West Virginia Department of Environmental Protection
Division of Air Quality

Earl Ray Tomblin
Governor

Randy C. Huffman
Cabinet Secretary

Permit to Operate

Pursuant to

Title V

of the Clean Air Act

Issued to:

ICL-IP America Inc.
Gallipolis Ferry Plant
R30-05300007-2010

John A. Benedict
Director

Issued: March 4, 2010 • Effective: March 18, 2010
Expiration: March 4, 2015 • Renewal Application Due: September 4, 2014

Permit Number: **R30-05300007-2010 (~~MM07~~ MM08)**
Permittee: **ICL-IP America Inc.**
Facility Name: **Gallipolis Ferry Plant**
Mailing Address: **State Route 2, P.O. Box 1721**
Gallipolis Ferry, WV 25515-1721

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§ 22-5-1 et seq.) and 45CSR30 — Requirements for Operating Permits. The permittee identified at the above-referenced facility is authorized to operate the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Facility Location:	Gallipolis Ferry, Mason County, West Virginia
Mailing Address:	State Route 2, P.O. Box 1721 Gallipolis Ferry, WV 25515-1721
Telephone Number:	304-675-1150
Type of Business Entity:	Corporation
Facility Description:	Facility manufactures Aryl and Alkyl Phosphate Esters and other specialty chemicals.
SIC Codes:	2869; 2819; 2899
UTM Coordinates:	396.50 km Easting • 4,292.30 km Northing • Zone 17

Any person whose interest may be affected, including, but not necessarily limited to, the applicant and any person who participated in the public comment process, by a permit issued, modified or denied by the Secretary may appeal such action of the Secretary to the Air Quality Board pursuant to article one [§§ 22B-1-1 et seq.], Chapter 22B of the Code of West Virginia. West Virginia Code §22-5-14.

Issuance of this Title V Operating Permit does not supersede or invalidate any existing permits under 45CSR13, 14 or 19, although all applicable requirements from such permits governing the facility's operation and compliance have been incorporated into the Title V Operating Permit.

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1.0 Emission Units and Active R13, R14, and R19 Permits

1.1. Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
Production Unit I/IV					
Continuous Production					
R-40	n/a	Reactor	1988	1,500 gal	None
V-541	n/a	Reaction Completion	1979	13,500 gal	None
V-542	n/a	Reaction Completion	1979	2,835 gal	None
T-58	n/a	HCl Scrub Tower	1988	21 ft. packing	None
T-70	n/a	Distillation Tower	1993	15 ft. packing	None
V-354	n/a	Receiving Vessel	1974	60 gal	None
V-194	n/a	Receiving Vessel	1969	100 gal	None
OJ-15	C-J-15	Vacuum Jet	1960	1,378 #/hr steam 70 #/hr inerts 70 #/hr HCl	None
OJ-30	C-J-30	Vacuum Jet	1969	325 #/hr steam 20 #/hr inerts	None
V-166	C-166	Washer Feed	1958	<19,800 gal	None
V-633	C-633	Washer Feed	1985	<19,800 gal	None
V-275	n/a	Washer	1975	6,000 gal	T-50
V-276	n/a	Washer	1975	6,000 gal	T-50
V-277	n/a	Washer	1975	6,000 gal	T-50
V-278	n/a	Washer	1975	6,000 gal	T-50
V-451	n/a	Washer	1977	6,000 gal	T-50
V-452	n/a	Washer	1977	6,000 gal	T-50
V-82	C-82	Dryer Feed	1980	8.000 gal	None
V-599	C-599	Dryer Feed	1980	8.000 gal	None
V-671	C-671	Save All Vessel	1996	25,000 gal	None
OJ-11	C-J-11	Vacuum Jet	1995	300 #/hr water 24 #/hr air	None
OJ-20	C-J-20	Vacuum Jet	1995	300 #/hr water 24 #/hr air	None

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
V-90	C-90	Filter Feed Tank	1995	125 gal	None
T-50	C-T-50	Scrubber	NA	1 gpm: liquor flow rate	n/a
OP-23	n/a	Filter	1996	135 sq. ft.	None
HE-36	n/a	Dryer	1958	193 sq. ft.	None
T-62	C-T-68	HCl Absorber	1995	5 ft. packing	T-68
HE-349	n/a	HCl Absorber	2000	427 sq. ft.	None
V-706	C-T-68	HCl Storage	2000	25,000 gal	T-68
V-707	C-T-68	HCl Storage	2000	25,000 gal	T-68
Bis Phosphates					
R-25	n/a	Reactor	2001	2,000 gal	None
V-724	n/a	Reaction Completion	1996	13,500 gal	None
V-631	n/a	Reaction Completion	1996	7,500 gal	None
R-44	n/a	Distillation Tower	1999	14 ft. packing	None
OJ-30	C-J-30	Vacuum Jet	1969	325 #/hr steam 20 #/hr inerts	None
OJ-15	C-J-15	Vacuum Jet	1960	1,378 #/hr steam 70 #/hr inerts 70 #/hr HCl	None
V-709	C-J-15/30	Receiver	1999	600 gal	None
V-273	C-273	BEPD Feed Tank	2012	12,500 gal	None
TX-1	OJ-15 or OJ-30	Distillation Tank	2012	N/A	None
R-46	n/a	Reactor	2001	2,000 gal	None
R-47	n/a	Reaction Completion	2001	2,000 gal	None
V-754	n/a	Reaction Completion	2001	13,500 gal	None
OJ-71	n/a	Vacuum Pump	2001	710 lb/hr HCl @ 2.1 psia	None
T-35	n/a	HCl Scrubber	2001	21 ft. packing	None
T-58	n/a	HCl Scrub Tower	1988	21 ft. packing	None
HE-349	n/a	HCl Absorber	2000	427 sq. ft.	None
T-62	C-T-68	HCl Absorber	1995	5 ft. packing	T-68

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
V-706	C-T-68	HCl Storage	2000	25,000 gal	T-68
V-707	C-T-68	HCl Storage	2000	25,000 gal	T-68
V-702	C-702	Washer Feed	2001	25,000 gal	None
V-217	C-T-50	Washer	2001	5,000 gal	T-50
V-218	C-T-50	Washer	2001	5,000 gal	T-50
V-71	C-T-50	Washer	n/a	5,000 gal	T-50
V-72	C-T-50	Washer	n/a	5,000 gal	T-50
V-276	C-T-50	Washer	1975	6,000 gal	T-50
V-277	C-T-50	Washer	1975	6,000 gal	T-50
V-237	C-T-50	Washer	1975	5,000 gal	T-50
V-238	C-T-50	Washer	1975	5,000 gal	T-50
V-725	C-725	Wet Product Storage	2001	13,000 gal	None
V-368	C-368	Save All Tank	2001	25,000 gal	None
T-13	n/a	Washer	2001	14 contact stages 26 ft. tall	None
HE-90	n/a	Dryer	1995	232 sq. ft.	None
V-88	C-88	Filter Feed Tank	2001	140 gal	None
OP-3	n/a	Filter	2007	135 sq. ft.	None
OJ-20	C-J-20	Vacuum Jet	1995	300 lbs/water 24 lbs/hr air	None
OJ-11	C-J-11	Vacuum Jet	1995	300 lbs/water 25 lbs/hr air	None
V-675	C-675	Day Tank	1995	25,000 gal	None
V-676	C-676	Day Tank	1995	25,000 gal	None
Unit IV TBF/TBEP Production					
V-44	n/a	Reactor	1956	2,800 gal	None
V-37	C-37	NaOH	1992	6,000 gal	None
T-1	n/a	Drying Tower	1986	20 ft. packing	None
V-557	n/a	Buffer Tank	1980	5,000 gal	None
V-158	n/a	Seperator	1986	250 gal	None
V-175	n/a	K O Pot	1956	1,400 gal	None

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
V-56	C-56	K O Pot	1956	600 gal	None
OJ-29	H-J-29	Vacuum Jet	1972	20 lbs/hr air	None
OJ-32	H-J-32	Vacuum Jet	1977	20 lbs/hr air	None
R-36	n/a	Reactor	1988	500 gal	None
R-37	n/a	Reactor	1988	500 gal	None
R-38	n/a	Reactor	1988	500 gal	None
R-34	n/a	Reactor	1980	2,000 gal	None
T-77	n/a	HCl Absorber	2002	6 ft. packing	None
V-715	n/a	HCl Storage	1991	750 gal	None
V-716	n/a	HCl Storage	1991	2,400 gal	None
V-717	n/a	HCl Storage	1991	2,400 gal	None
V-237	C-T-50	Washer	1966	5,000 gal	T-50
V-238	C-T-50	Washer	1966	5,000 gal	T-50
V-670	C-670	Save All Tank	1992	25,000 gal	None
V-80	C-80	Dryer Feed	1980	8,000 gal	None
V-84	C-84	Dryer Feed	1980	8,000 gal	None
HE-338	n/a	Dryer	1988	193 sq. ft.	None
OJ-57	C-J-57	Vacuum Jet	1995	300 lbs/water 25 lbs/hr air	None
V-89	C-89	Filter Feed	1995	125 gal	None
OP-58	n/a	Filter	1966	135 sq. ft.	None
OP-187	n/a	Filter	1987	6 sq. ft.	None
T-50	C-T-50	Scrubber	NA	1 gpm: liquor flow rate	T-50
V-183	C-183	Day Tank	1960	6,000 gal	None
V-184	C-184	Day Tank	1960	6,000 gal	None
V-185	C-185	Day Tank	1960	6,000 gal	None
V-560	C-560	Day Tank	1980	10,000 gal	None
V-561	C-561	Day Tank	1980	10,000 gal	None
V-634	C-634	Day Tank	1985	16,900 gal	None

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
OJ-36	C-J-36	Vacuum Jet	1987	40 lbs/water 20 lbs/hr air	None
R-39	n/a	Reactor	1988	500 gal	None
V-306	H-306	Distillation Feed	1969	1,270 gal	None
V-307	n/a	Distillation Feed	1969	1,270 gal	None
T-52	n/a	Distillation Tower	1985	10 ft. packing	None
T-19	n/a	Distillation Tower	1991	6 ft. packing	None
V-298	n/a	O. H. Receiver	1977	100 gal	None
V-619	n/a	O. H. Receiver	1983	300 gal	None
V-305	n/a	Buffer Tank	1970	2,000 gal	None
V-302	H-302	Washer	1997	470 gal	None
V-303	H-303	Washer	1997	470 gal	None
V-519	H-519	Washer	1983	470 gal	None
V-520	H-520	Washer	1983	470 gal	None
V-287	H-287	Separator	1983	420 gal	None
V-116	H-116	Washer Feed	1957	1,700 gal	None
V-119	H-119	Washer Feed	1957	1,700 gal	None
V-107	H-107	Save All Tank	1981	9,000 gal	None
V-229	C-229	Tank	1965	10,000 gal	None
V-230	C-230	Tank	1965	10,000 gal	None
Naturals Production					
R-43 / V-43	n/a	Reactor System / Reaction Completion	2002	1,500 gal	None
R-42 / V-42	n/a	Reactor System / Reaction Completion	2002	2,800 gal	None
V-724	n/a	Reaction Completion	1996	13,500 gal	None
HE-340	n/a	Distillation Tower	2007	231 sq. ft.	None
V-714	n/a	Receiving Vessel	2002	1,000 gal	None
OJ-30	C-J-30	Vacuum Jet	1969	325 #/hr steam 20 #/hr inerts	None

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
OJ-15	C-J-15	Vacuum Jet	1960	1,378 #/hr steam 70 #/hr inerts 70 #/hr HCl	None
V-57	C-57	Washer Feed	2002	7,500 gal	None
V-276	C-T-50	Washer	1975	6,000 gal	None
V-277	C-T-50	Washer	1975	6,000 gal	None
V-63	C-63	Dryer Feed	2002	12,000 gal	None
V-568	C-568	Save All Tank	1980	25,000 gal	None
OJ-69	C-J-69	Vacuum Jet	1995	40 lbs/water 20 lbs/hr air	None
V-571	C-571	Filter Feed Tank	1998	4,000 gal	None
OP-56	n/a	Filter	1998	135 sq. ft.	None
V-106	n/a	Dryer	2002	2,300 gal	None
T-35	n/a	HCl Scrub Tower	2001	21 ft. packing	None
T-58	n/a	HCl Scrub Tower	1988	21 ft. packing	None
T-62	C-T-68	HCl Absorber	1995	5 ft. packing	T-68
HE-349	n/a	HCl Absorber	2000	427 sq. ft.	None
V-706	C-T-68	HCl Storage	2000	25,000 gal	T-68
V-707	C-T-68	HCl Storage	2000	25,000 gal	T-68
Group 2 Production					
R-28	C-T-50	Reactor	n/a	n/a	T-50
V-564	C-T-50	Pre-Wash Tank	2000	<19,800 gal	T-50
V-565	C-T-50	Wash Tank	n/a	n/a	T-50
V-566	C-T-50	Wash Tank	n/a	n/a	T-50
V-83	C-83	Dehydrator Feed Tank	1956	<19,800 gal	None
V-577	C-577	Dehydrator Feed Tank	1980	<19,800 gal	None
HE-280	C-J-53	Dehydrator	2001	<19,800 gal	None
OJ-53	C-J-53	Vacuum Jet	1998	300 #/hr water vapor 25 #/hr inerts 1,068 #/hr steam	None
V-365	C-365	Save All Tank	1974	<39,000 gal	None

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
R-20	C-T-50	Reactor	n/a	n/a	T-50
V-570	C-T-50	Pre-Wash Tank	n/a	n/a	T-50
V-71	C-T-50	Wash Tank	n/a	n/a	T-50
V-72	C-T-50	Wash Tank	n/a	n/a	T-50
V-81	C-81	Dehydrator Feed Tank	1956	<19,800 gal	None
V-94	C-94	Dehydrator Feed Tank	1956	<19,800 gal	None
V-569	C-569	Filter Feed Tank	1996	500 gal	None
V-174	C-174	Filter Feed Tank	1988	500 gal	None
HE-037	C-J-12	Dehydrator	1955	<19,800 gal	None
OJ-12	C-J-12	Vacuum Jet	1998	300 #/hr water vapor 25 #/hr inerts 1,068 #/hr steam	None
V-567	C-567	Save All Tank	1980	<39,900 gal	None
C-R-50	C-T-50	Digestor	2004	25 gpm, 500 gal	T-50
V-100	C-100	Check/Day Tank	1955	<19,800 gal	None
V-101	C-101	Check/Day Tank	1955	<19,800 gal	None
V-215	C-215	Check/Day Tank	~1963	<19,800 gal	None
V-216	C-216	Check/Day Tank	~1963	<19,800 gal	None
T-50	C-T-50	Scrubber	NA	1 gpm: liquor flow rate	n/a
V-200 Production					
V-200	n/a	Reactor	Pre 1980	22,000 gal	None
V-344	n/a	Knock Out	1974	1,500 gal	None
V-4	n/a	Tank	1985	50,000 gal	None
V-5	n/a	Tank	1985	50,000 gal	None
Tri Aryl Production(1)					
V-91	C-91	Tank	1980	8,000 gal	None
V-92	C-92	Tank	1980	8,000 gal	None
V-93	C-93	Tank	1980	8,000 gal	None

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
V-97	C-97	Tank	1980	15,000 gal	None
V-98	C-98	Tank	1980	15,000 gal	None
V-212	C-212	Tank	1980	15,000 gal	None
V-562	C-562	Tank	1980	10,000 gal	None
V-563	C-563	Tank	1980	10,000 gal	None
V-574	C-574	Tank	1980	10,000 gal	None
V-575	C-575	Tank	1980	10,000 gal	None
V-576	C-576	Tank	1980	8,000 gal	None
V-668	C-668	Tank	1988	25,000 gal	None
V-669	C-669	Tank	1988	25,000 gal	None
Unit I Logistics					
V-37	C-37	Tank	1987	6,000 gal	n/a
V-558	C-558	Tank	2007	10,000 gal	n/a
V-559	C-559	Tank	2007	10,000 gal	n/a
Production Unit II					
EAP System					
R-15	n/a	Reactor	1970	1,000 gal	None
OJ-39	R-J-39	Vacuum Jet	1973	290 #/hr steam 20 #/hr inerts	None
BAP System					
R-15	n/a	Reactor	1970	1,000 gal	None
OJ-39	R-J-39	Vacuum Jet	1973	290 #/hr steam 20 #/hr inerts	None
Dioctyl Acid Pyrophosphate System					
R-13	n/a	Reactor	1968	2,000 gal	None
OJ-39	R-J-39	Vacuum Jet	1973	290 #/hr steam 20 #/hr inerts	None
BPA System					
V-692	n/a	Feed Tank	1989	1,000 gal	T-61
R-26	n/a	Reactor/Crystallizer	1975	2,000 gal	T-61
R-27	R-T-60	Reactor/Crystallizer	1998	2,000 gal	T-61

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
OJ-40	R-J-40	Vacuum Jet	1974	25 lbs/air 20 lbs/hr water	None
D-5	n/a	Decanter/Drier	1975	225 cu. ft.	None
Unit II BPOD					
R-9	n/a	Reactor	1987	2,000 gal	T-55
V-250	n/a	Tank	1967/1979	7,500 gal	T-60
V-251	n/a	Tank	1967	7,500 gal	T-60
OJ-25	R-J-25	Vacuum Jet	Pre 1980	25 lbs/air 20 lbs/hr water	None
Unit II Fyrol 6					
V-263	n/a	Tank	1968	6,000 gal	T-60
R-23	n/a	Reactor	1974	2,800 gal	None
V-75	R-75	Tank	1979	1,800 gal	None
V-316	n/a	Receiver Tank	1975	500 gal	None
OJ-56	R-J-56	Vacuum Jet	1985	20 lbs/hr air	None
V-375	R-375	Tank	1974	12,500 gal	None
V-377	R-377	Tank	1974	12,500 gal	None
Unit II Fyrol 99					
R-12	n/a	Reactor	1968	2,000 gal	None
R-13	n/a	Reactor	1968	2,000 gal	None
R-35	n/a	Reactor System	1980	2,000 gal	None
OJ-38	R-J-38	Vacuum Jet	1973/1987	290 #/hr steam 20 #/hr inerts	None
OJ-39	R-J-39	Vacuum Jet	1973/1987	290 #/hr steam 20 #/hr inerts	None
V-260	R-260	Tank	1967	12,000 gal	None
V-262	R-262	Reactor Dump Tank	1968	6,000 gal	None
R-9					
R-9	n/a	Reactor	1987	2,000 gal	T-55
V-333	R-333	Save All Tank	1973	12,500 gal	None
R-33	R-R-33	Washer	1979	4,000 gal	None

