

Attachment 3.4 Special Inventory Development

The Special Inventory was carried out in two Phases. Phase I was a survey asking sources to report hourly data related to deviations from routine operations during the reporting period of August 20th to September 6th, 2000.

Review of the data received during Phase I indicated that upset, maintenance, start-up and shutdown data may not have been adequately reported by all companies. All participants in the study were asked to review their upset, maintenance, start-up and shutdown data. This included all data that had either been submitted previously to the agency or maintained at their site. TNRCC also requested that companies provide hourly nitrogen oxides emissions associated with the flaring of any upset, maintenance, start-up and shutdown events. The days of interest were expanded to the period of **August 15 to September 15, 2000** (the entire TXAQS period).

Table 3-4-1 Shows the account numbers of those companies asked to participate in the study and whether or not data was provided by those companies in each phase of the study.

**Table 3-4-1
Companies Participating in TXAQS2000 Special Inventory**

NUMBER	ACCOUNT	COMPANY	SITENAME	Phase I	Phase II
1	BL0002S	AMOCO CHEMICAL COMPANY	CHOCOLATE BAYOU PLANT	N	Y
2	BL0004O	TRI-UNION DEVELOPMENT CORP	HASTINGS GAS PROCESS PLAN	N	N
3	BL0021O	BASF CORPORATION	FREEPORT SITE	Y	Y
4	BL0022M	THE DOW CHEMICAL COMPANY	PLANT A	N	Y
5	BL0023K	THE DOW CHEMICAL COMPANY	OYSTER CREEK	N	Y
6	BL0038U	SOLUTIA INC.	SOLUTIA CHOCOLATE BAYOU P	N	Y
7	BL0042G	PHILLIPS PETROLEUM COMPANY	SWEENY REFINERY/PETROCHEM	Y	Y
8	BL0082R	THE DOW CHEMICAL COMPANY	PLANT B	N	Y
9	BL0238K	TEJAS GAS PIPELINE COMPANY	COMPRESSOR STATION 4	Y	Y
10	BL0268B	EQUISTAR CHEMICALS, L.P.	CHOCOLATE BAYOU POLYMERS	Y	Y
11	BL0622F	SWEENY COGENERATION LTD PARTNERSHIPS	GAS TURBINES	N	Y
12	BL0758C	CHEVRON PHILLIPS	CHEMICAL SWEENY PLANT	N	Y
13	CI0008R	ENTERPRISE PRODUCTS COMPANY	ENTERPRISE PRODUCTS OPER	N	N
14	CI0009P	EXXON CHEMICAL COMPANY	MONT BELVIEU PLASTICS PLT	Y	Y
15	CI0022A	DYNEGY MIDSTREAM SERVICES, LP	MONT BELVIEU PLANT	N	N
16	FG0010B	EXXON CORPORATION	THOMPSON GAS PLANT	N	Y

