

**Iowa Department of Natural Resources
Title V Operating Permit**

Name of Permitted Facility: Equistar Chemicals, LP
Facility Location: 3400 Anamosa Road, Clinton, IA 52732
Air Quality Operating Permit Number: 04-TV-008R1-M001
Expiration Date: December 13, 2015
Permit Renewal Application Deadline: June 13, 2015

EIQ Number: 92-4291
Facility File Number: 23-01-004

Responsible Official

Name: Mr. Brian Angwin
Title: Plant Manager
Mailing Address: 3400 Anamosa Road, Clinton, IA 52732
Phone #: (563) 244-2205

Permit Contact Person for the Facility

Name: Mr. Chris Enyeart
Title: HSE Manager
Mailing Address: 3400 Anamosa Road, Clinton, IA 52732
Phone #: (563) 244-2374

This permit is issued in accordance with 567 Iowa Administrative Code Chapter 22, and is issued subject to the terms and conditions contained in this permit.

For the Director of the Department of Natural Resources

Douglas A. Campbell, Supervisor of Air Operating Permits Section

Date

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Abbreviations

acfm.....	actual cubic feet per minute
CFR.....	Code of Federal Regulation
CE	control equipment
CEM.....	continuous emission monitor
°F.....	degrees Fahrenheit
EIQ.....	emissions inventory questionnaire
EP	emission point
EU	emission unit
gr./dscf	grains per dry standard cubic foot
gr./100 cf.....	grains per one hundred cubic feet
IAC.....	Iowa Administrative Code
IDNR.....	Iowa Department of Natural Resources
MVAC.....	motor vehicle air conditioner
NAICS.....	North American Industry Classification System
NSPS.....	new source performance standard
NESHAP	National Emission Standards for Hazardous Air Pollutants
ppmv	parts per million by volume
lb./hr	pounds per hour
lb./MMBtu	pounds per million British thermal units
SCC	Source Classification Codes
scfm.....	standard cubic feet per minute
SIC	Standard Industrial Classification
TPY	tons per year
USEPA.....	United States Environmental Protection Agency

Pollutants

PM.....	particulate matter
PM ₁₀	particulate matter ten microns or less in diameter
SO ₂	sulfur dioxide
NO _x	nitrogen oxides
VOC	volatile organic compound
CO.....	carbon monoxide
HAP.....	hazardous air pollutant

I. Facility Description and Equipment List

Facility Name: Equistar Chemicals, LP

Permit Number: [04-TV-008R1-M001](#)

Facility Description: Industrial Organic Chemicals/Plastics, Resins (SIC 2869/2821)

Equipment List

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
Ethylene Plant			
EP001-P	EP001-U	LB-0101A A-Furnace	None
EP002-P	EP002-U	LB-0101B B-Furnace	None
EP003-P	EP003-U	LB-0101C C-Furnace	None
EP004-P	EP004-U	LB-0101D D-Furnace	08-A-245
EP005-P	EP005-U	LB-0101E E-Furnace	08-A-246
EP006-P	EP006-U	LB-0101F F-Furnace	None
EP007-P	EP007-U	LB-0101G G-Furnace	None
EP008-P	EP008-U	LB-0101H H-Furnace	None
EP009-P	EP009-U	LB-0101I I-Furnace	None
EP010-P	EP010-U	LB-0101J J-Furnace	None
EP011-P	EP011-U	LB-0107A K-Furnace	None
EP012-P	EP012-U	LB-107B L-Furnace	None
EP013-P	EP013-U	LB-0120 M-Furnace	89-A-030
EP014-P	EP014-U	B-0103 Gas Drier	None
EP015-P	EP015E-U	LB-0102A A-Boiler (Fuel Gas Fired)	89-A-028
	EP015W-U		
EP016-P	EP016E-U	LB-0102B B-Boiler (Distilled Oil Fired)	89-A-029
	EP016W-U		
EP017-P	EU017-U	"C" Boiler – temporary	None
EP018-P	EP018-U	"D" Boiler – temporary	None
EP020H-P	EP020H-U	U-2202 Cooling Tower	None
EP020I-P	EP020I-U	U-2202 Cooling Tower	None
EP020J-P	EP020J-U	U-2202 Cooling Tower	None
EP020K-P	EP020K-U	UJ-2210 Cooling Tower	None
EP020L-P	EP020L-U	UJ-2210 Cooling Tower	None
EP020M-P	EP020M-U	UJ-2210 Cooling Tower	None
EP020N-P	EP020N-U	UJ-2210 Cooling Tower	None
EP020O-P	EP020O-U	UJ-2210 Cooling Tower	None
EP020P-P	EP020P-U	UJ-2210 Cooling Tower	None
EP020Q-P	EP020Q-U	UJ-2210 Cooling Tower	None
EP020R-P	EP020R-U	UJ-2210 Cooling Tower	None

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
EP020S-P	EP020S-U	UJ-2210 Cooling Tower	None
EP020T-P	EP020T-U	UJ-2210 Cooling Tower	None
EP020U-P	EP020U-U	UJ-2210 Cooling Tower	None
EP020V-P	EP020V-U	UJ-2210 Cooling Tower	None
EP021-P	EP021-U	Ethylene Unit Fugitive	None
EP022-P	EP022B-U	DAC Truck	None
	EP022C-U	Residual Oil Truck	None
	EP022D-U	DAC Rail Car	None
EP023-P	EP023-U	F-2105 DAC Tank	None
EP025-P	EP025-U	F-2147 DAC Tank	None
EP026-P	EP026-U	F-2139 Wash Oil Tank	None
EP027-P	EP027-U	F-2407 Equalization & Neutralization Tank	None
EP028-P	EP028-U	F-2413 Rapid Mix Tank	None
EP029-P	EP029-U	F-2408 Flocculation Tank	None
EP030-P	EP030-U	A-2408A & B Primary Clarifiers	None
EP031-P	EP031-U	Cold Vent Header	None
EP033-P	EP-033A	B-2401 Ethylene Flare Tip (Burner)	00-A-911-S4
	EP047-U	H-107B Ethylene Analyzer House	
	LD001-U	F-2134A VA Tank	
	LD002-U	F-2134B VA Tank	
	LD011-U	Waste VA & Mineral Spirits Run Down Tank F-785	
EP034-P	EP034-U	J-2204D Fire Water Pump Diesel Engine	None
EP035-P	EP035-U	J-2204E Fire Water Pump Diesel Engine	None
EP036-P	EP036-U	J-2204F Fire Water Pump Diesel Engine	None
EP038-P	EP038-U	F-0154 Furnace Decoke Pot	None
EP039-P	EP039-U	F-0154A Furnace Decoke Pot	None
EP040-P	EP040-U	B-0107 Regeneration Gas Heater	97-A-804
EP041-P	EP041-U	Plant Incidental Releases	None
EP042N-P	EP042-U	J-0102 Propylene Refrigeration Compressor	None
EP042S-P		J-0102 Propylene Refrigeration Compressor	None
EP043N-P	EP043-U	J-0103 Ethylene Refrigeration Compressor	None
EP043S-P		J-0103 Ethylene Refrigeration Compressor	None
EP044E-P	EP044-U	J-0104 Ethylene Refrigeration Compressor	None
EP044W-P		J-0104 Ethylene Refrigeration Compressor	None
EP045-P	EP045-U	OAH Tripod Temporary Smokeless Flare	None
EP046-P	EP046-U	F-144 Wash Oil Day Tank	None
EP048-P	EP048-U	H-108 Ethylene Analyzer House	None
EP049-P	EP049-U	H-112 Ethylene Analyzer House	None
EP050-P	EP050-U	H-115 Ethylene Analyzer House	None
EP051-P	EP051-U	E-118 Quench Water Stripper Blowdown	None
EP052-P	EP052-U	E-129 Caustic Stripper Blowdown	None
EP053-P	EP053-U	US Filter Brine Silo (1 of 2)	01-A-1231-S1
EP054-P	EP054-U	US Filter Brine Silo (1 of 2)	03-A-547-S1
EP055-P	EP055-U	US Filter F-2450 Equalization & Neutralization Tank	None

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
EP056-P	EP056-U	US Filter F-2451 Rapid Mix Tank	None
EP057-P	EP057-U	US Filter F-2452 Flocculation Tank	None
EP058-P	EP058-U	US Filter F2453 Dissolved Air Flotation Tank	None
EP059-P	EP059-U	LB-0101A A-Furnace	None
EP060-P	EP060-U	LB-0101B B-Furnace	None
EP061-P	EP061-U	LB-0101C C-Furnace	None
EP062-P	EP062-U	LB-0101D D-Furnace	08-A-247
EP063-P	EP063-U	LB-0101E E-Furnace	08-A-248
EP064-P	EP064-U	LB-0101F F-Furnace	None
EP065-P	EP065-U	LB-0101G G-Furnace	None
EP066-P	EP066-U	LB-0101H H-Furnace	None
EP067-P	EP067-U	LB-0101I I-Furnace	None
EP068-P	EP068-U	LB-0101J J-Furnace	None
EP069N-P	EP069-U	LB-0107A K-Furnace	None
EP069S-P		LB-0107A K-Furnace	None
EP070N-P	EP070-U	LB-107B L-Furnace	None
EP070S-P		LB-107B L-Furnace	None
EP071N-P	EP071-U	LB-0120 M-Furnace	None
EP071S-P		LB-0120 M-Furnace	None
High Density Polyethylene Production Lines			
HD001A-P	HD001A-U	PF-4 Analyzer House	None
HD001B-P	HD001B-U	PF-1, PF-2, and PF-3 Analyzer House	None
HD002N-P	HD002-U	C-0316 Gas1 (D-0307) Activator Jacket Heater	None
HD002S-P		C-0316 Gas1(D-0307) Activator Jacket Heater	None
HD004-P	HD004-U	F-0401A PF-1 Rundown Bin	None
HD005-P	HD005-U	F-0401B PF-1 Rundown Bin	None
HD006-P	HD006-U	F-0401C PF-1 Rundown Bin	None
HD007-P	HD007-U	F-0401D PF-1 Rundown Bin	None
HD008N-P	HD008A-U	F-0411C PF-3 Rundown Bin Through L-1417B Bag House	94-A-110
	HD008B-U	F-0411D PF-3 Rundown Bin Through L-1417B Bag House	
	HD008C-U	F-0431C PF-2 Rundown Bin Through L-1417B Bag House	
	HD008D-U	F-0431D PF-2 Rundown Bin Through L-1417B Bag House	
HD008S-P	HD008E-U	F-0411A PF-3 Rundown Bin Through L-1417A Bag House	94-A-109
	HD008F-U	F-0411B PF-3 Rundown Bin Through L-1417A Bag House	
	HD008G-U	F-0431A PF-2 Rundown Bin Through L-1417A Bag House	
	HD008H-U	F-0431B PF-2 Rundown Bin Through L-1417A Bag House	
HD009N-P	HD009A-U	F-0439A PF-4 Rundown Bin Through L-1416B Bag House	93-A-158-S1
	HD009B-U	F-0439B PF-4 Rundown Bin Through L-1416B Bag House	
	HD009C-U	F-0439C PF-4 Rundown Bin Through L-1416B Bag House	
	HD009D-U	F-0439D PF-4 Rundown Bin Through L-1416B Bag House	
HD009S-P	HD009E-U	F-0439E PF-4 Rundown Bin Through L-1416A Bag House	93-A-157-S1
	HD009F-U	F-0439F PF-4 Rundown Bin Through L-1416A Bag House	
	HD009G-U	F-0439G PF-4 Rundown Bin Through L-1416A Bag House	
	HD009H-U	F-0439H PF-4 Rundown Bin Through L-1416A Bag House	
HD010-P	HD010-U	F-0415A J-line Feed Bin	78-A-075-S1

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
HD011-P	HD011-U	F-0415B J-line Feed Bin	07-A-1181
HD012-P	HD012-U	F-0421A A-line Feed Bin	None
HD013-P	HD013-U	F-0421B B-line Feed Bin	None
HD014-P	HD014-U	F-0422A A-line Feed Bin	None
HD015-P	HD015-U	F-0422B B-line Feed Bin	None
HD016-P	HD016-U	F-0423A A-line Feed Bin	None
HD017-P	HD017-U	F-0423B B-line Feed Bin	None
HD018-P	HD018-U	F-0462 F-line Feed Bin	89-A-065-S1
HD019-P	HD019-U	F-0463 F-line Feed Bin	07-A-1190
HD020-P	HD020-U	F-0918 PF4 Surge hopper	07-A-1182
HD021-P	HD021-U	J-0303A PF-1 Recycle Compressor	None
HD022-P	HD022-U	J-0303B PF-1 Recycle Compressor	None
HD027-P	HD027-U	J-0603 PF-2/3 Recycle Compressor	None
HD028-P	HD028-U	J-0604 PF-2/3 Recycle Compressor	None
HD029-P	HD029-U	J-0605 PF-2/3 Recycle Compressor	None
HD029F-P		Fugitive Emission: Compressor-case leaks	None
HD033-P	HD033-U	J-0623 IC4 Recovery Compressor	None
HD036-P	HD036-U	J-0908A PF-4 Recycle Compressor	None
HD036F-P		Fugitive Emissions: Compressor Unloader Valves	None
HD037-P	HD037-U	J-0908B PF-4 Recycle Compressor	None
HD037F-P		Fugitive Emissions: Compressor Unloader Valves	None
HD038-P	HD038-U	J-0908C PF-4 Recycle Compressor	None
HD038F-P		Fugitive Emissions: Compressor Unloader Valves	None
HD039-P	HD039-U	J-0301 PF-1 Reactor Pump	None
HD040-P	HD040-U	J-0601 PF-3 Reactor Pump	None
HD041-P	HD041-U	J-0602 PF-2 Reactor Pump	None
HD042-P	HD042-U	J-0903 PF-4 Reactor Pump	None
HD043-P	HD043-U	L-0302 PF-1 Purge Conveyor	None
HD044-P	HD044-U	L-0603 PF-3 Purge Conveyor	None
HD045-P	HD045-U	L-0604 PF-2 Purge Conveyor	None
HD046-P	HD046-U	VF-0402 PF-1 Surge Bin	None
HD047-P	HD047-U	VF-0432A PF-3 Surge Bin	None
HD048-P	HD048-U	VF-0432B PF-2 Surge Bin	None
HD049A-P	HD049A-U	Scrubber for GAS1 D-0307	None
HD049C-P	HD049C-U	Scrubber for Electric1 D-0310	08-A-442
HD050A-P	HD050A-U	L-0426A A-Line Dust Collector	None
HD050B-P	HD050B-U	L-0426B B-Line Dust Collector	None
HD050C-P	HD050C-U	L-0470 F-Line Dust Collector	89-A-070-S1
HD050D-P	HD050D-U	L-0410 J-Line Dust Collector	03-A-1014-S1
HD051-P	HD051-U	J-1402 Additive Vacuum System	03-A-1015
HD052-P	HD052-U	F-0402A PF Storage Bin	None
HD053-P	HD053-U	F-0402B PF Storage Bin	10-A-379
HD054-P	HD054-U	F-0402C PF Storage Bin	10-A-380
HD055-P	HD055-U	F-0402D PF Storage Bin	10-A-381
HD056-P	HD056-U	F-0402E PF Storage Bin	10-A-382

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
HD057-P	HD057-U	F-0432A PF Storage Bin	None
HD058-P	HD058-U	F-0432B PF Storage Bin	None
HD059-P	HD059-U	F-0432C PF Storage Bin	None
HD060-P	HD060-U	F-0432D PF Storage Bin	None
HD061-P	HD061-U	F-0432E PF Storage Bin	None
HD062-P	HD062-U	F-0412A PF Storage Bin	10-A-383
HD063-P	HD063-U	F-0412B PF Storage Bin	10-A-384
HD064-P	HD064-U	F-0412C PF Storage Bin	10-A-385
HD065-P	HD065-U	F-0412D PF Storage Bin	10-A-386
HD066-P	HD066-U	F-0412E PF Storage Bin	10-A-387
HD067-P	HD067-U	F-0412F PF Storage Bin	78-A-074
HD068-P	HD068-U	F-0412G PF Storage Bin	78-A-074
HD069-P	HD069-U	F-0412H PF Storage Bin	10-A-388
HD070-P	HD070-U	F-0412J PF Storage Bin	10-A-389
HD071-P	HD071-U	F-0412K PF Storage Bin	10-A-390
HD072-P	HD072-U	F-0404A Plexar Storage/Feed Bin	80-A-075
HD073-P	HD073-U	F-0404B Plexar Storage/Feed Bin	80-A-076
HD074-P	HD074-U	F-0404C Plexar Rundown Bin	None
HD075-P	HD075-U	F-0444A Pellet Blender	None
HD076-P	HD076-U	F-0444B Pellet Blender	None
HD077-P	HD077-U	F-0444C Pellet Blender	89-A-068-S1
HD078-P	HD078-U	F-0444D Pellet Blender	07-A-1191
HD079-P	HD079-U	F-0444E Pellet Blender	07-A-1192
HD080-P	HD080-U	F-0444F Pellet Blender	07-A-1193
HD081-P	HD081-U	F-0441A Pellet Blender	None
HD082-P	HD082-U	F-0441B Pellet Blender	None
HD083-P	HD083-U	F-0445 Pellet Blender	None
HD084-P	HD084-U	F-0437A Pellet Blender	89-A-067-S1
HD085-P	HD085-U	F-0437B Pellet Blender	07-A-1183
HD086-P	HD086-U	F-0437C Pellet Blender	07-A-1184
HD087-P	HD087-U	F-0437D Pellet Blender	07-A-1185
HD088-P	HD088-U	F-0437E Pellet Blender	07-A-1186
HD089-P	HD089-U	F-0437F Pellet Blender	07-A-1187
HD090-P	HD090-U	F-0437G Pellet Blender	07-A-1188
HD091-P	HD091-U	F-0437H Pellet Blender	07-A-1189
HD092-P	HD092-U	F-0443A Pellet Storage Bin	None
HD093-P	HD093-U	F-0443B Pellet Storage Bin	None
HD094-P	HD094-U	F-0443C Pellet Storage Bin	None
HD095-P	HD095-U	F-0443D Pellet Storage Bin	None
HD096-P	HD096-U	F-0443E Pellet Storage Bin	None
HD097-P	HD097-U	F-0443F Pellet Storage Bin	None
HD098-P	HD098-U	F-0443G Pellet Storage Bin	None
HD099-P	HD099-U	F-0443H Pellet Storage Bin	None
HD100-P	HD100-U	F-0443J Pellet Storage Bin	None
HD101-P	HD101-U	F-0443K Pellet Storage Bin	None

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
HD102-P	HD102-U	F-0443L Pellet Storage Bin	None
HD103-P	HD103-U	F-0443M Pellet Blending Silo	None
HD104-P	HD104-U	F-0447A Divert Quad Bin	None
HD105-P	HD105-U	F-0447B Divert Quad Bin	None
HD106-P	HD106-U	F-0447C Divert Quad Bin	None
HD107-P	HD107-U	F-0447D Divert Quad Bin	None
HD108-P	HD108-U	High Density Fugitives	None
HD109-P	HD109-U	F-0438A Divert Quad Bin	None
HD110-P	HD110-U	F-0438B Divert Quad Bin	None
HD111-P	HD111-U	F-0438C Divert Quad Bin	None
HD112-P	HD112-U	F-0438D Divert Quad Bin	None
HD113-P	HD113-U	F-0442A Divert Quad Bin	None
HD114-P	HD114-U	F-0442B Divert Quad Bin	None
HD115-P	HD115-U	F-0442C Divert Quad Bin	None
HD116-P	HD116-U	F-0442D Divert Quad Bin	None
HD117-P	HD117-U	L-0918 PF4 Purge Conveyor	None
HD118-P	HD118-U	F-0425 Plexar Maleic Anhydride Tank	None
HD119-P	HD119-U	L-0428A A-line Pellet Dryer	None
HD120-P	HD120-U	L-0428B B-line Pellet Dryer	None
HD121-P	HD121-U	L-1409 F-line Spin Dryer	89-A-066-S2
HD122-P	HD122-U	L-0413 J-line Spin Dryer	89-A-069-S2
HD123-P	HD123-U	L-0406A Plexar Graft Dryer	None
HD124-P	HD124-U	L-0477 D-line Pellet Dryer	None
HD125-P	HD125-U	L-0487 E-line Pellet Dryer	None
HD126-P	HD126-U	F-0455 E-Line Feed Bin	None
HD127-P	HD127-U	F-0456 E-Line Feed Bin	None
HD128-P	HD128-U	F-0464 D-Line Feed Bin	None
HD129-P	HD129-U	F-0465 D-Line Feed Bin	None
HD130-P	HD130-U	F-0498 E-Line Additive Bin	03-A-1016/1017
HD132-P	HD132-U	F-0497 D-Line Additive Bin	03-A-1018/1019
HD134-P	HD134-U	L-4001 Plexar Extruder	None
HD135-P	HD135A-U	F-0410A Quality Control Bin	03-A-1020
	HD135B-U	F-0410B Quality Control Bin	None
HD136-P	HD136-U	F-0408 Plexar Weigh Hopper	80-A-077
HD141-P	HD141-U	DB-0910 Gas 2 (D-0910) Activator Jacket Heater	99-A-422
HD142-P		F-0926 Gas 2 Activator External Filter	90-A-406-S4
HD143-P		L-0931 Gas 2 Activator External Filter	01-A-585
HD144-P	HD043-U	L-0302 PF-1 Purge Conveyor RV's	None
HD145-P	HD044-U	L-0603 PF-3 Purge Conveyor RV's	None
HD146-P	HD045-U	L-0604 PF-2 Purge Conveyor RV's	None
HD149-P	HD149-U	Fugitive Emission:PF-1 Dryer Seals	None
HD150-P	HD150-U	Fugitive Emission:PF-2 Dryer Seals	None
HD151-P	HD151-U	Fugitive Emission:PF-3 Dryer Seals	None
HD152-P	HD152-U	Fugitive Emission:PF-4 Dryer Seals	None
HD153-P	HD153-U	Fugitive Emission: PF-1 Slide Valves	None

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
HD154-P	HD154-U	Fugitive Emission: PF-2 Slide Valves	None
HD155-P	HD155-U	Fugitive Emission: PF-3 Slide Valves	None
HD156-P	HD156-U	Fugitive Emission: F0909 PF-4 Slide Valves	None
HD157-P	HD157-U	Fugitive Emission: L-0918 PF-4 Slide Valves	None
HD158-P	HD158-U	Fugitive Emission: PF-1 Purge Conveyor Blower	None
HD159-P	HD159-U	Fugitive Emission: PF-2 Purge Conveyor Blower	None
HD160-P	HD160-U	Fugitive Emission: PF-3 Purge Conveyor Blower	None
HD161-P	HD161-U	Fugitive Emission: PF-4 Purge Conveyor Blower	None
HD162-P	HD162-U	Fugitive Emission: PF-1 Dryer V-Ball Valves	None
HD163-P	HD163-U	Fugitive Emission: PF-2 Dryer V-Ball Valves	None
HD164-P	HD164-U	Fugitive Emission: PF-3 Dryer V-Ball Valves	None
HD165-P	HD165-U	Fugitive Emission: PF-4 Dryer V-Ball Valves	None
Low Density Polyethylene Production Lines			
LD005E-P	LD005-U	D-0201 LD-1 Reactor (Depressure Emissions)	97-A-807
LD005W-P		D-0201 LD-1 Reactor (Rupture Disc Emissions)	97-A-808
LD006N-P	LD006-U	D-0702A LD-2A Reactor (North Rupture Disc Emissions)	None
LD006S-P		D-0702A LD-2A Reactor (South Rupture Disc Emissions)	None
LD006W-P		D-0702A LD-2A Reactor (Depressure Emissions)	None
LD007N-P	LD007-U	D-0702B LD-2B Reactor (North Rupture Disc Emissions)	None
LD007S-P		D-0702B LD-2B Reactor (South Rupture Disc Emissions)	None
LD007W-P		D-0702B LD-2B Reactor (Depressure Emissions)	None
LD008E-P	LD008-U	D-0801 LD-3 Reactor (East Rupture Disc Emissions)	97-A-647-S2
LD008S-P		D-0801 LD-3 Reactor (Depressure Emissions)	97-A-648-S2
LD008W-P		D-0801 LD-3 Reactor (West Rupture Disc Emissions)	97-A-649-S2
LD012-P	LD012-U	F-0739 VA Tower Feed Tank	None
LD013-P	LD013-U	F-0751 VA Storage Tank	None
LD014-P	LD014-U	L-0207A LD-1 "A" Spin Dryer	97-A-809-S2
LD015-P	LD015-U	L-0207B LD-1 "B" Spin Dryer	97-A-810-S2
LD016-P	LD016-U	L-0210 LD-1 "C" Spin Dryer	97-A-811-S2
LD017A-P	LD017A-U	LD-2A Dewatering Bin	94-A-137
LD017B-P	LD017B-U	L-0738A LD-2A Spin Dryer	94-A-138-S1
LD018A-P	LD018A-U	LD-2B Dewatering Bin	94-A-111
LD018B-P	LD018B-U	L-0738B LD-2B Spin Dryer	94-A-112-S1
LD019-P	LD019-U	L-0838 LD-3 Dewatering Bin & Spin Dryer	97-A-650-S3
LD020-P	LD020-U	F-0451A LD-1 Rundown Blender	97-A-812
LD021-P	LD021-U	F-0451B LD-1 Rundown Blender	97-A-813
LD022-P	LD022-U	F-0451C LD-1 Rundown Blender	97-A-814
LD023-P	LD023-U	F-0451D LD-1 Rundown Blender	97-A-815
LD024-P	LD024-U	F-0451E LD-1 Rundown Blender	97-A-816
LD025-P	LD025-U	F-0451F LD-1 Rundown Blender	97-A-817
LD026-P	LD026-U	F-0457A LD-2B Rundown Blender	None
LD027-P	LD027-U	F-0457B LD-2A Rundown Blender	None
LD028-P	LD028-U	F-0457C LD-2A Rundown Blender	None
LD029-P	LD029-U	F-0457D LD-2A Rundown Blender	None
LD030-P	LD030-U	F-0457E LD-2B Rundown Blender	None

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
LD031-P	LD031-U	F-0457F LD-2B Rundown Blender	None
LD032-P	LD032-U	F-0457G LD-2 Spare Blender	None
LD033-P	LD033-U	F-0457H LD-2 Spare Blender	None
LD034-P	LD034-U	F-0457J LD-2 Spare Blender	None
LD035-P	LD035-U	F-0458A E Line Rundown Blender	None
LD036-P	LD036-U	F-0458B E Line Rundown Blender	None
LD037-P	LD037-U	F-0458C E Line Rundown Blender	None
LD038-P	LD038-U	F-0458D D Line Rundown Blender	None
LD039-P	LD039-U	F-0458E D Line Rundown Blender	None
LD040-P	LD040-U	F-0458F D Line Rundown Blender	None
LD041-P	LD041-U	F-0459A LD-2/3 Rundown Storage Bin	97-A-685-S2
LD042-P	LD042-U	F-0459B LD-2/3 Rundown Storage Bin	97-A-686-S2
LD043-P	LD043-U	F-0459C LD-2/3 Rundown Storage Bin	97-A-687-S2
LD044-P	LD044-U	F-0459D LD-2/3 Rundown Storage Bin	97-A-688-S2
LD045-P	LD045-U	F-0459E LD-3 Rundown Blender	97-A-689-S2
LD046-P	LD046-U	F-0459F LD-3 Rundown Blender	97-A-690-S2
LD047-P	LD047-U	F-0459G LD-3 Rundown Blender	97-A-691-S2
LD048-P	LD048-U	F-0459H LD-3 Rundown Blender	97-A-692-S2
LD049-P	LD049-U	F-0459J LD-3 Rundown Blender	97-A-693-S2
LD050-P	LD050-U	F-0459K LD-3 Rundown Blender	97-A-694-S2
LD051-P	LD051-U	F-0459L LD-2/3 Rundown Storage Bin	97-A-695-S2
LD052-P	LD052-U	F-0459M LD-2/3 Rundown Storage Bin	97-A-696-S2
LD053-P	LD053-U	F-0459N LD-2/3 Rundown Storage Bin	97-A-697-S2
LD054-P	LD054-U	F-0459P LD-2/3 Rundown Storage Bin	97-A-698-S2
LD055-P	LD055-U	F-0459Q LD-2/3 Rundown Storage Bin	97-A-699-S2
LD056-P	LD056-U	F-0459R LD-2/3 Rundown Storage Bin	97-A-700-S2
LD057-P	LD057-U	F-0459S LD-2/3 Rundown Storage Bin	97-A-701-S2
LD058-P	LD058-U	F-0459T LD-2/3 Rundown Storage Bin	97-A-702-S2
LD059-P	LD059-U	F-0459U LD-2/3 Rundown Storage Bin	97-A-703-S2
LD060-P	LD060-U	F-0453A LD-1 Storage Bin	97-A-818
LD061-P	LD061-U	F-0453B LD-1 Storage Bin	97-A-819
LD062-P	LD062-U	F-0453C LD-1 Blending Silo	97-A-820
LD063-P	LD063-U	F-0453D Finishing Storage Bin	None
LD064-P	LD064-U	F-0453E Finishing Storage Bin	None
LD065-P	LD065-U	F-0453F LD-1 Storage Bin	97-A-821
LD066-P	LD066-U	F-0453G LD-1 Storage Bin	97-A-822
LD067-P	LD067-U	F-0453H LD-1 Storage Bin	97-A-823
LD068-P	LD068-U	F-0453J Finishing Storage Bin	None
LD069-P	LD069-U	F-0453K Finishing Storage Bin	None
LD070-P	LD070-U	F-0453L LD-1 Storage Bin	97-A-824
LD071-P	LD071-U	F-0453M LD-1 Storage Bin	97-A-825
LD072-P	LD072-U	F-0453N LD-1 Storage Bin	97-A-826
LD073-P	LD073-U	F-0453P LD-1 Storage Bin	97-A-827
LD074-P	LD074-U	F-0453Q LD-1 Storage Bin	97-A-828
LD075-P	LD075-U	F-0453R LD-1 Storage Bin	97-A-829

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
LD076-P	LD076-U	F-0453S LD-1 Storage Bin	97-A-830
LD077-P	LD077-U	F-0454A LD-1 Storage Bin	97-A-831
LD078-P	LD078-U	F-0454B LD-1 Storage Bin	97-A-832
LD079-P	LD079-U	F-0454C LD-1 Storage Bin	97-A-833
LD080-P	LD080-U	F-0454D LD-1 Storage Bin	97-A-834
LD081-P	LD081-U	F-0454E LD-1 Storage Bin	97-A-835
LD082-P	LD082-U	F-0454F LD-1 Storage Bin	97-A-836
LD083-P	LD083-U	Low Density Unit Fugitives	None
LD084-P	LD084-U	F-0452A LD-1 Quad Storage Bin	97-A-837
LD085-P	LD085-U	F-0452B LD-1 Quad Storage Bin	97-A-838
LD086-P	LD086-U	F-0452C LD-1 Quad Storage Bin	97-A-839
LD087-P	LD087-U	F-0452D LD-1 Quad Storage Bin	97-A-840
LD088-P	LD088-U	F-0452E LD-1 Quad Storage Bin	97-A-841
LD089-P	LD089-U	F-0452F LD-1 Quad Storage Bin	97-A-842
LD090-P	LD090-U	F-0452G LD-1 Quad Storage Bin	97-A-843
LD091-P	LD091-U	F-0452H LD-1 Quad Storage Bin	97-A-844
LD092-P	LD092-U	F-0452J LD-2/3 Quad Storage Bin	97-A-651-S2
LD093-P	LD093-U	F-0452K LD-2/3 Quad Storage Bin	97-A-652-S2
LD094-P	LD094-U	F-0452L LD-2/3 Quad Storage Bin	97-A-653-S2
LD095-P	LD095-U	F-0452M LD-2/3 Quad Storage Bin	97-A-654-S2
LD096-P	LD096A-U	J-0201A LD-1 "A" Make Up Compressor	97-A-845
	LD096B-U	J-0202A LD-1 "A" Purge Compressor	97-A-846
LD096F-P	LD096-U	Fugitive Emission: Primary Compressor Distance Piece	None
LD097-P	LD097A-U	J-0201B LD-1 "B" Make Up Compressor	97-A-847
	LD097B-U	J-0202B LD-1 "B" Purge Compressor	97-A-848
LD097F-P	LD097-U	Fugitive Emission: Primary Compressor Distance Piece	None
LD098-P	LD098-U	J-0202C LD-1 Purge Booster Compressor	97-A-849
LD098F-P		Fugitive Emission: Primary Compressor Distance Piece	None
LD099-P	LD099-U	J-0203A LD-1 "A" Recycle Compressor	97-A-850
LD099F-P		Fugitive Emission: Secondary Compressor Distance Piece	None
LD100-P	LD100-U	J-0203B LD-1 "B" Recycle Compressor	97-A-851
LD100F-P		Fugitive Emission: Secondary Compressor Distance Piece	None
LD101-P	LD101-U	J-0204A LD-1 "A" Hyper Compressor	97-A-852
LD101F-P		Fugitive Emission: Secondary Compressor Distance Piece	None
LD102-P	LD102-U	J-0204B LD-1 "B" Hyper Compressor	97-A-853
LD102F-P		Fugitive Emission: Secondary Compressor Distance Piece	None
LD103-P	LD103-U	J-0223 LD-1 Recycle Compressor	97-A-854
LD103F-P		Fugitive Emission: Secondary Compressor Distance Piece	None
LD104-P	LD104-U	J-0224 LD-1 Hyper Compressor	97-A-855
LD104F-P		Fugitive Emission: Secondary Compressor Distance Piece	None
LD105-P	LD105A-U	J-0701A LD-2A Primary/Flash Gas Compressor	None
	LD105B-U	F-0701A LD-2A Make Up Gas Suction Drum	None
	LD105C-U	F-0705A LD-2A Purge Compressor Suction Drum	None
	LD105D-U	F-0755A LD-2A Purge Gas Knockout Drum	None
	LD105E-U	F-0709A LD-2A Flash Gas 3rd St. Knockout Drum	None

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
	LD105F-U	F-0708A LD-2A Flash Gas 2nd St. Knockout Drum	None
	LD105G-U	F-0707A LD-2A Flash Gas 1st St. Knockout Drum	None
LD105A-P	LD105H-U	J-0701A LD-2A Primary Compressor Leak Gas	None
	LD105I-U	J-0701A LD-2A Primary Compressor	None
	LD105J-U	J-0702A Secondary Compressor Leak Gas	None
	LD106G-U	F-0707B LD-2B Flash Gas 1st St. Knockout Drum	None
	LD105F-P	LD105-U	Fugitive Emission: Primary Compressor Distance Piece
LD106-P	LD106A-U	J-0701B LD-2B Primary/Flash Gas Compressor	None
	LD106B-U	F-0701B LD-2B Make Up Gas Suction Drum	None
	LD106C-U	F-0705B LD-2B Purge compressor Suction Drum	None
	LD106D-U	F-0755B LD-2B Purge Gas Knockout Drum	None
	LD106E-U	F-0709B LD-2B Flash Gas 3rd St. Knockout Drum	None
	LD106F-U	F-0708B LD-2B Flash Gas 2nd St. Knockout Drum	None
	LD106G-U	F-0707B LD-2B Flash Gas 1st St. Knockout Drum	None
LD106A-P	LD106H-U	J-0701B LD-2B Primary Compressor Leak Gas	None
	LD106I-U	J-0701B LD-2B Primary Compressor	None
	LD106J-U	J-0702B Secondary Compressor Leak Gas	None
LD106F-P	LD106-U	Fugitive Emission: Primary Compressor Distance Piece	None
LD107-P	LD107-U	J-0702A LD-2A Secondary Compressor	None
LD107F-P		Fugitive Emission: Secondary Compressor Distance Piece	None
LD108-P	LD108-U	J-0702B LD-2B Secondary Compressor	None
LD108F-P		Fugitive Emission: Secondary Compressor Distance Piece	None
LD1078F-P	LD1078-U	Fugitive Emission: Secondary Compressor Distance Piece	None
LD109-P	LD109A-U	J-0801 LD-3 Primary/Flash Gas Compressor	97-A-655-S2
	LD109B-U	J-0802 LD-3 Secondary Compressor	97-A-655-S2
LD109F-P	LD109-U	Fugitive Emission: Primary Compressor Distance Piece	None
LD109A-P	LD109C-U	F-0809 LD-3 Flash Gas 3rd St. Knockout Drum	None
	LD109D-U	F-0801 LD-3 Make up Gas Suction Drum	None
	LD109E-U	J-0820 LD-3 Modifier Pump	None
LD109B-P	LD109F-U	F-0805 LD-3 Flash Gas Suction Drum	None
	LD109G-U	J-0801 LD-3 Primary Compressor	None
	LD109H-U	F-0807 LD-3 Flash gas 1st St. Knockout Drum	None
	LD109I-U	F-0808 LD-3 Flash Gas 2nd St. Knockout Drum	None
	LD109J-U	J-0801 LD-3 Primary Compressor Leak Gas	None
	LD109K-U	J-0802 LD-3 Secondary Compressor Leak Gas	None
	LD109AF-P	LD109A-U	Fugitive Emission: Primary Compressor Distance Piece
LD109BF-P	LD109B-U	Fugitive Emission: Secondary Compressor Distance Piece	None
LD110-P	LD110-U	LD-1 Wax Works	97-A-856
LD111-P	LD111-U	LD-2A Wax Works	None
LD112-P	LD112-U	LD-2B Wax Works	None
LD113-P	LD113-U	LD 3 Wax Works	97-A-656-S2
LD114-P	LD114A-U	F-0201 LD-1 Make-Up Gas Suction Drum	97-A-857
	LD114B-U	F-0205 LD-1 Purge Compressor Suction Drum	97-A-858
LD115-P	LD115-U	F-0220 LD-1 High Pressure Separator	97-A-859
LD115A-P		F-0220 LD-1 High Pressure Separator	97-A-859

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
LD116-P	LD116-U	F-0703A LD-2A High Pressure Separator	None
LD116A-P		F-0703A LD-2A High Pressure Separator	None
LD117-P	LD117-U	F-0703B LD-2B High Pressure Separator	None
LD117A-P		F-0703B LD-2B High Pressure Separator	None
LD118-P	LD118-U	F-0704A LD-2A Low Pressure Separator	None
LD118A-P		F-0704A LD-2A Low Pressure Separator	None
LD119-P	LD119-U	F-0704B LD-2B Low Pressure Separator	None
LD119A-P		F-0704B LD-2B Low Pressure Separator	None
LD120-P	LD120-U	F-0803 LD-3 High Pressure Separator	97-A-657-S2
LD120A-P		F-0803 LD-3 High Pressure Separator	97-A-657-S2
LD121-P	LD121-U	F-0804 LD-3 Low Pressure Separator	97-A-658-S2
LD121A-P		F-0804 LD-3 Low Pressure Separator	97-A-658-S2
LD124-P	LD124-U	F-0231A LD-1 Low Pressure Separator	None
LD124A-P		F-0231A LD-1 Low Pressure Separator	None
LD125-P	LD125-U	F-0231B LD-1 Low Pressure Separator	None
LD125A-P		F-0231B LD-1 Low Pressure Separator	None
LD126-P	LD126-U	F-0232 LD-1 Low Pressure Separator	None
LD126A-P		F-0232 LD-1 Low Pressure Separator	None
LD127-P	LD127-U	LD 1, 2 Analyzer House	03-A-405 to 408
LD128-P	LD128-U	LD 2, 3 Analyzer House	03-A-409 to 411
LD129-P	LD129-U	Compressor Vent	None
Product Packing and Shipping			
PP001-P	PP001-U	L-0520 HDPE Cartoning Elutriator	None
PP002-P	PP002-U	L-0570 LDPE Cartoning Elutriator	None
PP003-P	PP003-U	L-0522 HDPE Cartoning Scalperator	None
PP004-P	PP004-U	L-0572 LDPE Cartoning Scalerator	None
PP005-P	PP005-U	L-0501 HDPE Old Hopper Car Elutriator	None
PP006-P	PP006-U	L-0551 LDPE Old Hopper Car Elutriator	None
PP007-P	PP007-U	L-0597 LDPE Old Hopper Car Scalperator	None
PP008-P	PP008-U	L-0503 HDPE Old Hopper Car Scalperator	None
PP009-P	PP009-U	L-0593 LDPE Hopper Truck Elutriator	None
PP010-P	PP010-U	L-0568 HDPE Hopper Truck Elutriator	None
PP011-P	PP011-U	L-0502 HDPE New Hopper Car Elutriator	79-A-102
PP012-P	PP012-U	L-0509 HDPE New Hopper Car Scalperator	79-A-102
PP013-P	PP013-U	L-0557 LDPE New Hopper Car Scalperator	79-A-102
PP014-P	PP014-U	L-0559 LDPE New Hopper Car Elutriator	79-A-102
PP015-P	PP015-U	L-0594 LDPE Hopper Truck Scalperator	None
PP016-P	PP016-U	L-0569 HDPE Hopper Truck Scalperator	None
PP017-P	PP017-U	L-0589A LDPE New Hopper Car Deduster through L-0589B Baghouse	98-A-599
PP018-P	PP018-U	L-0528 HDPE North Powder Loading Dust Collector	None
PP019-P	PP019-U	L-0529 HDPE South Powder Loading Dust Collector	None
PP020-P	PP020-U	F-0504 HDPE North Powder Feed Bin	None
PP021-P	PP021-U	F-0505 HDPE South Powder Feed Bin	None
PP022-P	PP022-U	Baghouse Vent	08-A-659

Insignificant Activities Equipment List

Insignificant Emission Unit Number	Insignificant Emission Unit Description
WH001-U	Welding Hood
WH002-U	Welding Hood
WH003-U	Welding Hood
PC001-U	Parts Cleaner
PC002-U	Parts Cleaner
SV001-U	Sewer Vents
SV002-U	Sewer Vents
SV003-U	Sewer Vents
SV004-U	Sewer Vents
SV005-U	Sewer Vents
SV006-U	Sewer Vents
SV007-U	Sewer Vents
SV008-U	Sewer Vents
SV009-U	Sewer Vents
SV010-U	Sewer Vents
SV011-U	Sewer Vents
SV012-U	Sewer Vents
SV013-U	Sewer Vents
SV014-U	Sewer Vents
SV015-U	Sewer Vents
SV016-U	Sewer Vents
SV017-U	Sewer Vents
SV018-U	Sewer Vents
SV019-U	Sewer Vents
SV020-U	Sewer Vents
SV021-U	Sewer Vents
SV022-U	Sewer Vents
PB001-U	Poly Burning
LH001-U	Lab Hood Vent
LH002-U	Lab Hood Vent
LH003-U	Lab Hood Vent
LH004-U	Lab Hood Vent
LH005-U	Lab Hood Vent
LH006-U	Lab Hood Vent
LH007-U	Lab Hood Vent
LH008-U	Lab Hood Vent
LH009-U	Lab Hood Vent
LH010-U	Lab Hood Vent
LH011-U	Lab Hood Vent
BH001-U	Building Heater - ENG/QC (1.5 MMBtu/hr)
BH002-U	Building Heater - ENG (0.51 MMBtu/hr)
BH003-U	Building Heater - E&I (0.13 MMBtu/hr)
BH004-U	Building Heater - E&I (0.13 MMBtu/hr)

Insignificant Emission Unit Number	Insignificant Emission Unit Description
BH005-U	Building Heater - E&I (0.56 MMBtu/hr)
BH007-U	Building Heater - Admin (1.05 MMBtu/hr)
BH008-U	Building Heater - Warehouse (0.125 MMBtu/hr)
BH009-U	Building Heater - Warehouse (0.13 MMBtu/hr)
BH010-U	Building Heater - Warehouse (0.125 MMBtu/hr)
BH011-U	Building Heater - Warehouse (0.125 MMBtu/hr)
BH012-U	Building Heater - Warehouse (0.125 MMBtu/hr)
BH013-U	Building Heater - Warehouse (0.125 MMBtu/hr)
BH014-U	Building Heater - Warehouse (0.125 MMBtu/hr)
BH015-U	Building Heater - Warehouse (0.125 MMBtu/hr)
BH016-U	Building Heater - Safety (0.56 MMBtu/hr)
BH017-U	Building Heater - Safety WH (0.075MMBtu/hr)
BH018-U	BH0017-U Building Heater - Safety (0.56 MMBtu/hr)
BH019-U	Building Heater - Safety WH (0.075 MMBtu/hr)
BH020-U	Building Heater - Safety WH (0.075 MMBtu/hr)
BH021-U	Building Heater - Safety WH (0.075 MMBtu/hr)
BH022-U	Building Heater - Main Gate (0.563 MMBtu/hr)
BH023-U	Building Heater - Ambulance Garage (0.15 MMBtu/hr)
FT001-U	Fire Training Grounds
SF001-U	SB-153 Solvent Flushing
VB001-U	J-503 K-tron Purge Vacuum Blower
VB002-U	J-510 HD Reclaim Vacuum Blower
VB003-U	J-503 Car-washing Reclaim Vacuum Blower
VB004-U	FJ-0346 Catalyst Activation Blower
VB005-U	Catalyst Activation Vacuum Blower
AH001-U	H-110 Analyzer House
AH002-U	H-120 Analyzer House
ST001-U	F-175, Fresh Lube Oil Tank
ST002-U	F-143 Ethanol Tank in Olefines
ST003-U	F-145, Quench Settler Blowdown Tank
ST004-U	F-2106, Spent Caustic Storage Tank
ST005-U	Additive Tank for NALCO EC3071A
ST006-U	Additive Tank for Baker Polyfree 305C

II. Plant-Wide Conditions

Facility Name: Equistar Chemicals, LP

Permit Number: [04-TV-008R1-M001](#)

Permit conditions are established in accord with 567 Iowa Administrative Code rule 22.108

Permit Duration

The term of this permit is: Five Years from permit issuance

Commencing on: December 14, 2010

Ending on: December 13, 2015

Amendments, modifications and reopenings of the permit shall be obtained in accordance with 567 Iowa Administrative Code rules 22.110 - 22.114. Permits may be suspended, terminated, or revoked as specified in 567 Iowa Administrative Code Rules 22.115.