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
V-323	R-323	Separator	1971	2,000 gal	None
V-324	R-324	Separator	1971	2,000 gal	None
T-55	n/a	Scrubber	1992	6 ft. packing	None ~~T-55~~
V-621	n/a	Dryer	1984	5,000 gal	None
OP-89	n/a	Filter	1991	76 sq. ft.	None
OJ-52	R-J-52	Vacuum Jet	1985	20 #/hr air	None
OJ-56	R-J-56	Vacuum Jet	1985	20 #/hr air	None
OJ-25	R-J-25	Vacuum Jet	Pre 1980	25 #/hr water 25 #/hr air	None
V-334	R-334	Tank	1973	12,500 gal	None
V-335	R-335	Tank	1973	12,500 gal	None
V-372	R-372	Tank	1973	12,500 gal	None
V-374	R-374	Tank	1975	12,500 gal	None
V-376	R-376	Tank	1975	12,500 gal	None
V-548	R-548	Tank	1975	12,500 gal	None
V-359	n/a	Tank	1979	10,000 gal	T-60
V-687	n/a	Tank	1974	6,000 gal	T-60
V-690	n/a	Tank	1989	2,500 gal	T-60
Victawet 12					
R-12	n/a	Completion Reactor	1968	2,000 gal	None
R-13	n/a	Completion Reactor	1968	2,000 gal	None
OJ-38	R-J-38	Vacuum Jet	1973/1987	290 #/hr steam 20 #/hr inerts	None
OJ-39	R-J-39	Vacuum Jet	1973/1987	290 #/hr steam 20 #/hr inerts	None
SBP System					
R-11	R-R-11	Reactor	1967	1,000 gal	None
V-256	R-256	Tank	1984	1,000 gal	None
OM-251	R-M-251	Tank	1986	100 cu. ft.	None
EO Scrubber					
V-746	n/a	Completion Reactor	1994	11,000 gal	T-76

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
V-747	n/a	Completion Reactor	1994	2,600 gal	T-76
V-40	n/a	Tank	1994	6,000 gal	T-76
Unit II Logistics					
V-263	n/a	Tank	1968	6,000 gal	T-60
V-373	R-373	Tank	1974	12,500 gal	None
V-375	R-375	Tank	1974	12,500 gal	None
V-377	R-377	Tank	1974	12,500 gal	None
V-261	R-261	Tank	1968	6,000 gal	None
V-259	R-259	Tank	1967	12,000 gal	None
V-666	B-666	Tank	1987	50,000 gal	None
V-260	R-260	Tank	1967	12,000 gal	None
V-334	R-334	Tank	1973	12,500 gal	None
V-335	R-335	Tank	1973	12,500 gal	None
V-372	R-372	Tank	1975	12,500 gal	None
V-374	R-374	Tank	1975	12,500 gal	None
V-376	R-376	Tank	1975	12,500 gal	None
V-548	R-548	Tank	1979	12,500 gal	None
V-629	R-629	Tank	1987	12,000 gal	None
Production Unit III					
POCI3					
R-31	n/a	Reactor	1975	2,900 gal	None
V-406	n/a	Stripper	1975	280 gal	None
V-407	n/a	Stripper	1975	30 gal	None
T-22	n/a	Distillation Tower	1975	30 ft. packing	None
V-408	n/a	Tank Receiver	1975	82 gal	None
T-24	n/a	Scrub Tower	1975	12 ft. packing	None
T-23	n/a	Scrub Tower	1975	18 ft. packing	None
V-410	n/a	Day Tank	1975	3,000 gal	None
V-411	n/a	Day Tank	1975	3,000 gal	None
V-412	n/a	Day Tank	1975	3,000 gal	None

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
V-352	n/a	Storage Tank	1975	24,000 gal	None
V-363	n/a	Storage Tank	1975	24,000 gal	None
V-413	n/a	Storage Tank	1975	24,000 gal	None
V-442	n/a	Storage Tank	1986	24,000 gal	None
PCI3					
R-41	n/a	Reactor	1988	4,000 gal	None
V-391	n/a	P4 Tank	1975	25,380 gal	None
V-393	n/a	Water Tank	2008	76,530 gal	None
T-20A	n/a	Distillation Tower	2001	23 ft. packing	None
T-20B	n/a	Distillation Tower	2007	23 ft. packing	None
T-24	n/a	Scrub Tower	1975	12 ft. packing	None
T-23	n/a	Scrub Tower	1975	18 ft. packing	None
V-401	n/a	Tank	1975	365 gal	None
V-402	n/a	Tank	1975	3,600 gal	None
V-403	n/a	Tank	2007	3,600 gal	None
V-404	n/a	Tank	1975	3,600 gal	None
V-405	n/a	Tank	1975	33, 840 gal	None
Unit III Logistics					
V-386	n/a	Tank	1976	30,000 gal	None
V-387	n/a	Tank	1976	30,000 gal	None
V-388	n/a	Tank	1976	30,000 gal	None
V-389	n/a	Tank	1976	30,000 gal	None
V-402	n/a	Tank	1975	3,600 gal	None
V-403	n/a	Tank	2007	3,600 gal	None
V-404	n/a	Tank	1975	3,600 gal	None
V-405	n/a	Tank	1975	33,840 gal	None
V-410	n/a	Day Tank	1975	3,000 gal	None
V-411	n/a	Day Tank	1975	3,000 gal	None
V-412	n/a	Day Tank	1975	3,000 gal	None
V-352	n/a	Storage Tank	1975	24,000 gal	None

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
V-363	n/a	Storage Tank	1975	24,000 gal	None
V-413	n/a	Storage Tank	1975	24,000 gal	None
V-442	n/a	Storage Tank	1986	24,000 gal	None
Distribution					
Tanks					
V-590	T-590	Tank	1980	22,000 gal	None
V-591	T-591	Tank	1980	22,000 gal	None
V-592	T-592	Tank	1980	22,000 gal	None
V-31	T-31	Tank	1978	10,000 gal	None
V-170	B-170	Tank	1982	50,000 gal	None
V-610	B-610	Tank	1982	57,000 gal	None
V-578	B-578	Tank	1982	7,900 gal	None
V-658	P-658	Tank	1986	50,000 gal	None
V-531	B-J-55	Tank	1994	50,000 gal	None
V-532	B-J-55	Tank	1994	50,000 gal	None
V-533	B-J-55	Tank	1994	50,000 gal	None
V-534	B-J-55	Tank	1994	50,000 gal	None
V-358	B-J-55	Tank	2002	10,000 gal	None
V-13	B-J-55	Tank	1994	50,000 gal	None
V-211	B-211	Tank	1962	25,000 gal	None
V-1	B-1	Tank	1994	50,000 gal	None
V-2	B-2	Tank	1994	50,000 gal	None
V-3	B-3	Tank	1994	50,000 gal	None
V-9	B-9	Tank	1994	50,000 gal	None
V-643	B-643	Tank	2006	100,000 gal	None
V-232	B-232	Tank	1966	15,000 gal	None
V-308	B-308	Tank	1970	15,000 gal	None
V-340	B-340	Tank	1973	100,000 gal	None
V-341	B-341	Tank	1973	100,000 gal	None
V-234	B-234	Tank	1966	15,000 gal	None

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
V-6	B-6	Tank	1956	50,000 gal	None
V-180	B-180	Tank	1959	100,000 gal	None
V-23	B-23	Tank	1956	15,000 gal	None
V-20	B-20	Tank	1955	50,000 gal	None
V-15	B-15	Tank	1955	100,000 gal	None
V-16	B-16	Tank	1955	100,000 gal	None
V-17	B-17	Tank	1955	50,000 gal	None
V-18	B-18	Tank	1955	50,000 gal	None
V-19	B-19	Tank	1955	50,000 gal	None
V-700	B-700	Tank	1990	50,000 gal	None
V-517	T-517	Tank	1977	230,000 gal	None
V-539	B-539	Tank	2007	100,000 gal	None
V-605	B-605	Tank	1981	50,000 gal	None
V-171	B-171	Tank	1959	50,000 gal	None
V-735	B-735	Tank	1994	50,000 gal	None
V-12	B-12	Tank	1955	10,000 gal	None
V-21	B-21	Tank	1955	50,000 gal	None
V-24	B-24	Tank	1955	15,000 gal	None
V-176	B-176	Tank	1959	12,000 gal	None
V-279	B-279	Tank	1994	15,000 gal	None
V-280	B-280	Tank	1968	15,000 gal	None
V-104	B-104	Tank	1955	15,000 gal	None
V-105	B-105	Tank	1955	15,000 gal	None
V-233	B-233	Tank	1973	12,500 gal	None
V-7	B-7	Tank	1955	50,000 gal	None
V-231	B-231	Tank	1994	100,000 gal	None
V-210	B-210	Tank	1961	50,000 gal	None
V-208	B-208	Tank	1961	50,000 gal	None
V-172	B-172	Tank	1959	50,000 gal	None
V-290	B-290	Tank	1969	100,000 gal	None

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
V-291	B-291	Tank	1969	100,000 gal	None
V-339	B-339	Tank	1973	100,000 gal	None
V-209	B-209	Tank	1961	50,000 gal	None
V-213	B-213	Tank	1959	50,000 gal	None
V-236	B-236	Tank	1969	50,000 gal	None
V-342	B-342	Tank	1973	50,000 gal	None
V-594	B-594	Tank	1980	100,000 gal	None
V-595	B-595	Tank	1980	100,000 gal	None
V-516	T-516	Tank	1977	230,000 gal	None
V-518	T-518	Tank	1977	230,000 gal	None
V-666	B-666	Tank	1987	50,000 gal	None
V-30	H-30	Tank	1983	8,000 gal	None
Loading					
TR-East	n/a	Main Truck Rack East	1983	44,100 gal/day	None
TR-West	n/a	Main Truck Rack West	1983	44,100 gal/day	None
TT-2	n/a	Tank Truck Spot 2	1979	11,000 gal/day	None
TT-3	n/a	Tank Truck Spot 3	1960	5,500 gal/day	None
TT-4	n/a	Tank Truck Spot 4	1960	5,500 gal/day	None
TT-5	n/a	Tank Truck Spot 5	1960	5,500 gal/day	None
TT-8	n/a	Tank Truck Spot 8	1974	11,000 gal/day	None
TT-9	n/a	Tank Truck Spot 9	1974	7,200 gal/day	None
TT-16	n/a	Tank Truck Spot 16	2000	15,400 gal/day	None
TT-17	n/a	Tank Truck Spot 17	1995	22,000 gal/day	None
DT-East	n/a	Drum/Tote Filling East	1996	44,000 gal/day	None
DT-West	n/a	Drum/Tote Filling West	1996	44,000 gal/day	None
DT-Center	n/a	Drum/Tote Filling Center	1996	44,000 gal/day	None
DF-I	n/a	Unit I Drumming	1990	44,000 gal/day	None
DF-II	n/a	Unit II Drumming	1991	44,000 gal/day	None
RC-1	n/a	Rail Car Spot 1	1960	22,000 gal/day	None
RC-2	n/a	Rail Car Spot 2	1960	22,000 gal/day	None

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
RC-3	n/a	Rail Car Spot 3	1960	22,000 gal/day	None
RC-4	n/a	Rail Car Spot 4	1960	22,000 gal/day	None
RC-5	n/a	Rail Car Spot 5	1960	22,000 gal/day	None
RC-6	n/a	Rail Car Spot 6	1960	22,000 gal/day	None
RC-7	n/a	Rail Car Spot 7	1960	22,000 gal/day	None
TC 3-9	n/a	Tank Car Spot 3-9	1975	22,000 gal/day	None
TC 3-11	n/a	Tank Car Spot 3-11	1975	15,500 gal/day	None
TC 5-9	n/a	Tank Car Spot 5-9	1975	15,500 gal/day	None
TC 5-11	n/a	Tank Car Spot 5-11	1975	15,500 gal/day	None
Other Logistics					
Utilities Logistics					
V-294	H-294	Tank	1968	16,000 gal	None
Blending					
R-22	R-R-22	Reactor	1972	2,000 gal	None
R-23	R-R-23	Reactor	1978	4,000 gal	None
R-33	R-R-33	Reactor	1983	4,000 gal	None
R-11	R-R-11	Reactor	1967	1,000 gal	None
R-12	R-R-12	Reactor	1967	2,000 gal	None
R-13	R-R-13	Reactor	1967	2,000 gal	None
R-15	R-R-15	Reactor	1967	1,000 gal	None
Totes	K-T	Totes	1967	275 gal	None
Drums	K-DR	Drums	1996	55 gal	None
V-346	B-346	Mix Tank	1974	5,000 gal	None
V-345	B-345	Mix Tank	1974	5,000 gal	None
V-613	B-613	Mix Tank	1982	5,000 gal	None
V-343	B-343	Mix Tank	1974	5,000 gal	None
V-168	B-168	Mix Tank	1974	5,000 gal	None
Oil Systems					
V-744	H-744	Expansion Tank	1996	6,000 gal	None
V-748	H-748	Expansion Tank	1996	6,000 gal	None

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
V-749	H-749	Expansion Tank	1996	6,000 gal	None
V-159	C-159	Expansion Tank	Pre 1980	100 gal	None
V-160	C-160	Expansion Tank	Pre 1980	100 gal	None
V-114	R-114	Expansion Tank	1989	1,720 gal	None
V-753	C-753	Expansion Tank	1995	100 gal	None
R-28	n/a	Reactor Jacket	1975	300 gal	None
R-20	n/a	Reactor Jacket	1968	300 gal	None
R-25	n/a	Reactor Jacket	1981	300 gal	None
R-9	n/a	Reactor Jacket	1986	300 gal	None
Wastewater Treatment					
WWTU	P-662 (Various Fugitive)	Wastewater Treatment Unit	1987	600 gpm	Chemical Digester
Combustion Sources					
C-120	H-C-120	Air Compressor	1987	128 hp	None
C-209	E-C-209	Diesel Engine	1996	78 hp	None
OM-183	D-O-183	Diesel Engine	1978	375 hp	None
OM-184	D-O-184	Diesel Engine	1978	375 hp	None
OM-231	H-O-231	Diesel Engine	1988	368.8 hp	None
OM-296	P-O-296	Diesel Engine	1988	368.8 hp	None
P-434	H-P-434	Diesel Engine	1976	190 hp	None
B-6	H-B-6	Boiler	1977	93.7 mmBtu/hr	None
B-5A	H-B-5A	Boiler	1998	122 mmBtu/hr	None
F-5	C-F-5	Heater	1960	8.2 mmBtu/hr	None
F-6	C-F-6	Heater	1969	6.4 mmBtu/hr	None
F-7	C-F-7	Heater	1976	0.75 mmBtu/hr	None
F-8	C-F-8	Heater	1976	0.75 mmBtu/hr	None
Control Devices					
T-40	M-T-41	Scrub Tower	2008	15 ft. packing	T-41
T-41	M-T-41	Scrub Tower	1979	15 ft. packing	None

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
T-45	C-T-45	Scrub Tower	1997	10 ft. packing	None
T-50	C-T-50	Scrubber	NA	1 gpm: liquor flow rate	None
T-55	n/a	Scrubber	1992	6 ft. packing	None
T-60	R-T-60	Scrubber	1995	7 ft. packing	None
T-61	n/a	Scrubber	1995	7 ft. packing	T-60
T-68	C-T-68	HCl Scrubber	1995	5 ft. packing	None
T-74	n/a	Scrubber	1994	24 ft. packing	T-76
T-75	n/a	Scrubber	1994	24 ft. packing	T-76
T-76	R-T-76	Scrubber	1994	6 ft. packing	None

(1) Continuous and Naturals Sub-Units are part of the Tri Aryl Production Units and Bis Phosphate Units. The tanks listed under the Tri Aryl Production and Bis Phosphate Units are common to both the Continuous and Naturals Sub-Units.

1.2. Active R13, R14, and R19 Permits

The underlying authority for any conditions from R13, R14, and/or R19 permits contained in this operating permit is cited using the original permit number (e.g. R13-1234). The current applicable version of such permit(s) is listed below.

Permit Number	Date of Issuance
R13-2438~~N~~O	~~7/24/2012~~ 11/30/2012

2.0. General Conditions

2.1. Definitions

2.1.1. All references to the "West Virginia Air Pollution Control Act" or the "Air Pollution Control Act" mean those provisions contained in W.Va. Code §§ 22-5-1 to 22-5-18.

2.1.2. The "Clean Air Act" means those provisions contained in 42 U.S.C. §§ 7401 to 7671q, and regulations promulgated thereunder.

2.1.3. "Secretary" means the Secretary of the Department of Environmental Protection or such other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§ 22-1-6 or 22-1-8 (45CSR§30-2.12.). The Director of the Division of Air Quality is the Secretary's designated representative for the purposes of this permit.

