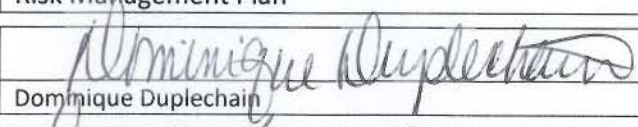
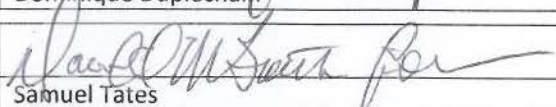


**Region 6 Compliance Assurance and Enforcement Division
INSPECTION REPORT**

Inspection Date(s):	7/22-7/24/2014		
Media:	Air		
Regulatory Program(s)	RMP		
Company Name:	Formosa Plastics Corp., LA		
Facility Name:	Formosa Plastics Corp., USA		
Facility Physical Location:	Gulf States Rd		
(city, state, zip code)	Baton Rouge, LA 70805		
Mailing address:	P.O. Box 271		
(city, state, zip code)	Baton Rouge, LA 70821		
County/Parish:	East Baton Rouge Parish		
Facility Contact:	Omer Wolff	Environmental Manager	
	Owolff@flbr.fpc.com		
FRS Number:	110000597444		
Identification/Permit Number:	RMP 1000 0013 2812		
Media Number:	2203300002		
NAICS:	325211		
SIC:			
Facility Representatives:	Omer Wolff	Environmental Manager	225-358-8511
	Harold Demmer	Environmental-Safety	225-356-8734
	Kelly Serio	Plant Manager	
EPA Inspectors:	Dominique Duplechain	6EN-AS	214-665-7484
	Samuel Tate	6EN-AS	214-665-2243
State Inspector(s):	None		
Metadata	Title:	Formosa Plastics Baton Rouge Plant Baton Rouge East Baton Rouge Parish LA	
	Author:	US EPA Region 6 Compliance Assurance and Enforcement Division Dallas TX	
	Subject:	Inspection Report Clean Air Act	
	Keywords:	Risk Management Plan	
EPA Lead Inspector	 Dominique Duplechain		9-2-2014 Date
Supervisor	 Samuel Tate		9-2-2014 Date

Section I - INTRODUCTION

PURPOSE OF THE INSPECTION

On July 22, 2014, Samuel Bates and I arrived at Formosa Plastics Corp., Louisiana for an announced Clean Air Act inspection. An email was sent to Mr. Kelly Serio on July 17, 2014, which informed him of my arrival. I met with Mr. Omer Wolff, Environmental Manager, Mr. Harold Demmer, Environmental-Safety Advisor, and Mr. Kelly Serio, Plant Manager. I presented my credentials to Mr. Serio and informed him that this was an EPA inspection to determine compliance with 40 CFR Subpart 68 – Chemical Accident Prevention Provisions. Mr. Serio indicated that he was not aware of my arrival and later discovered that he deleted the announcement email. An employee representative was invited to participate in the inspection. The facility does not have union representation.

FACILITY DESCRIPTION

Formosa Plastics, LA is a producer of basic industrial chemicals and materials. Chlorine, ethylene dichloride, anhydrous hydrogen chloride, and vinyl chloride are the major materials used and/or produced at the facility. The primary commodity produced at the facility is polyvinyl chloride resin. Polyvinyl chloride is used to manufacture food wrap, children's toys, medical devices, garden hoses, piping, vinyl siding, floor tiles, roofing shingles, electrical wiring insulation, furniture, clothing articles, automotive parts, etc. The facility is certified to ISO international quality and environmental management standards and employs approximately 219 employees and approximately 89 full-time contractors. The Baton Rouge plant consists of three operating units; two of which are covered under the Risk Management regulation. These are Polyvinyl Chloride (PVC) and Vinyl Chloride Monomer (VCM).

Section II – OBSERVATIONS

40 CFR Part 68- Chemical Accident Prevention Provisions

Subpart A-General

§68.12 General Requirements

Formosa submitted a single Risk Management Plan (RMP) with covered processes that are subject to Program 3 requirements. The last 5 year update was August 31, 2012. The regulated flammable substances that are above the threshold quantities identified in §68.130 are: vinyl chloride and propylene. The regulated toxic substances that are above the threshold quantities identified in §68.130 are: chloroform, anhydrous hydrogen chloride, and chlorine. As a facility with Program 3 processes, Formosa must develop and implement a management system, conduct a hazard assessment, implement the prevention requirements of §68.65 through §68.87, develop and implement an emergency response program, and submit the data elements from 68.175 in their RMP.

