EPA

Region 6 Compliance Assurance and Enforcement Division

INSPECTION REPORT

Inspection Date(s):	12/15-18/2014		
Media:	Air		
Regulatory Program(s)	RMP		
Company Name:	**DuPont**		
Facility Name:	**La Porte Plant**		
Facility Physical Location:	12501 Strang Road		
(city, state, zip code)	La Porte, TX 77572		
Mailing address:	P.O. Box 347		
(city, state, zip code)	La Porte, TX 77572		
County/Parish:	Harris County		
Facility Contact:	Kevin L. Roberts	Gulf / West Fire Safety Leader	
	Kevin.L.Roberts@usa.dupont.com		
FRS Number:	110000463542		
Identification/Permit Number:	RMP # 1000 0014 8912, Air Permit # 1846, 1845, and 1905		
Media Number:	AFS # 48-201-00011		
NAICS:	All Other Basic Inorganic Chemical Manufacturing = 325188, and 325199 Pesticide and Other Agricultural Chemical Manufacturing = 32532		

Personnel participating in inspection:			
Randell S. Clements	DuPont	Plant Manager	(281) 470-3222
Kevin Roberts	DuPont	Gulf / West Fire Safety Leader	(281) 470-3222
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Whit Smith	DuPont via Katten, Muchin, Rosenmant LLP	Attorney at Law	
James Rizk	DuPont via Katten, Muchin, Rosenmant LLP	Attorney at Law	
Dave Hensley	EPA Region 6, 6EN-AS	Physical Scientist (Environmental)	(214) 665-6739
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EPA Lead Inspector Signature/Date	Dave Hensley	5-15-2015
	Dave Hensley	Date
Supervisor Signature/Date	Samuel Tates	5/15/2015
	Sam Tates	Date

Section I - INTRODUCTION

PURPOSE OF THE INSPECTION

The EPA Region 6 inspectors, Dave Hensley and Sherronda Phelps, arrived at the DuPont / La Porte Plant at 1 PM on December 15, 2014, for an announced inspection. We met with Randell S. Clements / Plant Manager, Kevin Roberts / Gulf/West Fire Safety Leader, Deb Tandarich / Global Safety, Health and Environmental Manager (Crop Protection), Robert B Doremus / Safety, Health & Environmental Manager, Whit Smith / Attorney, James Rizk / Attorney, and other company representatives at an opening conference at 2 PM. I, Dave Hensley, presented my credentials to those present and informed them that this was an EPA inspection to determine compliance with the facility's Risk Management Program and Clean Air Act Section 112(r). The scope of the inspection was a partial compliance inspection focused on the Clean Air Act Section 112(r) and the Chemical Accident Provisions 40 CFR 68. I invited Roy Reed of the International Chemical Workers Union Council Local 900C to participate in the inspection. This inspection was in response to a release of methyl mercaptan that occurred on November 15, 2014, resulting in the death of four DuPont employees.

FACILITY DESCRIPTION

The DuPont facility is situated on about 600 acres of property north and west of the intersection of State Highways 225 and 146, which is fronting on Upper San Jacinto Bay. DuPont is engaged in three (3) major businesses at the La Porte Plant: Crop Protection Products - used for improving crop yields and quality at value adding prices, Inorganic acids - used to produce Teflon(R) non-stick coatings and environmentally friendly refrigerants, and Plastics for auto safety glass and consumer packaging materials. (RMP)

Section II - OBSERVATIONS

40 C.F.R. Part 68 – CHEMICAL ACCIDENT PREVENTION PROVISIONS
Subpart A – General
40 C.F.R. § 68.10 Applicability - I observed that DuPont La Porte is a stationary source that has Air Operating Permits 1845, 1846, and 1905 and more than a threshold quantity of a regulated substances in four processes; Lannate ® – API, Herbicides, Fluoroproducts, and Vinyls; therefore, these regulations are applicable. DuPont submitted a Risk Management Plan (RMP) that describes these four processes containing toxic and flammable chemicals held at more than a threshold quantity. The processes are Program 3 due to the NAIC code of 32411 Petroleum Refineries and the facility is subject to OSHA's Process Safety Management Standard (29 CFR 1910.119).