2.2. Acronyms

CAAA	Clean Air Act Amendments
CBI	Confidential Business Information
CEM	Continuous Emission Monitor
CES	Certified Emission Statement
C.F.R. *or* CFR	Code of Federal Regulations
CO	Carbon Monoxide
C.S.R. *or* CSR	Codes of State Rules
DAQ	Division of Air Quality
DEP	Department of Environmental Protection
FOIA	Freedom of Information Act
HAP	Hazardous Air Pollutant
HON	Hazardous Organic NESHAP
HP	Horsepower
lbs/hr *or* lb/hr	Pounds per Hour
LDAR	Leak Detection and Repair
M	Thousand
MACT	Maximum Achievable Control Technology
MM	Million
MMBtu/hr *or* mmbtu/hr	Million British Thermal Units per Hour
MMCF/hr *or* mmcf/hr	Million Cubic Feet Burned per Hour
NA	Not Applicable
NAAQS	National Ambient Air Quality Standards
NESHAPS	National Emissions Standards for Hazardous Air Pollutants
NO_x	Nitrogen Oxides
NSPS	New Source Performance Standards
PM	Particulate Matter
PM_{10}	Particulate Matter less than 10μm in diameter
pph	Pounds per Hour
ppm	Parts per Million
PSD	Prevention of Significant Deterioration
psi	Pounds per Square Inch
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
TAP	Toxic Air Pollutant
TPY	Tons per Year
TRS	Total Reduced Sulfur
TSP	Total Suspended Particulate
USEPA	United States Environmental Protection Agency
UTM	Universal Transverse Mercator
VEE	Visual Emissions Evaluation
VOC	Volatile Organic Compounds

2.3. Permit Expiration and Renewal

2.3.1. Permit duration. This permit is issued for a fixed term of five (5) years and shall expire on the date specified on the cover of this permit, except as provided in 45CSR§30-6.3.b. and 45CSR§30-6.3.c.
[45CSR§30-5.1.b.]

2.3.2. A permit renewal application is timely if it is submitted at least six (6) months prior to the date of permit expiration.
[45CSR§30-4.1.a.3.]

2.3.3. Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted consistent with 45CSR§30-6.2. and 45CSR§30-4.1.a.3.
[45CSR§30-6.3.b.]

2.3.4. If the Secretary fails to take final action to deny or approve a timely and complete permit application before the end of the term of the previous permit, the permit shall not expire until the renewal permit has been issued or denied, and any permit shield granted for the permit shall continue in effect during that time.
[45CSR§30-6.3.c.]

2.4. Permit Actions

2.4.1. This permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
[45CSR§30-5.1.f.3.]

2.5. Reopening for Cause

2.5.1. This permit shall be reopened and revised under any of the following circumstances:

a. Additional applicable requirements under the Clean Air Act or the Secretary's legislative rules become applicable to a major source with a remaining permit term of three (3) or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 45CSR§§30-6.6.a.1.A. or B.

b. Additional requirements (including excess emissions requirements) become applicable to an affected source under Title IV of the Clean Air Act (Acid Deposition Control) or other legislative rules of the Secretary. Upon approval by U.S. EPA, excess emissions offset plans shall be incorporated into the permit.

c. The Secretary or U.S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

d. The Secretary or U.S. EPA determines that the permit must be revised or revoked and reissued to assure compliance with the applicable requirements.

[45CSR§30-6.6.a.]

2.6. Administrative Permit Amendments

2.6.1. The permittee may request an administrative permit amendment as defined in and according to the procedures specified in 45CSR§30-6.4.
[45CSR§30-6.4.]

2.7. Minor Permit Modifications

2.7.1. The permittee may request a minor permit modification as defined in and according to the procedures specified in 45CSR§30-6.5.a.
[45CSR§30-6.5.a.]

2.8. Significant Permit Modification

2.8.1. The permittee may request a significant permit modification, in accordance with 45CSR§30-6.5.b., for permit modifications that do not qualify for minor permit modifications or as administrative amendments.
[45CSR§30-6.5.b.]

2.9. Emissions Trading

2.9.1. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in the permit and that are in accordance with all applicable requirements.
[45CSR§30-5.1.h.]

2.10. Off-Permit Changes

2.10.1. Except as provided below, a facility may make any change in its operations or emissions that is not addressed nor prohibited in its permit and which is not considered to be construction nor modification under any rule promulgated by the Secretary without obtaining an amendment or modification of its permit. Such changes shall be subject to the following requirements and restrictions:

a. The change must meet all applicable requirements and may not violate any existing permit term or condition.

b. The permittee must provide a written notice of the change to the Secretary and to U.S. EPA within two (2) business days following the date of the change. Such written notice shall describe each such change, including the date, any change in emissions, pollutants emitted, and any applicable requirement that would apply as a result of the change.

c. The change shall not qualify for the permit shield.

d. The permittee shall keep records describing all changes made at the source that result in emissions of regulated air pollutants, but not otherwise regulated under the permit, and the emissions resulting from those changes.

e. No permittee may make any change subject to any requirement under Title IV of the Clean Air Act (Acid Deposition Control) pursuant to the provisions of 45CSR§30-5.9.

f. No permittee may make any changes which would require preconstruction review under any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) pursuant to the provisions of 45CSR§30-5.9.

[45CSR§30-5.9.]

2.11. Operational Flexibility

2.11.1. The permittee may make changes within the facility as provided by § 502(b)(10) of the Clean Air Act. Such operational flexibility shall be provided in the permit in conformance with the permit application and applicable requirements. No such changes shall be a modification under any rule or any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) promulgated by the Secretary in accordance with Title I of the Clean Air Act and the change shall not result in a level of emissions exceeding the emissions allowable under the permit.
[45CSR§30-5.8]

2.11.2. Before making a change under 45CSR§30-5.8., the permittee shall provide advance written notice to the Secretary and to U.S. EPA, describing the change to be made, the date on which the change will occur, any changes in emissions, and any permit terms and conditions that are affected. The permittee shall thereafter maintain a copy of the notice with the permit, and the Secretary shall place a copy with the permit in the public file. The written notice shall be provided to the Secretary and U.S. EPA at least seven (7) days prior to the date that the change is to be made, except that this period may be shortened or eliminated as necessary for a change that must be implemented more quickly to address unanticipated conditions posing a significant health, safety, or environmental hazard. If less than seven (7) days notice is provided because of a need to respond more quickly to such unanticipated conditions, the permittee shall provide notice to the Secretary and U.S. EPA as soon as possible after learning of the need to make the change.
[45CSR§30-5.8.a.]

2.11.3. The permit shield shall not apply to changes made under 45CSR§30-5.8., except those provided for in 45CSR§30-5.8.d. However, the protection of the permit shield will continue to apply to operations and emissions that are not affected by the change, provided that the permittee complies with the terms and conditions of the permit applicable to such operations and emissions. The permit shield may be reinstated for emissions and operations affected by the change:

a. If subsequent changes cause the facility's operations and emissions to revert to those authorized in the permit and the permittee resumes compliance with the terms and conditions of the permit, or

b. If the permittee obtains final approval of a significant modification to the permit to incorporate the change in the permit.

[45CSR§30-5.8.c.]

2.11.4. "Section 502(b)(10) changes" are changes that contravene an express permit term. Such changes do not include changes that would violate applicable requirements or contravene enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.
[45CSR§30-2.39]

2.12. Reasonably Anticipated Operating Scenarios

2.12.1. The following are terms and conditions for reasonably anticipated operating scenarios identified in this permit.

a. Contemporaneously with making a change from one operating scenario to another, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating and to document the change in reports submitted pursuant to the terms of this permit and 45CSR30.

b. The permit shield shall extend to all terms and conditions under each such operating scenario; and

c. The terms and conditions of each such alternative scenario shall meet all applicable requirements and the requirements of 45CSR30.

[45CSR§30-5.1.i.]

2.13. Duty to Comply

2.13.1. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

[45CSR§30-5.1.f.1.]

2.14. Inspection and Entry

2.14.1. The permittee shall allow any authorized representative of the Secretary, upon the presentation of credentials and other documents as may be required by law, to perform the following:

a. At all reasonable times (including all times in which the facility is in operation) enter upon the permittee's premises where a source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect at reasonable times (including all times in which the facility is in operation) any facilities, equipment (including monitoring and air pollution Control equipment), practices, or operations regulated or required under the permit;

d. Sample or monitor at reasonable times substances or parameters to determine compliance with the permit or applicable requirements or ascertain the amounts and types of air pollutants discharged.

[45CSR§30-5.3.b.]

2.15. Schedule of Compliance

2.15.1. For sources subject to a compliance schedule, certified progress reports shall be submitted consistent with the applicable schedule of compliance set forth in this permit and 45CSR§30-4.3.h., but at least every six (6) months, and no greater than once a month, and shall include the following:

a. Dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when such activities, milestones or compliance were achieved; and

b. An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measure adopted.

[45CSR§30-5.3.d.]

2.16. Need to Halt or Reduce Activity not a Defense

2.16.1. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in determining penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continued operations.
[45CSR§30-5.1.f.2.]

2.17. Emergency

2.17.1. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.
[45CSR§30-5.7.a.]

2.17.2. Effect of any emergency. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of 45CSR§30-5.7.c. are met.
[45CSR§30-5.7.b.]

2.17.3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;

b. The permitted facility was at the time being properly operated;

c. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and

d. Subject to the requirements of 45CSR§30-5.1.c.3.C.1, the permittee submitted notice of the emergency to the Secretary within one (1) working day of the time when emission limitations were exceeded due to the emergency and made a request for variance, and as applicable rules provide. This notice, report, and variance request fulfills the requirement of 45CSR§30-5.1.c.3.B. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

[45CSR§30-5.7.c.]

2.17.4. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.
[45CSR§30-5.7.d.]

2.17.5. This provision is in addition to any emergency or upset provision contained in any applicable requirement.
[45CSR§30-5.7.e.]

2.18. Federally-Enforceable Requirements

2.18.1. All terms and conditions in this permit, including any provisions designed to limit a source's potential to emit and excepting those provisions that are specifically designated in the permit as "State-enforceable only", are enforceable by the Secretary, USEPA, and citizens under the Clean Air Act.
[45CSR§30-5.2.a.]

2.18.2. Those provisions specifically designated in the permit as “State-enforceable only” shall become “Federally-enforceable” requirements upon SIP approval by the USEPA.

2.19. Duty to Provide Information

2.19.1. The permittee shall furnish to the Secretary within a reasonable time any information the Secretary may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Secretary copies of records required to be kept by the permittee. For information claimed to be confidential, the permittee shall furnish such records to the Secretary along with a claim of confidentiality in accordance with 45CSR31. If confidential information is to be sent to USEPA, the permittee shall directly provide such information to USEPA along with a claim of confidentiality in accordance with 40 C.F.R. Part 2.
[45CSR§30-5.1.f.5.]

2.20. Duty to Supplement and Correct Information

2.20.1. Upon becoming aware of a failure to submit any relevant facts or a submittal of incorrect information in any permit application, the permittee shall promptly submit to the Secretary such supplemental facts or corrected information.
[45CSR§30-4.2.]

2.21. Permit Shield

2.21.1. Compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance provided that such applicable requirements are included and are specifically identified in this permit or the Secretary has determined that other requirements specifically identified are not applicable to the source and this permit includes such a determination or a concise summary thereof.
[45CSR§30-5.6.a.]

2.21.2. Nothing in this permit shall alter or affect the following:

a. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance; or

b. The applicable requirements of the Code of West Virginia and Title IV of the Clean Air Act (Acid Deposition Control), consistent with § 408 (a) of the Clean Air Act.

c. The authority of the Administrator of U.S. EPA to require information under § 114 of the Clean Air Act or to issue emergency orders under § 303 of the Clean Air Act.

[45CSR§30-5.6.c.]

2.22. Credible Evidence

2.22.1. Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defenses otherwise available to the permittee including but not limited to any challenge to the credible evidence rule in the context of any future proceeding.
[45CSR§30-5.3.e.3.B. and 45CSR38]

2.23. Severability

2.23.1. The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid by a court of competent jurisdiction, the remaining permit terms and conditions or their application to other circumstances shall remain in full force and effect.
[45CSR§30-5.1.e.]

2.24. Property Rights

2.24.1. This permit does not convey any property rights of any sort or any exclusive privilege.
[45CSR§30-5.1.f.4]

2.25. Acid Deposition Control

2.25.1. Emissions shall not exceed any allowances that the source lawfully holds under Title IV of the Clean Air Act (Acid Deposition Control) or rules of the Secretary promulgated thereunder.

a. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the acid deposition control program, provided that such increases do not require a permit revision under any other applicable requirement.

b. No limit shall be placed on the number of allowances held by the source. The source may not, however, use allowances as a defense to noncompliance with any other applicable requirement.

c. Any such allowance shall be accounted for according to the procedures established in rules promulgated under Title IV of the Clean Air Act.

[45CSR§30-5.1.d.]

2.25.2. Where applicable requirements of the Clean Air Act are more stringent than any applicable requirement of regulations promulgated under Title IV of the Clean Air Act (Acid Deposition Control), both provisions shall be incorporated into the permit and shall be enforceable by the Secretary and U. S. EPA.
[45CSR§30-5.1.a.2.]

3.0. Facility-Wide Requirements

3.1. Limitations and Standards

3.1.1. **Open burning.** The open burning of refuse by any person is prohibited except as noted in 45CSR§6-3.1. **[45CSR§6-3.1.]**

3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause or allow any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible.
[45CSR§6-3.2.]

3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). A copy of this notice is required to be sent to the USEPA, the Division of Waste Management and the Bureau for Public Health - Environmental Health.
[40 C.F.R. 61 and 45CSR34]

3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public.
[45CSR§4-3.1 State-Enforceable only.]

3.1.5. **Permanent shutdown.** A source which has not operated at least 500 hours in one 12-month period within the previous five (5) year time period may be considered permanently shutdown, unless such source can provide to the Secretary, with reasonable specificity, information to the contrary. All permits may be modified or revoked and/or reapplication or application for new permits may be required for any source determined to be permanently shutdown.
[45CSR§13-10.5]

3.1.6. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11.
[45CSR§11-5.2]

3.1.7. **Emission inventory.** The permittee is responsible for submitting, on an annual basis, an emission inventory in accordance with the submittal requirements of the Division of Air Quality.
[W.Va. Code § 22-5-4(a)(14) and R13-2438~~B~~ Condition 3.5.5.]

3.1.8. **Ozone-depleting substances.** For those facilities performing maintenance, service, repair or disposal of appliances, the permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 C.F.R. Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:

a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the prohibitions and required practices pursuant to 40 C.F.R. §§ 82.154 and 82.156.

b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 C.F.R. § 82.158.

c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 C.F.R. § 82.161.

[40 C.F.R. 82, Subpart F]

3.1.9. **Risk Management Plan.** Should this stationary source, as defined in 40 C.F.R. § 68.3, become subject to Part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in 40 C.F.R. § 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 C.F.R. Part 70 or 71.
[40 C.F.R. 68]

3.2. Monitoring Requirements

N/A

3.3. Testing Requirements

3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63, if applicable, in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit will be revised in accordance with 45CSR§30-6.4. or 45CSR§30-6.5 as applicable.

b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit will be revised in accordance with 45CSR§30-6.4. or 45CSR§30-6.5 as applicable.

c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary.

In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.

d. The permittee shall submit a report of the results of the stack test within 60 days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:

1. The permit or rule evaluated, with the citation number and language.

2. The result of the test for each permit or rule condition.

3. A statement of compliance or non-compliance with each permit or rule condition.

[WV Code § 22-5-4(a)(14-15) and 45CSR13]

3.4. Recordkeeping Requirements

3.4.1. **Monitoring information.** The permittee shall keep records of monitoring information that include the following:

a. The date, place as defined in this permit and time of sampling or measurements;

b. The date(s) analyses were performed;

c. The company or entity that performed the analyses;

d. The analytical techniques or methods used;

e. The results of the analyses; and

f. The operating conditions existing at the time of sampling or measurement.
[45CSR§30-5.1.c.2.A. and 45CSR13, R13-2438~~E~~, 4.4.1.]

3.4.2. **Retention of records.** The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of monitoring sample, measurement, report, application, or record creation date. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Where appropriate, records may be maintained in computerized form in lieu of the above records.
[45CSR§30-5.1.c.2.B.]

3.4.3. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received. Such record shall contain an assessment of the validity of the complaints as well as any corrective actions taken. **[45CSR§30-5.1.c. State-Enforceable only.]**

3.5. Reporting Requirements

3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.
[45CSR§§30-4.4. *and* 5.1.c.3.D.]

3.5.2. A permittee may request confidential treatment for the submission of reporting required under 45CSR§30-5.1.c.3. pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.
[45CSR§30-5.1.c.3.E.]

3.5.3. Except for the electronic submittal of the annual certification to the USEPA as required in 3.5.5 below, all notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, mailed first class or by private carrier with postage prepaid to the address(es) set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

If to the DAQ:

Director
WVDEP
Division of Air Quality
601 57th Street SE
Charleston, WV 25304

Phone: 304/926-0475
FAX: 304/926-0478

If to the US EPA:

Associate Director
Office of Air Enforcement and Compliance Assistance (3AP20)
U. S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

3.5.4. **Certified emissions statement.** The permittee shall submit a certified emissions statement and pay fees on an annual basis in accordance with the submittal requirements of the Division of Air Quality. A receipt for the appropriate fee shall be maintained on the premises for which the receipt has been issued, and shall be made immediately available for inspection by the Secretary or his/her duly authorized representative.
[45CSR§30-8. and 45CSR13, Permit No. R13-2438 (Condition 3.5.4.1)]

3.5.5. **Compliance certification.** The permittee shall certify compliance with the conditions of this permit on the forms provided by the DAQ. In addition to the annual compliance certification, the permittee may be required to submit certifications more frequently under an applicable requirement of this permit. The annual certification shall be submitted to the DAQ and USEPA on or before March 15 of each year, and shall certify compliance for the period ending December 31. The annual certification to the USEPA shall be submitted in electronic format only. It shall be submitted by e-mail to the following address: R3_APD_Permits@epa.gov. The permittee shall maintain a copy of the certification on site for five (5) years from submittal of the certification.
[45CSR§30-5.3.e.]