§68.15 Management

I reviewed Formosa's PSM/RMP organizational chart which appeared to assign departments to specific sections of the RMP and not by individuals by name or title to specific sections of the risk management program as required by §68.15(c). The chart recognizes Mr. Kelly Serio as the person with overall responsibility for implementing the requirements of the Risk Management Program.

Subpart B- Hazard Assessment

§68.20 Applicability

Formosa Plastics is a Program 3 stationary source subject to this part and is required to prepare a worst case release scenario analysis and complete the five year accident history.

§68.22 Offsite consequence analysis parameters

I reviewed the facility's RMP Comp scenario summary. In the analyses of the worst case and alternate scenarios Formosa utilized the parameters identified in the rule.

§68.25 Worst-case release scenario analysis.

For its flammable worst case scenario, Formosa used the release of the entire volume of their largest flammable containing vessel with no controls in calculation of their worst case scenario. For the toxics worst case scenario, Formosa used catastrophic rupture of the vessel with the largest quantity of a toxic chemical with the largest impact.

§68.28 Alternative release scenario analysis.

Formosa identified and analyzed at least one alternative release scenario for all regulated flammable substance held in a covered process that is more likely to occur than the worst case scenario. Formosa used the parameters defined in §68.22 to determine distance to the end point. No mitigation systems were considered. Formosa identified a toxic alternate scenario for each toxic identified in the RMP submittal.

§68.30 Defining offsite impacts—population.

Formosa did not provide documentation that indicated that population was estimated within a circle with its center at the point of the release and a radius determined by the distance to endpoint. The population was estimated using Landview 6 Census 2000 population estimator. Landview 6 software uses 2000 Census data. It appears Formosa did not use to most recent Census data to estimate the population potentially affected as required by §68.30(c). The population identified in the toxic worst case scenario was not estimated to two significant figures as required by §68.30(d).

§68.33 Defining offsite impacts—environment.

For the toxic worst case scenario, Formosa identified environmental receptors that could potentially be affected from the release. Formosa did not provide any maps or data that were used to identify environmental receptors within the distance to endpoint.

68.36 Review and update.

Formosa conducted its review and update of the off-site consequences analysis in August 2012.

68.39 Documentation.

Formosa did not provide any maps depicting the point of the release and a radius of distance to endpoint. Landview 6 output data was not provided. It appears that Formosa did not maintain documentation used to estimate population and environmental receptors as required by §68.39(e).

§68.42 Five year accident history

In the RMP submittal, Formosa indicated there were no accidental releases of a RMP covered substance held above a threshold quantity in a covered process that resulted in death, injury, or significant property damage onsite, or known offsite death, injury, evacuation, shelter in place, property damage, or environmental damage.

Subpart D-Program 3 Prevention Program

§68.65 Process Safety information

I reviewed the following process safety information: information pertaining to the hazards of substances in the processes, the equipment in the process, P&IDs, process descriptions of the RMP processes, electrical classification, block flow diagrams, and upper and lower limits. Although requested, Formosa could not provide the maximum intended inventory as required by §68.65(c)(1)(iii).

§68.67 Process Hazard Analysis

Electronic PHA's are readily available to all employees through Formosa's intranet. I reviewed the following PHAs: 2012 VCM and 2012 PVC. The PHA summary pages were exactly the same and still in draft form. The summary did not indicate the dates the studies were conducted or identify the methodology used (ie HAZOP, What-if, etc). The PHAs were performed by at least one individual knowledgeable in the process. Based on the worksheets, it appeared that the PHA team used HAZOP methodology to perform the assessment. PHAs addressed process hazards, previous incidents at sites other than the stationary source, facility siting and human factors. In the RMP submittal, hurricane is identified as a hazard that is addressed in the PHAs. The PHAs made references to rain or freezing hazards; however, hurricane was not identified. The PHAs referenced a global node to identify external factors which may have included hurricanes. I did not see the global node in the PHAs at the time of the inspection. It appears that Formosa did not identify a hurricane as a hazard in the 2012 PHAs as required by §68.67(c)(1). It appears that Formosa did not address incidents that occurred at the stationary source that had a likely potential for catastrophic consequences as required by §68.67(c)(2).

