

**EXTRACTION OF ALLOWABLE VOC RELEASE LEVELS FROM
TCEQ PERMITS
FINAL REPORT**

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1.0 Introduction

Measurements made in ambient air during the Texas 2000 Air Quality Study and routinely at surface monitoring sites in the Houston – Galveston Area (HGA) in recent years suggest that emissions of Volatile Organic Compounds (VOC), particularly a few compounds labeled Highly Reactive VOC (HRVOC), are highly variable in time and considerably greater than reported using conventional regulatory guidance. Emission events associated with facility upset, startup, shutdown, and maintenance activities may partially explain the variability in the ambient data. Another component of the observed variability may be due to short-term spikes in emissions, above the normal baselines or average daily emissions, which are within the limits allowed by applicable air quality permits. Both emission events and short-term spikes in permitted emissions, if significant enough, may cause or contribute to exceedances of the ozone National Ambient Air Quality Standards.

To help estimate the potential magnitude of allowable emissions above the reported ozone season daily averages for the HGA, the Houston Advanced Research Center (HARC), with funding from the Texas Environmental Research Consortium (TERC), contracted URS Corporation (URS) to compile relevant information from TCEQ air quality permit files. In addition to helping to characterize this potentially important component of the ozone precursor emissions, the data compiled in this project, particularly from recent permits, will be helpful toward projecting growth in emissions beyond the August 2000 base case emissions inventory used in the HGA photochemical modeling. Specifically, the goals of this project were to:

- Develop a database and statistical summary of allowable emissions from VOC sources located in the HGA; and
- Help project growth in VOC emissions beyond the August 2000 base case emissions inventory used in the HGA photochemical modeling, based on recently permitted new emissions.

This report discusses the methods used to acquire the data, a brief statistical summary of the data and discussion of the data analyses, and a discussion of any limitations or other considerations to be mindful of when drawing conclusions from the data.

2.0 Approach

This section presents a description of the work process followed by URS personnel during the data collection task of the project along with any difficulties encountered and suggestions for improvements to the process.

2.1 Data Collection

With guidance from TCEQ, HARC, and TERC, URS focused on collecting permit data from the 156 accounts in the HGA having 2000 total HRVOC emissions greater than 10 tons per year according to reported emissions and the VOC speciation profiles used by TCEQ for photochemical modeling. This list of accounts, which was provided by TCEQ, is included as Appendix A. Using this list of accounts and a downloaded version of the NSR permit history database from the TCEQ, a list of all air quality permits issued to the 156 accounts was developed. URS refined the permit list by excluding certain types of permits and other correspondence such as standard permits, standard exemptions/permits-by-rule (SE/PBR), RCRA waste correspondence, and banking and trading documentation. Only construction permits, flexible permits, and some special permits were reviewed.

Using the list of permits, URS requested permit files from the TCEQ Central Records (file room), prioritized by account in order of highest to lowest HRVOC emissions. The permit files were searched to identify the most recent version of the Maximum Allowable Emission Rates Table (MAERT). From the MAERT the allowable VOC emission rates (including speciated VOC, when available) associated with a given EPN were identified for all sources (EPNs) except combustion devices (boilers, heaters, engines, cogeneration units, turbines) and storage tanks. However, combustion devices that serve as control devices (incinerators, thermal oxidizers, flares, etc.) were included in the data gathering. Photocopies were made of the MAERTs and the permit cover letters.

For permits that had been modified on or after July 1, 1999, the most current MAERT and the most recent MAERT prior to July 1, 1999 were retrieved (the pre-July-1999 data were used, along with the most recent MAERT data, for estimating emissions growth factors needed for future case photochemical modeling). All EPNs that were identified in permits issued on or after July 1, 1999 and were not in the previous version of the permit, or EPNs for entirely new permits, were noted as “new” sources. For new EPNs first permitted on or after July 1, 1999, the

Table 1(a) was searched for in the file and if found, the Table 1(a) was copied for VOC speciation and other relevant modeling input data such as stack heights and diameters.

While some very limited speciation data were available on the MAERTs, most speciation data were found either on the Table 1(a) or in tables imbedded in the permit application. The permit files were searched for these data, and if these were found, the speciation data were copied.

For this project, the URS project team was granted access to the TCEQ's information management system "Groupwise". Among other things, Groupwise is a repository for electronic permit files (letters, permit conditions, MAERTs, etc.) created by the TCEQ. When information could not be located in the hardcopy files in the file room, Groupwise was used. However, only copies of the MAERTs and permit letters could be obtained from Groupwise; it did not contain Table 1(a) information or speciation data that is submitted by a company.

The online version of the NSR permit history database was also consulted to determine if a permit was void or still active. This database can be searched by several different parameters and is available on the Internet. However, an internal TCEQ version of this database was used in the file room as more detailed information could be obtained using the TCEQ version than from the public website.

2.2 Data Entry

Data were entered in a spreadsheet similar to the example shown in Table 2-1. Data from the most recent MAERTs were placed in the fields labeled "Current Allowable Emissions". Data from the most recent MAERTs prior to July 1, 1999 were placed in the "Pre-July-99 Allowable Emissions" fields if there was a new MAERT issued after July 1, 1999. For these more recently permitted sources, the data fields shown in Table 2-2 were calculated to estimate emissions growth factors for the modeling emissions inventory. If the most current MAERT had been issued prior to July 1, 1999, then these MAERT values were entered into both the "Pre-July 99" and the "Current" columns, in order for the multiplicative growth factor to be equal to one.

For new EPNs first permitted on or after July 1, 1999, information from the Table 1(a) was used to enter modeling parameters (e.g., stack data, UTM coordinates, etc.) into the database (Table 2-3). Information for new fugitive EPNs (e.g., fugitive dimensions, length and width) was entered in the "Comments" column of the spreadsheet.

Speciation data were reviewed and if they were consistent with the permitted allowables presented on the MAERT (that is the sum of the speciation data was equal to the VOC value on the MAERT) then the speciation data were entered into the spreadsheet. In a few cases, the permit applications specifically noted that the speciated constituents did not sum up to be the total VOC; for these cases, the speciated data were also entered.

**Table 2-1
Spreadsheet Format and Data Fields for Entering Emissions Data**

Plant Name	Account	FIN	EPN	Source Type	Permit No.	Permit Date	Start of Operation Date	Pollutant	PreJuly99 Allowable Emissions (lb/hr)	PreJuly99 Allowable Emissions (ton/yr)	Current Allowable Emissions (lb/hr)	Current Allowable Emissions (Ton/yr)
Example Co., Plant Z	JH9230L	W-GT/HRSG	HRSG-1	FL	25384	1/1/2000	1/20/2001	Ethane	80.00	202.00	117.10	289.20
Example Co., Plant Z	JH9230L	W-GT/HRSG	HRSG-1	FL	25384	1/1/2000	1/20/2001	Propane	250.00	309.00	391.00	495.40
Example Co., Plant Z	JH9230L	W-GT/HRSG	HRSG-1	FL	25384	1/1/2000	1/20/2001	n-Butane	23.00	39.00	30.00	48.40
Example Co., Plant Z	JH9230L	W-GT/HRSG	HRSG-1	FL	25384	1/1/2000	1/20/2001	Ethylene	71.00	210.00	110.30	330.00
Example Co., Plant Z	JH9230L	W-GT/HRSG	HRSG-1	FL	25384	1/1/2000	1/20/2001	Propylene	0.05	0.10	0.00	0.00
Example Co., Plant Z	JH9230L	W-GT/HRSG	HRSG-1	FL	25384	1/1/2000	1/20/2001	Butene	0.00	0.00	0.40	1.20

**Table 2-2
Spreadsheet Data Fields for Calculating Permitted Growth**

Allowable Emissions Delta (lb/hr)	Allowable Emissions Delta (ton/yr)	Growth Factor (lb/hr)	Growth Factor (ton/yr)	Max. Growth Factor
37.10	87.20	1.464	1.432	1.464
141.00	186.40	1.564	1.603	1.603
7.00	9.40	1.304	1.241	1.304
39.30	120.00	1.554	1.571	1.571
-0.05	-0.10	0.000	0.000	0.000
0.40	1.20	new	new	-9999.000

Table 2-3
Spreadsheet Format and Data Fields for New Source Modeling Parameters

SIC	SCC	UTM Easting	URM Northing	UTM Zone	Stack Height (ft)	Stack Diameter (Ft)	Stack Temp. (F)	Stack Velocity (ft/sec)	Stack Height (m)	Stack Diameter (m)	Stack Temp. (K)	Stack Velocity (m/s)
3241	3E+07	649.615	3505.607	14	110	8.5	180	46.8	33.5	2.59	355	14.3

If the most current MAERT had been issued prior to July 1, 1999, then these MAERT values were entered into both the “Pre-July 99” and the “Current” columns of the spreadsheet, in order for the growth factor to be equal to one. This situation is depicted in Case 1 of Table 2-4.

If an EPN was determined to be a new source since July 1, 1999, a zero was entered into the “Pre-July 99” column (Case 2). If no previous data could be found, but URS personnel were not sure whether or not the source was a new source, the “Pre-July 99” column was left blank (Case 3). Also, if the source was determined to be a grandfathered or previously standard exempted/PBR source, the “Pre-July 99” column was left blank, and a note was placed in the Comments that it was a grandfathered or SE/PBR source (Case 4).

If URS personnel determined that a source had been shutdown since July 1, 1999, then a zero was entered into the “Current” column. If this determination could not be made, and a post-July 1, 1999 MAERT value could not be found, the “Current” column was left blank (Case 5).

In many permits (non-flexible permits), EPNs are grouped together and an emission limit (“cap”) is set on the EPN group. These “caps” could be on both the hourly and annual allowable emissions. In this case, all of the EPNs were listed in the EPN field, and the cap limits were entered into the appropriate allowable emissions columns (Case 6).

**Table 2-4
Examples of Data Entry Situations**

Case	EPN	Source Type	Permit Date	Pre-July 99 Allowable Emissions (lb/hr)	Pre-July 99 Allowable Emissions (tpy)	Current Allowable Emissions (lb/hr)	Current Allowable Emissions (tpy)	Comments
1	F51	FL	01/01/99	5.5	10.0	5.5	10.0	
2	F51	FL	01/01/01	0.0	0.0	5.5	10.0	New source
3	F51	FL	01/01/01			5.5	10.0	Could not determine if source existed previously
4	F51	FL	01/01/02			5.5	10.0	Grandfathered source
5	F51	FL	01/01/01	5.5	10.0	0.0	0.0	Source was shutdown
6	L51, L52, L53, L54, L55	Loading	01/01/01	5.5	10.0	5.5	10.0	Cap on all five sources
7	L51	Loading	01/01/01	5.5		5.5		Individual EPN limit for hourly. Cap on all 3 for annual limit.
7	L52	Loading	01/01/01	5.5		5.5		Individual EPN limit for hourly. Cap on all 3 for annual limit.
7	L53	Loading	01/01/01	5.5		5.5		Individual EPN limit for hourly. Cap on all 3 for annual limit.
7	L51, L52, L53	Loading	01/01/01		10.0		10.0	Individual EPN limit for hourly. Cap on all 3 for annual limit.
8	FLEX CAP	Flex Cap	01/01/01			5.5	10.0	Flex Cap, includes heaters and boilers

In other cases, each individual EPN had its own hourly limit, but there was a cap on the annual allowable emissions for the EPN group. In this case, the individual EPNs were listed separately and the hourly allowable emissions were listed and the annual allowable emissions were left blank. A new row was created for the EPN group and the annual allowable emissions were entered and the hourly was left blank. A note was added to the “Comments” field to explain this situation (Case 7).

Only the “Final” flexible permit cap was entered into the spreadsheet, and there was no attempt to locate speciated data for sources covered under a Flexible permit. Additionally, growth factor information was not searched for (i.e., only the “Current” column was completed for Flexible permits) (Case 8).

