EPA United States Environmental Protection Agency

Region 6 Compliance Assurance and Enforcement Division

INSPECTION REPORT

Inspection Date(s):	9/8-11/14		
Media:	Air		
Regulatory Program(s)	RMP		
Company Name:	**Shell Chemical LP**		
Facility Name:	**Norco Chemical Plant-East Site**		
Facility Physical Location:	15136 River Rd		
(city, state, zip code)	Norco, LA 70079		
Mailing address:	PO Box 10		
(city, state, zip code)	Norco, LA 70079		
County/Parish:	St. Charles		
Facility Contact:	Raymond Woodfork	H&S Manager	
	raymond.woodfork@motivaent.com		
FRS Number:	110013831201		
Identification/Permit Number:	RMP 1000 0008 8282		
Media Number:	2208900079		
NAICS:	325110		
SIC:	2869		
Facility Representatives:	Raymond Woodfork	H&S Manager	504-616-4649
	Evelio Hernandez	PSM Manager	504-782-8795
EPA Inspectors:	Dominique Duplechain	6EN-AS	214-665-7484
State Inspector(s):	None		

Metadata		
	Title:	Shell Chemical LP Norco Chemical Plant East Site Norco St. Charles 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 Signature/Date	Dominique Duplechain	10.3.2014
	Dominique Duplechain	Date
Supervisor Signature/Date	Samuel Tates	10/3/2014
	Samuel Tates	Date

Section I - INTRODUCTION

PURPOSE OF THE INSPECTION

On September 8, 2014, I (Dominique Duplechain) arrived at Shell Chemical, LP-Norco Chemical Plant East Site for an announced Clean Air Act inspection. A notification of my arrival was emailed on September 2, 2014. I met with Mr. Raymond Woodfork (HSE Manager), Mr. Evelio Hernandez (PSM Manager), Ms. Tracy Alexander (Process Safety Engineer), and Mr. Steven Dominguez (Technical Safety Specialist). I presented my credentials to Mr. Hernandez and informed him that this was an EPA inspection to determine compliance with 40 CFR Subpart 68 – Chemical Accident Prevention Provisions. An employee representative was invited to participate in the inspection.

FACILITY DESCRIPTION

The Norco Manufacturing Complex is home to Shell Chemical and Motiva Enterprises, LLC. Shell Chemical owns and operates the Norco Chemical Plant East Site. The Olefins units includes the Butadiene Recovery Unit (BD-5), the Gasoline Olefins Unit (GO-1), and the Olefins Unit (OL-5). These units operate under Title V permit, 2520-V4. The East Site also includes the Shared Sources Unit, four Utility boilers, and the Gasoline Hydrotreating Unit (GHT). The plant operates 24 hours a day, 7 days a week. The facility has 565 fulltime equivalent employees onsite.

Section II – OBSERVATIONS

40 CFR Part 68- Chemical Accident Prevention Provisions

Subpart A-General

§68.12 General Requirements

Shell submitted a single Risk Management Plan (RMP) with covered processes that are subject to Program 3 requirements. The last 5 year update was January 6, 2014. The regulated flammable substances that are above the threshold quantities identified in §68.130 are: acetylene, butene, 1, 3 butadiene, ethane, ethylene, propane, propylene, hydrogen, methane, and flammable mixture. The regulated toxic substance that is above the threshold quantity identified in §68.130 is cyclohexylamine. As a facility with Program 3 processes, Shell 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 Shell's PSM/RMP organizational and functional leads chart, which assigned individuals by name and title to specific sections of the Risk Management Program. The chart recognizes Mr. Donald Weaver as the person with overall responsibility for implementing the requirements of the Risk Management Program. In the RMP submittal, Mr. Raymond Woodfork is listed.

Subpart B- Hazard Assessment

§68.20 Applicability

Shell Norco Refinery 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 modeling results. In the analyses of the worst case and alternate scenarios, Shell utilized the parameters identified in the rule.

§68.25 Worst case release scenario analysis

For its flammable worst case scenario, Shell used the release of the entire volume of their largest flammable vessel with no controls in their calculation of the worst case scenario. Shell used the parameters defined in §68.22 to determine the distance to the endpoints. For the toxics worst case scenario, Shell used a catastrophic rupture of the vessel with the largest quantity of a toxic chemical and the largest impact.

§68.28 Alternative release scenario analysis

Shell 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. Shell used the parameters defined in §68.22 to determine the distance to the endpoints. No mitigation systems were considered. Shell identified a toxic alternate scenario for each toxic identified in the RMP submittal.

§68.30 Defining offsite impacts—population

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 the Landview 6 population estimator. Landview 6 software uses 2000 Census data. It appears Shell did not use the most recent Census data to estimate the population potentially affected.