I reviewed the 2008 facility siting study conducted by Baker Risk which was referenced in the PHA summary. From the study, Formosa has a few high risk items remaining. The facility siting tracking sheet did not set a target date for outstanding action items as required by §68.67(e).

PHAs included recommended actions from the HAZOP study. Formosa maintains documentation that tracks the recommendations from each PHA; however, closed recommendations did not identify the action taken as required by §68.67(e). The PHA tracking sheet identified action items that were past the due date with no indication of an extension or updated target date as required by §68.67(e).

§68.69 Operating Procedures

I reviewed operating procedures from the PVC and VCM Units. Formosa had procedures in place for the operating phases identified within the rule. Normal and Temporary Operations could not be readily identified. It appears that Formosa did not list or reference safety and health considerations within each procedure as required by §68.69(a)(3). It appears that Formosa did not list or reference operating limits: consequences of deviation or steps required to correct or avoid deviation as required by §68.69(a)(2) within each operating procedure. Safe Upper and Lower limits were identified in the facility's Standard Operating Manual (SOM). Consequences of deviation and corrective action were addressed in Unit and Area Specific troubleshooting manuals. Safety and Health was addressed in the Unit Specific Safety and Health Manual.

Formosa has a procedure in place for the annual review of operating procedures. Formosa provided 2014 annual certifications for the following: PVC 100 Area SOP Manual (April 29, 2014); PVC 200 Area SOP Manual (April 29, 2014); PVC Area 300 Manual (May 13, 2014). See Follow Up.

I reviewed the following safe work practices: Flame Permitting Procedure, Hazardous Energy Control, Confined Space Permitting and Entry.

§68.71 Training

I met with Formosa's Document Control Officer. I reviewed training documentation for selected operators from the PVC and VCM units. Operator qualification included training that covered operating phases and were specific to the operator's unit. Training records identified safety and health training, as well as, safe work practices. The training records included unit specific training, safe work training, and safety and health. Operator training unit qualification training dates are included in Table 1. See Follow Up.

Table 1: Operator Unit Training

Operator	Course Title	Previous Date	Most Recent Date
Operator 1	PVC Loader Recert	1/27/2010	2/5/2013
Operator 1	Vinyl Loading Recert	4/14/2010	4/30/2013
Operator 2	PVC Loader Recert	12/6/2010	12/6/2013
Operator 2	Vinyl Loading Recert		9/25/2012
Operator 3	PVC Recovery Recert	5/27/2011	5/22/2014
Operator 3	PVC Dryer Recert	4/30/2010	4/23/2013
Operator 4	SOP Annual Recert		3/9/2013
Operator 5	V2 Recert	NA	2/19/2013
Operator 5	SOP Recert	NA	3/9/2013
Operator 6	V2 100/200 Recert	4/28/2009	3/13/2012
Operator 6	V2 300/400 Recert	12/31/2010	1/7/2014

§68.73 Mechanical Integrity

I reviewed inspection/test reports and procedures for pressure relief valves, tanks, pressure vessels, and pumps. The inspection/test reports were appropriately documented. Formosa provided a list of inspections that were extended beyond the initial due date. The inspections were extended according to Formosa's guidelines.

Vibration data from 2014 was reviewed for critical and non-critical pumps.

I reviewed training records for maintenance, instrumentation, and electrical employees. Training records included safety and health, as well as, procedures applicable to the employee's job task.

§68.75 Management of Change (MOC)

Formosa developed a MOC procedure. See Follow Up.

§68.77 Pre-startup review (PSSR)

I did a cursory review of the following PSSRs: 200 Area Furnace and 300 Area Expansion. See Follow Up. PSSR checklists were not filled out to completion and action items were not documented as closed prior to start-up as required by §68.77(b).

§68.79 Compliance audits

I reviewed the October 2011 PSM/RMP compliance audit report. On December 27, 2011, Formosa certified that it has evaluated compliance with the Program 3 requirements. The previous audit was not reviewed at the time of the inspection. See Follow Up.

The 2011 audit identified deficiencies that were observed during this inspection. An example of this is the maximum intended inventory. It appears that Formosa did not correct the deficiencies discovered in the 2011 compliance audit as required by §68.79(d).

§68.81 Incident Investigation

At the time of the inspection, incident reports were not reviewed. See Follow Up.