When available, permitted allowable emissions from startups, shutdowns, and maintenance events were also logged as a separate source/EPN type.

Note that the most recent permit information for many sources was missing from the available files. For these sources, the word “missing” was entered into the allowable emissions fields. These data may be retrieved by following up with the TCEQ file room or the appropriate permit engineers.

2.3 Quality Assurance

Roughly 5% of the labor hours allocated to Task 2 were used for quality assurance of the database. Throughout the project the individual data entry files were merged and were reviewed for consistency, especially early on in the project. At this time, some quality assurance checks were also made (e.g., verify that the source types were correct, permit numbers were correctly entered, data were placed into the correct fields). At the end of the project, the spreadsheet was sorted by VOC hourly emission rates and the EPNs having the highest emission rates were verified by an independent member of the project team. Additionally, several permits were randomly selected for each project team member and the entered data were verified.

3.0 Results

Budget constraints limited the file search to only the top 50 of the 156 HRVOC emitters that were identified by TCEQ. These 50 facilities accounted for approximately 90% of the total VOC, and approximately 80% of the total HRVOC, emitted by the 156 HRVOC accounts in 2000 according to emissions estimates provided by TCEQ.

Table 3-1 gives the top 10 MAERT limits for unspciated VOC, in pounds per hour, for each of 13 unique source types (including flex permit caps) that were identified in the permit files for these accounts. The source types, in most cases, were discernable from the EPN names in the MAERTs; however, in some cases, the EPN names were simply alphanumeric identifiers. In these cases, the permit files were searched for process descriptions or other information that might help to identify the source types. When no descriptive information was found, the EPN was labeled “unclassified”. In a few cases, little descriptive information was given by the EPN name other than the words, “startup”, “shutdown”, or “maintenance.” These EPNs were classified as “SSM”.

Table 3-1. Top 10 MAERT Limits in Pounds Per Hour for Unspciated VOC for 14 Unique Source Categories

Rank	Analyzer Vents	Control Devices	Cooling Towers	De-Greasing	Flares	SSM Flares	Fugitives	Loading	SSM	Vents	Wastewater	Unclassified	Flex Caps
1	6.00	200	10.9	3.51	3150	1796	121	229	17.5	128	27.9	213	6028
2	0.52	200	8.4	3.04	2022	306	92	74	17.5	56	27.9	123	3596
3	0.35	200	7.6	1.03	1753	85	70	59	14.0	50	27.0	116	2405
4	0.32	200	7.5	0.08	1665	60	69	42	7.8	50	8.4	88	336
5	0.15	131	7.5	0.06	1510	53	64	41	5.0	38	8.4	86	301
6	0.11	43	6.2	0.01	1157	27	47	38	4.8	38	8.0	74	281
7	0.10	38	5.6		795	8	39	37	4.7	15	7.6	69	268
8	0.10	34	5.5		622	4	38	28	2.8	15	7.2	56	257
9	0.10	32	5.5		492		33	28	0.7	13	5.8	55	169
10	0.05	31	5.2		492		32	28		13	5.5	49	148

Figure 3-1 gives the percentile distribution of allowable emissions for unspciated VOC, in pounds per hour, for all the EPNs that were identified in the file search. The percentile distribution gives the percentage of the total number of EPNs that have allowable emissions for unspciated VOC less than or equal to the corresponding x-axis value. Note, for example, that approximately 90 percent of the EPNs have allowable emission rates for unspciated VOC less than or equal to 10 pounds per hour. Figures 3-2 through 3-14 give the percentile distributions, individually, for each of the source types listed in Table 3-1.

Spociated HRVOC data were found for 159 of the 2,630 EPNs identified in the file search (from a total of 20 different accounts). Spociated HRVOC data were also found for two flex permits. Table 3-2 gives the total HRVOC allowable emissions for the 20 accounts from which spociated HRVOC data were found. Actual HRVOC emissions for 2000, based on reported emissions and the speciation profiles applied to unspciated VOC by TCEQ staff are also presented.

Table 3-2.
Total Allowable Emissions for Spociated HRVOC.

Account	HRVOC Allowable Emissions (Pounds/Hour)	HRVOC Allowable Emissions (Tons/Day)	HRVOC Actual Emissions (Tons/Day)
BI0268B	44.7	0.54	0.069
BL0002S	62.4	0.75	0.930
BL0022M	3.0	0.04	0.021
BL0082R	705.7	8.47	1.560
BL0758C	0.0	0.00	0.653
CI0028L	2.8	0.03	0.154
GB0001R	3.2	0.04	0.155
GB0076J	32.4	0.39	0.672
HG0033B	702.3	8.43	2.592
HG0036S	18.8	0.23	0.249
HG0126Q	0.8	0.01	0.184
HG0229F	998.7	11.98	0.697
HG0232Q	0.0	0.00	0.247
HG0310V	2682.2	32.19	0.785
HG0659W	188.7	2.26	1.242
HG0665E	1.2	0.01	0.945
HG0770G	1447.3	17.37	0.924
HG1575W	776.9	9.32	0.195
HG7698J	21.0	0.25	0.021
HG0665E	387.1	4.65	0.945

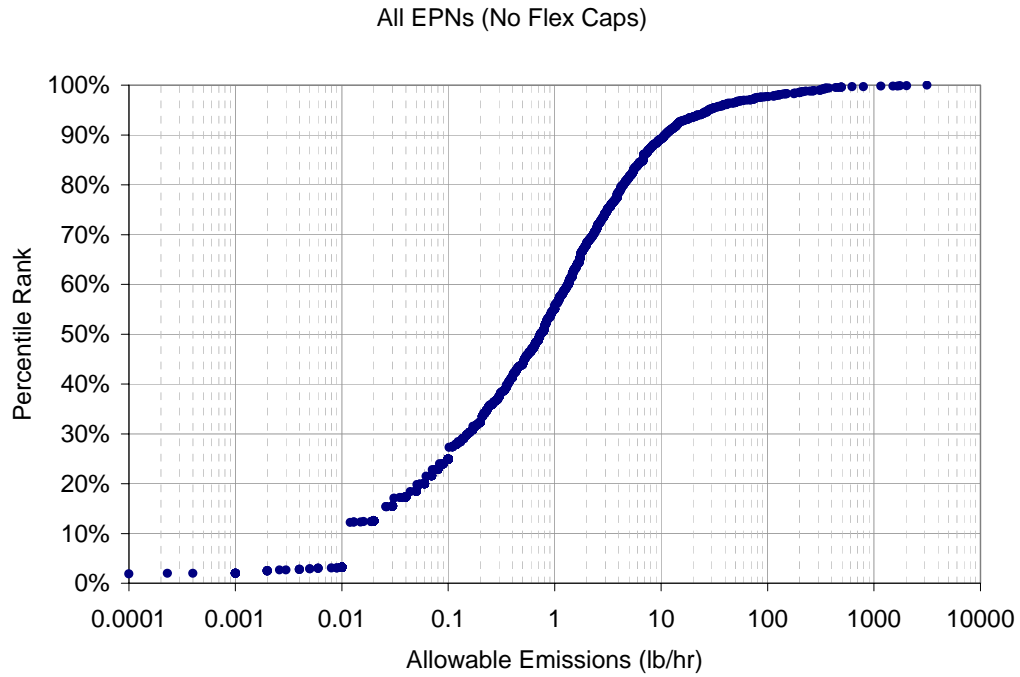


Figure 3-1. Percentile Distribution of Unspeciated VOC Allowable Emissions for all EPNs.

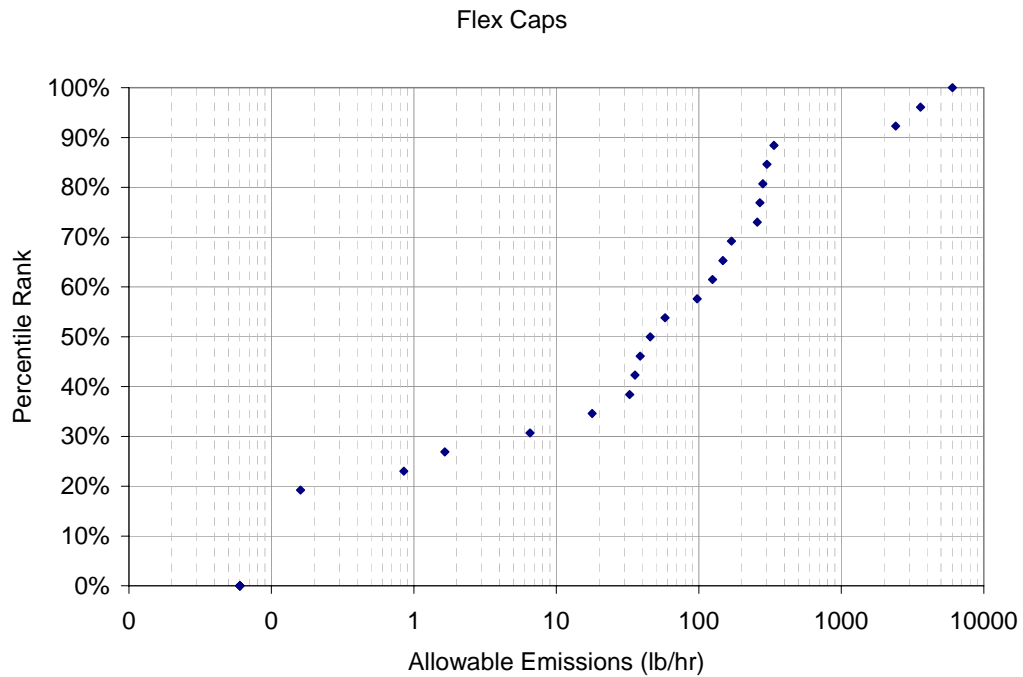


Figure 3-2. Percentile Distribution of Unspeciated VOC Allowable Emissions for Flex Caps.

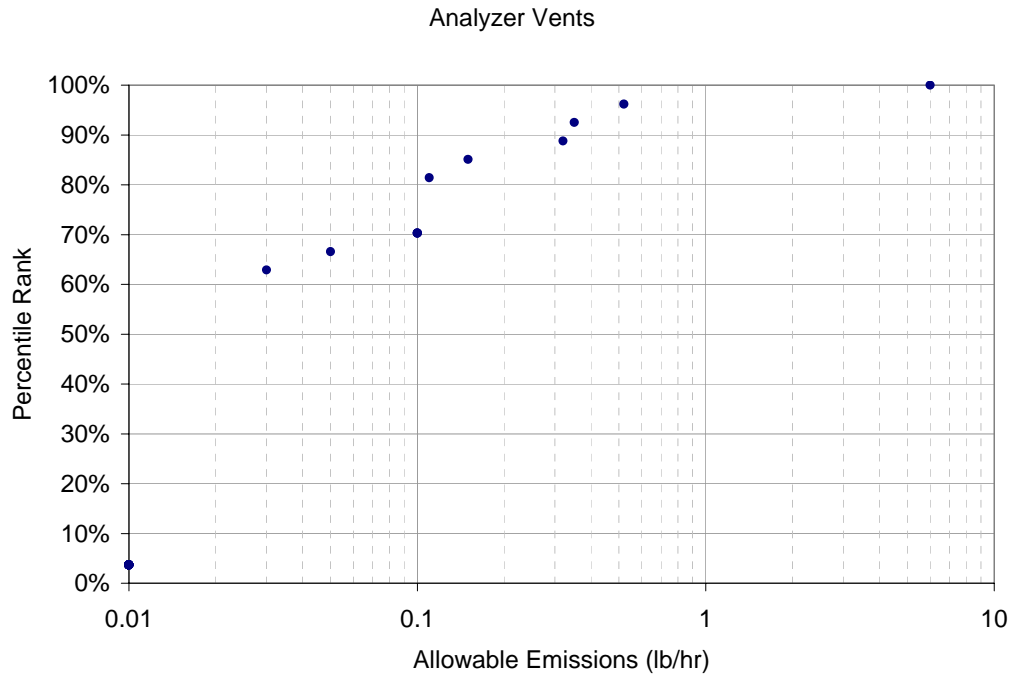


Figure 3-3. Percentile Distribution of Unspecified VOC Allowable Emissions for Analyzer Vents.