Emission Limits

Unless specified otherwise in the Source Specific Conditions, the following limitations and supporting regulations apply to all emission points at this plant:

Opacity (visible emissions): 40% opacity

Authority for Requirement: 567 IAC 23.3(2)"d"

Sulfur Dioxide (SO₂): 500 parts per million by volume

Authority for Requirement: 567 IAC 23.3(3)"e"

Particulate Matter:

No person shall cause or allow the emission of particulate matter from any source in excess of the emission standards specified in this chapter, except as provided in 567 – Chapter 24. For sources constructed, modified or reconstructed after July 21, 1999, the emission of particulate matter from any process shall not exceed an emission standard of 0.1 grain per dry standard cubic foot of exhaust gas, except as provided in 567 – 21.2(455B), 23.1(455B), 23.4(455B) and 567 – Chapter 24.

For sources constructed, modified or reconstructed prior to July 21, 1999, the emission of particulate matter from any process shall not exceed the amount determined from Table I, or amount specified in a permit if based on an emission standard of 0.1 grain per standard cubic foot of exhaust gas or established from standards provided in 23.1(455B) and 23.4(455B).

Authority for Requirement: 567 IAC 23.3(2)"a"

Fugitive Dust: Attainment and Unclassified Areas - No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered repaired or demolished, with the exception of farming operations or dust generated by ordinary travel on unpaved public roads, without taking reasonable precautions to prevent particulate matter in quantities sufficient to create a nuisance, as defined in Iowa Code section 657.1, from becoming airborne. All persons, with the above exceptions, shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate. The highway authority shall be responsible for taking corrective action in those cases where said authority has received complaints of or has actual knowledge of dust conditions which require abatement pursuant to this subrule. Reasonable precautions may include, but not limited to, the following procedures.

1. Use, where practical, of water or chemicals for control of dusts in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land.
2. Application of suitable materials, such as but not limited to asphalt, oil, water or chemicals on unpaved roads, material stockpiles, race tracks and other surfaces which can give rise to airborne dusts.
3. Installation and use of containment or control equipment, to enclose or otherwise limit the emissions resulting from the handling and transfer of dusty materials, such as but not limited to grain, fertilizers or limestone.
4. Covering at all times when in motion, open-bodied vehicles transporting materials likely to give rise to airborne dusts.
5. Prompt removal of earth or other material from paved streets or to which earth or other material has been transported by trucking or earth-moving equipment, erosion by water or other means.

Authority for Requirement: 567 IAC 23.3(2)"c"

Compliance Plan

The owner/operator shall comply with the applicable requirements listed below. The compliance status is based on information provided by the applicant.

Unless otherwise noted in Section III of this permit, Equistar Chemicals, LP is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which become effective during the permit term, Equistar Chemicals, LP shall comply with such requirements in a timely manner.

Authority for Requirement: 567 IAC 22.108(15)

40 CFR 60 Subpart A Requirements

This facility is an affected source and these General Provisions apply to the facility. Applicable requirements are incorporated in the Emission Point Specific conditions.

Authority for Requirements: 40 CFR 60 Subpart A
567 IAC 23.1(2)

40 CFR 60 Subpart DDD Requirements

This facility is subject to 40 CFR 60 Subpart DDD – Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing Industry. The affected emission units include HD009A-U through HD009H-U, HD010-U, HD011-U, HD018-U, HD019-U, HD020-U, HD050C-U, HD050D-U, HD077-U through HD080-U, HD084-U through HD091-U, HD121-U, HD122-U, and PP021-U.

Applicable requirements are incorporated in the Emission Point Specific conditions.

Authority for Requirements: 40 CFR 60 Subpart DDD
576 IAC 23.1(2) "mmm"

40 CFR 61 Subpart A Requirements

This facility is subject to 40 CFR 61 Subpart A – General Provisions.

Applicable requirements are incorporated in the Emission Point Specific conditions.

Authority for Requirements: 40 CFR 61 Subpart A

40 CFR 61 Subpart J Requirements

This facility is subject to 40 CFR 61 Subpart J – National Emission Standard for Equipment Leaks (Fugitive Emission Sources) of Benzene. The affected units are some of the fugitive emission sources reported under EP021-P (Ethylene Unit Fugitive).

Applicable requirements are incorporated in the Emission Point Specific conditions.

Authority for Requirements: 40 CFR 61 Subpart J
576 IAC 23.1(3) "f"

Per 40 CFR 63.1100(g)(4), affected units that are subject to part 61 subparts J, V and part 63 subpart YY are required only to comply with the equipment leak requirements of part 63 subpart YY.

40 CFR 61 Subpart V Requirements

This facility is subject to 40 CFR 61 Subpart V – National Emission Standard for Equipment Leaks (Fugitive Emission Sources). The affected units are some of the fugitive emission sources reported under EP021-P (Ethylene Unit Fugitive).

Applicable requirements are incorporated in the Emission Point Specific conditions.

Per 40 CFR 63.1100(g)(4), affected units that are subject to part 61 subparts J, V and part 63 subpart YY are required only to comply with the equipment leak requirements of part 63 subpart YY.

Authority for Requirements: 40 CFR 61 Subpart V
576 IAC 23.1(3) "f"

40 CFR 61 Subpart BB Requirements

This facility is subject to 40 CFR 61 Subpart BB – National Emission Standard for Benzene Emissions from Benzene Transfer Operations. The affected units are EP022B-U (DAC Truck), EP022C-U (Residual Oil Truck), and EP022D-U (DAC Rail Car).

Applicable requirements are incorporated in the Emission Point Specific conditions.

Authority for Requirements: 40 CFR 61 Subpart BB
567 IAC 23.1(3) "m"

40 CFR 61 Subpart FF Requirements

This facility is subject to 40 CFR 61 Subpart FF – National Emission Standard for Benzene Waste Operations. The affected units are EP021-U, EP051-U, and EP052-U.

Applicable requirements are incorporated in the Emission Point Specific conditions.

Authority for Requirements: 40 CFR 61 Subpart FF

567 IAC 23.1(3) "n"

40 CFR 63 Subpart A Requirements

This facility is subject to 40 CFR 63 Subpart A – General Provisions.

Applicable requirements are incorporated in the Emission Point Specific conditions.

Authority for Requirements: 40 CFR 63 Subpart A

567 IAC 23.1 (4) "a"

40 CFR 63 Subpart XX Requirements

Per 40 CFR §63.1083, the heat exchange systems in this facility is subject to subpart XX because Subpart XX is referenced from subpart YY of part 63. Therefore, this facility is subject to 40 CFR 63 Subpart XX – National Emission Standards for Ethylene Manufacturing Process Units: Heat Exchange Systems and Waste Operations. The affected units include the cooling towers, EP020H-U through EP020V-U.

The permittee must comply with the requirements for continuous butadiene waste streams in 40 CFR §63.1095(a), and the requirements for benzene waste streams in 40 CFR §63.1095 (b).

Compliance date, initial notification, SSM plan, and notification of compliance status are the same as those for 40 CFR 63 Subpart YY.

Applicable requirements are incorporated in the Emission Point Specific conditions.

Authority for Requirements: 40 CFR 63 Subpart XX; 40 CFR 63 Subpart YY

567 IAC 23.1 (4) "ax"; 567 IAC 23.1 (4) "ay"

40 CFR 63 Subpart YY Requirements

The facility is subject to subpart YY because it fits the applicability requirements of 40 CFR §63.1100(a) and 1103(e) for an ethylene production source category. Affected sources include storage vessels, process vents, transfer racks, equipment leaks, wastewater streams, heat exchange systems (including cooling towers), and all ethylene cracking furnaces and associated decoking operations. The affected units included EP021-U, EP051-U, and EP052-U.

Compliance Date 40 CFR §63.1102:

- The ethylene production part of MACT was promulgated on July 12, 2002.
- All existing affected sources must demonstrate compliance with all applicable requirements no later than July 12, 2005.
- Any new affected source that has an initial startup after July 12, 2002 must be able to demonstrate compliance with all applicable requirements upon startup of the source.
- 40 CFR §63.1102 also specifies the compliance schedule for other types of affected sources.

Initial Notifications 40 CFR §63.1110(c):

- An initial notification must be submitted and postmarked within 1 year after July 12, 2002.
- The initial notification shall include the information specified in 40 CFR §63.1110(c)(2) through (7).

Startup, shutdown, and malfunction 40 CFR §63.1111:

- A Startup, Shutdown, and Malfunction (SSM) plan must be developed in compliance with 40CFR §63.1111(a) by the compliance date.

Notification of Compliance Status 40 CFR §63.1110(d):

- A Notification of Compliance Status including information specified in 40 CFR §63.1110(d)(1) shall be submitted 240 days after the compliance date for existing sources. Initial notification was sent to the EPA on 7/11/2003, and a copy was received by IDNR on 7/17/2003.

40 CFR 63 Subpart FFFF Requirements

This facility is subject to 40 CFR 63 Subpart FFFF – National Emission Standard for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing. The affected units include LD001-U, LD002-U, LD011-U, LD017B-U, and LD018B-U.

Applicable requirements are incorporated in the Emission Point Specific conditions.

Authority for Requirements: 40 CFR 63 Subpart FFFF
567 IAC 23.1 (4) "cf"

40 CFR 63 Subpart ZZZZ Requirements

This facility is subject to 40 CFR 63 Subpart ZZZZ – National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. The affected units include EP034-P, EP035-P and EP036-P.

Authority for Requirements: 40 CFR 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"

Section 112(j) of the Clean Air Act (MACT Hammer) Compliance Plan

A&B Boilers (EP015W-P, EP015E-P, EP016W-P, and EP016E-P), and Boiler B-103 (EP014-P), Boiler B107 (EP040-P) are of the source type regulated by the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters (567 IAC 23.1(4)"dd", 40 CFR Part 63, Subpart DDDDD). On July 30, 2007, the DC Circuit Court vacated this entire standard. Since the standard has been vacated, the units may be subject to the requirements of section 112(j) of the Clean Air Act. Section 112(j) requires the facility to submit an application addressing the control of HAP emissions from these units and also requires that the MACT (Maximum Achievable Control Technology) be incorporated into the facility's Title V operating permit. The proposed MACT boiler rules are scheduled to be finalized by December 2010. U.S. EPA administrator has since requested and received a 30 day extension on this court ordered deadline to January 16,2010. The DNR is not requiring affected facilities to submit 112(j) applications at this time. However, the DNR recommends that affected facilities submit the minimum information to satisfy 112(j) application requirements. The DNR is suggesting submittal of this information by January 31, 2009, because this date is 18 months from the date the D.C. Court issued its mandate. Equistar Chemicals LP has submitted Part I application to IDNR on January 29, 2009 and Part II on March 29, 2009. (Refer to the Air Quality Bureau letter dated December 31, 2008 for additional detail.)

III. Emission Point-Specific Conditions

Facility Name: Equistar Chemicals, LP

Permit Number: 04-TV-008R1-M001

III. Part A. Ethylene Plant

Emission Point ID Number: Furnaces (EP001-P through EP013-P)

Associated Equipment

Emission Unit Descriptions, Raw Material/Fuel, and Rated Capacity are listed in the following table:

Table Furnaces-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity MMBtu/hr
EP001-P	EP001-U	LB-0101A A-Furnace	Non-sulfured Natural Gas	82
EP002-P	EP002-U	LB-0101B B-Furnace	Non-sulfured Natural Gas	82
EP003-P	EP003-U	LB-0101C C-Furnace	Non-sulfured Natural Gas	82
EP004-P	EP004-U	LB-0101D D-Furnace	Non-sulfured Natural Gas	82
EP005-P	EP005-U	LB-0101E E-Furnace	Non-sulfured Natural Gas	82
EP006-P	EP006-U	LB-0101F F-Furnace	Non-sulfured Natural Gas	82
EP007-P	EP007-U	LB-0101G G-Furnace	Non-sulfured Natural Gas	82
EP008-P	EP008-U	LB-0101H H-Furnace	Non-sulfured Natural Gas	82
EP009-P	EP009-U	LB-0101I I-Furnace	Non-sulfured Natural Gas	82
EP010-P	EP010-U	LB-0101J J-Furnace	Non-sulfured Natural Gas	82
EP011-P	EP011-U	LB-0107A K-Furnace	Non-sulfured Natural Gas	169
EP012-P	EP012-U	LB-107B L-Furnace	Non-sulfured Natural Gas	169
EP013-P	EP013-U	LB-0120 M-Furnace	Non-sulfured Natural Gas	167

Table Furnaces-2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
EP001-P	EP001-U	LB-0101A A-Furnace	None	None	None
EP002-P	EP002-U	LB-0101B B-Furnace	None	None	None
EP003-P	EP003-U	LB-0101C C-Furnace	None	None	None
EP004-P	EP004-U	LB-0101D D-Furnace	None	None	08-A-245
EP005-P	EP005-U	LB-0101E E-Furnace	None	None	08-A-246
EP006-P	EP006-U	LB-0101F F-Furnace	None	None	None
EP007-P	EP007-U	LB-0101G G-Furnace	None	None	None
EP008-P	EP008-U	LB-0101H H-Furnace	None	None	None
EP009-P	EP009-U	LB-0101I I-Furnace	None	None	None
EP010-P	EP010-U	LB-0101J J-Furnace	None	None	None
EP011-P	EP011-U	LB-0107A K-Furnace	None	None	None
EP012-P	EP012-U	LB-107B L-Furnace	None	None	None
EP013-P	EP013-U	LB-0120 M-Furnace	None	None	89-A-030

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Table Furnaces-3

EP	EU	Opacity	PM	SO ₂ ppmv	NO _x
EP001-P	EP001-U	40%	0.8 lb/MMBtu	500	None
EP002-P	EP002-U	40%	0.8 lb/MMBtu	500	None
EP003-P	EP003-U	40%	0.8 lb/MMBtu	500	None
EP004-P	EP004-U	40% ¹	0.1 gr/dscf	500	None
EP005-P	EP005-U	40% ¹	0.1 gr/dscf	500	None
EP006-P	EP006-U	40%	0.8 lb/MMBtu	500	None
EP007-P	EP007-U	40%	0.8 lb/MMBtu	500	None
EP008-P	EP008-U	40%	0.8 lb/MMBtu	500	None
EP009-P	EP009-U	40%	0.8 lb/MMBtu	500	None
EP010-P	EP010-U	40%	0.8 lb/MMBtu	500	None
EP011-P	EP011-U	40%	0.2 lb/MMBtu	500	None
EP012-P	EP012-U	40%	0.2 lb/MMBtu	500	None
EP013-P	EP013-U	40%	0.6 lb/MMBtu	500	38.3 lb/hr; 167.0 ton/yr

⁽¹⁾An exceedance of the indicator opacity of 25% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Table Furnaces-4

Pollutant	Emission Limits	Authority of Requirement
Opacity	40%	567 IAC 23.3(2) "d"
PM	0.8 lb/MMBtu	567 IAC 23.3(2) "b" (1)
PM	0.6 lb/MMBtu	567 IAC 23.3(2) "b" (3)
PM	0.2 lb/MMBtu	567 IAC 23.3(2) "b" (3)
PM	0.1 gr/dscf (EP004-P)	567 IAC 23.3(2) "a" IDNR Construction Permit 08-A-245
PM	0.1 gr/dscf (EP005-P)	567 IAC 23.3(2) "a" IDNR Construction Permit 08-A-246
SO ₂	500 ppmv	567 IAC 23.3(3) "e"
NO _x	38.3 lb/hr; 167.0 ton/yr	IDNR Construction Permit 89-A-030

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Furnaces-5

	EP004-P	EP005-P
Stack Height, (ft, from the ground)	81	81
Stack Opening (diameter, inches)	38	38
Exhaust Flow Rate (scfm)	17,195	18,847
Exhaust Temperature (°F)	234	234
Discharge Style	Vertical without rain cap or with unobstructing rain cap	Vertical without rain cap or with unobstructing rain cap
Authority for Requirement:	IDNR Construction Permit 08-A-245	IDNR Construction Permit 08-A-246

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: Boilers (EP014-P through EP019-P)

Associated Equipment

Emission Unit Descriptions, Raw Material/Fuel and Rated Capacity are listed in the following table:

Table Boilers-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity MMBtu/hr
EP014-P	EP014-U	B-0103 Gas Drier	Nonsulfured Fuel Gas	4.65
EP015E-P	EP015-U	LB-0102A A-Boiler	Nonsulfured Fuel Gas	244.0
EP015W-P		LB-0102A A-Boiler	Nonsulfured Fuel Gas	244.0
EP016E-P	EP016-U	LB-0102B B-Boiler	Nonsulfured Fuel Gas	244.0
EP016W-P		LB-0102B B-Boiler	Nonsulfured Fuel Gas	244.0
EP017-P	EP017-U	LB-0105 C-Boiler	Nonsulfured Natural Gas	178.0 (may vary)
EP018-P	EP018-U	LB-0106A D-Boiler	Nonsulfured Fuel Gas	178.0 (may vary)

Table Boilers -2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
EP014-P	EP014-U	B-0103 Gas Drier	None	None	None
EP015E-P	EP015-U	LB-0102A A-Boiler	None	None	89-A-028
EP015W-P		LB-0102A A-Boiler	None	None	
EP016E-P	EP016-U	LB-0102B B-Boiler	None	None	89-A-029
EP016W-P		LB-0102B B-Boiler	None	None	
EP017-P	EP017-U	LB-0105 C-Boiler (Natural Gas Fired)	None	None	None
EP018-P	EP018-U	Nonsulfured Fuel Gas	None	None	None

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Table Boilers-3

EP	EU	Opacity	PM lb/MMBtu	SO ₂	NO _x
EP014-P	EP014-U	40%	0.8	500 ppmv	None
EP015E-P	EP015-U	40%	0.8 ¹	500 ppmv ²	176.7 lb/hr ⁴
EP015W-P		40%		2.5 lb/MMBtu ³	774.0 ton/yr ⁴
EP016E-P	EP016-U	40%	0.8 ¹	500 ppmv ²	176.7 lb/hr ⁴
EP016W-P		40%		2.5 lb/MMBtu ³	774.0 ton/yr ⁴
EP017-P	EP017-U	40%	0.8	500 ppmv	None
EP018-P	EP018-U	40%	0.6	2.5 lb/MMBtu	None

1. Combined PM emission limit for the whole unit.
2. Combined SO₂ emission limit for EP015W-P and EP015W-P when combusting natural gas.
3. Combined SO₂ emission limit for EP016W-P and EP016W-P when combusting fuel oil.
4. Combined NO_x emission limit for EP016W-P and EP016W-P.

Table Boilers-4

Pollutant	Emission Limits	Authority of Requirement
Opacity	40%	567 IAC 23.3(2)"d"
PM	0.8 lb/MMBtu	567 IAC 23.3(2)"b"(1)
PM	0.6 lb/MMBtu	567 IAC 23.3(2)"b"(3)
SO ₂	500 ppmv	567 IAC 23.3(3)"e"
SO ₂	2.5 lb/MMBtu	567 IAC 23.3(3) "b" (2)
NO _x	176.7 lb/hr; 774.0 ton/yr	IDNR Construction Permits 89-A-028; 89-A-029

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating Limits

1. No person shall allow, cause, or permit the combustion of number 1 or number 2 fuel oil exceeding a sulfur content of 0.5 percent by weight.

Authority for Requirement: 567 IAC 23.3(3)"b"(1)

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

1. The facility shall monitor the percent of sulfur by weight in the fuel oil as delivered. The documentation may be vendor supplied or facility generated.

Authority for Requirement: 567 IAC 22.108(3)

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Boilers-5

	EP015-U	EP016-U
Stack Height, (ft, from the ground)	130	130
Stack Opening (diameter, inches)	8'3"	8'3"
Exhaust Flow Rate (acfm)	123,000.0	123,000.0
Exhaust Temperature (°F)	~400	~400
Discharge Style	NA	NA
Authority for Requirement:	IDNR Construction Permit 89-A-028	IDNR Construction Permit 89-A-029

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: Cooling Towers (EP020H-P through EP020V-P)

Associated Equipment

Table Cooling Towers-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity MMgal/hr
EP020H-P	EP020H-U	U-2202 Cooling Tower	Cooling Water	0.66
EP020I-P	EP020I-U	U-2202 Cooling Tower	Cooling Water	0.66
EP020J-P	EP020J-U	U-2202 Cooling Tower	Cooling Water	0.66
EP020K-P	EP020K-U	UJ-2210 Cooling Tower	Cooling Water	0.385
EP020L-P	EP020L-U	UJ-2210 Cooling Tower	Cooling Water	0.385
EP020M-P	EP020M-U	UJ-2210 Cooling Tower	Cooling Water	0.385
EP020N-P	EP020N-U	UJ-2210 Cooling Tower	Cooling Water	0.385
EP020O-P	EP020O-U	UJ-2210 Cooling Tower	Cooling Water	0.385
EP020P-P	EP020P-U	UJ-2210 Cooling Tower	Cooling Water	0.385
EP020Q-P	EP020Q-U	UJ-2210 Cooling Tower	Cooling Water	0.385
EP020R-P	EP020R-U	UJ-2210 Cooling Tower	Cooling Water	0.385
EP020S-P	EP020S-U	UJ-2210 Cooling Tower	Cooling Water	0.385
EP020T-P	EP020T-U	UJ-2210 Cooling Tower	Cooling Water	0.385
EP020U-P	EP020U-U	UJ-2210 Cooling Tower	Cooling Water	0.385
EP020V-P	EP020V-U	UJ-2210 Cooling Tower	Cooling Water	0.385

Table Cooling Towers -2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
EP020H-P	EP020H-U	U-2202 Cooling Tower	None	None	None
EP020I-P	EP020I-U	U-2202 Cooling Tower	None	None	None
EP020J-P	EP020J-U	U-2202 Cooling Tower	None	None	None
EP020K-P	EP020K-U	UJ-2210 Cooling Tower	None	None	None
EP020L-P	EP020L-U	UJ-2210 Cooling Tower	None	None	None
EP020M-P	EP020M-U	UJ-2210 Cooling Tower	None	None	None
EP020N-P	EP020N-U	UJ-2210 Cooling Tower	None	None	None
EP020O-P	EP020O-U	UJ-2210 Cooling Tower	None	None	None
EP020P-P	EP020P-U	UJ-2210 Cooling Tower	None	None	None
EP020Q-P	EP020Q-U	UJ-2210 Cooling Tower	None	None	None
EP020R-P	EP020R-U	UJ-2210 Cooling Tower	None	None	None
EP020S-P	EP020S-U	UJ-2210 Cooling Tower	None	None	None
EP020T-P	EP020T-U	UJ-2210 Cooling Tower	None	None	None
EP020U-P	EP020U-U	UJ-2210 Cooling Tower	None	None	None
EP020V-P	EP020V-U	UJ-2210 Cooling Tower	None	None	None

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity

Emission Limit(s): 40%

Authority for Requirement: 567 IAC 23.3(2) "d"

Pollutant: Particulate Matter (PM)

Emission Limit(s): 0.1 gr/dscf

Authority for Requirement: 567 IAC 23.3(2) "a"

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

- a. The permittee must comply with the heat exchange system monitoring, leak detection and repair, record keeping and reporting requirements in 40 CFR 63.1085.
- b. The permittee must comply with the requirements for continuous butadiene waste streams in 40 CFR 63.1095(a), and the requirements for benzene waste streams in 40 CFR 63.1095(b).
- c. Compliance date, initial notification, SSM plan, and notification of compliance status are the same as those for 40 CFR 63 Subpart YY.

Authority for Requirement: 40 CFR 63 Subpart XX
40 CFR 63 Subpart YY
567 IAC 23.1(4) "ax"
567 IAC 23.1(4) "ay"

NSPS and NESHAP Applicability

These cooling towers are subject to NESHAP Subpart XX – National Emission Standards for Ethylene Manufacturing Process Units: Heat Exchange Systems and Waste Operations.

Authority for Requirement: 40 CFR 63 Subpart XX
567 IAC 23.1(4) "ax"

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP021-P (Fugitive)

Associated Equipment

Associated Emission Unit ID Numbers: EP021-U
Emissions Control Equipment ID Number: None
Emissions Control Equipment Description: None
Continuous Emissions Monitors ID Numbers: None

Emission Unit vented through this Emission Point: EP021-U
Emission Unit Description: Ethylene Unit Fugitive
Raw Material/Fuel: Process Gas
Rated Capacity: 8760 hr/yr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

No emission limits are required at this time.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

NESHAP Part 61 Subpart J Requirements:

- a. Some of the fugitive emission sources reported under EP021-U are subject to 40 CFR 61 Subpart J. The affected units include pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, surge control vessels, bottoms receivers, and control devices or systems that either contain or contact a fluid (liquid or gas) that is at least 10 percent benzene by weight.
- b. Per 40 CFR 61.112(a), the units that are subject to subpart J shall comply with the requirements of part 61 subpart V.

Authority for Requirement: 40 CFR 61 Subpart J
567 IAC 23.1(3)"f"

- c. The facility shall compile and maintain a list of equipment that are subject to subparts J and V. The list shall be maintained on-site and available for inspection upon request by representatives of the Department of Natural Resources.

Authority for Requirement: 567 IAC 22.108(4)

- d. Per 40 CFR 63.1100(g)(4), affected units that are subject to Part 61 Subparts J, V and Part 63 Subpart YY are required only to comply with the equipment leak requirements of Part 63 Subpart YY.

Authority for Requirement: 40 CFR 63 Subpart YY
567 IAC 23.1(4)"ay"

NESHAP Part 61 Subpart V Requirements:

- a. Some of the fugitive emission sources reported under EP021-U are subject to Part 61 Subpart V due to the reference by Part 61 Subpart J. The affected units include pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, surge control vessels, bottoms receivers, and control devices or systems that either contain or contact a fluid (liquid or gas) that is at least 10 percent benzene by weight.
- b. Each piece of equipment to which this subpart applies shall be marked in such a manner that it can be distinguished readily from other pieces of equipment as required by 40 CFR 61.242-1(d).
- c. Pumps shall be monitored to detect leaks and repaired if leaks are detected in compliance with 40 CFR 61.242-2.
- d. Compressors shall be equipped with a seal system, monitored to detect leaks, and repaired if leaks are detected in compliance with 40 CFR 61.242-3.
- e. Pressure relief devices in gas/vapor service shall be operated and maintained in compliance with 40 CFR 61.242-4.
- f. Sampling connecting systems shall be equipped with a vent system, operated and maintained in compliance with 40 CFR 61.242-5.
- g. Open-ended valves or lines shall be operated in compliance with 40 CFR 61.242-6.
- h. Valves shall be monitored to detect leaks and repaired if leaks are detected in compliance with 40 CFR 61.242-7.
- i. Pressure relief devices in liquid service and connectors shall be monitored to detect leaks and repaired if leaks are detected in compliance with 40 CFR 61.242-8.
- j. Surge control vessels and bottoms receivers, if applicable, shall be equipped with a capturing system in compliance with 40 CFR 61.242-9.
- k. Closed-vent systems and control devices shall be designed, operated, and maintained in compliance with 40 CFR 61.242-11.
- l. The facility shall comply with the monitoring and testing procedures in 40 CFR 61.245.
- m. The facility shall comply with the record keeping requirements in 40 CFR 61.246.
- n. The facility shall comply with the reporting requirements, including the semiannual reports, in 40 CFR 61.247.

Authority for Requirement: 40 CFR 61 Subpart V
567 IAC 23.1(3)"g"

- o. The facility shall compile and maintain a list of equipment that are subject to subparts J and V. The list shall be maintained on-site and available for inspection upon request by representatives of the Department of Natural Resources.
- p. All records as required by 40 CFR 61.246 shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

Authority for Requirement: 567 IAC 22.108(4)

- q. Per 40 CFR 63.1100(g)(4), affected units that are subject to part 61 subparts J, V and part 63 subpart YY are required only to comply with the equipment leak requirements of part 63 subpart YY.

Authority for Requirement: 40 CFR 63 Subpart YY
567 IAC 23.1(4)"ay"

NESHAP Part 61 Subpart FF Requirements:

- a. Some of the fugitive emission sources reported under EP021-U are subject to Part 61 Subpart FF.
- b. The facility shall determine the total annual benzene quantity from facility waste in compliance with 40 CFR §61.355(a)(1), (a)(2), (a)(6), (b), and (c).
- c. Because the total annual benzene quantity from facility waste is equal to or greater than 11 tpy, the facility should comply with 40 CFR §61.355(a)(3) by complying with the control requirements of 40 CFR §61.342(c), (d), or (e), 346, 348 and record keeping and requirements of 40 CFR §61.356 and 357. However, per 40 CFR §342(c)(2), a waste stream is exempt from the control requirements provided that the facility demonstrates initially and, thereafter, at least once per year that the flow-weighted annual average benzene concentration for the waste stream is less than 10 ppmw as determined by the procedures specified in §61.355(c)(2) or §61.355(c)(3).

Authority for Requirement: 40 CFR 61 Subpart FF
567 IAC 23.1(3)"n"

- d. Per 40 CFR §63.1100(g)(6)(ii), compliance with 40 CFR §63.1103(e) of Part 63 Subpart YY shall constitute compliance with the Benzene Waste Operations NESHAP (40 CFR Part 61 Subpart FF) for waste streams that are subject to both the control requirements of §63.1103(e)(3) for ethylene production sources and the control requirements of 40 CFR Part 61 Subpart FF.

Authority for Requirement: 40 CFR 63 Subpart YY
567 IAC 23.1(4)"ay"

NSPS and NESHAP Applicability

Some of the fugitive emission sources reported under EP021-U are subject to the following:

- a. NESHAP Part 61 Subpart J – National Emission Standard for Equipment Leaks (Fugitive Emission Sources) of Benzene
- b. NESHAP Part 61 Subpart V – National Emission Standard for Equipment Leaks (Fugitive Emission Sources)
- c. NESHAP Part 61 Subpart FF – National Emission Standard for Benzene Waste Operations
- d. NESHAP Part 63 Subpart YY – National Emission Standards for Hazardous Air Pollutants for Source Categories: Generic Maximum Achievable Control Technology Standards

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP022-P (Fugitive Emissions)

Associated Equipment

Associated Emission Unit ID Numbers: EP022B-U; EP022C-U; EP022D-U

Emissions Control Equipment ID Number: None

Emissions Control Equipment Description: None

Continuous Emissions Monitors ID Numbers: None

Emission Unit Descriptions, Raw Material/Fuel and Rated Capacity are listed in the following table:

Table Fugitive-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity
EP022-P	EP022B-U	DAC Truck	Aromatic Compounds	18360.0 gal/hr
	EP022C-U	Residual Oil Truck	Residual Oil	10.0 ton/hr
	EP022D-U	DAC Rail Car	Aromatic Compounds	18360.0 gal/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Emission limits are not required at this time.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

- a. This emission point is subject to 40 CFR Part 61 Subpart BB – National Emission Standard for Benzene Emissions from Benzene Transfer Operations. Because the facility loads only liquid containing less than 70 weight-percent benzene, the facility is exempted from the requirements of this subpart except the recordkeeping and reporting requirements in §61.305(i).
- b. The facility shall comply with the recordkeeping and reporting requirements in 40 CFR 61.305(i).

Authority for Requirement: 40 CFR 61 Subpart BB
567 IAC 23.1(3) "m"

All records as required by 40 CFR 61.305(i) shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

Authority for Requirement: 567 IAC 22.108(4)

NSPS and NESHAP Applicability

This emission point is subject to 40 CFR Part 61 Subpart BB – National Emission Standard for Benzene Emissions from Benzene Transfer Operations.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: DAC Tanks (EP023-P and EP025-P)

Associated Equipment

Associated Emission Unit ID Numbers: EP023-U; EP025-U
Emissions Control Equipment ID Number: None
Emissions Control Equipment Description: Internal Floating Roof
Continuous Emissions Monitors ID Numbers: None

Emission Unit Descriptions, Raw Material/Fuel and Rated Capacity are listed in the following table:

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity
EP023-P	EP023-U	F-2105 DAC Tank	Aromatic Compounds	18,360.0 gal/hr
EP025-P	EP025-U	F-2147 DAC Tank	Aromatic Compounds	18,000.0 gal/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Emission limits are not required at this time.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating Limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP026-P

Associated Equipment

Associated Emission Unit ID Numbers: EP026-U
Emissions Control Equipment ID Number: None
Emissions Control Equipment Description: None
Continuous Emissions Monitors ID Numbers: None

Emission Unit vented through this Emission Point: EP026-U
Emission Unit Description: F-2139 Wash Oil Tank
Raw Material/Fuel: Wash Oil
Rated Capacity: 120.0 gal/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Emission limits are not required at this time.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating Limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: Waste Water Treatment Tanks (EP027-P through EP030-P)

Associated Equipment

Table Waste Water Treatment Tanks-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity gal/hr
EP027-P	EP027-U	F-2407 Equalization & Neutralization Tank	Waste Water	90,000
EP028-P	EP028-U	F-2413 Rapid Mix Tank	Waste Water	90,000
EP029-P	EP029-U	F-2408 Flocculation Tank	Waste Water	90,000
EP030-P	EP030-U	A-2408A & B Primary Clarifiers	Waste Water	90,000

Table Waste Water Treatment Tanks -2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
EP027-P	EP027-U	F-2407 Equalization & Neutralization Tank	None	None	None
EP028-P	EP028-U	F-2413 Rapid Mix Tank	None	None	None
EP029-P	EP029-U	F-2408 Flocculation Tank	None	None	None
EP030-P	EP030-U	A-2408A & B Primary Clarifiers	None	None	None

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Emission limits are not required at this time.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP031-P

Associated Equipment

Associated Emission Unit ID Numbers: EP031-U
Emissions Control Equipment ID Number: Cold Vent Heater
Emissions Control Equipment Description: None
Continuous Emissions Monitors ID Numbers: None

Emission Unit vented through this Emission Point: EP031-U
Emission Unit Description: Cold Vent Heater
Raw Material/Fuel: Emergency Vent Gases
Rated Capacity: 228.0 lb VOC/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Emission limit are not required at this time.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP033-P (Waste Gas Flare)

Associated Equipment

Associated Emission Unit ID Numbers: See the table below
 Emissions Control Equipment ID Number: EP033CE1
 Emissions Control Equipment Description: Stream Assisted Flare
 Continuous Emissions Monitors ID Numbers: None

Emission Unit Descriptions, Raw Material/Fuel and Rated Capacity are listed in the following table:

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity
EP033-P	EP033-U	H-110 Analyzer House, 2 gas chromatographs		400 cc/min combined flow
	EP033B-U	Emergency Vent Gases	Waste Gas	4,600 MMBtu/hr
	EP033C-U	Diglycolamine (DGA)Unit	DGA	45 gal/min
	EP037-U	H-120 Ethylene Analyzer House	Ethylene Gases	920 lb/yr
	EP047-U	H-107B Ethylene Analyzer House	Ethylene Gases	3,750 lb/hr
	LD001-U	Waste VA & Mineral Spirits Storage Vessel Pressure Tank F-2134A	Vinyl Acetate	25,445 gal
	LD002-U	Waste VA & Mineral Spirits Storage Vessel Pressure Tank F-2134B	Vinyl Acetate	25,445 gal
	LD011-U	Waste VA & Mineral Spirits Run Down Tank F-785	Vinyl Acetate	9,518 gal
	NA	Hexene Removal Tower	Hexene	920 lb/hr
	NA	Truck/Railcar Loading/Unloading	Hexene, vinyl acetate, DAC, wash oil, ethylene, propylene	3,500 lb/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity

Emission Limit(s): 40% ⁽¹⁾

Authority for Requirement: Iowa DNR Construction Permit 00-A-911-S4
 567 IAC 23.3(2) "d"

⁽¹⁾An exceedance of the indicator opacity of 10% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM)

Emission Limit(s): 0.1 gr/dscf

Authority for Requirement: Iowa DNR Construction Permit 00-A-911-S4
 567 IAC 23.3(2) "a"

Pollutant: Sulfur Dioxide (SO₂)

Emission Limit(s): 6.86 lb/hr⁽²⁾

Authority for Requirement: Iowa DNR Construction Permit 00-A-911-S4
567 IAC 23.3(3)

⁽²⁾ Contribution of DGA unit alone to previously grandfathered plant flare.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating Limits

- a. The feedstock treated by the DGA unit shall be tested for sulfur content a minimum of once per month.
- b. The owner or operator shall vent all emissions from the VA Tanks (EUs F-785, F-2134A and F-2134B) through a closed vent system to the flare, as required in 40 CFR §63.2470 (a). Periods of planned routine maintenance, during which the control system does not meet the requirements of Table 4 of Subpart FFFF, shall not exceed 240 hours per year (40 CFR §63.2470(d)).
- c. The owner or operator shall keep documents available, such as P&ID drawings or a list of units, which identify the units that are part of the Emergency Vent Gases (EU EP033B-U) onsite, and shall not remove any of said units from the control device unless the units are no longer operable.

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

- a. The owner or operator shall calculate on a monthly basis the amount of sulfur dioxide emitted from the DGA unit. This calculation shall be based on the sulfur content of the incoming feedstock and the amount of feedstock used, and shall assume that all the sulfur from the DGA unit is converted to SO₂ at the flare.
- b. The owner or operator shall follow the applicable reporting requirements of 40 CFR §63.2520 and recordkeeping requirements of 40 CFR §63.2525.

Authority for Requirement: Iowa DNR Construction Permit 00-A-911-S4

NSPS and NESHAP Requirements

The VA Tanks (EUs F-785, F-2134A and F-2134B) are subject to Subpart FFFF of the NESHAPs, National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing.

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 199

Stack Opening, (inches, dia.): 42

Exhaust Flow Rate (scfm): 1,975

Exhaust Temperature (°F): 1,580

Discharge Style: Vertical Unobstructed

Authority for Requirement: Iowa DNR Construction Permit 00-A-911-S4

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: Fire Water Pump Diesel Engines (EP034-P, EP035-P, and EP036-P)

Associated Equipment

Table Water Pump-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity MMBtu/hr
EP034-P	EP034-U	J-2204D Fire Water Pump Diesel Engine	Diesel Fuel	15.62
EP035-P	EP035-U	J-2204E Fire Water Pump Diesel Engine	Diesel Fuel	15.62
EP036-P	EP036-U	J-2204F Fire Water Pump Diesel Engine	Diesel Fuel	15.62

Table Water Pump -2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
EP034-P	EP034-U	J-2204D Fire Water Pump Diesel Engine	None	None	None
EP035-P	EP035-U	J-2204E Fire Water Pump Diesel Engine	None	None	None
EP036-P	EP036-U	J-2204F Fire Water Pump Diesel Engine	None	None	None

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity

Emission Limit(s): 40%

Authority for Requirement: 567 IAC 23.3(2) "d"

Pollutant: Particulate Matter (PM)

Emission Limit(s): 0.1 gr/dscf

Authority for Requirement: 567 IAC 23.3(2) "a"

Pollutant: Sulfur Dioxide (SO₂)

Emission Limit(s): 2.5 lb/MMBtu

Authority for Requirement: 567 IAC 23.3(3) "b"(2)

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Process throughput:

1. No person shall allow, cause or permit the combustion of number 1 or number 2 fuel oil exceeding a sulfur content of 0.5 percent by weight.

Authority for Requirement: 567 IAC 23.3(3)"b"(1)

Reporting and Recordkeeping

The following records shall be maintained on-site for five (5) years and available for inspection upon request by representatives of the Department of Natural Resources:

1. The facility shall monitor the percent of sulfur by weight in the fuel oil as delivered. The documentation may be vendor supplied or facility generated.

Authority for Requirement: 567 IAC 22.108(3)

NSPS and NESHAP Applicability

This emission unit is an affected reciprocating internal combustion engines that is subject to 40 CFR Part 63 Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE). According to §63.6590(a)(1)(ii) this is an existing CI stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

The permittee shall comply with all applicable requirements of 40 CFR Part 63, Subpart ZZZZ. Below is a general outline of requirements for this subpart. For a full explanation of all requirements and to view the subpart in its entirety, please refer to the web link in Appendix.

<http://www.tceq.state.tx.us/permitting/air/rules/federal/63/zzzz/zzzzhp.html>

Compliance Date

Per §63.6595 you must comply with the applicable emission limitations and operating limitations no later than May 3, 2013.

Operating Conditions 40 CFR §63.6602(a)

1. Change oil and filter every 500 hours of operation or annually, whichever comes first.⁽¹⁾
 - ⁽¹⁾ Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement in Table 2c of this subpart.
2. Inspect air cleaner every 1000 hours of operation or annually, whichever comes first.
3. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.⁽²⁾
 - ⁽²⁾ Sources can petition the Administrator pursuant to the requirements of 40 CFR §63.6(g) for alternative work practices

Maintenance Requirements 40 CFR §63.6625

1. Must operate and maintain the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions or develop and follow your own maintenance plan, which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.
2. If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing emergency stationary RICE located at an area source of HAP emissions, you must install a non-resettable hour meter if one is not already installed.
3. You must minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.⁽¹⁾

(1) Sources can petition the Administrator pursuant to the requirements of 40 CFR §63.6(g) for alternative work practices

4. If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in Table 2c to Subpart ZZZZ of Part 63, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.

Operating Limits 40 CFR §63.6640(f)

1. Operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year is prohibited.
2. There is no time limit on the use of emergency stationary RICE in emergency situations.
3. Maintenance and readiness checks are limited to 100 hours per year.
4. You may operate your emergency stationary RICE up to 50 hours per year for non-emergency situations, but those 50 hours are counted toward the 100 hours of maintenance and testing. See 40 CFR §63.6640(f)(4) for additional information.

Reports & Records

See 40 CFR §63.6650 and §63.6655 for a complete list and description.

An initial notification is not required per 40 CFR §63.6645(a)(5)

Authority for Requirement: 40 CFR Part 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP038-P and EP039-P

Associated Equipment

Associated Emission Unit ID Numbers: EP038-U; EP039-U
Emissions Control Equipment ID Number: None
Emissions Control Equipment Description: None
Continuous Emissions Monitors ID Numbers: None

Emission Unit Descriptions, Raw Material/Fuel and Rated Capacity are listed in the following table:

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity
EP038-P	EP039-U	F-0154 Furnace Decoke Pot	Coke, Air and Stream	41 decoke/yr
EP039-P	EP039-U	F-0154A Furnace Decoke Pot	Coke, Air and Stream	41 decoke/yr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Emission limits are not required at this time.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP040-P

Associated Equipment

Associated Emission Unit ID Numbers: EP040-U
Emissions Control Equipment ID Number: None
Emissions Control Equipment Description: None
Continuous Emissions Monitors ID Numbers: None

Emission Unit vented through this Emission Point: EP040-U
Emission Unit Description: B-0107 Regeneration Gas Heater
Raw Material/Fuel: Stream, Air and Natural Gas
Rated Capacity: 3.2 MMBtu/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity

Emission Limit(s): 20% ⁽¹⁾

Authority for Requirement: Iowa DNR Construction Permit 97-A-804-S1
567 IAC 23.3(2) "d"

(1) If visible emissions are observed other than startup, shutdown, or malfunction, a stack test may be required to demonstrate compliance with the particulate standard.