3.5.6. **Semi-annual monitoring reports.** The permittee shall submit reports of any required monitoring on or before September 15 for the reporting period January 1 to June 30 and March 15 for the reporting period July 1 to December 31. All instances of deviation from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official consistent with 45CSR§30-4.4. **[45CSR§30-5.1.c.3.A.]**

3.5.7. **Emergencies.** For reporting emergency situations, refer to Section 2.17 of this permit.

3.5.8. **Deviations.**

a. In addition to monitoring reports required by this permit, the permittee shall promptly submit supplemental reports and notices in accordance with the following:

4. Any deviation resulting from an emergency or upset condition, as defined in 45CSR§30-5.7., shall be reported by telephone or telefax within one (1) working day of the date on which the permittee becomes aware of the deviation, if the permittee desires to assert the affirmative defense in accordance with 45CSR§30-5.7. A written report of such deviation, which shall include the probable cause of such deviations, and any corrective actions or preventative measures taken, shall be submitted and certified by a responsible official within ten (10) days of the deviation.

5. Any deviation that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to the Secretary immediately by telephone or telefax. A written report of such deviation, which shall include the probable cause of such deviation, and any corrective actions or preventative measures taken, shall be submitted by the responsible official within ten (10) days of the deviation.

6. Deviations for which more frequent reporting is required under this permit shall be reported on the more frequent basis.

7. All reports of deviations shall identify the probable cause of the deviation and any corrective actions or preventative measures taken.

[45CSR§30-5.1.c.3.C.]

b. The permittee shall, in the reporting of deviations from permit requirements, including those attributable to upset conditions as defined in this permit, report the probable cause of such deviations and any corrective actions or preventive measures taken in accordance with any rules of the Secretary. **[45CSR§30-5.1.c.3.B.]**

c. Every report submitted under this subsection shall be certified by a responsible official. **[45CSR§30.5.1.c.3.D.]**

3.5.9. **New applicable requirements.** If any applicable requirement is promulgated during the term of this permit, the permittee will meet such requirements on a timely basis, or in accordance with a more detailed schedule if required by the applicable requirement. **[45CSR§30-4.3.h.1.B.]**

3.6. Compliance Plan

N/A

3.7. Permit Shield

3.7.1. The permittee is hereby granted a permit shield in accordance with 45CSR§30-5.6. The permit shield applies provided the permittee operates in accordance with the information contained within this permit.

3.7.2. The following requirements specifically identified are not applicable to the source based on the determinations set forth below. The permit shield shall apply to the following requirements provided the conditions of the determinations are met.

1. ***40 CFR 60, Subpart Dc: Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.*** 40 CFR 60, Subpart Dc is applicable to "each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)) or less, but greater than or equal to 2.9 MW (10 MMBtu/hr)." Although Boiler B-6 has a maximum design heat input of 93.7 mmBtu/hr, it was constructed in 1977 and, therefore, is not applicable to Subpart Dc.

2. ***40 CFR 63, Subpart PPP: National Emission Standards for Hazardous Air Pollutant Emissions for Polyether Polyols Production.*** Permittee, in a letter the DAQ received on April 20, 2009, stated that it "…has terminated the production of all polyether polyols and does not anticipate to produce polyether polyols in the future, and as allowed by the Subpart PPP provisions in 40CFR §63.1420(e)(9), … is not subject to the Polyether Polyols MACT requirements any longer because it does [not] operate a unit defined as a polyether polyol manufacturing process unit (PMPU)."

   To enforce the non-applicability of Subpart PPP, a requirement is placed in the permit that prohibits permittee from operating a PMPU at their Gallipolis Ferry facility.

4.0. Source-Specific Requirements

4.1. Limitations and Standards

4.1.1. In accordance with the information filed in Permit Application R13-2438E, the equipment identified under Section 1.0 of this permit shall, where applicable, not exceed the listed design capacity and be installed, maintained, and operated so as to minimize any fugitive escape of pollutants.
[45CSR13, R13-2438, 4.1.1.]

4.1.2. Emissions from the equipment identified in Section 1.0 shall be routed to and controlled by those control devices identified in Section 1.0 prior to venting emissions to the atmosphere. In the event that the control equipment becomes inoperable while production equipment is in operation, the production unit shall be shut down as expeditiously as possible. Recognizing the potentially reactive nature of the production units products, however, in-process material may continue to be processed. The permittee shall not begin operation of the production unit when the control equipment is not in operation without being granted a variance by the Director.
[45CSR13, R13-2438, 4.1.2.]

4.1.3. The permittee shall abide by all provisions under Attachment A of this Permit, provided that the permittee meet any more stringent limitations set forth in this permit.
[45CSR13, R13-2438, 4.1.3.]

4.1.4. The permittee shall be limited to the use of materials that have the potential to emit only those Hazardous Air Pollutants (HAPs) as limited under Section 4.0 of this permit. Any use of a material(s) with a potential to emit, in excess of 5 pounds per year, of an additional HAP that is not limited under Section 4.0 of the permit is prohibited unless first granted prior approval by the Director.
[45CSR13, R13-2438, 4.1.4.]

4.1.5. The use of any material that has the potential to emit a Toxic Air Pollutant (TAP) as defined under 45CSR27 and not limited under Section 4.0 of this permit is prohibited unless first granted prior approval by the Director.
[45CSR13, R13-2438, 4.1.5.]

4.1.6 Each scrubber identified in the following table shall operate with a minimum input liquor flow rate as specified and shall achieve, at a minimum, the specified control efficiencies.

Table 4.1.6.: Scrubber Operating Parameters

Scrubber ID	Minimum Liquor Flow Rate (gal/min)	Pollutant	Control Efficiency
T-41	13	HCl	99.9%
T-45	1	VOCs/Phenol	98.6%
T-50	1	VOCs/VOC-HAPs	99.0%
T-55	10	HCl	99.9%
T-60	10	HCl	99.9%
T-61	1	HCl	99.2%
T-68	1	HCl	99.8%

Scrubber ID	Minimum Liquor Flow Rate (gal/min)	Pollutant	Control Efficiency
T-74(1)	6	n/a	n/a
T-75(1)	6	n/a	n/a
T-76	6	VOCs/Ethylene Oxide	99.97%

(1) T-74 vents to T-75 and T-75 vents to T-76; T-61 vents to T-60.

[45CSR13, R13-2438, 4.1.6.]

4.1.7. With the exception of Boilers B-5 and B-6A and the sources listed under Table 4.1.18.2, the emission points of particulate matter limited at the facility are subject to the applicable limitations and standards under 45CSR7, as given below under (a) through (c).

a. The permittee shall not cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from the emission points specified above, which is greater than twenty (20) percent opacity, except as noted under 4.1.7.b.
[45CSR§7-3.1]

b. The provisions of subsection 4.1.7.a shall not apply to smoke and/or particulate matter emitted from the emission points specified above which is less than forty (40) percent opacity for any period or periods aggregating no more than five (5) minutes in any sixty (60) minute period.
[45CSR§7-3.2]

c. No person shall cause, suffer, allow or permit particulate matter to be vented into the open air from any type source operation or duplicate source operation, or from all air pollution control equipment installed on any type source operation or duplicate source operation in excess of the quantity specified under the appropriate source operation type in Table 45-7A found at the end of 45CSR7.
[45CSR§7-4.1]

[45CSR13, R13-2438, 4.1.7.]

4.1.8. Hydrochloric acid (HCl) shall not be released from any type source operation or duplicate source operation or from all air pollution control equipment installed on any type source operation or duplicate source operation in excess of the quantity given in Table 45-7B found at the end of 45CSR7.
[45CSR§7-4.2 and 45CSR13, R13-2438, 4.1.8.]

4.1.9. The permittee shall implement a Leak Detection and Repair (LDAR) Program according to all applicable requirements of 40 CFR 63, Subpart H. For the purposes of this permit, all manufacturing processes subject to LDAR requirements due to 45CSR27 have previously been deemed to be Group 1 sources under the above referenced Subpart H. The permittee shall implement and comply with LDAR equipment standards required under Phase III of Subpart H. The Director hereby determines that compliance with Subpart H to constitute BAT. All notices and reports required to be submitted to the United States Environmental Protection Agency ("USEPA") under Subpart H shall be submitted to the Director (and the USEPA Administrator, if appropriate) in accordance with the requirements of Subpart H and of this permit.
[45CSR13, R13-2438, 4.1.9.]

4.1.10. In order to maintain non-applicability to 40 CFR 63, Subpart PPP, the permittee shall not operate a unit defined as a polyether polyol manufacturing process unit (PMPU) as defined under Subpart PPP.
[45CSR13, R13-2438, 4.1.10.]

4.1.11. Production Unit I/IV Limitations and Standards

4.1.11.1 Maximum annual aggregate emissions from all "Production Unit I/IV" emission points identified under Section 1.0 of this permit shall not exceed the following:

Table 4.1.11.1: Production Unit I/IV Annual Aggregate Emission Limits

Pollutant	tons/year
PM	0.23
VOCs	34.00
Propylene Oxide	3.01
Ethylene Oxide	1.67
Formaldehyde	0.13
Acetaldehyde	0.41
Propylene Dichloride	5.94
Ethylene Dichloride	1.97
Epichlorohydrin	2.05
HCl	0.23
Phenol	2.59
Total HAPs	18.00

[45CSR13, R13-2438, 4.1.11.1]

4.1.11.2 In each subunit of "Production Unit I/IV" listed in the following table, the production of materials is limited to those specified, and production of those materials shall not, in the aggregate (where multiple products are listed with one limit), exceed the maximum permitted production limit as given:

Table 4.1.11.2.: Production Unit I/IV Subunit Material Limitations

Subunit	Material	Maximum Permitted Production
Continuous	- Triphenyl Phosphate - Tiertary butyl phenyl phosphate 130 vis - Tiertary butyl phenyl phosphate 150 vis - Tiertary butyl phenyl phosphate 220 vis - Tiertary butyl phenyl phosphate 300 vis - Tiertary butyl phenyl phosphate 550 vis - Para Tertiary butyl phenyl phosphate 220 vis - Ortho Tertiary butyl phenyl phosphate 220 vis - Isopropyl phenyl phosphate 31L - Isopropyl phenyl phosphate 41L - Tricesyl Phosphate - Trixylenol Phosphate	150,000 lbs/day
Bis Phosphates(1)	- Bisphenol A Bis Diphenyl Phosphate (Fyrolflex BDP) or - Resorcinol Bis Diphenyl Phosphate	122,400 lbs/day or 102,600 lbs/day
	- Para Tertiary butyl phenyl phosphate 220 vis	114,500 lbs/day
	- Ortho Tertiary butyl phosphate 220 vis	158,244 lbs/day
	- E08-16T (1,3,2-dioxaphosphorinane, 5-butyl-5-ethyl-2-phenoxy-, 2-oxide)	153,187 lbs/day
Unit IV TBF/TBEP (1)	- Tributyl Phosphate - Tributoxyethyl Phosphate or - Phosflex 362 - Phosflex 390 - Phosflex 418 or - Butyl Diphenyl Phosphate (DBPP)	99,900 lbs/day or 142,128 lbs/day or 126,768 lbs/day

Naturals	- Triphenyl Phosphate - Tiertary butyl phenyl phosphate 130 vis - Tiertary butyl phenyl phosphate 150 vis - Tiertary butyl phenyl phosphate 220 vis - Tiertary butyl phenyl phosphate 300 vis - Tiertary butyl phenyl phosphate 550 vis - Para Tertiary butyl phenyl phosphate 220 vis - Isopropyl phenyl phosphate 31L - Isopropyl phenyl phosphate 41L - Tricesyl Phosphate - Trixylenol Phosphate	60,600 lbs/day
Group 2 (1st & 2nd Reaction Train)	- Fyrol CEF	1,946 batches/year 20,100 lbs/batch
	- Fyrol FR-2	2,190 batches/year 21,500 lbs/batch
	- Fyrol PCF	4,380 batches/year 18,250 lbs/batch
V-200(1)	- Tertiary Butyl Phenol 130 vis feedstock - Tertiary Butyl Phenol 150 vis feedstock - Tertiary Butyl Phenol 220 vis feedstock - Tertiary Butyl Phenol 300 vis feedstock - Tertiary Butyl Phenol 550 vis feedstock or - Iso Propyl Phenol 41L Feedstock - Iso Propyl Phenol 31L Feedstock	1.5 batches/day 154,288 lbs/batch or 1.0 batches/day 154,288 lbs/batch

(1) At no time shall the aggregate actual production of this subunit exceed, with respect to each product and its individual limit, 100%.

[45CSR13, R13-2438, 4.1.11.2]

4.1.12. Production Unit II Limitations and Standards

4.1.12.1 Maximum annual aggregate emissions from all "Production Unit II" emission points identified under Section 1.0 of this permit shall not exceed the following:

Table 4.1.12.1: Production Unit II Annual Aggregate Emission Limits

Pollutant	tons/year
PM	0.01
VOCs	~~1.72~~ 2.04
Ethylene Oxide	0.13
Ethylene Dichloride	0.29
HCl	0.01
Total HAPs	0.43

[45CSR13, R13-2438, 4.1.12.1]

4.1.12.2 In each subunit of "Production Unit II" listed in the following table, the production of materials is limited to those specified, and production of those materials shall not, in the aggregate (where multiple products are listed with one limit), exceed the maximum permitted production limit as given:

Table 4.1.12.2.: Production Unit II Subunit Material Limitations

Subunit	Material	Maximum Permitted Production
EAP	Ethyl Acid Phosphate	52 batches/year 4,996 lbs/batch
BAP	Butyl Acid Phosphate	52 batches/year 8,575 lbs/batch
DOAPP	Isooctyl Acid Pyrophosphate	52 batches/year 13,273 lbs/batch
BPA	Benzene Phosphorous Acid	1 batches/day 6,698 lbs/batch
BPOD	Benzene Phosphorous Oxydichloride	52 batches/year 19,093 lbs/batch
Fyrol 6	Fyrol 6	104 batches/year 31,004 lbs/batch
Fyrol 99	Fyrol 99	17 batches/year 19,363 lbs/batch
	Fyrol PNX (Technical Grade)	122 batches/year 15,897 lbs/batch
	Fyrol PNX (Reagent Grade)	73 batches/year 15,124 lbs/batch
R-9	- Phosflex 362 (uses 2-ethyl hexanol) - Phosflex 390 (uses isodecyl alcohol) - Phosflex 418 (uses mixed isomer C-12-14 alcohol) - Fyrolflex BDP (uses Bis Phenol A) - Fyrolflex RDP (uses resorcinol) - E08-16T (1,3,2-dioxaphosphorinane, 5-butyl-5-ethyl-2-phenoxy-, 2-oxide)	2 batches/day 17,640 lbs/batch
	or	or
	- Fyrquel EHC Plus	2 batches/day 14,093 lbs/batch
Victawet 12	Victawet 12	52 batches/year 13,978 lbs/batch
SBP	Sodium Benzene Phosphinate	52 batches/year 4,104 lbs/batch

[45CSR13, R13-2438, 4.1.12.2]

4.1.13. Production Unit III Limitations and Standards

4.1.13.1 Maximum annual aggregate emissions from all "Production Unit III" emission points identified under Section 1.0 of this permit shall not exceed the following:

Table 4.1.13.1: Production Unit III Annual Aggregate Emission Limits

Pollutant	tons/year
PM	0.01
VOCs	0.01
Propylene Oxide	0.001
Ethylene Oxide	0.001
HCl	0.001
Total HAPs	0.01

[45CSR13, R13-2438, 4.1.13.1]

4.1.13.2 In each subunit of "Production Unit III" listed in the following table, the production of materials is limited to those specified:

Table 4.1.13.2.: Production Unit III Subunit Material Limitations

Subunit	Material	Maximum Permitted Production
POCl3	Phosphorous Oxychloride	240,072 lbs/day
PCl3	Phosphorous Trichloride	214,992 lbs/day

[45CSR13, R13-2438, 4.1.13.2]

4.1.14. Distribution Limitations and Standards

4.1.14.1 Maximum annual aggregate emissions from all "Distribution" emission points identified under Section 1.0 of this permit shall not exceed the following:

Table 4.1.14.1: Distribution Annual Aggregate Emission Limits

Pollutant	tons/year
VOCs	9.34
Epichlorohydrin	1.12
Phenol	2.07
Total HAPs	3.18

[45CSR13, R13-2438, 4.1.14.1]

4.1.15. Other Logistics Limitations and Standards

4.1.15.1 Maximum annual aggregate emissions from all "Other Logistics" emission points identified under Section 1.0 of this permit shall not exceed the following:

Table 4.1.15.1: Other Logistics Annual Aggregate Emission Limits

Pollutant	tons/year
PM	0.01
VOCs	20.5
HCl	0.002
Total HAPs	0.002

[45CSR13, R13-2438, 4.1.15.1]

4.1.16. Oil Systems Limitations and Standards

4.1.16.1 Maximum annual aggregate emissions from all "Oil Systems" emission points identified under Section 1.0 of this permit shall not exceed the following:

Table 4.1.16.1: Other Logistics Annual Aggregate Emission Limits

Pollutant	tons/year
PM	0.03
VOCs	0.01

[45CSR13, R13-2438, 4.1.16.1]

4.1.17. Wastewater Treatment Limitations and Standards

4.1.17.1 Maximum annual aggregate emissions from all "Wastewater Treatment" emission points identified under Section 1.0 of this permit shall not exceed the following:

Table 4.1.17.1: Wastewater Treatment Annual Aggregate Emission Limits(1)

Pollutant	tons/year
VOCs	0.41
Propylene Oxide	0.01
Propylene Dichloride	0.01
Ethylene Oxide	0.005
Ethylene Dichloride	0.39
Total HAPs	0.41

(1) Emissions calculated using Emitted Fractions from Table 34 of 40CFR63, Subpart G.

[45CSR13, R13-2438, 4.1.17.1]

4.1.18. Combustion Sources Limitations and Standards

4.1.18.1 The following table provides a list of natural gas combustion units authorized to at the subject facility by this permit. The units shall not exceed the specified Maximum Design Heat Input (MDHI), shall utilize the specified control device, and shall combust only natural gas within the specified fuel consumption limits.