§68.33 Defining offsite impacts—environment

For each scenario, Shell identified environmental receptors that are included within the distance to the endpoint.

68.36 Review and update

Shell reviews the off-site consequences analysis at least once every five years. The most recent analysis was dated May 2013.

68.39 Documentation

A description of the vessel or pipeline and substance selected, assumptions and parameters used, the rationale for selection, and anticipated effect of the administrative controls and passive mitigation on

the release quantity and rate for the worst case scenario and alternative release scenario were documented by Shell. Shell provided documentation for estimated quantity release rate, duration of release, methodology used to determine distances to endpoints, and data used to estimate population and environmental receptors potentially affected.

§68.42 Five year accident history

I reviewed OSHA 300 logs, API Tier 1 incident reports, as well as, other incident investigations from the last five years. In the RMP submittal, Shell 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, upper and lower limits, and maximum intended inventory.

§68.67 Process Hazard Analysis

Shell keeps hard copies of PHAs in facility's records warehouse, which are accessible to employees. Electronic PHAs are readily available to all employees through Shell's intranet. I reviewed the following PHAs: April 2011 GO-1 Hotside and June 2011 UE Oil Water Separator. The PHAs were performed by at least one individual knowledgeable in the process. The PHA team used HAZOP methodology to perform the assessment. PHAs addressed the hazards of the process, previous incidents, facility siting, human factors, and management of change (MOC) that were completed since last PHA revalidation. Shell did not identify hurricanes or floods as a major hazard in the RMP or PHAs. Hurricanes and flooding occur frequent enough to be considered hazards in southern Louisiana. It appears that flooding and hurricanes were not addressed in the PHAs. PHAs included P&IDs and recommended actions. Shell maintains documentation that tracks the recommendations from each PHA to completion. The documentation also provides target dates to action items that require a longer timeframe for completion.

I reviewed the January 2009 facility siting study. At the time of the inspection, the study was being revalidated. The study did not appear to address toxic chemicals held in vessels onsite. At the time of the study both ammonia and chlorine were covered toxic chemicals for the plant. In the current RMP, cyclohexylamine is the only toxic.

§68.69 Operating Procedures

I reviewed operating procedures from OL-5. The written operating procedures did not consistently include safety and health considerations. Emergency procedures did not assign responsibility for shutdown steps. At the time of the inspection, start-up following a turnaround or emergency shutdown procedures were not provided. Operating procedures will be reviewed in detail at a later date. See Follow-Up.

Annual operating procedure certifications are outlined in Table 1. It appears that Shell did not certify that operating procedures were current and accurate for the period covering 1/1/2012-1/1/2013.

Table 1: Annual Certifications-Operating Procedures

Unit	1/1/2011-1/1/2012	1/1/2012-1/1/2013	1/1/2013-5/31/2014
OL-5	4/10/12		7/31/14
BOGS (BD-5/GHT)	4/10/12		7/31/14
UE	3/5/12		7/31/14
GO-1/OP-1	4/10/12		7/31/14

I reviewed the following safe work practices: Electrical Lock Out Procedure, Process Isolation Policy, and Permit Required Confined Space Entry.

§68.71 Training

I met with Shell's training coordinator. I reviewed training documentation for selected operators from the OL-5, UE, and GO-1. Operator qualification included training that covered operating phases and were specific to the operator's unit. The training records included unit specific training, safe work training, and safety and health. Of the training records reviewed, one OL-5 operator received refresher training on 1/6/2012. The operator's training was due on 9/18/2011. The rule requires that operator refresher training be provided at least every three years. It appears that Shell provided an OL-5 operator refresher training after the three year due date.

§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.

I reviewed vibration data from 2013-2014. Of the inspection records reviewed, P-3449 was missing monthly monitoring from June-August 2014. Monitoring resumed in September. Mr. Gregory Cooper, Mechanic Specialist, indicated that the pump was inadvertently left off the inspection list while updating the inspection procedures. It appears that Shell did not perform monthly vibration analyses on P-3449 for three months in 2014.

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

§68.75 Management of change

I reviewed Shell's MOC procedure. I reviewed MOC documentation that addressed the technical basis for the change, impact on safety and health, modifications to any procedures, and the authorization required. The MOC procedure requires annual MOC training. I reviewed training records for three operators. The records indicated that each operator only received MOC training once. Two of the three received MOC training greater than five years ago. It appears that Shell did not implement the training requirement outlined in the MOC procedure.

§68.77 Pre-startup review (PSSR)

I reviewed PSSRs from 2012, 2013, and 2014. All documentation was complete and the completion and action items were closed prior to start-up.