40 C.F.R. § 68.12 General requirements – I reviewed the RMP submitted by DuPont on September 23, 2011, that listed eight toxic and flammable chemicals in four processes, as detailed below.

Table 1: DuPont La Porte Plant RMP Chemicals and Processes

Process	Program Level	Chemical Name	CAS Number	Quantity (lbs)	Flammable/ Toxic
Lannate (R) - API	3	Chlorine	7782-50-5	180,000	Toxic
Lannate (R) - API	3	Methyl mercaptan [Methanethiol]	74-93-1	122,000	Toxic
Herbicides	3	Dimethylamine [Methanamine, N-methyl-]	124-40-3	150,000	Flammable
Fluoroproducts	3	Oleum (Fuming Sulfuric acid) [Sulfuric acid, mixture with sulfur trioxide]	8014-95-7	3,000,000	Toxic
Fluoroproducts	3	Hydrogen fluoride/Hydrofluoric acid (conc 50% or greater) [Hydrofluoric acid]	7664-39-3	730,000	Toxic
Vinyls	3	Ethylene [Ethene]	74-85-1	20,000	Flammable
Vinyls	3	Vinyl acetate monomer [Acetic acid ethenyl ester]	108-05-4	7,600,000	Toxic
Vinyls	3	Acetaldehyde	75-07-0	10,000	Flammable

(RMP)

40 C.F.R. § 68.15 Management – DuPont has developed a management system to oversee the implementation of the risk management program elements. This system assigned qualified persons or positions overall responsibility for the development, implementation, and integration of the Risk Management Program elements.

Subpart B – Hazard Assessment

40 C.F.R. § 68.20 Applicability - DuPont prepared a worst-case release scenario analysis and completed the five-year accident history. Since DuPont has Program 3 processes, they must comply with all sections in this subpart.

40 C.F.R. § 68.22 Offsite consequence analysis parameters – I observed that DuPont used the parameters required in this part to calculate toxic and flammable worst-case and alternative case release scenarios.

40 C.F.R. § 68.25 Worst-case release scenario analysis – The RMP report and documentation I reviewed during the inspection shows that DuPont analyzed and reported a worst-case toxic release and three flammable releases in its RMP. This was done using the EPA's Offsite Consequence Analysis Reference Tables or equations.

40 C.F.R. § 68.28 Alternative release scenario analysis – DuPont analyzed and reported five alternate release scenarios, one for each RMP toxic substance, in their RMP. Also, DuPont reported the analysis of one flammable alternative case release in the RMP. I reviewed documentation that was in the processes hazard analysis (PHA) that used the appropriate factors to determine DuPont's worst-case and alternative case scenarios.

40 C.F.R. § 68.30 Defining offsite impacts – Population – I talked with Kevin Roberts, Gulf / West Fire Safety Leader about the offsite consequences analysis done by DuPont. He related that they used the

Census Bureau population data current at the time of analysis and the distance to endpoints, as specified in these regulations, to calculate the population numbers reported in their RMP.

40 C.F.R. § 68.33 Defining offsite impacts – Environment – Documentation provided by DuPont and discussions with Kevin Roberts showed me that USGS Data was used to determine the environmental receptors and the distance to endpoints.

40 C.F.R. § 68.36 Review and update – I reviewed documentation included in several PHAs that illustrated reviews and updates regarding the offsite consequences are occurring at least every five years. DuPont staff told me that there is a mechanism in the change management system that will flag the need for revisions if the maximum intended inventory of any RMP chemical changes.

40 C.F.R. § 68.39 Documentation – I was provided documentation of the offsite consequence analyses. For worst-case and alternative case scenarios, a description of the vessel or pipeline, the substance selected as worst-case, the assumptions and parameters used, and the rationale for selection was included; likewise, assumptions included use of any administrative controls and any passive mitigation that were assumed to limit the quantity that could be released, estimated quantity released, release rate, and duration of release in the PHA. The methodology used to determine distance to endpoints was documented in the facility's RMP. The data used to estimate population and environmental receptors potentially affected was provided in the form of USGS Maps that had the distance to endpoint labeled with a circle from the emissions point.