Particulate Matter (PM)

Emission Limit(s): 0.1 gr/scf

Authority for Requirement: Iowa DNR Construction Permit 97-A-804-S1
567 IAC 23.3(2) "a"

Pollutant: Sulfur Dioxide (SO₂)

Emission Limit(s): 2.5 lb/MMBtu

Authority for Requirement: Iowa DNR Construction Permit 97-A-804-S1
567 IAC 23.3(3) "b"

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating Limits

- a. The fuel used by the 3.2 MMBtu/hr regeneration gas heater is limited to pipeline quality natural gas.

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

The owner or operator of the equipment shall maintain the following records:

- a. The type of fuel used for the 3.2 MMBtu/hr regeneration gas heater.

Authority for Requirement: Iowa DNR Construction Permit 97-A-804-S1

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (from the ground): 22'7"

Stack Opening, (inches, dia.): 10

Exhaust Flow Rate (acfm): 1,500

Exhaust Temperature (°F): 1,250

Discharge Style: N/A

Authority for Requirement: Iowa DNR Construction Permit 97-A-804-S1

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP041-P

Associated Equipment

Associated Emission Unit ID Numbers: EP041-U
Emissions Control Equipment ID Number: None
Emissions Control Equipment Description: None
Continuous Emissions Monitors ID Numbers: None

Emission Unit vented through this Emission Point: EP041-U
Emission Unit Description: Plant Incidental Releases
Raw Material/Fuel: Process Gases
Rated Capacity: 228.31 lb/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Emission limits are not required at this time.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: Refrigeration Compressors (EP042N-P through EP044W-P)

Associated Equipment

Emission Unit Descriptions, Raw Material/Fuel and Rated Capacity are listed in the following table:

Table Compressors-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity lb/hr
EP042N-P	EP042-U	J-0102 Propylene Refrigeration Compressor	Propylene	0.106
EP042S-P	EP042-U	J-0102 Propylene Refrigeration Compressor	Propylene	0.137
EP043N-P	EP043-U	J-0103 Ethylene Refrigeration Compressor	Ethylene	0.094
EP043S-P	EP043-U	J-0103 Ethylene Refrigeration Compressor	Ethylene	0.178
EP044E-P	EP044-U	J-0104 Ethylene Refrigeration Compressor	Ethylene	0.094
EP044W-P	EP044-U	J-0104 Ethylene Refrigeration Compressor	Ethylene	0.178

Table Compressors-2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
EP042N-P	EP042-U	J-0102 Propylene Refrigeration Compressor	None	None	None
EP042S-P	EP042-U	J-0102 Propylene Refrigeration Compressor	None	None	None
EP043N-P	EP043-U	J-0103 Ethylene Refrigeration Compressor	None	None	None
EP043S-P	EP043-U	J-0103 Ethylene Refrigeration Compressor	None	None	None
EP044E-P	EP044-U	J-0104 Ethylene Refrigeration Compressor	None	None	None
EP044W-P	EP044-U	J-0104 Ethylene Refrigeration Compressor	None	None	None

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Emission limits are not required at this time.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP045-P

Associated Equipment

Associated Emission Unit ID Numbers: EP045-U
Emissions Control Equipment ID Number: None
Emissions Control Equipment Description: None
Continuous Emissions Monitors ID Numbers: None

Emission Unit vented through this Emission Point: EP045-U
Emission Unit Description: OAH Tripod Temporary Smokeless Flare
Raw Material/Fuel: Ethylene
Rated Capacity: 54.11 MMBtu/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Emission limits are not required at this time.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP046-P

Associated Equipment

Associated Emission Unit ID Numbers: EP046-U
Emissions Control Equipment ID Number: None
Emissions Control Equipment Description: None
Continuous Emissions Monitors ID Numbers: None

Emission Unit vented through this Emission Point: EP046-U
Emission Unit Description: F-144 Wash Oil Day Tank
Raw Material/Fuel: Wash Oil
Rated Capacity: 120.0 Gal/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Emission limits are not required at this time.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: Ethylene Analyzer Houses (EP048-P, EP049-P, and EP050-P)

Associated Equipment

Table Analyze Houses-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity lb/hr, VOC emission rate
EP048-P	EP048-U	H-108 Ethylene Analyzer House	Ethylene	8.73
EP049-P	EP049-U	H-112 Ethylene Analyzer House	Ethylene	1.08
EP050-P	EP050-U	H-115 Ethylene Analyzer House	Ethylene	0.25

Table Analyze Houses-2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
EP048-P	EP048-U	H-108 Ethylene Analyzer House	None	None	None
EP049-P	EP049-U	H-112 Ethylene Analyzer House	None	None	None
EP050-P	EP050-U	H-115 Ethylene Analyzer House	None	None	None

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Emission limits are not required at this time.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP051-P and EP052-P (Fugitive)

Associated Equipment

Table Fugitive-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity lb/hr
EP051-P	EP051-U	E-118 Quench Water Stripper Blowdown	Quench Water	200,160.0
EP052-P	EP052-U	E-129 Caustic Stripper Blowdown	Caustic	15,012.0

Table Fugitive-2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
EP051-P	EP051-U	E-118 Quench Water Stripper Blowdown	None	None	None
EP052-P	EP052-U	E-129 Caustic Stripper Blowdown	None	None	None

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Emission limits are not required at this time.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

NESHAP Part 61 Subpart FF Requirements

- a. The facility shall determine the total annual benzene quantity from facility waste in compliance with 40 CFR §61.355(a)(1), (a)(2), (a)(6), (b), and (c).
- b. Because the total annual benzene quantity from facility waste is equal to or greater than 11 tpy, the facility should comply with 40 CFR 61.355(a)(3) by complying with the control requirements of 40 CFR §61.342(c), (d), or (e), §61.346, §61.348 and record keeping and requirements of 40 CFR §61.356 and §61.357. However, per 40 CFR §61.342(c)(2), a waste stream is exempt from the control requirements provided that the facility demonstrates initially and, thereafter, at least once per year that the flow-weighted annual average benzene concentration for the waste stream is less than 10 ppmw as determined by the procedures specified in §61.355(c)(2) or §61.355(c)(3).

Authority for Requirement: 40 CFR 61 Subpart FF
567 IAC 23.1(3) "n"

NESHAP Part 63 Subpart YY Requirements

Per 40 CFR §63.1100(g)(6)(ii), compliance with 40 CFR §63.1103(e) of Part 63 Subpart YY shall constitute compliance with 40 CFR Part 61 Subpart FF – Benzene Waste Operations NESHAP for waste streams that are subject to both the control requirements of §63.1103(e)(3) for ethylene production sources and the control requirements of 40 CFR Part 61 Subpart FF.

Authority for Requirement: 40 CFR 63 Subpart YY
567 IAC 23.1(4) "ay"

NSPS and NESHAP Applicability

EP051-P and EP052-P are subject to:

- a. NESHAP Part 61 Subpart FF – National Emission Standard for Benzene Waste Operations
- b. NESHAP Part 63 Subpart YY – National Emission Standards for Hazardous Air Pollutants for Source Categories: Generic Maximum Achievable Control Technology Standards

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP053-P

Associated Equipment

Associated Emission Unit ID Numbers: EP053-U
Emissions Control Equipment ID Number: EP053CE1
Emissions Control Equipment Description: Scienco Dust Collector
Continuous Emissions Monitors ID Numbers: None

Emission Unit vented through this Emission Point: EP053-U
Emission Unit Description: US Filter Brine Silo (1 of 2)
Raw Material/Fuel: Salt
Rated Capacity: 90,000.0 acf/yr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity

Emission Limit(s): 40% ⁽¹⁾

Authority for Requirement: Iowa DNR Construction Permit 01-A-1231-S1
567 IAC 23.3(2) "d"

⁽¹⁾An exceedance of the indicator opacity of "No Visible Emissions" will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM)

Emission Limit(s): 0.1 gr/dscf

Authority for Requirement: Iowa DNR Construction Permit 01-A-1231-S1
567 IAC 23.3(2) "a"

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating Limits

- a. Owner/operator is limited to 240 hours of rock salt loading into Brine Silo (EP053-P) per rolling 12-month period.
- b. Maintain the Scienco Dust Collector (EP053CE1) according to manufactures specifications and maintenance schedule.

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

- a. Record on a monthly basis, the number of hours Brine Silo (EP053-P) is loaded with rock salt. Calculate and record rolling 12-month totals.

- b. Record on a monthly basis, all maintenance (if any) of Scienco Dust collector (EP053CE1).

Authority for Requirement: Iowa DNR Construction Permit 01-A-1231-S1

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 8

Stack Opening, (inches, dia.): 8

Exhaust Flow Rate (scfm): 1,500

Exhaust Temperature (°F): Ambient

Discharge Style: Downward Discharge

Authority for Requirement: Iowa DNR Construction Permit 01-A-1231-S1

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

The issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP054-P

Associated Equipment

Associated Emission Unit ID Numbers: EP054-U
Emissions Control Equipment ID Number: EP054CE1
Emissions Control Equipment Description: Scienco Dust Collector
Continuous Emissions Monitors ID Numbers: None

Emission Unit vented through this Emission Point: EP054-U
Emission Unit Description: US Filter Brine Silo (2 of 2)
Raw Material/Fuel: Salt
Rated Capacity: 90,000.0 acf/yr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity

Emission Limit(s): 40% ⁽¹⁾

Authority for Requirement: Iowa DNR Construction Permit 03-A-547-S1
567 IAC 23.3(2) "d"

⁽¹⁾An exceedance of the indicator opacity of "No Visible Emissions" will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM)

Emission Limit(s): 0.1 gr/dscf

Authority for Requirement: Iowa DNR Construction Permit 03-A-547-S1
567 IAC 23.3(2) "a"

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating Limits

- a. The control equipment shall be maintained according to the manufacturer's specifications.

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

- a. The owner or operator shall maintain a record of control equipment maintenance and inspection results.

Authority for Requirement: Iowa DNR Construction Permit 03-A-547-S1

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 8

Stack Opening, (inches): 38.5x84

Exhaust Flow Rate (scfm): 1,500

Exhaust Temperature (°F): Ambient

Discharge Style: Downward

Authority for Requirement: Iowa DNR Construction Permit 03-A-547-S1

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source’s compliance with the applicable requirements.

The issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility’s implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: Waste Water Treatment Tanks (EP055-P through EP058-P)

Associated Equipment

Table Waste Water Treatment Tanks-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity gal/hr
EP055-P	EP055-U	US Filter F-2450 Equalization & Neutralization Tank	Waste Water	90,000
EP056-P	EP056-U	US Filter F-2451 Rapid Mix Tank	Waste Water	90,000
EP057-P	EP057-U	US Filter F-2452 Flocculation Tank	Waste Water	90,000
EP058-P	EP058-U	US Filter F2453 Dissolved Air Flotation Tank	Waste Water	90,000

Table Waste Water Treatment Tanks -2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
EP055-P	EP055-U	US Filter F-2450 Equalization & Neutralization Tank	None	None	None
EP056-P	EP056-U	US Filter F-2451 Rapid Mix Tank	None	None	None
EP057-P	EP057-U	US Filter F-2452 Flocculation Tank	None	None	None
EP058-P	EP058-U	US Filter F2453 Dissolved Air Flotation Tank	None	None	None

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Emission limits are not required at this time.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: Furnaces (EP59-P through EP071S-P)

Associated Equipment

Table Furnaces-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity decoke/hr
EP059-P	EP059-U	LB-0101A A-Furnace	Nonsulfured Natural Gas	1.14×10 ⁻⁴
EP060-P	EP060-U	LB-0101B B-Furnace	Nonsulfured Natural Gas	1.14×10 ⁻⁴
EP061-P	EP061-U	LB-0101C C-Furnace	Nonsulfured Natural Gas	1.14×10 ⁻⁴
EP062-P	EP062-U	LB-0101D D-Furnace	Nonsulfured Natural Gas	1.14×10 ⁻⁴
EP063-P	EP063-U	LB-0101E E-Furnace	Nonsulfured Natural Gas	1.14×10 ⁻⁴
EP064-P	EP064-U	LB-0101F F-Furnace	Nonsulfured Natural Gas	1.14×10 ⁻⁴
EP065-P	EP065-U	LB-0101G G-Furnace	Nonsulfured Natural Gas	1.14×10 ⁻⁴
EP066-P	EP066-U	LB-0101H H-Furnace	Nonsulfured Natural Gas	1.14×10 ⁻⁴
EP067-P	EP067-U	LB-0101I I-Furnace	Nonsulfured Natural Gas	1.14×10 ⁻⁴
EP068-P	EP068-U	LB-0101J J-Furnace	Nonsulfured Natural Gas	1.14×10 ⁻⁴
EP069N-P	EP069-U	LB-0107A K-Furnace	Nonsulfured Natural Gas	1.14×10 ⁻⁴
EP069S-P		LB-0107A K-Furnace	Nonsulfured Natural Gas	1.14×10 ⁻⁴
EP070N-P	EP070-U	LB-107B L-Furnace	Nonsulfured Natural Gas	1.14×10 ⁻⁴
EP070S-P		LB-107B L-Furnace	Nonsulfured Natural Gas	1.14×10 ⁻⁴
EP071N-P	EP071-U	LB-0120 M-Furnace	Nonsulfured Natural Gas	1.14×10 ⁻⁴
EP071S-P		LB-0120 M-Furnace	Nonsulfured Natural Gas	1.14×10 ⁻⁴

Table Furnaces -2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
EP059-P	EP059-U	LB-0101A A-Furnace	None	None	None
EP060-P	EP060-U	LB-0101B B-Furnace	None	None	None
EP061-P	EP061-U	LB-0101C C-Furnace	None	None	None
EP062-P	EP062-U	LB-0101D D-Furnace	None	None	08-A-247
EP063-P	EP063-U	LB-0101E E-Furnace	None	None	08-A-248
EP064-P	EP064-U	LB-0101F F-Furnace	None	None	None
EP065-P	EP065-U	LB-0101G G-Furnace	None	None	None
EP066-P	EP066-U	LB-0101H H-Furnace	None	None	None
EP067-P	EP067-U	LB-0101I I-Furnace	None	None	None
EP068-P	EP068-U	LB-0101J J-Furnace	None	None	None
EP069N-P	EP069-U	LB-0107A K-Furnace	None	None	None
EP069S-P		LB-0107A K-Furnace	None	None	None
EP070N-P	EP070-U	LB-107B L-Furnace	None	None	None
EP070S-P		LB-107B L-Furnace	None	None	None
EP071N-P	EP071-U	LB-0120 M-Furnace	None	None	None
EP071S-P		LB-0120 M-Furnace	None	None	None

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Table Furnaces -3

EP	EU	Opacity	PM	SO ₂ ppmv	Authority for Requirement
EP059-P	EP059-U	40%	0.1 gr/dscf	500	See Table Furnaces-4
EP060-P	EP060-U	40%	0.1 gr/dscf	500	See Table Furnaces-4
EP061-P	EP061-U	40%	0.1 gr/dscf	500	See Table Furnaces-4
EP062-P	EP062-U	40% ¹	0.1 gr/dscf	500	IDNR Construction Permit 08-A-247
EP063-P	EP063-U	40% ¹	0.1 gr/dscf	500	IDNR Construction Permit 08-A-248
EP064-P	EP064-U	40%	0.1 gr/dscf	500	See Table Furnaces-4
EP065-P	EP065-U	40%	0.1 gr/dscf	500	See Table Furnaces-4
EP066-P	EP066-U	40%	0.1 gr/dscf	500	See Table Furnaces-4
EP067-P	EP067-U	40%	0.1 gr/dscf	500	See Table Furnaces-4
EP068-P	EP068-U	40%	0.1 gr/dscf	500	See Table Furnaces-4
EP069N-P	EP069-U	40%	0.1 gr/dscf	500	See Table Furnaces-4
EP069S-P		40%	0.1 gr/dscf	500	See Table Furnaces-4
EP070N-P	EP070-U	40%	0.1 gr/dscf	500	See Table Furnaces-4
EP070S-P		40%	0.1 gr/dscf	500	See Table Furnaces-4
EP071N-P	EP071-U	40%	0.1 gr/dscf	500	See Table Furnaces-4
EP071S-P		40%	0.1 gr/dscf	500	See Table Furnaces-4

- ¹. An exceedance of the indicator opacity of 25% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Table Furnaces -4

Pollutant	Emission Limits	Authority of Requirement
Opacity	40%	567 IAC 23.3(2) "d"
PM	0.1 gr/dscf	567 IAC 23.3(2) "a"
SO ₂	500 ppmv	567 IAC 23.3(3)

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Furnaces -5

	Stack Height (ft, from the ground)	Stack Opening (dia. inch)	Exhaust Flow Rate (scfm)	Exhaust Temperature (°F)	Discharge Style	Authority for Requirement IDNR Construction Permit
EP062-P	68	4	2,860	375	Vertical Unobstructed	08-A-247
EP063-P	68	4	2,860	375	Vertical Unobstructed	08-A-248

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

III. Part B. High Density Polyethylene Product Lines

Emission Point ID Number: HD001A-P and HD001B-P

Associated Equipment

Associated Emission Unit ID Numbers: HD001A-U and HD001B-U

Emissions Control Equipment ID Number: None

Emissions Control Equipment Description: None

Continuous Emissions Monitors ID Numbers: None

Emission Unit Descriptions, Raw Material/Fuel and Rated Capacity are listed in the following table:

Table Analyzer Houses-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity
HD001A-P	HD001A-U	PF-4 Analyzer House	Iso-Butane	0.015 lb/hr
HD001B-P	HD001A-U	PF-1, PF-2, and PF-3 Analyzer House	Iso-Butane	0.030 lb/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Emission limits are not required at this time.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: HD002N-P and HD002S-P

Associated Equipment

Associated Emission Unit ID Numbers: HD002-U
Emissions Control Equipment ID Number: None
Emissions Control Equipment Description: None
Continuous Emissions Monitors ID Numbers: None

Emission Unit vented through this Emission Point: HD002-U
Emission Unit Description: C-0316 Gas1 (D-0307) Activator Jacket Heater
Raw Material/Fuel: Nonsulfured Natural Gas
Rated Capacity: 5.0 MMBtu/hr for each emission point

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40%
Authority for Requirement: 567 IAC 23.3(2) "d"

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.8 lb/MMBtu ⁽¹⁾
Authority for Requirement: 567 IAC 23.3(2) "b"

⁽¹⁾ Combined emission limit for both HD002N-P and HD002S-P

Pollutant: Sulfur Dioxide (SO₂)
Emission Limit(s): 500 ppmv
Authority for Requirement: 567 IAC 23.3(3)"e"

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: Rundown Bins (HD004-P through HD009-P)

Associated Equipment

Table Bins-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity lb/hr
HD004-P	HD004-U	F-0401A PF-1 Rundown Bin	Polyethylene Powder	14,000.0
HD005-P	HD005-U	F-0401B PF-1 Rundown Bin	Polyethylene Powder	14,000.0
HD006-P	HD006-U	F-0401C PF-1 Rundown Bin	Polyethylene Powder	14,000.0
HD007-P	HD007-U	F-0401D PF-1 Rundown Bin	Polyethylene Powder	14,000.0
HD008N-P	HD008A-U	F-0411C PF-3 Rundown Bin Through L-1417B Bag House	Polyethylene Powder	13,500.0
	HD008B-U	F-0411D PF-3 Rundown Bin Through L-1417B Bag House	Polyethylene Powder	13,500.0
	HD008C-U	F-0431C PF-2 Rundown Bin Through L-1417B Bag House	Polyethylene Powder	13,500.0
	HD008D-U	F-0431D PF-2 Rundown Bin Through L-1417B Bag House	Polyethylene Powder	13,500.0
HD008S-P	HD008E-U	F-0411A PF-3 Rundown Bin Through L-1417A Bag House	Polyethylene Powder	13,500.0
	HD008F-U	F-0411B PF-3 Rundown Bin Through L-1417A Bag House	Polyethylene Powder	13,500.0
	HD008G-U	F-0431A PF-2 Rundown Bin Through L-1417A Bag House	Polyethylene Powder	13,500.0
	HD008H-U	F-0431B PF-2 Rundown Bin Through L-1417A Bag House	Polyethylene Powder	13,500.0
HD009N-P	HD009A-U	F-0439A PF-4 Rundown Bin Through L-1416B Bag House	Polyethylene Powder	13,500.0
	HD009B-U	F-0439B PF-4 Rundown Bin Through L-1416B Bag House	Polyethylene Powder	31,600.0
	HD009C-U	F-0439C PF-4 Rundown Bin Through L-1416B Bag House	Polyethylene Powder	31,600.0
	HD009D-U	F-0439D PF-4 Rundown Bin Through L-1416B Bag House	Polyethylene Powder	31,600.0
HD009S-P	HD009E-U	F-0439E PF-4 Rundown Bin Through L-1416A Bag House	Polyethylene Powder	31,600.0
	HD009F-U	F-0439F PF-4 Rundown Bin Through L-1416A Bag House	Polyethylene Powder	31,600.0
	HD009G-U	F-0439G PF-4 Rundown Bin Through L-1416A Bag House	Polyethylene Powder	31,600.0
	HD009H-U	F-0439H PF-4 Rundown Bin Through L-1416A Bag House	Polyethylene Powder	31,600.0

Table Bins-2

EP	EU	Emission Unit Description	CEM	CE & Description	IDNR Construction Permit	
HD004-P	HD004-U	F-0401A PF-1 Rundown Bin	None	HD004CE1 Cyclone	None	
HD005-P	HD005-U	F-0401B PF-1 Rundown Bin	None	HD005CE1 Cyclone	None	
HD006-P	HD006-U	F-0401C PF-1 Rundown Bin	None	HD006CE1 Cyclone	None	
HD007-P	HD007-U	F-0401D PF-1 Rundown Bin	None	HD007CE1 Cyclone	None	
HD008N-P	HD008A-U	F-0411C PF-3 Rundown Bin Through L-1417B Bag House	None	HD008CE3 Cyclone	HD008CE1 Baghouse	94-A-110
	HD008B-U	F-0411D PF-3 Rundown Bin Through L-1417B Bag House	None	HD008CE4 Cyclone		
	HD008C-U	F-0431C PF-2 Rundown Bin Through L-1417B Bag House	None	HD008CE5 Cyclone		
	HD008D-U	F-0431D PF-2 Rundown Bin Through L-1417B Bag House	None	HD008CE6 Cyclone		
HD008S-P	HD008E-U	F-0411A PF-3 Rundown Bin Through L-1417A Bag House	None	HD008CE7 Cyclone	HD008CE2 Baghouse	94-A-109
	HD008F-U	F-0411B PF-3 Rundown Bin Through L-1417A Bag House	None	HD008CE8 Cyclone		
	HD008G-U	F-0431A PF-2 Rundown Bin Through L-1417A Bag House	None	HD008CE9 Cyclone		
	HD008H-U	F-0431B PF-2 Rundown Bin Through L-1417A Bag House	None	HD008CE10 Cyclone		
HD009N-P	HD009A-U	F-0439A PF-4 Rundown Bin Through L-1416B Bag House	None	HD009CE3 Cyclone	HD009CE1 Baghouse	93-A-158-S1
	HD009B-U	F-0439B PF-4 Rundown Bin Through L-1416B Bag House	None	HD009CE4 Cyclone		
	HD009C-U	F-0439C PF-4 Rundown Bin Through L-1416B Bag House	None	HD009CE5 Cyclone		
	HD009D-U	F-0439D PF-4 Rundown Bin Through L-1416B Bag House	None	HD009CE6 Cyclone		
HD009S-P	HD009E-U	F-0439E PF-4 Rundown Bin Through L-1416A Bag House	None	HD009CE7 Cyclone	HD009CE2 Baghouse	93-A-157-S1
	HD009F-U	F-0439F PF-4 Rundown Bin Through L-1416A Bag House	None	HD009CE8 Cyclone		
	HD009G-U	F-0439G PF-4 Rundown Bin Through L-1416A Bag House	None	HD009CE9 Cyclone		
	HD009H-U	F-0439H PF-4 Rundown Bin Through L-1416A Bag House	None	HD009CE10 Cyclone		

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Table Bins-3

EP	EU	Opacity	PM ₁₀	PM	Authority of Requirement
HD004-P	HD004-U	40%	N/A	15.1 lb/hr ²	Opacity: 567 IAC 23.3(2)"d" PM: 567 IAC 23.3(2)"a"(2)
HD005-P	HD005-U	40%	N/A	15.1 lb/hr ²	Opacity: 567 IAC 23.3(2)"d" PM: 567 IAC 23.3(2)"a"(2)
HD006-P	HD006-U	40%	N/A	15.1 lb/hr ²	Opacity: 567 IAC 23.3(2)"d" PM: 567 IAC 23.3(2)"a"(2)

EP	EU	Opacity	PM ₁₀	PM	Authority of Requirement
HD007-P	HD007-U	40%	N/A	15.1 lb/hr ²	Opacity: 567 IAC 23.3(2)"d" PM: 567 IAC 23.3(2)"a"(2)
HD008N-P	HD008A-U	40%	0.30 lb/hr 1.30 ton/yr	14.7 lb/hr ²	Opacity: 567 IAC 23.3(2)"d" PM10: Construction Permit 94-A-110 PM: 567 IAC 23.3(2)"a"(2)
	HD008B-U				
	HD008C-U				
	HD008D-U				
HD008S-P	HD008E-U	40%	0.30 lb/hr 1.30 ton/yr	14.7 lb/hr ²	Opacity: 567 IAC 23.3(2)"d" PM10: Construction Permit 94-A-109 PM: 567 IAC 23.3(2)"a"(2)
	HD008F-U				
	HD008G-U				
	HD008H-U				
HD009N-P	HD009A-U	40% ¹	N/A	0.296 lb/hr 0.1 gr/dscf	Opacity: 567 IAC 23.3(2)"d" PM: Construction Permit 93-A-158-S1 567 IAC 23.3(2) "a"
	HD009B-U				
	HD009C-U				
	HD009D-U				
HD009S-P	HD009E-U	40% ¹	N/A	0.296 lb/hr 0.1 gr/dscf	Opacity: 567 IAC 23.3(2)"d" PM: Construction Permit 93-A-157-S1 567 IAC 23.3(2) "a"
	HD009F-U				
	HD009G-U				
	HD009H-U				

¹ An exceedance of the indicator opacity of "10%" will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

² PM emission limits of 15.1 lb/hr and 14.7 lb/hr were based on the process weights for these units using the formulas in 567 IAC 23.3(2) "a" (2).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating Limits

HD004-P through HD007-P

Operating limits are not required at this time.

HD008N-P and HD008S-P:

Operating limits are not required at this time.

HD009N-P and HD009S-P:

- a. The maximum amount of High Density Polyethylene (HDPE) produced on this line shall not exceed 31,600 pounds per hour.
- b. The facility shall follow the applicable standards of NSPS Subpart DDD, 40 CFR §60.560 through §60.566.

Authority for Requirement: Iowa DNR Construction Permit 93-A-158-S1, 93-A-157-S1

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

HD004-P through HD007-P:

Reporting and Recordkeeping are not required at this time.

HD008N-P and HD008S-P:

Reporting and Recordkeeping are not required at this time.

HD009N-P and HD009S-P:

- a. The facility shall record on a daily basis, the amount of HDPE produced on this line on an hourly basis. For purposes of determining the hourly production rate the facility may record the amount of material produced during a calendar day and divide by the number of hours the process line was in operation.
- b. The facility shall keep records as required in NSPS Subpart DDD, 40 CFR §60.560 through §60.566.

Authority for Requirement: Iowa DNR Construction Permit 93-A-158-S1, 93-A-157-S1

NSPS and NESHAP Applicability

HD009N-P and HD009S-P are subject to the following NSPS subparts:

- a. NSPS Subpart A – General Provisions
- b. NSPS Subpart DDD – Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing Industry

Authority for Requirement: Iowa DNR Construction Permit 93-A-158-S1 93-A-157-S1

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Bins-4

EP	EU	Con. Permit	Stack Height (ft, above ground)	Stack Opening (inches)	Exhaust Flow Rate (scfm)	Exhaust Temperature (°F)	Discharge Type
HD008N-P	HD008A-U	94-A-110	17'2"	8.63×7.69	1,726	Ambient	NA
	HD008B-U						
	HD008C-U						
	HD008D-U						
HD008S-P	HD008E-U	94-A-109	17'2"	8.63×7.69	1,726	Ambient	NA
	HD008F-U						
	HD008G-U						
	HD008H-U						
HD009N-P	HD009A-U	93-A-158-S1	18	8×8	3,600	160	Horizontal
	HD009B-U						
	HD009C-U						
	HD009D-U						

EP	EU	Con. Permit	Stack Height (ft, above ground)	Stack Opening (inches)	Exhaust Flow Rate (scfm)	Exhaust Temperature (°F)	Discharge Type
HD009S-P	HD009E-U	93-A-157-S1	18	8×8	3,600	160	Horizontal
	HD009F-U						
	HD009G-U						
	HD009H-U						

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Table Bins-5

EP	Test Required	Test Method	Demonstrate Compliance by	Authority for Requirement
HD008N-P	PM ¹	Iowa Compliance Sampling Manual Method 5	12/13/2012	567 IAC 22.108(3)
HD008S-P				
HD009N-P	PM ²	Iowa Compliance Sampling Manual Method 5	12/13/2012	567 IAC 22.108(3)
HD009S-P				

1. Successfully testing for any one of stacks HD008N-P and HD008S-P will fulfill the stack testing requirements for HD008N-P and HD008S-P.
2. Successfully testing for any one of stacks HD009N-P and HD009S-P will fulfill the stack testing requirements for HD009N-P and HD009S-P.

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Facility O&M Plans are required for baghouses HD008CE1, HD008CE2, HD009CE1, and HD009CE2, and cyclones HD008CE3, HD008CE4, HD008CE5, HD008CE6, HD008CE7, HD008CE8, HD008CE9, HD008CE10, HD009CE3, HD009CE4, HD009CE5, HD009CE6, HD009CE7, HD009CE8, HD009CE9, HD009CE10.

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

The issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: Feed Bins (HD010-P through HD019-P)

Associated Equipment

Table Bins-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity lb/hr
HD010-P	HD010-U	F-0415A J-line Feed Bin	Polyethylene Powder	31,500.0
HD011-P	HD011-U	F-0415B J-line Feed Bin	Polyethylene Powder	31,500.0
HD012-P	HD012-U	F-0421A A-line Feed Bin	Polyethylene Powder	9,000.0
HD013-P	HD013-U	F-0421B B-line Feed Bin	Polyethylene Powder	9,000.0
HD014-P	HD014-U	F-0422A A-line Feed Bin	Polyethylene Powder	9,000.0
HD015-P	HD015-U	F-0422B B-line Feed Bin	Polyethylene Powder	9,000.0
HD016-P	HD016-U	F-0423A A-line Feed Bin	Polyethylene Powder	9,000.0
HD017-P	HD017-U	F-0423B B-line Feed Bin	Polyethylene Powder	9,000.0
HD018-P	HD018-U	F-0462 F-line Feed Bin	Polyethylene Powder	25,500.0
HD019-P	HD019-U	F-0463 F-line Feed Bin	Polyethylene Powder	25,500.0

Table Bins-2

EP	EU	Emission Unit Description	CEM	CE & Description	IDNR Construction Permit
HD010-P	HD010-U	F-0415A J-line Feed Bin	None	HD010CE-1, Cyclone	78-A-075-S1
HD011-P	HD011-U	F-0415B J-line Feed Bin	None	HD011CE-1, Cyclone	07-A-1181
HD012-P	HD012-U	F-0421A A-line Feed Bin	None	HD012CE-1, Cyclone	None
HD013-P	HD013-U	F-0421B B-line Feed Bin	None	HD013CE-1, Cyclone	None
HD014-P	HD014-U	F-0422A A-line Feed Bin	None	HD014CE-1, Cyclone	None
HD015-P	HD015-U	F-0422B B-line Feed Bin	None	HD015CE-1, Cyclone	None
HD016-P	HD016-U	F-0423A A-line Feed Bin	None	HD016CE-1, Cyclone	None
HD017-P	HD017-U	F-0423B B-line Feed Bin	None	HD017CE-1, Cyclone	None
HD018-P	HD018-U	F-0462 F-line Feed Bin	None	HD018CE-1, Cyclone	89-A-065-S1
HD019-P	HD019-U	F-0463 F-line Feed Bin	None	HD019CE-1, Cyclone	07-A-1190

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Table Bins-3

EP	EU	Opacity	PM ₁₀	PM	Authority of Requirement
HD010-P	HD010-U	40% ¹	0.080 lb/hr	3.93 lb/hr 0.1 gr/dscf	Opacity: 567 IAC 23.3(2) "d" PM10: Construction Permit 78-A-075-S1 PM: Construction Permit 78-A-075-S1 567 IAC 23.3(2) "a"
HD011-P	HD011-U	40% ¹	0.080 lb/hr	3.93 lb/hr 0.1 gr/dscf	Opacity: 567 IAC 23.3(2) "d" PM10: Construction Permit 07-A-1181 PM: Construction Permit 07-A-1181 567 IAC 23.3(2) "a"
HD012-P	HD012-U	40%	NA	11.23 lb/hr ²	Opacity: 567 IAC 23.3(2) "d"
HD013-P	HD013-U	40%	NA	11.23 lb/hr ²	Opacity: 567 IAC 23.3(2) "d"
HD014-P	HD014-U	40%	NA	11.23 lb/hr ²	Opacity: 567 IAC 23.3(2) "d"
HD015-P	HD015-U	40%	NA	11.23 lb/hr ²	Opacity: 567 IAC 23.3(2) "d"
HD016-P	HD016-U	40%	NA	11.23 lb/hr ²	Opacity: 567 IAC 23.3(2) "d"
HD017-P	HD017-U	40%	NA	11.23 lb/hr ²	Opacity: 567 IAC 23.3(2) "d"

EP	EU	Opacity	PM ₁₀	PM	Authority of Requirement
HD018-P	HD018-U	40% ¹	0.030 lb/hr	1.49 lb/hr 0.1 gr/dscf	Opacity: 567 IAC 23.3(2) "d" PM10: Construction Permit 89-A-065-S1 PM: Construction Permit 89-A-065-S1 567 IAC 23.3(2) "a"
HD019-P	HD019-U	40% ¹	0.030 lb/hr	1.49 lb/hr 0.1 gr/dscf	Opacity: 567 IAC 23.3(2) "d" PM10: Construction Permit 07-A-1190 PM: Construction Permit 07-A-1190 567 IAC 23.3(2) "a"

¹ An exceedance of the indicator opacity of "10%" will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

² PM emission limits of 11.23 lb/hr was based on the process weights for these units using the formulas in 567 IAC 23.3(2) "a"(2).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating Limits

HD010-P and HD011-P:

- The maximum amount of High Density Polyethylene (HDPE) produced on this line shall not exceed 31,500 pounds per hour.
- The maximum amount of HDPE processed through emission units, HD010-U and HD011-U, combined shall not exceed 2.76×10^8 pounds per twelve-month rolling period.
- The facility shall follow the applicable standards of NSPS Subpart DDD, 40 CFR §60.560 through §60.566.

Authority for Requirement: Iowa DNR Construction Permit 78-A-075-S1, 07-A-1181

HD012-P through HD017-P:

Operating limits are not required at this time.

HD018-P and HD019-P:

- The maximum amount of High Density Polyethylene (HDPE) produced on this line shall not exceed 25,500 pounds per hour.
- The maximum amount of HDPE processed through emission units, HD018-U and HD019-U, combined shall not exceed 2.23×10^8 pounds per twelve-month rolling period.
- The facility shall follow the applicable standards of NSPS Subpart DDD, 40 CFR §60.560 through §60.566.

Authority for Requirement: Iowa DNR Construction Permit 89-A-065-S1, 07-A-1190

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

HD010-P and HD011-P:

- a. The maximum amount of High Density Polyethylene (HDPE) produced on this line shall not exceed 31,500 pounds per hour.
- b. The maximum amount of HDPE processed through emission units, HD010-U and HD011-U, combined shall not exceed 2.76×10^8 pounds per twelve-month rolling period.
- c. The facility shall follow the applicable standards of NSPS Subpart DDD, 40 CFR §60.560 through §60.566.

Authority for Requirement: Iowa DNR Construction Permit 78-A-075-S1, 07-A-1181

HD012-P through HD017-P:

Reporting and Recordkeeping are not required at this time.

HD018-P and HD019-P:

- a. The facility shall record on a daily basis, the amount of HDPE produced on this line on an hourly basis. For purposes of determining the hourly production rate the facility may record the amount of material produced during a calendar day and divide by the number of hours the process line was in operation.
- b. The facility shall record the amount of HDPE processed through emission units, HD018-U and HD019-U, on a monthly basis, and calculate and record the twelve-month rolling total for each month of operation.
- c. The facility shall keep records as required in NSPS Subpart DDD, 40 CFR §60.560 through §60.566.

Authority for Requirement: Iowa DNR Construction Permit 89-A-065-S1, 07-A-1190

NSPS and NESHAP Applicability

HD010-P, HD011-P, HD018-P, and HD019-P are subject to the following NSPS subparts:

- a. NSPS Subpart A – General Provisions
- b. NSPS Subpart DDD – Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing Industry

Authority for Requirement: Iowa DNR Construction Permit 78-A-075-S1 07-A-1181
89-A-065-S1 07-A-1190

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Bins-4

EP	EU	Con. Permit	Stack Height (ft, above ground)	Stack Opening (inches)	Exhaust Flow Rate (scfm)	Exhaust Temp.(°F)	Discharge Type
HD010-P	HD010-U	78-A-075-S1	95	4 (dia.)	1,600	Ambient	Horizontal
HD011-P	HD011-U	07-A-1181	95	4 (dia.)	1,600	Ambient	Horizontal
HD018-P	HD018-U	89-A-065-S1	95	4 (dia.)	1,600	Ambient	Horizontal
HD019-P	HD019-U	07-A-1190	95	4 (dia.)	1,600	Ambient	Horizontal

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Table Bins-5

EP	Test Required	Test Method	Demonstrate Compliance by	Authority for Requirement
HD010-P HD011-P	PM ¹	Iowa Compliance Sampling Manual Method 5	12/13/2012	567 IAC 22.108(3)
HD012-P HD013-P HD014-P HD015-P HD016-P HD017-P	PM ²	Iowa Compliance Sampling Manual Method 5	12/13/2012	567 IAC 22.108(3)
HD018-P HD019-P	PM ³	Iowa Compliance Sampling Manual Method 5	12/13/2012	567 IAC 22.108(3)

- ^{1.} Successfully testing for any one of stacks HD010-P and HD011-P will fulfill the stack testing requirements for HD010-P and HD011-P.
- ^{2.} Successfully testing for any one of stacks HD012-P through HD017-P will fulfill the stack testing requirements for HD012-P through HD017-P.
- ^{3.} Successfully testing for any one of stacks HD018-P and HD019-P will fulfill the stack testing requirements for HD018-P and HD019-P.

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Compliance Assurance Monitoring Plan

CAM Plan for Cyclones

I. Background

A. Emissions Unit:

Facility: Equistar Chemicals, LP
3400 Anamosa Rd
Clinton, IA 52732

Emission unit identification and description are listed in the table below.

HDPE Unit

EP	EU	EU Description	CE	CE Model	Con. Permit
HD010-P	HD010-U	F-0415A J-line Feed Bin	HD010CE1	20" Diameter	78-A-075-S1
HD011-P	HD011-U	F-0415B J-line Feed Bin	HD011CE1	20" Diameter	07-A-1181
HD012-P	HD012-U	F-0421A A-line Feed Bin	HD012CE1	20" Diameter	None
HD013-P	HD013-U	F-0421B B-line Feed Bin	HD013CE1	20" Diameter	None
HD014-P	HD014-U	F-0422A A-line Feed Bin	HD014CE1	20" Diameter	None
HD015-P	HD015-U	F-0422B B-line Feed Bin	HD015CE1	20" Diameter	None
HD016-P	HD016-U	F-0423A A-line Feed Bin	HD016CE1	20" Diameter	None
HD017-P	HD017-U	F-0423B B-line Feed Bin	HD017CE1	20" Diameter	None
HD018-P	HD018-U	F-0462 F-line Feed Bin	HD018CE1	20" Diameter	89-A-065-S1
HD019-P	HD019-U	F-0463 F-line Feed Bin	HD019CE1	20" Diameter	07-A-1190

Packing Unit

EP	EU	EU Description	CE	CE Model	Con. Permit
PP001-P	PP001-U	L-0520 HDPE Cartoning Elutriator	PP001CE1	P1056	None
PP002-P	PP002-U	L-0570 LDPE Cartoning Elutriator	PP002CE1	P1056	None
PP003-P	PP003-U	L-0522 HDPE Cartoning Scalperator	PP003CE1	68 "HV" Cyclone	None
PP004-P	PP004-U	L-0572 LDPE Cartoning Scalerator	PP004CE1	68 "HV" Cyclone	None
PP005-P	PP005-U	L-0501 HDPE Old Hopper Car Elutriator	PP005CE1	P1056	None
PP006-P	PP006-U	L-0551 LDPE Old Hopper Car Elutriator	PP006CE1	P1056	None
PP007-P	PP007-U	L-0597 LDPE Old Hopper Car Scalperator	PP007CE1	68 "HV" Cyclone	None
PP008-P	PP008-U	L-0503 HDPE Old Hopper Car Scalperator	PP008CE1	68 "HV" Cyclone	None
PP009-P	PP009-U	L-0593 LDPE Hopper Truck Elutriator	PP009CE1	P1112	None
PP010-P	PP010-U	L-0568 HDPE Hopper Truck Elutriator	PP010CE1	P1112	None
PP011-P	PP011-U	L-0502 HDPE New Hopper Car Elutriator	PP011CE1	FTHEC 621	79-A-102
PP012-P	PP012-U	L-0509 HDPE New Hopper Car Scalperator	PP012CE1	FTHEC 777	79-A-102
PP013-P	PP013-U	L-0557 LDPE New Hopper Car Scalperator	PP013CE1	FTHEC 777	79-A-102
PP014-P	PP014-U	L-0559 LDPE New Hopper Car Elutriator	PP014CE1	FTHEC 621	79-A-102
PP015-P	PP015-U	L-0594 LDPE Hopper Truck Scalperator	PP015CE1	68 "HV" Cyclone	None
PP016-P	PP016-U	L-0569 HDPE Hopper Truck Scalperator	PP016CE1	68 "HV" Cyclone	None

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

HDPE Unit

EP	EU	Opacity	PM10	PM	Regulation No.
HD010-P	HD010-U	40%	0.08 lb/hr	3.93 lb/hr 0.1 gr/dscf	Opacity: 567 IAC 23.3(2) "d" PM10&PM: Construction Permit 78-A-075-S1 567 IAC 23.3(2) "a"
HD011-P	HD011-U	40%	0.08 lb/hr	3.93 lb/hr 0.1 gr/dscf	Opacity: 567 IAC 23.3(2) "d" PM10&PM: Construction Permit 07-A-1181 567 IAC 23.3(2) "a"

HDPE Unit					
EP	EU	Opacity	PM10	PM	Regulation No.
HD012-P	HD012-U	40%	N/A	11.2 lb/hr	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2)"a"(2)
HD013-P	HD013-U	40%	N/A	11.2 lb/hr	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2)"a"(2)
HD014-P	HD014-U	40%	N/A	11.2 lb/hr	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2)"a"(2)
HD015-P	HD015-U	40%	N/A	11.2 lb/hr	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2)"a"(2)
HD016-P	HD016-U	40%	N/A	11.2 lb/hr	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2)"a"(2)
HD017-P	HD017-U	40%	N/A	11.2 lb/hr	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2)"a"(2)
HD018-P	HD018-U	40%	0.03 lb/hr	1.49 lb/hr 0.1 gr/dscf	Opacity: 567 IAC 23.3(2) "d" PM10&PM: Construction Permit 89-A-065-S1
HD019-P	HD019-U	40%	0.03 lb/hr	1.49 lb/hr 0.1 gr/dscf	Opacity: 567 IAC 23.3(2) "d" PM10: Construction Permit 07-A-1190 PM: Construction Permit 07-A-1190 567 IAC 23.3(2)"a"
Packing Unit					
PP001-P through PP016-P:					
Opacity emission limit:			40%	Regulation No:	567 IAC 23.3(2) "d"
Particulate matter emission limit:			41.94 lb/hr	Regulation No:	567 IAC 23.3(2) "a"

II. Monitoring Approach Description

A. Indicator monitored

Visible Emissions;

Collection rate in the powder bins located below the cyclonic separators;

Transfer rate of powder from the reactions to the receiving bins;

Air flow, vibration, and structural integrity.

