

Region 6 - Enforcement & Compliance Assurance Division
INSPECTION REPORT

Inspection Date(s):	May 3-5, 2022	
Media Program:	Air	
Regulatory Program(s)	RMP	
Company Name:	W.R. Grace & Co. - Conn.	
Facility Name:	Super High Activity Catalyst (SHAC) Plant	
Facility Physical Location:	16122 River Road	
(city, state, zip code)	Norco, Louisiana, 70079	
Mailing address:	7500 Grace Drive	
(city, state, zip code)	Columbia, Maryland, 21005	
County/Parish:	St. Charles Parish	
Facility Phone Number	(985) 725-4009	
Facility Contact:	Kevin Servant	Environmental, Health, and Safety Manager
	Kevin.Servant@grace.com	
FRS Number:	110013662009	
Identification/Permit Number:	Air Operating Permit ID: 2520-00064-11	
Media Identifier Number:	RMP: 100000139824	
NAICS:	32518	
SIC:	2819	
Personnel participating in inspection:		
Jamie Vicknair	Louisiana Department of Environmental Quality	Inspector
Keri Myers	Louisiana Department of Environmental Quality	Inspector
Glen Jenkins	Louisiana Department of Environmental Quality	Inspector
Kevin Servat	Super High Activity Catalyst (SHAC) Plant	EHS Manager
EPA Lead Inspector Signature/Date	<i>Kayla Buchanan</i> Kayla Buchanan	07/05/2022 Date
Supervisor Signature/Date	SAMUEL TATES Digitally signed by SAMUEL TATES Date: 2022.07.05 09:24:16 -05'00' Samuel Tates	07/05/2022 Date

Section I – INTRODUCTION

PURPOSE OF THE INSPECTION

I, the Environmental Protection Agency (EPA) Region 6 inspector Kayla Buchanan, arrived at the W.R. Grace & Co. - Conn. Super High Activity Catalyst (SHAC) Plant at 9:00 AM on May 3, 2022, for an announced inspection. The Louisiana Department of Environmental Quality (LDEQ) inspectors were also in attendance. I convened an opening conference and met with several representatives from the facility (*see Appendix 1*). I presented my credentials to the opening conference attendees and informed them that this was an EPA partial compliance evaluation (PCE) inspection to evaluate SHAC's compliance with the Clean Air Act (CAA) Section 112r (1), the Chemical Accident Prevention Provisions in 40 C.F.R. Part 68, and the CAA Section 112r (7) the General Duty Clause and Risk Management Program requirements. The facility is does not have union representation.

FACILITY DESCRIPTION

SHAC is located at 16122 River Road, Norco, Louisiana, 70079. Approximately 70 full time employees work at the site. The facility's primary activity is catalyst manufacturing, and its annual production capacity is 1,000,000 pounds of catalyst. The catalyst is primarily used in the manufacturing of polypropylene resin. The material produced at this facility is sold to customers in the United States and abroad. The site has 948,155 pounds of the Risk Management Plan (RMP)-regulated toxic substance titanium tetrachloride (TiCl₄) and 440,000 pounds of the RMP-regulated flammable substance isopentane. Both substances are located within the manufacturing process area and contained in tankage. In 2019, SHAC initiated an expansion project that will increase SHAC's capacity for catalyst production by approximately 25%.

Section II - OBSERVATIONS

On May 4, 2022, EPA and LDEQ conducted a walking tour of SHAC accompanied by Kevin Servat, EHS Manager, and Tyrone Love, Shift Supervisor. EPA and LDEQ observed the covered process, equipment, operations, control rooms, and emergency equipment. EPA and LDEQ interviewed operators and asked questions about their training, the Management of Change (MOC) and Process Hazard Analysis (PHA) processes, and the facility's regular operating and emergency procedures.

40 C.F.R. § 68.10 Applicability – SHAC is a Title V stationary source that has an air operating permit and more than the threshold quantities of toxic (TiCl₄) and flammable (isopentane) regulated substances in its process streams; therefore, the RMP regulations are applicable. SHAC re-submitted a RMP on June 7, 2019, which describes the process containing regulated chemicals stored at more than threshold quantities. In addition, this facility is subject to the Occupational Safety and Health Administration's (OSHA) Process Safety Management (PSM) Standard (29 C.F.R. § 1910.119), which categorizes SHAC as a Program 3 facility.

40 C.F.R. § 68.12 General requirements – The owner or operator of a stationary source subject to this regulation must submit a single RMP, as provided in 40 C.F.R. § 68.150 to § 68.185. The RMP must include a registration that reflects the covered process. I reviewed the re-submission of SHAC's RMP. It listed the toxic and flammable regulated chemicals and the associated Program 3 processes.

40 C.F.R. § 68.15 Management – SHAC developed a management system to oversee the implementation of the risk management program elements. It assigned a qualified position (the production leader) that has overall responsibility for the development, implementation, and integration

of the risk management program elements. Responsibility for implementing individual requirements of this part was assigned to persons other than the person identified, so the names or positions of these people were documented, and the lines of authority were defined through an organization chart or similar document.

Subpart B – Hazard Assessment

40 C.F.R. § 68.20 Applicability – SHAC is a Program 3 stationary source subject to this subpart; therefore, it is required to prepare a worst-case release scenario analysis and complete the five-year accident history.

40 C.F.R. § 68.22 Off Site Consequence Analysis Parameters – SHAC employed the parameters specified by EPA in this rule by using the RMP*Comp™ software. I reviewed the offsite consequence analysis and supporting documentation to assure the data was accurate and correct.