40 C.F.R. § 68.42 Five year accident history – DuPont had reported three accidental releases in their RMP as of May 4, 2012, which are listed below. I requested and was provided incident investigations for these incidents.

Table 2. Five Year Accident History

Accident Date	Quantity Released (lbs)	Chemical Name	Notes
25-Jan-07	325	Oleum (Fuming Sulfuric acid) [Sulfuric acid, mixture with sulfur trioxide]	One member of the public injured
23-Mar-11	1	Chlorine	One employee or contractor injured
23-Jan-12	1	Hydrogen fluoride/Hydrofluoric acid (conc 50% or greater) [Hydrofluoric acid]	One employee or contractor injured

(RMP)

I reviewed the National Reporting Center (NRC) and State of Texas Environmental Electronic Reporting System (STEERS) for additional incidents that may have required addition to DuPont's five year accident history. I did not discover any other accident, not including the accident that occurred on November 15, 2014. It will have to be added to this accident history within six months from the accident, or by May 15, 2015.

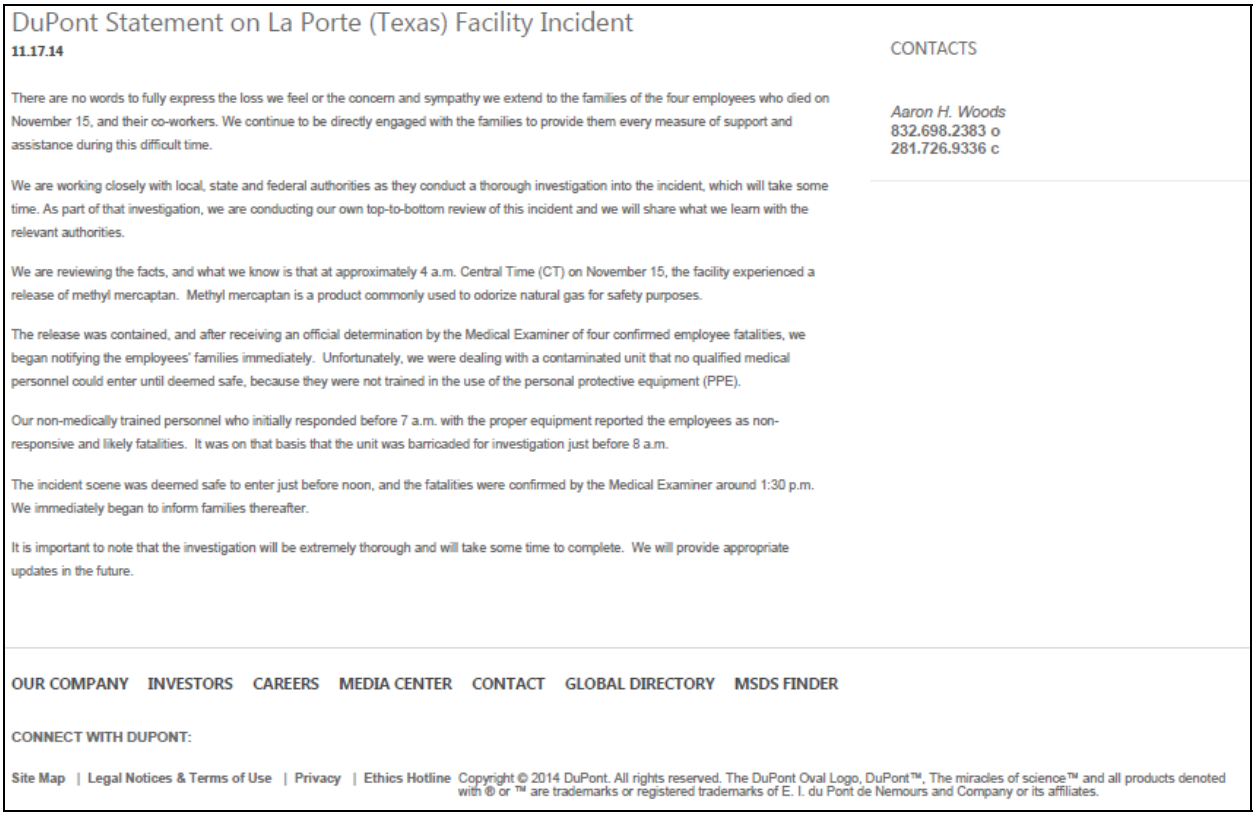
Subpart D – Program 3 Prevention Program

40 C.F.R. § 68.65 Process safety information – I requested and reviewed process safety information for all RMP units at DuPont. The process safety information was maintained in an organized manner.