B. Indicator Ranges

Visible emissions for the packing cyclones – No visible emissions.

Visible emissions for the HDPE finishing line feed bins – less than 10% opacity.

The rate of transfer of powder or pellets – typical transfer rate for each system.

Air flow rate – will be accessed based on typical observation.

C. Monitoring Frequency

Visible emissions – once per shift log operating discipline (OD) based on a daily basis during daylight hours.

Monitoring Equipment's Operational Status – at least once per 12-hour shift on operator log.

Post-control emissions – minimum once per day if post-control emissions are less than the major source threshold.

D. Rationale for Monitoring Approach

Parameters of collection rate, transfer rate, air flow, vibration, and structural integrity were selected as the performance indicators because they are indicative of operation of the cyclones in a manner necessary to comply with the particulate emission standard.

Opacity monitors and visual stack inspection are also utilized to ensure proper cyclone operation.

E. Data Collection Procedures

Operating Discipline (OD) rounds data are collected with hand held data loggers or log sheet which contain entry spaces for the daily cyclone visible emission observations. Operating Discipline (OD) Logs will be maintained for five years.

F. Rationale for Selection of Indicator Level

The selected indicator ranges are the typical operational no visible emissions for the packing line and 10% opacity for the HDPE finishing line feed bins. Visible emission was chosen as an indicator because it is indicative of a potential increase in particulate emissions due to a decrease in the performance of the cyclones.

There is little else that can be used to monitor cyclone devices other than structural integrity and air flow. The main issue is maintenance of the geometry of the throat section and maintenance of fans such that the approach velocity is sufficient to cause particulate matter separation.

If any deviations are present that affect the performances of the cyclone system, actions will be taken as soon as possible, an inspection and appropriate corrective actions will be taken within 8 hours. If corrective actions don not return the system to normal operating conditions, the Environmental Engineer or HSE Duty person will be contacted to coordinate a Method 9 opacity observation. The observation shall be conducted no later than eight hours of observation.

G. Specific QA/QC Procedures

Maintain and operate instrumentation using procedures that take into account manufacturer's specifications.

Spare parts will be maintained per Enterprise Spare Parts Standards. New equipment design, inspection, and installation will be maintained per Enterprise Engineering and Inspection Standards. A list of manufacturer spare parts and purchasing information is maintained as part of the equipment bill of materials in SAP.

Emission Point ID Number: HD020-P

Associated Equipment

Associated Emission Unit ID Numbers: HD020-U
Emissions Control Equipment ID Number: None
Emissions Control Equipment Description: None
Continuous Emissions Monitors ID Numbers: None

Emission Unit vented through this Emission Point: HD020-U
Emission Unit Description: F0918 PF-4 Surge Hopper
Raw Material/Fuel: Polyethylene Powder
Rated Capacity: 31,600.0 lb/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity

Emission Limit(s): 40% ⁽¹⁾

Authority for Requirement: Iowa DNR Construction Permit 07-A-1182
567 IAC 23.3(2) "a"

⁽¹⁾An exceedance of the indicator opacity of "10%" will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM₁₀)

Emission Limit(s): 0.20 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 07-A-1182

Pollutant: Particulate Matter (PM)

Emission Limit(s): 0.1 gr/dscf; 1.75 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 07-A-1182
567 IAC 23.3(2) "a"

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating Limits

- A. The maximum amount of High Density Polyethylene (HDPE) produced on this line shall not exceed 31,600 pounds per hour.
- B. The facility shall follow the applicable standards of NSPS Subpart DDD, 40 CFR §60.560 through §60.566.

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

- A. The facility shall record on a daily basis, the amount of HDPE produced on this line on an hourly basis. For purposes of determining the hourly production rate the facility may record the amount of material produced during a calendar day and divide by the number of hours the process line was in operation.
- B. The facility shall keep records as required in NSPS Subpart DDD, 40 CFR §60.560 through §60.566.

Authority for Requirement: Iowa DNR Construction Permit 07-A-1182

NSPS and NESHAP Applicability

This emission point is subject to the following NSPS subparts:

- a. NSPS Subpart A – General Provisions
- b. NSPS Subpart DDD – Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing Industry

Authority for Requirement: Iowa DNR Construction Permit 07-A-1182

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

- Stack Height, (ft, from the ground): 12
- Stack Opening, (inches, dia.): 8
- Exhaust Flow Rate (scfm): 75
- Exhaust Temperature (°F): 135
- Discharge Style: Horizontal

Authority for Requirement: Iowa DNR Construction Permit 07-A-1182

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

- Agency Approved Operation & Maintenance Plan Required?** Yes No
- Facility Maintained Operation & Maintenance Plan Required?** Yes No
- Compliance Assurance Monitoring (CAM) Plan Required?** Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: HD021-P and HD022-P

Associated Equipment

Associated Emission Unit ID Numbers: HD021-U, HD022-U
Emissions Control Equipment ID Number: None
Emissions Control Equipment Description: None
Continuous Emissions Monitors ID Numbers: None

Emission Unit Descriptions, Raw Material/Fuel and Rated Capacity are listed in the following table:

Table Compressors-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity
HD021-P	HD021-U	J-0303A PF-1 Recycle Compressor	Iso-Butane	410,681 gal/hr
HD022-P	HD022-P	J-0303B PF-1 Recycle Compressor	Iso-Butane	410,681 gal/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirement listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: HD027-P, HD028-P, and HD029-P

Associated Equipment

Associated Emission Unit ID Numbers: HD027-U, HD028-U, HD029-U
Emissions Control Equipment ID Number: None
Emissions Control Equipment Description: None
Continuous Emissions Monitors ID Numbers: None

Emission Unit Descriptions, Raw Material/Fuel and Rated Capacity are listed in the following table:

Table Compressors-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity
HD027-P	HD027-U	J-0603 PF-2/3 Recycle Compressor	Iso-Butane	407,089.8 gal/hr
HD028-P	HD028-U	J-0604 PF-2/3 Recycle Compressor	Iso-Butane	407,089.8 gal/hr
HD029-P	HD029-U	J-0605 PF-2/3 Recycle Compressor	Iso-Butane	407,089.8 gal/hr
HD029F-P		Fugitive Emission from Compressor	Iso-Butane	2.0 Equip-Leak/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Emission limits are not required at this time.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: HD033-P

Associated Equipment

Associated Emission Unit ID Numbers: HD033-U
Emissions Control Equipment ID Number: None
Emissions Control Equipment Description: None
Continuous Emissions Monitors ID Numbers: None

Emission Unit vented through this Emission Point: HD033-U
Emission Unit Description: J-0623 IC4 Recovery Compressor
Raw Material/Fuel: Iso-Butane
Rated Capacity: 86,176.0 gal/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Emission limits are not required at this time.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: HD036-P through HD038-P (Compressors)

Associated Equipment

Table Compressors-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity
HD036-P	HD036-U	J-0908A PF-4 Recycle Compressor	Iso-Butane	62.2 MMgal/hr
HD036F-P		Fugitive Emissions: Compressor Unloader Valves	Iso-Butane	16.0 equip-leak-hr/hr
HD037-P	HD037-U	J-0908B PF-4 Recycle Compressor	Iso-Butane	62.2 MMgal/hr
HD037F-P		Fugitive Emissions: Compressor Unloader Valves	Iso-Butane	16.0 equip-leak-hr/hr
HD038-P	HD038-U	J-0908C PF-4 Recycle Compressor	Iso-Butane	62.2 MMgal/hr
HD038F-P		Fugitive Emissions: Compressor Unloader Valves	Iso-Butane	16.0 equip-leak-hr/hr

Table Compressors-2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
HD036-P	HD036-U	J-0908A PF-4 Recycle Compressor	None	None	None
HD036F-P		Fugitive Emissions: Compressor Unloader Valves	None	None	None
HD037-P	HD037-U	J-0908B PF-4 Recycle Compressor	None	None	None
HD037F-P		Fugitive Emissions: Compressor Unloader Valves	None	None	None
HD038-P	HD038-U	J-0908C PF-4 Recycle Compressor	None	None	None
HD038F-P		Fugitive Emissions: Compressor Unloader Valves	None	None	None

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Emission limits are not required at this time.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: HD039-P through HD042-P

Associated Equipment

Table Pumps-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity MMgal/hr
HD039-P	HD039-U	J-0301 PF-1 Reactor Pump	Iso-Butane, Ethylene	1.40 4
HD040-P	HD040-U	J-0601 PF-3 Reactor Pump	Iso-Butane, Ethylene	1.404
HD041-P	HD041-U	J-0602 PF-2 Reactor Pump	Iso-Butane, Ethylene	1.404
HD042-P	HD042-U	J-0903 PF-4 Reactor Pump	Iso-Butane, Ethylene	2.034

Table Pumps-2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
HD039-P	HD039-U	J-0301 PF-1 Reactor Pump	None	None	None
HD040-P	HD040-U	J-0601 PF-3 Reactor Pump	None	None	None
HD041-P	HD041-U	J-0602 PF-2 Reactor Pump	None	None	None
HD042-P	HD042-U	J-0903 PF-4 Reactor Pump	None	None	None

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Emission limits are not required at this time.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: HD043-P, HD044-P, and HD045-P (Conveyor)

Associated Equipment

Table Conveyors-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity lb/hr
HD043-P	HD043-U	L-0302 PF-1 Purge Conveyor	Purge Gas	1100.0 lb/hr
HD144-P		L-0302 PF-1 Purge Conveyor Fugitive	Purge Gas	178.0 lb/yr
HD044-P	HD044-U	L-0603 PF-3 Purge Conveyor	Purge Gas	1100.0 lb/hr
HD145-P		L-0603 PF-3 Purge Conveyor Fugitive	Purge Gas	232.0 lb/yr
HD045-P	HD045-U	L-0604 PF-2 Purge Conveyor	Purge Gas	1100.0 lb/hr
HD146-P		L-0603 PF-3 Purge Conveyor Fugitive	Purge Gas	228.0 lb/yr

Table Conveyors-2

EP	EU	Emission Unit Description	CE*	CEM	IDNR Construction Permit
HD043-P	HD043-U	L-0302 PF-1 Purge Conveyor	EP033CE1	None	None
HD144-P		L-0302 PF-1 Purge Conveyor Fugitive	None	None	None
HD044-P	HD044-U	L-0603 PF-3 Purge Conveyor	EP033CE1	None	None
HD145-P		L-0603 PF-3 Purge Conveyor Fugitive	None	None	None
HD045-P	HD045-U	L-0604 PF-2 Purge Conveyor	EP033CE1	None	None
HD146-P		L-0603 PF-3 Purge Conveyor Fugitive	None	None	None

*: Control Equipment EP033CE1: Stream Assisted Flare

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Emission limits are not required at this time.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: HD046-P, HD047-P, and HD048-P (Surge Bins)

Associated Equipment

Table Surge Bins-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity lb/hr
HD046-P	HD046-U	VF-0402 PF-1 Surge Bin	Polyethylene Powder	14,000.0
HD047-P	HD047-U	VF-0432A PF-3 Surge Bin	Polyethylene Powder	14,000.0
HD048-P	HD048-U	VF-0432B PF-2 Surge Bin	Polyethylene Powder	14,000.0

Table Surge Bins -2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
HD046-P	HD046-U	VF-0402 PF-1 Surge Bin	None	None	None
HD047-P	HD047-U	VF-0432A PF-3 Surge Bin	None	None	None
HD048-P	HD048-U	VF-0432B PF-2 Surge Bin	None	None	None

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Emission limits are not required at this time.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: HD049A-P and HD049C-P (Scrubbers)

Associated Equipment

Table Scrubbers-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity lb/hr
HD049A-P	HD049A-U	Scrubber for GAS1 D-0307	Catalyst	13.80
HD049C-P	HD049C-U	Scrubber for Electric1 D-0310	Catalyst	15.00

Table Scrubbers-2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
HD049A-P	HD049A-U	Scrubber for GAS1 D-0307	None	None	None
HD049C-P	HD049C-U	Scrubber for Electric1 D-0310	None	None	08-A-442

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

HD049A-P:

Pollutant: Opacity

Emission Limit(s): 40%

Authority for Requirement: 567 IAC 23.3(2) "d"

Pollutant: Particulate Matter (PM)

Emission Limit(s): 0.1 gr/dscf

Authority for Requirement: 567 IAC 23.3(2) "a"

HD049C-P:

Pollutant: Opacity

Emission Limit(s): 40% ⁽¹⁾

Authority for Requirement: Iowa DNR Construction Permit 08-A-442
567 IAC 23.3(2) "d"

⁽¹⁾An exceedance of the indicator opacity of "no visible emissions" will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM₁₀)

Emission Limit(s): 0.02 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 08-A-442

Pollutant: Particulate Matter (PM)

Emission Limit(s): 0.02 lb/hr; 0.1 gr/dscf

Authority for Requirement: Iowa DNR Construction Permit 08-A-442
567 IAC 23.3(2) "a"

Pollutant: VOC

Emission Limit(s): 13.14 ton/yr

Authority for Requirement: Iowa DNR Construction Permit 08-A-442

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating limits are not required at this time.

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

HD049C-P:

Stack Height, (ft, from the ground): 20

Stack Opening, (inches, dia.): 4

Exhaust Flow Rate (scfm): variable flowrate 20~120

Exhaust Temperature (°F): 100

Discharge Style: Vertical Obstructed

Authority for Requirement: Iowa DNR Construction Permit 08-A-442

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: HD050A-P through HD050D-P (Dust Collector)

Associated Equipment

Table Dust Collectors-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity lb/hr
HD050A-P	HD050A-U	L-0426A A-Line Dust Collector	Polyethylene Powder	9,000.0
HD050B-P	HD050B-U	L-0426B B-Line Dust Collector	Polyethylene Powder	9,000.0
HD050C-P	HD050C-U	L-0470 F-Line Dust Collector	Polyethylene Powder	25,500.0
HD050D-P	HD050D-U	L-0410 J-Line Dust Collector	Polyethylene Powder	31,500.0

Table Dust Collectors-2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
HD050A-P	HD050A-U	L-0426A A-Line Dust Collector	None	None	None
HD050B-P	HD050B-U	L-0426B B-Line Dust Collector	None	None	None
HD050C-P	HD050C-U	L-0470 F-Line Dust Collector	None	None	89-A-070-S1
HD050D-P	HD050D-U	L-0410 J-Line Dust Collector	None	None	03-A-1014-S1

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Table Dust Collectors -3

EP	EU	Opacity	PM ₁₀	PM	Authority of Requirement
HD050A-P	HD050A-U	40%	NA	11.20 lb/hr ²	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"(2)
HD050B-P	HD050B-U	40%	NA	11.20 lb/hr ²	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"(2)
HD050C-P	HD050C-U	40% ¹	0.03 lb/hr	0.324 lb/hr	Opacity: 567 IAC 23.3(2) "d" Construction Permit 89-A-070-S1 PM10: Construction Permit 89-A-070-S1 PM: Construction Permit 89-A-070-S1
HD050D-P	HD050D-U	40% ¹	NA	0.1 gr/dscf	Opacity: 567 IAC 23.3(2) "d" Construction Permit 03-A-1014-S1 PM: Construction Permit 03-A-1014-S1 567 IAC 23.3(2) "a"

¹: An exceedance of the indicator opacity of "10%" will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

²: PM emission limit of 11.2 lb/hr were based on the process weights for these units using the formulas in 567 IAC 23.3(2) "a" (2).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating Limits

HD050A-P and HD050B-P:

Operating limits are not required at this time.

HD050C-P and HD050D-P:

- a. The maximum amount of High Density Polyethylene (HDPE) produced on this line shall not exceed 25,500 pounds per hour for HD050C-P and 31,500 pound per hour for HD050D-P.
- b. The facility shall follow the applicable standards of NSPS Subpart DDD, 40 CFR §60.560 through §60.566.

Authority for Requirement: Iowa DNR Construction Permit 89-A-070-S1, 03-A-1014-S1

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

HD050A-P and HD050B-P:

Reporting and Recordkeeping are not required at this time.

HD050C-P and HD050D-P:

- a. The facility shall record on a daily basis, the amount of HDPE produced on this line on an hourly basis. For purposes of determining the hourly production rate the facility may record the amount of material produced during a calendar day and divide by the number of hours the process line was in operation.
- b. Retain manufacturer/vendor provided information (i.e., Material Safety Data Sheets (MSDS), technical data sheets, etc.) of all materials used in the affected operations.
- c. The facility shall keep records as required in NSPS Subpart DDD, 40 CFR §60.560 through §60.566.

Authority for Requirement: Iowa DNR Construction Permit 89-A-070-S1, 03-A-1014-S1

NSPS and NESHAP Applicability

HD050C-P and HD050D-P are subject to:

- a. NSPS Subpart A – General Provisions.
- b. NSPS Subpart DDDD – Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing Industry.

Authority for Requirement: Iowa DNR Construction Permit 89-A-070-S1, 03-A-1014-S1

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Dust Collectors -4

	HD050C-P	HD050D-P
Stack Height, (ft, from the ground)	27	22
Stack Opening (diameter, inches)	10	6
Exhaust Flow Rate (scfm)	100	120
Exhaust Temperature (°F)	200	200
Discharge Style	Horizontal	Horizontal
Authority for Requirement:	IDNR Construction Permit 89-A-070-S1	IDNR Construction Permit 03-A-1014-S1

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: HD051-P

Associated Equipment

Associated Emission Unit ID Numbers: HD051-U
Emissions Control Equipment ID Number: None
Emissions Control Equipment Description: None
Continuous Emissions Monitors ID Numbers: None

Emission Unit vented through this Emission Point: HD051-U
Emission Unit Description: J-1402 Additive Vacuum System
Raw Material/Fuel: Additives
Rated Capacity: 132.0 lb/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity

Emission Limit(s): 40% ⁽¹⁾

Authority for Requirement: Iowa DNR Construction Permit 03-A-1015
567 IAC 23.3(2) "d"

⁽¹⁾An exceedance of the indicator opacity of 25% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM)

Emission Limit(s): 0.1 gr/dscf

Authority for Requirement: Iowa DNR Construction Permit 03-A-1015
567 IAC 23.3(2) "a"

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 7

Stack Opening, (inches, dia.): 4

Exhaust Flow Rate (scfm): 220

Exhaust Temperature (°F): 250

Discharge Style: Horizontal

Authority for Requirement: Iowa DNR Construction Permit 03-A-1015

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: HD052-P through HD071-P (Storage Bins)

Associated Equipment

Table Storage Bins-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity lb/hr
HD052-P	HD052-U	F-0402A PF Storage Bin	Polyethylene Powder	30,000
HD053-P	HD053-U	F-0402B PF Storage Bin	Polyethylene Powder	30,000
HD054-P	HD054-U	F-0402C PF Storage Bin	Polyethylene Powder	30,000
HD055-P	HD055-U	F-0402D PF Storage Bin	Polyethylene Powder	30,000
HD056-P	HD056-U	F-0402E PF Storage Bin	Polyethylene Powder	30,000
HD057-P	HD057-U	F-0432A PF Storage Bin	Polyethylene Powder	30,000
HD058-P	HD058-U	F-0432B PF Storage Bin	Polyethylene Powder	30,000
HD059-P	HD059-U	F-0432C PF Storage Bin	Polyethylene Powder	30,000
HD060-P	HD060-U	F-0432D PF Storage Bin	Polyethylene Powder	30,000
HD061-P	HD061-U	F-0432E PF Storage Bin	Polyethylene Powder	30,000
HD062-P	HD062-U	F-0412A PF Storage Bin	Polyethylene Powder	30,000
HD063-P	HD063-U	F-0412B PF Storage Bin	Polyethylene Powder	30,000
HD064-P	HD064-U	F-0412C PF Storage Bin	Polyethylene Powder	30,000
HD065-P	HD065-U	F-0412D PF Storage Bin	Polyethylene Powder	30,000
HD066-P	HD066-U	F-0412E PF Storage Bin	Polyethylene Powder	30,000
HD067-P	HD067-U	F-0412F PF Storage Bin	Polyethylene Powder	30,000
HD068-P	HD068-U	F-0412G PF Storage Bin	Polyethylene Powder	30,000
HD069-P	HD069-U	F-0412H PF Storage Bin	Polyethylene Powder	30,000
HD070-P	HD070-U	F-0412J PF Storage Bin	Polyethylene Powder	30,000
HD071-P	HD071-U	F-0412K PF Storage Bin	Polyethylene Powder	30,000

Table Storage Bins-2

EP	EU	Emission Unit Description	CEM	CE & Description	IDNR Construction Permit
HD052-P	HD052-U	F-0402A PF Storage Bin	None	HD052CE1 Cyclone	None
HD053-P	HD053-U	F-0402B PF Storage Bin	None	HD053CE1 Baghouse	10-A-379
HD054-P	HD054-U	F-0402C PF Storage Bin	None	HD054CE1 Baghouse	10-A-380
HD055-P	HD055-U	F-0402D PF Storage Bin	None	HD055CE1 Baghouse	10-A-381
HD056-P	HD056-U	F-0402E PF Storage Bin	None	HD056CE1 Baghouse	10-A-382
HD057-P	HD057-U	F-0432A PF Storage Bin	None	HD057CE1 Cyclone	None
HD058-P	HD058-U	F-0432B PF Storage Bin	None	HD058CE1 Cyclone	None
HD059-P	HD059-U	F-0432C PF Storage Bin	None	HD059CE1 Cyclone	None
HD060-P	HD060-U	F-0432D PF Storage Bin	None	HD060CE1 Cyclone	None
HD061-P	HD061-U	F-0432E PF Storage Bin	None	HD069CE1 Cyclone	None
HD062-P	HD062-U	F-0412A PF Storage Bin	None	HD061CE1 Baghouse	10-A-383
HD063-P	HD063-U	F-0412B PF Storage Bin	None	HD062CE1 Baghouse	10-A-384
HD064-P	HD064-U	F-0412C PF Storage Bin	None	HD063CE1 Baghouse	10-A-385
HD065-P	HD065-U	F-0412D PF Storage Bin	None	HD064CE1 Baghouse	10-A-386
HD066-P	HD066-U	F-0412E PF Storage Bin	None	HD065CE1 Baghouse	10-A-387
HD067-P	HD067-U	F-0412F PF Storage Bin	None	HD066CE1 Baghouse	10-A-388
HD068-P	HD068-U	F-0412G PF Storage Bin	None	HD067CE1 Cyclone	78-A-074
HD069-P	HD069-U	F-0412H PF Storage Bin	None	HD068CE1 Cyclone	78-A-074
HD070-P	HD070-U	F-0412J PF Storage Bin	None	HD070CE1 Baghouse	10-A-389
HD071-P	HD071-U	F-0412K PF Storage Bin	None	HD071CE1 Baghouse	10-A-390

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Table Storage Bins-3

EP	EU	Opacity	PM10	PM	VOC	Authority of Requirement
HD052-P	HD052-U	40%	None	25.16 lb/hr ²	None	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD053-P	HD053-U	40% ¹	0.039 lb/hr	0.13 lb/hr 0.1 gr/dscf	1.40 ton/yr ³	Opacity: Construction Permit 10-A-379 567 IAC 23.3(2) "d" PM10: Construction Permit 10-A-379 PM: Construction Permit 10-A-379 567 IAC 23.3(2) "a" VOC: Construction Permit 10-A-379
HD054-P	HD054-U	40% ¹	0.039 lb/hr	0.13 lb/hr 0.1 gr/dscf	1.40 ton/yr ³	Opacity: Construction Permit 10-A-380 567 IAC 23.3(2) "d" PM10: Construction Permit 10-A-380 PM: Construction Permit 10-A-380 567 IAC 23.3(2) "a" VOC: Construction Permit 10-A-380
HD055-P	HD055-U	40% ¹	0.039 lb/hr	0.13 lb/hr 0.1 gr/dscf	1.40 ton/yr ³	Opacity: Construction Permit 10-A-381 567 IAC 23.3(2) "d" PM10: Construction Permit 10-A-381 PM: Construction Permit 10-A-381 567 IAC 23.3(2) "a" VOC: Construction Permit 10-A-381
HD056-P	HD056-U	40% ¹	0.039 lb/hr	0.13 lb/hr 0.1 gr/dscf	1.40 ton/yr ³	Opacity: Construction Permit 10-A-382 567 IAC 23.3(2) "d" PM10: Construction Permit 10-A-382 PM: Construction Permit 10-A-382 567 IAC 23.3(2) "a" VOC: Construction Permit 10-A-382
HD057-P	HD057-U	40%	None	25.16 lb/hr ²	None	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD058-P	HD058-U	40%	None	25.16 lb/hr ²	None	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD059-P	HD059-U	40%	None	25.16 lb/hr ²	None	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD060-P	HD060-U	40%	None	25.16 lb/hr ²	None	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD061-P	HD061-U	40%	None	25.16 lb/hr ²	None	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD062-P	HD062-U	40% ¹	0.039 lb/hr	0.13 lb/hr 0.1 gr/dscf	1.40 ton/yr ³	Opacity: Construction Permit 10-A-383 567 IAC 23.3(2) "d" PM10: Construction Permit 10-A-383 PM: Construction Permit 10-A-383 567 IAC 23.3(2) "a" VOC: Construction Permit 10-A-383
HD063-P	HD063-U	40% ¹	0.039 lb/hr	0.13 lb/hr 0.1 gr/dscf	1.40 ton/yr ³	Opacity: Construction Permit 10-A-384 567 IAC 23.3(2) "d" PM10: Construction Permit 10-A-384 PM: Construction Permit 10-A-384 567 IAC 23.3(2) "a"

EP	EU	Opacity	PM10	PM	VOC	Authority of Requirement
						VOC: Construction Permit 10-A-384
HD064-P	HD064-U	40% ¹	0.039 lb/hr	0.13 lb/hr 0.1 gr/dscf	1.40 ton/yr ³	Opacity: Construction Permit 10-A-385 567 IAC 23.3(2) "d" PM10: Construction Permit 10-A-385 PM: Construction Permit 10-A-385 567 IAC 23.3(2) "a" VOC: Construction Permit 10-A-385
HD065-P	HD065-U	40% ¹	0.039 lb/hr	0.13 lb/hr 0.1 gr/dscf	1.40 ton/yr ³	Opacity: Construction Permit 10-A-386 567 IAC 23.3(2) "d" PM10: Construction Permit 10-A-386 PM: Construction Permit 10-A-386 567 IAC 23.3(2) "a" VOC: Construction Permit 10-A-386
HD066-P	HD066-U	40% ¹	0.039 lb/hr	0.13 lb/hr 0.1 gr/dscf	1.40 ton/yr ³	Opacity: Construction Permit 10-A-387 567 IAC 23.3(2) "d" PM10: Construction Permit 10-A-387 PM: Construction Permit 10-A-387 567 IAC 23.3(2) "a" VOC: Construction Permit 10-A-387
HD067-P	HD067-U	40%	None	25.16 lb/hr ²	None	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD068-P	HD068-U	40%	None	25.16 lb/hr ²	None	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD069-P	HD069-U	40% ¹	0.039 lb/hr	0.13 lb/hr 0.1 gr/dscf	1.40 ton/yr ³	Opacity: Construction Permit 10-A-388 567 IAC 23.3(2) "d" PM10: Construction Permit 10-A-388 PM: Construction Permit 10-A-388 567 IAC 23.3(2) "a" VOC: Construction Permit 10-A-388
HD070-P	HD070-U	40% ¹	0.039 lb/hr	0.13 lb/hr 0.1 gr/dscf	1.40 ton/yr ³	Opacity: Construction Permit 10-A-389 567 IAC 23.3(2) "d" PM10: Construction Permit 10-A-389 PM: Construction Permit 10-A-389 567 IAC 23.3(2) "a" VOC: Construction Permit 10-A-389
HD071-P	HD071-U	40% ¹	0.039 lb/hr	0.13 lb/hr 0.1 gr/dscf	1.40 ton/yr ³	Opacity: Construction Permit 10-A-390 567 IAC 23.3(2) "d" PM10: Construction Permit 10-A-390 PM: Construction Permit 10-A-390 567 IAC 23.3(2) "a" VOC: Construction Permit 10-A-390

¹. An exceedance of the indicator opacity of 10% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

². PM emission limit of 25.16 lb/hr was based on the process weights for these units using the formulas in 567 IAC 23.3(2) "a" (2).

³. Requested emission limit for storage bins HD053-P through HD056-P, HD062-P through HD066-P, and HD069-P through HD071-P.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating Limits

HD053-P, HD054-P, HD055-P, HD056-P, HD062-P, HD063-P, HD064-P, HD065-P, HD066-P, HD069-P, HD070-P, and HD071-P:

- a. The facility is restricted to having only four transfer blowers for filling the storage silos.
- b. The baghouse shall be maintained per manufacturer’s recommendations.

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

HD053-P, HD054-P, HD055-P, HD056-P, HD062-P, HD063-P, HD064-P, HD065-P, HD066-P, HD069-P, HD070-P, and HD071-P:

- a. The owner or operator shall keep record of the number of transfer blowers that fill the storage silos.
- b. The owner or operator shall keep records of all maintenance conducted on the baghouse.

Authority for Requirement:	Iowa DNR Construction Permit	10-A-379	10-A-380
	10-A-381	10-A-382	10-A-383
	10-A-385	10-A-386	10-A-387
	10-A-389	10-A-390	

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Storage Bins-3

	Stack Height, (ft, from the ground)	Stack Opening (in)	Exhaust Flow Rate (scfm)	Exhaust Temperature (°F)	Discharge Style	Authority for Requirement, IDNR Construction Permit
HD053-P	47	10×12	1,514	100	Horizontal	10-A-379
HD054-P	47	10×12	1,514	100	Horizontal	10-A-380
HD055-P	47	10×12	1,514	100	Horizontal	10-A-381
HD056-P	47	10×12	1,514	100	Horizontal	10-A-382
HD062-P	47	10×12	1,514	100	Horizontal	10-A-383
HD063-P	47	10×12	1,514	100	Horizontal	10-A-384
HD064-P	47	10×12	1,514	100	Horizontal	10-A-385
HD065-P	47	10×12	1,514	100	Horizontal	10-A-386
HD066-P	47	10×12	1,514	100	Horizontal	10-A-387
HD069-P	47	10×12	1,514	100	Horizontal	10-A-388
HD070-P	47	10×12	1,514	100	Horizontal	10-A-389
HD071-P	47	10×12	1,514	100	Horizontal	10-A-390

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Facility O&M plans are required for baghouses HD053CE1, HD054CE1, HD055CE1, HD056CE1, HD062CE1, HD063CE1, HD064CE1, HD065CE1, HD066CE1, HD067CE1, HD068CE1, HD069CE1, HD070CE1, HD071CE1, and cyclones HD052CE1, HD057CE1, HD058CE1, HD059CE1, HD060CE1, HD061CE1.

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

The issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: HD072-P and HD073-P (Storage/Feed Bins)

Associated Equipment

Associated Emission Unit ID Numbers: HD072-U, HD073-U
 Emissions Control Equipment ID Number: HD072CE1, HD073CE1
 Emissions Control Equipment Description: Cyclones
 Continuous Emissions Monitors ID Numbers: None

Emission Unit Descriptions, Raw Material/Fuel and Rated Capacity are listed in the following table:

EP=Emission Point, EU=Emission Unit

Table Bins-1

EP	EU	Emission Unit Description	Raw Material	Rated Capacity
HD072-P	HD072-U	F-0404A Plexar Storage/Feed Bin	Polyethylene Powder	500.0 lb/hr
HD073-P	HD073-U	F-0404B Plexar Storage/Feed Bin	Polyethylene Powder	500.0 lb/hr

Table Bins-2

EP	EU	Emission Unit Description	CEM	CE & Description	IDNR Construction Permit
HD072-P	HD072-U	F-0404A Plexar Storage/Feed Bin	None	HD072CE1 Cyclone	80-A-075
HD073-P	HD073-U	F-0404B Plexar Storage/Feed Bin	None	HD073CE1 Cyclone	80-A-076

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Table Bins-3

EP	EU	Opacity	PM	Authority of Requirement
HD072-P	HD072-U	40%	1.62 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD073-P	HD073-U	40%	1.62 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"

¹PM emission limit of 1.62 lb/hr was based on the process weights for these units using the formulas in 567 IAC 23.3(2) "a" (2).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: HD074-P

Associated Equipment

Associated Emission Unit ID Numbers: HD074-U
Emissions Control Equipment ID Number: None
Emissions Control Equipment Description: None
Continuous Emissions Monitors ID Numbers: None

Emission Unit vented through this Emission Point: HD074-U
Emission Unit Description: F-0404C Plexar Rundown Bin
Raw Material/Fuel: Polyethylene Pellets
Rated Capacity: 500.0 lb/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40%
Authority for Requirement: 567 IAC 23.3(2) "d"

Pollutant: Particulate Matter (PM)
Emission Limit(s): 1.62 lb/hr ⁽¹⁾
Authority for Requirement: 567 IAC 23.3(2) "a"

⁽¹⁾ PM emission limit of 1.62 lb/hr was based on the process weights for these units using the formulas in 567 IAC 23.3(2) "a" (2).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: HD075-P through HD091-P (Pellet Blenders)

Associated Equipment

Table Pellet Blenders-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity lb/hr
HD075-P	HD075-U	F-0444A Pellet Blender	Polyethylene Pellets	9,000.0
HD076-P	HD076-U	F-0444B Pellet Blender	Polyethylene Pellets	9,000.0
HD077-P	HD077-U	F-0444C Pellet Blender	Polyethylene Pellets	25,500.0
HD078-P	HD078-U	F-0444D Pellet Blender	Polyethylene Pellets	25,500.0
HD079-P	HD079-U	F-0444E Pellet Blender	Polyethylene Pellets	25,500.0
HD080-P	HD080-U	F-0444F Pellet Blender	Polyethylene Pellets	25,500.0
HD081-P	HD081-U	F-0441A Pellet Blender	Polyethylene Pellets	9,000.0
HD082-P	HD082-U	F-0441B Pellet Blender	Polyethylene Pellets	9,000.0
HD083-P	HD083-U	F-0445 Pellet Blender	Polyethylene Pellets	9,000.0
HD084-P	HD084-U	F-0437A Pellet Blender	Polyethylene Pellets	31,500.0
HD085-P	HD085-U	F-0437B Pellet Blender	Polyethylene Pellets	31,500.0
HD086-P	HD086-U	F-0437C Pellet Blender	Polyethylene Pellets	31,500.0
HD087-P	HD087-U	F-0437D Pellet Blender	Polyethylene Pellets	31,500.0
HD088-P	HD088-U	F-0437E Pellet Blender	Polyethylene Pellets	31,500.0
HD089-P	HD089-U	F-0437F Pellet Blender	Polyethylene Pellets	31,500.0
HD090-P	HD090-U	F-0437G Pellet Blender	Polyethylene Pellets	31,500.0
HD091-P	HD091-U	F-0437H Pellet Blender	Polyethylene Pellets	31,500.0

Table Pellet Blenders-2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
HD075-P	HD075-U	F-0444A Pellet Blender	None	None	None
HD076-P	HD076-U	F-0444B Pellet Blender	None	None	None
HD077-P	HD077-U	F-0444C Pellet Blender	None	None	89-A-068-S1
HD078-P	HD078-U	F-0444D Pellet Blender	None	None	07-A-1191
HD079-P	HD079-U	F-0444E Pellet Blender	None	None	07-A-1192
HD080-P	HD080-U	F-0444F Pellet Blender	None	None	07-A-1193
HD081-P	HD081-U	F-0441A Pellet Blender	None	None	None
HD082-P	HD082-U	F-0441B Pellet Blender	None	None	None
HD083-P	HD083-U	F-0445 Pellet Blender	None	None	None
HD084-P	HD084-U	F-0437A Pellet Blender	None	None	89-A-067-S1
HD085-P	HD085-U	F-0437B Pellet Blender	None	None	07-A-1183
HD086-P	HD086-U	F-0437C Pellet Blender	None	None	07-A-1184
HD087-P	HD087-U	F-0437D Pellet Blender	None	None	07-A-1185
HD088-P	HD088-U	F-0437E Pellet Blender	None	None	07-A-1186
HD089-P	HD089-U	F-0437F Pellet Blender	None	None	07-A-1187
HD090-P	HD090-U	F-0437G Pellet Blender	None	None	07-A-1188
HD091-P	HD091-U	F-0437H Pellet Blender	None	None	07-A-1189

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Table Pellet Blenders-3

EP	EU	Opacity	PM10	PM	Authority of Requirement
HD075-P	HD075-U	40%	NA	11.23 lb/hr ¹	Opacity: 567 IAC 23.3 (2) "d" PM: 567 IAC 23.3(2)"a"(2)
HD076-P	HD076-U	40%	NA	11.23 lb/hr ¹	Opacity: 567 IAC 23.3 (2) "d" PM: 567 IAC 23.3(2)"a"(2)
HD077-P	HD077-U	40% ²	0.06 lb/hr	2.19 lb/hr ³ 0.1 gr/dscf	Opacity: 567 IAC 23.3 (2) "d" Construction Permit 89-A-068-S1 PM10: Construction Permit 89-A-068-S1 PM: 567 IAC 23.3 (2) "a" Construction Permit 89-A-068-S1
HD078-P	HD078-U	40% ²	0.06 lb/hr	2.19 lb/hr ³ 0.1 gr/dscf	Opacity: 567 IAC 23.3 (2) "d" Construction Permit 07-A-1191 PM10: Construction Permit 07-A-1191 PM: 567 IAC 23.3 (2) "a" Construction Permit 07-A-1191
HD079-P	HD079-U	40% ²	0.06 lb/hr	2.19 lb/hr ³ 0.1 gr/dscf	Opacity: 567 IAC 23.3 (2) "d" Construction Permit 07-A-1192 PM10: Construction Permit 07-A-1192 PM: 567 IAC 23.3 (2) "a" Construction Permit 07-A-1192
HD080-P	HD080-U	40% ²	0.06 lb/hr	2.19 lb/hr ³ 0.1 gr/dscf	Opacity: 567 IAC 23.3 (2) "d" Construction Permit 07-A-1193 PM10: Construction Permit 07-A-1193 PM: 567 IAC 23.3 (2) "a" Construction Permit 07-A-1193
HD081-P	HD081-U	40%	NA	11.23 lb/hr ¹	Opacity: 567 IAC 23.3 (2) "d" PM: 567 IAC 23.3(2)"a"(2)
HD082-P	HD082-U	40%	NA	11.23 lb/hr ¹	Opacity: 567 IAC 23.3 (2) "d" PM: 567 IAC 23.3(2)"a"(2)
HD083-P	HD083-U	40%	NA	11.23 lb/hr ¹	Opacity: 567 IAC 23.3 (2) "d" PM: 567 IAC 23.3(2)"a"(2)
HD084-P	HD084-U	40% ²	0.08 lb/hr	2.71 lb/hr ⁴ 0.1 gr/dscf	Opacity: 567 IAC 23.3 (2) "d" Construction Permit 89-A-067-S1 PM10: Construction Permit 89-A-067-S1 PM: 567 IAC 23.3 (2) "a" Construction Permit 89-A-067-S1
HD085-P	HD085-U	40% ²	0.08 lb/hr	2.71 lb/hr ⁴ 0.1 gr/dscf	Opacity: 567 IAC 23.3 (2) "d" Construction Permit 07-A-1183 PM10: Construction Permit 07-A-1183 PM: 567 IAC 23.3 (2) "a" Construction Permit 07-A-1183
HD086-P	HD086-U	40% ²	0.08 lb/hr	2.71 lb/hr ⁴ 0.1 gr/dscf	Opacity: 567 IAC 23.3 (2) "d" Construction Permit 07-A-1184 PM10: Construction Permit 07-A-1184 PM: 567 IAC 23.3 (2) "a" Construction Permit 07-A-1184

EP	EU	Opacity	PM10	PM	Authority of Requirement
HD087-P	HD087-U	40% ²	0.08 lb/hr	2.71 lb/hr ⁴ 0.1 gr/dscf	Opacity: 567 IAC 23.3 (2) "d" Construction Permit 07-A-1185 PM10: Construction Permit 07-A-1185 PM: 567 IAC 23.3 (2) "a" Construction Permit 07-A-1185
HD088-P	HD088-U	40% ²	0.08 lb/hr	2.71 lb/hr ⁴ 0.1 gr/dscf	Opacity: 567 IAC 23.3 (2) "d" Construction Permit 07-A-1186 PM10: Construction Permit 07-A-1186 PM: 567 IAC 23.3 (2) "a" Construction Permit 07-A-1186
HD089-P	HD089-U	40% ²	0.08 lb/hr	2.71 lb/hr ⁴ 0.1 gr/dscf	Opacity: 567 IAC 23.3 (2) "d" Construction Permit 07-A-1187 PM10: Construction Permit 07-A-1187 PM: 567 IAC 23.3 (2) "a" Construction Permit 07-A-1187
HD090-P	HD090-U	40% ²	0.08 lb/hr	2.71 lb/hr ⁴ 0.1 gr/dscf	Opacity: 567 IAC 23.3 (2) "d" Construction Permit 07-A-1188 PM10: Construction Permit 07-A-1188 PM: 567 IAC 23.3 (2) "a" Construction Permit 07-A-1188
HD091-P	HD091-U	40% ²	0.08 lb/hr	2.71 lb/hr ⁴ 0.1 gr/dscf	Opacity: 567 IAC 23.3 (2) "d" Construction Permit 07-A-1189 PM10: Construction Permit 07-A-1189 PM: 567 IAC 23.3 (2) "a" Construction Permit 07-A-1189

1. PM emission limit of 11.23 lb/hr was based on the process weights for these units using the formulas in 567 IAC 23.3(2) "a" (2).
2. An exceedance of the indicator opacity of "10%" will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).
3. The maximum potential to emit for the pellet blenders, HD077-U through HD080-U, is 9.60 tons of PM per year based on the maximum production capacity (25,500 lb/hr) of this line.
4. The maximum potential to emit for the pellet blenders, HD084-U through HD091-U, is 11.87 tons of PM per year based on the maximum production capacity (31,500 lb/hr) of this line.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating Limits

HD075-P, HD076-P, HD081-P, HD082-P, and HD083-P:

Operating limits are not required at this time.

HD077-P, HD078-P, HD079-P, and HD080-P:

- a. The maximum amount of High Density Polyethylene (HDPE) produced on this line shall not exceed 25,500 pounds per hour.
- b. The facility shall follow the applicable standards of NSPS Subpart DDD, 40 CFR §60.560 through §60.566.