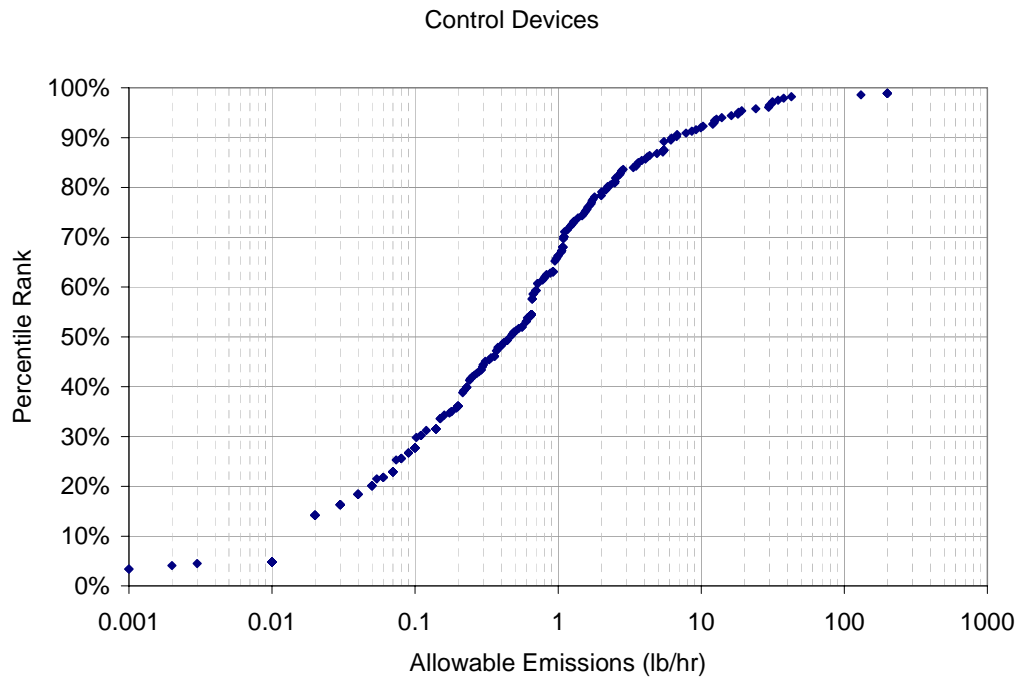


Figure 3-4. Percentile Distribution of Unspecified VOC Allowable Emissions for Control Devices.

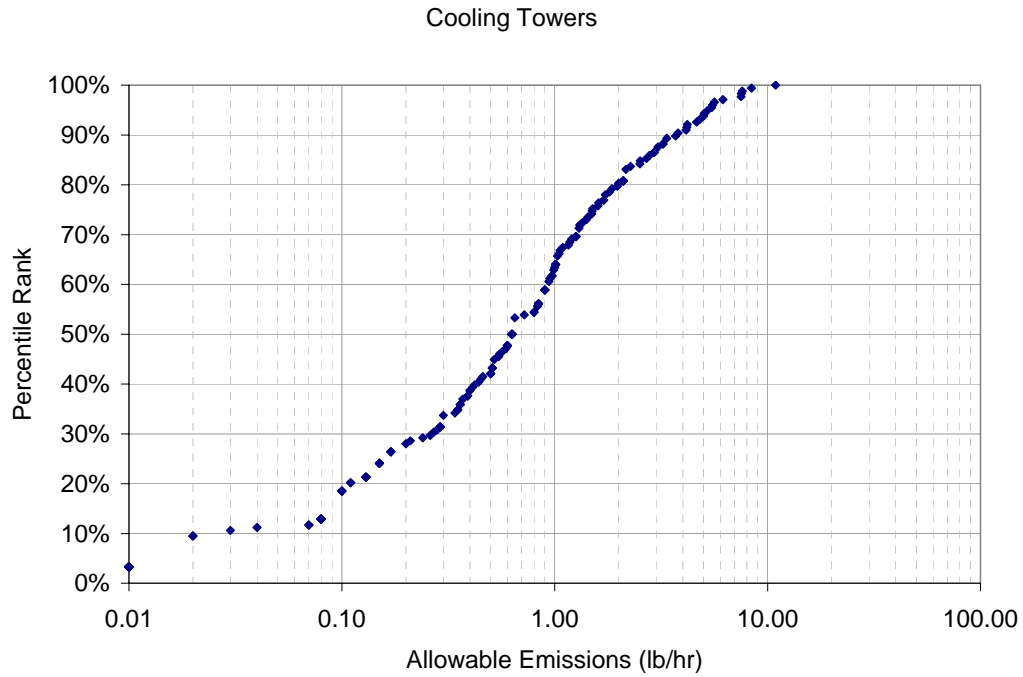


Figure 3-5. Percentile Distribution of Unspecified VOC Allowable Emissions for Cooling Towers.

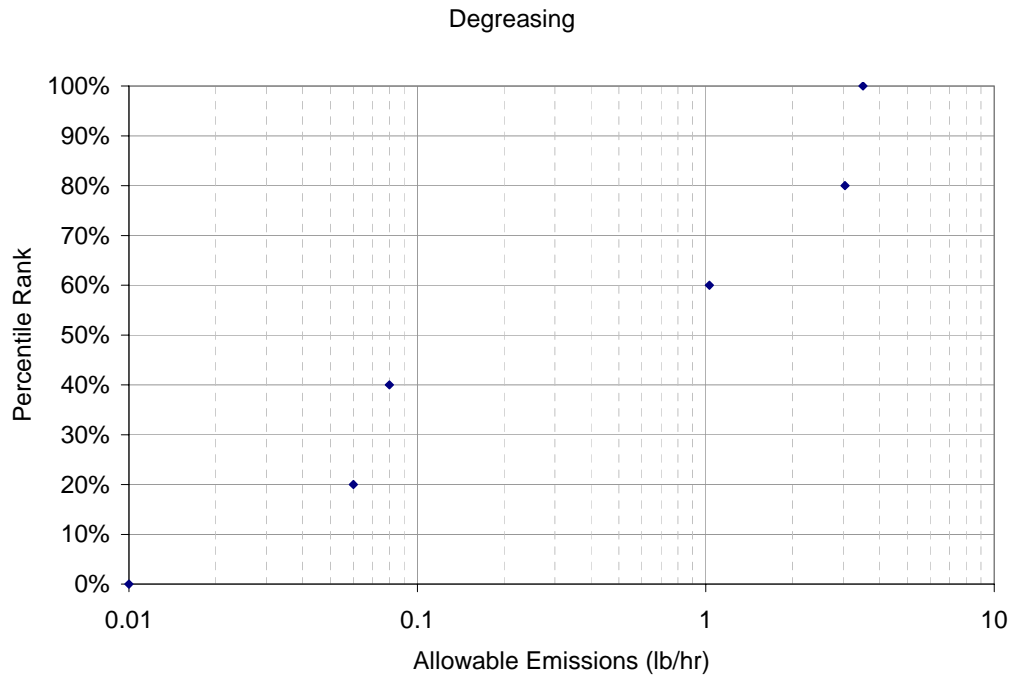


Figure 3-6. Percentile Distribution of Unspecified VOC Allowable Emissions for Degreasing.

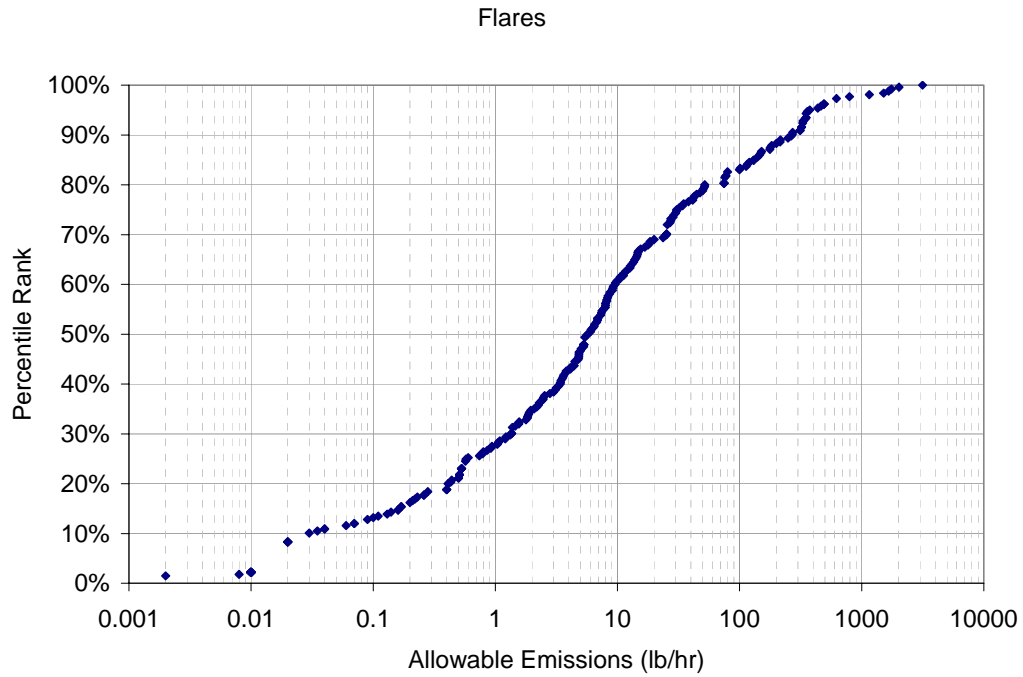


Figure 3-7. Percentile Distribution of Unspeciated VOC Allowable Emissions for Flares.

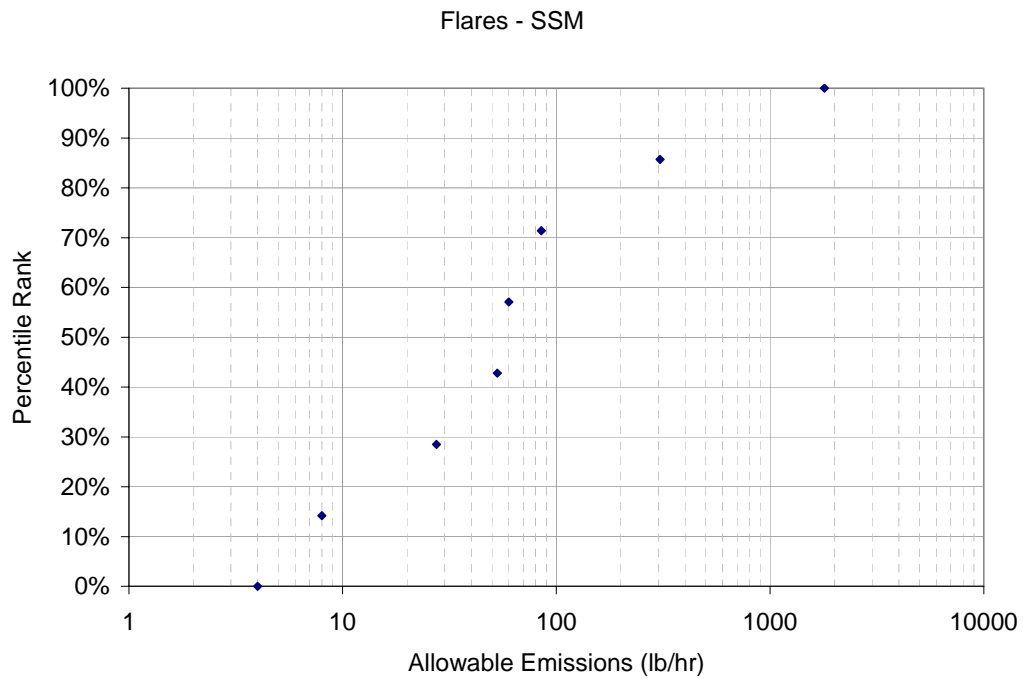


Figure 3-8. Percentile Distribution of Unspeciated VOC Allowable Emissions for Startup-Shutdown-Maintenance Flares.