40 C.F.R. § 68.67 Process hazard analysis – I requested and reviewed the last two PHAs for each RMP process. The processes were broken down to manageable sections within the processes. All the PHAs were done within the required five year timeframe.

40 C.F.R. § 68.69 Operating procedures – I reviewed several operating procedures, which appeared to meet the requirements; however, the certifications from 2013 for Lannate Unit were not available. 40 C.F.R. 68.69(c) states, "… The owner or operator shall certify annually that these operating procedures are current and accurate".

40 C.F.R. § 68.71 Training – I requested and was provided the training files for the five individuals impacted by the November 15, 2014, incident. In my initial review I found issues associated with these training files. A DuPont press release, "DuPont Statement on La Porte (Texas) Facility Incident 11.17.14" on the November 15, 2014, incident stated, "Unfortunately, we were dealing with a contaminated unit that no qualified medical personnel could enter until deemed safe, because they were not trained in the use of the personal protective equipment (PPE)."



DuPont Statement on La Porte (Texas) Facility Incident

11.17.14

There are no words to fully express the loss we feel or the concern and sympathy we extend to the families of the four employees who died on November 15, and their co-workers. We continue to be directly engaged with the families to provide them every measure of support and assistance during this difficult time.

We are working closely with local, state and federal authorities as they conduct a thorough investigation into the incident, which will take some time. As part of that investigation, we are conducting our own top-to-bottom review of this incident and we will share what we learn with the relevant authorities.

We are reviewing the facts, and what we know is that at approximately 4 a.m. Central Time (CT) on November 15, the facility experienced a release of methyl mercaptan. Methyl mercaptan is a product commonly used to odorize natural gas for safety purposes.

The release was contained, and after receiving an official determination by the Medical Examiner of four confirmed employee fatalities, we began notifying the employees' families immediately. Unfortunately, we were dealing with a contaminated unit that no qualified medical personnel could enter until deemed safe, because they were not trained in the use of the personal protective equipment (PPE).

Our non-medically trained personnel who initially responded before 7 a.m. with the proper equipment reported the employees as non-responsive and likely fatalities. It was on that basis that the unit was barricaded for investigation just before 8 a.m.

The incident scene was deemed safe to enter just before noon, and the fatalities were confirmed by the Medical Examiner around 1:30 p.m. We immediately began to inform families thereafter.

It is important to note that the investigation will be extremely thorough and will take some time to complete. We will provide appropriate updates in the future.

CONTACTS

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OUR COMPANY INVESTORS CAREERS MEDIA CENTER CONTACT GLOBAL DIRECTORY MSDS FINDER

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(http://www.dupont.com/corporate-functions/media-center/press-releases/dupont-news-statement-on-laporte-texas-facility-incident.html)

This raises the potential concern regarding the need for qualified medical personnel trained in proper PPE to respond to a release of methyl mercaptan, a risk management program chemical.

40 C.F.R. § 68.73 Mechanical integrity – I requested and was provided mechanical integrity records for inspections of the methyl mercaptan storage tank, a Hydrogen Fluoride storage vessel, Wet End Fan (404-7003-01), Dry End Fan (404-7004-01), 7015 Bay Fan (404-7015-75), Melt Bay Fan (FAA Not

available), and methyl mercaptan Detectors (406-0659-XD 0 to 9). The thickness inspection report appeared to have readings that were below the retirement thickness for the methyl mercaptan storage tank. I spoke with Clay Naquh, an inspection technician, about this. He stated that the retirement thickness on the inspection form I reviewed was incorrect and provided me the correct and current thickness monitoring form (UltraPipe Thickness Report for Methyl Mercaptan Storage Tank, equipment ID 406-7010-08.00, Bates-labeled DUP-LAP-EPA-0003235 through DUP-LAP-EPA-0003250, Attachment 15, Confidential Business Information). The new form had retirement thickness listed that were lower than the current readings. Clay explained that this is the retirement thickness that is in the database used to track inspection results, and the old numbers were extraneous.