NUMBER	ACCOUNT	COMPANY	SITENAME	Phase I	Phase II
17	GB0001R	AMOCO CHEMICAL COMPANY	TEXAS CITY PLANT	N	Y
18	GB0004L	AMOCO OIL COMPANY	TEXAS CITY REFINERY	N	Y
19	GB0055R	MARATHON ASHLAND PIPELINE LLC	TEXAS CITY REFINERY	N	Y
20	GB0060B	STERLING CHEMICALS, INC.	TEXAS CITY PLANT	Y	Y
21	GB0073P	VALERO REFINING COMPANY	VALERO REFINING COMPANY	Y	Y
22	GB0076J	UNION CARBIDE CORPORATION	VINYL ACETATE FCLY. NO. 5	Y	Y
23	HG0017W	WILLIAMS TERMINALS HOLDING, LLC	HOUSTON TERMINAL	N	N
24	HG0033B	EQUISTAR CHEMICALS, L.P.	CHANNELVIEW COMPLEX	Y	Y
25	HG0048L	LYONDELL-CITGO REFINING COMPANY LTD.	REDUCT.OF NOX EMISS.CAP	Y	Y
26	HG0071Q	AIR LIQUIDE AMERICA CORPORATION	AIR LIQUIDE BAYPORT COMPL	N	Y
27	HG0126Q	HOECHST CELANESE CHEMICAL GROUP, LTD	CLEAR LAKE PLANT	N	Y
28	HG0129K	SIMPSON PASADENA PAPER COMPANY	PASADENA PULP MILL	N	N
29	HG0130C	VALERO ENERGY CORP.	HOUSTON REFINERY	Y	Y
30	HG0175D	CROWN CENTRAL PETROLEUM CORP	RED BLUFF RD -- PASADENA	Y	Y
31	HG0192D	OXY VINYLs, LP	DEER PARK PLANT-- HOUSTON	Y	N
32	HG0194W	OXY VINYLs, LP	BATTLEGROUND PLANT	Y	Y
33	HG0218K	E.I. DU PONT DE NEMOURS & COMPANY	LA PORTE PLANT	Y	Y
34	HG0225N	ALBERMARLE CORP	ALKYLS UNIT	N	N
35	HG0228H	EXXON CHEMICAL COMPANY	BAYTOWN OLEFINS PLANT	Y	Y
36	HG0229F	EXXON CHEMICAL AMERICAS	BAYTOWN CHEMICAL PLANT	Y	Y
37	HG0232Q	EXXON COMPANY, U.S.A.	EXXON MOBIL REFINING/SUPP	Y	Y
38	HG0234M	EXXON CORPORATION	CLEAR LAKE GAS PLANT	Y	Y
39	HG0261J	KINDER MORGAN OPERATING, LP	GATX TERMINAL - PASADENA	Y	N
40	HG0262H	KINDERMORGAN LIQUIDS TERMINALS, LLC	BULK STORAGE TERMINAL	Y	N
41	HG0289K	GOODYEAR TIRE AND RUBBER COMPANY	HOUSTON CHEMICAL PLT	Y	Y
42	HG0310V	CHEVRON CHEMICAL COMPANY	CHEVRON CHEMICAL COMPANY	Y	Y
43	HG0459J	LUBRIZOL CORPORATION	DEER PARK PLANT	Y	Y

NUMBER	ACCOUNT	COMPANY	SITENAME	Phase I	Phase II
44	HG0562P	TEXAS PETROCHEMICALS CORPORATION	TX. PETROCHEMICALS L.P.	Y	Y
45	HG0566H	PHILLIPS CHEMICAL COMPANY	HOUSTON CHEMICAL COMPLEX	N	Y
46	HG0629I	PAKTANK CORPORATION	DEER PARK TERMINAL	Y	N
47	HG0632T	ROHM & HAAS TEXAS INC	ROHM & HAAS TEXAS INCORP	Y	Y
48	HG0659W	SHELL OIL COMPANY	DEER PARK PLANT	Y	Y
49	HG0665E	SOLVAY POLYMERS, INC.	SOLVAY POLYMERS, INC.	Y	Y
50	HG0674D	DONOHUE INDUSTRIES	DONOHUE INDUSTRIES, INC.	N	Y
51	HG0713S	ENRON METHANOL COMPANY	ENRON METHANOL COMPANY	N	Y
52	HG0770G	EQUISTAR CHEMICALS, L.P.	LA PORTE COMPLEX	Y	Y
53	HG0918V	HOUSTON PIPE LINE COMPANY	BAMMEL GASFIELD	N	N
54	HG1016R	GOODMAN MANUFACTURING	GOODMAN MANUFACTURING COR	N	N
55	HG1174V	COGEN. LYONDELL INCORPORATED	CHANNELVIEW PLANT	Y	Y
56	HG1451S	OXY VINYLs, LP	PASADENA P.V.C. PLANT	Y	Y
57	HG1575W	LYONDELL CHEMICAL COMPANY	CHANNELVIEW PLANT	Y	Y
58	HX0055V	AMOCO CHEMICAL COMPANY	PASADENA PLANT	Y	Y
59	HX1726J	MILLENNIUM PETROCHEMICALS	LA PORTE PLANT	N	Y
60	JE0005H	FINA OIL & CHEMICAL COMPANY	PORT ARTHUR REFINERY	N	Y
61	JE0011M	EQUISTAR CHEMICALS, L.P.	PORT ARTHUR PLANT	Y	Y
62	JE0033C	E.I. DU PONT DE NEMOURS & COMPANY	BEAUMONT WORKS	Y	Y
63	JE0039N	GOODYEAR TIRE AND RUBBER COMPANY	WINGSTAY UNIT	Y	Y
64	JE0042B	PREMCOR REFINING GROUP, INC	SMALL THERMAL OXIDIZER	N	Y
65	JE0052V	HUNTSMAN CORPORATION	C4 PLANT	Y	Y
66	JE0062S	MOBIL CHEMICAL COMPANY	OLEFINS/AROMATICS PLANT	N	Y
67	JE0065M	MOBIL CHEMICAL COMPANY	POLYETHYLENE PLANT	Y	Y
68	JE0067I	MOBIL OIL CORPORATION	BEAUMONT REFINERY	Y	Y
69	JE0091L	SUN MARINE TERMINAL	NEDERLAND MARINE TERMINAL	N	Y
70	JE0095D	MOTIVA	PORT ARTHUR PLANT	N	Y

