

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5**

IN THE MATTER OF:)
)
Marathon Ashland Petroleum) **FINDING OF VIOLATION**
LLC)
Detroit, Michigan) **EPA-5-99-MI-33**
)
)
Proceedings Pursuant to)
the Clean Air Act,)
42 U.S.C. §§ 7401 et seq.)

Finding of Violation

The United States Environmental Protection Agency (U.S. EPA) hereby notifies the State of Michigan and Marathon Ashland Petroleum LLC (MAP) that U.S. EPA finds that MAP, at its refinery located at 1300 South Fort Street, Detroit, Michigan, is in violation of the Clean Air Act (Act), 42 U.S.C. § 7401 §§ et seq. MAP is in violation of Section 111(e) of the Act, 42 U.S.C. § 7411(e), and the regulations setting forth Standards of Performance for New Stationary Sources (NSPS) Petroleum Refineries Subpart J; and General Provisions Subpart A, 40 C.F.R. Part 60 as follows:

Regulatory Authority: NSPS Subpart J

1. On March 8, 1974, in accordance with Section 111(b) of the Act, U.S. EPA promulgated a NSPS for Petroleum Refineries, 40 C.F.R. Part 60, Subpart J, §§ 60.100 - 60.109. The U.S. EPA promulgated revisions to these regulations on October 2, 1990, at 55 Fed. Reg. 40171-40178 and 40 C.F.R. §§ 60.100-60.109.
2. NSPS Subpart J applies in part to Claus Sulfur Recovery plants (SRP) in petroleum refineries that commence construction or modification after October 4, 1976. Exempted from Subpart J are SRPs of 20 or less long tons of sulfur per day. Owners or operators of affected facilities must also comply with the NSPS General Provisions at 40 C.F.R. §§ 60.1-60.19.

3. NSPS Subpart J also applies to fuel gas combustion devices (including process heaters, boilers, and flares) which were constructed or modified after June 11, 1973. Owners or operators of such fuel gas combustion devices must also comply with NSPS General Provisions at 40 C.F.R. §§ 60.1-60.19.
4. The NSPS, at 40 C.F.R. § 60.11(d), requires that at all times, including periods of startup, shutdown, and malfunction, owners and operators, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.
5. The NSPS, at 40 C.F.R. § 60.18(c)(2), prohibits flares, subject to an NSPS or required as controls for an NSPS-affected facility, to be operated without a flame at any time.
6. Section 111(e) of the Act prohibits any owner or operator of a subject stationary source from operating such source in violation of any applicable standard of performance promulgated pursuant to Section 111 of the Act.

Factual Background

7. MAP owns and operates a petroleum refinery located at 1300 South Fort Street, Detroit, Michigan.
8. MAP owns and operates a Claus sulfur recovery plant (SRP) that was constructed and modified after October 4, 1976. The capacity of the SRP is 120 long tons/day. The SRP is subject to the requirements of NSPS Subpart J and the General Provision requirements (Subpart A), including 40 C.F.R. § 60.11(d). The Claus sulfur recovery plant is comprised of three Claus trains (A, B, and C), two tail gas treating units (TGTU #1 and TGTU #2) and a thermal oxidizer.
9. MAP owns and operates 12 fuel gas combustion devices (FGCDs) that were constructed or modified after June 11, 1973. Those FGCDs are subject to NSPS Subpart J and the General Provision requirements (Subpart A), including 40 C.F.R. § 60.11(d). There are seven (7) NSPS refinery process heaters that combust refinery fuel gas; three (3) NSPS flares; one (1) NSPS refinery process heater that exclusively burns

natural gas; and one (1) NSPS boiler that exclusively burns natural gas.

10. MAP's three (3) NSPS flares are also subject to 40 C.F.R. § 60.18(c)-(f).
11. On September 4, 1998, the U.S. EPA sent to MAP, pursuant authority at Section 114 of the Act, a request for information concerning, in part, the flaring of acid gas and sour water stripper gas. A response to that request was received September 23, 1998.
12. The U.S. EPA National Enforcement Investigation Center conducted an inspection of MAP's Detroit refinery in October 1998 and reviewed numerous records on flares and continuous emission sources.