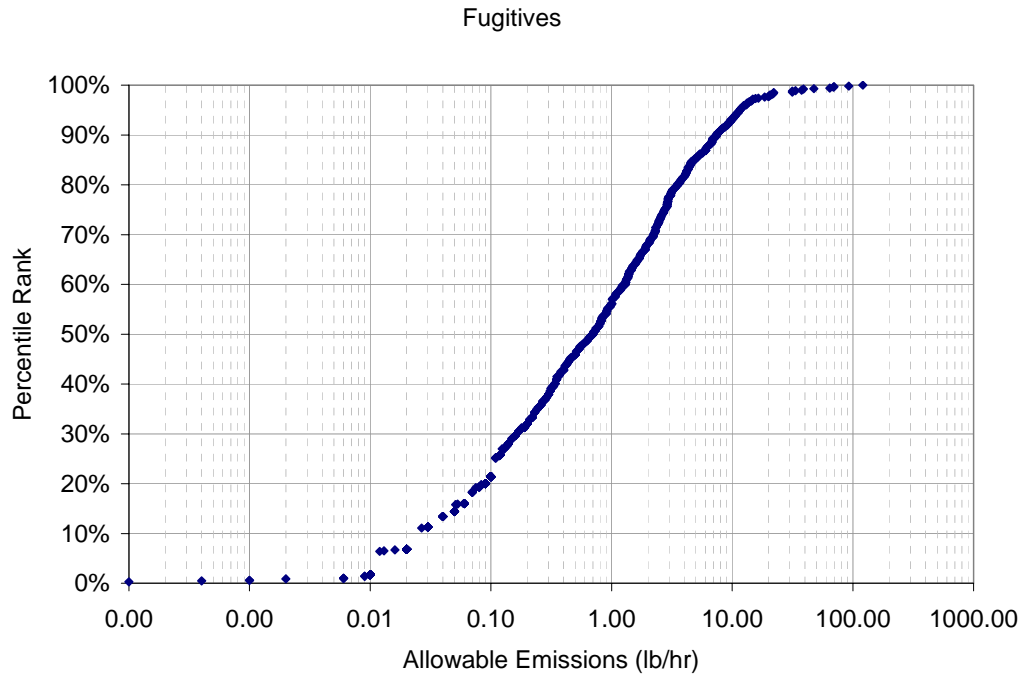


Figure 3-9. Percentile Distribution of Unspeciated VOC Allowable Emissions for Fugitives.

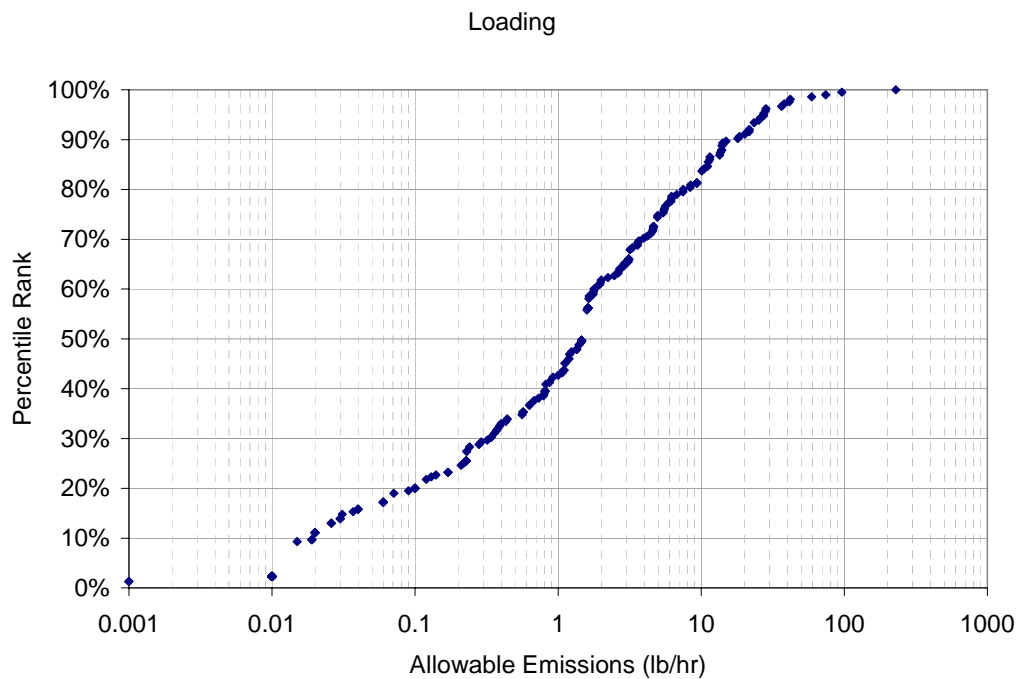


Figure 3-10. Percentile Distribution of Unspeciated VOC Allowable Emissions for Loading.

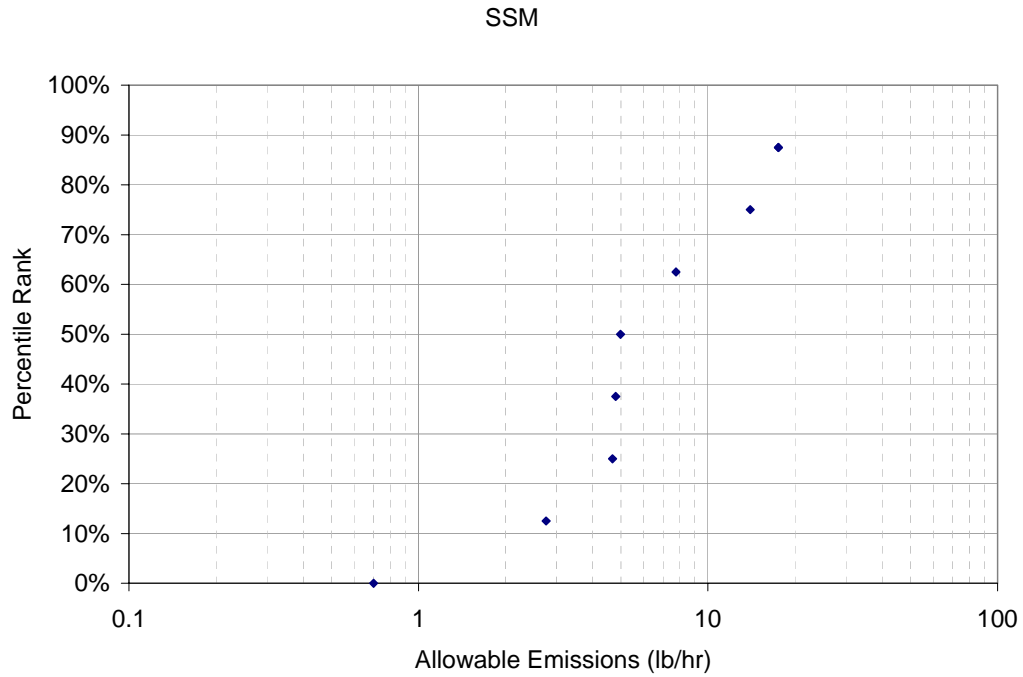


Figure 3-11. Percentile Distribution of Unspecified VOC Allowable Emissions for Startup-Shutdown-Maintenance.

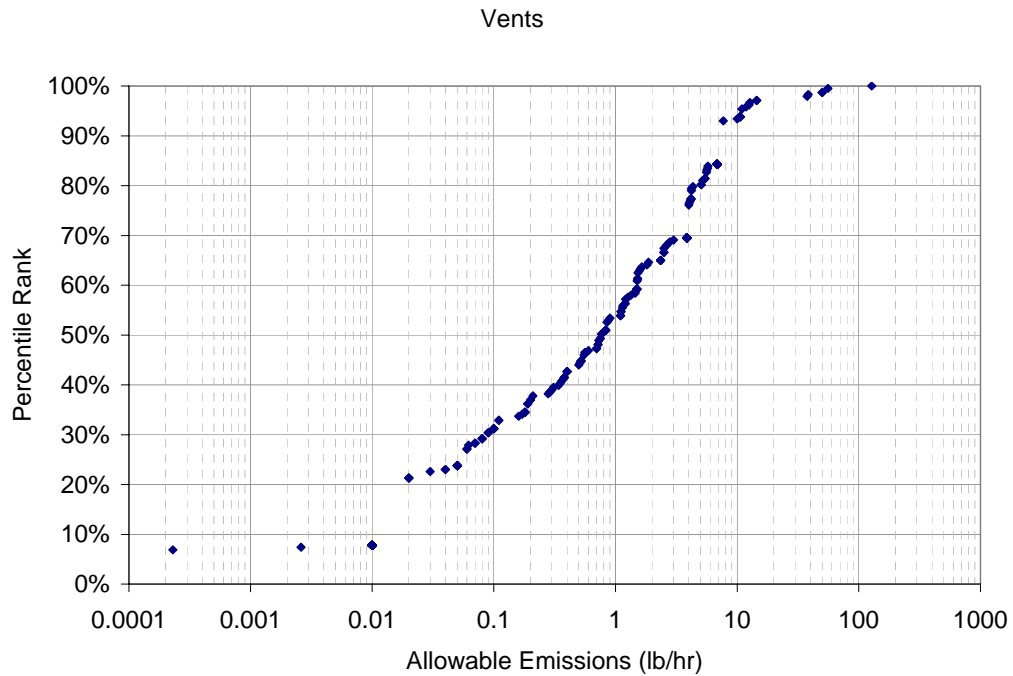


Figure 3-12. Percentile Distribution of Unspecified VOC Allowable Emissions for Vents.

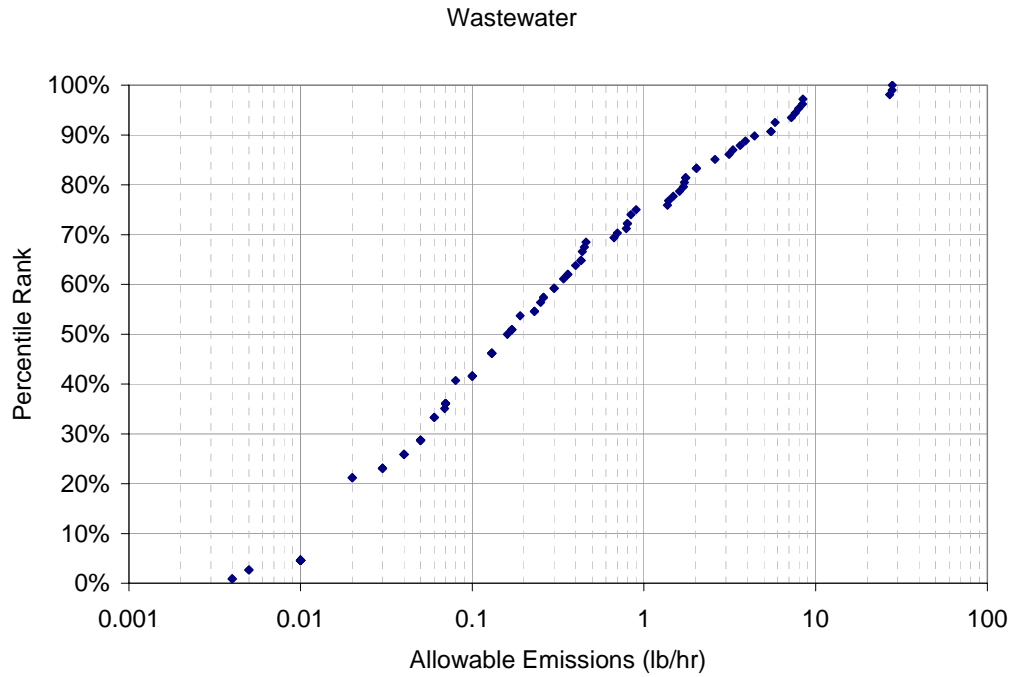


Figure 3-13. Percentile Distribution of Unspecified VOC Allowable Emissions for Wastewater.

