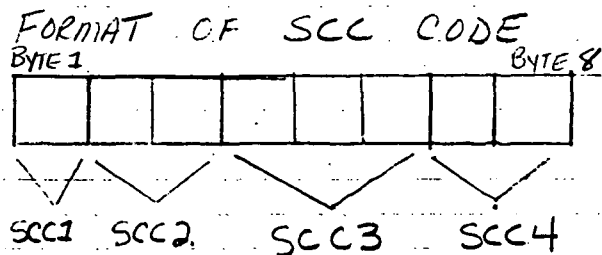


FIGURE 3-2 (Cont.)

3.2 INPUT AND OUTPUT

The required inputs to the program are the Oregon REG and BEC files. The program then processes all records in those files. If it becomes desirable in the future to have the program process only certain records, based on source type, source size, location, or any other parameter, it will be desirable to construct a small program which reads the existing files, and creates new files containing sources which meet the desired criteria. This is a better approach than to try to program all possible options into an already large space-consuming program.

The output from this program is a series of forms patterned after the NEDS coding form. All NEDS applicable data which are present in the Oregon system are printed out on the form, and blanks are left for coding the remaining data by hand. After coding the remaining data, the form can be used as a coding form and key punched from directly. The cards can then be input to the NEDS system. Figure 3-3 is a sample of the output from the system. The BEC Number and the ID Number (from the BEC file) are printed at the bottom of the output coding sheet in addition to the EI Number which is shown.

ST	COUN	AQCR	PL ID
38	0120	191	0002
12	3 6	7 9	10 13

CITY	ZN	YR	NAME AND ADDRESS	CONTACT	DWN	AP1
J100	11	71	ELLINGSON LUMBER3100 BROADWAY BAKER	J BROWN	-	---
14	17	1819	2021 22	61 62	73 74 75 77 78 80	

PT	YR	SIC	IP	X	Y	HT	DIA	TEMP	FLOW	PLUME	SAME	AP2
01	71	2421	00	4333	49580							---
1415	1617	18	21	2223	24 27 28	32 33	36 37 39	40 43 44	50 51	54 55	56 59 60	77 78 80

PT	YR	BTU	P1	P2	S1	S2	N1	N2	H1	H2	C1	C2	PE	SE	NE	HE	CE	AP3
01	71																	---
1425	1617	18	22	23 25 26 28	29 31	32 34	35 37	38 40	41 43	44 46	47 49	50 52	53 55	56 58	59 61	62 64	65 67 68	77 78 80

PT	YR	DJF	MAM	JJA	SON	HR	D	WK	PART	SOX	NOX	HC	CO	P	S	N	H	C	SPHT
01	71								102	0	85	21	17	5	0	5	5	5	
1415	1617	1819	2021	2223	2425	2627	28	2930	31	37 38	44 45	51 52	58 59	65 66	67 68	69 70	71 73 74 77		

PT	YR	AL PART	AL SOX	AL NOX	AL HC	AL CO	CS	YR	MO	YR	MO	DA	E	REG1	REG2	REG3	AP5
01	71																---
1415	1617	18	24 25	31 32	38 39	45 46	52 53	5455	5657	5859	6061	6263	64	65 68 69	72 73	76 77	78 80

PT	YR	SCC	PROC	MAX	SUL	ASH	HEAT	COMMENTS	ST	C	AP6
01	71	10200902	17000					BARK	8	2	---
1415	1617	18	25 26	32 33	39 40 42	43 45 46	50 51		70 71	72 73	77 78 80

E1 = 010003

FIGURE 3-3. Sample Output.

4.0 SUMMARY

This program serves the purpose of allowing the State of Oregon to maintain its existing data storage system in a form which adequately satisfies their needs. It gives them the capability of producing their inventory in NEDS format to meet any such requirements levied on them by EPA, such as semi-annual reporting. The program in no way affects the Oregon data system; it merely reads the existing files and operates on what it reads.

An attempt was made to write the program in such a way that it would be a relatively easy task to incorporate any future additions to it, or to eliminate portions which lose their usefulness in later years.

APPENDIX

DESCRIPTION OF THE BEC/SCC CONVERSION TABLE

The BEC/SCC Conversion Table is entered using the BEC number from the BEC file as an argument. The following NEDS data elements are extracted from the table.

- SCC Number - Some BEC numbers pertain to area source information. For these BEC's a zero is entered for the SCC number, indicating that the program should ignore these sources. Determination of certain SCC numbers for combustion sources requires the boiler rating. Since this value is unavailable from the Oregon file, it was necessary to calculate an assumed boiler size. This was done using the annual process rate, and an assumed heat content for each of the fuels burned. The assumed heat contents are

Residual Oil	150,000 BTU/gal
Distillate Oil	138,000 BTU/gal
LPG	93,950 BTU/gal
Natural Gas	1,000 BTU/cu. ft.

- SIC Number - The SIC number required by the NEDS system must be source-specific whereas the SIC number in the Oregon system is plant-specific. Therefore, wherever possible, the BEC number was used in this table to determine the proper SIC number. Where this was impossible, a zero was entered in the SIC column indicating to the program to use the SIC number in the BEC file. Area sources are also indicated in the BEC file by an SIC number of 999X. Any BEC record with such an SIC number is ignored by the program.
- IPP Process Code - This is a code which further defines some SIC numbers. Where applicable, this number is obtained from the table. Non applicability is indicated by a blank.
- Source Type - This is a data element required by NEDS, and is coded as follows:

P = Process Source

B = Boiler

S = Solid Waste Disposal Source

C = Combustion, other than a boiler or solid waste source

- Unit Conversion Factor - This factor is multiplied by the annual process rate in the BEC file to correct for differences in process units. A few of the Oregon units could not be converted to NEDS units. In these cases, zero was entered in the table to indicate to the computer that the process rate field on the NEDS form should be left blank.
- Comments - The comments found in the table are printed directly onto the NEDS form in the comments field.

The BEC/SCC conversion table is reproduced on the following pages. The left hand column is the BEC number, and the remaining columns contain the values described above, in the same order in which they are described-- SCC, SIC, IPP Process, Type, Unit Conversion Factor, and Comments. When reading the unit conversion factor, it must be understood that there is an assumed decimal point between the fifth and the sixth column (e.g. 000010000 = 1.0).