Finding of Violations

13. Based on information provided by MAP in response to a September 4, 1998 Section 114 information request, from January 1994 through the September 1998, Marathon has routinely released acid gas and/or sour water stripper gas to either the Unifiner flare or the Complex 3 and 4 flare (Cracking Plant flare) instead of treating those gases in the sulfur recovery plant. These flaring incidences are listed in the attached tables labeled "Flaring Incidents - S/U, S/D, and/or Upset" and "Acid Gas and/or Sour Water Stripper Offgas Releases to Flare.". The causes of these frequent diversions of acid gas and sour water stripper gas streams to the flares are minimally described by MAP or not described at all. This information demonstrates MAP's failure to minimize sulfur dioxide emissions for all times of operation and maintenance of its NSPS refinery fuel gas system and sulfur recovery plant, a violation of 40 C.F.R. 60.11(d).
See Attachment A.
14. MAP has violated 40 C.F.R. § 60.18(c)(2) at the cracking plant, alky and unifiner flares. EPA has reviewed MAP's reports on the presence of a pilot flame for each of its flares. The tables below list the hours reported that a flare was without a pilot flame.

Cracking Plant flare:

<u>Quarter Report</u>	<u>Hours without a flame</u>
4Q 1996	134

Alky flare:

<u>Quarter Report</u>	<u>Hours without a flame</u>
2Q 1997	5
4Q 1997	26

Unifiner flare:

<u>Quarter Report</u>	<u>Hours without a flame</u>
2Q 1997	7
4Q 1997	5.8

7/14/97

Date



Margaret M. Guerriero, Acting Director
Air and Radiation Division

**Flaring Incidents - S/U, S/D, and/or Upset (Item #10)
Marathon Ashland Petroleum LLC - Michigan Refining Division**

Attachment A

Date/Time	Duration	Flare	Estimated SO2 released ^A (lbs)	Cause of flaring ^B
2/7/96 0:56	0:04	Unifiner	1,060	NCI
2/7/96 1:27	0:06			
2/7/96 12:32	0:41			
2/7/96 14:00	0:20			
2/9/96 11:15	0:06	Unifiner	156	NCI
2/9/96 11:57	0:04			
2/9/96 18:37	0:08			
2/12/96 13:45	0:10	Unifiner	183	NCI
2/12/96 15:34	0:08			
2/13/96 1:34	1:45	Unifiner	3,320	A' SRU down for catalyst change out on #1 bed
2/14/96 12:37	0:11	Unifiner	979	NCI
2/14/96 13:07	0:53			
2/14/96 17:42	0:07			
2/15/96 10:10	0:32	Unifiner	684	NCI
2/15/96 11:25	0:30			
2/16/96 0:35	0:03	Unifiner	1,268	NCI
2/16/96 11:21	0:40			
2/16/96 12:47	0:10			
2/16/96 18:55	0:09			
2/18/96 7:00	1:27	Unifiner	13,285	False TGTU #1 stripper pressure indication
2/18/96 8:36	0:47			
2/18/96 9:39	1:05			
2/18/96 10:46	0:10			
2/18/96 11:06	0:10			
2/18/96 11:16	2:51			
2/18/96 14:08	0:55			
2/18/96 15:04	1:15			
2/18/96 17:11	0:51			
2/18/96 18:55	2:23			
2/18/96 21:48	0:12			
2/19/96 0:01	1:11	Unifiner	1,302	
2/21/96 5:15	0:38	Unifiner	2,619	NCI
2/21/96 13:40	0:10			
2/21/96 14:36	1:05			
2/21/96 19:54	0:53			
2/21/96 21:01	0:12			
3/4/96 19:26	0:07	Unifiner	45	NCI
3/5/96 2:54	0:29	Unifiner	814	NCI
3/7/96 1:25	2:06	Unifiner	3,404	SRU B-train shutdown for turnaround on 3/6/96
3/12/96 14:53	0:08	Unifiner	286	NCI
3/18/96 0:05	0:38	Unifiner	506	NCI
3/19/96 20:37	0:28	Unifiner	1302	NCI
3/19/96 20:37	0:25			
3/23/96 5:45	0:13	Unifiner	486	NCI