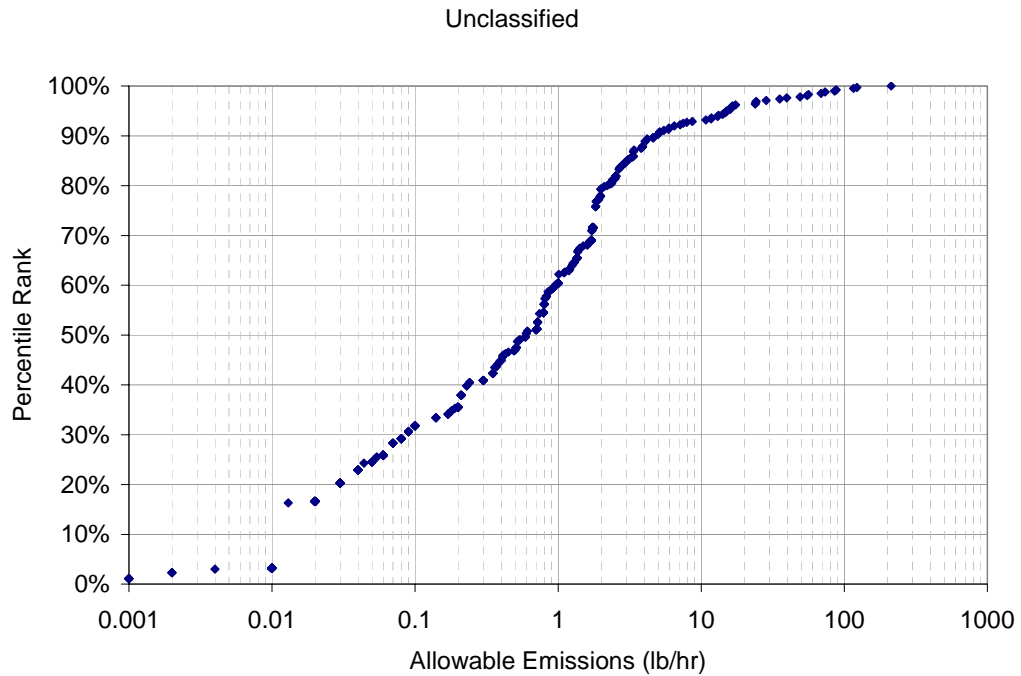


Figure 3-14. Percentile Distribution of Unspecified VOC Allowable Emissions for Unclassified EPNs.

4.0 Limitations and Other Considerations

This section contains a brief a discussion of decisions made during the project to address issues that were discovered during the course of the project as well as any limitations or other considerations to be mindful of when drawing conclusions from the data.

Non-Relevant and Void Permits

An accounting was kept for permits that were reviewed and which contained no relevant information for this project (i.e., the permit contained only combustion sources or storage tanks), or were identified to be standard permits or SE/PBRs. Additionally, permits that were found to be void were also recorded. A list of these permits is presented in Appendix B.

Accounts with no Construction Permits

Several of the HRVOC accounts reviewed as part of this project do not currently operate under a construction permit. These accounts are authorized under either standard permits or SE/PBRs. These accounts are mostly waste companies (landfills, etc.) and pipeline companies, and a list of these accounts is included as Appendix C.

Missing or Incomplete Permit Files

As mentioned in Section 2.2, sometimes the recent permit information for sources was missing from the available files. For these sources, the word “missing” was entered into the allowable emissions fields. Appendix D is a compilation of these missing or incomplete permit files.

“Pre-July 99” versus “Current” Fields

If the most current MAERT had been issued prior to July 1, 1999, then these MAERT values were entered into both the “Pre-July 99” and the “Current” columns, in order for the growth factor to be equal to one.

If an EPN was determined to be a new source since July 1, 1999, a zero was entered into the “Pre-July 99” column. If no previous data could be found, but it was unclear whether or not the source was a new source, the “Pre-July 99” column was left blank. Also, if the source was determined to be a grandfathered or previously standard exempted/PBR source, the “Pre-July 99” column was left blank, and a note was placed in the Comments that it was a grandfathered or SE/PBR source.

If it was determined that a source had been shutdown since July 1, 1999, then a zero was entered into the “Current” column. If this determination could not be made, but a post-July 1, 1999 MAERT value could not be found, the “Current” column was left blank.

Source Types

Table 4-1 contains a listing of the unique source/EPN types used in the database. In most cases the source types were discernable from the EPN name in the MAERT and they fit one of the source types listed. In some cases, the EPN name was simply another alphanumeric identifier and a source type could not be determined. In these cases, the permit file was searched for a process description or the various TCEQ tables to try to determine the source type. If a description of the EPN could not be identified, or the EPN did not fit into any of the source type categories presented in Table 4-1, the source type was left blank.

Table 4-1. Unique EPN (Source Types)

EPN Type
Analyzer Vent
Control Device
Cooling Tower
Degreasing
Flare
Flare - startup, shutdown, maintenance service
Flex Cap
Fugitives
Loading
Startup/Shutdown/Maintenance
Vent
Wastewater
Blank (undetermined)

Caps within Construction Permits

In many permits (non-flexible permits), EPNs are grouped together and an emission limit (“cap”) is set on the EPN group. These “caps” could be on both the hourly and annual allowable emissions. In this case, all of the EPNs were listed in the EPN field, and the cap limits were entered into the appropriate allowable emissions columns.

In other cases, each individual EPN had its own hourly limit, but there was a cap on the annual allowable emissions for the EPN group. In this case, the individual EPNs were listed separately, the hourly allowable emissions were listed, and the annual allowable emissions were left blank. A new row was created for the EPN group and the annual allowable emissions were entered and the hourly column was left blank. A note was added to the “Comments” field to explain this situation.

Flexible Permits

Only the “Final” flexible permit cap was entered into the spreadsheet, and there was no attempt to locate speciated data for sources covered under a Flexible permit. Additionally, growth factor information was not searched for (i.e., only the “Current” column was completed for Flexible permits).

Startup/Shutdown/Maintenance Emissions

When available, permitted allowable emissions from startups, shutdowns, and maintenance events were also logged as a separate source/EPN type.

Speciation Data

Speciation data were reviewed and if it appeared to be consistent with the permitted allowables presented on the MAERT (that is the sum of the speciation data was equal to (or close) to the VOC value on the MAERT) then the speciation data were entered into the spreadsheet. If speciation data were from the most current permit modification and the sum of that data was close (but not exactly equal) to the VOC value in the MAERT, the data were entered. However, if the only speciation data that could be found was from a previous application, and the data did not sum to the total VOC value, then the data were not entered.

In a few cases, the permit applications specifically noted that the speciated constituents did not sum up to be the total VOC; for these cases, the speciated data were also entered. An example of this situation was if it was a loading operation and they could load multiple compounds, the speciation would be different depending on what they were loading. These situations were generally noted in the “Comments” field.

APPENDIX A

LIST OF HRVOC ACCOUNTS

RANK	ACCOUNT	OWNER
1	HG0033B	EQUISTAR CHEMICALS LP
2	BL0082R	THE DOW CHEMICAL CO
3	HG0659W	SHELL OIL CO
4	HG0665E	BP SOLVAY POLYETHYLENE N AMERICA
5	BL0002S	AMOCO CHEMICAL CO
6	HG0770G	EQUISTAR CHEMICALS LP
7	HG0310V	CHEVRON CHEMICAL CO
8	HG0713S	ENRON METHANOL CO
9	GB0076J	UNION CARBIDE CORP
10	BL0758C	CHEVRON PHILLIPS CHEMICAL CO LP
11	HG0566H	PHILLIPS CHEMICAL COMPANY
12	HG0562P	TEXAS PETROCHEMICALS LP
13	HG0048L	LYONDELL CITGO REFINING L P
14	HG0229F	EXXONMOBIL CHEMICAL CO
15	HG1269J	AMOCO CHEMICALS
16	HX0055V	AMOCO CHEMICAL COMPANY
17	HG0323M	MONTELL USA INC
18	HG0035U	MOBIL CHEMICAL CO
19	HX2334A	LINDE GAS INC
20	HG1996R	EQUISTAR CHEMICALS LP
21	HG0036S	FINA OIL & CHEMICAL CO
22	GB0073P	VALERO REFINING CO TEXAS
23	BL0023K	THE DOW CHEMICAL CO
24	HG0228H	EXXON CHEMICAL CO
25	HG0130C	VALERO REFINING TEXAS LP
26	HG0232Q	EXXONMOBIL CORP
27	HG0126Q	HOECHST CELANESE CHEMICAL GROUP INC
28	HG0175D	CROWN CENTRAL PETROLEUM CORP
29	GB0060B	STERLING CHEMICALS INC
30	HG1575W	LYONDELL CHEMICAL CO
31	CI0002G	EQUISTAR CHEMICALS LP
32	HG0807I	MC CARTY ROAD LANDFILL TX LP
33	GB0001R	BP AMOCO CHEMICAL COMPANY
34	CI0028L	EQUILON PIPELINE CO LLLC
35	CI0006V	ENTERPRISE TEXAS OPERATING LP
36	HG0825G	SUNOCO INC
37	HG0218K	EI DUPONT DENEMOURS AND COMPANY
38	GB0004L	BP AMOCO TEXAS CITY BUSINESS UNIT
39	CI0009P	EXXON CHEMICAL CO
40	HG4662F	ATOFINA PETROCHEMICALS INC
41	BL0113I	EQUISTAR
42	BL0044C	CHEVRON PHILLIPS CHEMICAL CO LP
43	CI0025R	DIAMOND-KOCH
44	BL0042G	PHILLIPS 66 CO
45	CI0008R	ENTERPRISE PRODUCTS OPERATING LP
46	HG0461W	ATOFINA CHEMICALS INC

47	HG0459J	LUBRIZOL CORPORATION
48	HX1726J	MILLENNIUM PETROCHEMICALS INC
49	BL0268B	EQUISTAR CHEMICALS LP
50	HG0537O	LYONDELL CHEMICAL WORLDWIDE INC
51	BL0005M	HILCORP ENERGY CO
52	HG0632T	ROHM & HAAS TEXAS
53	HG1939G	OXY VINYLs LP
54	HG0225N	ALBEMARLE CORP
55	CI0011F	EXXONMOBIL COMPANY
56	CI0022A	DYNEGY MIDSTREAM SERVICES LP
57	BL0038U	SOLUTIA INC
58	WB0003U	EXXON COMPANY
59	FG0536E	BFI WASTE SYSTEMS OF N AMERICA
60	GB0055R	MARATHON ASHLAND PETROLEUM LLC
61	FG0042L	CROMPTON CORP
62	HG1249P	SUNOCO INCORPORATED R & M
63	BL0021O	BASF CORPORATION
64	CI0119H	UCAR PIPELINE INC
65	HG0289K	GOODYEAR TIRE AND RUBBER COMPANY
66	LH0051C	EXXONMOBIL PIPELINE COMPANY
67	HX2843U	EXXONMOBIL PIPELINE COMPANY
68	HG0276T	GEORGIA GULFCHEM & VINYLs LLC
69	LH0028U	NATURAL GAS PIPELINE CO OF AMERICA
70	HG9416K	BFI WASTE SERVICES OF TEXAS LP
71	HG0686T	SOUTHWEST SHIPYARD LP
72	HG0674D	DONOHUE INDUSTRIES INC
73	LH0082O	EXXON MOBIL CORPORATION
74	BL0003Q	AMOCO CHEMICAL CO
75	HG0426B	K M C O INCORPORATED
76	HG1310O	EVAL COMPANYAMERICA
77	HG7698J	NOLTEX LLC
78	BL0022M	THE DOW CHEMICAL CO
79	HG7255B	WETMORE & COMPANY
80	GB0270L	BROWNING FERRIS INDUSTRIES
81	FG0266K	AQUILA STORAGE & TRANSPORTATION CORP
82	HG0657D	SHELL OIL COMPANY
83	BL0378Q	OYSTER CREEKLIMITED--POWER UNIT 8
84	HX0776B	THE HOUSTON CHRONICLE
85	LH0112H	MARKET HUB PARTNERS LP
86	HG3843G	THE HEARST CORP--HOUSTON PBLSG CO
87	HG0717K	AKZO NOBEL CHEMICALS INC
88	HG0052U	ENGELHARD CORPORATION
89	HG0786O	DYNEGY MIDSTREAM SERVICES LP
90	CI0103W	KERR MCGEE OIL & GAS ONSHORE LLC
91	HG3604D	GLOBAL OCTANES CORP
92	HG0017W	WILLIAMS TERMINALS HOLDINGS LP
93	HG0403N	INTERCONTINENTAL TERMINALS CO