000,10200902,	0,00,B,000010000,HOG FUEL	,	
001,10200902,	0,00,B,000010000,SANDERDUST	,	
002,10200902,	0,00,B,000010000,SHAVINGS	,	
003,10200902,	0,00,B,000010000,SAWDUST	,	
004,10200902,	0,00,B,000010000,PULVERIZED WOOD	,	
005,10200902,	0,00,B,000010000,BARK	,	
006,10200902,	0,00,B,000010000,HOG FUEL/NATURAL GAS,	,	
007,10200902,	0,00,B,000010000,HOG FUEL/LP GAS	,	
008,10200902,	0,00,B,000010000,HOG FUEL/OIL	,	
009,	0,	, , ,000000000,	
010,10200902,	0,00,B,000010000,HOG FUEL	,	
011,10200902,	0,00,B,000010000,SANDERDUST	,	
012,10200902,	0,00,B,000010000,SHAVINGS	,	
013,10200902,	0,00,B,000010000,SAWDUST	,	
014,10200902,	0,00,B,000010000,PULVERIZED WOOD	,	
015,10200902,	0,00,B,000010000,BARK	,	
016,10200902,	0,00,B,000010000,HOG FUEL/NATURAL GAS,	,	
017,10200902,	0,00,B,000010000,HOG FUEL/LP GAS	,	
018,10200902,	0,00,B,000010000,HOG FUEL/OIL	,	
019,	0,	, , ,000000000,	
020,	0,	, , ,000000000,	
021,	1,	0,00,B,000010000,NATURAL GAS	,
022,	1,	0,00,B,000010000,LIQ PET GAS	,
023,	1,	0,00,B,000010000,GAS AND OIL	,
024,	1,	0,00,B,000010000,DIST OIL	,
025,	1,	0,00,B,000010000,RESID OIL	,
026,	0,	, , ,000000000,	,
027,	0,	, , ,000000000,	,
028,	1,	0,00,B,000010000,COAL	,
029,	1,	0,00,B,000010000,REFUSE	,
030,	0,	, , ,000000000,	,
031,	1,	0,00,B,000010000,NATURAL GAS	,
032,	1,	0,00,B,000010000,LIQ PET GAS	,
033,	1,	0,00,B,000010000,GAS AND OIL	,
034,	1,	0,00,B,000010000,DIST OIL	,
035,	1,	0,00,B,000010000,RESID OIL	,
036,	0,	, , ,000000000,	,
037,	0,	, , ,000000000,	,
038,	1,	0,00,B,000010000,COAL	,
039,	1,	0,00,B,000010000,REFUSE	,
040,	0,	, , ,000000000,	,
041,39000699,3260,	,C,000010000,CERAMIC KILN	,	
042,39099998,3260,	,C,000010000,CERAMIC KILN LPG	,	
043,39000599,3260,	,C,000010000,CERAMIC KILN GAS/OIL,	,	
044,39000499,3260,	,C,000010000,CERAMIC KILN	,	
045,39000599,3260,	,C,000010000,CERAMIC KILN	,	
046,39099999,3260,	,C,000010000,CERAMIC KILN WOOD	,	
047,	0,	, , ,000000000,	,
048,39000299,3260,	,C,000010000,CERAMIC KILN	,	
049,39099999,3260,	,C,000010000,CERAMIC KILN REFUSE	,	
050,	0,	, , ,000000000,	,
051,39000699,	0,	,C,000010000,HOT OIL HEATER	,
052,39099998,	0,	,C,000010000,HOT OIL HEATER LPG	,
053,39000599,	0,	,C,000010000,HOT OIL HETR GAS/OIL,	,
054,39000599,	0,	,C,000010000,HOT OIL HEATER	,
055,39000499,	0,	,C,000010000,HOT OIL HEATER	,
056,39099999,	0,	,C,000010000,HOT OIL HEATER WOOD	,
057,	0,	, , ,000000000,	,
058,39000299,	0,	,C,000010000,HOT OIL HEATER	,
059,39099999,	0,	,C,000010000,HOT OIL HEATER REFUS,	,
060,	0,	, , ,000000000,	,

061,39000699,	0,	,C,000010000,HEAT TREAT FCE	,
062,39099998,	0,	,C,000010000,HEAT TREAT FCE LPG	,
063,39000599,	0,	,C,000010000,HEAT TREAT FCE GS/OIL,	
064,39000599,	0,	,C,000010000,HEAT TREAT FCE	,
065,39000499,	0,	,C,000010000,HEAT TREAT FCE	,
066,39099999,	0,	,C,000010000,HEAT TREAT FCE WOOD	,
067,	0,	,,000000000,	,
068,39000299,	0,	,C,000010000,HEAT TREAT FCE	,
069,39099999,	0,	,C,000010000,HEAT TREAT FCE REFUS,	,
070,	0,	,,000000000,	,
071,39000699,	0,	,C,000010000,SPACE HEATER	,
072,39099998,	0,	,C,000010000,SPACE HEATER LPG	,
073,39000599,	0,	,C,000010000,SPACE HEATER GAS/OIL,	
074,39000599,	0,	,C,000010000,SPACE HEATER	,
075,39000499,	0,	,C,000010000,SPACE HEATER	,
076,39099999,	0,	,C,000010000,SPACE HEATER WOOD	,
077,	0,	,,000000000,	,
078,39000299,	0,	,C,000010000,SPACE HEATER	,
079,39099999,	0,	,C,000010000,SPACE HEATER REFUSE	,
080,	0,	,,000000000,	,
081,39000699,	0,	,C,000010000,WATER HEATER	,
082,39099998,	0,	,C,000010000,WATER HEATER LPG	,
083,39000599,	0,	,C,000010000,WATER HEATER GAS/OIL,	
084,39000599,	0,	,C,000010000,WATER HEATER	,
085,39000499,	0,	,C,000010000,WATER HEATER	,
086,39099999,	0,	,C,000010000,WATER HEATER WOOD	,
087,	0,	,,000000000,	,
088,39000299,	0,	,C,000010000,WATER HEATER	,
089,39099999,	0,	,C,000010000,WATER HEATER REFUSE	,
090,39000999,	0,	,C,000010000,MISC COMB HOG FUEL	,
091,39000999,	0,	,C,000010000,MISC COMB SANDERDUST,	
092,39000999,	0,	,C,000010000,MISC COMB SHAVINGS	,
093,39000999,	0,	,C,000010000,MISC COMB SAWDUST	,
094,39000999,	0,	,C,000010000,MISC COMB PULV WOOD	,
095,39000999,	0,	,C,000010000,MISC COMB BARK	,
096,39000999,	0,	,C,000010000,MISC COMB HOG/NATGAS,	
097,39000999,	0,	,C,000010000,MISC COMB HOG/LP GAS,	
098,39000999,	0,	,C,000010000,MISC COMB HOG/OIL	,
099,	0,	,,000000000,	,
100,30400102,3341,02,P,000010000,			,
101,30400202,3341,06,P,000010000,			,
102,30400202,3341,06,P,000010000,			,
103,30400330,3321,,P,000010000,			,
104,30400499,3369,,P,000010000,CRUCIBLE			,
105,30400699,3341,,P,000010000,CRUCIBLE			,
106,30400799,3323,,P,000010000,CRUCIBLE			,
107,30499999,3341,,P,000010000,TIN AND SOLDER CRUC			,
108,30400899,3369,,P,000010000,CRUCIBLE			,
109,30499999,3341,,P,000010000,MISC.METALS CRUCIBLE,			
110,30400199,3341,,P,000010000,CUPOLA			,
111,30400203,3341,,P,000010000,			,
112,30400203,3341,,P,000010000,			,
113,30400301,3321,01,P,000010000,			,
114,30400403,3369,01,P,000010000,			,
115,30400699,3341,,P,000010000,CUPOLA			,
116,30400799,3323,,P,000010000,CUPOLA			,
117,30499999,3341,,P,000010000,TIN AND SOLDER CUPOL,			
118,30400899,3369,,P,000010000,CUPOLA			,
119,30499999,3341,,P,000010000,MISC.METALS CUPOLA			,
120,30400199,3341,,P,000010000,ELECT.ARC			,
121,30400299,3341,07,P,000010000,ELECT.ARC			,