Authority for Requirement: Iowa DNR Construction Permit 89-A-068-S1 07-A-1191
07-A-1192 07-A-1193

NSPS and NESHAP Applicability

HD077-P, HD078-P, HD079-P, HD080-P, and HD084-P through HD091-P are subject to:

- a. NSPS Subpart A – General Provisions.
- b. NSPS Subpart DDD – Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing Industry

Authority for Requirement: Iowa DNR Construction Permit

89-A-068-S1	07-A-1191
07-A-1192	07-A-1193
89-A-067-S1	07-A-1183
07-A-1184	07-A-1185
07-A-1186	07-A-1187
07-A-1188	07-A-1189

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Pellet Blenders-4

	Stack Height, (ft, from the ground)	Stack Opening (dia., in)	Exhaust Flow Rate (scfm)	Exhaust Temperature (°F)	Discharge Style	Authority for Requirement, INDR Construction Permit
HD077-P	75	12	1500	100	Horizontal	89-A-068-S1
HD078-P	75	12	1500	100	Horizontal	07-A-1191
HD079-P	75	12	1500	100	Horizontal	07-A-1192
HD080-P	75	12	1500	100	Horizontal	07-A-1193
HD084-P	73	16×16	1500	100	Downward	89-A-067-S1
HD085-P	73	16×16	1500	100	Downward	07-A-1183
HD086-P	73	16×16	1500	100	Downward	07-A-1184
HD087-P	73	16×16	1500	100	Downward	07-A-1185
HD088-P	73	16×16	1500	100	Downward	07-A-1186
HD089-P	73	16×16	1500	100	Downward	07-A-1187
HD090-P	73	16×16	1500	100	Downward	07-A-1188
HD091-P	73	16×16	1500	100	Downward	07-A-1189

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: HD092-P through HD103-P (Pellet Storage Bins and Silo)

Associated Equipment

Table Storage Bins and Silo-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity lb/hr
HD092-P	HD092-U	F-0443A Pellet Storage Bin	Polyethylene Pellet	60,000.0
HD093-P	HD093-U	F-0443B Pellet Storage Bin	Polyethylene Pellet	60,000.0
HD094-P	HD094-U	F-0443C Pellet Storage Bin	Polyethylene Pellet	60,000.0
HD095-P	HD095-U	F-0443D Pellet Storage Bin	Polyethylene Pellet	60,000.0
HD096-P	HD096-U	F-0443E Pellet Storage Bin	Polyethylene Pellet	60,000.0
HD097-P	HD097-U	F-0443F Pellet Storage Bin	Polyethylene Pellet	60,000.0
HD098-P	HD098-U	F-0443G Pellet Storage Bin	Polyethylene Pellet	60,000.0
HD099-P	HD099-U	F-0443H Pellet Storage Bin	Polyethylene Pellet	60,000.0
HD100-P	HD100-U	F-0443J Pellet Storage Bin	Polyethylene Pellet	60,000.0
HD101-P	HD101-U	F-0443K Pellet Storage Bin	Polyethylene Pellet	60,000.0
HD102-P	HD102-U	F-0443L Pellet Storage Bin	Polyethylene Pellet	60,000.0
HD103-P	HD103-U	F-0443M Pellet Blending Silo	Polyethylene Pellet	60,000.0

Table Storage Bins and Silo-2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
HD092-P	HD092-U	F-0443A Pellet Storage Bin	None	None	None
HD093-P	HD093-U	F-0443B Pellet Storage Bin	None	None	None
HD094-P	HD094-U	F-0443C Pellet Storage Bin	None	None	None
HD095-P	HD095-U	F-0443D Pellet Storage Bin	None	None	None
HD096-P	HD096-U	F-0443E Pellet Storage Bin	None	None	None
HD097-P	HD097-U	F-0443F Pellet Storage Bin	None	None	None
HD098-P	HD098-U	F-0443G Pellet Storage Bin	None	None	None
HD099-P	HD099-U	F-0443H Pellet Storage Bin	None	None	None
HD100-P	HD100-U	F-0443J Pellet Storage Bin	None	None	None
HD101-P	HD101-U	F-0443K Pellet Storage Bin	None	None	None
HD102-P	HD102-U	F-0443L Pellet Storage Bin	None	None	None
HD103-P	HD103-U	F-0443M Pellet Blending Silo	None	None	None

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Table Storage Bins and Silo-3

EP	EU	Opacity	PM	Authority of Requirement
HD092-P	HD092-U	40%	40.04 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD093-P	HD093-U	40%	40.04 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD094-P	HD094-U	40%	40.04 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD095-P	HD095-U	40%	40.04 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"

EP	EU	Opacity	PM	Authority of Requirement
HD096-P	HD096-U	40%	40.04 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD097-P	HD097-U	40%	40.04 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD098-P	HD098-U	40%	40.04 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD099-P	HD099-U	40%	40.04 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD100-P	HD100-U	40%	40.04 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD101-P	HD101-U	40%	40.04 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD102-P	HD102-U	40%	40.04 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD103-P	HD103-U	40%	40.04 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"

- ¹. PM emission limit of 40.04 lb/hr was based on the process weights for these units using the formulas in 567 IAC 23.3(2) "a" (2).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: HD104-P through HD107-P (Divert Quad Bin)

Associated Equipment

Table Quad Bins-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity lb/hr
HD104-P	HD104-U	F-0447A Divert Quad Bin	Polyethylene Pellet	18,000.0
HD105-P	HD105-U	F-0447B Divert Quad Bin	Polyethylene Pellet	18,000.0
HD106-P	HD106-U	F-0447C Divert Quad Bin	Polyethylene Pellet	18,000.0
HD107-P	HD107-U	F-0447D Divert Quad Bin	Polyethylene Pellet	18,000.0

Table Quad Bins-2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
HD104-P	HD104-U	F-0447A Divert Quad Bin	None	None	None
HD105-P	HD105-U	F-0447B Divert Quad Bin	None	None	None
HD106-P	HD106-U	F-0447C Divert Quad Bin	None	None	None
HD107-P	HD107-U	F-0447D Divert Quad Bin	None	None	None

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Table Quad Bins-3

EP	EU	Opacity	PM	Authority of Requirement
HD104-P	HD104-U	40%	17.87 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD105-P	HD105-U	40%	17.87 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD106-P	HD106-U	40%	17.87 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD107-P	HD107-U	40%	17.87 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"

¹. PM emission limit of 17.87 lb/hr was based on the process weights for these units using the formulas in 567 IAC 23.3(2) "a" (2).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: HD108-P

Associated Equipment

Associated Emission Unit ID Numbers: HD108-U
Emissions Control Equipment ID Number: None
Emissions Control Equipment Description: None
Continuous Emissions Monitors ID Numbers: None

Emission Unit vented through this Emission Point: HD108-U
Emission Unit Description: High Density Polyethylene Fugitive
Raw Material/Fuel: Iso-Butane
Rated Capacity: 8760 hr/yr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Emission limits are not required at this time.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: HD109-P through HD116-P (Divert Quad Bins)

Associated Equipment

Table Quad Bins-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity lb/hr
HD109-P	HD109-U	F-0438A Divert Quad Bin	Polyethylene Pellets	53,500.0
HD110-P	HD110-U	F-0438B Divert Quad Bin	Polyethylene Pellets	53,500.0
HD111-P	HD111-U	F-0438C Divert Quad Bin	Polyethylene Pellets	53,500.0
HD112-P	HD112-U	F-0438D Divert Quad Bin	Polyethylene Pellets	53,500.0
HD113-P	HD113-U	F-0442A Divert Quad Bin	Polyethylene Pellets	18,000.0
HD114-P	HD114-U	F-0442B Divert Quad Bin	Polyethylene Pellets	18,000.0
HD115-P	HD115-U	F-0442C Divert Quad Bin	Polyethylene Pellets	18,000.0
HD116-P	HD116-U	F-0442D Divert Quad Bin	Polyethylene Pellets	18,000.0

Table Quad Bins-2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
HD109-P	HD109-U	F-0438A Divert Quad Bin	None	None	None
HD110-P	HD110-U	F-0438B Divert Quad Bin	None	None	None
HD111-P	HD111-U	F-0438C Divert Quad Bin	None	None	None
HD112-P	HD112-U	F-0438D Divert Quad Bin	None	None	None
HD113-P	HD113-U	F-0442A Divert Quad Bin	None	None	None
HD114-P	HD114-U	F-0442B Divert Quad Bin	None	None	None
HD115-P	HD115-U	F-0442C Divert Quad Bin	None	None	None
HD116-P	HD116-U	F-0442D Divert Quad Bin	None	None	None

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Table Quad Bins-3

EP	EU	Opacity	PM	Authority of Requirement
HD109-P	HD109-U	40%	38.68 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD110-P	HD110-U	40%	38.68 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD111-P	HD111-U	40%	38.68 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD112-P	HD112-U	40%	38.68 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD113-P	HD113-U	40%	17.87 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD114-P	HD114-U	40%	17.87 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD115-P	HD115-U	40%	17.87 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD116-P	HD116-U	40%	17.87 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"

^{1.} PM emission limits of 38.68 lb/hr and 17.87 lb/hr were based on the process weights for these units using the formulas in 567 IAC 23.3(2) "a" (2).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: HD117-P

Associated Equipment

Associated Emission Unit ID Numbers: HD117-U
Emissions Control Equipment ID Number: None
Emissions Control Equipment Description: None
Continuous Emissions Monitors ID Numbers: None

Emission Unit vented through this Emission Point: HD117-U
Emission Unit Description: L-0918 PF4 Purge Conveyor
Raw Material/Fuel: Purge Gases
Rated Capacity: 1100.0 lb/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Emission limits are not required at this time.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: HD118-P

Associated Equipment

Associated Emission Unit ID Numbers: HD118-U
Emissions Control Equipment ID Number: None
Emissions Control Equipment Description: None
Continuous Emissions Monitors ID Numbers: None

Emission Unit vented through this Emission Point: HD118-U
Emission Unit Description: F-0425 Plexar Maleic Anhydride Tank
Raw Material/Fuel: Unreacted Monomer
Rated Capacity: 7043.0 lb/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Emission limits are not required at this time.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: HD119-P through HD125-P (Dryers)

Associated Equipment

Table Dryers-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity lb/hr
HD119-P	HD119-U	L-0428A A-line Pellet Dryer	Polyethylene Pellets	9,000.0
HD120-P	HD120-U	L-0428B B-line Pellet Dryer	Polyethylene Pellets	9,000.0
HD121-P	HD121-U	L-1409 F-line Spin Dryer	Polyethylene Pellets	25,500.0
HD122-P	HD122-U	L-0413 J-line Spin Dryer	Polyethylene Pellets	31,500.0
HD123-P	HD123-U	L-0406A Plexar Graft Dryer	Polyethylene Pellets	500.0
HD124-P	HD124-U	L-0477 D-line Pellet Dryer	Polyethylene Pellets	7,000.0
HD125-P	HD125-U	L-0487 E-line Pellet Dryer	Polyethylene Pellets	7,000.0

Table Dryers -2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
HD119-P	HD119-U	L-0428A A-line Pellet Dryer	None	None	None
HD120-P	HD120-U	L-0428B B-line Pellet Dryer	None	None	None
HD121-P	HD121-U	L-1409 F-line Spin Dryer	None	None	89-A-066-S2
HD122-P	HD122-U	L-0413 J-line Spin Dryer	None	None	89-A-069-S2
HD123-P	HD123-U	L-0406A Plexar Graft Dryer	None	None	None
HD124-P	HD124-U	L-0477 D-line Pellet Dryer	None	None	None
HD125-P	HD125-U	L-0487 E-line Pellet Dryer	None	None	None

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Table Dryers -3

EP	EU	Opacity	PM10	PM	Authority of Requirement
HD119-P	HD119-U	40%	NA	11.23 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD120-P	HD120-U	40%	NA	11.23 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD121-P	HD121-U	40% ²	0.64lb/hr	2.19 lb/hr 0.1 gr/dscf	Opacity: 567 IAC 23.3(2) "d" PM10: Construction Permit 89-A-066-S2 PM: Construction Permit 89-A-066-S2 567 IAC 23.3(2) "a"
HD122-P	HD122-U	40% ²	0.64 lb/hr	2.19 lb/hr 0.1 gr/dscf	Opacity: 567 IAC 23.3(2) "d" PM10: Construction Permit 89-A-069-S2 PM: Construction Permit 89-A-069-S2 567 IAC 23.3(2) "a"
HD123-P	HD123-U	40%	NA	1.62 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD124-P	HD124-U	40%	NA	9.49 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD125-P	HD125-U	40%	NA	9.49 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"

¹. PM emission limits of 11.23 lb/hr, 1.62 lb/hr, and 17.87 lb/hr were based on the process weights for these units using the formulas in 567 IAC 23.3(2) "a" (2).

2. An exceedance of the indicator opacity of "10%" will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating Limits

HD119-P, HD120-P, HD123-P, HD124-P, and HD125-P:

Operating limits are not required at this time.

HD121-P and HD122-P:

- a. The maximum amount of High Density Polyethylene (HDPE) produced on this line shall not exceed 25,500 pounds per hour for HD121-P and 31,500 pound per hour for HD122-P.
- b. The facility shall follow the applicable standards of NSPS Subpart DDD, 40 CFR §60.560 through §60.566

Authority for Requirement: Iowa DNR Construction Permit 89-A-066-S2 89-A-069-S2

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

HD119-P, HD120-P, HD123-P, HD124-P, and HD125-P:

Report and recordkeeping are not required at this time.

HD121-P and HD122-P:

- a. The facility shall record on a daily basis, the amount of HDPE produced on this line on an hourly basis. For purposes of determining the hourly production rate the facility may record the amount of material produced during a calendar day and divide by the number of hours the process line was in operation.
- b. The facility shall keep records as required in NSPS Subpart DDD, 40 CFR §60.560 through §60.566.

Authority for Requirement: Iowa DNR Construction Permit 89-A-066-S2 89-A-069-S2

NSPS and NESHAP Applicability

HD121-P and HD122-P are subject to:

- a. NSPS Subpart A – General Provisions.
- b. NSPS Subpart DDD – Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing Industry

Authority for Requirement: Iowa DNR Construction Permit 89-A-066-S2 89-A-069-S2

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Dryers -4

	HD121-P	HD122-P
Stack Height, (ft, from the ground)	50	40
Stack Opening (diameter, inches)	12	20
Exhaust Flow Rate (scfm)	1,000	1,200
Exhaust Temperature (°F)	160	140
Discharge Style	Vertical Unobstructed	Vertical Unobstructed
Authority for Requirement:	IDNR Construction Permit 89-A-066-S2	IDNR Construction Permit 89-A-069-S2

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: HD126-P through HD129-P (Feed Bins)

Associated Equipment

Table Feed Bins-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity lb/hr
HD126-P	HD126-U	F-0455 E-Line Feed Bin	Polyethylene Pellets	7,000.0
HD127-P	HD127-U	F-0456 E-Line Feed Bin	Polyethylene Pellets	7,000.0
HD128-P	HD128-U	F-0464 D-Line Feed Bin	Polyethylene Pellets	7,000.0
HD129-P	HD129-U	F-0465 D-Line Feed Bin	Polyethylene Pellets	7,000.0

Table Feed Bins-2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
HD126-P	HD126-U	F-0455 E-Line Feed Bin	None	None	None
HD127-P	HD127-U	F-0456 E-Line Feed Bin	None	None	None
HD128-P	HD128-U	F-0464 D-Line Feed Bin	None	None	None
HD129-P	HD129-U	F-0465 D-Line Feed Bin	None	None	None

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Table Feed Bins-3

EP	EU	Opacity	PM	Authority of Requirement
HD126-P	HD126-U	40%	9.49 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD127-P	HD127-U	40%	9.49 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD128-P	HD128-U	40%	9.49 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
HD129-P	HD129-U	40%	9.49 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"

¹ PM emission limit of 9.49 lb/hr was based on the process weights for these units using the formulas in 567 IAC 23.3(2) "a" (2).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: HD130-P and HD132-P (Additive Bins)

Associated Equipment

Table Additive Bins-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity lb/hr
HD130A-P	HD130-U	F-0498 E-Line Feed Bin	Polyethylene Pellets, Additives	7,000.0
HD130B-P			Polyethylene Pellets, Additives	
HD132A-P	HD132-U	F-0497 D-Line Feed Bin	Polyethylene Pellets, Additives	7,000.0
HD132B-P			Polyethylene Pellets, Additives	

Table Additive Bin-2

EP	EU	Emission Unit Description	CEM	CE & Description	IDNR Construction Permit
HD130A-P	HD130-U	F-0498 E-Line Feed Bin	None	HD130CE1, Cyclone	03-A-1016
HD130B-P			None		03-A-1017
HD132A-P	HD132-U	F-0497 D-Line Feed Bin	None	HD132CE1, Cyclone	03-A-1018
HD132B-P			None		03-A-1019

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Table Additive Bins-3

EP	EU	Opacity	PM10	PM	Authority of Requirement
HD130A-P	HD130-U	40%	0.1 lb/hr	1.2 lb/hr ¹	Opacity: Construction Permit 03-A-1016 567 IAC 23.3(2) "d" PM10: Construction Permit 03-A-1016 PM: Construction Permit 03-A-1016 567 IAC 23.3(2) "a"
HD130B-P					Opacity: Construction Permit 03-A-1017 567 IAC 23.3(2) "d" PM10: Construction Permit 03-A-1017 PM: Construction Permit 03-A-1017 567 IAC 23.3(2) "a"
HD132A-P	HD132-U	40%	0.1 lb/hr	1.2 lb/hr ¹	Opacity: Construction Permit 03-A-1018 567 IAC 23.3(2) "d" PM10: Construction Permit 03-A-1018 PM: Construction Permit 03-A-1018 567 IAC 23.3(2) "a"
HD132B-P					Opacity: Construction Permit 03-A-1019 567 IAC 23.3(2) "d" PM10: Construction Permit 03-A-1019 PM: Construction Permit 03-A-1019 567 IAC 23.3(2) "a"

^{1.} The PM limit is more stringent than the limit determined by using Table I in 567 IAC 23.3(2) "a"(2).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Additive Bins-4

	Stack Height (ft, from the ground)	Stack Opening (dia. inch)	Exhaust Flow Rate (scfm)	Exhaust Temperature (°F)	Discharge Style	Authority for Requirement IDNR Construction Permit
HD130A-P	100	6	360	115	Vertical Obstructed	03-A-1016
HD130B-P	100	6x6	360	115	Downward	03-A-1017
HD132A-P	100	6	360	115	Vertical Obstructed	03-A-1018
HD132B-P	100	6x6	360	115	Downward	03-A-1019

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source’s compliance with the applicable requirements.

The issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility’s implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)

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Emission Point ID Number: HD134-P

Associated Equipment

Associated Emission Unit ID Numbers: HD134-U
Emissions Control Equipment ID Number: None
Emissions Control Equipment Description: None
Continuous Emissions Monitors ID Numbers: None

Emission Unit vented through this Emission Point: HD134-U
Emission Unit Description: L-4001 Plexar Extruder
Raw Material/Fuel: Polyethylene Slurry
Rated Capacity: 500.0 lb/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40%
Authority for Requirement: 567 IAC 23.3(2) "d"

Pollutant: Particulate Matter (PM)
Emission Limit(s): 1.62 lb/hr¹
Authority for Requirement: 567 IAC 23.3(2) "a"

¹ PM emission limit of 1.62 lb/hr was based on the process weights for these units using the formulas in 567 IAC 23.3(2) "a" (2).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: HD135-P (Quality Control Bin)

Associated Equipment

Associated Emission Unit ID Numbers: HD135A-U, HD135-U
Emissions Control Equipment ID Number: None
Emissions Control Equipment Description: None
Continuous Emissions Monitors ID Numbers: None

Emission Unit Descriptions, Raw Material/Fuel and Rated Capacity are listed in the following table:

Table Compressors-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity
HD135-P	HD135A-U	F-0410A Quality Control Bin	Polyethylene Pellets	500.0 lb/hr
	HD135B-U	F-0410B Quality Control Bin	Polyethylene Pellets	500.0 lb/hr

Table Compressors-2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
HD135-P	HD135A-U	F-0410A Quality Control Bin	None	None	03-A-1020
	HD135B-U	F-0410B Quality Control Bin	None	None	

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity

Emission Limit(s): 40% ⁽¹⁾

Authority for Requirement: Iowa DNR Construction Permit 03-A-1020
567 IAC 23.3(2) "d"

⁽¹⁾An exceedance of the indicator opacity of 25% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM)

Emission Limit(s): 0.1 gr/dscf

Authority for Requirement: Iowa DNR Construction Permit 03-A-1020
567 IAC 23.3(2) "a"

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 22

Stack Opening, (inches, dia.): 2

Exhaust Flow Rate (scfm): 330

Exhaust Temperature (°F): 120

Discharge Style: Horizontal

Authority for Requirement: Iowa DNR Construction Permit 03-A-1020

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: HD136-P

Associated Equipment

Associated Emission Unit ID Numbers: HD136-U
Emissions Control Equipment ID Number: HD136CE1
Emissions Control Equipment Description: Cyclone
Continuous Emissions Monitors ID Numbers: None

Emission Unit vented through this Emission Point: HD136-U
Emission Unit Description: F-0408 Plexar Weigh Hopper
Raw Material/Fuel: Polyethylene Powder
Rated Capacity: 500.0 lb/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40%
Authority for Requirement: 567 IAC 23.3(2) "d"

Pollutant: Particulate Matter (PM)
Emission Limit(s): 1.62 lb/hr ⁽¹⁾
Authority for Requirement: 567 IAC 23.3(2) "a"

⁽¹⁾PM emission limit of 1.62 lb/hr was based on the process weights for these units using the formulas in 567 IAC 23.3(2) "a" (2).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: HD141-P, HD142-P, and HD143-P

Associated Equipment

Table Activators-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity
HD141-P	HD141-U	DB-0910 Gas 2 (D-0910) Activator Jacket Heater	Nonsulfured Natural Gas	5 MMBtu/hr
HD142-P		F-0926 Gas 2 Activator	Catalyst	15,000.0 scf/hr
HD143-P		L-0931 Gas 2 Activator	Catalyst	15,000.0 scf/hr

Table Activators -2

EP	EU	Emission Unit Description	CEM	CE & Description	IDNR Construction Permit
HD141-P	HD141-U	DB-0910 Gas 2 (D-0910) Activator Jacket Heater	None	None	99-A-422
HD142-P		F-0926 Gas 2 Activator	None	None	90-A-406-S4
HD143-P		L-0931 Gas 2 Activator	None	HD143CE1, Coalescing Filter	01-A-585

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Table Activators -3

EP	Opacity	PM	SO ₂	VOC	Total HAP	Authority of Requirement
HD141-P	40% ¹	0.8 lb/MMBtu	500 ppmv	NA	NA	Opacity: 567 IAC 23.3 (2) "d" Construction Permit 99-A-422 PM: 567 IAC 23.3(2) "b" (1) Construction Permit 99-A-422 SO ₂ : 567 IAC 23.3 (3) "e"
HD142-P	40% ²	0.1 gr/dscf	NA	39.3 lb/hr ³	9.4 lb/hr ³	Opacity: 567 IAC 23.3 (2) "d" Construction Permit 90-A-406-S4 PM: 567 IAC 23.3(2) "a" Construction Permit 90-A-406-S4
HD143-P	40% ²	0.1 gr/dscf	NA			Opacity: 567 IAC 23.3 (2) "d" Construction Permit 01-A-585 PM: 567 IAC 23.3(2) "a" Construction Permit 01-A-585

- ¹ If an opacity of 25% or greater is observed other than at startup, shutdown or malfunction, a stack test may be required to demonstrate compliance with the particulate standard.
- ² An exceedance of the indicator opacity of 25% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).
- ³ Total over units that exhaust through stacks permitted as 90-A-406-S4 (HD142-P) and 01-A-585 (HD143-P).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating Limits

HD141-P:

- a. The source shall be limited to combusting natural gas only.

Authority for Requirement: Iowa DNR Construction Permit 99-A-422

HD142-P:

- a. The owner or operator shall report the final total cost (including labor) of the project to the DNR within 60 days of completing the project.
- b. Catalysts processed shall have a maximum HAP content of 0.11 lb HAP/lb catalyst, and a maximum VOC content of 0.46 lb VOC/lb catalyst.
- c. The source that vents through the stacks permitted as 90-A-406-S4 and 01-A-585 shall use no more than 171,000 lb catalyst per twelve-month rolling period.
- d. HD142-P (90-A-406-S4) shall not be used for venting emissions when activating "wire and cable" catalysts.

Authority for Requirement: Iowa DNR Construction Permit 90-A-406-S4

HD143-P:

- a. Catalysts processed shall have a maximum HAP content of 0.11 lb HAP/lb catalyst, and a maximum VOC content of 0.46 lb VOC/lb catalyst.
- b. The source that vents through the stacks permitted as 90-A-406-S4 and 01-A-585 shall use no more than 171,000 lb catalyst per twelve-month rolling period.
- c. Emissions from this source shall be vented through HD143-P (01-A-585) when activating any "wire and cable" catalysts.

Authority for Requirement: Iowa DNR Construction Permit 01-A-585

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

HD141-P:

Reporting and recordkeeping are not required at this time.

HD142-P and HD143-P:

- a. The owner or operator shall keep a record of the amount of catalyst processed, and update the twelve-month rolling total on a monthly basis.
- b. The owner or operator shall keep records of the type of catalysts used in the activator, which shall include information on the lbs VOC/lbs catalyst and the lbs HAP/lbs catalyst, along with information as to whether it is a "wire and cable" catalyst or not.
- c. For each batch of catalyst activated, the owner or operator shall record the type of catalyst and the emission point it is vented through.

Authority for Requirement: Iowa DNR Construction Permit 90-A-406-S4; 01-A-585

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Activators -4

	Stack Height (ft, from the ground)	Stack Opening (dia. inch)	Exhaust Flow Rate (scfm)	Exhaust Temperature (°F)	Discharge Style	Authority for Requirement IDNR Construction Permit
HD141-P	61.8	34.375	2,300	1,202	Horizontal	99-A-422
HD142-P	30	3	250	100	Horizontal or Obstructed Vertical	90-A-406-S4
HD143-P	29	4	250	100	Horizontal or Obstructed Vertical	01-A-585

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

The issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: HD149-P through HD165-P (Fugitive)

Associated Equipment

Table Fugitive-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity Equip-Leak-hr/hr
HD149-P	HD149-U	Fugitive Emission:PF-1 Dryer Seals	Polyethylene Powder	2.0
HD150-P	HD150-U	Fugitive Emission:PF-2 Dryer Seals	Polyethylene Powder	2.0
HD151-P	HD151-U	Fugitive Emission:PF-3 Dryer Seals	Polyethylene Powder	2.0
HD152-P	HD152-U	Fugitive Emission:PF-4 Dryer Seals	Polyethylene Powder	2.0
HD153-P	HD153-U	Fugitive Emission: PF-1 Slide Valves	Polyethylene Powder	2.0
HD154-P	HD154-U	Fugitive Emission: PF-2 Slide Valves	Polyethylene Powder	2.0
HD155-P	HD155-U	Fugitive Emission: PF-3 Slide Valves	Polyethylene Powder	2.0
HD156-P	HD156-U	Fugitive Emission: F0909 PF-4 Slide Valves	Polyethylene Powder	2.0
HD157-P	HD157-U	Fugitive Emission: L-0918 PF-4 Slide Valves	Polyethylene Powder	1.0
HD158-P	HD158-U	Fugitive Emission: PF-1 Purge Conveyor Blower	Polyethylene Powder	1.0
HD159-P	HD159-U	Fugitive Emission: PF-2 Purge Conveyor Blower	Polyethylene Powder	1.0
HD160-P	HD160-U	Fugitive Emission: PF-3 Purge Conveyor Blower	Polyethylene Powder	1.0
HD161-P	HD161-U	Fugitive Emission: PF-4 Purge Conveyor Blower	Polyethylene Powder	1.0
HD162-P	HD162-U	Fugitive Emission: PF-1 Dryer V-Ball Valves	Polyethylene Powder	2.0
HD163-P	HD163-U	Fugitive Emission: PF-2 Dryer V-Ball Valves	Polyethylene Powder	2.0
HD164-P	HD164-U	Fugitive Emission: PF-3 Dryer V-Ball Valves	Polyethylene Powder	2.0
HD165-P	HD165-U	Fugitive Emission: PF-4 Dryer V-Ball Valves	Polyethylene Powder	2.0

Table Fugitive-2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
HD149-P	HD149-U	Fugitive Emission:PF-1 Dryer Seals	None	None	None
HD150-P	HD150-U	Fugitive Emission:PF-2 Dryer Seals	None	None	None
HD151-P	HD151-U	Fugitive Emission:PF-3 Dryer Seals	None	None	None
HD152-P	HD152-U	Fugitive Emission:PF-4 Dryer Seals	None	None	None
HD153-P	HD153-U	Fugitive Emission: PF-1 Slide Valves	None	None	None
HD154-P	HD154-U	Fugitive Emission: PF-2 Slide Valves	None	None	None
HD155-P	HD155-U	Fugitive Emission: PF-3 Slide Valves	None	None	None
HD156-P	HD156-U	Fugitive Emission: F0909 PF-4 Slide Valves	None	None	None
HD157-P	HD157-U	Fugitive Emission: L-0918 PF-4 Slide Valves	None	None	None
HD158-P	HD158-U	Fugitive Emission: PF-1 Purge Conveyor Blower	None	None	None
HD159-P	HD159-U	Fugitive Emission: PF-2 Purge Conveyor Blower	None	None	None
HD160-P	HD160-U	Fugitive Emission: PF-3 Purge Conveyor Blower	None	None	None
HD161-P	HD161-U	Fugitive Emission: PF-4 Purge Conveyor Blower	None	None	None
HD162-P	HD162-U	Fugitive Emission: PF-1 Dryer V-Ball Valves	None	None	None
HD163-P	HD163-U	Fugitive Emission: PF-2 Dryer V-Ball Valves	None	None	None
HD164-P	HD164-U	Fugitive Emission: PF-3 Dryer V-Ball Valves	None	None	None
HD165-P	HD165-U	Fugitive Emission: PF-4 Dryer V-Ball Valves	None	None	None

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Emission limits are not required at this time.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

III. Part C. Low Density Polyethylene Product Lines

Emission Point ID Number: LD005-P through LD008-P (Reactors)

Associated Equipment

Table Reactors-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity
LD005E-P	LD005-U	D-0201 LD-1 Reactor (Depressure Emissions)	Ethylene	2,510 lb/purge 2 purge/yr 450 lb/depress 20 depress/yr
LD005W-P		D-0201 LD-1 Reactor (Rupture Disc Emissions)	Ethylene	1,337 lb/release 1 release/yr
LD006N-P	LD006-U	D-0702A LD-2A Reactor (North Rupture Disc Emissions)	Ethylene	375.5 lb/release 10 release/yr
LD006S-P		D-0702A LD-2A Reactor (South Rupture Disc Emissions)	Ethylene	375.5 lb/release 10 release/yr
LD006W-P		D-0702A LD-2A Reactor (Depressure Emissions)	Ethylene	1,829 lb/purge 2 purge/yr 450 lb/depress 20 depress/yr
LD007N-P	LD007-U	D-0702B LD-2B Reactor (North Rupture Disc Emissions)	Ethylene	375.5 lb/release 10 release/yr
LD007S-P		D-0702B LD-2B Reactor (South Rupture Disc Emissions)	Ethylene	375.5 lb/release 10 release/yr
LD007W-P		D-0702B LD-2B Reactor (Depressure Emissions)	Ethylene	1,829 lb/purge 2 purge/yr 450 lb/depress 20 depress/yr
LD008E-P	LD008-U	D-0801 LD-3 Reactor (East Rupture Disc Emissions)	Ethylene	807 lb/release 10 release/yr
LD008S-P		D-0801 LD-3 Reactor (Depressure Emissions)	Ethylene	3,752 lb/purge 2 purge/yr 1100 lb/depress 20 depress/yr
LD008W-P		D-0801 LD-3 Reactor (West Rupture Disc Emissions)	Ethylene	807 lb/release 10 release/yr

Table Reactors-2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
LD005E-P	LD005-U	D-0201 LD-1 Reactor (Depressure Emissions)	None	None	97-A-807
LD005W-P		D-0201 LD-1 Reactor (Rupture Disc Emissions)	None	None	97-A-808
LD006N-P	LD006-U	D-0702A LD-2A Reactor (North Rupture Disc Emissions)	None	None	None
LD006S-P		D-0702A LD-2A Reactor (South Rupture Disc Emissions)	None	None	None
LD006W-P		D-0702A LD-2A Reactor (Depressure Emissions)	None	None	None

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
LD007N-P	LD007-U	D-0702B LD-2B Reactor (North Rupture Disc Emissions)	None	None	None
LD007S-P		D-0702B LD-2B Reactor (South Rupture Disc Emissions)	None	None	None
LD007W-P		D-0702B LD-2B Reactor (Depressure Emissions)	None	None	None
LD008E-P	LD008-U	D-0801 LD-3 Reactor (East Rupture Disc Emissions)	None	None	97-A-647-S2
LD008S-P		D-0801 LD-3 Reactor (Depressure Emissions)	None	None	97-A-648-S2
LD008W-P		D-0801 LD-3 Reactor (West Rupture Disc Emissions)	None	None	97-A-649-S2

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Table Reactors-3

EP	EU	Opacity	PM10	PM	VOC	Authority of Requirement
LD005E-P	LD005-U	NA	NA	NA	3.77 ton/yr	VOC: Construction Permit 97-A-807
LD005W-P		NA	NA	0.03 ton/yr	0.7 ton/yr	PM&VOC: Construction Permit 97-A-808
LD006N-P	LD006-U	NA	NA	NA	NA	NA
LD006S-P		NA	NA	NA	NA	NA
LD006W-P		NA	NA	NA	NA	NA
LD007N-P	LD007-U	NA	NA	NA	NA	NA
LD007S-P		NA	NA	NA	NA	NA
LD007W-P		NA	NA	NA	NA	NA
LD008E-P	LD008-U	40% ¹	2.75 ton/yr ²	47.5 lb/decomp	106.7 lb/yr ³ 2.0 lb/ton of product ⁴	Opacity: Construction Permit 97-A-647-S2 567 IAC 23.3(2) "d" PM: Construction Permit 97-A-647-S2 VOC: Construction Permit 97-A-647-S2
LD008S-P		40% ¹	2.75 ton/yr ²	47.5 lb/decomp	106.7 lb/yr ³ 2.0 lb/ton of product ⁴	Opacity: Construction Permit 97-A-648-S2 567 IAC 23.3(2) "d" PM: Construction Permit 97-A-648-S2 VOC: Construction Permit 97-A-648-S2
LD008W-P		40% ¹	2.75 ton/yr ²	47.5 lb/decomp	106.7 lb/yr ³ 2.0 lb/ton of product ⁴	Opacity: Construction Permit 97-A-649-S2 567 IAC 23.3(2) "d" PM: Construction Permit 97-A-649-S2 VOC: Construction Permit 97-A-649-S2

1. An exceedance of the indicator opacity of 10% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).
2. PM10 limit applies to all emissions from the LD-3 Line.
3. VOC limit applies to all emissions from the LD-3 Line.
4. This limit does not apply to malfunction and emergency release.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating Limits

LD005E-P through LD007W-P:

Operating limits are not required at this time.

LD008E-P, LD008S-P, and LD008W-P:

- a. The amount of LDPE produced in the LD-3 line shall not exceed 197,100,000 pounds per 12-month rolling period.
- b. Nitrogen shall be used to purge LD008S-P.

Authority for Requirement: Iowa DNR Construction Permit 97-A-647-S2 97-A-648-S2
97-A-649-S2

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

LD005E-P through LD007W-P:

Reporting and recordkeeping are not required at this time.

LD008E-P, LD008S-P, and LD008W-P:

- a. Record the amount of LDPE produced in the LD-3 line, in pounds. Calculate and record monthly and 12-month rolling totals.
- b. Calculate the VOC emissions on a 12-month basis rolled monthly from emission points LD005E-P and LD005W-P to show compliance with the annual VOC limits.
- c. Calculate the PM emission on a 12-month basis rolled monthly from emission point LD005WP to show compliance with the annual PM limit.

Authority for Requirement: Iowa DNR Construction Permit 97-A-647-S2 97-A-648-S2
97-A-649-S2
567 IAC 22.108 (4)

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Reactors-4

	Stack Height (ft, from the ground)	Stack Opening (dia. inch)	Exhaust Flow Rate (scfm)	Exhaust Temperature (°F)	Discharge Style	Authority for Requirement IDNR Construction Permit
LD005E-P	70	4	NA	Variable	NA	97-A-807
LD005W-P	75	24	63.6 acfm	-10	NA	97-A-808
LD008E-P	100	30	63.6	-10	Vertical Unobstructed	97-A-647-S2
LD008S-P	90	16	63.6	Variable	Vertical Unobstructed	97-A-648-S2
LD008W-P	100	30	64.0	-10	Vertical Unobstructed	97-A-649-S2

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

- Agency Approved Operation & Maintenance Plan Required?** Yes No
- Facility Maintained Operation & Maintenance Plan Required?** Yes No
- Compliance Assurance Monitoring (CAM) Plan Required?** Yes No

Emission Point ID Number: LD012-P

Associated Equipment

Associated Emission Unit ID Numbers: LD012-U
Emissions Control Equipment ID Number: None
Emissions Control Equipment Description: None
Continuous Emissions Monitors ID Numbers: None

Emission Unit vented through this Emission Point: LD012-U
Emission Unit Description: F-0739 Tower Feed Tank
Raw Material/Fuel: Mineral Spirit
Rated Capacity: 204.0 Gal/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

There are no emission limits at this time.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: LD013-P

Associated Equipment

Associated Emission Unit ID Numbers: LD013-U
Emissions Control Equipment ID Number: None
Emissions Control Equipment Description: None
Continuous Emissions Monitors ID Numbers: None

Emission Unit vented through this Emission Point: LD013-U
Emission Unit Description: F-0751 VA Storage Tank
Raw Material/Fuel: Vinyl Acetate
Rated Capacity: 284.0 gal/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Emission limits are not required at this time.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: LD014-P through LD016-P (Spin Dryers)

Associated Equipment

Table Spin Dryers-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity lb/hr
LD014-P	LD014-U	L-0207A LD-1 "A" Spin Dryer	Polyethylene Pellets	12,500.0
LD015-P	LD015-U	L-0207B LD-1 "B" Spin Dryer	Polyethylene Pellets	12,500.0
LD016-P	LD016-U	L-0210 LD-1 "C" Spin Dryer	Polyethylene Pellets	15,000.0

Table Spin Dryers-2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
LD014-P	LD014-U	L-0207A LD-1 "A" Spin Dryer	None	None	97-A-809-S2
LD015-P	LD015-U	L-0207B LD-1 "B" Spin Dryer	None	None	97-A-810-S2
LD016-P	LD016-U	L-0210 LD-1 "C" Spin Dryer	None	None	97-A-811-S2

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Table Spin Dryers-3

EP	EU	Opacity	PM10	PM	VOC	Authority of Requirement
LD014-P	LD014-U	40% ¹	0.312 lb/hr 1.37 ton/yr	1.10 lb/hr 5.0 ton/yr 0.1 gr/dscf	0.6 lb/hr 2.63 ton/yr	Opacity: Construction Permit 97-A-809-S2 567 IAC 23.3 (2) "d" PM10 &VOC: Construction Permit 97-A-809-S2 PM: Construction Permit 97-A-809-S2 567 IAC 23.3 (2) "a"
LD015-P	LD015-U	40% ¹	0.312 lb/hr 1.37 ton/yr	1.10 lb/hr 5.0 ton/yr 0.1 gr/dscf	0.6 lb/hr 2.63 ton/yr	Opacity: Construction Permit 97-A-810-S2 567 IAC 23.3 (2) "d" PM10 &VOC: Construction Permit 97-A-810-S2 PM: Construction Permit 97-A-810-S2 567 IAC 23.3 (2) "a"
LD016-P	LD016-U	40% ¹	0.375 lb/hr 1.64 ton/yr	1.10 lb/hr 5.0 ton/yr 0.1 gr/dscf	0.6 lb/hr 2.63 ton/yr	Opacity: Construction Permit 97-A-811-S2 567 IAC 23.3 (2) "d" PM10 &VOC: Construction Permit 97-A-811-S2 PM: Construction Permit 97-A-811-S2 567 IAC 23.3 (2) "a"

^{1.} An exceedance of the indicator opacity of 10% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Spin Dryers-4

	Stack Height (ft, from the ground)	Stack Opening (inch)	Exhaust Flow Rate (scfm)	Exhaust Temperature (°F)	Discharge Style	Authority for Requirement IDNR Construction Permit
LD014-P	25	8×10	2,901	88	Vertical Unobstructed	97-A-809-S2
LD015-P	25	8×10	2,901	88	Vertical Unobstructed	97-A-810-S2
LD016-P	25	8×10	3,869	88	Vertical Unobstructed	97-A-811-S2

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: LD017-P through LD019-P (Bins and Spin Dryers)

Associated Equipment

Table Bins and Spin Dryers-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity lb/hr
LD017A-P	LD017A-U	LD-2A Dewatering Bin	Polyethylene Pellets	9,000.0
LD017B-P	LD017B-U	L-0738A LD-2A Spin Dryer	Polyethylene Pellets	9,000.0
LD018A-P	LD018A-U	LD-2B Dewatering Bin	Polyethylene Pellets	9,000.0
LD018B-P	LD018B-U	L-0738B LD-2B Spin Dryer	Polyethylene Pellets	9,000.0
LD019-P	LD019-U	L-0838 LD-3 Dewatering Bin & Spin Dryer	Polyethylene Pellets	22,500.0

Table Bins and Spin Dryers-2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
LD017A-P	LD017A-U	LD-2A Dewatering Bin	None	None	94-A-137
LD017B-P	LD017B-U	L-0738A LD-2A Spin Dryer	None	None	94-A-138-S1
LD018A-P	LD018A-U	LD-2B Dewatering Bin	None	None	94-A-111
LD018B-P	LD018B-U	L-0738B LD-2B Spin Dryer	None	None	94-A-112-S1
LD019-P	LD019-U	L-0838 LD-3 Dewatering Bin & Spin Dryer	None	None	97-A-650-S3

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Table Bins and Spin Dryers-3

EP	EU	Opacity	PM10	PM	VOC	Authority of Requirement
LD017A-P	LD017A-U	40%	NA	11.23 lb/hr ₁	0.3 lb/hr 1.3 ton/yr	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" VOC: Construction Permit 94-A-137
LD017B-P	LD017B-U	40% ²	0.225 lb/hr 0.99 ton/yr	1.84 lb/hr 0.1 gr/dscf	0.6 lb/hr 2.63 ton/yr	Opacity: Construction Permit 94-A-138-S1 567 IAC 23.3(2) "d" PM 10 & VOC: Construction Permit 94-A-138-S1 PM: Construction Permit 94-A-138-S1 567 IAC 23.3(2) "a"
LD018A-P	LD018A-U	40%	NA	11.23 lb/hr ₁	0.3 lb/hr 1.3 ton/yr	Opacity: 567 IAC 23.3(2) "d" PM 10 & VOC: Construction Permit 94-A-111 PM: 567 IAC 23.3(2) "a"
LD018B-P	LD018B-U	40% ²	0.225 lb/hr	1.84 lb/hr 0.1 gr/dscf	0.6 lb/hr 2.63 ton/yr	Opacity: Construction Permit 94-A-112-S1 567 IAC 23.3(2) "d" PM 10 & VOC: Construction Permit 94-A-112-S1 PM: Construction Permit 94-A-112-S1 567 IAC 23.3(2) "a"
LD019-P	LD019-U	40% ²	2.75 lb/ton ³	1.47 lb/hr	106.7 ton/yr ⁴ 2.0 lb/ton of product ⁵	Opacity: Construction Permit 97-A-650-S3 567 IAC 23.3(2) "d" PM10, PM & VOC: Construction Permit 97-A-650-S3

1. PM emission limit of 11.23 lb/hr was based on the process weights for these units using the formulas in 567 IAC 23.3(2) "a" (2).
2. An exceedance of the indicator opacity of 10% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).
3. PM10 limit applies to all emissions from the LD-3 line.
4. VOC limit applies to all VOC emissions from the LD-3 line.
5. Does not apply to malfunctions and emergency releases.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating Limits

LD017A-P through LD018B-P:

Operating limits are not required at this time.

LD019-P:

- a. The amount of LDPE produced in the LD-3 line shall not exceed 197,100, 100 pounds per 12-month rolling period.
- b. The stack is required to be made vertical unobstructed within 90 days of the permit issuance date.

Authority for Requirement: Iowa DNR Construction Permit 97-A-650-S3

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

LD017A-P through LD018B-P:

Operating limits are not required at this time.

LD019-P:

- a. Record the amount of LDPE produced in the LD-3 line, in pounds. Calculate and record monthly and 12-month rolling totals.

Authority for Requirement: Iowa DNR Construction Permit 97-A-650-S3

NSPS and NESHAP Applicability

LD017B-P and LD018B-P:

These emission units are subject to NESHAP Subpart FFFF – National Emission Standard for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing.