§68.83 Employee Participation

I reviewed the employee participation policy. Formosa's employee participation plan addressed employee participation for each Program 3 element. Employees participate in the development of PHAs and safety meetings.

§68.85 Hot work permit

I reviewed hot work permits from 2014. The permits identified the object on which hot work is performed and the date authorized for hot work. Formosa keeps hot work permits on file until completion of hot work activities. Hot work permits required the fire watch to be identified by name. Formosa did not consistently identify the fire watch by name on the reviewed permits as required by §68.69(d).

§68.87 Contractors

I reviewed Formosa's procedures for training and other requirements needed for facility access. Formosa provided the work contracts for Turner Industries and Vector Electric. The contracts did not provide information on the contractor's safety performance and programs. See Follow Up. Training records were provided for two Turner employees which included the following training: safety and health, job specific, safe work.

Subpart E-Emergency Response

§68.90 Applicability

Formosa employs individuals who respond to accidental releases. I met with Mr. Rusty Daigle, Safety Manager, to discuss the Emergency Response Program. I reviewed the Emergency Response Plan (ERP). The ERP which incorporates the Crisis Management Plan references medical treatment but does not identify what first aid is necessary for accidental human exposure as required by §68.95(a)(1)(ii). I reviewed quarterly sprinkler system inspections, annual preventative maintenance and pump inspections for fire trucks, monthly and annual fire hose inspection.

Formosa's Safety Procedure 9: Fire Fighting Equipment included the procedures on the maintenance and inspection of emergency response equipment.

The facility performs annual drills to test the effectiveness of the ERP. The ERP identified when changes were made in the past with sign off sheets. The facility did not provide a procedure to review and update the ERP and ensure that employees are informed of the changes as required by §68.95(a)(4).

Section III – AREAS OF CONCERN

1. 40 CFR 68.15: Formosa's PSM/RMP organizational chart appeared to assign departments to specific sections of the RMP and not individuals by name or title to specific sections of the risk management program.

2. 40 CFR 68.30(c): Formosa did not use to most recent Census data to estimate the population potentially affected in the offsite consequence analyses.
3. 40 CFR 68.30(d): The population identified in the worst case scenario was not estimated to two significant figures.
4. 40 CFR 68.39(e): Formosa did not maintain documentation used to estimate population and environmental receptors for the offsite consequence analyses.
5. 40 CFR 68.65(c)(1)(iii): Formosa did not provide the maximum intended inventory.
6. 40 CFR 68.67(c)(1): Formosa did not identify hurricane as a hazard in the 2012 PHAs.
7. 40 CFR 68.67(c)(2): In the 2012 PHAs, Formosa did not address incidents that occurred at the stationary source that had a likely potential for catastrophic consequences.
8. 40 CFR 68.67(e): The facility siting tracking sheet did not set a target date for outstanding action items.
9. 40 CFR 68.67(e): Formosa maintains documentation that tracks the recommendations from each PHA; however, closed recommendations did not identify the action taken that led to closure.
10. 40 CFR 68.67(e): The PHA tracking sheets identified action items that were past the due date with no indication of an extension or updated target date.
11. 40 CFR 68.69(a)(2): Formosa did not list or reference operating limits: consequences of deviation or steps required to correct or avoid deviation within each operating procedure.
12. 40 CFR 68.69(a)(3): Formosa did not list or reference safety and health considerations within each operating procedure.
13. 40 CFR 68.69(d) and 68.85(b): Hot work permits required the fire watch to be identified by name. Formosa did not consistently identify the fire watch on the reviewed permits.
14. 40 CFR 68.77(b): 200 Area Furnace and 300 Area Expansion PSSR checklists were not filled out to completion and action items were not documented as closed prior to start-up.
15. 40 CFR 68.79(d): Formosa did not correct the deficiencies discovered in the 2011 compliance audit.
16. 40 CFR 68.95(a)(1)(ii): The ERP which incorporates the Crisis Management Plan references medical treatment but does not identify what first aid is necessary for accidental human exposure.
17. 40 CFR 68.95(a)(4): Formosa did not provide a procedure to review and update the ERP and ensure that employees are informed of the changes.

Section IV – FOLLOW UP

Formosa requested an extension until August 22, 2014, to provide documents requested as part of the inspection for offsite review. The information that Formosa will provide will be evaluated during the enforcement process.

Section V – LIST OF APPENDICES

Appendix 1 – Sign-in sheet