40 C.F.R. § 68.75 Management of Change – I asked for and was given a list of the management of changes (MOC) done in RMP units at the facility for the last year and the written procedure for MOC. DuPont uses Change of Design (COD) terminology referring to this process. I reviewed documentation for EC-COD_2013-1, LAN-TCOD-2013-8, LAN-CON 2013-31, COD 2013-045, and COD 2014-041.

40 C.F.R. § 68.77 Pre-startup review – Pre-startup review was included with the MOC documentation that I reviewed, which met the requirements.

40 C.F.R. § 68.79 Compliance audits – With my inspection announcement, I attached a request for documentation, which included the last two Risk Management Program compliance audits. On arrival, I was provided copies of audits that documented the review of the submission, of the RMP, but did not cover all the elements of the Risk Management Program. I brought this to Deb Tandarich and Kevin Roberts's attention and they provided me with copies of the last two Process Safety Management / Risk Management Program audits. These covered all the elements of the Risk Management Program.

40 C.F.R. § 68.81 Incident investigation – I requested the incident investigations for the following releases: November 15, 2014 (methyl mercaptan release), September 22, 2014 (sulfur dioxide release), August 8, 2013 (chlorine release), January 23, 2012 (hydrofluoric acid release), and March 23, 2011 (chlorine release). The incident investigation for the November 15, 2014, incident was not available because it occurred one month before the inspection. I reviewed the rest of the incident investigations. The September 22, 2014, investigation appeared to start more than 48 hours from the time of the incident. However, DuPont was able to show me that the investigation began less than 48 hours from when they became aware of the incident. The rest of the investigations were appropriate to the incident investigation regulation.

40 C.F.R. § 68.83 Employee participation – I reviewed the employee participation plan during this inspection. It meets the regulation; however, it could be further developed to become a better tool to improve management/employee relations, and safety.

40 C.F.R. § 68.85 Hot work permit – While onsite, I reviewed several hot work permits that met the requirements of this regulation.

40 C.F.R. § 68.87 Contractors – I observed that contractors and visitors were required to watch a safety video prior to entering the facility.

Subpart E – Emergency Response –
40 C.F.R. § 68.90 Applicability – DuPont employees first responders that respond to fires and releases onsite.

40 C.F.R. § 68.95 Emergency response program – I requested and was provided the Emergency Response Plan for the DuPont La Porte Plant (Attachment 5, La Porte Facility Emergency Response Plan, Bates-labeled DUP-LAP-EPA-0000759 through DUP-LAP-EPA-0001427, confidential business information). I reviewed this plan onsite and again in the office post-inspection. The plan was developed to meet the requirements of this subpart. The implementation of the Emergency Response Plan on November 15, 2014, is a potential area of concern. From what has been initially reported, it appears that during the emergency DuPont employees did not follow the La Porte Facility's Emergency Response Plan. Page DUP-LAP-EPA-0000796 of the Emergency Response Plan describes the actions to be taken by personnel in the affected area in the event of a Fume Release as listed in these bullet points:

"• Determine affected area by listening to the yellow phone announcement
• Stop all work
• Proceed crosswind & upwind to nearest Shelter-In-Place
• Account to your Building Coordinator
• Building Coordinators report Personnel Accounting to area
• Ensure ALL Air Handling Equipment is turned off
• Ensure Shelter-In-Place is closed and sealed
• Obtain ELSA
• Prepare to evacuate, if instructed
• Notify EOC if evacuation occurs and upon arrival at alternate location
• If conditions are too severe, notify EOC
• Monitor announcements regarding incident
• Await further instructions or all clear."

The emergence response plan also states that "ALL PERSONNEL OTHER THAN THOSE DESIGNATED IN THIS PROCEDURE SHALL STAY AWAY FROM THE AREA AND TAKE PRECAUTIONARY ACTION FOR THEIR OWN SAFETY AND THE SAFETY OF THOSE UNDER THEIR SUPERVISION." (Page DUP-LAP-EPA-0000833).