122,30400299,3341,07,P,000010000,ELECT.ARC ,
123,30400399,3321, ,P,000010000,ELECT ARC ,
124,30400499,3369, ,P,000010000,ELECT ARC ,
125,30400699,3341, ,P,000010000,ELECT ARC ,
126,30400701,3323,01,P,000010000, ,
127,30499999,3341, ,P,000010000,TIN & SOLDER ELECT ARC, ,
128,30400899,3369, ,P,000010000,ELECT. ARC ,
129,30499999,3341, ,P,000010000,MISC METAL ELECT ARC, ,
130,30400199,3341, ,P,000010000,ELECT INDUCT & RESIS, ,
131,30400204,3341,07,P,000010000, ,
132,30400204,3341,07,P,000010000, ,
133,30400303,3321, ,P,000010000, ,
134,30400499,3369, ,P,000010000,ELECT INDUCT & RESIS, ,
135,30400699,3341, ,P,000010000,ELECT INDUCT & RESIS, ,
136,30400705,3323,02,P,000010000, ,
137,30499999,3341, ,P,000010000,TIN & SOLDER ELECT IND, ,
138,30400899,3369, ,P,000010000,ELECT INDUCT & RESIS, ,
139,30499999,3341, ,P,000010000,MISC METAL ELECT IND, ,
140,30400199,3341, ,P,000010000,POT FURNACE ,
141,30400299,3341, ,P,000010000,POT FURNACE ,
142,30400299,3341, ,P,000010000,POT FURNACE ,
143,30400399,3321, ,P,000010000,POT FURNACE ,
144,30400401,3369,02,P,000010000, ,
145,30400601,3341, ,P,000010000, ,
146,30400799,3323, ,P,000010000,POT FURNACE ,
147,30499999,3341, ,P,000010000,TIN & SOLDER POT FURN ,
148,30400803,3369,06,P,000010000, ,
149,30499999,3341, ,P,000010000,MISC METAL POT FURN ,
150,30400199,3341, ,P,000010000,RETORT FURNACE ,
151,30400299,3341, ,P,000010000,RETORT FURNACE ,
152,30400299,3341, ,P,000010000,RETORT FURNACE ,
153,30400399,3321, ,P,000010000,RETORT FURNACE ,
154,30400499,3369,02,P,000010000,RETORT FURNACE ,
155,30400699,3341, ,P,000010000,RETORT FURNACE ,
156,30400799,3323, ,P,000010000,RETORT FURNACE ,
157,30499999,3341, ,P,000010000,TIN & SOLDER RETORT ,
158,30400801,3369,06,P,000010000, ,
159,30499999,3341, ,P,000010000,MISC METAL RETORT ,
160,30400103,3341,03,P,000010000, ,
161,30400205,3341,08,P,000010000, ,
162,30400205,3341,08,P,000010000, ,
163,30400302,3321,03,P,000010000, ,
164,30400402,3369,03,P,000010000, ,
165,30400699,3341, ,P,000010000,REVERB-OPEN HEARTH ,
166,30400702,3323,03,P,000010000, ,
167,30499999,3341, ,P,000010000,TIN & SOLDER REVERB ,
168,30400808,3369, ,P,000010000, ,
169,30499999,3341, ,P,000010000,MISC METALS REVERB ,
170,30400199,3341, ,P,000010000,ROTARY FURNACE ,
171,30400206,3341,09,P,000010000, ,
172,30400206,3341,09,P,000010000, ,
173,30400399,3321, ,P,000010000,ROTARY FURNACE ,
174,30400404,3369, ,P,000010000, ,
175,30400699,3341, ,P,000010000,ROTARY FURNACE ,
176,30400799,3323, ,P,000010000,ROTARY FURNACE ,
177,30499999,3341, ,P,000010000,TIN & SOLDER ROTARY ,
178,30400899,3369, ,P,000010000,ROTARY FURNACE ,
179,30499999,3341, ,P,000010000,MISC. METALS ROTARY ,
180,30400101,3341,04,P,000010000, ,
181,30400299,3341, ,P,000010000,SWEAT FURNACE ,
182,30400299,3341, ,P,000010000,SWEAT FURNACE ,

183,30400399,3321, ,P,000010000,SWEAT FURNACE ,
 184,30400499,3369,03,P,000010000,SWEAT FURNACE ,
 185,30400699,3341, ,P,000010000,SWEAT FURNACE ,
 186,30400799,3323, ,P,000010000,SWEAT FURNACE ,
 187,30499999,3341, ,P,000010000,TIN & SOLD SWEAT FCE ,
 188,30400804,3369,07,P,000010000, ,
 189,30499999,3341, ,P,000010000,MISC METAL SWEAT FCE ,
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 221,50200505,4953,03,S,000010000, ,
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 228,50100505,4953,03,S,000010000, ,
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 243,50300101,4953,03,S,000010000, ,

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 261,5020C102,4953,04,S,000010000,
 262,50300102,4953,04,S,000010000,
 263,5030C102,4953,04,S,000010000,
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 289,50200301,4953,05,S,000010000,
 290,5030C599,4953,06,S,000010000,BURN-OFF INCIN
 291,50300301,4953,06,S,000005000,
 292,5030C599,4953,06,S,000010000,BPAKE DERINDER
 293,5030C599,4953,06,S,000010000,ORGANICS AND GASES
 294,50100101,4953,01,S,000010000,
 295,5030C599,4953,06,S,000010000,PIT INCIN
 296,50200599,4953,06,S,000010000,BURNING BARREL
 297,50100201,4953,02,S,000010000,
 298,50300201,4953,02,S,000010000,
 299,50100201,4953,02,S,000010000,
 300,30699999,2911,08,P,010000000,ALKYLATION-HF
 301,30699999,2911,08,P,010000000,ALKYLATION-H2SO4
 302,30601101,2911,08,P,000010000,
 303,30601199,2911,08,P,000010000,ASPH.SEPARATION
 304,30699999,2911,08,P,010000000,BLENDING