Table 4.1.18.1: Natural Gas Combustion Unit Specifications

ID No.	MDHI (MMBtu/Hr)	Control Device(s)	Maximum Annual Natural Gas Limit (MM ft^3)
Boiler B-6	93.70	None	820.81
Boiler B-5A	122.00	None	1,067.84
Heater F-5	8.20	None	71.83
Heater F-6	6.40	None	56.06
Heater F-7	0.75	None	6.57
Heater F-8	0.75	None	6.57

[45CSR13, R13-2438, 4.1.18.1]

4.1.18.2 The following table provides a list of diesel engines authorized to operate at the subject facility by this permit. The units shall not exceed the specified maximum brake-horsepower, shall utilize the specified control device, and shall not exceed the specified maximum hours of operation.

Table 4.1.18.2: Diesel Engine Specifications

ID No.	Brake Horsepower	Control Device(s)	Maximum Annual Hours of Operation
C-120	128.00	None	500
C-209	78.00	None	500
OM-183	350.00	None	500
OM-184	350.00	None	500
OM-231	368.80	None	500
OM-296	368.80	None	500
P-434	190.00	None	500

[45CSR13, R13-2438, 4.1.18.2]

4.1.18.3 Emissions resulting from the operation of the sources identified under 4.1.18.1 and 4.1.18.2 shall not exceed those limits as specified in the following table:

Table 4.1.18.3: Combustion Unit Emission Limits

ID No.	CO		NO_X		PM(1)		SO_2		VOC	
	pph	tpy	pph	tpy	pph	tpy	pph	tpy	pph	tpy
Boiler B-6	7.68	33.70	9.18	40.20	0.70	3.08	0.06	0.25	0.47	2.05
Boiler B-5A	10.00	43.80	24.40	106.80	0.91	4.00	0.07	0.32	0.61	2.67
Heater F-5	0.67	2.95	0.80	3.52	0.06	0.27	0.01	0.02	0.04	0.18
Heater F-6	0.52	2.30	0.63	2.75	0.05	0.21	0.00	0.02	0.03	0.14
Heater F-7	0.06	0.27	0.07	0.32	0.01	0.03	0.01	0.01	0.01	0.02
Heater F-8	0.06	0.27	0.07	0.32	0.01	0.03	0.01	0.01	0.01	0.02
C-120	1.74	0.43	8.06	2.00	0.57	0.14	0.53	0.13	0.66	0.16
C-209	0.40	0.10	1.85	0.46	0.13	0.03	0.12	0.03	0.15	0.04
OM-183	2.34	0.58	10.90	2.71	0.77	0.19	0.72	0.18	0.88	0.22
OM-184	2.34	0.58	10.90	2.71	0.77	0.19	0.72	0.18	0.88	0.22
OM-231	2.47	0.62	11.50	2.87	0.81	0.20	0.76	0.19	0.93	0.23
OM-296	2.47	0.62	11.50	2.87	0.81	0.20	0.76	0.19	0.93	0.23
P-434	0.94	0.23	4.34	1.09	0.31	0.08	0.29	0.07	0.35	0.09

(1) All particulate matter emissions are assumed to be PM10 or less.

[45CSR13, R13-2438, 4.1.18.3]

4.1.18.4 The fuel burning units, identified as Boiler B-6 and Boiler B-5A, are subject to the applicable limitations and standards under 45CSR2, as given below under (a) through (c).

a. The permittee shall not cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from the fuel burning units which is greater than ten (10) percent opacity based on a six minute block average.
[45CSR§2-3.1]

b. The permittee shall not cause, suffer, allow or permit the discharge of particulate matter into the open air from the fuel burning units, measured in terms of pounds per hour in excess of the amount determined as follows:

(1) The product of 0.05 and the total design heat inputs for such units in million British Thermal Units (B.T.U.'s) per hour, provided however that no more than twelve hundred (1200) pounds per hour of particulate matter shall be discharged into the open air.
[45CSR§2-4.1.a]

c. The visible emission standards set forth in section 3 of 45CSR2 (4.1.18.4.a) shall apply at all times except in periods of start-ups, shutdowns and malfunctions. Where the Director believes that start-ups and shutdowns are excessive in duration and/or frequency, the Director may require an owner or operator to provide a written report demonstrating that such frequent start-ups and shutdowns are necessary.
[45CSR§2-9.1]

[45CSR13, R13-2438, 4.1.18.4]

4.1.18.5 The fuel burning units, identified as the Boiler B-6 and Boiler B-5A, are subject to the applicable limitations and standards under 45CSR10, as given below under (a).

a. The permittee shall not cause, suffer, allow or permit the discharge of sulfur dioxide into the open air from the fuel burning units measured in terms of pounds per hour, in excess of the product of 3.1 and the total design heat input of the Boiler B-6 and Boiler B-5A in million BTU's per hour.

[45CSR§10-3.1 and 45CSR13, R13-2438, 4.1.18.5]

4.1.18.6 Pursuant to 40 CFR 60, Subpart Db, Boiler B-5A is subject to the following limitations and standards given below:

§ 60.44b Standard for nitrogen oxides (NO_X)

(a) On and after the date on which the initial performance test is completed or is required to be completed under 40 CFR §60.8, whichever date comes first, the permittee shall not cause to be discharged into the atmosphere from Boiler B-5A any gases that contain nitrogen oxides (expressed as NO_2) in excess of:
(1) 0.10 lb/MMBtu heat input at low-heat release rate, or
(2) 0.20 lb/MMBtu heat input at high-heat release rate.

(h) The NO_X standards under this section apply at all times including periods of startup, shutdown, or malfunction.

(i) Compliance with the emission limits under this section (4.1.18.6) is determined on a 30-day rolling average basis.

[45CSR13, R13-2438, 4.1.18.6; 45CSR16 and 40 CFR §§60.44b(a), (h), (i) & (l)(1)]

4.1.19. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR§13-5.11. and 45CSR13, R13-2438, 4.1.19]

4.1.20. Pursuant to 40 CFR 63, Subpart H, *National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks,* Agitators, Connectors, Pumps, Relief Valves and Valves at the facility are subject to the following limitations and standards given below.

§ 63.162 Standards: General.

(c) Each piece of equipment in a process unit to which this subpart applies shall be identified such that it can be distinguished readily from equipment that is not subject to this subpart. Identification of the equipment does not require physical tagging of the equipment. For example, the equipment may be identified on a plant site plan, in log entries, or by designation of process unit boundaries by some form of weatherproof identification.

(f) When each leak is detected as specified in §§63.163 and 63.164; §§63.168 and 63.169; and §§63.172 through 63.174 of this subpart, the following requirements apply:

(1) Clearly identify the leaking equipment.

(2) The identification on a valve may be removed after it has been monitored as specified in §§63.168(f)(3), and 63.175(e)(7)(i)(D) of this subpart, and no leak has been detected during the follow-up monitoring. If the owner or operator elects to comply using the provisions of §63.174(c)(1)(i) of this subpart, the identification on a connector may be removed after it is monitored as specified in §63.174(c)(1)(i) and no leak is detected during that monitoring.

(3) The identification which has been placed on equipment determined to have a leak, except for a valve or for a connector that is subject to the provisions of §63.174(c)(1)(i), may be removed after it is repaired.

(g) Except as provided in paragraph (g)(1) of this section, all terms in this subpart that define a period of time for completion of required tasks (e.g., weekly, monthly, quarterly, annual), refer to the standard calendar periods unless specified otherwise in the section or subsection that imposes the requirement.

(1) If the initial compliance date does not coincide with the beginning of the standard calendar period, an owner or operator may elect to utilize a period beginning on the compliance date, or may elect to comply in accordance with the provisions of paragraphs (g)(2) of this section (§ 63.162).

(2) Time periods specified in this subpart for completion of required tasks may be changed by mutual agreement between the owner or operator and the Administrator, as specified in subpart A of this part. For each time period that is changed by agreement, the revised period shall remain in effect until it is changed. A new request is not necessary for each recurring period.

(h) In all cases where the provisions of this subpart require an owner or operator to repair leaks by a specified time after the leak is detected, it is a violation of this subpart to fail to take action to repair the leaks within the specified time. If action is taken to repair the leaks within the specified time, failure of that action to successfully repair the leak is not a violation of this subpart. However, if the repairs are unsuccessful, a leak is detected and the owner or operator shall take further action as required by applicable provisions of this subpart.

§ 63.163 Standards: Pumps in light liquid service.

(f) Any pump that is designed with no externally actuated shaft penetrating the pump housing is exempt from the requirements of paragraphs (a) through (c) of this section.

§ 63.165 Standards: Pressure relief devices in gas/vapor service.

(a) Except during pressure releases, each pressure relief device in gas/vapor service shall be

operated with an instrument reading of less than 500 parts per million above background except as provided in paragraph (b) of this section (§ 63.165) , as measured by the method specified in §63.180(c) of this subpart.

(b) (1) After each pressure release, the pressure relief device shall be returned to a condition indicated by an instrument reading of less than 500 parts per million above background, as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in §63.171 of this subpart.

(2) No later than 5 calendar days after the pressure release and being returned to organic HAP service, the pressure relief device shall be monitored to confirm the condition indicated by an instrument reading of less than 500 parts per million above background, as measured by the method specified in §63.180(c) of this subpart.

§ 63.167 Standards: Open-ended valves or lines.

(a) (1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in §63.162(b) of this subpart and paragraphs (d) and (e) of this section (§ 63.167).

(2) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line, or during maintenance or repair.

(b) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.

(c) When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (a) of this section (§ 63.167) at all other times.

(d) Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of paragraphs (a), (b) and (c) of this section (§ 63.167).

(e) Open-ended valves or lines containing materials which would autocatalytically polymerize or, would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in paragraphs (a) through (c) of this section (§ 63.167) are exempt from the requirements of paragraph (a) through (c) of this section (§ 63.167).

§63.168 Standards: Valves in gas/vapor service and in light liquid service.

(a) The provisions of this section apply to valves that are either in gas service or in light liquid service.

(1) The provisions are to be implemented on the dates set forth in the specific subpart in 40 CFR part 63 that references this subpart as specified in paragraph (a)(1)(i), (a)(1)(ii), or (a)(1)(iii) of this section (§63.168).

(i) For each group of existing process units at existing sources subject to the provisions of subpart F or I of this part, the phases of the standard are:

(C) Phase III, beginning no later than 2 1/2years after the compliance date.

(b) The owner or operator of a source subject to this subpart shall monitor all valves, except as provided in §63.162(b) of this subpart and paragraphs (h) and (i) of this section (§ 63.168), at the intervals specified in paragraph (d) of this section (§ 63.168) and shall comply with all other provisions of this section (§ 63.168), except as provided in §63.171 of this subpart.

(1) The valves shall be monitored to detect leaks by the method specified in §63.180(b) of this subpart.

(2) The instrument reading that defines a leak in each phase of the standard is:

(iii) For Phase III, an instrument reading of 500 parts per million or greater.

(d) In Phase III, the owner or operator shall monitor valves for leaks at the intervals specified below:

(1) At process units with 2 percent or greater leaking valves, calculated according to paragraph (e) of this section (§ 63.168), the owner or operator shall either:

(i) Monitor each valve once per month; or

(ii) Within the first year after the onset of Phase III, implement a quality improvement program for valves that complies with the requirements of §63.175 (d) or (e) of this subpart and monitor quarterly.

(2) At process units with less than 2 percent leaking valves, the owner or operator shall monitor each valve once each quarter, except as provided in paragraphs (d)(3) and (d)(4) of this section (§ 63.168).

(3) At process units with less than 1 percent leaking valves, the owner or operator may elect to monitor each valve once every 2 quarters.

(4) At process units with less than 0.5 percent leaking valves, the owner or operator may elect to monitor each valve once every 4 quarters.

(e) (1) Percent leaking valves at a process unit shall be determined by the following equation:

$$\%V_L=(V_L/(V_T+V_C))\times 100$$

where:

$\%V_L$=Percent leaking valves as determined through periodic monitoring required in paragraphs (b) through (d) of this section.

V_L=Number of valves found leaking excluding nonrepairables as provided in paragraph (e)(3)(i) of this section.

V_T=Total valves monitored, in a monitoring period excluding valves monitored as required by (f)(3) of this section.

V_C=Optional credit for removed valves=0.67 × net number (i.e., total removed−total added) of valves in organic HAP service removed from process unit after the date set forth in §63.100(k) of subpart F for existing process units, and after the date of initial start-up for new sources. If credits are not taken, then V_C=0.

(2) For use in determining monitoring frequency, as specified in paragraph (d) of this section (§ 63.168), the percent leaking valves shall be calculated as a rolling average of two consecutive monitoring periods for monthly, quarterly, or semiannual monitoring programs; and as an average of any three out of four consecutive monitoring periods for annual monitoring programs.

(3) (i) Nonrepairable valves shall be included in the calculation of percent leaking valves the first time the valve is identified as leaking and nonrepairable and as required to comply with paragraph (e)(3)(ii) of this section (§63.168). Otherwise, a number of nonrepairable valves (identified and included in the percent leaking calculation in a previous period) up to a maximum of 1 percent of the total number of valves in organic HAP service at a process unit may be excluded from calculation of percent leaking valves for subsequent monitoring periods.

(ii) If the number of nonrepairable valves exceeds 1 percent of the total number of valves in organic HAP service at a process unit, the number of nonrepairable valves exceeding 1 percent of the total number of valves in organic HAP service shall be included in the calculation of percent leaking valves.

(f) (1) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in §63.171 of this subpart.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(3) When a leak has been repaired, the valve shall be monitored at least once within the first 3 months after its repair.

(i) The monitoring shall be conducted as specified in §63.180 (b) and (c) of Part 63, as appropriate, to determine whether the valve has resumed leaking.

(ii) Periodic monitoring required by paragraphs (b) through (d) of this section (§63.168) may be used to satisfy the requirements of this paragraph (f)(3), if the timing of the monitoring period

coincides with the time specified in this paragraph (f)(3). Alternatively, other monitoring may be performed to satisfy the requirements of this paragraph (f)(3), regardless of whether the timing of the monitoring period for periodic monitoring coincides with the time specified in this paragraph (f)(3).

(iii) If a leak is detected by monitoring that is conducted pursuant to paragraph (f)(3) of this section (§63.168), the owner or operator shall follow the provisions of paragraphs (f)(3)(iii)(A) and (f)(3)(iii)(B) of this section (§63.168), to determine whether that valve must be counted as a leaking valve for purposes of §63.168(e) of this subpart.

(A) If the owner or operator elected to use periodic monitoring required by paragraphs (b) through (d) of this section to satisfy the requirements of paragraph (f)(3) of this section (§63.168), then the valve shall be counted as a leaking valve.

(B) If the owner or operator elected to use other monitoring, prior to the periodic monitoring required by paragraphs (b) through (d) of this section (§63.168), to satisfy the requirements of paragraph (f)(3) of this section (§63.168), then the valve shall be counted as a leaking valve unless it is repaired and shown by periodic monitoring not to be leaking.

(g) First attempts at repair include, but are not limited to, the following practices where practicable:

(1) Tightening of bonnet bolts,

(2) Replacement of bonnet bolts,

(3) Tightening of packing gland nuts, and

(4) Injection of lubricant into lubricated packing.

(h) Any valve that is designated, as described in §63.181(b)(7)(i) of this subpart, as an unsafe-to-monitor valve is exempt from the requirements of paragraphs (b) through (f) of this section (§63.168) if:

(1) The owner or operator of the valve determines that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraphs (b) and (d) of this section (§63.168); and

(2) The owner or operator of the valve has a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times, but not more frequently than the periodic monitoring schedule otherwise applicable.

(i) Any valve that is designated, as described in §63.181(b)(7)(ii) of this subpart, as a difficult-to-monitor valve is exempt from the requirements of paragraphs (b) and (d) of this section (§63.168) if:

(1) The owner or operator of the valve determines that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface or it is not accessible at anytime in a safe manner;

(2) The process unit within which the valve is located is an existing source or the owner or operator designates less than 3 percent of the total number of valves in a new source as difficult-to-monitor; and

(3) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

(j) Any equipment located at a plant site with fewer than 250 valves in organic HAP service is exempt from the requirements for monthly monitoring and a quality improvement program specified in paragraph (d)(1) of this section (§63.168). Instead, the owner or operator shall monitor each valve in organic HAP service for leaks once each quarter, or comply with paragraph (d)(3) or (d)(4) of this section (§63.168) except as provided in paragraphs (h) and (i) of this section (§63.168).

§ 63.171 Standards: Delay of repair.

(a) Delay of repair of equipment for which leaks have been detected is allowed if repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur by the end of the next process unit shutdown.

(b) Delay of repair of equipment for which leaks have been detected is allowed for equipment that is isolated from the process and that does not remain in organic HAP service.

(c) Delay of repair for valves, connectors, and agitators is also allowed if:

(1) The owner or operator determines that emissions of purged material resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair, and

(2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with §63.172 of this subpart.

(d) Delay of repair for pumps is also allowed if:

(1) Repair requires replacing the existing seal design with a new system that the owner or operator has determined under the provisions of §63.176(d) of this subpart will provide better performance or:

(i) A dual mechanical seal system that meets the requirements of §63.163(e) of this subpart,

(ii) A pump that meets the requirements of §63.163(f) of this subpart, or

(iii) A closed-vent system and control device that meets the requirements of §63.163(g) of this subpart; and

(2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

(e) Delay of repair beyond a process unit shutdown will be allowed for a valve if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the second process unit shutdown will not be allowed unless the third process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

§ 63.174 Standards: Connectors in gas/vapor service and in light liquid service.

(a) The owner or operator of a process unit subject to this subpart shall monitor all connectors in gas/vapor and light liquid service, except as provided in §63.162(b) of this subpart, and in paragraphs (f) through (h) of this section (§63.174), at the intervals specified in paragraph (b) of this section (§63.174).

(1) The connectors shall be monitored to detect leaks by the method specified in §63.180(b) of this subpart.