Authority for Requirement: Iowa DNR Construction Permit 94-A-138-S1; 94-S-112-S1

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Bins and Spin Dryers-4

	Stack Height (ft, from the ground)	Stack Opening (dia. inch)	Exhaust Flow Rate (scfm)	Exhaust Temperature (°F)	Discharge Style	Authority for Requirement IDNR Construction Permit
LD017A-P	32	7	250	85	NA	94-A-137
LD017B-P	60	12	2,152	88	Vertical Unobstructed	94-A-138-S1
LD018A-P	32	7	250	85	NA	94-A-111
LD018B-P	60	12	2,152	88	Vertical Unobstructed	94-A-112-S1
LD019-P	45	10	798	131	Vertical Unobstructed	97-A-650-S3

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: LD020-P through LD025-P (F-451 Rundown Blenders)

Associated Equipment

Table Rundown Blenders-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity lb/hr
LD020-P	LD020-U	F-0451A LD-1 Rundown Blender	Polyethylene Pellets	38,400.0
LD021-P	LD021-U	F-0451B LD-1 Rundown Blender	Polyethylene Pellets	38,400.0
LD022-P	LD022-U	F-0451C LD-1 Rundown Blender	Polyethylene Pellets	38,400.0
LD023-P	LD023-U	F-0451D LD-1 Rundown Blender	Polyethylene Pellets	38,400.0
LD024-P	LD024-U	F-0451E LD-1 Rundown Blender	Polyethylene Pellets	38,400.0
LD025-P	LD025-U	F-0451F LD-1 Rundown Blender	Polyethylene Pellets	38,400.0

Table Rundown Blenders -2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
LD020-P	LD020-U	F-0451A LD-1 Rundown Blender	None	None	97-A-812
LD021-P	LD021-U	F-0451B LD-1 Rundown Blender	None	None	97-A-813
LD022-P	LD022-U	F-0451C LD-1 Rundown Blender	None	None	97-A-814
LD023-P	LD023-U	F-0451D LD-1 Rundown Blender	None	None	97-A-815
LD024-P	LD024-U	F-0451E LD-1 Rundown Blender	None	None	97-A-816
LD025-P	LD025-U	F-0451F LD-1 Rundown Blender	None	None	97-A-817

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Table Rundown Blenders -3

EP	EU	Opacity	PM10	PM	VOC	Authority of Requirement
LD020-P	LD020-U	40%	0.3 ton/yr	26.69 lb/hr ¹ 3.6 ton/yr	21.9 ton/yr	Opacity: 567 IAC 23.3(2) "d" PM10, PM, VOC: Construction Permit 97-A-812
LD021-P	LD021-U	40%	0.3 ton/yr	26.69 lb/hr ¹ 3.6 ton/yr	21.9 ton/yr	Opacity: 567 IAC 23.3(2) "d" PM10, PM, VOC: Construction Permit 97-A-813
LD022-P	LD022-U	40%	0.3 ton/yr	26.69 lb/hr ¹ 3.6 ton/yr	21.9 ton/yr	Opacity: 567 IAC 23.3(2) "d" PM10, PM, VOC: Construction Permit 97-A-814
LD023-P	LD023-U	40%	0.3 ton/yr	26.69 lb/hr ¹ 3.6 ton/yr	21.9 ton/yr	Opacity: 567 IAC 23.3(2) "d" PM10, PM, VOC: Construction Permit 97-A-815
LD024-P	LD024-U	40%	0.3 ton/yr	26.69 lb/hr ¹ 3.6 ton/yr	21.9 ton/yr	Opacity: 567 IAC 23.3(2) "d" PM10, PM, VOC: Construction Permit 97-A-816
LD025-P	LD025-U	40%	0.3 ton/yr	26.69 lb/hr ¹ 3.6 ton/yr	21.9 ton/yr	Opacity: 567 IAC 23.3(2) "d" PM10, PM, VOC: Construction Permit 97-A-817

^{1.} PM emission limit of 26.69 lb/hr was based on the process weights for these units using the formulas in 567 IAC 23.3(2) "a" (2).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required.

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Rundown Blenders-4

	Stack Height (ft, from the ground)	Stack Opening (dia. inch)	Exhaust Flow Rate (acfm)	Exhaust Temperature (°F)	Discharge Style	Authority for Requirement IDNR Construction Permit
LD020-P	85	16×16	3,000	115	NA	97-A-812
LD021-P	85	16×16	3,000	115	NA	97-A-813
LD022-P	85	16×16	3,000	115	NA	97-A-814
LD023-P	85	16×16	3,000	115	NA	97-A-815
LD024-P	85	16×16	3,000	115	NA	97-A-816
LD025-P	85	16×16	3,000	115	NA	97-A-817

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: LD026-P through LD034-P (F-457 Rundown Blenders and Spare Blenders)

Associated Equipment

Table Blenders-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity lb/hr
LD026-P	LD026-U	F-0457A LD-2B Rundown Blender	Polyethylene Pellets	9,000.0
LD027-P	LD027-U	F-0457B LD-2A Rundown Blender	Polyethylene Pellets	9,000.0
LD028-P	LD028-U	F-0457C LD-2A Rundown Blender	Polyethylene Pellets	9,000.0
LD029-P	LD029-U	F-0457D LD-2A Rundown Blender	Polyethylene Pellets	9,000.0
LD030-P	LD030-U	F-0457E LD-2B Rundown Blender	Polyethylene Pellets	9,000.0
LD031-P	LD031-U	F-0457F LD-2B Rundown Blender	Polyethylene Pellets	9,000.0
LD032-P	LD032-U	F-0457G LD-2 Spare Blender	Polyethylene Pellets	9,000.0
LD033-P	LD033-U	F-0457H LD-2 Spare Blender	Polyethylene Pellets	9,000.0
LD034-P	LD034-U	F-0457J LD-2 Spare Blender	Polyethylene Pellets	9,000.0

Table Blenders -2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
LD026-P	LD026-U	F-0457A LD-2B Rundown Blender	None	None	None
LD027-P	LD027-U	F-0457B LD-2A Rundown Blender	None	None	None
LD028-P	LD028-U	F-0457C LD-2A Rundown Blender	None	None	None
LD029-P	LD029-U	F-0457D LD-2A Rundown Blender	None	None	None
LD030-P	LD030-U	F-0457E LD-2B Rundown Blender	None	None	None
LD031-P	LD031-U	F-0457F LD-2B Rundown Blender	None	None	None
LD032-P	LD032-U	F-0457G LD-2 Spare Blender	None	None	None
LD033-P	LD033-U	F-0457H LD-2 Spare Blender	None	None	None
LD034-P	LD034-U	F-0457J LD-2 Spare Blender	None	None	None

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Table Blenders -3

EP	EU	Opacity	PM	Authority of Requirement
LD026-P	LD026-U	40%	11.23 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" (2)
LD027-P	LD027-U	40%	11.23 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" (2)
LD028-P	LD028-U	40%	11.23 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" (2)
LD029-P	LD029-U	40%	11.23 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" (2)
LD030-P	LD030-U	40%	11.23 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" (2)
LD031-P	LD031-U	40%	11.23 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" (2)

EP	EU	Opacity	PM	Authority of Requirement
LD032-P	LD032-U	40%	11.23 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" (2)
LD033-P	LD033-U	40%	11.23 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" (2)
LD034-P	LD034-U	40%	11.23 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" (2)

- ¹. PM emission limit of 11.23 lb/hr was based on the process weights for these units using the formulas in 567 IAC 23.3(2) "a" (2).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: LD035-P through LD040-P (F-0458 Rundown Blenders)

Associated Equipment

Table Rundown Blenders-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity lb/hr
LD035-P	LD035-U	Blender Vent	Polyethylene Pellets	9,000.0
LD036-P	LD036-U	Blender Vent	Polyethylene Pellets	9,000.0
LD037-P	LD037-U	Blender Vent	Polyethylene Pellets	9,000.0
LD038-P	LD038-U	Blender Vent	Polyethylene Pellets	9,000.0
LD039-P	LD039-U	Blender Vent	Polyethylene Pellets	9,000.0
LD040-P	LD040-U	Blender Vent	Polyethylene Pellets	9,000.0

Table Rundown Blenders-2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
LD035-P	LD035-U	Blender Vent	None	None	None
LD036-P	LD036-U	Blender Vent	None	None	None
LD037-P	LD037-U	Blender Vent	None	None	None
LD038-P	LD038-U	Blender Vent	None	None	None
LD039-P	LD039-U	Blender Vent	None	None	None
LD040-P	LD040-U	Blender Vent	None	None	None

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Table Rundown Blenders-3

EP	EU	Opacity	PM	Authority of Requirement
LD035-P	LD035-U	40%	11.23 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" (2)
LD036-P	LD036-U	40%	11.23 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" (2)
LD037-P	LD037-U	40%	11.23 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" (2)
LD038-P	LD038-U	40%	11.23 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" (2)
LD039-P	LD039-U	40%	11.23 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" (2)
LD040-P	LD040-U	40%	11.23 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" (2)

¹. PM emission limit of 11.23 lb/hr was based on the process weights for these units using the formulas in 567 IAC 23.3(2) "a" (2).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: LD041-P through LD059-P (LD2A, LD2B and LD3 Silos)

Associated Equipment

Table Silos-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity lb/hr
LD041-P	LD041-U	F-0459A LD-2/3 Rundown Storage Bin	Polyethylene Pellets	60,000.0
LD042-P	LD042-U	F-0459B LD-2/3 Rundown Storage Bin	Polyethylene Pellets	60,000.0
LD043-P	LD043-U	F-0459C LD-2/3 Rundown Storage Bin	Polyethylene Pellets	60,000.0
LD044-P	LD044-U	F-0459D LD-2/3 Rundown Storage Bin	Polyethylene Pellets	60,000.0
LD045-P	LD045-U	F-0459E LD-3 Rundown Blender	Polyethylene Pellets	22,500.0
LD046-P	LD046-U	F-0459F LD-3 Rundown Blender	Polyethylene Pellets	22,500.0
LD047-P	LD047-U	F-0459G LD-3 Rundown Blender	Polyethylene Pellets	22,500.0
LD048-P	LD048-U	F-0459H LD-3 Rundown Blender	Polyethylene Pellets	22,500.0
LD049-P	LD049-U	F-0459J LD-3 Rundown Blender	Polyethylene Pellets	22,500.0
LD050-P	LD050-U	F-0459K LD-3 Rundown Blender	Polyethylene Pellets	22,500.0
LD051-P	LD051-U	F-0459L LD-2/3 Rundown Storage Bin	Polyethylene Pellets	60,000.0
LD052-P	LD052-U	F-0459M LD-2/3 Rundown Storage Bin	Polyethylene Pellets	60,000.0
LD053-P	LD053-U	F-0459N LD-2/3 Rundown Storage Bin	Polyethylene Pellets	60,000.0
LD054-P	LD054-U	F-0459P LD-2/3 Rundown Storage Bin	Polyethylene Pellets	60,000.0
LD055-P	LD055-U	F-0459Q LD-2/3 Rundown Storage Bin	Polyethylene Pellets	60,000.0
LD056-P	LD056-U	F-0459R LD-2/3 Rundown Storage Bin	Polyethylene Pellets	60,000.0
LD057-P	LD057-U	F-0459S LD-2/3 Rundown Storage Bin	Polyethylene Pellets	60,000.0
LD058-P	LD058-U	F-0459T LD-2/3 Rundown Storage Bin	Polyethylene Pellets	60,000.0
LD059-P	LD059-U	F-0459U LD-2/3 Rundown Storage Bin	Polyethylene Pellets	60,000.0

Table Silos-2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
LD041-P	LD041-U	F-0459A LD-2/3 Rundown Storage Bin	None	None	97-A-685-S2
LD042-P	LD042-U	F-0459B LD-2/3 Rundown Storage Bin	None	None	97-A-686-S2
LD043-P	LD043-U	F-0459C LD-2/3 Rundown Storage Bin	None	None	97-A-687-S2
LD044-P	LD044-U	F-0459D LD-2/3 Rundown Storage Bin	None	None	97-A-688-S2
LD045-P	LD045-U	F-0459E LD-3 Rundown Blender	None	None	97-A-689-S2
LD046-P	LD046-U	F-0459F LD-3 Rundown Blender	None	None	97-A-690-S2
LD047-P	LD047-U	F-0459G LD-3 Rundown Blender	None	None	97-A-691-S2
LD048-P	LD048-U	F-0459H LD-3 Rundown Blender	None	None	97-A-692-S2
LD049-P	LD049-U	F-0459J LD-3 Rundown Blender	None	None	97-A-693-S2
LD050-P	LD050-U	F-0459K LD-3 Rundown Blender	None	None	97-A-694-S2
LD051-P	LD051-U	F-0459L LD-2/3 Rundown Storage Bin	None	None	97-A-695-S2
LD052-P	LD052-U	F-0459M LD-2/3 Rundown Storage Bin	None	None	97-A-696-S2
LD053-P	LD053-U	F-0459N LD-2/3 Rundown Storage Bin	None	None	97-A-697-S2
LD054-P	LD054-U	F-0459P LD-2/3 Rundown Storage Bin	None	None	97-A-698-S2
LD055-P	LD055-U	F-0459Q LD-2/3 Rundown Storage Bin	None	None	97-A-699-S2
LD056-P	LD056-U	F-0459R LD-2/3 Rundown Storage Bin	None	None	97-A-700-S2
LD057-P	LD057-U	F-0459S LD-2/3 Rundown Storage Bin	None	None	97-A-701-S2
LD058-P	LD058-U	F-0459T LD-2/3 Rundown Storage Bin	None	None	97-A-702-S2
LD059-P	LD059-U	F-0459U LD-2/3 Rundown Storage Bin	None	None	97-A-703-S2

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Table Silos-3

EP	EU	Opacity	PM10	PM	VOC	Authority of Requirement
LD041-P	LD041-U	40% ¹	2.75 ton/yr ²	0.022 gr/dscf	106.7 ton/yr ³ 2.0 lb/ton of product ⁴	Opacity: Construction Permit 97-A-685-S2 567 IAC 23.3(2) "d" PM10: Construction Permit 97-A-685-S2 PM: Construction Permit 97-A-685-S2 567 IAC 23.3(2) "a" VOC: Construction Permit 97-A-685-S2
LD042-P	LD042-U	40% ¹	2.75 ton/yr ²	0.022 gr/dscf	106.7 ton/yr ³ 2.0 lb/ton of product ⁴	Opacity: Construction Permit 97-A-686-S2 567 IAC 23.3(2) "d" PM10: Construction Permit 97-A-686-S2 PM: Construction Permit 97-A-686-S2 567 IAC 23.3(2) "a" VOC: Construction Permit 97-A-686-S2
LD043-P	LD043-U	40% ¹	2.75 ton/yr ²	0.022 gr/dscf	106.7 ton/yr ³ 2.0 lb/ton of product ⁴	Opacity: Construction Permit 97-A-687-S2 567 IAC 23.3(2) "d" PM10: Construction Permit 97-A-687-S2 PM: Construction Permit 97-A-687-S2 567 IAC 23.3(2) "a" VOC: Construction Permit 97-A-687-S2
LD044-P	LD044-U	40% ¹	2.75 ton/yr ²	0.022 gr/dscf	106.7 ton/yr ³ 2.0 lb/ton of product ⁴	Opacity: Construction Permit 97-A-688-S2 567 IAC 23.3(2) "d" PM10: Construction Permit 97-A-688-S2 PM: Construction Permit 97-A-688-S2 567 IAC 23.3(2) "a" VOC: Construction Permit 97-A-688-S2
LD045-P	LD045-U	40% ¹	2.75 ton/yr ²	0.022 gr/dscf	106.7 ton/yr ³ 2.0 lb/ton of product ⁴	Opacity: Construction Permit 97-A-689-S2 567 IAC 23.3(2) "d" PM10: Construction Permit 97-A-689-S2 PM: Construction Permit 97-A-689-S2 567 IAC 23.3(2) "a" VOC: Construction Permit 97-A-689-S2
LD046-P	LD046-U	40% ¹	2.75 ton/yr ²	0.022 gr/dscf	106.7 ton/yr ³ 2.0 lb/ton of product ⁴	Opacity: Construction Permit 97-A-690-S2 567 IAC 23.3(2) "d" PM10: Construction Permit 97-A-690-S2 PM: Construction Permit 97-A-690-S2 567 IAC 23.3(2) "a" VOC: Construction Permit 97-A-690-S2
LD047-P	LD047-U	40% ¹	2.75 ton/yr ²	0.022 gr/dscf	106.7 ton/yr ³ 2.0 lb/ton of product ⁴	Opacity: Construction Permit 97-A-691-S2 567 IAC 23.3(2) "d" PM10: Construction Permit 97-A-691-S2 PM: Construction Permit 97-A-691-S2 567 IAC 23.3(2) "a" VOC: Construction Permit 97-A-691-S2
LD048-P	LD048-U	40% ¹	2.75 ton/yr ²	0.022 gr/dscf	106.7 ton/yr ³ 2.0 lb/ton of product ⁴	Opacity: Construction Permit 97-A-692-S2 567 IAC 23.3(2) "d" PM10: Construction Permit 97-A-692-S2 PM: Construction Permit 97-A-692-S2 567 IAC 23.3(2) "a" VOC: Construction Permit 97-A-692-S2

EP	EU	Opacity	PM10	PM	VOC	Authority of Requirement
LD049-P	LD049-U	40% ¹	2.75 ton/yr ²	0.022 gr/dscf	106.7 ton/yr ³ 2.0 lb/ton of product ⁴	Opacity: Construction Permit 97-A-693-S2 567 IAC 23.3(2) "d" PM10: Construction Permit 97-A-693-S2 PM: Construction Permit 97-A-693-S2 567 IAC 23.3(2) "a" VOC: Construction Permit 97-A-693-S2
LD050-P	LD050-U	40% ¹	2.75 ton/yr ²	0.022 gr/dscf	106.7 ton/yr ³ 2.0 lb/ton of product ⁴	Opacity: Construction Permit 97-A-694-S2 567 IAC 23.3(2) "d" PM10: Construction Permit 97-A-694-S2 PM: Construction Permit 97-A-694-S2 567 IAC 23.3(2) "a" VOC: Construction Permit 97-A-694-S2
LD051-P	LD051-U	40% ¹	2.75 ton/yr ²	0.022 gr/dscf	106.7 ton/yr ³ 2.0 lb/ton of product ⁴	Opacity: Construction Permit 97-A-695-S2 567 IAC 23.3(2) "d" PM10: Construction Permit 97-A-695-S2 PM: Construction Permit 97-A-695-S2 567 IAC 23.3(2) "a" VOC: Construction Permit 97-A-695-S2
LD052-P	LD052-U	40% ¹	2.75 ton/yr ²	0.022 gr/dscf	106.7 ton/yr ³ 2.0 lb/ton of product ⁴	Opacity: Construction Permit 97-A-696-S2 567 IAC 23.3(2) "d" PM10: Construction Permit 97-A-696-S2 PM: Construction Permit 97-A-696-S2 567 IAC 23.3(2) "a" VOC: Construction Permit 97-A-696-S2
LD053-P	LD053-U	40% ¹	2.75 ton/yr ²	0.022 gr/dscf	106.7 ton/yr ³ 2.0 lb/ton of product ⁴	Opacity: Construction Permit 97-A-697-S2 567 IAC 23.3(2) "d" PM10: Construction Permit 97-A-697-S2 PM: Construction Permit 97-A-697-S2 567 IAC 23.3(2) "a" VOC: Construction Permit 97-A-697-S2
LD054-P	LD054-U	40% ¹	2.75 ton/yr ²	0.022 gr/dscf	106.7 ton/yr ³ 2.0 lb/ton of product ⁴	Opacity: Construction Permit 97-A-698-S2 567 IAC 23.3(2) "d" PM10: Construction Permit 97-A-698-S2 PM: Construction Permit 97-A-698-S2 567 IAC 23.3(2) "a" VOC: Construction Permit 97-A-698-S2
LD055-P	LD055-U	40% ¹	2.75 ton/yr ²	0.022 gr/dscf	106.7 ton/yr ³ 2.0 lb/ton of product ⁴	Opacity: Construction Permit 97-A-699-S2 567 IAC 23.3(2) "d" PM10: Construction Permit 97-A-699-S2 PM: Construction Permit 97-A-699-S2 567 IAC 23.3(2) "a" VOC: Construction Permit 97-A-699-S2
LD056-P	LD056-U	40% ¹	2.75 ton/yr ²	0.022 gr/dscf	106.7 ton/yr ³ 2.0 lb/ton of product ⁴	Opacity: Construction Permit 97-A-700-S2 567 IAC 23.3(2) "d" PM10: Construction Permit 97-A-700-S2 PM: Construction Permit 97-A-700-S2 567 IAC 23.3(2) "a" VOC: Construction Permit 97-A-700-S2
LD057-P	LD057-U	40% ¹	2.75 ton/yr ²	0.022 gr/dscf	106.7 ton/yr ³ 2.0 lb/ton of product ⁴	Opacity: Construction Permit 97-A-701-S2 567 IAC 23.3(2) "d" PM10: Construction Permit 97-A-701-S2 PM: Construction Permit 97-A-701-S2 567 IAC 23.3(2) "a" VOC: Construction Permit 97-A-701-S2

EP	EU	Opacity	PM10	PM	VOC	Authority of Requirement
LD058-P	LD058-U	40% ¹	2.75 ton/yr ²	0.022 gr/dscf	106.7 ton/yr ³ 2.0 lb/ton of product ⁴	Opacity: Construction Permit 97-A-702-S2 567 IAC 23.3(2) "d" PM10: Construction Permit 97-A-702-S2 PM: Construction Permit 97-A-702-S2 567 IAC 23.3(2) "a" VOC: Construction Permit 97-A-702-S2
LD059-P	LD059-U	40% ¹	2.75 ton/yr ²	0.022 gr/dscf	106.7 ton/yr ³ 2.0 lb/ton of product ⁴	Opacity: Construction Permit 97-A-703-S2 567 IAC 23.3(2) "d" PM10: Construction Permit 97-A-703-S2 PM: Construction Permit 97-A-703-S2 567 IAC 23.3(2) "a" VOC: Construction Permit 97-A-703-S2

1. An exceedance of the indicator opacity of 10% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).
2. PM10 limit applies to all emissions from the LD-3 line.
3. VOC limit applies to all VOC emissions from the LD-3 line.
4. Does not apply to malfunctions and emergency releases.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating Limits:

- a. The amount of LDPE produced in the LD-3 line shall not exceed 197,100,000 pounds per 12-month rolling period.

Reporting and Recordkeeping:

- a. Record the amount of LDPE produced in the LD-3 line, in pounds. Calculate and record monthly and 12-month rolling totals.

Authority for Requirement:	97-A-685-S2	97-A-686-S2	97-A-687-S2
IDNR Construction Permit	97-A-688-S2	97-A-689-S2	97-A-690-S2
	97-A-691-S2	97-A-693-S2	97-A-694-S2
	97-A-695-S2	97-A-696-S2	97-A-697-S2
	97-A-698-S2	97-A-699-S2	97-A-700-S2
	97-A-701-S2	97-A-702-S2	97-A-703-S2

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Silos -4

	Stack Height (ft, from the ground)	Stack Opening (dia. inch)	Exhaust Flow Rate (scfm)	Exhaust Temperature (°F)	Discharge Style	Authority for Requirement IDNR Construction Permit
LD041-P	75	16×16	1,500	110	Downward	97-A-685-S2
LD042-P	75	16×16	1,500	110	Downward	97-A-686-S2
LD043-P	75	16×16	1,500	110	Downward	97-A-687-S2
LD044-P	75	16×16	1,500	110	Downward	97-A-688-S2
LD045-P	75	16×16	2,654	115	Downward	97-A-689-S2
LD046-P	75	16×16	2,654	115	Downward	97-A-690-S2
LD047-P	75	16×16	2,654	115	Downward	97-A-691-S2
LD048-P	75	16×16	2,654	115	Downward	97-A-692-S2
LD049-P	75	16×16	2,654	115	Downward	97-A-693-S2
LD050-P	75	16×16	2,654	115	Downward	97-A-694-S2
LD051-P	75	16×16	1,500	110	Downward	97-A-695-S2
LD052-P	75	16×16	1,500	110	Downward	97-A-696-S2
LD053-P	75	16×16	1,500	110	Downward	97-A-697-S2
LD054-P	75	16×16	1,500	110	Downward	97-A-698-S2
LD055-P	75	16×16	1,500	110	Downward	97-A-699-S2
LD056-P	75	16×16	1,500	110	Downward	97-A-700-S2
LD057-P	75	16×16	1,500	110	Downward	97-A-701-S2
LD058-P	75	16×16	1,500	110	Downward	97-A-702-S2
LD059-P	75	16×16	1,500	110	Downward	97-A-703-S2

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: LD060-P through LD076-P (F-0453 Storage Bins and Blending Silo)

Associated Equipment

Table Storage Bins and Blending Silo-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity lb/hr
LD060-P	LD060-U	F-0453A LD-1 Storage Bin	Polyethylene Pellets	60,000.0
LD061-P	LD061-U	F-0453B LD-1 Storage Bin	Polyethylene Pellets	60,000.0
LD062-P	LD062-U	F-0453C LD-1 Blending Silo	Polyethylene Pellets	60,000.0
LD063-P	LD063-U	F-0453D Finishing Storage Bin	Polyethylene Pellets	60,000.0
LD064-P	LD064-U	F-0453E Finishing Storage Bin	Polyethylene Pellets	60,000.0
LD065-P	LD065-U	F-0453F LD-1 Storage Bin	Polyethylene Pellets	60,000.0
LD066-P	LD066-U	F-0453G LD-1 Storage Bin	Polyethylene Pellets	60,000.0
LD067-P	LD067-U	F-0453H LD-1 Storage Bin	Polyethylene Pellets	60,000.0
LD068-P	LD068-U	F-0453J Finishing Storage Bin	Polyethylene Pellets	60,000.0
LD069-P	LD069-U	F-0453K Finishing Storage Bin	Polyethylene Pellets	60,000.0
LD070-P	LD070-U	F-0453L LD-1 Storage Bin	Polyethylene Pellets	60,000.0
LD071-P	LD071-U	F-0453M LD-1 Storage Bin	Polyethylene Pellets	60,000.0
LD072-P	LD072-U	F-0453N LD-1 Storage Bin	Polyethylene Pellets	60,000.0
LD073-P	LD073-U	F-0453P LD-1 Storage Bin	Polyethylene Pellets	60,000.0
LD074-P	LD074-U	F-0453Q LD-1 Storage Bin	Polyethylene Pellets	60,000.0
LD075-P	LD075-U	F-0453R LD-1 Storage Bin	Polyethylene Pellets	60,000.0
LD076-P	LD076-U	F-0453S LD-1 Storage Bin	Polyethylene Pellets	60,000.0

Table Storage Bins and Blending Silo-2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
LD060-P	LD060-U	F-0453A LD-1 Storage Bin	None	None	97-A-818
LD061-P	LD061-U	F-0453B LD-1 Storage Bin	None	None	97-A-819
LD062-P	LD062-U	F-0453C LD-1 Blending Silo	None	None	97-A-820
LD063-P	LD063-U	F-0453D Finishing Storage Bin	None	None	None
LD064-P	LD064-U	F-0453E Finishing Storage Bin	None	None	None
LD065-P	LD065-U	F-0453F LD-1 Storage Bin	None	None	97-A-821
LD066-P	LD066-U	F-0453G LD-1 Storage Bin	None	None	97-A-822
LD067-P	LD067-U	F-0453H LD-1 Storage Bin	None	None	97-A-823
LD068-P	LD068-U	F-0453J Finishing Storage Bin	None	None	None
LD069-P	LD069-U	F-0453K Finishing Storage Bin	None	None	None
LD070-P	LD070-U	F-0453L LD-1 Storage Bin	None	None	97-A-824
LD071-P	LD071-U	F-0453M LD-1 Storage Bin	None	None	97-A-825
LD072-P	LD072-U	F-0453N LD-1 Storage Bin	None	None	97-A-826
LD073-P	LD073-U	F-0453P LD-1 Storage Bin	None	None	97-A-827
LD074-P	LD074-U	F-0453Q LD-1 Storage Bin	None	None	97-A-828
LD075-P	LD075-U	F-0453R LD-1 Storage Bin	None	None	97-A-829
LD076-P	LD076-U	F-0453S LD-1 Storage Bin	None	None	97-A-830

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Table Storage Bins and Blending Silo-3

EP	EU	Opacity	PM10	PM	VOC	Authority of Requirement
LD060-P	LD060-U	40%	0.1 ton/yr	40.04 lb/hr ¹ 0.7 ton/yr	0.1 ton/yr	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" PM10, PM, VOC: Construction Permit 97-A-818
LD061-P	LD061-U	40%	0.1 ton/yr	40.04 lb/hr ¹ 0.7 ton/yr	0.1 ton/yr	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" PM10, PM, VOC: Construction Permit 97-A-819
LD062-P	LD062-U	40%	0.1 ton/yr	40.04 lb/hr ¹ 0.7 ton/yr	0.1 ton/yr	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" PM10, PM, VOC: Construction Permit 97-A-820
LD063-P	LD063-U	40%	NA	40.04 lb/hr ^{1,2}	NA	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
LD064-P	LD064-U	40%	NA	40.04 lb/hr ^{1,2}	NA	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
LD065-P	LD065-U	40%	0.1 ton/yr	40.04 lb/hr ¹ 0.7 ton/yr	0.1 ton/yr	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" PM10, PM, VOC: Construction Permit 97-A-821
LD066-P	LD066-U	40%	0.1 ton/yr	40.04 lb/hr ¹ 0.7 ton/yr	0.1 ton/yr	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" PM10, PM, VOC: Construction Permit 97-A-822
LD067-P	LD067-U	40%	0.1 ton/yr	40.04 lb/hr ¹ 0.7 ton/yr	0.1 ton/yr	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" PM10, PM, VOC: Construction Permit 97-A-823
LD068-P	LD068-U	40%	NA	40.04 lb/hr ^{1,2}	NA	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
LD069-P	LD069-U	40%	NA	40.04 lb/hr ^{1,2}	NA	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
LD070-P	LD070-U	40%	0.1 ton/yr	40.04 lb/hr ¹ 0.7 ton/yr	0.1 ton/yr	Opacity: 567 IAC 23.3(2) "d" PM10, PM, VOC: Construction Permit 97-A-824
LD071-P	LD071-U	40%	0.1 ton/yr	40.04 lb/hr ¹ 0.7 ton/yr	0.1 ton/yr	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" PM10, PM, VOC: Construction Permit 97-A-825
LD072-P	LD072-U	40%	0.1 ton/yr	40.04 lb/hr ¹ 0.7 ton/yr	0.1 ton/yr	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" PM10, PM, VOC: Construction Permit 97-A-826
LD073-P	LD073-U	40%	0.1 ton/yr	40.04 lb/hr ¹ 0.7 ton/yr	0.1 ton/yr	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"

EP	EU	Opacity	PM10	PM	VOC	Authority of Requirement
						PM10, PM, VOC: Construction Permit 97-A-827
LD074-P	LD074-U	40%	0.1 ton/yr	40.04 lb/hr ¹ 0.7 ton/yr	0.1 ton/yr	Opacity: 567 IAC 23.3(2) "d" PM10, PM, VOC: Construction Permit 97-A-828
LD075-P	LD075-U	40%	0.1 ton/yr	40.04 lb/hr ¹ 0.7 ton/yr	0.1 ton/yr	Opacity: 567 IAC 23.3(2) "d" PM10, PM, VOC: Construction Permit 97-A-829
LD076-P	LD076-U	40%	0.1 ton/yr	40.04 lb/hr ¹ 0.7 ton/yr	0.1 ton/yr	Opacity: 567 IAC 23.3(2) "d" PM10, PM, VOC: Construction Permit 97-A-830

1. PM emission limit of 40.04 lb/hr was based on the process weights for these units using the formulas in 567 IAC 23.3(2) "a" (2).
2. Total for D and E finishing lines.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Storage Bins and Blending Silo-4

	Stack Height (ft, from the ground)	Stack Opening (dia. inch)	Exhaust Flow Rate (acfm)	Exhaust Temperature (°F)	Discharge Style	Authority for Requirement IDNR Construction Permit
LD060-P	75	16×16	1,500	110	NA	97-A-818
LD061-P	75	16×16	1,500	110	NA	97-A-819
LD062-P	75	16×16	1,500	110	NA	97-A-820
LD065-P	75	16×16	1,500	110	NA	97-A-821
LD066-P	75	16×16	1,500	110	NA	97-A-822
LD067-P	75	16×16	1,500	110	NA	97-A-823
LD070-P	75	16×16	1,500	110	NA	97-A-824
LD071-P	75	16×16	1,500	110	NA	97-A-825
LD072-P	75	16×16	1,500	110	NA	97-A-826
LD073-P	75	16×16	1,500	110	NA	97-A-827
LD074-P	75	16×16	1,500	110	NA	97-A-828
LD075-P	75	16×16	1,500	110	NA	97-A-829
LD076-P	75	16×16	1,500	110	NA	97-A-830

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: LD077-P through LD082-P (F-0454 Storage Bins)

Associated Equipment

Table Storage Bins-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity lb/hr
LD077-P	LD077-U	F-0454A LD-1 Storage Bin	Polyethylene Pellets	60,000.0
LD078-P	LD078-U	F-0454B LD-1 Storage Bin	Polyethylene Pellets	60,000.0
LD079-P	LD079-U	F-0454C LD-1 Storage Bin	Polyethylene Pellets	60,000.0
LD080-P	LD080-U	F-0454D LD-1 Storage Bin	Polyethylene Pellets	60,000.0
LD081-P	LD081-U	F-0454E LD-1 Storage Bin	Polyethylene Pellets	60,000.0
LD082-P	LD082-U	F-0454F LD-1 Storage Bin	Polyethylene Pellets	60,000.0

Table Storage Bins-2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
LD077-P	LD077-U	F-0454A LD-1 Storage Bin	None	None	97-A-831
LD078-P	LD078-U	F-0454B LD-1 Storage Bin	None	None	97-A-832
LD079-P	LD079-U	F-0454C LD-1 Storage Bin	None	None	97-A-833
LD080-P	LD080-U	F-0454D LD-1 Storage Bin	None	None	97-A-834
LD081-P	LD081-U	F-0454E LD-1 Storage Bin	None	None	97-A-835
LD082-P	LD082-U	F-0454F LD-1 Storage Bin	None	None	97-A-836

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Table Storage Bins-3

EP	EU	Opacity	PM10	PM	VOC	Authority of Requirement
LD077-P	LD077-U	40%	0.1 ton/yr	40.04 lb/hr ¹ 0.7 ton/yr	0.1 ton/yr	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" PM10, PM, VOC: Construction Permit 97-A-831
LD078-P	LD078-U	40%	0.1 ton/yr	40.04 lb/hr ¹ 0.7 ton/yr	0.1 ton/yr	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" PM10, PM, VOC: Construction Permit 97-A-832
LD079-P	LD079-U	40%	0.1 ton/yr	40.04 lb/hr ¹ 0.7 ton/yr	0.1 ton/yr	Opacity: 567 IAC 23.3(2) "d" PM10, PM, VOC: IDNR Construction Permit 97-A-833
LD080-P	LD080-U	40%	0.1 ton/yr	40.04 lb/hr ¹ 0.7 ton/yr	0.1 ton/yr	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" PM10, PM, VOC: Construction Permit 97-A-834
LD081-P	LD081-U	40%	0.1 ton/yr	40.04 lb/hr ¹ 0.7 ton/yr	0.1 ton/yr	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" PM10, PM, VOC: Construction Permit 97-A-835
LD082-P	LD082-U	40%	0.1 ton/yr	40.04 lb/hr ¹ 0.7 ton/yr	0.1 ton/yr	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" PM10, PM, VOC: Construction Permit 97-A-836

1. PM emission limit of 40.04 lb/hr was based on the process weights for these units using the formulas in 567 IAC 23.3(2) "a" (2).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Storage Bins-4

	Stack Height (ft, from the ground)	Stack Opening (dia. inch)	Exhaust Flow Rate (scfm)	Exhaust Temperature (°F)	Discharge Style	Authority for Requirement IDNR Construction Permit
LD077-P	75	16×16	1,500	110	NA	97-A-831
LD078-P	75	16×16	1,500	110	NA	97-A-832
LD079-P	75	16×16	1,500	110	NA	97-A-833
LD080-P	75	16×16	1,500	110	NA	97-A-834
LD081-P	75	16×16	1,500	110	NA	97-A-835
LD082-P	75	16×16	1,500	110	NA	97-A-836

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: LD083-P (Fugitive)

Associated Equipment

Associated Emission Unit ID Numbers: LD083-U
Emissions Control Equipment ID Number: None
Emissions Control Equipment Description: Low Density Unit Fugitives
Continuous Emissions Monitors ID Numbers: None

Emission Unit vented through this Emission Point: LD083-U
Emission Unit Description: Low Density Unit Fugitives
Raw Material/Fuel: Ethylene
Rated Capacity: 8760 hr/yr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Emission limits are not required at this time.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: LD084-P through LD095-P (F-0452 Quad Storage Bins)

Associated Equipment

Table Quad Storage Bins-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity lb/hr
LD084-P	LD084-U	F-0452A LD-1 Quad Storage Bin	Polyethylene Pellet	60,000.0
LD085-P	LD085-U	F-0452B LD-1 Quad Storage Bin	Polyethylene Pellet	60,000.0
LD086-P	LD086-U	F-0452C LD-1 Quad Storage Bin	Polyethylene Pellet	60,000.0
LD087-P	LD087-U	F-0452D LD-1 Quad Storage Bin	Polyethylene Pellet	60,000.0
LD088-P	LD088-U	F-0452E LD-1 Quad Storage Bin	Polyethylene Pellet	60,000.0
LD089-P	LD089-U	F-0452F LD-1 Quad Storage Bin	Polyethylene Pellet	60,000.0
LD090-P	LD090-U	F-0452G LD-1 Quad Storage Bin	Polyethylene Pellet	60,000.0
LD091-P	LD091-U	F-0452H LD-1 Quad Storage Bin	Polyethylene Pellet	60,000.0
LD092-P	LD092-U	F-0452J LD-2/3 Quad Storage Bin	Polyethylene Pellet	60,000.0
LD093-P	LD093-U	F-0452K LD-2/3 Quad Storage Bin	Polyethylene Pellet	60,000.0
LD094-P	LD094-U	F-0452L LD-2/3 Quad Storage Bin	Polyethylene Pellet	60,000.0
LD095-P	LD095-U	F-0452M LD-2/3 Quad Storage Bin	Polyethylene Pellet	60,000.0

Table Quad Storage Bins-2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
LD084-P	LD084-U	F-0452A LD-1 Quad Storage Bin	None	None	97-A-837
LD085-P	LD085-U	F-0452B LD-1 Quad Storage Bin	None	None	97-A-838
LD086-P	LD086-U	F-0452C LD-1 Quad Storage Bin	None	None	97-A-839
LD087-P	LD087-U	F-0452D LD-1 Quad Storage Bin	None	None	97-A-840
LD088-P	LD088-U	F-0452E LD-1 Quad Storage Bin	None	None	97-A-841
LD089-P	LD089-U	F-0452F LD-1 Quad Storage Bin	None	None	97-A-842
LD090-P	LD090-U	F-0452G LD-1 Quad Storage Bin	None	None	97-A-843
LD091-P	LD091-U	F-0452H LD-1 Quad Storage Bin	None	None	97-A-844
LD092-P	LD092-U	F-0452J LD-2/3 Quad Storage Bin	None	None	97-A-651-S2
LD093-P	LD093-U	F-0452K LD-2/3 Quad Storage Bin	None	None	97-A-652-S2
LD094-P	LD094-U	F-0452L LD-2/3 Quad Storage Bin	None	None	97-A-653-S2
LD095-P	LD095-U	F-0452M LD-2/3 Quad Storage Bin	None	None	97-A-654-S2

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Table Quad Storage Bins-3

EP	EU	Opacity	PM10	PM	VOC	Authority of Requirement
LD084-P	LD084-U	40%	0.1 ton/yr	40.04 lb/hr ³ 0.2 ton/yr	0.1 ton/yr	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" PM10, PM, VOC: Construction Permit 97-A-837
LD085-P	LD085-U	40%	0.1 ton/yr	40.04 lb/hr ³ 0.2 ton/yr	0.1 ton/yr	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" PM10, VOC: Construction Permit 97-A-838

EP	EU	Opacity	PM10	PM	VOC	Authority of Requirement
LD086-P	LD086-U	40%	0.1 ton/yr	40.04 lb/hr ³ 0.2 ton/yr	0.1 ton/yr	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" PM10, PM, VOC: Construction Permit 97-A-839
LD087-P	LD087-U	40%	0.1 ton/yr	40.04 lb/hr ³ 0.2 ton/yr	0.1 ton/yr	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" PM10, PM, VOC: Construction Permit 97-A-840
LD088-P	LD088-U	40%	0.1 ton/yr	40.04 lb/hr ³ 0.2 ton/yr	0.1 ton/yr	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" PM10, PM, VOC: Construction Permit 97-A-841
LD089-P	LD089-U	40%	0.1 ton/yr	40.04 lb/hr ³ 0.2 ton/yr	0.1 ton/yr	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" PM10, PM, VOC: Construction Permit 97-A-842
LD090-P	LD090-U	40%	0.1 ton/yr	40.04 lb/hr ³ 0.2 ton/yr	0.1 ton/yr	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" PM10, PM, VOC: Construction Permit 97-A-843
LD091-P	LD091-U	40%	0.1 ton/yr	40.04 lb/hr ³ 0.2 ton/yr	0.1 ton/yr	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a" PM10, PM, VOC: Construction Permit 97-A-844
LD092-P	LD092-U	40% ¹	2.75 ton/yr ²	0.022 gr/dscf	106.7 ton/yr ⁴ 2 lb/ton product ⁵	Opacity: 567 IAC 23.3(2) "d" Construction Permit 97-A-651-S2 PM10, VOC: Construction Permit 97-A-651-S2 PM: Construction Permit 97-A-651-S2 567 IAC 23.3(2) "a"
LD093-P	LD093-U	40% ¹	2.75 ton/yr ²	0.022 gr/dscf	106.7 ton/yr ⁴ 2 lb/ton product ⁵	Opacity: 567 IAC 23.3(2) "d" Construction Permit 97-A-652-S2 PM10, VOC: Construction Permit 97-A-652-S2 PM: Construction Permit 97-A-651-S2 567 IAC 23.3(2) "a"
LD094-P	LD094-U	40% ¹	2.75 ton/yr ²	0.022 gr/dscf	106.7 ton/yr ⁴ 2 lb/ton product ⁵	Opacity: 567 IAC 23.3(2) "d" Construction Permit 97-A-653-S2 PM10, VOC: Construction Permit 97-A-653-S2 PM: Construction Permit 97-A-651-S2 567 IAC 23.3(2) "a"
LD095-P	LD095-U	40% ¹	2.75 ton/yr ²	0.022 gr/dscf	106.7 ton/yr ⁴ 2 lb/ton product ⁵	Opacity: 567 IAC 23.3(2) "d" Construction Permit 97-A-654-S2 PM10, VOC: Construction Permit 97-A-654-S2 PM: Construction Permit 97-A-651-S2 567 IAC 23.3(2) "a"

1. An exceedance of the indicator opacity of 10% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

2. PM10 limit applies to all emissions from the LD-3 line.

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Quad Storage Bins-4

	Stack Height (ft, from the ground)	Stack Opening (dia. inch)	Exhaust Flow Rate (acfm)	Exhaust Temperature (°F)	Discharge Style	Authority for Requirement IDNR Construction Permit
LD084-P	75	16×16	500	110	NA	97-A-837
LD085-P	75	16×16	500	110	NA	97-A-838
LD086-P	75	16×16	500	110	NA	97-A-839
LD087-P	75	16×16	500	110	NA	97-A-840
LD088-P	75	16×16	500	110	NA	97-A-841
LD089-P	75	16×16	500	110	NA	97-A-842
LD090-P	75	16×16	500	110	NA	97-A-843
LD091-P	75	16×16	500	110	NA	97-A-844
LD092-P	75	16×16	500 scfm	110	Downward	97-A-651-S2
LD093-P	75	16×16	500 scfm	110	Downward	97-A-652-S2
LD094-P	75	16×16	500 scfm	110	Downward	97-A-653-S2
LD095-P	75	16×16	500 scfm	110	Downward	97-A-654-S2

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: LD096-P through LD109-P (Compressors and Drums)