40 C.F.R. § 68.195 Required corrections – The original RMP for this facility was submitted on June 25, 1999. There has been 5 resubmissions since then, which were all within the five years timeframe. The most recent correction was May 4, 2012, due to the correction of the five year accident history to include the January 23, 2012, accident. Another correction of the five year accident history will be due six months from the time of the November 15, 2014, incident, on May 15, 2015.

CAA 112(r)(1) – There was a release of methyl mercaptan at the DuPont La Porte Plant, on November 15, 2014, that resulted in the death of four DuPont employees. The CAA 112(r)(1) General Duty Clause states that:

> "Prevention of Accidental Releases (1) Purpose and General Duty- It shall be the objective of the regulations and programs authorized under this subsection to prevent the accidental release and to minimize the consequences of any such release of any substance listed pursuant to paragraph (3) or any other extremely hazardous substance. The owners and operators of stationary sources producing, processing, handling or storing such substances have a general duty, in the same manner and to the same extent as section 654, title 29 of the United States Code, to identify hazards which may

> result from such releases using appropriate hazard assessment techniques, to design and maintain a safe facility taking such steps as are necessary to prevent releases, and to minimize the consequences of accidental releases which do occur."

The incident report for this accident has not been finalized at this time and until then no determination of whether an area of concern exists.

Section III – AREAS OF CONCERN (AOC)

40 C.F.R. § 68.69 Operating procedures (c) Annual Certifications – DuPont failed to maintain operating procedure certifications for the Lannate unit for the year of 2013. Documents bates stamped DUP-LAP-EPA-0003353 to 0003391 are the certifications that DuPont provided during the inspection.

> (c) "The operating procedures shall be reviewed as often as necessary to assure that they reflect current operating practice, including changes that result from changes in process chemicals, technology, and equipment, and changes to stationary sources. The owner or operator shall certify annually that these operating procedures are current and accurate."
>
> 40 C.F.R. § 68.200 Recordkeeping - "The owner or operator shall maintain records supporting the implementation of this part for five years unless otherwise provided in subpart D of this part."

I added the following additional AOC subsequent to the onsite inspection:

40 C.F.R. § 68.95 Emergency response program – DuPont failed to implement their emergency response procedure on November 15, 2014.

> "(a) The owner or operator shall develop and implement an emergency response program for the purpose of protecting public health and the environment. Such program shall include the following elements:"

Section IV – FOLLOW UP

The final incident investigation report for the November 15, 2014, incident was requested during this inspection. The investigation was continuing at the time of the inspection and this report. The report incident investigation report for the November 15, 2014, should be sent to Dave Hensley (EPA EN-AS), 1445 Ross Ave., Dallas, TX 75202 upon completion.

Section V – LIST OF APPENDICES

Appendixes CBI (not included in published version of the report)

1. 2014 "LaPorte – 1st Party Environmental Compliance Audit – RMP Program," Bates-labeled DUP-LAP-PA-0003392 through DUPLAP-EPA-0003508
2. 2011 "1st Party Environmental Compliance Audit – RMP Program," Bates-labeled DUP-LAP-EPA-0003509 through DUP-LAP-EPA- 0003577.
3. 2012 PSM Audit, Bates-labeled DUP-LAPEPA- 0003578 through DUP-LAP-EPA-0003635
4. 2009 PSM Audit, Bates-labeled DUP-LAPEPA-0003636 through DUP-LAP-EPA-0003700