94	GB0077H	UNION CARBIDE CORP
95	HG0629I	VOPAK TERMINAL
96	MQ0012Q	HUNTSMAN PETROCHEMICAL CORP
97	HG0076G	NEWPARK SHIPBUILDING BRADY ISLAND
98	CI0104U	KERR MCGEE OIL & GAS ONSHORE LLC
99	FG0010B	EXXON CORP
100	HG0457N	LONZA INCORPORATED
101	HG0303S	GULF COAST WASTE DISPOSAL AUTHORITY
102	FG0594N	KTEC ELECTRONICS CORPORATION
103	HG1065E	KANEKA TEXASCORP
104	FG0009J	ATLAS OIL & GAS
105	HG0486G	MERISOL USA LLC
106	HG5657O	GROVER PRINTING CO
107	HG0261J	KINDER MORGAN LIQUIDS
108	FG0265M	DUKE ENERGY FIELD SERVICES LP
109	HG1394F	TRUNKLINE GAS CO
110	HG0194W	OXYVINYL S L P
111	CI0186P	USA WASTE OF TEXAS LANDFILLS INC
112	CI0016S	BAYER CORP
113	HG0319D	HALTERMANN LIMITED
114	HG0564L	PETROLITE CORPORATION
115	HG0460B	THE LUBRIZOL CORPORATION
116	HG0234M	EXXON CORPORATION
117	BL0048R	SCHENECTADY INTERNATIONAL INC
118	MQ0064U	NATURAL GAS PIPELINE CO OF AMERICA
119	FG0040P	PATTERSON PETROLEUM LP
120	WB0098G	DEVON ENERGY OPERATING COMPANY
121	HG0633R	SAFETY KLEENDEER PARK INC
122	HG0512H	NATURAL GAS ODORIZING INC
123	HG0224P	VOPAK INDUSTRIAL SVCS USA INC
124	BL0719M	HILCORP ENERGY CO
125	GB0028U	ISP TECHNOLOGIES INC
126	HG1245A	PROMOTIONAL PRINTING
127	MQ0303C	ACACIA NATURAL GAS CORP
128	CI0005A	KOCH HYDROCARBON CO
129	HG0714Q	EOTT ENERGY LIQUIDS
130	HG6831P	ETHYL CORPORATION
131	HG2798Q	UNIVERSAL URETHANES INC
132	HG0941D	SOLVAY INTEROX INC
133	HG3757A	ENICHEM AMERICAS INC
134	BL0043E	PHILLIPS PETROLEUM CO
135	HG3307M	NOVA CHEMICALS USA INC
136	CI0171F	KOCH PIPELINES INC LPG DIVISION
137	HX1546N	AIR PRODUCTS AND CHEMICALS INC
138	HG0180K	CUSTOM BLAST SERVICES INC
139	HG0037Q	AKZO NOBEL CHEMICALS INC
140	FG0037E	TEXAS INSTRUMENTS INC

141	HG0144O	CITY OF HOUSTON
142	HG0029P	LBC HOUSTON L P
143	HG0944U	ROHM AND HAAS CO-BAYPORT PLANT
144	HG3553S	AMOCO CHEMICAL CO
145	GB0067K	SEA LION TECHNOLOGY INC
146	BL0626U	AIR LIQUIDE AMERICA CORP
147	BL0045A	RHODIA RARE EARTHS INC
148	BL0724T	TRI-UNION DEVELOPMENT CORP
149	BL0725R	TRI-UNION DEVELOPMENT CORP
150	HG0199M	DIXIE CHEMICAL CO
151	BL0723V	TRI-UNION DEVELOPMENT CORP
152	HX2668O	CHAMPAGNE FINE PRINTING
153	CI0056G	TEXAS EASTERN TRANSMISSION CORP
154	FG0332W	TEXAS PETROLEUM INVESTMENT CO
155	HG0929Q	HALTERMANN
156	MQ0002T	DUKE ENERGY FIELD SERVICES LP

APPENDIX B

LIST OF NON-RELEVANT AND VOID PERMITS

Non-Relevant Permits

Account No.	Company Name	Permit No.	Comments
HG0033B	Equistar Chemicals LP	3627	Tank
BL0082R	The Dow Chemical Company	1407	No VOC
BL0082R	The Dow Chemical Company	19026	No VOC
BL0082R	The Dow Chemical Company	22743	No VOC
BL0082R	The Dow Chemical Company	27041	Standard Permit, no emission rates shown (only have files from Groupwise).
BL0082R	The Dow Chemical Company	35203	Standard exemption registration that the TCEQ determined required no permitting or exemption from permitting.
BL0082R	The Dow Chemical Company	9047	Gas Turbine
BL0082R	The Dow Chemical Company	646	Emergency Fuel Oil Storage
BL0082R	The Dow Chemical Company	9938	Wastewater Storage Tank
BL0082R	The Dow Chemical Company	48478	No VOC Emissions
BL0082R	The Dow Chemical Company	48479	All Storage Tanks
BL0082R	The Dow Chemical Company	47092	Standard permit that only affects NOx.
BL0082R	The Dow Chemical Company	9636	Converted to a standard exemption or pbr
HG0659W	Shell Oil Company	1120	Tank
HG0659W	Shell Oil Company	1119	Tank
HG0659W	Shell Oil Company	3200	Two Boilers
BL0002S	Amoco Chemical Company	101	Boiler
BL0002S	Amoco Chemical Company	217	Boiler
BL0002S	Amoco Chemical Company	102	Boiler
BL0002S	Amoco Chemical Company	2798	Boiler
BL0002S	Amoco Chemical Company	1611	Only PM Emissions
HG0770G	Equistar Chemicals LP	49122	Only contains sources with PM allowables
HG0770G	Equistar Chemicals LP	5226	Two Boilers
HG0310V	Chevron Chemical Company	8930A	Two Boilers

Account No.	Company Name	Permit No.	Comments
HG0310V	Chevron Chemical Company	8930	Two Boilers
GB0076J	Union Carbide Corporation	6732	Converted to a standard exemption
GB0076J	Union Carbide Corporation	P841	
GB0076J	Union Carbide Corporation	9995	
GB0076J	Union Carbide Corporation	6732	
GB0076J	Union Carbide Corporation	6733	
GB0076J	Union Carbide Corporation	8752	
HG0566H	Phillips Chemical Company	4015A	No VOC emissions
HG0566H	Phillips Chemical Company	7174	No VOC emissions
HG0562P	Texas Petrochemicals LP	9199	
HG0562P	Texas Petrochemicals LP	9200	
HG0562P	Texas Petrochemicals LP	P999	
HG0562P	Texas Petrochemicals LP	22502	
HG0562P	Texas Petrochemicals LP	3359A	
HG0562P	Texas Petrochemicals LP	R-7174	
HG0562P	Texas Petrochemicals LP	1341A	No EPNs
HG0048L	Lyondell Citgo Refining LP	2153	No EPNs - Boilers Only
HG0048L	Lyondell Citgo Refining LP	6036	No EPNs
HG0048L	Lyondell Citgo Refining LP	2153	No EPNs - Boilers Only
HG0048L	Lyondell Citgo Refining LP	6036	No EPNs
HG0229F	ExxonMobil Chemical Company	5259	EPNs- Furnaces Only
GB0073P	Valero Refining Company of Texas	P773	Only Gas Turbines
GB0073P	Valero Refining Company of Texas	1122A	Only 2 Heaters
GB0073P	Valero Refining Company of Texas	1972A	Only Boilers
GB0073P	Valero Refining Company of Texas	19759	Only Engines and Turbines
BL0023K	The Dow Chemical Company	6157	Boiler
HG0228H	Exxon Chemical Company	3871	Only Boilers
HG0228H	Exxon Chemical Company	3872	Only Boilers
HG0228H	Exxon Chemical Company	3873	Only Boilers
HG0228H	Exxon Chemical Company	3874	Only Boilers
HG0228H	Exxon Chemical Company	9910	Only Turbines and Engines

Account No.	Company Name	Permit No.	Comments
HG0130C	Valero Refining of Texas LP	P767M1	Only Gas Turbines
HG0232Q	ExxonMobil Corporation	27887	Sulfur Tank Only
HG0232Q	ExxonMobil Corporation	2338	Gas Turbine Only
HG0232Q	ExxonMobil Corporation	2752	Single EPN that doesn't emit VOCs
HG0126Q	Hoechst Celanese Chemical Group Inc.	3378	Only Boiler
HG1575W	Lyondell Chemical Company	3286A	Only Boilers
GB0001R	BP Amoco Chemical Company	20247	Boiler
GB0001R	BP Amoco Chemical Company	4594	Boiler
GB0001R	BP Amoco Chemical Company	9378	Turbine, Steam Generator, Engine
GB0001R	BP Amoco Chemical Company	P782	Boiler
HG0218K	EI Dupont Denemours and Company	37750	Exemption
GB0004L	BP Amoco Texas City Business Unit	9463	4 Turbines
GB0004L	BP Amoco Texas City Business Unit	2636	1 Heater
GB0004L	BP Amoco Texas City Business Unit	20492	1 Boiler
GB0004L	BP Amoco Texas City Business Unit	1940	1 Storage Tank
GB0004L	BP Amoco Texas City Business Unit	2530	2 Storage Tanks
GB0004L	BP Amoco Texas City Business Unit	6592	Tank and Heater
GB0004L	BP Amoco Texas City Business Unit	1261	Storage Tank
GB0004L	BP Amoco Texas City Business Unit	18506	Exemption
GB0004L	BP Amoco Texas City Business Unit	20492	Boiler
GB0004L	BP Amoco Texas City Business Unit	2939	Boiler
GB0004L	BP Amoco Texas City Business Unit	4	Boiler
GB0004L	BP Amoco Texas City Business Unit	47954	Standard permit
GB0004L	BP Amoco Texas City Business Unit	47955	Standard permit

Account No.	Company Name	Permit No.	Comments
GB0004L	BP Amoco Texas City Business Unit	47956	Standard permit
CI0025R	Diamond-Koch	10346	Change of ownership only-no MAERT
BL0042G	Phillips 66 Company	1486A	No EPNs
BL0042G	Phillips 66 Company	1514A	No EPNs
BL0042G	Phillips 66 Company	5679G	No EPNs
BL0042G	Phillips 66 Company	7754A	No EPNs
BL0042G	Phillips 66 Company	25389	No EPNs
BL0042G	Phillips 66 Company	2849A	No EPNs
BL0042G	Phillips 66 Company	3073A	No EPNs
HG0459J	Lubrizol Corporation	23695	No VOCs