NUMBER	ACCOUNT	COMPANY	SITENAME	Phase I	Phase II
71	JE0111H	UNION OIL COMPANY OF CALIFORNIA	BEAUMONT TERMINAL	N	Y
72	JE0135Q	HUNTSMAN PETROCHEMICAL CORPORATION	AROMATICS & OLEFINS PLANT	Y	Y
73	JE0343H	BEAUMONT METHANOL LTD PARTNERSHIP	BEAUMONT METHANOL, LTD.	N	N
74	JE0508W	CHEVRON CHEMICAL COMPANY	PORT ARTHUR TEXACO PLANT	Y	Y
75	JE0693A	DUPONT DOW ELASTOMERS L.L.C.	BEAUMONT	N	Y
76	MQ0002T	DUKE ENERGY FIELD SERVICES, LP	U.P. RESOURCES CONROE	N	Y
77	MQ0007J	EXXON CORPORATION	CONROE COMPRESSOR STATION	N	Y
78	OC0004P	BAYER CORPORATION	POLYSAR RUBBER DIVISION	Y	Y
79	OC0007J	E.I. DU PONT DE NEMOURS & COMPANY	E.I. DU PONT DE NEMOURS	Y	Y
80	OC0010U	FIRESTONE SYNTHETIC RUBBER & LATEX	ORANGE PLANT	Y	Y
81	OC0012Q	CHEVRON CHEMICAL COMPANY	ORANGE PLANT/OXYGEN SCAVE	N	Y
82	OC0019C	INLAND PAPERBOARD & PACKAGING CO	PULP & PAPER MILL	N	Y
83	WB0003U	EXXON COMPANY	KATY GAS PLANT	N	Y

Overall, the special inventory emissions as submitted make very little difference in the overall point source inventory. Figure 3-4-1 below is a bar graph showing the percent increase in point source emissions over the entire 2000 modeling episode, including the ramp-up days (08/22/02 through 09/01/02). This analysis was based on the annual point source inventory, as submitted (without the highly reactive VOC adjustments.) Therefore, as stated in the introduction to the TSD, it appears that based on the information available, the hourly fluctuation in emissions as given in the special inventory does not account for the observed ozone fluctuations, but the business-as-usual emissions appear to be sufficient to account for the observed ozone levels. Figure 3-4-2 Shows a graph similar to Figure 3-4-1, but breaks the emissions down daily for each day of the episode. Figures 3-4-3 shows the hourly percentage increases in emissions for August 30th, 2000.