(2) If an instrument reading greater than or equal to 500 parts per million is measured, a leak is detected.

(b) The owner or operator shall monitor for leaks at the intervals specified in either paragraph (b)(1) or (b)(2) of this section (§63.168) and in paragraph (b)(3) of this section (§63.168).

(1) For each group of existing process units within an existing source, by no later than 12 months after the compliance date, the owner or operator shall monitor all connectors, except as provided in paragraphs (f) through (h) of this section (§ 63.174).

(2) For new sources, within the first 12 months after initial start-up or by no later than 12 months after the date of promulgation of a specific subpart that references this subpart, whichever is later, the owner or operator shall monitor all connectors, except as provided in paragraphs (f) through (h) of this section (§ 63.174).

(3) After conducting the initial survey required in paragraph (b)(1) or (b)(2) of this section (§ 63.174), the owner or operator shall perform all subsequent monitoring of connectors at the frequencies specified in paragraphs (b)(3)(i) through (b)(3)(v) of this section (§ 63.174), except as provided in paragraph (c)(2) of this section (§ 63.174):

(i) Once per year (i.e., 12-month period), if the percent leaking connectors in the process unit was 0.5 percent or greater during the last required annual or biennial monitoring period.

(ii) Once every 2 years, if the percent leaking connectors was less than 0.5 percent during the last required monitoring period. An owner or operator may comply with this paragraph by monitoring at least 40 percent of the connectors in the first year and the remainder of the connectors in the second year. The percent leaking connectors will be calculated for the total of all monitoring performed during the 2-year period.

(iii) If the owner or operator of a process unit in a biennial leak detection and repair program calculates less than 0.5 percent leaking connectors from the 2-year monitoring period, the owner or operator may monitor the connectors one time every 4 years. An owner or operator may comply with the requirements of this paragraph by monitoring at least 20 percent of the connectors each year until all connectors have been monitored within 4 years.

(iv) If a process unit complying with the requirements of paragraph (b) of this section (§63.174) using a 4-year monitoring interval program has greater than or equal to 0.5 percent but less than 1 percent leaking connectors, the owner or operator shall increase the monitoring frequency to one time every 2 years. An owner or operator may comply with the requirements of this paragraph by monitoring at least 40 percent of the connectors in the first year and the remainder of the connectors in the second year. The owner or

operator may again elect to use the provisions of paragraph (b)(3)(iii) of this section (§63.174) when the percent leaking connectors decreases to less than 0.5 percent.

(v) If a process unit complying with requirements of paragraph (b)(3)(iii) of this section ((§63.174) using a 4-year monitoring interval program has 1 percent or greater leaking connectors, the owner or operator shall increase the monitoring frequency to one time per year. The owner or operator may again elect to use the provisions of paragraph (b)(3)(iii) of this section ((§63.174) when the percent leaking connectors decreases to less than 0.5 percent.

(c) (1) (i) Except as provided in paragraph (c)(1)(ii) of this section (§63.174), each connector that has been opened or has otherwise had the seal broken shall be monitored for leaks when it is reconnected or within the first 3 months after being returned to organic hazardous air pollutants service. If the monitoring detects a leak, it shall be repaired according to the provisions of paragraph (d) of this section (§63.174), unless it is determined to be nonrepairable, in which case it is counted as a nonrepairable connector for the purposes of paragraph (i)(2) of this section (§63.174).

(ii) As an alternative to the requirements in paragraph (c)(1)(i) of this section (§63.174), an owner or operator may choose not to monitor connectors that have been opened or otherwise had the seal broken. In this case, the owner or operator may not count nonrepairable connectors for the purposes of paragraph (i)(2) of this section (§63.174). The owner or operator shall calculate the percent leaking connectors for the monitoring periods described in paragraph (b) of this section, by setting the nonrepairable component, C_{AN}, in the equation in paragraph (i)(2) of this section (§63.174) to zero for all monitoring periods.

(iii) An owner or operator may switch alternatives described in paragraphs (c)(1) (i) and (ii) of this section (§63.174) at the end of the current monitoring period he is in, provided that it is reported as required in §63.182 of this subpart and begin the new alternative in annual monitoring. The initial monitoring in the new alternative shall be completed no later than 12 months after reporting the switch.

(2) As an alternative to the requirements of paragraph (b)(3) of this section (§63.174), each screwed connector 2 inches or less in nominal inside diameter installed in a process unit before the dates specified in paragraph (c)(2)(iii) or (c)(2)(iv) of this section (§63.174) may:

(i) Comply with the requirements of §63.169 of this subpart, and

(ii) Be monitored for leaks within the first 3 months after being returned to organic hazardous air pollutants service after having been opened or otherwise had the seal broken. If that monitoring detects a leak, it shall be repaired according to the provisions of paragraph (d) of this section.

(iii) For sources subject to subparts F and I of this part, the provisions of paragraph (c)(2) of this section (§63.174) apply to screwed connectors installed before December 31, 1992.

(iv) For sources not identified in paragraph (c)(2)(iii) of this section (§63.168), the provisions of paragraph (c)(2) of this section (§63.174) apply to screwed connectors installed before the date of proposal of the applicable subpart of this part that references this subpart.

(d) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in paragraph (g) of this section (§63.174) and in §63.171 (4.1.20) of this subpart. A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(f) Any connector that is designated, as described in §63.181(b)(7)(i) (4.4.4) of this subpart, as an unsafe-to-monitor connector is exempt from the requirements of paragraph (a) of this section (§63.174) if:

(1) The owner or operator determines that the connector is unsafe to monitor because personnel would be exposed to an immediate danger as a result of complying with paragraphs (a) through (e) of this section (§63.174); and

(2) The owner or operator has a written plan that requires monitoring of the connector as frequently as practicable during safe to monitor periods, but not more frequently than the periodic schedule otherwise applicable.

(g) Any connector that is designated, as described in §63.181(b)(7)(iii) (4.4.4) of this subpart, as an unsafe-to-repair connector is exempt from the requirements of paragraphs (a), (d), and (e) of this section (§63.174) if:

(1) The owner or operator determines that repair personnel would be exposed to an immediate danger as a consequence of complying with paragraph (d) of this section (§63.168); and

(2) The connector will be repaired before the end of the next scheduled process unit shutdown.

(h) (1) Any connector that is inaccessible or is ceramic or ceramic-lined (e.g., porcelain, glass, or glass-lined), is exempt from the monitoring requirements of paragraphs (a) and (c) of this section (§63.168) and from the recordkeeping and reporting requirements of §63.181 (4.4.4) and §63.182 (4.5.3) of this subpart. An inaccessible connector is one that is:

(i) Buried;

(ii) Insulated in a manner that prevents access to the connector by a monitor probe;

(iii) Obstructed by equipment or piping that prevents access to the connector by a monitor probe;

(iv) Unable to be reached from a wheeled scissor-lift or hydraulic-type scaffold which would allow access to connectors up to 7.6 meters (25 feet) above the ground;

(v) Inaccessible because it would require elevating the monitoring personnel more than 2 meters above a permanent support surface or would require the erection of scaffold; or

(vi) Not able to be accessed at any time in a safe manner to perform monitoring. Unsafe access includes, but is not limited to, the use of a wheeled scissor-lift on unstable or uneven terrain, the use of a motorized man-lift basket in areas where an ignition potential exists, or access would require near proximity to hazards such as electrical lines, or would risk damage to equipment.

(2) If any inaccessible or ceramic or ceramic-lined connector is observed by visual, audible, olfactory, or other means to be leaking, the leak shall be repaired as soon as practicable, but no later

than 15 calendar days after the leak is detected, except as provided in §63.171 (4.1.20) of this subpart and paragraph (g) of this section (§63.174).

(3) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(i) For use in determining the monitoring frequency, as specified in paragraph (b) of this section (§63.174), the percent leaking connectors shall be calculated as specified in paragraphs (i)(1) and (i)(2) of this section (§63.174).

(1) For the first monitoring period, use the following equation:

$$\% C_L = C_L/(C_t + C_C) \times 100$$

where:

$\% C_L$= Percent leaking connectors as determined through periodic monitoring required in paragraphs (a) and (b) of this section.

C_L= Number of connectors measured at 500 parts per million or greater, by the method specified in §63.180(b) of this subpart.

C_t= Total number of monitored connectors in the process unit.

C_C= Optional credit for removed connectors = 0.67 × net (i.e., total removed—total added) number of connectors in organic hazardous air pollutants service removed from the process unit after the compliance date set forth in the applicable subpart for existing process units, and after the date of initial start-up for new process units. If credits are not taken, then C_C= 0.

(2) For subsequent monitoring periods, use the following equation:

$$\% C_L = [(C_L - C_{AN})/(C_t + C_C)] \times 100$$

where:

$\% C_L$= Percent leaking connectors as determined through periodic monitoring required in paragraphs (a) and (b) of this section (§63.174).

C_L= Number of connectors, including nonrepairables, measured at 500 parts per million or greater, by the method specified in §63.180(b) of this subpart.

C_{AN}= Number of allowable nonrepairable connectors, as determined by monitoring required in paragraphs (b)(3) and (c) of this section (§63.174), not to exceed 2 percent of the total connector population, C_t.

C_t= Total number of monitored connectors, including nonrepairables, in the process unit.

C_C= Optional credit for removed connectors = 0.67 × net number (i.e., total removed—total added) of connectors in organic hazardous air pollutants service removed from the process unit after the compliance date set forth in the applicable subpart for existing

process units, and after the date of initial start-up for new process units. If credits are not taken, then $C_C = 0$.

[45CSR34 and 40 CFR §§63.162 through 63.168, 63.171, 63.173, 63.174)]

4.2. Monitoring Requirements

4.2.1. When the permittee uses any material(s) with a potential to emit of less than 5 pounds per year of an additional HAP that is not limited under Section 4.0 of the permit, the permittee shall maintain records of the use of these materials and any emissions associated with their use. This information will be included in the compliance report required under 4.5.1.
[45CSR13, R13-2438, 4.2.1.]

4.2.2. Monitoring of the scrubbers listed under Table 4.1.6 shall be in accordance with the following:

a. The permittee shall install, operate, and maintain instrumentation to continuously monitor the input liquor flow rate of each scrubber. The accuracy of the monitor shall be verified not to exceed ± 0.10 gal/min.

b. The permittee shall calculate and record the daily averages of input liquor flow rates for each scrubber. The daily averages shall be the calculated average of all hourly averages, which are in turn calculated from a minimum of 60 data points collected once per minute.

c. If the calculated daily average is less than the minimum flow rate given under Table 4.1.6, the permittee shall conduct an evaluation of the scrubber to determine the corrective action that needs to be taken. If action to correct the situation is not completed within 24 hours after the excursion is recorded, the permittee shall cease production in the units controlled by the scrubber. Each excursion event shall be recorded and shall include a report of any corrective action taken.

[45CSR13, R13-2438, 4.2.2.]

4.2.3. Compliance with the emission limits set forth in Tables 4.1.11.1, 4.1.12.1, 4.1.13.1, 4.1.14.1, 4.1.15.1, 4.1.16.1, and 4.1.17.1 shall be demonstrated by calculating applicable emissions using facility developed emission factors (based upon emissions testing data), emission modeling software, or other appropriate emission estimation models or calculation methodologies. The emission factors, emission models, and other calculation methods shall be maintained current for all processes, process modifications and new product variants. The permittee shall produce, upon request by the Director, and within a reasonable time-frame, calculations that show the actual emissions of the facility (based on the emission factors as described above) from the previous 12 calendar months.
[45CSR13, R13-2438, 4.2.3.]

4.2.4. For the purposes of demonstrating continuous compliance with maximum permitted production limitations set forth in Tables 4.1.11.2, 4.1.12.2, and 4.1.13.2, the permittee shall daily monitor and record the following in each subunit: material produced and the amount or batches produced as applicable.
[45CSR13, R13-2438, 4.2.4.]

4.2.5. For the purposes of demonstrating compliance with maximum natural gas usage limits set forth in Table 4.1.18.1, the permittee shall:

a. Install, calibrate, maintain, and operate equipment to monitor the amount of natural gas that is consumed in Boiler B-5A.

b. Install, calibrate, maintain, and operate equipment to monitor the hours of operation of each boiler (with the exception of Boiler B-5A) so as to calculate the amount of natural gas that is consumed.

c. Monitor or calculate, as applicable, and record the monthly and rolling twelve month total amount of natural gas that is consumed in each boiler.

[45CSR2-8.3.c, 45CSR2A – 7.1.a.1. and 45CSR13, R13-2438, 4.2.5.]

4.2.6. For the purposes of demonstrating compliance with maximum hours of operation limits set forth in Table 4.1.18.2, the permittee shall:

a. Install, calibrate, maintain, and operate equipment to monitor the hours of operation of each diesel engine.

b. Monitor and record the monthly and rolling twelve month total hours of operation for each unit.

[45CSR13, R13-2438, 4.2.6.]

4.2.7. The permittee shall install, calibrate, maintain, and operate CEMS for measuring NO_x and O_2 (or CO_2) emissions discharged to the atmosphere from Boiler B-5A, and shall record the output of the system; or monitor steam generating unit operating conditions and predict NO_x emission rates as specified in a plan submitted pursuant to 40 CFR §60.49b(c).
[45CSR16 and 40 CFR §60.48Db(b)(1), 40 CFR §60.44Db(g)(2) and 45CSR13, R13-2438, 4.2.7.]

4.2.8. The permittee shall, with respect to Boiler B-5A, comply with all applicable monitoring requirements of 40 CFR 60, Subpart Db, —*Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units* below, provided that the permittee meet any more stringent limitations set forth in this permit.

§ 60.48b Emission monitoring for particulate matter and nitrogen oxides.

(b) The owner or operator of an affected facility subject to a NO_X standard under §60.44b (condition 4.1.18.6) shall comply with paragraph (b)(1) of this section (4.2.8).

(1) Install, calibrate, maintain, and operate CEMS for measuring NO_X and O_2(or CO_2) emissions discharged to the atmosphere, and shall record the output of the system;

(c) The CEMS required under paragraph (b) of this section (4.1.8) shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

(d) The 1-hour average NO_X emission rates measured by the continuous NO_X monitor required by paragraph (b) of this section and required under §60.13(h) of Part 60 shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under §60.44b (4.1.18.6). The 1-hour averages shall be calculated using the data points required under §60.13(h)(2) of Part 60.

(e) The procedures under §60.13 of Part 60 shall be followed for installation, evaluation, and operation of the continuous monitoring systems.

(2) For affected facilities combusting coal, oil, or natural gas, the span value for NO_X is determined AT 500 ppm.

(f) When NO_X emission data are not obtained because of CEMS breakdowns, repairs, calibration checks and zero and span adjustments, emission data will be obtained by using standby monitoring systems, Method 7 of appendix A of this part, Method 7A of appendix A of Part 60, or other approved reference methods to

provide emission data for a minimum of 75 percent of the operating hours in each steam generating unit operating day, in at least 22 out of 30 successive steam generating unit operating days.

[45CSR13, R13-2438, 4.2.8; 45CSR16 and 40 CFR §60.48b(b)(1), (c), (d), (e)(2), (f)]

4.3. Testing Requirements

4.3.1. The permittee shall continue the application of all previously agreed upon performance testing schedules including those specified under previous iterations of this permit and those agreed upon with the Director outside the scope of a permitting action. Further, at such reasonable time(s) as the Director may designate, the permittee shall conduct or have conducted additional performance tests to determine compliance with the emission limits under Section 4.0 of this permit according to the procedures under 3.3.1.
[45CSR13, R13-2438, 4.3.1.]

4.3.2. The permittee shall meet all applicable testing requirements of 45CSR2 and 45CSR10 provided that the permittee meet any more stringent limitations set forth in this permit.

[45CSR13, R13-2438, 4.3.2.]

4.3.3. The permittee shall, with respect to Boiler B-5A, comply with all applicable testing requirements of 40 CFR 60, Subpart Db—*Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units* below, provided that the permittee meet any more stringent limitations set forth in this permit.

§ 60.46b Compliance and performance test methods and procedures for particulate matter and nitrogen oxides.

To determine compliance with the emission limits for NO_X required under §60.44b (4.1.18.6), the owner or operator of an affected facility shall conduct the performance test as required under §60.8 of Part 60 using the continuous system for monitoring NO_X under §60.48(b) (4.2.8).

(1) For the initial compliance test, NO_X from the steam generating unit are monitored for 30 successive steam generating unit operating days and the 30-day average emission rate is used to determine compliance with the NO_X emission standards under §60.44b (4.1.18.6). The 30-day average emission rate is calculated as the average of all hourly emissions data recorded by the monitoring system during the 30-day test period.

[45CSR16 and 40 CFR §60.46b(e)(1)]

4.3.4. The permittee shall meet all applicable testing requirements of 40 CFR 63 Subpart H below, provided that the permittee meet any more stringent limitations set forth in this permit.

§ 63.180 Test methods and procedures.

(a) Each owner or operator subject to the provisions of this subpart shall comply with the test methods and procedures requirements provided in this section.

(b) Monitoring, as required under this subpart, shall comply with the following requirements:

(1) Monitoring shall comply with Method 21 of 40 CFR part 60, appendix A.

(2) (i) Except as provided for in paragraph (b)(2)(ii) of this section (4.3.4), the detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response factor criteria in Section 3.1.2(a) of Method 21 shall be for the average composition of the process fluid not each individual VOC in the stream. For process streams that contain nitrogen, water, air, or other inerts which are not organic HAP's or VOC's, the average stream response factor may be calculated on an inert-free basis. The response factor may be determined at any concentration for which monitoring for leaks will be conducted.

(ii) If no instrument is available at the plant site that will meet the performance criteria specified in paragraph (b)(2)(i) of this section (4.3.4), the instrument readings may be adjusted by multiplying by the average response factor of the process fluid, calculated on an inert-free basis as described in paragraph (b)(2)(i) of this section (4.3.4).

(3) The instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21 of 40 CFR part 60, appendix A.