**Flaring Incidents - S/U, S/D, and/or Upset (Item #10)
Marathon Ashland Petroleum LLC - Michigan Refining Division**

Date/Time	Duration	Flare	Estimated SO2 released ^A (lbs)	Cause of flaring ^B
4/7/96 14:40	0:11	Unifiner	2,597	A' SRU put in acid gas service on 4-7-96
4/7/96 16:03	0:32			
4/7/96 17:13	1:17			
4/8/96 16:31	0:05	Unifiner	181	Lean amine pump screen plugging off
5/11/96 11:53	0:08	Unifiner	81	NCI
5/16/96 14:16	0:05	Unifiner	160	NCI
5/18/96 11:26	0:05	Unifiner	49	NCI
5/22/96 9:09	0:02	Unifiner	2	NCI
6/14/96 7:08	0:02	Unifiner	18	NCI
6/18/96 14:32	0:04	Unifiner	52	NCI
11/1/96 13:21	0:16	Unifiner	746	NCI
3/2/97 0:29	0:15	Unifiner	729	NCI
3/2/97 0:56	0:40			
5/15/97 9:26	12:30	Unifiner	12,988	SRU A-train down and B-train down for catalyst change-out; no acid gas at TGTU #1, amine circulating
5/25/97 5:18	2:03	Unifiner	1,404	NCI
9/12/97 13:10	0:04	Unifiner	34	NCI
11/11/97 21:24	0:09	Unifiner	157	NCI
11/11/97 21:36	0:05			
12/18/97 2:02	0:04	Unifiner	49	NCI
12/19/97 12:58	0:08	Unifiner	132	NCI
12/25/97 13:43	0:04	Unifiner	316	NCI
12/25/97 13:49	0:20			
1/7/98 3:57	0:07	Unifiner	524	NCI
1/7/98 7:28	0:33			
1/22/98 19:44	0:33	Unifiner	505	NCI
2/22/98 2:30	0:07	Unifiner	1,211	NCI
2/22/98 2:43	0:06			
2/22/98 3:17	0:42			
3/13/98 10:04	0:05	Unifiner	162	NCI
3/24/98 14:49	0:05	Unifiner	182	NCI
3/26/98 3:19	0:11	Unifiner	276	NCI
3/26/98 12:29	0:04			
3/29/98 2:19	0:04	Unifiner	14,270	B' SRU placed in acid gas service to TGTU #1
3/29/98 2:30	9:27:00			
3/29/98 12:09	0:09			
3/31/98 2:21	0:05	Unifiner	9	NCI
3/31/98 3:33	0:16			
4/18/98 0:18	0:03	Unifiner	9	NCI
5/8/98 22:40	1:20	Unifiner	1,439	NCI
5/9/98 0:01	3:05	Unifiner	6,077	A' SRU placed in acid gas service, normal start-up
6/9/98 13:31	0:24	Unifiner	340	NCI
7/3/98 4:09	0:07	Unifiner	79	NCI
7/3/98 9:07	2:15			
7/19/98 23:37	0:10	Unifiner	195	NCI
8/9/98 23:20	0:03	Unifiner	2	NCI
8/30/98 20:33	0:03	Unifiner	728	NCI

Flaring Incidents - S/U, S/D, and/or Upset (Item #10)
Marathon Ashland Petroleum LLC - Michigan Refining Division

Date/Time	Duration	Flare	Estimated SO2 released^A (lbs)	Cause of flaring^B
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Notes:

- A. Only those releases greater than 1 pound in a 24-hr period were included;
- B. "NCI" = no cause identified.