305,30699998,2911,08,P,000010000,COKING
 306,30600803,2911,08,P,000000000,
 307,30600201,2911,01,P,000010000,
 308,30600301,2911,02,P,000010000,
 309,30699999,2911,08,P,010000000,THERMAL CRACKING
 310,30699999,2911,08,P,010000000,CRUDE PROCESSING
 311,30699999,2911,08,P,010000000,CRUDE OIL PRODUCTION,
 312,30699999,2911,03,P,010000000,DESULFURIZATION
 313,30699999,2911,08,P,010000000,DISTILLATION
 314,30699999,2911,08,P,010000000,EMULSIFICATION
 315,30699999,2911,08,P,010000000,S02 EXTRACTION
 316,30699999,2911,08,P,010000000,FURFURAL EXTRACTION
 317,30699999,2911,08,P,000000000,GAS DEHYD
 318,30699999,2911,08,P,010000000,REGEN ISOMERIZATION
 319,30699998,2911,08,P,000010000,LOADING
 320,30699999,2911,08,P,010000000,LUBE OIL COMPOUNDING,
 321,30600804,2911,08,P,000000000,COMPRESS PLANT
 322,30699999,2911,08,P,000000000,ODORIZER MANUF.
 323,30699999,2911,08,P,000000000,PERMEATIONS
 324,30699998,2911,08,P,000010000,PILCT PLANT
 325,30699999,2911,08,P,010000000,POLYMERIZATION
 326,30699999,2911,08,P,010000000,FIX BED REFORMING
 327,30699999,2911,08,P,010000000,MOVE BED REFORMING
 328,30699999,2911,04,P,010000000,LUBE OIL RE-REFINING,
 329,40399999,5092, ,P,000420000,FIXED ROOF OPEN TOP
 330,30699999,2911,08,P,000238100,TREATING(ACID&CAUST),
 331,30699999,2911,08,P,010000000,TREATING (CLAY)
 332,30699999,2911,08,P,010000000,TREATING(OXID.SWEET),
 333,30699999,2911,08,P,010000000,TREATING (COPPER)
 334,30699999,2911,08,P,000000000,TREAT H2SREMOV
 335,30699999,2911,08,P,010000000,TREATING DESALTING
 336,30699999,2911,08,P,000000000,MERCAPTAN REMOV
 337,30699999,2911,08,P,010000000,VAC DISTILL CRUDE
 338,30699999,2911,08,P,010000000,VAC DISTILL OTHER
 339,30699999,2911,08,P,000000000,WASTE WATER HANDLING,
 340,30699999,2911,08,P,000000000,WATER TREATING UNIT
 341,30699998,2911,08,P,000010000,REFRIG.& COOLING SYS,
 342,30699999,2911,08,P,010000000,TOPPING
 343,30600999,2911,08,P,010000000,
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 345, 0, , , ,000000000,
 346, 0, , , ,000000000,
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 348, 0, , , ,000000000,
 349,30103401,2869, ,P,000010000,AMINES
 350,30199999,2869, ,P,000010000,ACETALDEHYDE
 351,30199999,2813, ,P,000010000,ACETYLENE
 352,30199999,2869, ,P,000010000,ACROLEIN
 353,30199999,2911, ,P,000010000,ACID OIL
 354,30199999,2869, ,P,000010000,ALIPHATIC ACIDS
 355,30199999,2869, ,P,000032930,ALIPHATIC ALCOHOLS
 356,30199999,2911, ,P,000010000,AROMATIC ANHYDRIDE
 357,30199999,2911, ,P,000010000,BENZENE
 358,30199999,2911, ,P,000010000,BUTADIENE
 359,30199999,2869, ,P,000010000,BUTYENES
 360,30199999,2865, ,P,000010000,CRESOLS
 361,30199999,2869, ,P,000010000,CUMENE
 362,30199999,2865, ,P,000010000,CYCLOHEXANE
 363,30100999,2841, ,P,000010000,DETERGENTS
 364,30100999,2841, ,P,000010000,DETERGENTS
 365,30199999,2869, ,P,000010000,ETHYL BENEXENE

305,30699998,2911,08,P,000010000,COKING ,
 306,30600803,2911,08,P,000000000, ,
 307,30600201,2911,01,P,000010000, ,
 308,30600301,2911,02,P,000010000, ,
 309,30699999,2911,08,P,010000000,THERMAL CRACKING ,
 310,30699999,2911,08,P,010000000,CRUDE PROCESSING ,
 311,30699999,2911,08,P,010000000,CRUDE OIL PRODUCTION, ,
 312,30699999,2911,03,P,010000000,DESULFURIZATION ,
 313,30699999,2911,08,P,010000000,DISTILLATION ,
 314,30699999,2911,08,P,010000000,EMULSIFICATION ,
 315,30699999,2911,08,P,010000000,S02 EXTRACTION ,
 316,30699999,2911,08,P,010000000,FURFURAL EXTRACTION ,
 317,30699999,2911,08,P,000000000,GAS DEHYD ,
 318,30699999,2911,08,P,010000000,REGEN ISOMERIZATION ,
 319,30699998,2911,08,P,000010000,LOADING ,
 320,30699999,2911,08,P,010000000,LUBE OIL COMPOUNDING, ,
 321,30600804,2911,08,P,000000000,COMPRESS PLANT ,
 322,30699999,2911,08,P,000000000,ODORIZER MANUF. ,
 323,30699999,2911,06,P,000000000,PERMEATIONS ,
 324,30699998,2911,08,P,000010000,PILCT PLANT ,
 325,30699999,2911,08,P,010000000,POLYMERIZATION ,
 326,30699999,2911,08,P,010000000,FIX BED REFORMING ,
 327,30699999,2911,08,P,010000000,MOVE BED REFORMING ,
 328,30699999,2911,04,P,010000000,LUBE OIL RE-REFINING, ,
 329,40399999,5092, ,P,000420000,FIXED ROOF OPEN TOP ,
 330,30699999,2911,08,P,000238100,TREATING(ACID&CAUST), ,
 331,30699999,2911,08,P,010000000,TREATING (CLAY) ,
 332,30699999,2911,08,P,010000000,TREATING(OXID.SWEET), ,
 333,30699999,2911,08,P,010000000,TREATING (COPPER) ,
 334,30699999,2911,08,P,000000000,TREAT H2SREMOV ,
 335,30699999,2911,08,P,010000000,TREATING DESALTING ,
 336,30699999,2911,08,P,000000000,MERCAPTAN REMOV ,
 337,30699999,2911,08,P,010000000,VAC DISTILL CRUDE ,
 338,30699999,2911,08,P,010000000,VAC DISTILL OTHER ,
 339,30699999,2911,08,P,000000000,WASTE WATER HANDLING, ,
 340,30699999,2911,08,P,000000000,WATER TREATING UNIT ,
 341,30699998,2911,08,P,000010000,REFRIG.& COOLING SYS, ,
 342,30699999,2911,08,P,010000000,TOPPING ,
 343,30600999,2911,08,P,010000000, ,
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 351,30199999,2813, ,P,000010000,ACETYLENE ,
 352,30199999,2869, ,P,000010000,ACROLEIN ,
 353,30199999,2911, ,P,000010000,ACID OIL ,
 354,30199999,2869, ,P,000010000,ALIPHATIC ACIDS ,
 355,30199999,2869, ,P,000032930,ALIPHATIC ALCOHOLS ,
 356,30199999,2911, ,P,000010000,AROMATIC ANHYDRIDE ,
 357,30199999,2911, ,P,000010000,BENZENE ,
 358,30199999,2911, ,P,000010000,BUTADIENE ,
 359,30199999,2869, ,P,000010000,BUTYENES ,
 360,30199999,2865, ,P,000010000,CRESOLS ,
 361,30199999,2869, ,P,000010000,CUMENE ,
 362,30199999,2865, ,P,000010000,CYCLOHEXANE ,
 363,30100999,2841, ,P,000010000,DETERGENTS ,
 364,30100999,2841, ,P,000010000,DETERGENTS ,
 365,30199999,2869, ,P,000010000,ETHYL BENEXENE ,