(4) Calibration gases shall be:

(i) Zero air (less than 10 parts per million of hydrocarbon in air); and

(ii) Mixtures of methane in air at the concentrations specified in paragraphs (b)(4)(ii)(A) through (b)(4)(ii)(C) of this section (4.3.4). A calibration gas other than methane in air may be used if the instrument does not respond to methane or if the instrument does not meet the performance criteria specified in paragraph (b)(2)(i) of this section (4.3.4). In such cases, the calibration gas may be a mixture of one or more of the compounds to be measured in air.

(C) For Phase III, a mixture of methane or other compounds, as applicable, and air at a concentration of approximately, but less than, 10,000 parts per million methane for agitators; 2,000 parts per million for pumps in food/medical service; 5,000 parts per million for pumps in polymerizing monomer service; 1,000 parts per million for all other pumps; and 500 parts per million for all other equipment, except as provided in paragraph (b)(4)(iii) of this section (4.3.4).

(iii) The instrument may be calibrated at a higher methane concentration than the concentration specified for that piece of equipment. The concentration of the calibration gas may exceed the concentration specified as a leak by no more than 2,000 parts per million. If the monitoring instrument's design allows for multiple calibration scales, then the lower scale shall be calibrated with a calibration gas that is no higher than 2,000 parts per million above the concentration specified as a leak and the highest scale shall be calibrated with a calibration gas that is approximately equal to 10,000 parts per million. If only one scale on an instrument will be used during monitoring, the owner or operator need not calibrate the scales that will not be used during that day's monitoring.

(5) Monitoring shall be performed when the equipment is in organic HAP service, in use with an acceptable surrogate volatile organic compound which is not an organic HAP, or is in use with any other detectable gas or vapor.

(6) Monitoring data that do not meet the criteria specified in paragraphs (b)(1) through (b)(5) of this section (condition 4.3.4) may be used to qualify for less frequent monitoring under the provisions in

§63.168(d)(2) and (d)(3) or §63.174(b)(3)(ii) or (b)(3)(iii) of this subpart provided the data meet the conditions specified in paragraphs (b)(6)(i) and (b)(6)(ii) of this section (4.3.4).

(i) The data were obtained before April 22, 1994.

(ii) The departures from the criteria specified in paragraphs (b)(1) through (b)(5) of this section (4.3.4) or from the specified monitoring frequency of §63.168(c) of Part 63 are minor and do not significantly affect the quality of the data. Examples of minor departures are monitoring at a slightly different frequency (such as every six weeks instead of monthly or quarterly), following the performance criteria of section 3.1.2(a) of Method 21 of appendix A of 40 CFR part 60 instead of paragraph (b)(2) of this section (4.3.4), or monitoring at a different leak definition if the data would indicate the presence or absence of a leak at the concentration specified in this subpart. Failure to use a calibrated instrument is not considered a minor departure.

(c) When equipment is monitored for compliance as required in §§63.164(i), 63.165(a), and 63.172(f) of Part 63 or when equipment subject to a leak definition of 500 ppm is monitored for leaks as required by this subpart, the owner or operator may elect to adjust or not to adjust the instrument readings for background. If an owner or operator elects to not adjust instrument readings for background, the owner or operator shall monitor the equipment according to the procedures specified in paragraphs (b)(1) through (b)(4) of this section (4.3.4). In such case, all instrument readings shall be compared directly to the applicable leak definition to determine whether there is a leak. If an owner or operator elects to adjust instrument readings for background, the owner or operator shall monitor the equipment according to the procedures specified in paragraphs (c)(1) through (c)(4) of this section (4.3.4).

(1) The requirements of paragraphs (b)(1) through (4) of this section (4.3.4) shall apply.

(2) The background level shall be determined, using the same procedures that will be used to determine whether the equipment is leaking.

(3) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Method 21 of 40 CFR part 60, appendix A.

(4) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 parts per million for determining compliance.

(d) (1) Each piece of equipment within a process unit that can reasonably be expected to contain equipment in organic HAP service is presumed to be in organic HAP service unless an owner or operator demonstrates that the piece of equipment is not in organic HAP service. For a piece of equipment to be considered not in organic HAP service, it must be determined that the percent organic HAP content can be reasonably expected not to exceed 5 percent by weight on an annual average basis. For purposes of determining the percent organic HAP content of the process fluid that is contained in or contacts equipment, Method 18 of 40 CFR part 60, appendix A shall be used.

(2) (i) An owner or operator may use good engineering judgment rather than the procedures in paragraph (d)(1) of this section (4.3.4) to determine that the percent organic HAP content does not exceed 5 percent by weight. When an owner or operator and the Administrator do not agree on whether a piece of equipment is not in organic HAP service, however, the procedures in paragraph (d)(1) of this section (4.3.4) shall be used to resolve the disagreement.

(ii) Conversely, the owner or operator may determine that the organic HAP content of the process fluid does not exceed 5 percent by weight by, for example, accounting for 98 percent of the content and showing that organic HAP is less than 3 percent.

(3) If an owner or operator determines that a piece of equipment is in organic HAP service, the determination can be revised after following the procedures in paragraph (d)(1) of this section (4.3.4), or by documenting that a change in the process or raw materials no longer causes the equipment to be in organic HAP service.

(4) Samples used in determining the percent organic HAP content shall be representative of the process fluid that is contained in or contacts the equipment.

[45CSR13, R13-2438, 4.3.2.; 45CSR34 and 40 CFR §63.180]

4.4. Recordkeeping Requirements

4.4.1. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 1.0, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
[45CSR13, R13-2438, 4.4.2.]

4.4.2. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 1.0, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:

a. The equipment involved.

b. Steps taken to minimize emissions during the event.

c. The duration of the event.

d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be
recorded:

e. The cause of the malfunction.

f. Steps taken to correct the malfunction.

g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.

[45CSR13, R13-2438, 4.4.3.]

4.4.3. The permittee shall, with respect to Boiler B-5A, comply with all applicable recordkeeping requirements of 40 CFR 60, Subpart Db—*Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units* below, provided that the permittee meet any more stringent limitations set forth in this permit.

§ 60.49b Reporting and recordkeeping requirements.

(g) The owner or operator of an affected facility subject to the NO_X standards under §60.44b (4.1.18.6) shall maintain records of the following information for each steam generating unit operating day:

(1) Calendar date;

(2) The average hourly NO_Xemission rates (expressed as NO_2) (ng/J or lb/MMBtu heat input) measured or predicted;

(3) The 30-day average NO_X emission rates (ng/J or lb/MMBtu heat input) calculated at the end of each steam generating unit operating day from the measured or predicted hourly nitrogen oxide emission rates for the preceding 30 steam generating unit operating days;

(4) Identification of the steam generating unit operating days when the calculated 30-day average NO_X emission rates are in excess of the NO_X emissions standards under §60.44b (4.1.18.6), with the reasons for such excess emissions as well as a description of corrective actions taken;

(5) Identification of the steam generating unit operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken;

(6) Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data;

(7) Identification of "F" factor used for calculations, method of determination, and type of fuel combusted;

(8) Identification of the times when the pollutant concentration exceeded full span of the CEMS;

(9) Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 2 or 3; and

(10) Results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1 of this part.

(i)The owner or operator of any affected facility subject to the continuous monitoring requirements for NO_X under §60.48(b) shall submit reports containing the information recorded under paragraph (g) of this section (4.4.3).

(o) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of 2 years following the date of such record.

(v) The owner or operator of an affected facility may submit electronic quarterly reports for $SO_2$and/or NO_X and/or opacity in lieu of submitting the written reports required under paragraph (i) of this section (4.4.3). The format of each quarterly electronic report shall be coordinated with the permitting authority. The electronic report(s) shall be submitted no later than 30 days after the end of the calendar quarter and shall be accompanied by a certification statement from the owner or operator, indicating whether compliance with the applicable emission standards and minimum data requirements of this subpart was achieved during the reporting period. Before submitting reports in the electronic format, the owner or operator shall coordinate with the permitting authority to obtain their agreement to submit reports in this alternative format.

(w) The reporting period for the reports required under this subpart is each 6 month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

[45CSR16 and 40 CFR §60.49b(i), (o), (v), (w)]

4.4.4. The permittee shall comply with all applicable record-keeping 40 CFR 63, Subpart H, provided that the permittee meet any more stringent limitations set forth in this permit.

§ 63.181 Recordkeeping requirements.

(a) An owner or operator of more than one process unit subject to the provisions of this subpart may comply with the recordkeeping requirements for these process units in one recordkeeping system if the system identifies each record by process unit and the program being implemented (e.g., quarterly monitoring, quality improvement) for each type of equipment. All records and information required by this section shall be maintained in a manner that can be readily accessed at the plant site. This could include physically locating the records at the plant site or accessing the records from a central location by computer at the plant site.

(b) Except as provided in paragraph (e) of this section, the following information pertaining to all equipment in each process unit subject to the requirements in §§63.162 through 63.174 of this subpart shall be recorded:

(1) (i) A list of identification numbers for equipment (except connectors exempt from monitoring and recordkeeping identified in §63.174 of this subpart and instrumentation systems) subject to the requirements of this subpart. Connectors need not be individually identified if all connectors in a designated area or length of pipe subject to the provisions of this subpart are identified as a group, and the number of connectors subject is indicated. With respect to connectors, the list shall be complete no later than the completion of the initial survey required by §63.174 (b)(1) or (b)(2) of this subpart.

(ii) A schedule by process unit for monitoring connectors subject to the provisions of §63.174(a) of this subpart and valves subject to the provisions of §63.168(d) of this subpart.

(iii) Physical tagging of the equipment to indicate that it is in organic HAP service is not required. Equipment subject to the provisions of this subpart may be identified on a plant site plan, in log entries, or by other appropriate methods.

(3) (i) A list of identification numbers for pressure relief devices subject to the provisions in §63.165(a) of this subpart.

(ii) A list of identification numbers for pressure relief devices equipped with rupture disks, under the provisions of §63.165(d) of this subpart.

(5) Identification of screwed connectors subject to the requirements of §63.174(c)(2) of this subpart. Identification can be by area or grouping as long as the total number within each group or area is recorded.

(7) The following information pertaining to all pumps subject to the provisions of §63.163(j), valves subject to the provisions of §63.168(h) and (i) of this subpart, agitators subject to the provisions of §63.173(h) through (j), and connectors subject to the provisions of §63.174(f) and (g) of this subpart shall be recorded:

(i) Identification of equipment designated as unsafe to monitor, difficult to monitor, or unsafe to inspect and the plan for monitoring or inspecting this equipment.

(ii) A list of identification numbers for the equipment that is designated as difficult to monitor, an explanation of why the equipment is difficult to monitor, and the planned schedule for monitoring this equipment.

(iii) A list of identification numbers for connectors that are designated as unsafe to repair and an explanation why the connector is unsafe to repair.

(10) For any leaks detected as specified in §§63.163 and 63.164; §§63.168 and 63.169; and §§63.172 through 63.174 of this subpart, a weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.

(c) For visual inspections of equipment subject to the provisions of this subpart (e.g., §63.163(b)(3), §63.163(e)(4)(i)), the owner or operator shall document that the inspection was conducted and the date of the inspection. The owner or operator shall maintain records as specified in paragraph (d) of this section for leaking equipment identified in this inspection, except as provided in paragraph (e) of this section. These records shall be retained for 2 years.

(d) When each leak is detected as specified in §§63.163 and 63.164; §§63.168 and 63.169; and §§63.172 through 63.174 of this subpart, the following information shall be recorded and kept for 2 years:

(1) The instrument and the equipment identification number and the operator name, initials, or identification number.

(2) The date the leak was detected and the date of first attempt to repair the leak.

(3) The date of successful repair of the leak.

(4) Maximum instrument reading measured by Method 21 of 40 CFR part 60, appendix A after it is successfully repaired or determined to be nonrepairable.

(5) “Repair delayed” and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(i) The owner or operator may develop a written procedure that identifies the conditions that justify a delay of repair. The written procedures may be included as part of the startup/shutdown/malfunction plan, required by §63.6(e)(3) of Part 63, for the source or may be part of a separate document that is maintained at the plant site. In such cases, reasons for delay of repair may be documented by citing the relevant sections of the written procedure.

(ii) If delay of repair was caused by depletion of stocked parts, there must be documentation that the spare parts were sufficiently stocked on-site before depletion and the reason for depletion.

(6) Dates of process unit shutdowns that occur while the equipment is unrepaired.

(7) (i) Identification, either by list, location (area or grouping), or tagging of connectors that have been opened or otherwise had the seal broken since the last monitoring period required in §63.174(b) of this subpart, as described in §63.174(c)(1) of this subpart, unless the owner or operator elects to comply with the provisions of §63.174(c)(1)(ii) of this subpart.

(ii) The date and results of monitoring as required in §63.174(c) of this subpart. If identification of connectors that have been opened or otherwise had the seal broken is made by location under paragraph (d)(7)(i) of this section, then all connectors within the designated location shall be monitored.

(8) The date and results of the monitoring required in §63.178(c)(3)(i) of this subpart for equipment added to a batch process unit since the last monitoring period required in §63.178 (c)(3)(ii) and (c)(3)(iii) of this subpart. If no leaking equipment is found in this monitoring, the owner or operator shall record that the inspection was performed. Records of the actual monitoring results are not required.

(9) Copies of the periodic reports as specified in §63.182(d) of this subpart, if records are not maintained on a computerized database capable of generating summary reports from the records.

[45CSR13, R13-2438, 4.2.9; 45CSR34 and 40 CFR §63.181]

4.4.5. The owner or operator of a fuel burning unit(s) which burn only pipeline quality natural gas (Boilers B-5A and B-6), shall maintain records of the date and time of start-up and shutdown, and the quantity of fuel consumed on a monthly basis.
[45CSR§2-8.3.c., 45CSR§2A-7.1.a and 7.1.a.1; 45CSR13, R13-2438, 4.2.9.]

4.5. Reporting Requirements

4.5.1. The permittee shall submit the following information to the DAQ according to the specified schedules:

a. The permittee shall submit reports of all required monitoring on or before September 15 for the reporting period January 1 to June 30 and March 15 for the reporting period July 1 to December 31. All instances of deviation from permit requirements must be clearly identified in such reports.

b. The permittee shall submit to the Director on or before March 15, a certification of compliance with all requirements of this permit for the previous calendar year ending on December 31. If, during the previous annual period, the permittee had been out of compliance with any part of this permit, it shall be noted along with the following information: 1) the source/equipment/process that was non-compliant and the specific requirement of this permit that was not met, 2) the date the permitted discovered that the source/ equipment/process was out of compliance, 3) the date the Director was notified, 4) the corrective measures to get the source/equipment/process back into compliance, and 5) the date the source began to operate in compliance. The submission of any non-compliance report shall give no enforcement action immunity to episodes of non-compliance contained therein.

[45CSR13, R13-2438, 4.5.1.]

4.5.2. The permittee shall, with respect to Boiler B-5A, comply with all applicable reporting requirements of 40 CFR 60, Subpart Db—*Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units* below, provided that the permittee meet any more stringent limitations set forth in this permit.

§ 60.49b Reporting and recordkeeping requirements.

a) The owner or operator of each affected facility shall submit notification of the date of initial startup, as provided by §60.7. This notification shall include:

(1) The design heat input capacity of the affected facility and identification of the fuels to be combusted in the affected facility;

(2) If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under 60.44b(i);

(3) The annual capacity factor at which the owner or operator anticipates operating the facility based on all fuels fired and based on each individual fuel fired; and

(4) Notification that an emerging technology will be used for controlling emissions of SO_2. The Administrator will examine the description of the emerging technology and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of §60.42b(a) unless and until this determination is made by the Administrator.

(b) The owner or operator of each affected facility subject to the SO_2, PM, and/or NO_X emission limits under §60.44b shall submit to the Administrator the performance test data from the initial performance test and the performance evaluation of the CEMS using the applicable performance specifications in appendix B of this part.

(d) The owner or operator of an affected facility shall record and maintain records as specified in paragraph (d)(1) of this section (4.5.2).

(1) The owner or operator of an affected facility shall record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor individually for coal, distillate oil, residual oil, natural gas, wood, and municipal-type solid waste for the reporting period. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month.

[45CSR16 and 40 CFR §60.49b(a), (b), (d)(1)]

4.5.3. The permittee shall meet all applicable reporting requirements of 40 CFR 63 Subpart H below, provided that the permitte meet any more stringent limitations set forth in this permit.

§ 63.182 Reporting requirements.

(d) The owner or operator of a source subject to this subpart shall submit Periodic Reports.

(1) A report containing the information in paragraphs (d)(2), (d)(3), and (d)(4) of this section (4.5.3) shall be submitted semiannually starting 6 months after the Notification of Compliance Status, as required in paragraph (c) of this section (4.5.3). The first periodic report shall cover the first 6 months after the compliance date specified in §63.100(k)(3) of subpart F. Each subsequent periodic report shall cover the 6 month period following the preceding period.

(2) For each process unit complying with the provisions of §63.163 through §63.174 of this subpart, the summary information listed in paragraphs (i) through (xvi) of this paragraph for each monitoring period during the 6-month period.

(i) The number of valves for which leaks were detected as described in §63.168(b) of this subpart, the percent leakers, and the total number of valves monitored;

(ii) The number of valves for which leaks were not repaired as required in §63.168(f) of this subpart, identifying the number of those that are determined nonrepairable;

(iii) The number of pumps for which leaks were detected as described in §63.163(b) of this subpart, the percent leakers, and the total number of pumps monitored;

(iv) The number of pumps for which leaks were not repaired as required in §63.163(c) of this subpart;

(v) The number of compressors for which leaks were detected as described in §63.164(f) of this subpart;

(vi) The number of compressors for which leaks were not repaired as required in §63.164(g) of this subpart;

(vii) The number of agitators for which leaks were detected as described in §63.173(a) and (b) of this subpart;

(viii) The number of agitators for which leaks were not repaired as required in §63.173(c) of this subpart;

(ix) The number of connectors for which leaks were detected as described in §63.174(a) of this subpart, the percent of connectors leaking, and the total number of connectors monitored;

(xi) The number of connectors for which leaks were not repaired as required in §63.174(d) of this subpart, identifying the number of those that are determined nonrepairable;

(xiii) The facts that explain any delay of repairs and, where appropriate, why a process unit shutdown was technically infeasible.