Void Permits

Account No.	Company Name	Permit No.	Comments
HG0033B	Equistar Chemicals LP	3130B	Permit # 3130B incorporated into # 3130A
HG0033B	Equistar Chemicals LP	2935	Permit #2935 incorporated into #2128
HG0033B	Equistar Chemicals LP	32324	Standard Permit #32324 incorporated into #8125
BL0082R	The Dow Chemical Company	18624	Permit #18624 incorporated into #20525
BL0082R	The Dow Chemical Company	16725	Unknown - was a special permit
BL0082R	The Dow Chemical Company	17107	Unknown - was a special permit
BL0082R	The Dow Chemical Company	17479	Renewal date of 4/14/02 has passed, permit status shown as void in TCEQ permit database; Permit was a "Special Permit"
BL0082R	The Dow Chemical Company	17480	Was not renewed
BL0082R	The Dow Chemical Company	18509	Was not renewed - Permit was a "Special Permit"
BL0082R	The Dow Chemical Company	18547	Facility request - Permit was a "Special Permit"
BL0082R	The Dow Chemical Company	18852	Facility request - Permit was a "Special Permit"
BL0082R	The Dow Chemical Company	18606	Was not renewed - Permit was a "Special Permit"
BL0082R	The Dow Chemical Company	19115	Requested by facility - incinerator demolished
BL0082R	The Dow Chemical Company	16853	Permit #16853 incorporated into #941
BL0082R	The Dow Chemical Company	2417	Permit #2417 incorporated into #941
BL0082R	The Dow Chemical Company	16774	Permit #16774 incorporated into Flex Permit #20432
BL0082R	The Dow Chemical Company	17027	Permit #17027 incorporated into Flex Permit #20432
BL0082R	The Dow Chemical Company	17028	Permit #17028 incorporated into Flex Permit #20432

Account No.	Company Name	Permit No.	Comments
BL0082R	The Dow Chemical Company	22078	Permit #22078 incorporated into Flex Permit #20432
BL0082R	The Dow Chemical Company	18579	Permit #18579 incorporated into Flex Permit #20432
BL0082R	The Dow Chemical Company	22084	Permit #22084 incorporated into Flex Permit #20432
BL0082R	The Dow Chemical Company	22829	Permit #22829 incorporated into Flex Permit #20432
BL0082R	The Dow Chemical Company	2471	Permit #2471 incorporated into Flex Permit #20432
BL0082R	The Dow Chemical Company	2562	Permit #2562 incorporated into Flex Permit #20432
BL0082R	The Dow Chemical Company	29445	Permit #29445 incorporated into Flex Permit #20432
BL0082R	The Dow Chemical Company	36478	Standard Permit #36478 incorporated into Flex Permit #20432
BL0082R	The Dow Chemical Company	3740	Permit #3740 incorporated into Flex Permit #20432
BL0082R	The Dow Chemical Company	4370	Permit #4370 incorporated into Flex Permit #20432
BL0082R	The Dow Chemical Company	4575	Permit #4575 incorporated into Flex Permit #20432
BL0082R	The Dow Chemical Company	19050	Permit #19050 incorporated into Permit #17374
BL0082R	The Dow Chemical Company	3164	Permit #3164 incorporated into Permit #1472
BL0082R	The Dow Chemical Company	32204	
BL0082R	The Dow Chemical Company	3300	Permit #3300 incorporated into Permit #18561
BL0082R	The Dow Chemical Company	3571A	Equipment permanently shutdown
BL0082R	The Dow Chemical Company	36645	Standard Permit #36645 incorporated into Permit #19041
BL0082R	The Dow Chemical Company	6069	Expired
BL0082R	The Dow Chemical Company	9973	Voided and reissued into #20525

Account No.	Company Name	Permit No.	Comments
BL0082R	The Dow Chemical Company	9972	Permit expired
BL0082R	The Dow Chemical Company	9822	Void and reissued into permit #17374
BL0082R	The Dow Chemical Company	6743	Consolidated into #6707
HG0659W	Shell Oil Company	2924	Permit rolled into flex #21262 and voided
HG0659W	Shell Oil Company	3201	Consolidated with #3200
HG0659W	Shell Oil Company	3331	Permit rolled into flex #21262 and voided
HG0659W	Shell Oil Company	4284	Permit rolled into flex #21262 and voided
HG0659W	Shell Oil Company	48909	Voided
HG0659W	Shell Oil Company	5730	Permit rolled into flex #21262 and voided
HG0659W	Shell Oil Company	3202	Permit rolled into flex #21262 and voided
HG0659W	Shell Oil Company	2912	Voided
HG0659W	Shell Oil Company	2332	Permit rolled into flex #21262 and voided
HG0659W	Shell Oil Company	22187	Permit rolled into flex #21262 and voided
HG0659W	Shell Oil Company	21427	Permit rolled into flex #21262 and voided
HG0659W	Shell Oil Company	1898	Permit rolled into flex #21262 and voided
HG0659W	Shell Oil Company	1235	Permit rolled into flex #21262 and voided
HG0659W	Shell Oil Company	1897	Consolidated into #1898
HG0659W	Shell Oil Company	4285	Consolidated into #4284
HG0659W	Shell Oil Company	7621	Permit rolled into flex #21262 and voided
HG0659W	Shell Oil Company	9211	Permit rolled into flex #21262 and voided
HG0659W	Shell Oil Company	16779	Permit rolled into flex #21262 and voided
HG0659W	Shell Oil Company	24874	Permit rolled into flex #21262 and voided
HG0659W	Shell Oil Company	9505	Permit voided
HG0659W	Shell Oil Company	9715	Permit expired
HG0659W	Shell Oil Company	18768	Permit expired
HG0659W	Shell Oil Company	920	Facilities moved into #3219
HG0659W	Shell Oil Company	9856	Facilities moved into #3219

Account No.	Company Name	Permit No.	Comments
HG0665E	BP Solvay Polyethylene	1469	Permit voided
HG0665E	BP Solvay Polyethylene	1470	Permit voided
HG0665E	BP Solvay Polyethylene	4904	Permit voided
HG0665E	BP Solvay Polyethylene	687A	Permit expired
HG0665E	BP Solvay Polyethylene	18664	Consolidated into #19386
HG0665E	BP Solvay Polyethylene	19593	Consolidated into #19386
HG0665E	BP Solvay Polyethylene	3938A	Consolidated into #19386
HG0665E	BP Solvay Polyethylene	19386	Permit #19386 incorporated into #28351
BL0002S	Amoco Chemical Company	2482	Permit expired
HG0770G	Equistar Chemicals LP	17354	Rolled into #5226 and voided
HG0770G	Equistar Chemicals LP	43176	Rolled into #4477 and voided
HG0770G	Equistar Chemicals LP	43101	Rolled into #4477 and voided
HG0310V	Chevron Chemical Company	2462B	Consolidated with #2462C
HG0310V	Chevron Chemical Company	2138A	Consolidated into #1504A (1/96)
HG0310V	Chevron Chemical Company	2139A	Consolidated into #1504A (1/96)
HG0310V	Chevron Chemical Company	8364A	Permit #8364A incorporated into #37063
HG0310V	Chevron Chemical Company	9134	Permit expired
HG0310V	Chevron Chemical Company	8729	Permit expired
HG0310V	Chevron Chemical Company	8364	Permit expired
HG0310V	Chevron Chemical Company	8324	Permit expired
HG0310V	Chevron Chemical Company	5015B	Permit expired
GB0076J	Union Carbide Corporation	18070	Expired 10/03
GB0076J	Union Carbide Corporation	5551	Facility shutdown 12/03
GB0076J	Union Carbide Corporation	19794	Consolidated into #436
GB0076J	Union Carbide Corporation	8203	Permit expired
GB0076J	Union Carbide Corporation	9995	Permit voided
GB0076J	Union Carbide Corporation	585	Consolidated into #436

Account No.	Company Name	Permit No.	Comments
GB0076J	Union Carbide Corporation	2238	Permit rolled into flex #3284 (acct. GB0077H) and voided
GB0076J	Union Carbide Corporation	2346	Permit rolled into flex #3284 (acct. GB0077H) and voided
HG0556H	Phillips Chemical Company	18917	Rolled into #5562A
HG0556H	Phillips Chemical Company	19513	Assumed voided – no issued permits found
HG0556H	Phillips Chemical Company	21150	Permit voided
HG0556H	Phillips Chemical Company	22760	Permit voided
HG0556H	Phillips Chemical Company	4015	Permit voided
HG0556H	Phillips Chemical Company	4015A	Permit voided
HG0556H	Phillips Chemical Company	7210A	Permit voided
HG0562P	Texas Petrochemicals LP	3359A	Permit voided
HG0048L	Lyondell Citgo Refining LP	1149	Voided and incorporated into flex #2167
HG0048L	Lyondell Citgo Refining LP	1500	Voided and incorporated into flex #2167
HG0048L	Lyondell Citgo Refining LP	1979	Permit voided
HG0048L	Lyondell Citgo Refining LP	20363	Permit voided
HG0048L	Lyondell Citgo Refining LP	2149	Voided and incorporated into flex #2167
HG0048L	Lyondell Citgo Refining LP	2150	Voided and incorporated into flex #2167
HG0048L	Lyondell Citgo Refining LP	2151	Permit voided
HG0048L	Lyondell Citgo Refining LP	2152	Voided and incorporated into flex #2167
HG0048L	Lyondell Citgo Refining LP	2153	Permit voided
HG0048L	Lyondell Citgo Refining LP	2166	Voided and incorporated into flex #2167
HG0048L	Lyondell Citgo Refining LP	21849	Voided and incorporated into flex #2167
HG0048L	Lyondell Citgo Refining LP	23548	Permit voided
HG0048L	Lyondell Citgo Refining LP	23549	Voided and incorporated into flex #2167
HG0048L	Lyondell Citgo Refining LP	23550	Voided and incorporated into flex #2167
HG0048L	Lyondell Citgo Refining LP	23551	Voided and incorporated into flex #2167
HG0048L	Lyondell Citgo Refining LP	23552	Voided and incorporated into flex #2167
HG0048L	Lyondell Citgo Refining LP	23553	Permit voided
HG0048L	Lyondell Citgo Refining LP	23555	Voided and incorporated into flex #2167

Account No.	Company Name	Permit No.	Comments
HG0048L	Lyondell Citgo Refining LP	25037	Voided and incorporated into flex #2167
HG0048L	Lyondell Citgo Refining LP	3274	Permit voided
HG0048L	Lyondell Citgo Refining LP	3677	Voided and incorporated into flex #2167
HG0048L	Lyondell Citgo Refining LP	446	Permit voided
HG0048L	Lyondell Citgo Refining LP	5349	Voided and incorporated into flex #2167
HG0048L	Lyondell Citgo Refining LP	5521	Permit voided
HG0048L	Lyondell Citgo Refining LP	6036	Voided and incorporated into flex #2167
HG0048L	Lyondell Citgo Refining LP	6065	Voided and incorporated into flex #2167
HG0048L	Lyondell Citgo Refining LP	7270	Voided and incorporated into flex #2167
HG0229F	ExxonMobil Chemical Company	18290	Permit voided
HG0229F	ExxonMobil Chemical Company	18810	Consolidated into 4600
HG0229F	ExxonMobil Chemical Company	20092	Permit voided
HG0229F	ExxonMobil Chemical Company	660	Permit voided
HX0055V	Amoco Chemical Company	1820	Voided and rolled into #7278 (12/01)
HX0055V	Amoco Chemical Company	17342	Shutdown
HX0055V	Amoco Chemical Company	3585	Consolidated into #7278 and voided
HG0323M	Montell USA Inc.	31452	Voided and rolled into #19036
HG0035U	Mobil Chemical Company	20066	Voided and rolled into #18999 (1/99)
HG0035U	Mobil Chemical Company	17373	Voided and rolled into #18999 (1/99)
HG0036S	Fina Oil and Chemical Company	5236B	VOID
GB0073P	Valero Refining Company of Texas	6882	VOID
GB0073P	Valero Refining Company of Texas	4499A	VOID
GB0073P	Valero Refining Company of Texas	458A	VOID
BL0023K	The Dow Chemical Company	18211	Permit expired
BL0023K	The Dow Chemical Company	3813	Permit expired