Associated Equipment

Table Compressors and Drums-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity
LD096-P	LD096A-U	J-0201A LD-1 "A" Make Up Compressor	Ethylene	118.0 lb/hr
	LD096B-U	J-0202A LD-1 "A" Purge Compressor	Ethylene	118.0 lb/hr
LD096F-P	LD096-U	Fugitive Emissions: Primary Compressor	Ethylene	1.0 leak hr/hr
LD097-P	LD097A-U	J-0201B LD-1 "B" Make Up Compressor	Ethylene	118.0 lb/hr
	LD097B-U	J-0202B LD-1 "B" Purge Compressor	Ethylene	118.0 lb/hr
LD097F-P	LD097-U	Fugitive Emissions: Primary Compressor	Ethylene	1.0 leak hr/hr
LD098-P	LD098-U	J-0202C LD-1 Purge Booster Compressor	Ethylene	182.0 lb/hr
LD098F-P		Fugitive Emissions: Primary Compressor	Ethylene	1.0 leak hr/hr
LD099-P	LD099-U	J-0203A LD-1 "A" Recycle Compressor	Ethylene	118.0 lb/hr
LD099F-P		Fugitive Emissions: Secondary Compressor	Ethylene	1.0 leak hr/hr
LD100-P	LD100-U	J-0203B LD-1 "B" Recycle Compressor	Ethylene	118.0 lb/hr
LD100F-P		Fugitive Emissions: Secondary Compressor	Ethylene	1.0 leak hr/hr
LD101-P	LD101-U	J-0204A LD-1 "A" Hyper Compressor	Ethylene	1376.0 lb/hr
LD101F-P		Fugitive Emissions: Secondary Compressor	Ethylene	1.0 leak hr/hr
LD102-P	LD102-U	J-0204B LD-1 "B" Hyper Compressor	Ethylene	1376.0 lb/hr
LD102F-P		Fugitive Emissions: Secondary Compressor	Ethylene	1.0 leak hr/hr
LD103-P	LD103-U	J-0223 LD-1 Recycle Compressor	Ethylene	118.0 lb/hr
LD103F-P		Fugitive Emissions: Secondary Compressor	Ethylene	1.0 leak hr/hr
LD104-P	LD104-U	J-0224 LD-1 Hyper Compressor	Ethylene	1376.0 lb/hr
LD104F-P		Fugitive Emissions: Secondary Compressor	Ethylene	1.0 leak hr/hr
LD1014F-P	LD1014-U	Fugitive Emissions: Cylinder Leaks	Ethylene	18.0 leak hr/hr
LD105-P	LD105A-U	J-0701A LD-2A Primary/Flash Gas Compressor	Ethylene	640.0 lb/lift 2 lifts
	LD105B-U	F-0701A LD-2A Make Up Gas Suction Drum	Ethylene	240.0 lb/lift 2 lifts
	LD105C-U	F-0705A LD-2A Purge Compressor Suction Drum	Ethylene	400.0 lb/lift 2 lifts
	LD105D-U	F-0755A LD-2A Purge Gas Knockout Drum	Ethylene	15.3 lb/lift 2 lifts
	LD105E-U	F-0709A LD-2A Flash Gas 3rd St. Knockout Drum	Ethylene	58.9 lb/lift 2 lifts
	LD105F-U	F-0708A LD-2A Flash Gas 2nd St. Knockout Drum	Ethylene	21.2 lb/lift 2 lifts
	LD105G-U	F-0707A LD-2A Flash Gas 1st St. Knockout Drum	Ethylene	15.1 lb/lift 2 lifts
LD105A-P	LD105H-U	J-0701A LD-2A Primary Compressor Leak Gas	Ethylene	215.0 lb/lift 2 lifts
	LD105I-U	J-0701A LD-2A Primary Compressor	Ethylene	560.0 lb/lift 2 lifts
	LD105J-U	J-0702A Secondary Compressor Leak Gas	Ethylene	215.0 lb/lift 2 lifts
	LD105H-U	J-0701A LD-2A Primary Compressor Leak Gas	Ethylene	640.0 lb/lift 2 lifts
LD105F-P	LD105-U	Fugitive Emissions: Primary Compressor	Ethylene	1.0 leak hr/hr
LD106-P	LD106A-U	J-0701B LD-2B Primary/Flash Gas Compressor	Ethylene	640.0 lb/lift 2 lifts
	LD106B-U	F-0701B LD-2B Make Up Gas Suction Drum	Ethylene	240.0 lb/lift 2 lifts
	LD106C-U	F-0705B LD-2B Purge compressor Suction Drum	Ethylene	400.0 lb/lift 2 lifts
	LD106D-U	F-0755B LD-2B Purge Gas Knockout Drum	Ethylene	15.0 lb/lift 2 lifts
	LD106E-U	F-0709B LD-2B Flash Gas 3rd St. Knockout Drum	Ethylene	59.0 lb/lift 2 lifts
	LD106F-U	F-0708B LD-2B Flash Gas 2nd St. Knockout Drum	Ethylene	21.0 lb/lift 2 lifts
	LD106G-U	F-0707B LD-2B Flash Gas 1st St. Knockout Drum	Ethylene	15.0 lb/lift 2 lifts
LD106A-P	LD106H-U	J-0701B LD-2B Primary Compressor Leak Gas	Ethylene	215.0 lb/lift 2 lifts
	LD106I-U	J-0701B LD-2B Primary Compressor	Ethylene	560.0 lb/lift 2 lifts
	LD106J-U	J-0702B Secondary Compressor Leak Gas	Ethylene	215.0 lb/lift 2 lifts
LD106F-P	LD106-U	Fugitive Emissions: Primary Compressor	Ethylene	1.0 leak hr/hr

EP	EU	Emission Unit Description	Raw Material	Rated Capacity
LD107-P	LD107-U	J-0702A LD-2A Secondary Compressor	Ethylene	445.0 lb/hr
LD107F-P		Fugitive Emissions: Secondary Compressor	Ethylene	1.0 leak hr/hr
LD108-P	LD108-U	J-0702B LD-2B Secondary Compressor	Ethylene	445.0 lb/hr
LD108F-P		Fugitive Emissions: Secondary Compressor	Ethylene	1.0 leak hr/hr
LD1078F-P	LD1078-U	Fugitive Emissions: Secondary Compressor	Ethylene	12.0 leak hr/hr
LD109-P	LD109A-U	J-0801 LD-3 Primary/Flash Gas Compressor	Ethylene	30,000 lb/hr
	LD109B-U	J-0802 LD-3 Secondary Compressor	Ethylene	108,000 lb/hr
LD109F-P	LD109-U	Fugitive Emission: Primary Compressor Distance Piece	Ethylene	8760 hr/yr
LD109A-P	LD109C-U	F-0809 LD-3 Flash Gas 3rd St. Knockout Drum	Ethylene	212.1 lb/lift 2 lifts
	LD109D-U	F-0801 LD-3 Make up Gas Suction Drum	Ethylene	577.3 lb/lift 2 lifts
	LD109E-U	J-0820 LD-3 Modifier Pump	Ethylene	60.0 lb/lift 2 lifts
LD109B-P	LD109F-U	F-0805 LD-3 Flash Gas Suction Drum	Ethylene	29.2 lb/lift 2 lifts
	LD109G-U	J-0801 LD-3 Primary Compressor	Ethylene	1400.0 lb/lift 2 lifts
	LD109H-U	F-0807 LD-3 Flash gas 1st St. Knockout Drum	Ethylene	42.4 lb/lift 2 lifts
	LD109I-U	F-0808 LD-3 Flash Gas 2nd St. Knockout Drum	Ethylene	60.3 lb/lift 2 lifts
	LD109J-U	J-0801 LD-3 Primary Compressor Leak Gas	Ethylene	810.0 lb/lift 2 lifts
	LD109K-U	J-0802 LD-3 Secondary Compressor Leak Gas	Ethylene	810.0 lb/lift 2 lifts
LD109AF-P	LD109A-U	Fugitive Emissions: Primary Compressor	Ethylene	1.0 leak hr/hr
LD109BF-P	LD109B-U	Fugitive Emissions: Secondary Compressor	Ethylene	1.0 leak hr/hr

Table Compressors and Drums-1

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
LD096-P	LD096A-U	J-0201A LD-1 "A" Make Up Compressor	None	None	97-A-845
	LD096B-U	J-0202A LD-1 "A" Purge Compressor	None	None	97-A-846
LD096F-P	LD096-U	Fugitive Emissions: Primary Compressor	None	None	None
LD097-P	LD097A-U	J-0201B LD-1 "B" Make Up Compressor	None	None	97-A-847
	LD097B-U	J-0202B LD-1 "B" Purge Compressor	None	None	97-A-848
LD096F-P	LD096-U	Fugitive Emissions: Primary Compressor	None	None	None
LD098-P	LD098-U	J-0202C LD-1 Purge Booster Compressor	None	None	97-A-849
LD098F-P		Fugitive Emissions: Primary Compressor	None	None	None
LD099-P	LD099-U	J-0203A LD-1 "A" Recycle Compressor	None	None	97-A-850
LD099F-P		Fugitive Emissions: Secondary Compressor	None	None	None
LD100-P	LD100-U	J-0203B LD-1 "B" Recycle Compressor	None	None	97-A-851
LD100F-P		Fugitive Emissions: Secondary Compressor	None	None	None
LD101-P	LD101-U	J-0204A LD-1 "A" Hyper Compressor	None	None	97-A-852
LD101F-P		Fugitive Emissions: Secondary Compressor	None	None	None
LD102-P	LD102-U	J-0204B LD-1 "B" Hyper Compressor	None	None	97-A-853
LD102F-P		Fugitive Emissions: Secondary Compressor	None	None	None
LD103-P	LD103-U	J-0223 LD-1 Recycle Compressor	None	None	97-A-854
LD103F-P		Fugitive Emissions: Secondary Compressor	None	None	None
LD104-P	LD104-U	J-0224 LD-1 Hyper Compressor	None	None	97-A-855
LD104F-P		Fugitive Emissions: Secondary Compressor	None	None	None
LD1014F-P	LD1014-U	Fugitive Emissions: Cylinder Leaks	None	None	None
LD105-P	LD105A-U	J-0701A LD-2A Primary/Flash Gas Compressor	None	None	None
	LD105B-U	F-0701A LD-2A Make Up Gas Suction Drum	None	None	None
	LD105C-U	F-0705A LD-2A Purge Compressor Suction Drum	None	None	None
	LD105D-U	F-0755A LD-2A Purge Gas Knockout Drum	None	None	None
	LD105E-U	F-0709A LD-2A Flash Gas 3rd St. Knockout Drum	None	None	None
	LD105F-U	F-0708A LD-2A Flash Gas 2nd St. Knockout Drum	None	None	None
	LD105G-U	F-0707A LD-2A Flash Gas 1st St. Knockout Drum	None	None	None

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
LD105A-P	LD105H-U	J-0701A LD-2A Primary Compressor Leak Gas	None	None	None
	LD105I-U	J-0701A LD-2A Primary Compressor	None	None	None
	LD105J-U	J-0702A Secondary Compressor Leak Gas	None	None	None
LD105F-P	LD105-U	Fugitive Emissions: Primary Compressor	None	None	None
LD106-P	LD106A-U	J-0701B LD-2B Primary/Flash Gas Compressor	None	None	None
	LD106B-U	F-0701B LD-2B Make Up Gas Suction Drum	None	None	None
	LD106C-U	F-0705B LD-2B Purge compressor Suction Drum	None	None	None
	LD106D-U	F-0755B LD-2B Purge Gas Knockout Drum	None	None	None
	LD106E-U	F-0709B LD-2B Flash Gas 3rd St. Knockout Drum	None	None	None
	LD106F-U	F-0708B LD-2B Flash Gas 2nd St. Knockout Drum	None	None	None
	LD106G-U	F-0707B LD-2B Flash Gas 1st St. Knockout Drum	None	None	None
LD106A-P	LD106H-U	J-0701B LD-2B Primary Compressor Leak Gas	None	None	None
	LD106I-U	J-0701B LD-2B Primary Compressor	None	None	None
	LD106J-U	J-0702B Secondary Compressor Leak Gas	None	None	None
LD106F-P	LD106-U	Fugitive Emissions: Primary Compressor	None	None	None
LD107-P	LD107-U	J-0702A LD-2A Secondary Compressor	None	None	None
LD107F-P		Fugitive Emissions: Secondary Compressor	None	None	None
LD108-P	LD108-U	J-0702B LD-2B Secondary Compressor	None	None	None
LD108F-P		Fugitive Emissions: Secondary Compressor	None	None	None
LD1078F-P	LD1078-U	Fugitive Emissions: Secondary Compressor	None	None	None
LD109-P	LD109A-U	J-0801 LD-3 Primary/Flash Gas Compressor	None	None	97-A-655-S2
	LD109B-U	J-0802 LD-3 Secondary Compressor	None	None	
LD109A-P	LD109C-U	F-0809 LD-3 Flash Gas 3rd St. Knockout Drum	None	None	None
	LD109D-U	F-0801 LD-3 Make up Gas Suction Drum	None	None	None
	LD109E-U	J-0820 LD-3 Modifier Pump	None	None	None
LD109B-P	LD109F-U	F-0805 LD-3 Flash Gas Suction Drum	None	None	None
	LD109G-U	J-0801 LD-3 Primary Compressor	None	None	None
	LD109H-U	F-0807 LD-3 Flash gas 1st St. Knockout Drum	None	None	None
	LD109I-U	F-0808 LD-3 Flash Gas 2nd St. Knockout Drum	None	None	None
	LD109J-U	J-0801 LD-3 Primary Compressor Leak Gas	None	None	None
	LD109K-U	J-0802 LD-3 Secondary Compressor Leak Gas	None	None	None
LD109AF-P	LD109A-U	Fugitive Emissions: Primary Compressor	None	None	None
LD109BF-P	LD109B-U	Fugitive Emissions: Secondary Compressor	None	None	None

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Table Compressors and Drums-3

EP	EU	Opacity	PM10	PM	VOC	Authority of Requirement
LD096-P	LD096A-U	NA	NA	NA	0.1 ton/yr	IDNR Construction Permit 97-A-845
	LD096B-U	NA	NA	NA	0.1 ton/yr	IDNR Construction Permit 97-A-846
LD097-P	LD097A-U	NA	NA	NA	0.1 ton/yr	IDNR Construction Permit 97-A-847
	LD097B-U	NA	NA	NA	0.1 ton/yr	IDNR Construction Permit 97-A-848
LD098-P	LD098-U	NA	NA	NA	0.2 ton/yr	IDNR Construction Permit 97-A-849
LD099-P	LD099-U	NA	NA	NA	0.1 ton/yr	IDNR Construction Permit 97-A-850
LD100-P	LD100-U	NA	NA	NA	0.1 ton/yr	IDNR Construction Permit 97-A-851
LD101-P	LD101-U	NA	NA	NA	3.4 ton/yr	IDNR Construction Permit 97-A-852
LD102-P	LD102-U	NA	NA	NA	3.4 ton/yr	IDNR Construction Permit 97-A-853
LD103-P	LD103-U	NA	NA	NA	0.1 ton/yr	IDNR Construction Permit 97-A-854
LD104-P	LD104-U	NA	NA	NA	3.4 ton/yr	IDNR Construction Permit 97-A-855
LD105-P	LD105A-U	NA	NA	NA	NA	None
	LD105B-U	NA	NA	NA	NA	None
	LD105C-U	NA	NA	NA	NA	None
	LD105D-U	NA	NA	NA	NA	None
	LD105E-U	NA	NA	NA	NA	None
	LD105F-U	NA	NA	NA	NA	None
	LD105G-U	NA	NA	NA	NA	None
LD105A-P	LD105H-U	NA	NA	NA	NA	None
	LD105I-U	NA	NA	NA	NA	None
	LD105J-U	NA	NA	NA	NA	None
LD105F-P	LD105-U	NA	NA	NA	NA	None
LD106-P	LD106A-U	NA	NA	NA	NA	None
	LD106B-U	NA	NA	NA	NA	None
	LD106C-U	NA	NA	NA	NA	None
	LD106D-U	NA	NA	NA	NA	None
	LD106E-U	NA	NA	NA	NA	None
	LD106F-U	NA	NA	NA	NA	None
	LD106G-U	NA	NA	NA	NA	None
LD106A-P	LD106H-U	NA	NA	NA	NA	None
	LD106I-U	NA	NA	NA	NA	None
	LD106J-U	NA	NA	NA	NA	None
LD106F-P	LD106-U	NA	NA	NA	NA	None
LD107-P	LD107-U	NA	NA	NA	NA	None
LD108-P	LD108-U	NA	NA	NA	NA	None
LD109-P	LD109A-U	40% ¹	2.75 ton/yr ²	0.022 gr/dscf	106.7 ton/yr ³ 2 lb/ton product ⁴	Opacity: 567 IAC 23.3 (2) "d" Construction Permit 97-A-655-S2 PM10: Construction Permit 97-A-655-S2 PM: Construction Permit 97-A-655-S2 567 IAC 23.3(2) "a" VOC: Construction Permit 97-A-655-S2
	LD109B-U					
LD109A-P	LD109C-U	NA	NA	NA	NA	None
	LD109D-U	NA	NA	NA	NA	None
	LD109E-U	NA	NA	NA	NA	None

EP	EU	Opacity	PM10	PM	VOC	Authority of Requirement
LD109B-P	LD109F-U	NA	NA	NA	NA	None
	LD109G-U	NA	NA	NA	NA	None
	LD109H-U	NA	NA	NA	NA	None
	LD109I-U	NA	NA	NA	NA	None
	LD109J-U	NA	NA	NA	NA	None
	LD109K-U	NA	NA	NA	NA	None
LD109AF-P	LD109A-U	NA	NA	NA	NA	None
LD109BF-P	LD109B-U	NA	NA	NA	NA	None

1. An exceedance of the indicator opacity of 10% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).
2. PM10 limit applies to all emissions from the LD-3 line.
3. VOC limit applies to all VOC emissions from the LD-3 line.
4. Does not apply to malfunctions and emergency releases.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating Limits

LD096-P through LD108-P:

Operating limits are not required at this time.

LD109-P:

- a. The amount of LDPE produced in the LD-3 line shall not exceed 197,100,000 pounds per 12-month rolling period.

Authority for Requirement: Iowa DNR Construction Permit 97-A-655-S2

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

LD096-P through LD108-P:

Reporting and Recordkeeping are not required at this time.

LD109-P:

- a. Record the amount of LDPE produced in the LD-3 line, in pounds. Calculate and record monthly and 12-month rolling totals.

Authority for Requirement: Iowa DNR Construction Permit 97-A-655-S2

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Compressors and Drums-4

		Stack Height (ft, from the ground)	Stack Opening (dia. inch)	Exhaust Flow Rate (scfm)	Exhaust Temperat ure (°F)	Discharge Style	Authority for Requirement IDNR Cons. Permit
LD096-P	LD096A-U	40	3	Variable	Variable	NA	97-A-845
	LD096B-U	40	3	Variable	Variable	NA	97-A-846
LD097-P	LD097A-U	40	3	Variable	Variable	NA	97-A-847
	LD097B-U	40	3	Variable	Variable	NA	97-A-848
LD098-P	LD098-U	40	6	Variable	Variable	NA	97-A-849
LD099-P	LD099-U	45	6	Variable	Variable	NA	97-A-850
LD100-P	LD100-U	32	1.5	Variable	Variable	NA	97-A-851
LD101-P	LD101-U	50	1.5	Variable	Variable	NA	97-A-852
LD102-P	LD102-U	50	1.5	Variable	Variable	NA	97-A-853
LD103-P	LD103-U	45	1.5	Variable	Variable	NA	97-A-854
LD104-P	LD104-U	50	1.5	Variable	Variable	NA	97-A-855
LD109-P	LD109A-U	55	12	Variable	Variable	Vertical Unobstructed	97-A-655-S2
	LD109B-U						

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: LD110-P through LD113-P (Wax Works)

Associated Equipment

Table Wax Works-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity lb/hr
LD110-P	LD110-U	LD-1 Wax Works	Ethylene	5,660.0
LD111-P	LD111-U	LD-2A Wax Works	Ethylene	4,360.0
LD112-P	LD112-U	LD-2B Wax Works	Ethylene	4,360.0
LD113-P	LD113-U	LD-3 Wax Works	Ethylene	22,500.0

Table Wax Works-2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
LD110-P	LD110-U	LD-1 Wax Works	None	None	97-A-856
LD111-P	LD111-U	LD-2A Wax Works	None	None	None
LD112-P	LD112-U	LD-2B Wax Works	None	None	None
LD113-P	LD113-U	LD-3 Wax Works	None	None	97-A-656-S2

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Table Wax Works-3

EP	Opacity	PM10	PM	VOC	Authority of Requirement
LD110-P	NA	NA	NA	5.7 ton/yr	IDNR Construction Permit 97-A-856
LD111-P	NA	NA	NA	NA	NA
LD112-P	NA	NA	NA	NA	NA
LD113-P	40% ¹	2.75 ton/yr ²	0.022 gr/dscf	106.7 ton/yr ³ 2 lb/ton product ⁴	Opacity: 567 IAC 23.3(2) "d" IDNR Construction Permit 97-A-656-S2 PM10: Construction Permit 97-A-656-S2 PM: Construction Permit 97-A-656-S2 567 IAC 23.3(2) "a" VOC: IDNR Construction Permit 97-A-656-S2

1. An exceedance of the indicator opacity of 10% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).
2. PM10 limit applies to all emissions from the LD-3 line.
3. VOC limit applies to all VOC emissions from the LD-3 line.
4. Does not apply to malfunctions and emergency releases.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating Limits

LD110-P through LD112-P:

Operating Limits are not required at this time.

LD113-P:

- a. The amount of LDPE produced in the LD-3 line shall not exceed 197,100,000 pounds per 12-month rolling period.

Authority for Requirement: Iowa DNR Construction Permit 97-A-656-S2

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

LD110-P through LD112-P:

Reporting and Recordkeeping are not required at this time.

LD113-P:

- a. Record the amount of LDPE produced in the LD-3 line, in pounds. Calculate and record monthly and 12-month rolling totals.

Authority for Requirement: Iowa DNR Construction Permit 97-A-656-S2

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Wax Works-4

	Stack Height (ft, from the ground)	Stack Opening (dia. inch)	Exhaust Flow Rate (scfm)	Exhaust Temperature (°F)	Discharge Style	Authority for Requirement IDNR Construction Permit
LD110-P	65	2.0	Variable	Variable	NA	97-A-856
LD113-P	30	1.5	Variable	Variable	Vertical Unobstructed	97-A-656-S2

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: LD114-P through LD121-P (Low Pressure Separators)

Associated Equipment

Table Separators-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity lb/hr
LD114-P	LD114A-U	F-0201 LD-1 Make-Up Gas Suction Drum	Ethylene	102.0
	LD114B-U	F-0205 LD-1 Purge Compressor Suction Drum	Ethylene	102.0
LD115-P	LD115-U	F-0220 LD-1 High Pressure Separator	Ethylene	3,550.0
LD115A-P		F-0220 LD-1 High Pressure Separator	Ethylene	3,550.0
LD116-P	LD116-U	F-0703A LD-2A High Pressure Separator	Ethylene	4,410.0
LD116A-P		F-0703A LD-2A High Pressure Separator	Ethylene	4,410.0
LD117-P	LD117-U	F-0703B LD-2B High Pressure Separator	Ethylene	4,410.0
LD117A-P		F-0703B LD-2B High Pressure Separator	Ethylene	4,410.0
LD118-P	LD118-U	F-0704A LD-2A Low Pressure Separator	Ethylene	4,410.0
LD118A-P		F-0704A LD-2A Low Pressure Separator	Ethylene	4,410.0
LD119-P	LD119-U	F-0704B LD-2B Low Pressure Separator	Ethylene	4,410.0
LD119A-P		F-0704B LD-2B Low Pressure Separator	Ethylene	4,410.0
LD120-P	LD120-U	F-0803 LD-3 High Pressure Separator	Ethylene	22,500.0
LD120A-P		F-0803 LD-3 High Pressure Separator	Ethylene	22,500.0
LD121-P	LD121-U	F-0804 LD-3 Low Pressure Separator	Ethylene	22,500.0
LD121A-P		F-0804 LD-3 Low Pressure Separator	Ethylene	22,500.0

Table Separators -2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
LD114-P	LD114A-U	F-0201 LD-1 Make-Up Gas Suction Drum	None	None	97-A-857
	LD114B-U	F-0205 LD-1 Purge Compressor Suction Drum	None	None	97-A-858
LD115-P	LD115-U	F-0220 LD-1 High Pressure Separator	None	None	97-A-859
LD115A-P		F-0220 LD-1 High Pressure Separator	None	None	
LD116-P	LD116-U	F-0703A LD-2A High Pressure Separator	None	None	None
LD116A-P		F-0703A LD-2A High Pressure Separator	None	None	None
LD117-P	LD117-U	F-0703B LD-2B High Pressure Separator	None	None	None
LD117A-P		F-0703B LD-2B High Pressure Separator	None	None	None
LD118-P	LD118-U	F-0704A LD-2A Low Pressure Separator	None	None	None
LD118A-P		F-0704A LD-2A Low Pressure Separator	None	None	None
LD119-P	LD119-U	F-0704B LD-2B Low Pressure Separator	None	None	None
LD119A-P		F-0704B LD-2B Low Pressure Separator	None	None	None
LD120-P	LD120-U	F-0803 LD-3 High Pressure Separator	None	None	97-A-657-S2
LD120A-P		F-0803 LD-3 High Pressure Separator	None	None	
LD121-P	LD121-U	F-0804 LD-3 Low Pressure Separator	None	None	97-A-658-S2
LD121A-P		F-0804 LD-3 Low Pressure Separator	None	None	

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Table Separators-3

EP	EU	Opacity	PM10	PM	VOC	Authority of Requirement
LD114-P	LD114A-U	NA	NA	NA	0.1 ton/yr	IDNR Construction Permit 97-A-857
	LD114B-U	NA	NA	NA	0.1 ton/yr	IDNR Construction Permit 97-A-858
LD115-P	LD115-U	NA	NA	NA	1.8 ton/yr	IDNR Construction Permit 97-A-859
LD115A-P						
LD116-P	LD116-U	NA	NA	NA	NA	NA
LD116A-P		NA	NA	NA	NA	NA
LD117-P	LD117-U	NA	NA	NA	NA	NA
LD117A-P		NA	NA	NA	NA	NA
LD118-P	LD118-U	NA	NA	NA	NA	NA
LD118A-P		NA	NA	NA	NA	NA
LD119-P	LD119-U	NA	NA	NA	NA	NA
LD119A-P		NA	NA	NA	NA	NA
LD120-P	LD120-U	40% ¹	2.75 ton/yr ²	0.022 gr/dscf	106.7 ton/yr ³ 2 lb/ton product ⁴	Opacity: 567 IAC 23.3(2) "d"
LD120A-P						PM10: Construction Permit 97-A-657-S2 PM: Construction Permit 97-A-657-S2 567 IAC 23.3(2) "a" VOC: Construction Permit 97-A-657-S2
LD121-P	LD121-U	40% ¹	2.75 ton/yr ²	0.022 gr/dscf	106.7 ton/yr ³ 2 lb/ton product ⁴	Opacity: 567 IAC 23.3(2) "d"
LD121A-P						PM10: Construction Permit 97-A-658-S2 PM: Construction Permit 97-A-658-S2 567 IAC 23.3(2) "a" VOC: Construction Permit 97-A-658-S2

1. An exceedance of the indicator opacity of 10% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).
2. PM10 limit applies to all emissions from the LD-3 line.
3. VOC limit applies to all VOC emissions from the LD-3 line.
4. Does not apply to malfunctions and emergency releases.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating Limits

LD114-P through LD119A-P:

Operating limits are not required at this time.

LD120-P, LD120A-P, LD121-P, and LD121A-P:

- a. The amount of LDPE produced in the LD-3 line shall not exceed 197,100,000 pounds per 12-month rolling period.

Authority for Requirement: Iowa DNR Construction Permit 97-A-657-S2 97-A-658-S2

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

LD114-P through LD119A-P:

Reporting and Recordkeeping are not required at this time.

LD120-P, LD120A-P, LD121-P, and LD121A-P:

- a. Record the amount of LDPE produced in the LD-3 line, in pounds. Calculate and record monthly and 12-month rolling totals.

Authority for Requirement: Iowa DNR Construction Permit 97-A-657-S2 97-A-658-S2

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Separators-4

		Stack Height (ft, from the ground)	Stack Opening (dia. inch)	Exhaust Flow Rate (scfm)	Exhaust Temp. (°F)	Discharge Style	Authority for Requirement IDNR Construction Permit
LD114-P	LD114A-U	40	4	Variable	Variable	NA	97-A-857
	LD114B-U	40	4	Variable	Variable	NA	97-A-858
LD120-P LD120A-P	LD120-U	30	1.5	Variable	Variable	Vertical Unobstructed	97-A-657-S2
LD121-P LD121A-P	LD121-U	65	3	Variable	Variable	Vertical Unobstructed	97-A-658-S2

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: LD124-P through LD126-P (Low Pressure Separators)

Associated Equipment

Table Separators-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity lb/hr
LD124-P	LD124-U	F-0231A LD-1 Low Pressure Separator	Ethylene	1,200.0
LD124A-P	LD124-U	F-0231A LD-1 Low Pressure Separator	Ethylene	1,200.0
LD125-P	LD125-U	F-0231B LD-1 Low Pressure Separator	Ethylene	1,200.0
LD125A-P	LD125-U	F-0231B LD-1 Low Pressure Separator	Ethylene	1,200.0
LD126-P	LD126-U	F-0232 LD-1 Low Pressure Separator	Ethylene	1,200.0
LD126A-P	LD126-U	F-0232 LD-1 Low Pressure Separator	Ethylene	1,200.0

Table Separators-2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
LD124-P	LD124-U	F-0231A LD-1 Low Pressure Separator	None	None	None
LD124A-P	LD124-U	F-0231A LD-1 Low Pressure Separator	None	None	None
LD125-P	LD125-U	F-0231B LD-1 Low Pressure Separator	None	None	None
LD125A-P	LD125-U	F-0231B LD-1 Low Pressure Separator	None	None	None
LD126-P	LD126-U	F-0232 LD-1 Low Pressure Separator	None	None	None
LD126A-P	LD126-U	F-0232 LD-1 Low Pressure Separator	None	None	None

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Emission limits are not required at this time.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational Limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: LD127-P and LD128-P (Analyzer Houses)

Associated Equipment

Table Analyzers-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity liter/hr
LD127-P	LD127-U	H207 Analyzer House, Analyzer 1	Ethylene	60.0
		H207 Analyzer House, Analyzer 2	Ethylene	
		H207 Analyzer House, Analyzer 3	Ethylene	
LD127-P	LD127-U	H706 Analyzer House, Analyzer 1	Ethylene	60.0
		H706 Analyzer House, Analyzer 2	Ethylene	
		H706 Analyzer House, Analyzer 3	Ethylene	

Table Analyzers-2

EP	EU	Emission Unit Description	CEM	CE & Description	IDNR Construction Permit
LD127-P	LD127-U	H207 Analyzer House, Analyzer 1	None	LD127CE1	03-A-405 03-A-406 03-A-407 03-A-408
		H207 Analyzer House, Analyzer 2	None	LD127CE2	
		H207 Analyzer House, Analyzer 3	None	LD127CE3 LD127CE4 Combustors	
LD127-P	LD127-U	H706 Analyzer House, Analyzer 1	None	LD128CE1	03-A-409 03-A-410 03-A-411
		H706 Analyzer House, Analyzer 2	None	LD128CE2	
		H706 Analyzer House, Analyzer 3	None	LD128CE3 Combustors	

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Emission limits are not required at this time.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Analyzers-3

	Stack Height (ft, from the ground)	Stack Opening (dia. inch)	Exhaust Flow Rate (liter/min)	Exhaust Temperature (°F)	Discharge Style	Authority for Requirement IDNR Construction Permit
LD127-P	8	3	1.0	100	Vertical Unobstructed	03-A-405; 03-A-406 03-A-407; 03-A-408
LD128-P	8	3	1.0	100	Vertical Unobstructed	03-A-409; 03-A-410 03-A-411

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: LD129-P

Associated Equipment

Associated Emission Unit ID Numbers: LD129-U
Emissions Control Equipment ID Number: None
Emissions Control Equipment Description: None
Continuous Emissions Monitors ID Numbers: None

Emission Unit vented through this Emission Point: LD129-U
Emission Unit Description: Compressor Vent
Raw Material/Fuel: Ethylene
Rated Capacity: 445.0 lb/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Emission limits are not required at this time.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

III. Part D. Product Packing and Shipping

Emission Point ID Number: PP001-P through PP016-P (Loading Equipment)

Associated Equipment

Table Loading-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity lb/hr
PP001-P	PP001-U	L-0520 HDPE Cartoning Elutriator	Polyethylene Pellets	75,000.0
PP002-P	PP002-U	L-0570 LDPE Cartoning Elutriator	Polyethylene Pellets	75,000.0
PP003-P	PP003-U	L-0522 HDPE Cartoning Scalperator	Polyethylene Pellets	75,000.0
PP004-P	PP004-U	L-0572 LDPE Cartoning Scalerator	Polyethylene Pellets	75,000.0
PP005-P	PP005-U	L-0501 HDPE Old Hopper Car Elutriator	Polyethylene Pellets	75,000.0
PP006-P	PP006-U	L-0551 LDPE Old Hopper Car Elutriator	Polyethylene Pellets	75,000.0
PP007-P	PP007-U	L-0597 LDPE Old Hopper Car Scalperator	Polyethylene Pellets	75,000.0
PP008-P	PP008-U	L-0503 HDPE Old Hopper Car Scalperator	Polyethylene Pellets	75,000.0
PP009-P	PP009-U	L-0593 LDPE Hopper Truck Elutriator	Polyethylene Pellets	75,000.0
PP010-P	PP010-U	L-0568 HDPE Hopper Truck Elutriator	Polyethylene Pellets	75,000.0
PP011-P	PP011-U	L-0502 HDPE New Hopper Car Elutriator	Polyethylene Pellets	75,000.0
PP012-P	PP012-U	L-0509 HDPE New Hopper Car Scalperator	Polyethylene Pellets	75,000.0
PP013-P	PP013-U	L-0557 LDPE New Hopper Car Scalperator	Polyethylene Pellets	75,000.0
PP014-P	PP014-U	L-0559 LDPE New Hopper Car Elutriator	Polyethylene Pellets	75,000.0
PP015-P	PP015-U	L-0594 LDPE Hopper Truck Scalperator	Polyethylene Pellets	75,000.0
PP016-P	PP016-U	L-0569 HDPE Hopper Truck Scalperator	Polyethylene Pellets	75,000.0

Table Loading-2

EP	EU	Emission Unit Description	CEM	CE (Cyclones) *	IDNR Construction Permit
PP001-P	PP001-U	L-0520 HDPE Cartoning Elutriator	None	PP001CE1	None
PP002-P	PP002-U	L-0570 LDPE Cartoning Elutriator	None	PP002CE1	None
PP003-P	PP003-U	L-0522 HDPE Cartoning Scalperator	None	PP003CE1	None
PP004-P	PP004-U	L-0572 LDPE Cartoning Scalerator	None	PP004CE1	None
PP005-P	PP005-U	L-0501 HDPE Old Hopper Car Elutriator	None	PP005CE1	None
PP006-P	PP006-U	L-0551 LDPE Old Hopper Car Elutriator	None	PP006CE1	None
PP007-P	PP007-U	L-0597 LDPE Old Hopper Car Scalperator	None	PP007CE1	None
PP008-P	PP008-U	L-0503 HDPE Old Hopper Car Scalperator	None	PP008CE1	None
PP009-P	PP009-U	L-0593 LDPE Hopper Truck Elutriator	None	PP009CE1	None
PP010-P	PP010-U	L-0568 HDPE Hopper Truck Elutriator	None	PP010CE1	None
PP011-P	PP011-U	L-0502 HDPE New Hopper Car Elutriator	None	PP011CE1	79-A-102
PP012-P	PP012-U	L-0509 HDPE New Hopper Car Scalperator	None	PP012CE1	79-A-102
PP013-P	PP013-U	L-0557 LDPE New Hopper Car Scalperator	None	PP013CE1	79-A-102
PP014-P	PP014-U	L-0559 LDPE New Hopper Car Elutriator	None	PP014CE1	79-A-102
PP015-P	PP015-U	L-0594 LDPE Hopper Truck Scalperator	None	PP015CE1	None
PP016-P	PP016-U	L-0569 HDPE Hopper Truck Scalperator	None	PP016CE1	None

*: control equipment associated with each unit is a cyclone.

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Table Loading-3

EP	EU	Opacity	PM	Authority of Requirement
PP001-P	PP001-U	40%	41.94 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
PP002-P	PP002-U	40%	41.94 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
PP003-P	PP003-U	40%	41.94 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
PP004-P	PP004-U	40%	41.94 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
PP005-P	PP005-U	40%	41.94 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
PP006-P	PP006-U	40%	41.94 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
PP007-P	PP007-U	40%	41.94 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
PP008-P	PP008-U	40%	41.94 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
PP009-P	PP009-U	40%	41.94 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
PP010-P	PP010-U	40%	41.94 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
PP011-P	PP011-U	40%	41.94 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
PP012-P	PP012-U	40%	41.94 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
PP013-P	PP013-U	40%	41.94 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
PP014-P	PP014-U	40%	41.94 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
PP015-P	PP015-U	40%	41.94 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
PP016-P	PP016-U	40%	41.94 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"

- ¹. PM emission limit of 41.94 lb/hr was based on the process weights for these units using the formulas in 567 IAC 23.3(2) "a" (2).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Table Loading-4

EP	Test Required	Test Method	Demonstrate Compliance by	Authority for Requirement
PP001-P	PM ¹	Iowa Compliance Sampling Manual Method 5	12/13/2012	567 IAC 22.108(3)
PP002-P				
PP003-P				
PP004-P				
PP005-P				
PP006-P				
PP007-P				
PP008-P				
PP009-P				
PP010-P				
PP011-P				
PP012-P				
PP013-P				
PP014-P				
PP015-P				
PP016-P				

¹ Successfully testing any one of the stacks PP001-P through PP016-P will fulfill the testing requirements for PP001-P through PP016-P.

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Compliance Assurance Monitoring Plan

CAM Plan for Cyclones

I. Background

A. Emissions Unit:

Facility: Equistar Chemicals, LP
3400 Anamosa Rd
Clinton, IA 52732

Emission unit identification and description are listed in the table below.

HDPE Unit

EP	EU	EU Description	CE	CE Model	Con. Permit
HD010-P	HD010-U	F-0415A J-line Feed Bin	HD010CE1	20" Diameter	78-A-075-S1
HD011-P	HD011-U	F-0415B J-line Feed Bin	HD011CE1	20" Diameter	07-A-1181
HD012-P	HD012-U	F-0421A A-line Feed Bin	HD012CE1	20" Diameter	None
HD013-P	HD013-U	F-0421B B-line Feed Bin	HD013CE1	20" Diameter	None
HD014-P	HD014-U	F-0422A A-line Feed Bin	HD014CE1	20" Diameter	None
HD015-P	HD015-U	F-0422B B-line Feed Bin	HD015CE1	20" Diameter	None
HD016-P	HD016-U	F-0423A A-line Feed Bin	HD016CE1	20" Diameter	None
HD017-P	HD017-U	F-0423B B-line Feed Bin	HD017CE1	20" Diameter	None
HD018-P	HD018-U	F-0462 F-line Feed Bin	HD018CE1	20" Diameter	89-A-065-S1
HD019-P	HD019-U	F-0463 F-line Feed Bin	HD019CE1	20" Diameter	07-A-1190

Packing Unit

EP	EU	EU Description	CE	CE Model	Con. Permit
PP001-P	PP001-U	L-0520 HDPE Cartoning Elutriator	PP001CE1	P1056	None
PP002-P	PP002-U	L-0570 LDPE Cartoning Elutriator	PP002CE1	P1056	None
PP003-P	PP003-U	L-0522 HDPE Cartoning Scalperator	PP003CE1	68 "HV" Cyclone	None
PP004-P	PP004-U	L-0572 LDPE Cartoning Scalerator	PP004CE1	68 "HV" Cyclone	None
PP005-P	PP005-U	L-0501 HDPE Old Hopper Car Elutriator	PP005CE1	P1056	None
PP006-P	PP006-U	L-0551 LDPE Old Hopper Car Elutriator	PP006CE1	P1056	None
PP007-P	PP007-U	L-0597 LDPE Old Hopper Car Scalperator	PP007CE1	68 "HV" Cyclone	None
PP008-P	PP008-U	L-0503 HDPE Old Hopper Car Scalperator	PP008CE1	68 "HV" Cyclone	None
PP009-P	PP009-U	L-0593 LDPE Hopper Truck Elutriator	PP009CE1	P1112	None
PP010-P	PP010-U	L-0568 HDPE Hopper Truck Elutriator	PP010CE1	P1112	None
PP011-P	PP011-U	L-0502 HDPE New Hopper Car Elutriator	PP011CE1	FTHEC 621	79-A-102
PP012-P	PP012-U	L-0509 HDPE New Hopper Car Scalperator	PP012CE1	FTHEC 777	79-A-102
PP013-P	PP013-U	L-0557 LDPE New Hopper Car Scalperator	PP013CE1	FTHEC 777	79-A-102
PP014-P	PP014-U	L-0559 LDPE New Hopper Car Elutriator	PP014CE1	FTHEC 621	79-A-102
PP015-P	PP015-U	L-0594 LDPE Hopper Truck Scalperator	PP015CE1	68 "HV" Cyclone	None
PP016-P	PP016-U	L-0569 HDPE Hopper Truck Scalperator	PP016CE1	68 "HV" Cyclone	None

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

HDPE Unit

EP	EU	Opacity	PM10	PM	Regulation No.
HD010-P	HD010-U	40%	0.08 lb/hr	3.93 lb/hr 0.1 gr/dscf	Opacity: 567 IAC 23.3(2) "d" PM10&PM: Construction Permit 78-A-075-S1 567 IAC 23.3(2) "a"
HD011-P	HD011-U	40%	0.08 lb/hr	3.93 lb/hr 0.1 gr/dscf	Opacity: 567 IAC 23.3(2) "d" PM10&PM: Construction Permit 07-A-1181 567 IAC 23.3(2) "a"

HDPE Unit					
EP	EU	Opacity	PM10	PM	Regulation No.
HD012-P	HD012-U	40%	N/A	11.2 lb/hr	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2)"a"(2)
HD013-P	HD013-U	40%	N/A	11.2 lb/hr	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2)"a"(2)
HD014-P	HD014-U	40%	N/A	11.2 lb/hr	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2)"a"(2)
HD015-P	HD015-U	40%	N/A	11.2 lb/hr	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2)"a"(2)
HD016-P	HD016-U	40%	N/A	11.2 lb/hr	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2)"a"(2)
HD017-P	HD017-U	40%	N/A	11.2 lb/hr	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2)"a"(2)
HD018-P	HD018-U	40%	0.03 lb/hr	1.49 lb/hr 0.1 gr/dscf	Opacity: 567 IAC 23.3(2) "d" PM10&PM: Construction Permit 89-A-065-S1
HD019-P	HD019-U	40%	0.03 lb/hr	1.49 lb/hr 0.1 gr/dscf	Opacity: 567 IAC 23.3(2) "d" PM10: Construction Permit 07-A-1190 PM: Construction Permit 07-A-1190 567 IAC 23.3(2)"a"
Packing Unit					
PP001-P through PP016-P:					
Opacity emission limit:			40%	Regulation No:	567 IAC 23.3(2) "d"
Particulate matter emission limit:			41.94 lb/hr	Regulation No:	567 IAC 23.3(2) "a"

II. Monitoring Approach Description

A. Indicator monitored

Visible Emissions;

Collection rate in the powder bins located below the cyclonic separators;

Transfer rate of powder from the reactions to the receiving bins;

Air flow, vibration, and structural integrity.

B. Indicator Ranges

Visible emissions for the packing cyclones – No visible emissions.

Visible emissions for the HDPE finishing line feed bins – less than 10% opacity.

The rate of transfer of powder or pellets – typical transfer rate for each system.

Air flow rate – will be accessed based on typical observation.

C. Monitoring Frequency

Visible emissions – once per shift log operating discipline (OD) based on a daily basis during daylight hours.

Monitoring Equipment's Operational Status – at least once per 12-hour shift on operator log.

Post-control emissions – minimum once per day if post-control emissions are less than the major source threshold.

D. Rationale for Monitoring Approach

Parameters of collection rate, transfer rate, air flow, vibration, and structural integrity were selected as the performance indicators because they are indicative of operation of the cyclones in a manner necessary to comply with the particulate emission standard.

Opacity monitors and visual stack inspection are also utilized to ensure proper cyclone operation.

E. Data Collection Procedures

Operating Discipline (OD) rounds data are collected with hand held data loggers or log sheet which contain entry spaces for the daily cyclone visible emission observations. Operating Discipline (OD) Logs will be maintained for five years.

F. Rationale for Selection of Indicator Level

The selected indicator ranges are the typical operational no visible emissions for the packing line and 10% opacity for the HDPE finishing line feed bins. Visible emission was chosen as an indicator because it is indicative of a potential increase in particulate emissions due to a decrease in the performance of the cyclones.