**Acid Gas and/or Sour Water Stripper Offgas Releases to Flare (Item #9)
Marathon Ashland Petroleum LLC - Michigan Refining Division**

Date/Time	Duration	Flare	Estimated SO2 released ^A (lbs)	Cause of flaring ^B
10/10/96 15:42	0:14	Unifiner	1,514	GO/DHT Unit start-up
10/11/96 12:18	0:03	Unifiner	2	NCI
10/17/96 1:34	0:13	Unifiner	41	NCI
10/17/96 2:06	0:26			
10/17/96 3:16	0:21			
10/17/96 3:42	0:04			
10/22/96 17:50	0:21	Unifiner	42	NCI
10/22/96 18:16	0:18			
10/22/96 19:34	0:25			
10/22/96 20:44	0:10			
10/23/96 1:34	0:04	Unifiner	7	NCI
10/23/96 3:30	0:07			
10/26/96 10:09	0:09	Unifiner	6	NCI
10/28/96 0:54	0:03	Unifiner	17	NCI
10/28/96 10:37	0:11			
10/28/96 11:02	0:06			
10/28/96 11:19	0:03			
10/29/96 15:03	0:02	Unifiner	1	NCI
10/30/96 2:29	0:10	Unifiner	7	Sulfur Recovery Unit (SRU) C-train upset
11/1/96 13:15	0:02	Unifiner	9	NCI
11/1/96 13:23	0:11			
11/6/96 13:36	0:11	Unifiner	24	NCI
11/6/96 13:50	0:19			
11/6/96 15:48	0:04			
11/8/96 15:09	0:04	Unifiner	2	NCI
11/12/96 6:03	0:02	Unifiner	1	Steam System Upset
11/18/96 12:26	0:02	Unifiner	1	NCI
11/25/96 15:39	0:06	Unifiner	92	SRU A-train start up
11/26/96 11:22	0:02	Unifiner	1	SRU A-train back down
12/5/96 23:54	0:03	Unifiner	1	NCI
12/6/96 0:50	0:07	Unifiner	29	NCI
12/6/96 1:11	0:35			
12/12/96 19:24	0:02	Unifiner	1	NCI
12/13/96 4:49	0:02	Unifiner	1	NCI
12/17/96 17:35	0:08	Unifiner	5	NCI
12/22/96 5:20	0:31	Unifiner	543	NCI
12/22/96 6:09	0:05			
12/22/96 6:40	0:08			
12/26/96 23:40	0:09	Unifiner	26	NCI
12/27/96 13:09	0:11	Unifiner	2,460	NCI
1/19/97 3:17	0:05	Unifiner	575	SRU C-train shutdown
2/19/97 3:11	0:04	Unifiner	106	power blip
3/5/97 15:06	0:04	Unifiner	2	TGTU 1 down
3/14/97 13:20	0:02	Unifiner	1	GO/DHT Unit upset
3/28/97 3:23	0:05	Unifiner	229	TGTU 1 cat sulfide
4/9/97 1:31	0:07	Unifiner	32	GO/DHT Unit upset
4/9/97 1:39	0:03			

**Acid Gas and/or Sour Water Stripper Offgas Releases to Flare (Item #9)
Marathon Ashland Petroleum LLC - Michigan Refining Division**