5. La Porte Facility Emergency Response Plan, Bates-labeled DUP-LAP-EPA-0000759 through DUP-LAP-EPA-0001427
6. Incident Number 11-0082-RCI, dated March 23, 2011, "HPI 2011-10 – Chemical Exposure at 7013 Reactor in Lannate," Bates-labeled DUP-LAP-EPA-0003193 through DUP-LAP-EPA-0003231
7. Incident Number 12-0051-RCI, dated January 23, 2012, "HPI 2012-05 – Mechanic Exposed to HF While Dismantling Valve," Bates-labeled DUP-LAP-EPA-0003155through DUP-LAP-EPA-0003192
8. Incident Number 13-0158-RCI, dated August 8, 2013, "HPI 2013-18 – Chlorine Release from Piping (D) – Lannate Permit No. 1834," Bates-labeled DUP-LAP-EPA-0002992 through DUP-LAP-EPA-0003154
9. Incident Number 14-0161-RCI, dated September 22, 2014, "HPI 2014-20 – SO2 Permit Exceedance from the Sulfuric Acid Unit Stack (D) – PSA Permit No. 21130," Bates labeled DUP-LAP-EPA-0002932 through DUP-LAP-EPA-0002991.
10. PHA 2013-IBU-02, "Process Hazard Analysis of "HTM Storage and Unloading," dated December 31, 2013, Bates-labeled DUP-LAP-EPA- 0002761 through DUP-LAP-EPA-0002931
11. PHA 08-IBU-01, "Process Hazard Analysis of Highly Toxic Materials Handling," dated December 20, 2008, Bates-labeled DUP-LAP-EPA-0002203 through DUP-LAP-EPA-0002547
12. 2013 Certifications of Operating Procedures, Bates-labeled DUP-LAP-EPA-0003371 through DUP-LAP-EPA-0003381
13. 2014 Certifications of Operating Procedures, Bates-labeled DUP-LAP-EPA-0003353 through DUP-LAP-EPA-0003370
14. Inspection documentation for the Methyl Mercaptan Storage Tank, including Vessel Inspection Reports, Equipment Inspection Plans, and Change Request Forms, dated January 4, 2001 through February 18, 2013, Bates-labeled DUPLAP-EPA-0003251 through DUP-LAP-EPA-0003352
15. UltraPipe Thickness Report for Methyl Mercaptan Storage Tank, equipment ID 406-7010-08.00, Bates-labeled DUP-LAP-EPA-0003235 through DUP-LAP-EPA-0003250
16. Lannate Methomyl Insecticide Technical Standard for the La Porte Plant, Bates-labeled DUP-LAP-EPA-0000062 through DUP-LAPEPA-0000758
17. Robert Tisnado, Bates-labeled DUP-LAP-EPA-0003701 through DUP-LAP-EPA-0003868
18. Crystle Wise, Bates-labeled DUP-LAP-EPA-0003869 through DUP-LAP-EPA-0003943
19. Danny Francis, Bates-labeled DUP-LAP-EPA-0003944 through DUP-LAP-EPA-0004061
20. Clarence Wade Baker, Bates-labeled DUP-LAP-EPA-0004062 through DUP-LAP-EPA-0004158
21. Gilbert Manual Tisnado, Bates-labeled DUP-LAP-EPA-0004159 through DUP-LAPEPA-0004298
22. 2012 Certifications of Operating Procedures, Bates-labeled DUP-LAP-EPA-0003382 through DUP-LAP-EPA-0003391
23. PHA 2013-IBU-03, "Process Hazard Analysis of A2213 Nitrosation, Chlorination, Filtration, & Thiolation," dated December 31, 2013, Bateslabeled DUP-LAP-EPA-0001950 through DUP-LAP-EPA-0002202
24. PHA 2008-API-01 / 2008-IBU-03, "Process Hazard Analysis of A2213 Nitrosation, Chlorination, Filtration, & Thiolation," dated December 31, 2008, Bates-labeled DUP-LAP-EPA-0002548 through DUP-LAP-EPA-0002760
25. PHA 2011-IBU-01, "Process Hazard Analysis of MHTA Synthesis," dated December 15, 2011, Bates-labeled DUP-LAP-EPA-0001673 through DUP-LAP-EPA-0001949
26. PHA 06-LAN-02, "Process Hazard Analysis of MHTA Synthesis," dated January 20, 2007, Bates-labeled DUP-LAP-EPA-0001428 through DUP-LAP-EPA-0001672
27. Work order history for the equipment specified [Wet End Fan (404-7003-01), Dry End Fan (404-7004-01), 7015 Bay Fan (404-7015-75), Melt Bay Fan (FAA not available), Methyl Mercaptan Detectors (406-0659-XD 0-9)] Bates-labeled DUP-LAP-EPA-0003232 through DUP-LAP-EPA-0003234