366,30199999,2869,	,P,000010000,ETHYLENE	,
367,30199999,2869,	,P,000010000,ETHYLENE DICHLORIDE	,
368,30199999,2869,	,P,000010000,ETHYLENE GLYCOL	,
369,30199999,2869,	,P,000010000,ETHYLENE OXIDE	,
370,30199999,2869,	,P,000010000,FORMALDEHYDE	,
371,30199999,2879,	,P,000010000,INSECTICIDE	,
372,30199999,2879,	,P,000010000,INSECTICIDE	,
373,30199999,2879,	,P,000010000,INSECTICIDE	,
374,30199999,2879,	,P,000010000,INSECTICIDE	,
375,30199999,2869,	,P,000010000,ALIPHATIC KETONES	,
376,30199999,2869,	,P,000010000,ALIPHATIC MERCAPTANS,	,
377,30199999,2869,	,P,000010000,HETEROCYCLIC CMPNDS	,
378,30199999,2865,	,P,000010000,NAPHTHALENE	,
379,30199999,2865,	,P,000010000,PHENOL	,
380,30199999,2865,	,P,000010000,STYRENE	,
381,30199999,2821,	,P,000010000,SYNTHETIC RESN SOLID,	,
382,30199999,2851,	,P,000010000,METAL NAPHTHANATES	,
383,30199999,2821,	,P,000010000,SYNTHETIC RESN LIQ	,
384,30199999,2865,	,P,000010000,TOLUENE	,
385,30199999,2865,	,P,000010000,XYLENES	,
386,30199999,2869,	,P,000010000,AROMATIC ESTERS	,
387,30199999,2869,	,P,000010000,ALIPH SAT HYDROCARB	,
388,30199999,2869,	,P,000010000,ALIPH UNSAT HYDROCA	,
389,30199999,2869,	,P,000010000,ALIPHATIC ALCOHOLS	,
390,30199999,2869,	,P,000010000,ALIPHATIC ALDEHYDES	,
391,30199999,2869,	,P,000010000,ALIPHATIC ACID DERIV,	,
392,30103401,2869,	,P,000010000,ALIPHATIC AMINES	,
393,30199999,2869,	,P,000010000,ALIPH ORG-MET CMPNDS,	,
394,30199999,2911,	,P,000010000,AROMATIC HYDROCARBON,	,
395,30199999,2911,	,P,000010000,AROM HYDPOXYL DERIV	,
396,30199999,2911,	,P,000010000,AROMATIC ALDEHYDES	,
397,0,	,,000000000,	,
398,30199999,2869,	,P,000010000,AROMATIC KETONES	,
399,30199999,2911,	,P,000010000,AROMATIC ACIDS	,
400,30700899,2421,	,P,000010000,BARKER	,
401,30700899,2421,	,P,000010000,HOG	,
402,30700899,2421,	,P,000010000,PLANER	,
403,30700899,2421,	,P,000010000,SAW	,
404,30799999,2421,	,P,000010000,STEAM KILN 1000 BFLS,	,
405,30700899,2421,	,P,000010000,CHIPPER	,
406,30799999,2421,	,P,000010000,DRCT KILN 1000 BFLS	,
407,0,	,,000000000,	,
408,0,	,,000000000,	,
409,0,	,,000000000,	,
410,0,	,,000000000,	,
411,30700899,0,	,P,000000000,VENEER LATHE	,
412,30700799,0,	,P,000010000,PRESS 1000 SQ FT	,
413,30700601,2421,	,P,000046000,RESIN TANK	,
414,30700899,2421,	,P,000010000,DRUM SANDER	,
415,30700899,2421,	,P,000010000,BELT SANDER	,
416,30700899,2421,	,P,000010000,NEG AIR TRANS SYSTEM,	,
417,30700701,0,	,P,000005500,VENEER DRYER GAS	,
418,30700701,0,	,P,000005500,VENEER DRYER OIL	,
419,30700701,0,	,P,000005500,VENEER DRYER STEAM	,
420,30700701,0,	,P,000005500,VNR DRYER WOOD FIRED,	,
421,0,	,,000000000,	,
422,0,	,,000000000,	,
423,0,	,,000000000,	,
424,0,	,,000000000,	,
425,30799999,2499,	,P,000046000,BLENDER	,
426,30799999,2499,	,P,000010000,CLASSIFIER	,

427,	30799999,	2499,	,P,000010000,FARMING LINE	,
428,	30799999,	2499,	,P,000010000,GRINDERS	,
429,	30799999,	2499,	,P,000010000,DIGESTER COOKER	,
430,	0,	,	,,000000000,	,
431,	0,	,	,,000000000,	,
432,	0,	,	,,000000000,	,
433,	30799999,	2499,	,P,000010000,TRUCK DUMP	,
434,	30799999,	2499,	,P,000010000,CHIPS STORAGE	,
435,	30799999,	2499,	,P,000010000,WET MATT DRYER	,
436,	30700799,	2492,	,P,000010000,PART. DRYER ROTARY	,
437,	30700799,	2492,	,P,000010000,PART DRYR FLUID BED	,
438,	30799999,	2421,	,P,000005500,HRDBRD TEMPRNG OVEN	,
439,	30799999,	2421,	,P,000005500,HRDBRD PRE-DRIER	,
440,	30700199,	2621,	,P,000010000,BLEACHING	,
441,	30700199,	2621,	,P,000000000,CHIP TRNSPRT & STRG	,
442,	30700199,	2621,01,	,P,000010000,DIGESTER, BLOW	,
443,	30700199,	2621,	,P,000010000,DIGESTER, RELIEF	,
444,	30700104,	2621,	,P,000010000,DRCT CNTCT EVPRTR	,
445,	30700103,	2621,05,	,P,000010000,MULT EFFECT EVPRTR	,
446,	30700106,	2621,03,	,P,000010000,LIME KILN	,
447,	30700199,	2621,	,P,000010000,BLCK LIQ STRG TANK	,
448,	30700199,	2621,	,P,000000000,LIQ TRTMT LAGOON	,
449,	30700199,	2621,	,P,000010000,MARKET PULP SYSTEM	,
450,	30700199,	2621,	,P,000000000,PAPER MACH DRYER	,
451,	30700102,	2621,	,P,000010000,PULP WASHERS	,
452,	30700104,	2621,04,	,P,000010000,RECOVERY FURNACE	,
453,	30700199,	2621,	,P,000000000,SEWER VENTS	,
454,	30700105,	2621,02,	,P,000010000,SMELT TANK VENT	,
455,	30700199,	2621,	,P,000000000,TALL OIL HANDLING	,
456,	30700107,	2621,	,P,000000000,TURPENTINE SYSTEM	,
457,	0,	,	,,000000000,	,
458,	0,	,	,,000000000,	,
459,	0,	,	,,000000000,	,
460,	0,	,	,,000000000,	,
461,	0,	,	,,000000000,	,
462,	0,	,	,,000000000,	,
463,	0,	,	,,000000000,	,
464,	0,	,	,,000000000,	,
465,	30700299,	2621,	,P,000010000,ACID MAKING	,
466,	30700299,	2621,	,P,000010000,ACID HANDLING	,
467,	30700299,	2621,	,P,000010000,ASH SLAKER	,
468,	30700299,	2621,	,P,000010000,BLEACHING	,
469,	30700299,	2621,	,P,000000000,CHIP HANDLING & STRG	,
470,	30700203,	2621,	,P,000010000,DIGESTER, BLOW	,
471,	30700203,	2621,	,P,000010000,DIGESTER, RELIEF	,
472,	30700299,	2621,	,P,000010000,FORTIFICATION TOWER	,
473,	30700205,	2621,	,P,000010000,DRCT CNTCT EVAPORATR	,
474,	30700299,	2621,	,P,000000000,PAPER MACHINE VENTS	,
475,	30700299,	2621,	,P,000010000,PULP WASHER	,
476,	30700299,	2621,	,P,000010000,RECOVERY FURNACE	,
477,	30700299,	2621,	,P,000010000,SLUDGE INCINERATOR	,
478,	30700299,	2621,	,P,000000000,WASTE LIQUOR LAGOONS	,
479,	30700205,	2621,	,P,000010000,MULT EFFECT EVAPORATR	,
480,	0,	,	,,000000000,	,
481,	0,	,	,,000000000,	,
482,	0,	,	,,000000000,	,
483,	0,	,	,,000000000,	,
484,	0,	,	,,000000000,	,
485,	0,	,	,,000000000,	,
486,	0,	,	,,000000000,	,
487,	0,	,	,,000000000,	,