§68.79 Compliance audits

I reviewed the 2010 PSM/RMP compliance audit report. The audit was conducted March 1-5, 2010. On June 2, 2010, Shell certified that it has evaluated compliance with the Program 3 requirements. I reviewed the 2012 audit conducted August 13-17, 2012. Shell certified the audit on December 20, 2012. Both audits included at least one person knowledgeable in the process. Shell documented corrective actions for each audit report's findings.

§68.81 Incident Investigation

I reviewed API Tier 1 incidents reports and other incident investigations. Incident investigations will be reviewed in further detail at a later date. See Follow Up.

§68.83 Employee Participation

I reviewed the employee participation policy. The facility has union representatives' onsite. Shell employees are members on the Joint Health and Safety Committee. Employees participate in the development of PHAs, incident investigations, and safety meetings. It appears that the employee participation plan did not address employee participation in the development of all Program 3 elements.

§68.85 Hot work permit

I reviewed safe work permits from 2014. The permits identified the object on which hot work is performed and the date authorized for hot work. Shell keeps hot work permits on file until completion of hot work activities. One permit was missing the date and time the job was completed. Another permit did not provide a thorough description of the work performed. It appears that Shell did not properly document two safe work permits.

§68.87 Contractors

I met with Mr. Jerry Flood, Contract Management Manager, for Shell. Shell evaluates contractor performance at onboarding yearly through the PICs system. I reviewed Shell's Contractor Management Policy, which identified Shell's on-boarding evaluation process, performance requirements, and requirements for contractors to maintain and update the PICs system. I reviewed the PICs documentation for Summit Inspection Services, RepCon Inc., and PetroChem Inspection Services. I reviewed training records for selected contract employees which documented that the individuals received job-specific and safety/health training.

Subpart E-Emergency Response

§68.90 Applicability

Shell employs individuals who respond to accidental releases. I reviewed the following documents related to Shell's Emergency Response Program: Facility Response Plan, Emergency Response Action

Plan, Release Reporting Manual, and Unit-Specific Incident Pre-Plans. The facility response plan contained procedures for informing the public, documentation of proper first aid for flammable gases, flammable liquids, and toxic and/or corrosive substances, as well as, procedures for emergency response after an accidental release. The facility has written procedures for the inspection and maintenance of emergency response equipment. Fire hydrant inspections from 2012 and 2013 and eyewash/safety shower inspections from 2013 were reviewed during the April 2014 inspection for the refinery.

Subpart G-Risk Management Plan

§68.160 Registration

The RMP submittal identified Mr. Woodfork as the overall responsible person; however, the RMP organizational chart identified Mr. Donald Weaver, Plant Manager. It appears that Shell did not document Mr. Weaver as the person with overall responsibility for the RMP elements and implementation in the RMP.

Note: According to Mr. Woodfork, Shell has submitted corrections to its third party to update the Central Data Exchange.

Section III – AREAS OF CONCERN

1. 40 CFR 68.30: Shell did not use the most recent Census data to estimate the population potentially affected in the offsite consequence analyses.

2. 40 CFR 68.67(c): Hurricanes and flooding occur frequent enough to be considered hazards in southern Louisiana. Shell did not identify flooding and hurricanes as hazards in the reviewed PHAs.

3. 40 CFR 68.69(a)(a)(iv): Emergency procedures did not assign responsibility for shutdown steps.

4. 40 CFR 68.69(a)(3): Shell did not consistently include safety and health considerations in each operating procedure.

5. 40 CFR 68.69(c): Shell did not certify that operating procedures were current and accurate for the period covering 1/1/2012-1/1/2013.

6. 40 CFR 68.71(b): Shell provided an OL-5 operator refresher training after the three year due date.

7. 40 CFR 68.73(d)(3): Shell did not perform monthly vibration analyses on P-3449 for three months in 2014.

8. 40 CFR 68.75(a): Shell did not implement the annual training requirement outlined in the MOC procedure.

9. 40 CFR 68.83(b): Shell's employee participation plan did not address employee participation in the development of all Program 3 elements.

10. 40 CFR 68.85(b) and 68.69(d): Shell did not properly document two safe work permits.

11. 40 CFR 68.160(a)(5): Shell did not document Mr. Weaver as the person with overall responsibility for the RMP elements and implementation within the RMP submittal.

Section IV – FOLLOW UP

Shell has until October 16, 2014, to provide documents requested as part of the inspection for offsite review. The information that Shell will provide will be evaluated during the enforcement process.

Section V – LIST OF APPENDICES

Appendix 1 – Photo Log

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

Appendix 1

Photograph Log

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 1

Location: Norco Manufacturing Complex- Shell Chemical LP		
City: Norco	County/Parish: St. Charles	State: Louisiana

Photo No./Id: P4010001
Photo Information: 4/1/2014, 8:43 am
Description: A picture of plant sign taken at entrance to the facility.
Photographer: D. Duplechain
Location Info: Shell Chemical LP- Norco Chemical Plant East Site