(xiv) The results of all monitoring to show compliance with §§63.164(i), 63.165(a), and 63.172(f) of this subpart conducted within the semiannual reporting period.

(xv) If applicable, the initiation of a monthly monitoring program under §63.168(d)(1)(i) of this subpart, or a quality improvement program under either §§63.175 or 63.176 of this subpart.

(xvi) If applicable, notification of a change in connector monitoring alternatives as described in §63.174(c)(1) of this subpart.

[45CSR34 and 40 CFR §63.182]

4.6. Compliance Plan

N/A

ATTACHMENT A

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AKZO NOBEL CHEMICALS INC.
Attachment A
BAT Compliance Plan for Control of Ethylene Oxide (EO)

Source	Program Item	TAPS Emisssion Points	Schedule	Current Status 8/28/96
Specific Area C Emission Point ID's per TAPS Registration and Compliance Program	1. Process modification: Reduce volume of compounds available for emission by:	All process points for C-2-C: R-20/R-28	1. Eliminate R-20/R-28 point sources. Divert emission to T-50 control equipment.	1. R-20/R-28 Point Sources Eliminated 2/91
	A. Process Conditions Revisions	1A. C-T-50	1A. Initiated 3-6-92 Completed 12-31-93	1A. Complete
	B. Acid treatment 1) Phase One 2) Phase Two 3) Optimization	1B. C-T-50 C-365/567 C-81/94/83/577 C-J53A/B	1B. Complete 12/31/92 1) Treatment Start 2) Equipment addition 2/92 3) Complete By 12/31/92	1B. Complete 1) Implemented 6/91 2) Complete 2/92 3) Initiated 2/92 Complete
	C. Product Degradation Prevention	1C. C-365/567	1C. Procedure Change 3/6/92	1C. Complete
	D. Reaction process modification Phase two if further reduction required following revisions 1A-C and 2A-B.	1D. C-T-50	1D. Evaluate 1A-C and 2A-B 1) Achieve at least 97% reduction by 12-31-93 2) Maintain reduction at current level until 12-31-93	1D. Items 1A-C and 2A-B Complete 1) Phase 2 Not applicable; EO Reductions Achieved in Phase I
	2. Modification of exhaust system equipment.	2. C-T-50	2. Completed 12/31/93	2. Complete via Phase One
	A. Reaction sweep vent relocated through acid solution. 1) Phase One 2) Phase Two	2A. C-T-50 C-365/567 C-81/94/83/577 C-J53A/B	2A. 1) To existing equipment 2) Repipe to acid treatment equipment. a) Plan A (V-564/570) By 6/92 b) Evaluate Plan A 12/92	2A. Complete 1) a) Repipe complete 6/91 b) Phase 2 Not Required; Reductions Achieved in Phase One

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AKZO NOBEL CHEMICALS INC.
Attachment A
BAT Compliance Plan for Control of Ethylene Oxide (EO)
(Continued)

Source	Program Item	TAPS Emisssion Points	Schedule	Current Status 8/28/96
Area C (cont)	2. (continued) B. Scrubber modification 1) Recirculation to once through water mode 2) Scrubber optimization a) Begin preventative cleaning of packing based on air flow measurements b) Observe effectiveness	2B. C-T-50	2B. Complete 12/31/93 1) Completed by 6/91 2) Complete by 9/30/92 a) Manual Cleaning b) On-line Biocide treatment c) Complete 10/31/92	2B. 1) Complete 2) Complete a) Complete b) Complete 4/92 c) Complete
	3. Dehydration sump vent maintenance program.	3. C-J-53B	3. Complete by 12/31/92	3. Complete
	4. No reduction to tank vents.	4. C-365/567 C-81/94/83/577	4. N/A	4. Complete
Specific Area R Emission Point ID's per TAPS Registration and Compliance Program	5. Install area scrubber for control of initial vacuum system sump vents emission. A. Re-evaluate scrubber Vs. Thermal Destruction B. Design, purchase equipment C. Install equipment D. Start-up Operation E. Final scrub system operational F. Interim measures to attain operational area scrubber 1) Batch treat EO via Oxalic Acid in reactor to N.D. 2) Hold Dianol unit N.D. for EO then vent to old jets 3) "Strip" EO in old system for three batches in 1995	5. Initial interchangeable vacuum systems R-2-3-38 A/B R-2-3-39 A/B R-2-4 A/B R-2-4-52 A/B R-2-4-56 A/B Area Scrubber R-T-76 A/B	5. Complete by 12/31/94 A. Complete by 12/31/93 B. Complete by 6/30/94 C. Complete by 4/30/95 D. Complete by 4/30/95 E. Complete by 4/30/95 F. Complete by 5/30/95 1) Interim undefined 2) Undefined, 1995 3) Begin 2/1/95 x2 and 3/22/95 x1	5. Complete A-E. Complete 4/95 F. Complete 4/95 1) Used for Dianol only complete 4/9/95 2) Complete 5/15/95 3) Complete 3/22/95

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AKZO NOBEL CHEMICALS INC.
Attachment A
BAT Compliance Plan for Control of Ethylene Oxide (EO)
(Continued)

Source	Program Item	TAPS Emisssion Points	Schedule	Current Status 8/28/96
Area R (Continued)	5F. Interim measures to attain operational area scrubber (cont.) 4) Treatment media changes a) Acetic Acid (VOC) b) Oxalic Acid (VOC) c) Phosphoric Acid (non-VOC) Received approved due to Reg. 27 control devise and H2O scrubber d) Testing to confirm		4) Complete week of 4/17/95 a) 2/95 b) 3/95 c) Received approval per G.D. Farley 3/29/95 No further permit requirement.	4) Complete week of 4/17/95 a) Not successful: Foams b) Not successful: Polymerizes c) Successful d) Stack testing week of 4/17/95
	6. Allow following process step through previous vacuum system after EO removal to <100ppm in product liquid via head space analytical test method. A. Testing to maintain EO emission below Area R allowable level B. 1) Retest 2) Develop plan for BAT control if need indicated by retest data	6. R-2-3-39 A/B R-2-3-38 A/B R-2-4-52 A/B R-2-4-56 A/B R-2-4 A/B	6. On going Change A. Initial test 1st batch week of 4/17/95 B. 1) Follow-up test to confirm when Reg. 27 Area C equipment installation complete or by 7/1/97. 2) Interim EO control measure to limit number of batches to remain ≤ Area R level when added to R-T-76 A/B emissions	6. Implimented 4/17/95 6A. 1) Initial test Complete 6B. 1) Follow-up test to be scheduled 2) Product batches limited to maintain < 305 lb/yr total EO emission for Area R
Applicable equipment in Areas C,R,M,B	7. Leak Detection and Repair (LDAR) program	7. Fugitive	7. Complete by 12/31/92	7. Completed 12/17/92 Phase III begun 4/96

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AKZO NOBEL CHEMICALS INC.
Attachment A
BAT Compliance Plan for Control of Propylene Oxide (PO)

Source	Program Item	TAPS Emisssion Points	Schedule	Current Status 8/28/96
Specific Area C Emission Point ID's per TAPS Registration and Compliance Program	1. Process modification: Reduce volume of compounds available for emission by:	All Process points for C-2-P R-20/R-28	1. Eliminate R-20/R-28 point sources. Divert emissions to T-50 control equipment.	1. R-20/R-28 Point Sources Eliminated 2/91
	A. Process Conditions Revisions	1A. C-T-50	1A. Initiated 3/6/92 Completed 12/31/93	1A. Complete
	B. Acid treatment 1) Phase One 2) Phase Two 3) Optimization	1B. C-T-50 C-365/567 C-81/94/83/577 C-J-53 A/B	1B. Complete 12/31/92 1) Treatment Start 2) Equipment addition 2/92 3) Complete by 12/31/92	1B. Complete 1) Implemented 6/91 2) Completed 2/92 3) Initiated 2/92 Complete
	C. Product Degradation Prevention	1C. C-365/567	1C. Procedure Change 3/6/92	1C. Complete
	D. Reaction process modification Phase two if further reduction required following revisions 1A-C and 2A-B.	1D. C-T-50	1D. Evaluate 1A-C and 2A-B a) Achieve at least 97% reduction by 12/31/94 b) Maintain reduction at current level until 12/31/94	1D. Items 1A-C and 2A-B Complete Phase two not Applicable to PO Control: For use in PDC/EDC only (PDC not TAP listed)
	2. Modification of exhaust system equipment.	2. C-T-50	2. Completed 12/31/93	2. Complete
	A. Reaction sweep vent relocated through acid solution. 1) Phase One 2) Phase Two	2A. C-T-50 C-365/567 C-81/94/83/577 C-J-53 A/B	2A. 1) To existing equipment 2) Repipe to acid treatment equipment. a) Plan A (V-564/570) by 6/92 b) Evaluate Plan A 12/92	2A. Complete 1) Done 6/91 2) a) Repipe complete b) Phase two not required; reductions achieved in Phase one

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AKZO NOBEL CHEMICALS INC.
Attachment A
BAT Compliance Plan for Control of Propylene Oxide (PO)
(Continued)

Source	Program Item	TAPS Emisssion Points	Schedule	Current Status 8/28/96
Area C (cont)	2B. Scrubber modification (continued) 1) Recirculation to once through water mode 2) Scrubber optimization a) Begin preventative cleaning of packing based on air flow measurement b) Observe effectiveness	2B. C-T-50	2B. Complete 12/31/93 1) Completed 6/91 2) Complete by 9/30/92 a) Manual cleaning b) On-line Biocide treatment c) Complete 10/31/92	2B. 1) Complete 2) In progress a) Complete b) Complete 4/92 c) Completed
	3. Dehydration system control A. Study emissions PO/PDC for use in evaluation of EDC control B. Follow-up confirmation for EDC C. Design, purchase equipment D. Install equipment E. Start-up; operation begun F&G. Allow production of Fyrol PCF System (For EDC control only not present here in this product)	3. C-J-53 A/B	3. A. Complete by 10/15/93 B. As Fyrol CEF Production scheduled by 12/15/93 C. Complete by 3/31/94 D. Complete by 12/31/94 E. Complete by 12/31/94 F. New vacuum installed with H2O Refrigeration 4/17/95 G. Conversion to improve refrigeration system by 7/1/97	3. Not applicable to PO control A. Complete B. Complete C. Complete D. Complete E. Complete F. Initial test week of 4/17/95 G. Study to be scheduled when total installation completed to confirm PO control.
	4. No reduction to tank vents.	4. C-365/567 C-81/94/83/577	4. N/A	4. Complete

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AKZO NOBEL CHEMICALS INC.
Attachment A
BAT Compliance Plan for Control of Propylene Oxide (PO)
(Continued)

Source	Program Item	TAPS Emisssion Points	Schedule	Current Status 8/28/96
Specific Area R Emission Point ID's per TAPS Registration and Compliance Program	5. Install area scrubber for control of initial vacuum system sump vents emissions. A. Re-evaluate scrubber vs. thermal destruction B. Design, purchase equipment C. Install equipment - Temporary tower D. Start-up; operation begun E. Final scrub system operational	5. Initial interchangeable vacuum systems R-2-3-38 A/B R-2-3-39 A/B R-2-4 A/B R-2-4-52 A/B R-2-4-56 A/B Area Scrubber R-T-76 A/B	5. A. Complete by 12/31/93 B. Complete by 6/30/94 C. Complete by 12/31/94 D. Complete by 12/31/94 E. Complete by 2/28/95	5. Complete 4/17/95 No PO used in Area R in 1995 A. - E. Monitoring to be scheduled upon use of PO in Area
Applicable equipment in Areas C,R,M,B	6. Leak detection and repair (LDAR) program.	6. Fugitive	6. Complete by 12/31/92	6. Completed 12/17/92 Phase III begun 4/96

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AKZO NOBEL CHEMICALS INC.
Attachment A
BAT Compliance Plan for Control of Ethylene Dichloride (EDC)

Source	Program Item	TAPS Emisssion Points	Schedule	Current Status 8/28/96
Specific Area C Emission Point ID's per TAPS Registration and Compliance Program	1. Process modification: Reduce volume of compounds available for emissions by:	All process points for C-2-C: R-20/R-28	1. Eliminate R-20/R-28 point sources. Divert emissions to T-50 control equipment.	1. R-20/R-28 Point Sources Eliminated 2/91
	A. Process Condition Revisions	1A. C-T-50	1A. Initiated 3/6/92 Completed 12/31/93	1A. In progress per 1.D.
	B. Acid treatment 1) Phase One 2) Phase Two 3) Optimization	1B. C-T-50 C-365/567 C-81/94/83/577 C-J-53 A/B	1B. Complete 12/31/92 1) Treatment Start 2) Equipment addition 2/92 3) Complete by 12/31/92	1B. Complete 1) Implemented 6/91 2) Completed 2/92 3) Initiated 2/92 Complete
	C. Product Degradation Prevention	1C. C-365/567	1C. Procedure Change 3/6/92	1C. Complete
	D. Reaction process modification Phase two: Further reduction required following revisions 1A-C and 2A-B.	1D. C-T-50	1D. Evaluate 1A-C and 2A-B 1) Achieve at least 70% reduction by 12/31/93 2) If reduction is <95%, submit Consent Order Amendment by 12/31/93 with completion 12/31/94 a) Step 1: specific gravity meter installed b) Step 2: DCS installation by 12/31/96 3) Maintain reduction at ≤ current level until 12/31/94	1D. In progress 1) Items 1A-C and 2A-B Evaluation complete 95% reduction not achieved 2) a) Field controls installed 12/93 DCS controls waiting for construction completion of new control room and hardware/sofeware installation. b) EDC levels met using Carbon treatment Per item # 3.F until ≥ 97.5% reduction before carbon control.

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AKZO NOBEL CHEMICALS INC.
Attachment A
BAT Compliance Plan for Control of Ethylene Dichloride (EDC)
(Continued)

Source	Program Item	TAPS Emisssion Points	Schedule	Current Status 8/28/96
Area C (Cont)	2. Modification of exhaust sytem equipment. A. Reaction sweep vent relocated through acid solution. 1) Phase One 2) Phase Two	2. 2A. C-T-50 C-365/567 C-81/94/83/577	2. Completed 12/31/93 2A. 1) To existing equipment 2) a) Gravity meter by 12/94 b) DCS controls by 12/31/96	2. Complete 2A. In Progress 1) Complete 6/91 2) a) Complete 12/94 b) Phase two reductions In progress
	B. Scrubber modification 1) Recirculation to once through water mode 2) Scrubber optimization a) Begin preventative cleaning of packing based on air flow measurements b) Observe effectiveness	2B. C-T-50	2B. Complete 12/31/93 1) Completed by 6/91 2) Complete by 9/30/92 a) Manual Cleaning b) On-line Biocide treatment c) Complete 10/31/92	2B. 1) Complete 2) Complete a) Complete b) Complete 4/92 c) Complete
	3. Dehydration system control A. Study emissions PO/PDC for use in evaluation of EDC control B. Follow-up confirmation for EDC C. Design, purchase equipment D. Install equipment E. Start-up; operation begun F. New vacuum system with water cooling 1) Install carbon adsorption on "inerts" gas vent 2) Monitor to evaluate effectiveness	3. C-J-53 A/B	3. A. Complete by 10/15/93 B. As Fyrol CEF Production scheduled by 12/15/93 C. Complete by 3/31/94 D. Complete by 4/17/95 E. Complete by 4/17/95 F. New vacuum installed H2O Refrigeration 4/17/95	3. A. Complete B. Complete C. Complete D. Complete E. Complete F. Initial test week of 4/17/95 Continued use of carbon treatment until refrigeration up-grade installed and 97% reduction confirmed by batch monitoring.

AKZO NOBEL CHEMICALS INC.
Attachment A
BAT Compliance Plan for Control of Ethylene Dichloride (EDC)
(continued)

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Source	Program Item	TAPS Emisssion Points	Schedule	Current Status 8/28/96
	3) Will not study system with PDC 1st due to agreement to use the carbon vent control 4) May be relieved of carbon use requirement if monitoring shows no EDC potential emission 5) Condensate by-passes sump, flows directly through save-all vessels, then to carbon treatment		4) Installation of Refrigeration up-grade if carbon treatment to be removed	4) Study to be scheduled when total installation completed
	4 Carbon treatment for process wastewater; No reduction of tank vents A. C-2-C Process B. R-4-BB Process	4. A. C-365/567/Flume C-81/94/83/577 B. R-2-3-39B	4. A. Completed 9/25/90 B. Complete before 1992 Fyrol Bis Beta production run.	4. A. Complete B. Complete using mobile carbon
Specific Area R Emission Point ID's per TAPS Registration and Compliance Program	5. Install area scrubber for control of initial vacuum system sump vent emissions for EO/PO. A&B. Allow following process step through previous vacuum system after EO removal to <100ppm in product liquid via head space analytical test method C. Scrub system operational D. Submit CO amendment with control design and schedule if monitoring does not confirm EDC control.	5. 5A&B. Initial interchangeable vacuum systems R-2-3-38 A/B R-2-3-39 A/B R-2-4 A/B R-2-4-52 A/B R-2-4-56 A/B C. Area Scrubber R-T-76 A/B	5. Completed 4/95 A. Interim period to use number of batches times total lbs/batch EDC emission to maintain ≤ Area R lbs/yr EDC emission B. Remonitor by 7/1/97 C. Initial start up testing week of 4/17/95 D. Submit by 9/1/97	5. Complete A. Production limits maintained B. Retest to be completed on normal production run at same time as Area C retesting scheduled. C. Inital start-up testing complete week of 4/17/95 Expectation is values were of a degraded product batch D. To be evaluated by 7/31/97