Account No.	Company Name	Permit No.	Comments
HG0228H	Exxon Chemical Company	8487	VOID
HG0228H	Exxon Chemical Company	3452B	VOID
HG0232Q	ExxonMobil Corporation	5330	VOID
HG0232Q	ExxonMobil Corporation	17160	VOID
HG0232Q	ExxonMobil Corporation	26711	VOID
HG0126Q	Hoechst Celanese Chemical Group, Inc.	265	Permit Voided
GB0060B	Sterling Chemicals, Inc.	26709	VOID
GB0001R	BP Amoco Chemical Company	1759	Voided and rolled in #8978 (7/89)
GB0001R	BP Amoco Chemical Company	19879	Construction permit voided
CI0006V	Enterprise Texas Operating LP	3841A	Voided (10/94)
CI0006V	Enterprise Texas Operating LP	28849	Never Issued
CI0006V	Enterprise Texas Operating LP	46945	Never Issued
HG0825G	Sunoco, Inc.	4545A	Never Issued
HG0825G	Sunoco, Inc.	8084A	Never Issued
HG0825G	Sunoco, Inc.	8199A	Never Issued
HG0218K	EI Dupont Denemours and Company	2621	Voided (10/96)
HG0218K	EI Dupont Denemours and Company	2314	Voided (8/95)
HG0218K	EI Dupont Denemours and Company	1906	Expired (1/91)
HG0218K	EI Dupont Denemours and Company	663	Voided and converted to a TX Water Commission permit
HG0218K	EI Dupont Denemours and Company	2038	Not renewed in 1990
HG0218K	EI Dupont Denemours and Company	19682	Voided
HG0218K	EI Dupont Denemours and Company	2295	Voided
HG0218K	EI Dupont Denemours and Company	18253	Permit expired
GB0004L	BP Amoco Texas City Business Unit	17789	Permit expired
GB0004L	BP Amoco Texas City Business Unit	2610A	Voided and rolled into #2610 (1/92)
GB0004L	BP Amoco Texas City Business Unit	8811	Voided (2/94)

Account No.	Company Name	Permit No.	Comments
GB0004L	BP Amoco Texas City Business Unit	18808	Voided and rolled into #19016
CI0009P	Exxon Chemical Company	35588	Voided and rolled into #19016
CI0009P	Exxon Chemical Company	19842	Voided - facility not constructed (7/93)
CI0009P	Exxon Chemical Company	41227	Voided and rolled into #19016
CI0009P	Exxon Chemical Company	41138	Voided and rolled into #4331 - not on list
BL0113I	Equistar	19696 & PSD-TX-772	Application for permit withdrawn (3/90)
BL0113I	Equistar	17813A	Voided and rolled into #19480
BL0113I	Equistar	17813	Permit voided
BL0113I	Equistar	9976	Permit voided
BL0113I	Equistar	9976A	Permit voided
BL0042G	Phillips 66 Company	1313A	Permit voided
BL0042G	Phillips 66 Company	1314A	Permit voided
BL0042G	Phillips 66 Company	19677	Project listed as denied
BL0042G	Phillips 66 Company	3040A	Permit voided
BL0042G	Phillips 66 Company	41806	Permit voided
BL0042G	Phillips 66 Company	5683	Permit voided
BL0042G	Phillips 66 Company	5683A	Permit voided
BL0042G	Phillips 66 Company	5684A	Permit voided
BL0042G	Phillips 66 Company	5686A	Permit voided
BL0042G	Phillips 66 Company	5687A	Permit voided
BL0042G	Phillips 66 Company	5688	Permit voided
BL0042G	Phillips 66 Company	5688A	Permit voided
BL0042G	Phillips 66 Company	18816	Combined with Permit 21265. Balance consolidated with Phillips Flex Permit 22690
BL0042G	Phillips 66 Company	18601	Consolidated with Flex Permit 22690
BL0042G	Phillips 66 Company	4171 & 4171A	Consolidated with Flex Permit 22690
BL0042G	Phillips 66 Company	6624A	Consolidated with Flex Permit 22690
BL0042G	Phillips 66 Company	8829	Consolidated with Flex Permit 22690
CI0008R	Enterprise Products Operating LP	18904	Permit voided
CI0008R	Enterprise Products Operating LP	20695 & P796	Permit voided

Account No.	Company Name	Permit No.	Comments
HG0461W	Atofina Chemicals, Inc.	9720	Permit voided
HG0459J	Lubrizol Corporation	1095	Permit voided
HG0459J	Lubrizol Corporation	2311	Was incorporated into Permit 22074
HG0459J	Lubrizol Corporation	4688	Permit voided
HX1726J	Millenium Petrochemicals, Inc	40241	Permit voided
HX1726J	Millenium Petrochemicals, Inc	46077	Permit voided
HX1726J	Millenium Petrochemicals, Inc.	40241	Permit voided
HX1726J	Millenium Petrochemicals, Inc.	46077	Permit voided

APPENDIX C

LIST OF HRVOC ACCOUNTS WITH NO CONSTRUCTION PERMITS

LIST OF HRVOC ACCOUNTS WITH NO CONSTRUCTION PERMITS

RANK	ACCOUNT	OWNER
32	HG0807I	MC CARTY ROAD LANDFILL TX LP
59	FG0536E	BFI WASTE SYSTEMS OF N AMERICA
64	CI0119H	UCAR PIPELINE INC
67	HX2843U	EXXONMOBIL PIPELINE COMPANY
70	HG9416K	BFI WASTE SERVICES OF TEXAS LP
80	GB0270L	BROWNING FERRIS INDUSTRIES
84	HX0776B	THE HOUSTON CHRONICLE
101	HG0303S	GULF COAST WASTE DISPOSAL AUTHORITY
102	FG0594N	KTEC ELECTRONICS CORPORATION
104	FG0009J	ATLAS OIL & GAS
105	HG0486G	MERISOL USA LLC
106	HG5657O	GROVER PRINTING CO
107	HG0261J	KINDER MORGAN LIQUIDS
108	FG0265M	DUKE ENERGY FIELD SERVICES LP
111	CI0186P	USA WASTE OF TEXAS LANDFILLS INC
120	WB0098G	DEVON ENERGY OPERATING COMPANY
124	BL0719M	HILCORP ENERGY CO
127	MQ0303C	ACACIA NATURAL GAS CORP
136	CI0171F	KOCH PIPELINES INC LPG DIVISION
148	BL0724T	TRI-UNION DEVELOPMENT CORP
149	BL0725R	TRI-UNION DEVELOPMENT CORP
151	BL0723V	TRI-UNION DEVELOPMENT CORP
153	CI0056G	TEXAS EASTERN TRANSMISSION CORP
154	FG0332W	TEXAS PETROLEUM INVESTMENT CO
156	MQ0002T	DUKE ENERGY FIELD SERVICES LP

APPENDIX D

LIST OF MISSING OR INCOMPLETE PERMITS

LIST OF MISSING OR INCOMPLETE PERMITS

Permit No.	Account No.	Last Issuance Date	Project No. for Missing Info	Comments	Other
4347/A	HG0566H			No Data Found, File Desk said Never Issued	Renewal 11/02
6883/A	HG0566H			No Data Found	Amendment 7/89
22052	HG0562P	1/17/1997	100389	12/30/2003 MAERT was not found.	
9199	HG0562P			No Data Found	12/82
9200	HG0562P			No Data Found	12/82
4831	CI0009P	5/30/2003	39485	Need MAERT from 1995 amend/renew	
8978/PSD-TX-459M3	GB0001R	9/20/2002	35441	Need MAERT for 1995 Amendment	
20800	HG0218K	11/25/2003	100805	Need MAERT for 2003 Amendment	
21130	HG0218K	11/21/2003	90646	Need MAERT from 11/03 Renewal to confirm no VOC sources	
1972	GB0073P			Checked computer, files, and film. No Info	Renewal 8/89
2502A	HG0130C			Checked computer and files - No info	6/93
48982	HG0130C				Initial CRVW 11/03
5206B	HG0036S			Checked computer and files - No info	12/93
15098	HG0232Q			Checked computer and files - No info	1/84
19301	HG0232Q			Checked computer and files - No Info found	12/92 (latest project was voided)
2071	HG0232Q			Checked computer and files - No Info found	5/95
2072	HG0232Q			Checked computer and files - No Info found	5/95
2703	HG0232Q			Checked computer and files - No Info found	7/95
17369	HG0232Q			Checked computer and files - No Info found	9/89 (latest project was voided)
17370	HG0232Q			Checked computer and files - No Info found	9/89 (latest project was voided)
33346	HG0232Q			Checked computer and files - No Info found	SB26 10/96
34295	HG0232Q			Checked computer and files - No Info found	MISC Project

9916	HG0232Q			Checked computer and files - No Info found	Special Permit 1/86
9989	HG0232Q			Checked computer and files - No Info found	Special Permit 9/88
17850	HG1575W			NO DATA AVAIL	Special Permit 3/88
3214	HG0659W	11/5/2003	96412	Have pre-7/1/99 permit, need latest MAERT	
18978/PSD- TX-752M2	HG0770G	12/9/2002	77035	Have pre-7/1/99 permit, need latest MAERT	
19501	HG0770G	8/30/1999	12874	Missing pre-7/1/99 permit issued 8/22/90 (have latest MAERT)	
24887	HG0033B	12/21/2000	77739	Missing 2nd page of latest MAERT (contains EPNs 4E16 and 4E02)	
1496	BL0082R	11/25/2003	97723	Have pre-7/1/99 permit, need latest MAERT	
18578	BL0082R	4/8/1988	4044	Most recent permit is pre- 7/1/99	
18561	BL0082R	12/10/2003	96754, 96752	Have pre-7/1/99 permit, need latest MAERT	
20776	BL0082R	11/14/2003	97936	Have pre-7/1/99 permit, need latest MAERT	
2472	BL0082R	10/1/2003	94596	Have pre-7/1/99 permit, need latest MAERT	
3302	BL0082R	10/1/2003	102603	Have pre-7/1/99 permit, need latest MAERT	
19879	GB0001R		14905	No Data Found	MISC Project 3/94
46046	GB0001R		76282	No Data Found	New CRVW 12/02
17789	GB0004L		4397	No Data Found	from 1980s
9791	GB0004L		2209	No Data Found	Special Permit 1985
46052	GB0004L		85766	Need MAERT for 2/02 revision if any changes were made to 9/01 MAERT	
2610	GB0004L		102165	Need MAERT for 1/03 revision to check if any changes were made to 4/96 MAERT	
2612	GB0004L		98308	Need MAERT for 11/03 amendment to check if any changes were made to 4/95 MAERT	
9606	GB0004L		98688	Need MAERT for 11/03 renewal	
37175	HX0055V		73874	No Data Found	Originally a Std Pmt (TO), did it get

					mislabeled?
2482	BL0002S		2487	No Data Found	8/93
6257E	HG1996R		74011	Need MAERT for 7/00 revision	
18999	HG0035U		73984	Need MAERT for 12/01 amendment to check if any changes were made to 6/00 MAERT	
19558	BL0113I		19854	Need MAERT for 8/92 amendment	
18253	HG0218K		16468	No Data Found	Special Permit 4/91
4445	HG0218K		98523	Need MAERT for 12/03 amendment	
157	HG0218K		84386	Need MAERT for 1/02 revision	
18978	HG0770G		77035	Need MAERT for 12/02 amendment	
436	GB0076J		72164	Need MAERT for 4/00 amendment	