488,	0,	,	,	,000000000,	,
489,	0,	,	,	,000000000,	,
490,	0,	,	,	,000000000,	,
491,	0,	,	,	,000000000,	,
492,	0,	,	,	,000000000,	,
493,	0,	,	,	,000000000,	,
494,	0,	,	,	,000000000,	,
495,	0,	,	,	,000000000,	,
496,	0,	,	,	,000000000,	,
497,	0,	,	,	,000000000,	,
498,	0,	,	,	,000000000,	,
499,	0,	,	,	,000000000,	,
500,	0,	,	,	,000000000,	,
501,30199999,2899,				,P,000010000,ORGANIC CHEMICALS	,
502,30199999,2899,				,P,000010000,INORGANIC CHEMICALS	,
503,	0,	,	,	,000000000,	,
504,	0,	,	,	,000000000,	,
505,39999999, 0,				,P,000010000,GAS CLOTHES DRYER	,
506,40100102,7216,				,P,000325000,	,
507,40100299, 0,				,P,0000067500,	,
508,40100102,7216,				,P,000325000,SAFETY 140	,
509,40100101,7216,				,P,000500000,	,
510,39999999, 0,				,P,000010000,CHIP DRYER	,
511,	0,	,	,	,000000000,	,
512,30299998,5159,				,P,000010000,HAIR & FEATHER DRYER,	,
513,49099999, 0,				,P,000041720,SOLVNT RMOVL DRYER	,
514,30299998, 0,				,P,000010000,DRYER	,
515,	0,	,	,	,000000000,	,
516,	0,	,	,	,000000000,	,
517,30999999,3479,				,P,000010000,CHEM MILLING & ETCH	,
518,30901099,3471,				,P,000010000,CHROME PLATING	,
519,30999999, 0,				,P,000010000,ELECTROLYTIC PROCESS,	,
520,	0,	,	,	,000000000,	,
521,20299997, 0,				,P,000000000,ENGINE TEST CELL	,
522,40299999, 0,				,P,000062500,FLCWCOATER	,
523,30201301,2013,				,P,000010000,	,
524,30299998, 0,				,P,000041700,DEEP FAT FRYING	,
525,30200299,2095,				,P,000010000,	,
526,30299999, 0,				,P,000010000,FOOD BEV PROC EQUIP	,
527,	0,	,	,	,000000000,	,
528,30501401, 0,				,P,000010000,	,
529,30501799,3296,				,P,000010000,	,
530,30599999, 0,				,P,000010000,NON-METALLIC FURNACE,	,
531,	0,	,	,	,000000000,	,
532,	0,	,	,	,000000000,	,
533,39999999, 0,				,P,000010000,PLASTIC FORMNG EQUIP,	,
534,30400805,3479,				,P,000010000,	,
535,	0,	,	,	,000000000,	,
536,39999999, 0,				,P,000010000,PLASTIC IMPREGNATORS,	,
537,30500102,2952,				,P,000010000,	,
538,39999999,3811,				,P,000000000,LAB EQUIP PRODUCTION,	,
539,39999999,7391,				,P,000000000,LABORATORY RESEARCH	,
540,32099999,3111,				,P,000010000,LEATHER TANNING	,
541,39999999, 0,				,P,000000000,LIQUID MIXERS	,
542,30101899,3079,				,P,000010000,PLASTIC ANNEALING	,
543,39999999,7539,				,P,000010000,BRAKE LINING BONDING,	,
544,30599999,3565,				,P,000010000,CORE BAKING	,
545,30599999,3565,				,P,000010000,CORE MOLDING	,
546,40299999,2752,				,P,000000000,LITHOGRAPHIC COATING,	,
547,40200101,3479,				,P,000062500,PAINT BAKING OVENS	,
548,30101899,3079,				,P,000010000,CURING MOLDING PLAST,	,

549,40200301,3479,	,P,0000000000,VARNISH BAKING	,
550,30102699,3567,	,P,000010000,VULCANIZING OVEN	,
551,39999999,0,	,P,000010000,WAX BURN-OUT OVEN	,
552,39999999,0,	,P,000010000,MISC OVENS	,
553,39999999,0,	,P,000000000,BLENDING TANKS	,
554,40299999,0,	,P,000000000,ROLLER COATER	,
555,40500101,2752,	,P,000010000,	,
556,30199999,2821,	,P,000046000,RESIN KETTLE	,
557,30101501,2851,	,P,000035000,	,
558,30199999,2800,	,P,000000000,CHEMICAL REACTORS	,
559,30299998,2077,	,P,000010000,BLOOD COOKER	,
560,30299998,2077,	,P,000010000,FRESH OFFAL COOKER	,
561,30299998,2077,	,P,000010000,OLD OFFAL COOKER	,
562,30299998,2077,	,P,000010000,FISH VISCERA PROCESSING	,
563,30299998,2077,	,P,000010000,RENDERING	,
564,39999999,4952,	,P,000000000,SEWAGE TREATMENT	,
565,0,	,000000000,	,
566,30405001,0,	,P,000010000,MOLTEN SALT FURNACE	,
567,49099999,0,	,P,000041720,SOLVENT EXTRACTION	,
568,39999999,0,	,P,000000000,CONTAINER FILL STA	,
569,30599999,0,	,P,000042850,ASPHALT DIP TANK	,
570,30599999,0,	,P,000042850,COAL TAR DIP	,
571,39999999,0,	,P,0000420000DYE DIP TANK	,
572,30405001,0,	,P,000035250,OIL QUENCH DIP TANK	,
573,40200101,3479,	,P,000062500,PAINT DIP TANK	,
574,49099999,0,	,P,000041720,PAINT STRIP (SOLVENT,	,
575,39999999,0,	,P,000059100,PLASTIC DIP TANK	,
576,40199999,0,	,P,000041720,SOLVENT DIP TANK	,
577,39999999,0,	,P,000040700,WAX DIP TANK	,
578,39999999,0,	,P,000000000,MISC DIP TANK	,
579,0,	,000000000,	,
580,40300201,5171,	,P,000010000,	,
581,40399999,0,	,P,000010000,RESIN-VARNISH-PAINT	,
582,40399999,0,	,P,000010000,SOLVENT STORAGE	,
583,40400199,0,	,P,000000000,ORGANIC STORAGE TANK,	,
584,39999999,0,	,P,000000000,MISC STORAGE TANK	,
585,39999999,0,	,P,000000000,UNDERGRND STORAGE TNK,	,
586,0,	,000000000,	,
587,39999999,0,	,P,000000000,VACUUM PUMPING SYST	,
588,39999999,0,	,P,000043000,WATER TREAT PLANT	,
589,39999999,0,	,P,000010000,PIPE WRAPPING	,
590,0,	,000000000,	,
591,40299999,0,	,P,000062500,SPRAY PAINT LAQ ENAM,	,
592,20100201,0,	,C,000000010,	,
593,20299998,0,	,C,000010000,STA. INT. COMB. ENG.,	,
594,39999999,0,	,P,000000000,WELDING EQUIP.	,
595,30299999,5812,	,C,000000000,RESTAURANT HOT SURF	,
596,30299999,5812,	,C,000000000,RESTAURANT CHARCOAL	,
597,30299999,5812,	,C,000000000,GAS OR KER REFRIG	,
598,30299999,5812,	,C,000000000,RESTAURANT EQUIPMENT,	,
599,0,	,000000000,	,
600,0,	,000000000,	,
601,30502099,3295,	,P,000010000,ROCK DRYING	,
602,30501101,3273,	,P,000005000,DRYING	,
603,30501101,3273,	,P,000005000,DRYING	,
604,30501101,3273,	,P,000005000,DRYING	,
605,30500201,2951,	,P,000010000,	,
606,30500701,3241,	,P,000053300,	,
607,30599999,0,	,P,000010000,MISC. ROCK DRYER	,
608,0,	,000000000,	,
609,0,	,000000000,	,