Date/Time	Duration	Flare	Estimated SO2 released^A (lbs)	Cause of flaring^B
4/9/97 5:50	0:02			
4/11/97 4:03	0:02	Unifiner	22,074	GO/DHT Unit upset & hydrocarbon in sour water acid gas
4/11/97 17:31	0:02			
4/11/97 17:42	1:30			
4/11/97 19:25	0:09			
4/11/97 20:35	0:08			
4/17/97 16:37	0:02		1	NCI
4/26/97 10:36	0:02	Unifiner	1	NCI
4/28/97 2:34	0:02	Unifiner	50	SRU B #1 bed partially plugged
5/12/97 13:21	0:15	Unifiner	4,802	SRU C-train, TGTU #2, SWS, and thermal oxidizer all shutdown due to DCS problems
5/16/97 6:08	0:23	Unifiner	5,090	Start-up SRU B-train and TGTU #1
5/17/97 5:07	0:03	Unifiner	1,641	Start-up SRU B-train and TGTU #1
5/17/97 7:30	0:06			
5/17/97 7:40	0:25			
5/17/97 8:16	0:11			
5/18/97 3:03	0:15	Unifiner	15	NCI
5/18/97 4:34	0:02			
5/18/97 4:40	0:07			
5/18/97 4:55	0:03			
5/18/97 5:07	0:02			
5/18/97 6:19	0:09			
5/19/97 21:02	0:02	Unifiner	4	NCI
5/21/97 5:59	0:02	Unifiner	0	NCI
5/25/97 4:00	0:04	Unifiner	452	SRU B/C high burner pressure
5/25/97 5:01	0:07			
5/25/97 5:09	0:02			
5/26/97 1:05	0:02	Unifiner	1	NCI
6/2/97 14:33	0:02	Unifiner	3	NCI
6/2/97 18:49	0:03			
6/8/97 6:52	0:07	Unifiner	1,406	Switch to gas oil, added amine
6/13/97 9:21	0:04	Unifiner	29	TGTUs #1 and #2, SWS, and part of the GO/DHT shutdown due to electrical problems
6/19/97 1:29	0:02	Unifiner	1	power blip
6/22/97 1:59	0:02	Unifiner	7	NCI
6/22/97 2:09	0:03			
6/22/97 2:36	0:06			
6/30/97 2:04	0:28	Unifiner	1	NCI
7/5/97 2:21	0:02	Unifiner	1	NCI
7/9/97 12:00	0:15	Unifiner	1,446	NCI
7/9/97 12:19	0:03			
7/10/97 17:48	0:09	Unifiner	30	NCI
7/10/97 17:57	0:05			
7/11/97 1:15	0:03	Unifiner	25	NCI
7/11/97 8:27	0:04			
7/14/97 1:58	0:03	Unifiner	53	NCI
7/20/97 7:10	0:17			

**Acid Gas and/or Sour Water Stripper Offgas Releases to Flare (Item #9)
Marathon Ashland Petroleum LLC - Michigan Refining Division**

Date/Time	Duration	Flare	Estimated SO2 released ^A (lbs)	Cause of flaring ^B
7/20/97 8:16	0:35	Unifiner	1,470	GO/DHT power blip
7/20/97 8:53	0:05			
7/20/97 9:03	0:04			
7/20/97 9:12	0:04			
7/20/97 9:59	0:19			
7/20/97 12:36	1:43			
7/22/97 16:58	0:02	Unifiner	1	NCI
8/4/97 2:53	0:02	Unifiner	1	DCS software
8/12/97 23:32	0:02	Unifiner	1	NCI
8/15/97 11:04	0:03	Unifiner	2	NCI
8/28/97 3:57	0:04	Unifiner	3	NCI
9/3/97 2:18	0:02	Unifiner	2	TCTU 1 quench
9/3/97 9:06	0:02			
9/5/97 1:19	0:02	Unifiner	1	NCI
9/8/97 12:59	0:02	Unifiner	1	NCI
9/21/97 0:43	0:02	Unifiner	1	NCI
9/21/97 5:47	0:02			
9/29/97 16:59	0:19	Unifiner	13	NCI
9/29/97 17:36	0:03			
10/29/97 18:59	0:02	Unifiner	1	GOHT upset
11/11/97 21:39	0:02	Unifiner	1	NCI
11/26/97 17:25	0:03	Unifiner	1	NCI
1/22/98 19:37	0:04	Unifiner	2	NCI
1/31/98 1:54	0:03	Unifiner	5	NCI
1/31/98 3:26	0:03			
2/4/98 12:53	0:04	Unifiner	2	SRU B-train high burner pressure
2/22/98 0:43	0:02	Unifiner	6	Start-up of SRU A-train, shutdown of SRU C-train
2/22/98 2:30	0:05			
2/22/98 2:45	0:02			
3/29/98 12:52	0:09	Unifiner	7	NCI
3/30/98 12:55	0:10	Unifiner	25	NCI
3/30/98 13:05	0:20			
1/1/00 0:00	0:13	Unifiner	6	NCI
4/13/98 1:29	0:03	Unifiner	2	NCI
5/28/98 14:32	0:02	Unifiner	1	NCI
6/24/98 7:00	0:02	Unifiner	1	NCI
7/19/98 23:27	0:07	Unifiner	3	SRU C-train blower shutdown
1/28/94 12:57	0:15	Complexes 3 and 4	275	Operation normal
8/8/94 11:45	0:15	Complexes 3 and 4	275	Boiler shutdown
9/24/94 11:05	0:05	Complexes 3 and 4	100	Operation normal
11/20/94 8:45	0:05	Complexes 3 and 4	100	Turnaround start-up
4/25/95 2:30	0:15	Complexes 3 and 4	275	Operation normal
5/7/95 9:30	0:15	Complexes 3 and 4	275	Area start-up
7/21/95 12:15	0:15	Complexes 3 and 4	275	Area start-up
9/8/95 6:30	0:05	Complexes 3 and 4	100	Area start-up
10/16/95 11:35	0:05	Complexes 3 and 4	100	Operation normal