Figure 3-4-1

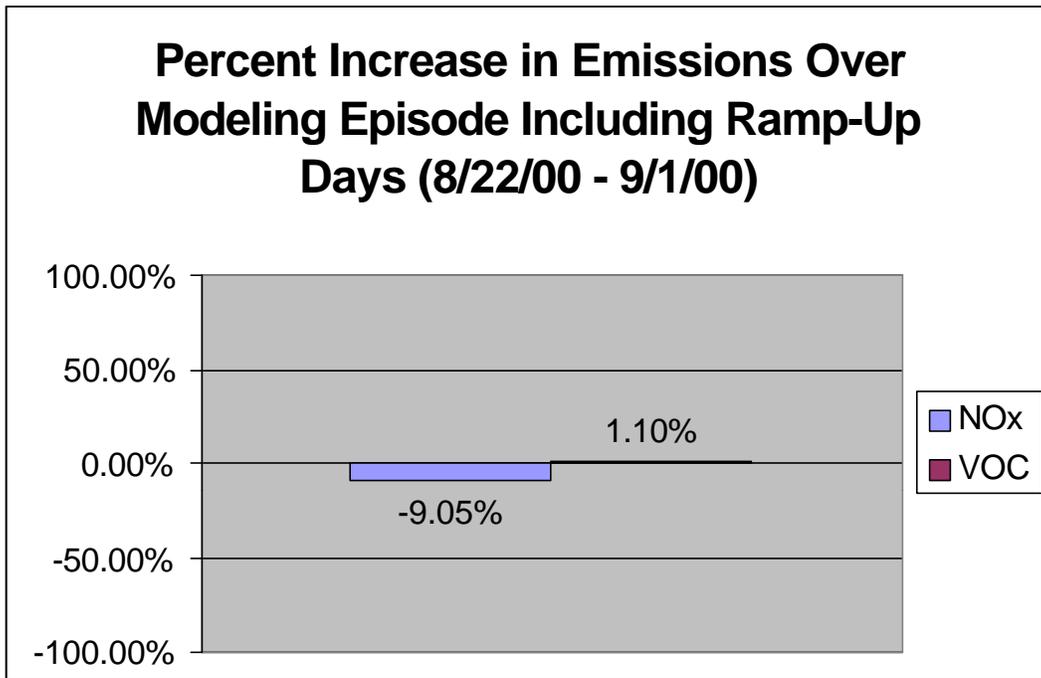


Figure 3-4-2

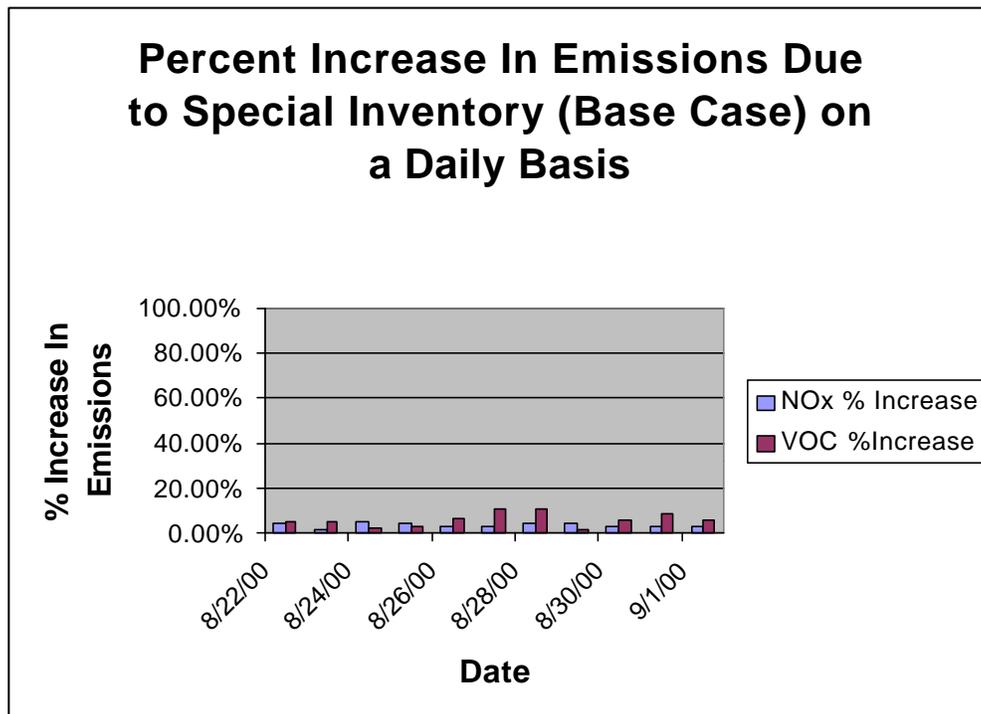
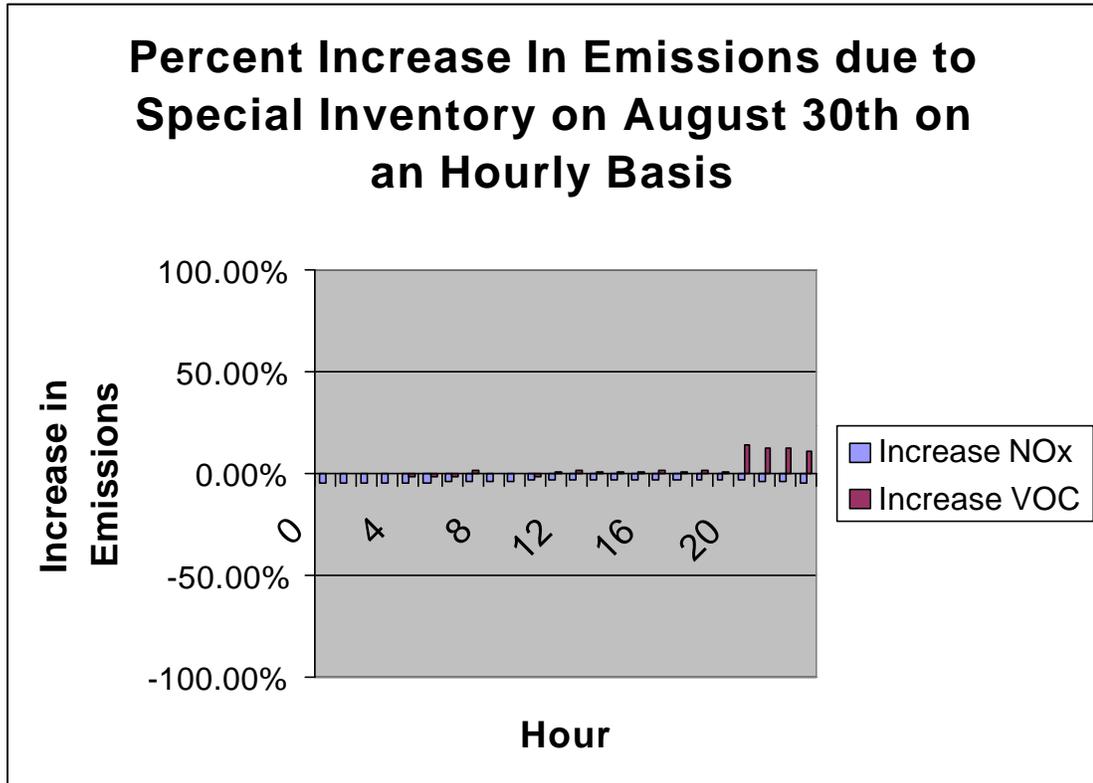


Figure 3-4-3



In addition to the Special Inventory, modeling staff reviewed the Region 12 upset database. Table 3-4-4, below, presents the emissions modeled from the upset database. Modeling staff chose significant events, that were not included in the Special Inventory to include in the upset modeling.

Table 3-4-4

Region 12 Upsets (Non-Special Inventory)				
Date	Nox (tpd)	VOC(tpd)	CO(tpd)	
08/22/00		0	0.24	0
08/23/00		0	0.23	0
08/24/00		0	0.53	0
08/25/00		0	0.29	0
08/26/00		0	0	0
08/27/00		0	0	0
08/28/00		0.29	2.51	0
08/29/00		0	1.99	0
08/30/00		0	3.01	0
08/31/00		0	0.89	0
09/01/00		0	0.46	0

Several corrections have been made to the special inventory since the June 2002 submittal of the SIP proposal. More of the source FINs and EPNs were successfully matched up the annual inventory. Those sources that were still not matching with the annual inventory, were given default fugitive parameters and placed at the median coordinates of the plant. These corrections have not yet been incorporated into the modeling, but they are minor and therefore will make no difference in the final results of the modeling.