There is little else that can be used to monitor cyclone devices other than structural integrity and air flow. The main issue is maintenance of the geometry of the throat section and maintenance of fans such that the approach velocity is sufficient to cause particulate matter separation.

If any deviations are present that affect the performances of the cyclone system, actions will be taken as soon as possible, an inspection and appropriate corrective actions will be taken within 8 hours. If corrective actions don not return the system to normal operating conditions, the Environmental Engineer or HSE Duty person will be contacted to coordinate a Method 9 opacity observation. The observation shall be conducted no later than eight hours of observation.

G. Specific QA/QC Procedures

Maintain and operate instrumentation using procedures that take into account manufacturer's specifications.

Spare parts will be maintained per Enterprise Spare Parts Standards. New equipment design, inspection, and installation will be maintained per Enterprise Engineering and Inspection Standards. A list of manufacturer spare parts and purchasing information is maintained as part of the equipment bill of materials in SAP.

Emission Point ID Number: PP017-P

Associated Equipment

Associated Emission Unit ID Numbers: PP017-U
Emissions Control Equipment ID Number: PP017CE1
Emissions Control Equipment Description: Baghouse
Continuous Emissions Monitors ID Numbers: None

Emission Unit vented through this Emission Point: PP017-U
Emission Unit Description: L-0589A LDPE New Hopper Car Deduster through L-0589B
Baghouse
Raw Material/Fuel: Polyethylene Pellets
Rated Capacity: 80,000.0 lb/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity

Emission Limit(s): 20% ⁽¹⁾

Authority for Requirement: Iowa DNR Construction Permit 98-A-599
567 IAC 23.3(2) "d"

¹ If visible emissions are observed other than startup, shutdown, or malfunction, a stack test may be required to demonstrate compliance with the particulate standard.

Pollutant: Particulate Matter (PM₁₀)

Emission Limit(s): 3.29 lb/hr; 14.4 ton/yr

Authority for Requirement: Iowa DNR Construction Permit 98-A-599

Pollutant: Particulate Matter (PM)

Emission Limit(s): 0.1 gr/dscf

Authority for Requirement: Iowa DNR Construction Permit 98-A-599
567 IAC 23.3(2) "a"

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 19.83

Stack Opening, (inches, dia.): 16

Exhaust Flow Rate (scfm): 4,777

Exhaust Temperature (°F): 250

Discharge Style: NA

Authority for Requirement: Iowa DNR Construction Permit 98-A-599

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Opacity Monitoring

The facility shall check for visible emissions weekly using EPA Method 22 for a six (6) minute observation period when the emission unit on this emission point is at or near full capacity and record the reading. A written record of the observation and any action resulting from the observation shall be maintained for a minimum of five years. Visible emissions shall be observed to ensure that no visible emissions occur during the material handling operation of the unit. If visible emissions are observed corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If corrective action does not return the observation to no visible emissions, then a Method 9 observation will be required within 24 hours of the initial observation. If an opacity greater than 20% is observed, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from the observation. Unless it is documented that weather conditions prevent visible emission or opacity observation during the entire week, at least one visible emission observation or one Method 9 opacity observation must be performed each calendar week. For the purpose of this permit condition, the week begins on Monday and ends on Sunday. If all observation attempts for a week have been unsuccessful due to weather, an observation shall be made the next operating day where weather permits.

Stack Testing:

Pollutant – Particulate Matter (PM); and Particulate Matter (PM10)

1st Stack Test to be Completed by (date) – 12/13/2012

Test Method - Iowa Compliance Sampling Manual Method 5 for PM

40 CFR 51, Appendix M, 201A with 202 or approved alternative test method for PM10

Authority for Requirement - 567 IAC 22.108(3)

The owner of this equipment or the owner’s authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source’s compliance with the applicable requirements.

The issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility’s implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: PP018-P and PP019-P (Dust Collectors)

Associated Equipment

Table Dust Collectors-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity lb/hr
PP018-P	PP018-U	L-0528 HDPE North Powder Loading Dust Collector	Polyethylene Powder	30,000.0
PP019-P	PP019-U	L-0529 HDPE South Powder Loading Dust Collector	Polyethylene Powder	30,000.0

Table Dust Collectors-2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
PP018-P	PP018-U	L-0528 HDPE North Powder Loading Dust Collector	None	None	None
PP019-P	PP019-U	L-0529 HDPE South Powder Loading Dust Collector	None	None	None

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Table Dust Collectors-3

EP	EU	Opacity	PM	Authority of Requirement
PP018-P	PP018-U	40%	25.16 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
PP019-P	PP019-U	40%	25.16 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"

^{1.} PM emission limit of 25.16 lb/hr was based on the process weights for these units using the formulas in 567 IAC 23.3(2) "a" (2).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

The permittee claims small unit exemption for emission units PP018-U and PP019-U from the requirements of applying for construction permits per 567 IAC 22.1(2)"w". The "exemption justification document" must be maintained to justify the exemption in compliance with 567 IAC 22.1(2)"w"(3).

Authority for Requirement: 567 IAC 22.1(2) "w"(3)

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: PP020-P and PP021-P (Feed Bins)

Associated Equipment

Table Feed Bins-1

EP=Emission Point, EU=Emission Unit

EP	EU	Emission Unit Description	Raw Material	Rated Capacity lb/hr
PP020-P	PP020-U	F-0504 HDPE North Powder Feed Bin	Polyethylene Powder	30,000.0
PP021-P	PP021-U	F-0505 HDPE South Powder Feed Bin	Polyethylene Powder	30,000.0

Table Feed Bins-2

EP	EU	Emission Unit Description	CE	CEM	IDNR Construction Permit
PP020-P	PP020-U	F-0504 HDPE North Powder Feed Bin	None	None	None
PP021-P	PP021-U	F-0505 HDPE South Powder Feed Bin	None	None	None

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Table Feed Bins-3

EP	EU	Opacity	PM	Authority of Requirement
PP020-P	PP020-U	40%	25.16 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"
PP021-P	PP021-U	40%	25.16 lb/hr ¹	Opacity: 567 IAC 23.3(2) "d" PM: 567 IAC 23.3(2) "a"

^{1.} PM emission limit of 25.16 lb/hr was based on the process weights for these units using the formulas in 567 IAC 23.3(2) "a" (2).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operational limits are not required at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: PP022-P (PEX Boxing Line)

Associated Equipment

Associated Emission Unit ID Numbers: PP022-U
Emissions Control Equipment ID Number: PP022CE1
Emissions Control Equipment Description: Baghouse
Continuous Emissions Monitors ID Numbers: None

Emission Unit vented through this Emission Point: PP022-U
Emission Unit Description: PEX Boxing Line
Raw Material/Fuel: Polyethylene Powder
Rated Capacity: 37,000.0 lb/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity

Emission Limit(s): 40% ⁽¹⁾

Authority for Requirement: Iowa DNR Construction Permit 08-A-659
567 IAC 23.3(2) "d"

⁽¹⁾ An exceedance of the indicator opacity of "10%" will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM₁₀)

Emission Limit(s): 0.2675 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 08-A-659

Pollutant: Particulate Matter (PM)

Emission Limit(s): 0.1 gr/dscf; 0.2675 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 08-A-659
567 IAC 23.3(2) "a"

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating Limits

Operating Limits are not required at this time.

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

The facility is subject to NSPS Subpart DDD - Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing Industry. Per 40 CFR §60.560(g), the facility claims exception from the VOC control requirements of 40 CFR§60.562-1 because the vent streams emit annual uncontrolled total organic compounds (TOC) emission of less than 1.75 tpy, or with a weight percent TOC of less than 0.1 percent. All the reporting and record keeping requirements of 40 CFR §60.565(a), (a)(10), (h), (k), (k)(6), and (k)(7) shall be fulfilled.

Authority for Requirement: Iowa DNR Construction Permit 08-A-659

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 15.75

Stack Opening, (inches): 10×20

Exhaust Flow Rate (scfm): 1,250

Exhaust Temperature (°F): Ambient

Discharge Style: Horizontal

Authority for Requirement: Iowa DNR Construction Permit 08-A-659

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Stack Testing:

Pollutant – Particulate Matter (PM) and Particulate Matter (PM10)

1st Stack Test to be Completed by (date) - 12/13/2012

Test Method - Iowa Compliance Sampling Manual Method 5 for PM

40 CFR 51, Appendix M, 201A with 202 or approved alternative test method for PM10

Authority for Requirement - 567 IAC 22.108(3)

The owner of this equipment or the owner’s authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Agency Approved Operation & Maintenance Plan Required? Yes No

Facility Maintained Operation & Maintenance Plan Required? Yes No

Compliance Assurance Monitoring (CAM) Plan Required? Yes No

Authority for Requirement: 567 IAC 22.108(3)

Compliance Assurance Monitoring Plan

CAM Plan for PP022-P Baghouses

I. Background

A. Emissions Unit:

Description: PEX Boxing Line Baghouse
 Identification: PP022-P
 Facility: Equistar Chemicals, LP
 3400 Anamosa Rd
 Clinton, IA 52732

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.: Permit 08-A-659
 Particulate emission limit: 0.2675 lb/hr; 0.1 gr/dcf for PM
 0.2675 lb/hr for PM10
 Opacity emission limit: 40%

C. Control Technology

The control equipment for PP022-P is a PEX boxing line baghouse, which was installed in November and December of 2008. It will be used to support a boxing line that will be used to support the PEX powder line. The MAC Equipment baghouse controls the automatic boxing line and vessel F-508. It is a model 54ST25 pulse jet baghouse equipped with polypropylene bags.

II. Monitoring Approach

The key elements of the monitoring approach are presented in Table A. The selected performance indicators are baghouse module differential pressure and visible emissions.

Table A – Monitoring Approach

	Indicator #1	Indicator #2
I. Indicator	Differential pressure across baghouse.	Visible Emissions.
Measurement Approach	Differential pressure measured across the baghouse by a Magnehelic pressure gauge. Pulse jet cleaning compressed air pressure and operation of the actuator.	Visible emissions from baghouse vent while PP022-P is in operation. Collection rate in the powder bins located below the baghouse. Transfer rates of powder from the reactors to the run down bins.
II. Indicator Range	The acceptable pressure drop range is 4-8" water column. If the pressure drop measurement falls outside this range, the procedure is to investigate the cause and take necessary	For the daily daytime visible emission observation, the acceptable threshold is no visible emissions. The dust collection cart is checked daily to see if the rate of

	Indicator #1	Indicator #2
	corrective actions. Range of acceptable pressure for pulse jet cleaning is 40-60 psi in the Packaging area. Cycle ranges (except cycle for times): pulsing of the reverse air jets should be evident while doing the daily inspection.	accumulation is normal given the powder transfer rates.
III. Performance Criteria		
A. Data Representativeness	The pressure drop for the baghouse is measured across the tube sheet.	Visible emission observations are made once per shift log operating discipline (OD).
B. Verification of Operational Status	The pressure gauge will be calibrated, operated, and maintained according to the manufacturer's specifications.	Not applicable.
C. QA/QC Practices and Criteria	Pressure gauges will be calibrated, operated, and maintained according to the manufacturer's specifications.	The observer will be trained by Equistar Chemicals, LP to detect visible emissions.
D. Monitoring Frequency	Daily observation during daylight hours.	No visible emissions (NVE) observations are made at the emission point on a daily basis.
E. Data Collection Procedures	Results of baghouse differential pressure checks will be recorded. These records will be kept a minimum of 5 years.	Results of "no visible emissions" observations are recorded and will be kept a minimum of 5 years.

III. Justification

A. Background

The PEX boxing line (PP022-P) at Equistar Chemicals, LP is subject to the Compliance Assurance Monitoring (CAM) requirements as listed in 40 CFR Part 64. The PEX boxing line baghouse controls particulate matters (PM and PM10), which triggered the CAM requirements.

B. Rationale for Selection of Performance Indicator

The pressure drop readings were selected as the performance indicator because it is indicative of operation of the baghouse in a manner necessary to comply with the particulate emission standard.

The typical operating range per the manufacturer is 4-8 inches water column with the filter bag media currently utilized at Equistar Chemicals, LP. Any excursions outside the 4-8 inches water column are investigated for cause which may include instrumentation failure, reduced production rate, maintenance, or actual bag house system failure. Therefore, the detection of excessive pressure drop is used as a performance indicator. Opacity monitors and visual stack inspection are also utilized to ensure proper bag house operation.

C. Rationale for Selection of Indicator Level

The selected indicator ranges are the typical operational pressure drop range of 4-8 inches water and the pulse jet cleaning range of 40-60 psi. If a pressure drop greater than the values noted is observed, an inspection and appropriate corrective actions will be taken within 8 hours.

The changes in pressure drop noted above were selected as indicator ranges because a pressure drop greater than these values are indicative of a potential increase in particulate emissions due to a decrease in the performance of this baghouse.

The selected QIP threshold for the baghouse is 6 excursions in a 6-month reporting period. If the QIP threshold is exceeded in a semiannual reporting period, a QIP will be developed and implemented.

The dust collection system check-up was chosen as an indicator because it greatly affects the emission rates of pollutants.

IV. General Conditions

This permit is issued under the authority of the Iowa Code subsection 455B.133 (8) and in accordance with 567 Iowa Administrative Code Chapter 22.

G1. Duty to Comply

1. The permittee must comply with all conditions of the Title V permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for a permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. *567 IAC 22.108(9)"a"*
2. Any compliance schedule shall be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it is based. *567 IAC 22.105 (2)"h"(3)*
3. Where an applicable requirement of the Act is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, both provisions shall be enforceable by the administrator and are incorporated into this permit. *567 IAC 22.108 (1)"b"*
4. Unless specified as either "state enforceable only" or "local program enforceable only", all terms and conditions in the permit, including provisions to limit a source's potential to emit, are enforceable by the administrator and citizens under the Act. *567 IAC 22.108 (14)*
5. 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 the permit. *567 IAC 22.108 (9)"b"*

G2. Permit Expiration

1. Except as provided in 567 IAC 22.104, the expiration of this permit terminates the permittee's right to operate unless a timely and complete application has been submitted for renewal. Any testing required for renewal shall be completed before the application is submitted. *567 IAC 22.116(2)*
2. To be considered timely, the owner, operator, or designated representative (where applicable) of each source required to obtain a Title V permit shall present or mail the Air Quality Bureau, Iowa Department of Natural Resources, Air Quality Bureau, 7900 Hickman Rd, Suite #1, Windsor Heights, IA 50324, two copies (three if your facility is located in Linn or Polk county) of a complete permit application, at least 6 months but not more than 18 months prior to the date of permit expiration. An additional copy must also be sent to EPA Region VII, Attention: Chief of Air Permits, 901 N. 5th St., Kansas City, KS 66101. The application must include all emission points, emission units, air pollution control equipment, and monitoring devices at the facility. All emissions generating activities, including fugitive emissions, must be included. The definition of a complete application is as indicated in 567 IAC 22.105(2). *567 IAC 22.105*

G3. Certification Requirement for Title V Related Documents

Any application, report, compliance certification or other document submitted pursuant to this permit shall contain certification by a responsible official of truth, accuracy, and completeness. All certifications shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. *567 IAC 22.107 (4)*

G4. Annual Compliance Certification

By March 31 of each year, the permittee shall submit compliance certifications for the previous calendar year. The certifications shall include descriptions of means to monitor the compliance status of all emissions sources including emissions limitations, standards, and work practices in

accordance with applicable requirements. The certification for a source shall include the identification of each term or condition of the permit that is the basis of the certification; the compliance status; whether compliance was continuous or intermittent; the method(s) used for determining the compliance status of the source, currently and over the reporting period consistent with all applicable department rules. For sources determined not to be in compliance at the time of compliance certification, a compliance schedule shall be submitted which provides for periodic progress reports, dates for achieving activities, milestones, and an explanation of why any dates were missed and preventive or corrective measures. The compliance certification shall be submitted to the administrator, director, and the appropriate DNR Field office. *567 IAC 22.108 (15)"e"*

G5. Semi-Annual Monitoring Report

By March 31 and September 30 of each year, the permittee shall submit a report of any monitoring required under this permit for the 6 month periods of July 1 to December 31 and January 1 to June 30, respectively. All instances of deviations from permit requirements must be clearly identified in these reports, and the report must be signed by a responsible official, consistent with 567 IAC 22.107(4). The semi-annual monitoring report shall be submitted to the director and the appropriate DNR Field office. *567 IAC 22.108 (5)*

G6. Annual Fee

1. The permittee is required under subrule 567 IAC 22.106 to pay an annual fee based on the total tons of actual emissions of each regulated air pollutant. Beginning July 1, 1996, Title V operating permit fees will be paid on July 1 of each year. The fee shall be based on emissions for the previous calendar year.
2. The fee amount shall be calculated based on the first 4,000 tons of each regulated air pollutant emitted each year. The fee to be charged per ton of pollutant will be available from the department by June 1 of each year. The Responsible Official will be advised of any change in the annual fee per ton of pollutant.
3. The following forms shall be submitted annually by March 31 documenting actual emissions for the previous calendar year.
 - a. Form 1.0 "Facility Identification";
 - b. Form 4.0 "Emissions unit-actual operations and emissions" for each emission unit;
 - c. Form 5.0 "Title V annual emissions summary/fee"; and
 - d. Part 3 "Application certification."
4. The fee shall be submitted annually by July 1. The fee shall be submitted with the following forms:
 - a. Form 1.0 "Facility Identification";
 - b. Form 5.0 "Title V annual emissions summary/fee";
 - c. Part 3 "Application certification."
5. If there are any changes to the emission calculation form, the department shall make revised forms available to the public by January 1. If revised forms are not available by January 1, forms from the previous year may be used and the year of emissions documented changed. The department shall calculate the total statewide Title V emissions for the prior calendar year and make this information available to the public no later than April 30 of each year.
6. Phase I acid rain affected units under section 404 of the Act shall not be required to pay a fee for emissions which occur during the years 1993 through 1999 inclusive.

7. The fee for a portable emissions unit or stationary source which operates both in Iowa and out of state shall be calculated only for emissions from the source while operating in Iowa.

8. Failure to pay the appropriate Title V fee represents cause for revocation of the Title V permit as indicated in 567 IAC 22.115(1)"d".

G7. Inspection of Premises, Records, Equipment, Methods and Discharges

Upon presentation of proper credentials and any other documents as may be required by law, the permittee shall allow the director or the director's authorized representative to:

1. Enter upon the permittee's premises where a Title V source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
3. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
4. Sample or monitor, at reasonable times, substances or parameters for the purpose of ensuring compliance with the permit or other applicable requirements. *567 IAC 22.108 (15)"b"*

G8. Duty to Provide Information

The permittee shall furnish to the director, within a reasonable time, any information that the director 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 also shall furnish to the director copies of records required to be kept by the permit, or for information claimed to be confidential, the permittee shall furnish such records directly to the administrator of EPA along with a claim of confidentiality. *567 IAC 22.108 (9)"e"*

G9. General Maintenance and Repair Duties

The owner or operator of any air emission source or control equipment shall:

1. Maintain and operate the equipment or control equipment at all times in a manner consistent with good practice for minimizing emissions.
2. Remedy any cause of excess emissions in an expeditious manner.
3. Minimize the amount and duration of any excess emission to the maximum extent possible during periods of such emissions. These measures may include but not be limited to the use of clean fuels, production cutbacks, or the use of alternate process units or, in the case of utilities, purchase of electrical power until repairs are completed.
4. Schedule, at a minimum, routine maintenance of equipment or control equipment during periods of process shutdowns to the maximum extent possible. *567 IAC 24.2(1)*

G10. Recordkeeping Requirements for Compliance Monitoring

1. In addition to any source specific recordkeeping requirements contained in this permit, the permittee shall maintain the following compliance monitoring records, where applicable:

- a. The date, place and time of sampling or measurements
- b. The date the analyses were performed.
- c. The company or entity that performed the analyses.
- d. The analytical techniques or methods used.
- e. The results of such analyses; and
- f. The operating conditions as existing at the time of sampling or measurement.
- g. The records of quality assurance for continuous compliance monitoring systems (including but not limited to quality control activities, audits and calibration drifts.)

2. The permittee shall retain records of all required compliance monitoring data and support information for a period of at least 5 years from the date of compliance monitoring sample, measurement report or application. Support information includes all calibration and maintenance records and all original strip chart recordings for continuous compliance monitoring, and copies of all reports required by the permit.

3. For any source which in its application identified reasonably anticipated alternative operating scenarios, the permittee shall:

- a. Comply with all terms and conditions of this permit specific to each alternative scenario.
- b. Maintain a log at the permitted facility of the scenario under which it is operating.
- c. Consider the permit shield, if provided in this permit, to extend to all terms and conditions under each operating scenario. *567 IAC 22.108(4), 567 IAC 22.108(12)*

G11. Evidence used in establishing that a violation has or is occurring.

Notwithstanding any other provisions of these rules, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any provisions herein.

1. Information from the use of the following methods is presumptively credible evidence of whether a violation has occurred at a source:

- a. A monitoring method approved for the source and incorporated in an operating permit pursuant to 567 Chapter 22;
- b. Compliance test methods specified in 567 Chapter 25; or
- c. Testing or monitoring methods approved for the source in a construction permit issued pursuant to 567 Chapter 22.

2. The following testing, monitoring or information gathering methods are presumptively credible testing, monitoring, or information gathering methods:

- a. Any monitoring or testing methods provided in these rules; or
- b. Other testing, monitoring, or information gathering methods that produce information comparable to that produced by any method in subrule 21.5(1) or this subrule. *567 IAC 21.5(1)-567 IAC 21.5(2)*

G12. Prevention of Accidental Release: Risk Management Plan Notification and Compliance Certification

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Act, the permittee shall notify the department of this requirement. The plan shall be filed with all appropriate authorities by the deadline specified by EPA. A certification that this risk management plan is being properly implemented shall be included in the annual compliance certification of this permit. *567 IAC 22.108(6)*

G13. Hazardous Release

The permittee must report any situation involving the actual, imminent, or probable release of a hazardous substance into the atmosphere which, because of the quantity, strength and toxicity of the substance, creates an immediate or potential danger to the public health, safety or to the environment. A verbal report shall be made to the department at (515) 281-8694 and to the local police department or the office of the sheriff of the affected county as soon as possible but not later than six hours after the discovery or onset of the condition. This verbal report must be followed up with a written report as indicated in 567 IAC 131.2(2). *567 IAC Chapter 131- State Only*

G14. Excess Emissions and Excess Emissions Reporting Requirements

1. Excess Emissions. Excess emission during a period of startup, shutdown, or cleaning of control equipment is not a violation of the emission standard if the startup, shutdown or cleaning is accomplished expeditiously and in a manner consistent with good practice for minimizing emissions. Cleaning of control equipment which does not require the shutdown of the process equipment shall be limited to one six-minute period per one-hour period. An incident of excess emission (other than an incident during startup, shutdown or cleaning of control equipment) is a violation. If the owner or operator of a source maintains that the incident of excess emission was due to a malfunction, the owner or operator must show that the conditions which caused the incident of excess emission were not preventable by reasonable maintenance and control measures. Determination of any subsequent enforcement action will be made following review of this report. If excess emissions are occurring, either the control equipment causing the excess emission shall be repaired in an expeditious manner or the process generating the emissions shall be shutdown within a reasonable period of time. An expeditious manner is the time necessary to determine the cause of the excess emissions and to correct it within a reasonable period of time. A reasonable period of time is eight hours plus the period of time required to shut down the process without damaging the process equipment or control equipment. In the case of an electric utility, a reasonable period of time is eight hours plus the period of time until comparable generating capacity is available to meet consumer demand with the affected unit out of service, unless, the director shall, upon investigation, reasonably determine that continued operation constitutes an unjustifiable environmental hazard and issue an order that such operation is not in the public interest and require a process shutdown to commence immediately.

2. Excess Emissions Reporting

a. Oral Reporting of Excess Emissions. An incident of excess emission (other than an incident of excess emission during a period of startup, shutdown, or cleaning) shall be reported to the appropriate field office of the department within eight hours of, or at the start of the first working day following the onset of the incident. The reporting exemption for an incident of excess emission during startup, shutdown or cleaning does not relieve the owner or operator of a source with continuous monitoring equipment of the obligation of submitting reports required in 567-subrule 25.1(6). An oral report of excess emission is not required for a source with operational continuous monitoring equipment (as specified in 567-subrule 25.1(1)) if the incident of excess emission continues for less than 30 minutes and does not exceed the applicable emission standard by more than 10 percent or the applicable visible emission standard by more than 10 percent opacity. The oral report may be made in person or by telephone and shall include as a minimum the following:

- i. The identity of the equipment or source operation from which the excess emission originated and the associated stack or emission point.
 - ii. The estimated quantity of the excess emission.
 - iii. The time and expected duration of the excess emission.
 - iv. The cause of the excess emission.
 - v. The steps being taken to remedy the excess emission.
 - vi. The steps being taken to limit the excess emission in the interim period.
- b. Written Reporting of Excess Emissions. A written report of an incident of excess emission shall be submitted as a follow-up to all required oral reports to the department

within seven days of the onset of the upset condition, and shall include as a minimum the following:

- i. The identity of the equipment or source operation point from which the excess emission originated and the associated stack or emission point.
- ii. The estimated quantity of the excess emission.
- iii. The time and duration of the excess emission.
- iv. The cause of the excess emission.
- v. The steps that were taken to remedy and to prevent the recurrence of the incident of excess emission.
- vi. The steps that were taken to limit the excess emission.
- vii. If the owner claims that the excess emission was due to malfunction, documentation to support this claim. *567 IAC 24.1(1)-567 IAC 24.1(4)*

3. Emergency Defense for Excess Emissions. For the purposes of this permit, an “emergency” means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which 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 non-compliance, to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation or operator error. An emergency constitutes an affirmative defense to an action brought for non-compliance with technology based limitations if it can 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 facility at the time was being properly operated;
- c. During the period of the emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements of the permit; and
- d. The permittee submitted notice of the emergency to the director by certified mail within two working days of the time when the emissions limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. *567 IAC 22.108(16)*

G15. Permit Deviation Reporting Requirements

A deviation is any failure to meet a term, condition or applicable requirement in the permit. Reporting requirements for deviations that result in a hazardous release or excess emissions have been indicated above (see G13 and G14). Unless more frequent deviation reporting is specified in the permit, any other deviation shall be documented in the semi-annual monitoring report and the annual compliance certification (see G4 and G5). *567 IAC 22.108(5)"b"*

G16. Notification Requirements for Sources That Become Subject to NSPS and NESHAP Regulations

During the term of this permit, the permittee must notify the department of any source that becomes subject to a standard or other requirement under 567-subrule 23.1(2) (standards of performance of new stationary sources) or section 111 of the Act; or 567-subrule 23.1(3) (emissions standards for hazardous air pollutants), 567-subrule 23.1(4) (emission standards for hazardous air pollutants for source categories) or section 112 of the Act. This notification shall be submitted in writing to the department pursuant to the notification requirements in 40 CFR

Section 60.7, 40 CFR Section 61.07, and/or 40 CFR Section 63.9. 567 IAC 23.1(2), 567 IAC 23.1(3), 567 IAC 23.1(4)

G17. Requirements for Making Changes to Emission Sources That Do Not Require Title V Permit Modification

1. Off Permit Changes to a Source. Pursuant to section 502(b)(10) of the CAAA, the permittee may make changes to this installation/facility without revising this permit if:
 - a. The changes are not major modifications under any provision of any program required by section 110 of the Act, modifications under section 111 of the act, modifications under section 112 of the act, or major modifications as defined in 567 IAC Chapter 22.
 - b. The changes do not exceed the emissions allowable under the permit (whether expressed therein as a rate of emissions or in terms of total emissions);
 - c. The changes are not modifications under any provisions of Title I of the Act and the changes do not exceed the emissions allowable under the permit (whether expressed therein as a rate of emissions or as total emissions);
 - d. The changes are not subject to any requirement under Title IV of the Act.
 - e. The changes comply with all applicable requirements.
 - f. For such a change, the permitted source provides to the department and the administrator by certified mail, at least 30 days in advance of the proposed change, a written notification, including the following, which must be attached to the permit by the source, the department and the administrator:
 - i. A brief description of the change within the permitted facility,
 - ii. The date on which the change will occur,
 - iii. Any change in emission as a result of that change,
 - iv. The pollutants emitted subject to the emissions trade
 - v. If the emissions trading provisions of the state implementation plan are invoked, then Title V permit requirements with which the source shall comply; a description of how the emissions increases and decreases will comply with the terms and conditions of the Title V permit.
 - vi. A description of the trading of emissions increases and decreases for the purpose of complying with a federally enforceable emissions cap as specified in and in compliance with the Title V permit; and
 - vii. Any permit term or condition no longer applicable as a result of the change. 567 IAC 22.110(1)
2. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), record keeping, reporting, or compliance certification requirements. 567 IAC 22.110(2)
3. Notwithstanding any other part of this rule, the director may, upon review of a notice, require a stationary source to apply for a Title V permit if the change does not meet the requirements of subrule 22.110(1). 567 IAC 22.110(3)
4. The permit shield provided in subrule 22.108(18) shall not apply to any change made pursuant to this rule. Compliance with the permit requirements that the source will meet using the emissions trade shall be determined according to requirements of the state implementation plan authorizing the emissions trade. 567 IAC 22.110(4)

5. 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 this permit. *567 IAC 22.108(11)*

G18. Duty to Modify a Title V Permit

1. Administrative Amendment.

a. An administrative permit amendment is a permit revision that is required to do any of the following:

- i. Correct typographical errors
- ii. Identify a change in the name, address, or telephone number of any person identified in the permit, or provides a similar minor administrative change at the source;
- iii. Require more frequent monitoring or reporting by the permittee; or
- iv. Allow for a change in ownership or operational control of a source where the director determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new permittee has been submitted to the director.

b. The permittee may implement the changes addressed in the request for an administrative amendment immediately upon submittal of the request. The request shall be submitted to the director.

c. Administrative amendments to portions of permits containing provisions pursuant to Title IV of the Act shall be governed by regulations promulgated by the administrator under Title IV of the Act.

2. Minor Permit Modification.

a. Minor permit modification procedures may be used only for those permit modifications that do any of the following:

- i. Do not violate any applicable requirements
- ii. Do not involve significant changes to existing monitoring, reporting or recordkeeping requirements in the Title V permit.
- iii. Do not require or change a case by case determination of an emission limitation or other standard, or increment analysis.
- iv. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed in order to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include any federally enforceable emissions caps which the source would assume to avoid classification as a modification under any provision under Title I of the Act; and an alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Act.;
- v. Are not modifications under any provision of Title I of the Act; and
- vi. Are not required to be processed as significant modification.

b. An application for minor permit revision shall be on the minor Title V modification application form and shall include at least the following:

- i. A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs.
- ii. The permittee's suggested draft permit
- iii. Certification by a responsible official, pursuant to 567 IAC 22.107(4), that the

proposed modification meets the criteria for use of a minor permit modification procedures and a request that such procedures be used; and

iv. Completed forms to enable the department to notify the administrator and the affected states as required by 567 IAC 22.107(7).

c. The permittee may make the change proposed in its minor permit modification application immediately after it files the application. After the permittee makes this change and until the director takes any of the actions specified in 567 IAC 22.112(4) "a" to "c", the permittee must comply with both the applicable requirements governing the change and the proposed permit terms and conditions. During this time, the permittee need not comply with the existing permit terms and conditions it seeks to modify. However, if the permittee fails to comply with its proposed permit terms and conditions during this time period, existing permit terms and conditions it seeks to modify may subject the facility to enforcement action.

3. Significant Permit Modification. Significant Title V modification procedures shall be used for applications requesting Title V permit modifications that do not qualify as minor Title V modifications or as administrative amendments. These include but are not limited to all significant changes in monitoring permit terms, every relaxation of reporting or recordkeeping permit terms, and any change in the method of measuring compliance with existing requirements. Significant Title V modifications shall meet all requirements of 567 IAC Chapter 22, including those for applications, public participation, review by affected states, and review by the administrator, and those requirements that apply to Title V issuance and renewal. 567 IAC 22.111-567 IAC 22.113. The permittee shall submit an application for a significant permit modification not later than three months after commencing operation of the changed source unless the existing Title V permit would prohibit such construction or change in operation, in which event the operation of the changed source may not commence until the department revises the permit. 567 IAC 22.105(1)"a"(4)

G19. Duty to Obtain Construction Permits

Unless exempted under 567 IAC 22.1(2), the permittee must not construct, install, reconstruct, or alter any equipment, control equipment or anaerobic lagoon without first obtaining a construction permit, conditional permit, or permit pursuant to 567 IAC 22.8, or permits required pursuant to 567 IAC 22.4 and 567 IAC 22.5. Such permits shall be obtained prior to the initiation of construction, installation or alteration of any portion of the stationary source. 567 IAC 22.1(1)

G20. Asbestos

The permittee shall comply with 567 IAC 23.1(3)"a", and 567 IAC 23.2(3)"g" when activities involve asbestos mills, surfacing of roadways, manufacturing operations, fabricating, insulating, waste disposal, spraying applications, demolition and renovation operations, training fires and controlled burning of a demolished building. 567 IAC 23.1(3)"a", and 567 IAC 23.2

G21. Open Burning

The permittee is prohibited from conducting open burning, except as may be allowed by 567 IAC 23.2. 567 IAC 23.2 *except* 23.2(3)"h"; 567 IAC 23.2(3)"h" - State Only

G22. Acid Rain (Title IV) Emissions Allowances

The permittee shall not exceed any allowances that it holds under Title IV of the Act or the regulations promulgated there under. Annual emissions of sulfur dioxide in excess of the number of allowances to emit sulfur dioxide held by the owners and operators of the unit or the designated representative of the owners and operators is prohibited. Exceedances of applicable

emission rates are prohibited. "Held" in this context refers to both those allowances assigned to the owners and operators by USEPA, and those allowances supplementally acquired by the owners and operators. The use of any allowance prior to the year for which it was allocated is prohibited. Contravention of any other provision of the permit is prohibited. 567 IAC 22.108(7)

G23. Stratospheric Ozone and Climate Protection (Title VI) Requirements

1. The permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subpart E:
 - a. All containers in which a class I or class II substance is stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to § 82.106.
 - b. The placement of the required warning statement must comply with the requirements pursuant to § 82.108.
 - c. The form of the label bearing the required warning statement must comply with the requirements pursuant to § 82.110.
 - d. No person may modify, remove, or interfere with the required warning statement except as described in § 82.112.
2. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for MVACs in Subpart B:
 - a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to § 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 § 82.158.
 - c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to § 82.161.
 - d. Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with reporting and recordkeeping requirements pursuant to § 82.166. ("MVAC-like appliance" as defined at § 82.152)
 - e. Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to § 82.156.
 - f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to § 82.166.
3. If the permittee manufactures, transforms, imports, or exports a class I or class II substance, the permittee is subject to all the requirements as specified in 40 CFR part 82, Subpart A, Production and Consumption Controls.
4. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or system used on passenger buses using HCFC-22 refrigerant,
5. The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated

pursuant to 40 CFR part 82, Subpart G, Significant New Alternatives Policy Program. *40 CFR part 82*

G24. Permit Reopenings

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. *567 IAC 22.108(9)"c"*
2. Additional applicable requirements under the Act become applicable to a major part 70 source with a remaining permit term of 3 or more years. Revisions shall be made as expeditiously as practicable, but not later than 18 months after the promulgation of such standards and regulations.
 - a. Reopening and revision on this ground is not required if the permit has a remaining term of less than three years;
 - b. Reopening and revision on this ground is not 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 have been extended pursuant to 40 CFR 70.4(b)(10)(i) or (ii) as amended to May 15, 2001.
 - c. Reopening and revision on this ground is not required if the additional applicable requirements are implemented in a general permit that is applicable to the source and the source receives approval for coverage under that general permit. *567 IAC 22.108(17)"a"*, *567 IAC 22.108(17)"b"*
3. A permit shall be reopened and revised under any of the following circumstances:
 - a. The department receives notice that the administrator has granted a petition for disapproval of a permit pursuant to 40 CFR 70.8(d) as amended to July 21, 1992, provided that the reopening may be stayed pending judicial review of that determination;
 - b. The department or the administrator determines that the Title V permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the Title V permit;
 - c. Additional applicable requirements under the Act become applicable to a Title V source, provided that the reopening on this ground is not required if the permit has a remaining term of less than three years, the effective date of the requirement is later than the date on which the permit is due to expire, or the additional applicable requirements are implemented in a general permit that is applicable to the source and the source receives approval for coverage under that general permit. Such a reopening shall be complete not later than 18 months after promulgation of the applicable requirement.
 - d. Additional requirements, including excess emissions requirements, become applicable to a Title IV affected source under the acid rain program. Upon approval by the administrator, excess emissions offset plans shall be deemed to be incorporated into the permit.
 - e. The department or the administrator determines that the permit must be revised or revoked to ensure compliance by the source with the applicable requirements. *567 IAC 22.114(1)*
4. Proceedings to reopen and reissue a Title V permit shall follow the procedures applicable to initial permit issuance and shall effect only those parts of the permit for which cause to reopen exists. *567 IAC 22.114(2)*

G25. Permit Shield

1. The director may expressly include in a Title V permit a provision stating that compliance with the conditions of the permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that:
 - a. Such applicable requirements are included and are specifically identified in the permit; or
 - b. The director, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the permit includes the determination or a concise summary thereof.
2. A Title V permit that does not expressly state that a permit shield exists shall be presumed not to provide such a shield.
3. A permit shield shall not alter or affect the following:
 - a. The provisions of Section 303 of the Act (emergency orders), including the authority of the administrator under that section;
 - b. 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;
 - c. The applicable requirements of the acid rain program, consistent with Section 408(a) of the Act;
 - d. The ability of the department or the administrator to obtain information from the facility pursuant to Section 114 of the Act. *567 IAC 22.108 (18)*

G26. Severability

The provisions of this permit are severable and if any provision or application of any provision is found to be invalid by this department or a court of law, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected by such finding. *567 IAC 22.108 (8)*

G27. Property Rights

The permit does not convey any property rights of any sort, or any exclusive privilege. *567 IAC 22.108 (9)"d"*

G28. Transferability

This permit is not transferable from one source to another. If title to the facility or any part of it is transferred, an administrative amendment to the permit must be sought to determine transferability of the permit. *567 IAC 22.111 (1)"d"*

G29. Disclaimer

No review has been undertaken on the engineering aspects of the equipment or control equipment other than the potential of that equipment for reducing air contaminant emissions. *567 IAC 22.3(3)"c"*

G30. Notification and Reporting Requirements for Stack Tests or Monitor Certification

The permittee shall notify the department's stack test contact in writing not less than 30 days before a required test or performance evaluation of a continuous emission monitor is performed to determine compliance with applicable requirements of 567 – Chapter 23 or a permit condition. For the department to consider test results a valid demonstration of compliance with applicable rules or a permit condition, such notice shall be given. Such notice shall include the time, the place, the name of the person who will conduct the test and other information as required by the

department. Unless specifically waived by the department's stack test contact, a pretest meeting shall be held not later than 15 days prior to conducting the compliance demonstration. The department may accept a testing protocol in lieu of a pretest meeting. A representative of the department shall be permitted to witness the tests. Results of the tests shall be submitted in writing to the department's stack test contact in the form of a comprehensive report within six weeks of the completion of the testing. Compliance tests conducted pursuant to this permit shall be conducted with the source operating in a normal manner at its maximum continuous output as rated by the equipment manufacturer, or the rate specified by the owner as the maximum production rate at which the source shall be operated. In cases where compliance is to be demonstrated at less than the maximum continuous output as rated by the equipment manufacturer, and it is the owner's intent to limit the capacity to that rating, the owner may submit evidence to the department that the source has been physically altered so that capacity cannot be exceeded, or the department may require additional testing, continuous monitoring, reports of operating levels, or any other information deemed necessary by the department to determine whether such source is in compliance.

Stack test notifications, reports and correspondence shall be sent to:

Stack Test Review Coordinator
Iowa DNR, Air Quality Bureau
7900 Hickman Road, Suite #1
Windsor Heights, IA 50324
(515) 242-6001

Within Polk and Linn Counties, stack test notifications, reports and correspondence shall also be directed to the supervisor of the respective county air pollution program.

567 IAC 25.1(7)"a", 567 IAC 25.1(9)

G31. Prevention of Air Pollution Emergency Episodes

The permittee shall comply with the provisions of 567 IAC Chapter 26 in the prevention of excessive build-up of air contaminants during air pollution episodes, thereby preventing the occurrence of an emergency due to the effects of these contaminants on the health of persons.

567 IAC 26.1(1)

G32. Contacts List

The current address and phone number for reports and notifications to the EPA administrator is:

Chief of Air Permits
EPA Region 7
Air Permits and Compliance Branch
901 N. 5th Street
Kansas City, KS 66101
(913) 551-7020

The current address and phone number for reports and notifications to the department or the Director is:

Chief, Air Quality Bureau
Iowa Department of Natural Resources
7900 Hickman Road, Suite #1
Windsor Heights, IA 50324
(515) 242-5100

Reports or notifications to the DNR Field Offices or local programs shall be directed to the supervisor at the appropriate field office or local program. Current addresses and phone numbers are:

Field Office 1

909 West Main – Suite 4
Manchester, IA 52057
(563) 927-2640

Field Office 2

2300-15th St., SW
Mason City, IA 50401
(641) 424-4073

Field Office 3

1900 N. Grand Ave.
Spencer, IA 51301
(712) 262-4177

Field Office 4

1401 Sunnyside Lane
Atlantic, IA 50022
(712) 243-1934

Field Office 5

401 SW 7th Street, Suite I
Des Moines, IA 50309
(515) 725-0268

Field Office 6

1023 West Madison Street
Washington, IA 52353-1623
(319) 653-2135

Polk County Public Works Dept.

Air Quality Division
5885 NE 14th St.
Des Moines, IA 50313
(515) 286-3351

Linn County Public Health Dept.

Air Pollution Control Division
501 13th St., NW
Cedar Rapids, IA 52405
(319) 892-6000

V. Appendix

- A. 40 CFR 60 Subpart A Requirements – General Provisions
<http://www.tceq.state.tx.us/permitting/air/rules/federal/60/a/ahp.html>
- B. 40 CFR 60 Subpart DDD Requirements – Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing Industry
<http://www.tceq.state.tx.us/permitting/air/rules/federal/60/ddd/dddhp.html>
- C. 40 CFR 61 Subpart A Requirements – General Provisions
<http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&rgn=div6&view=text&node=40:8.0.1.1.1.1&idno=40>
- D. 40 CFR 61 Subpart J Requirements – National Emission Standard for Equipment Leaks (Fugitive Emission Sources) of Benzene
<http://www.tceq.state.tx.us/permitting/air/rules/federal/61/j/jhp.html>
- E. 40 CFR 61 Subpart V Requirements – National Emission Standard for Equipment Leaks (Fugitive Emission Sources)
<http://www.tceq.state.tx.us/permitting/air/rules/federal/61/v/vhp.html>
- F. 40 CFR 61 Subpart BB Requirements – National Emission Standard for Benzene Emissions from Benzene Transfer Operations
<http://www.tceq.state.tx.us/permitting/air/rules/federal/61/bb/bbhp.html>
- G. 40 CFR 61 Subpart FF Requirements – National Emission Standard for Benzene Waste Operations
<http://www.tceq.state.tx.us/permitting/air/rules/federal/61/ff/ffhp.html>
- H. 40 CFR 63 Subpart A Requirements – General Provisions
<http://www.tceq.state.tx.us/permitting/air/rules/federal/63/a/ahp.html>
- I. 40 CFR 63 Subpart XX Requirements – National Emission Standards for Ethylene Manufacturing Process Units: Heat Exchange Systems and Waste Operations
<http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=2ea5e40222ec4996e2aafc81eac94ea2&rgn=div6&view=text&node=40:10.0.1.1.1.23&idno=40>
- J. 40 CFR 63 Subpart YY Requirements – National Emission Standards for Hazardous Air Pollutants for Source Categories: Generic Maximum Achievable Control Technology Standards
<http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=b155c1e5650c9e1d078dc7885716b3f2&rgn=div6&view=text&node=40:10.0.1.1.1.24&idno=40>
- K. 40 CFR 63 Subpart FFFF Requirements – National Emission Standard for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing
<http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=2ea5e40222ec4996e2aafc81eac94ea2&rgn=div6&view=text&node=40:12.0.1.1.1.13&idno=40>
- L. 40 CFR 63 Subpart ZZZZ Requirements – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines
<http://www.tceq.state.tx.us/permitting/air/rules/federal/63/zzzz/zzzzhp.html>