610,	0,	,	,	,000000000,	,
611,	0,	,	,	,000000000,	,
612,	0,	,	,	,000000000,	,
613,	0,	,	,	,000000000,	,
614,	0,	,	,	,000000000,	,
615,	0,	,	,	,000000000,	,
616,30199999,2819,				,P,000010000,BORAX DRYER	,
617,30100901,2841,				,P,000010000,	,
618,30103099,2874,				,P,000010000,FERTIL. DRYER	,
619,30101899, 0,				,P,000010000,PLASTIC DRYING	,
620,30103599,2816,				,P,000010000,PIGMENT DRYING	,
621,30103399,2879,				,P,000010000,DRYING	,
622,30100599,2895,				,P,000010000,DRYING	,
623,30601201,2911,07,				,P,000000000,DRYING	,
624,30599999,3274,				,P,000010000,DOLOMITE DRYING	,
625,30599999,2819,				,P,000010000,MAGNESIA DRYING	,
626,30501501,3275,				,P,000010000,	,
627,30501901,3295,				,P,000010000,	,
628,30199999,2819,				,P,000010000,CATALYST DRYING	,
629,30199999,2819,				,P,000010000,MISC INCRG DRYING	,
630,30199999,2869,				,P,000010000,MISC ORGANIC DRYING	,
631,	0,	,	,	,000000000,	,
632,	0,	,	,	,000000000,	,
633,	0,	,	,	,000000000,	,
634,	0,	,	,	,000000000,	,
635,	0,	,	,	,000000000,	,
636,	0,	,	,	,000000000,	,
637,	0,	,	,	,000000000,	,
638,	0,	,	,	,000000000,	,
639,	0,	,	,	,000000000,	,
640,30200899,2043,				,P,000010000,HAY DRYER	,
641,30200799,2043,				,P,000010000,SEED DRYER	,
642,30200899,2048,				,P,000010000,FEED DRYER	,
643,30200899,2048,				,P,000010000,MISC FEED DRYER	,
644,	0,	,	,	,000000000,	,
645,	0,	,	,	,000000000,	,
646,	0,	,	,	,000000000,	,
647,	0,	,	,	,000000000,	,
648,	0,	,	,	,000000000,	,
649,	0,	,	,	,000000000,	,
650,	0,	,	,	,000000000,	,
651,	0,	,	,	,000000000,	,
652,30200730,2041,				,P,000010000,FLOUR DRYER	,
653,30200299,2095,				,P,000010000,COFFEE DRYER	,
654,30200799,2041,				,P,000010000,GRAIN DRYER	,
655,30299998, 0,				,P,000010000,GRANULAR FOOD DRYER	,
656,	0,	,	,	,000000000,	,
657,	0,	,	,	,000000000,	,
658,	0,	,	,	,000000000,	,
659,	0,	,	,	,000000000,	,
660,	0,	,	,	,000000000,	,
661,	0,	,	,	,000000000,	,
662,	0,	,	,	,000000000,	,
663,30599999,2819,				,P,000010000,SILICA DRYER	,
664,30501801,3295,				,P,000010000,	,
665,30501699,3274,				,P,000010000,DRYER	,
666,30501799,3296,				,P,000010000,DRYER	,
667,30501301,2899,				,P,000010000,	,
668,30501299,3229,				,P,000010000,DRYER	,
669,30599999,3292,				,P,000010000,ASBESTOS DRYER	,
670,30599999,3200,				,P,000010000,MISC MINERALS DRYER	,

671,30500701,3241,	,P,000053300,	,
672,30502099,3281,	,P,000010000,GRANITE DRYER	,
673,30502499,3295,	,P,000010000,MAGNESITE DRYER	,
674,30502599,3295,	,P,000010000,FOUNDRY SAND DRYER	,
675,	0,	,,000000000,
676,	0,	,,000000000,
677,	0,	,,000000000,
678,30299998,	0,	,P,000010000,VEG WASTE DRYER
679,30701099,2499,	,P,000010000,DRYER	,
680,33000199,	0,	,P,000010000,COT & WOOL DRYER
681,	0,	,,000000000,
682,	0,	,,000000000,
683,30299998,	0,	,P,000010000,NUT SHELL DRYER
684,30102699,2822,	,P,000010000,RUBBER OVEN	,
685,30299999,	0,	,P,000010000,SEWAGE DRYING
686,30199999,2851,	,P,000010000,SOLID SHELLAC DRYER	,
687,30799999,2842,	,P,000010000,SWEEP CMPNDS DRYER	,
688,39599999,	0,	,P,000010000,NAT ORG MAT DRYER
689,30700899,2421,	,P,000010000,WOODWORKING DRYER	,
690,30799999,	0,	,P,000010000,PAPER DRYING
691,30700701,2435,	,P,000010000,	,
692,30700899,2421,	,P,000010000,MISC. EQUIP	,
693,30700899,2421,	,P,000010000,WOODWORKING DRYER	,
694,	0,	,,000000000,
695,	0,	,,000000000,
696,	0,	,,000000000,
697,	0,	,,000000000,
698,	0,	,,000000000,
699,39999999,	0,	,P,000010000,MISC ABRAS CLEAN EQ
700,	0,	,,000000000,
701,30502001,3295,01,	,P,000010000,	,
702,30501101,3273,	,P,000005000,ROCK GRINDING	,
703,30501101,3273,	,P,000005000,GRINDING	,
704,30501101,3273,	,P,000005000,GRINDING	,
705,30500202,2951,	,P,000010000,ROCK GRINDING	,
706,30500702,3241,	,P,000053300,GRINDING	,
707,30599999,	0,	,P,000010000,MISC ROCK GRINDING
708,	0,	,,000000000,
709,	0,	,,000000000,
710,	0,	,,000000000,
711,	0,	,,000000000,
712,	0,	,,000000000,
713,	0,	,,000000000,
714,	0,	,,000000000,
715,	0,	,,000000000,
716,30199999,2819,	,P,000010000,BORAX GRINDING	,
717,30100999,2841,	,P,000010000,SOAP & DET GRINDING	,
718,30103099,2874,	,P,000010000,FERTIL. GRINDING	,
719,30101899,	0,	,P,000010000,PLASTIC GRINDING
720,30103599,2816,	,P,000010000,PIGMENT GRINDING	,
721,30103399,2879,	,P,000010000,GRINDING	,
722,30100599,2895,	,P,000010000,GRINDING	,
723,30601201,2911,07,	,P,000000000,GRINDING	,
724,30599999,3274,	,P,000010000,DOLomite GRINDING	,
725,30599999,2819,	,P,000010000,MAGNESIA GRINDING	,
726,30501502,3275,	,P,000010000,	,
727,30501902,3295,01,	,P,000010000,	,
728,30199999,2819,	,P,000010000,CAT ALYST GRINDING	,
729,30199999,2819,	,P,000010000,MISC INORG GRINDING	,
730,30199999,2869,	,P,000010000,MISC ORGANIC GRIND	,
731,	0,	,,000000000,