**Acid Gas and/or Sour Water Stripper Offgas Releases to Flare (Item #9)
Marathon Ashland Petroleum LLC - Michigan Refining Division**

Date/Time	Duration	Flare	Estimated SO2 released^A (lbs)	Cause of flaring^B
2/16/96 12:49	0:05	Complexes 3 and 4	109	Operation normal
3/19/96 20:47	0:01	Complexes 3 and 4	20	Possible sulfur plant problems
3/23/96 5:46	0:02	Complexes 3 and 4	73	Possible sulfur plant problems
4/8/96 16:32	0:01	Complexes 3 and 4	31	Possible sulfur plant problems
5/11/96 7:07	17:00	Complexes 3 and 4	38,620	Amine unit upset
5/12/96 0:05	4:00	Complexes 3 and 4	7,996	Amine unit upset
5/16/96 14:17	0:01	Complexes 3 and 4	16	Possible sulfur plant problems
2/4/97 11:26	0:02	Complexes 3 and 4	45	Possible sulfur plant problems
2/15/97 13:30	1:13	Complexes 3 and 4	3,649	Amine tower failure
4/11/97 9:04	0:10	Complexes 3 and 4	515	Area start-up
5/12/97 13:20	0:04	Complexes 3 and 4	33	Operation normal
9/11/97 22:21	0:02	Complexes 3 and 4	28	Amine Unit upset
9/12/97 11:16	1:56	Complexes 3 and 4	3,911	Amine Unit upset

Notes:

A. Only those releases greater than 1 pound in a 24-hr period were included;

B. "NCI" = no cause identified.

CERTIFICATE OF MAILING

I, Shanee Rucker, certify that I sent two Findings of Violations and a Notice of Violation, issued pursuant to the Clean Air Act, by Certified Mail, Return Receipt Requested, to:

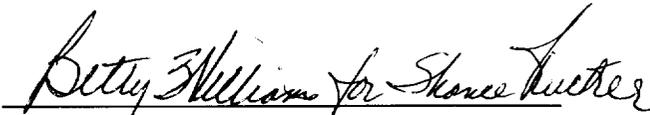
Lloyd Nordahusen, Manager
Marathon Ashland Petroleum LLC
1300 South Fort Street
Detroit, Michigan 48217

I also certify that I sent copies of the Notice of Violation by first class mail to:

Barbara Rosenbaum, Section Supervisor
Michigan Department of Environmental Quality
Air Quality Division
Lansing, Michigan

Gerald Krawiec, District Supervisor
Wayne County Department of Environmental
Air Quality Management Division
Detroit, Michigan

on the 15th day of July, 1999.


Shanee Rucker, Secretary
AECAS, (MI/WI)

CERTIFIED MAIL RECEIPT NUMBER: P140779151