732,	0,	,	,	,000000000,	,
733,	0,	,	,	,000000000,	,
734,	0,	,	,	,000000000,	,
735,	0,	,	,	,000000000,	,
736,	0,	,	,	,000000000,	,
737,	0,	,	,	,000000000,	,
738,	0,	,	,	,000000000,	,
739,	0,	,	,	,000000000,	,
740,	30200899,2048,			,P,000010000,HAY GRINDER	,
741,	30200799,2048,			,P,000010000,SEED GRINDER	,
742,	30200899,2048,			,P,000010000,FEED GRINDER	,
743,	30200899,2048,			,P,000010000,MISC FEED GRINDER	,
744,	0,	,	,	,000000000,	,
745,	0,	,	,	,000000000,	,
746,	0,	,	,	,000000000,	,
747,	0,	,	,	,000000000,	,
748,	0,	,	,	,000000000,	,
749,	0,	,	,	,000000000,	,
750,	0,	,	,	,000000000,	,
751,	0,	,	,	,000000000,	,
752,	30200730,2041,			,P,000010000,FLOUR GRINDING	,
753,	30200299,2095,			,P,000010000,COFFEE GRINDING	,
754,	30200799,2041,			,P,000010000,GRAIN GRINDER	,
755,	30299998, 0,			,P,000010000,GRANULAR FOOD GRIND	,
756,	0,	,	,	,000000000,	,
757,	0,	,	,	,000000000,	,
758,	0,	,	,	,000000000,	,
759,	0,	,	,	,000000000,	,
760,	0,	,	,	,000000000,	,
761,	0,	,	,	,000000000,	,
762,	0,	,	,	,000000000,	,
763,	30599999,2819,			,P,000010000,SILICA GRINDER	,
764,	30501899,3295,01,			,P,000010000,GRINDER	,
765,	30501601,3274,			,P,000010000,	,
766,	30501799,3296,			,P,000010000,GRINDER	,
767,	30501399,2899,			,P,000010000,GRINDER	,
768,	30501299,3229,			,P,000010000,GRINDER	,
769,	30599999,3292,			,P,000010000,ASBESTOS GRINDING	,
770,	30599999,3200,			,P,000010000,MSC MINERALS GRINDER,	,
771,	0,	,	,	,000000000,	,
772,	30502001,3281,			,P,000010000,GRANITE	,
773,	30502499,3295,01,			,P,000010000,MAGNESITE GRINDER	,
774,	30502501,3295,01,			,P,000010000,FOUNDRY SAND GRINDER,	,
775,	0,	,	,	,000000000,	,
776,	0,	,	,	,000000000,	,
777,	0,	,	,	,000000000,	,
778,	30299998, 0,			,P,000010000,VEG WASTE GRINDER	,
779,	30701099,2499,			,P,000010000,GRINDER	,
780,	33000199, 0,			,P,000010000,COTTON & WOOL CUTTING,	,
781,	30299998,2048,			,P,000010000,FEATHER GRINDING	,
782,	30299998, 0,			,P,000010000,HAIR GRINDING	,
783,	30299998, 0,			,P,000010000,NUT SHELL GRINDING	,
784,	30102699, 0,			,P,000010000,RUBBER GRINDING	,
785,	30299999, 0,			,P,000010000,SEWAGE GRINDING	,
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**ADDENDUM TO
OREGON EMISSION INVENTORY DATA CONVERSION TO NEDS**

April 1974

Please add this addendum to your copy of the U.S. Environmental Protection Agency Report No. EPA-450/3-74-006.

*Environmental Protection Agency
Technical Information Service
Research Triangle Park, N. C.*

SEP 9 1974

**U.S. Environmental Protection Agency
Office of Air and Waste Management
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711**

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1.0 INTRODUCTION

As described in the Final Report, all information required by the National Emissions Data System (NEDS) is not available from the Oregon computer storage system. Some of the missing data are, however, contained in the files located in the four air pollution control offices for the state of Oregon. These offices are located in Portland (two locations), Salem, and Eugene.

TRW had previously been awarded a BOA task to correct and update the Oregon emission inventory, and under this task some of the additional source data were collected. Task 2 (the programming task) was extended to include another four man weeks of labor for the purpose of accumulating the remaining data for all point sources emitting 25 or more tons per year of any one pollutant.

2.0 DATA ACCUMULATION

Personnel from the Oregon Department of Environmental Quality in Portland ran a program against their data system which printed two listings. The first was a list of all sources emitting 100 tons or more per year, and the second was a list of sources emitting between 25 and 100 tons per year. They also ran the TRW program on the same two classes of sources, generating two groups of NEDS coding forms, completed to the extent described in the main report.

All information for sources on the lists was removed from the files and manually studied. Any available data required by NEDS but not already coded, were extracted and entered on the forms. The additional data were taken from permit applications, monitoring reports, stack test reports, and communications. In some cases where these sources of data were not sufficient, engineers from the state of Oregon supplied data from their own personal knowledge of the plant.

3.0 RESULTS

This effort resulted in the coding of all data applicable to NEDS which are present in the Oregon DEQ offices for sources emitting 25 or more tons per year. The facilities and point sources are distributed in the following manner. There are 237 facilities (consisting of approximately 2500 point sources) emitting 100 or more tons, and 214 facilities (approximately 500 point sources) emitting between 25 and 100 tons.

As a result of this effort, EPA now has a relatively complete and current emissions inventory of all significant point sources in the state of Oregon. Due to the fact that Oregon's permit, compliance, and enforcement programs have a different focal point from NEDS (Oregon lacks the need for extensive air quality modeling) some minor areas of the NEDS inventory are noticeably deficient. This occurs predominantly in the area of stack parameters. However, the more important data such as location, emissions, and process rates are present for all sources.

The consideration and cooperation extended TRW by the Oregon personnel, particularly Mr. Richard Vogt, were greatly appreciated, and were definitely contributing factors in the successful completion of the task.