40 C.F.R. § 68.25 Worse-case release scenario analysis – SHAC identified and analyzed worst-case scenarios for each toxic and flammable substance in its Program 3 process using the RMP*Comp™ software, thus meeting the requirements of the regulation.

40 C.F.R. § 68.28 Alternative Release Scenario Analysis – SHAC identified and analyzed at least one alternative release scenario for each toxic and flammable substance in its Program 3 process using the RMP*Comp™ software, thus meeting the requirements of the regulation.

40 C.F.R. § 68.30 Defining Off Site impacts - Population – SHAC used the most current (2010) Census Bureau population data and the distances to endpoints, as specified in the regulation, to calculate the population numbers reported in their RMP. SHAC used the Circular Area Profiles application to define the population surrounding the facility. In addition, SHAC provided a map documenting the nearest public receptor.

40 C.F.R. § 68.33 Defining Off Site impacts – Environment – SHAC used US Geological Survey maps data to determine the environmental receptors and the distances to endpoints.

40 C.F.R. § 68.36 Review and Update – SHAC reviews and updates its offsite consequence analysis every 5 years.

40 C.F.R. § 68.39 Documentation – SHAC maintained records of the offsite consequence analyses in accordance with this subpart. These records included:

- a description of the vessel or pipeline and substance selected as worst case and alternate release scenarios, assumptions and parameters used, and the rationale for selection of specific substances
- documentation of estimated quantity released, release rate, and duration of release
- methodology used to determine distance to endpoint
- data used to estimate population and environmental receptors

40 C.F.R. § 68.42 Five-year accident history – The regulation requires SHAC to include in its five-year accident history in its RMP, all accidental releases from covered processes that resulted in deaths, injuries, or significant property damage on site, or known offsite deaths, injuries, evacuations, sheltering in place, property damage, or environmental damage. SHAC stated it did not have any accidental

releases in the past five years that met these criteria. EPA examined SHAC's OSHA Form 300 logs from 2017 to present to ensure that additional releases from the facility, which could possibly be included in the facility's five-year accident history, were not omitted.

40 C.F.R. § 68.65 Process Safety Information (PSI) – EPA and LDEQ reviewed SHAC's PSI. The written process safety information enables the owner or operator and the employees involved in operating the process to identify and understand the hazards posed by those processes involving regulated substance. SHAC's compilation of written process safety information included information pertaining to the hazards of the regulated substances used or produced by the process, information pertaining to the technology of the process, and information pertaining to the equipment in the process. SHAC documented that its equipment complies with recognized and generally accepted good engineering practices (RAGAGEP).

40 C.F.R. § 68.67 Process Hazard Analysis (PHA) – EPA reviewed SHAC's PHAs. SHAC uses the Hazard and Operability Study (HAZOP) and Layer of Protection Analysis (LOPA) methodologies to determine and evaluate the hazards of the process being analyzed.

EPA specifically examined SHAC's most recent PHA report (commenced on January 30, 2020) for its covered process which incorporated SHAC's expansion project. The PHAs reviewed addressed: (1) the hazards of the process; (2) the identification of any previous incident which had a likely potential for catastrophic consequences; (3) engineering and administrative controls applicable to the hazards, and their interrelationships; and (4) consequences of failure of engineering and administrative controls.

The PHAs were performed by a team with expertise in engineering and process operations. The team included at least one employee who had experience and knowledge that was specific to the process being evaluated, and one employee who was knowledgeable in the specific PHA methodology used.

SHAC is required to establish a system to promptly address the PHA team's findings and recommendations and assure that the recommendations are resolved in a timely manner and that the resolution is documented. The 2020 PHA reviewed has open actions, but these action items are related to the expansion project which is still underway.

40 C.F.R. § 68.69 Operating Procedures – EPA and LDEQ reviewed SHAC's operating procedures for the operation of its process. The written operating procedures reviewed provided clear instructions for safely conducting activities involved in each covered process consistent with the process safety information. The operating procedures reviewed addressed: the steps for each of the operating phases, the operating limits including the consequences of deviation and mechanisms to correct and/or avoid deviation, and the safety systems and their functions. Two of the operating procedures (Norco Procedure (PRO) Specialty Catalyst Critical_IC5 Recovery Column Shut Down and Norco Procedure (PRO) Specialty Catalyst Critical_IC5 Recovery Column Operation) reviewed did not address safety and health consideration precautions necessary to prevent exposure, including engineering controls, administrative controls, and personal protective equipment (**Appendix 2**)[AOC #1 - 40 C.F.R. § 68.69(a)(3)(ii)].

SHAC is required to annually certify that its operating procedures are current and accurate, however, several of the operating procedure certifications were overdue. The operating procedures were certified on the following dates: June 14, 2018, June 30, 2019, November 30, 2020, and November 2021. The 2020 certification was 10 months overdue [**AOC #2 - 40 C.F.R. § 68.69(c)**].

EPA reviewed SHAC's safe work procedures, including lock out/tag out procedures and safe confined space entry procedures. The safe work procedures apply to both employees and contractors.

40 C.F.R. § 68.71 Training – SHAC is required to train each employee involved in operating a process in an overview of the process and in the operating procedures. Each employee presently involved in operating a process, and each employee before being involved in operating a newly assigned process must be trained. In addition to initial training, employees must undergo refresher training at least every three years.

Each new SHAC employee must complete onboarding training during which they receive required safety and health training and are informed about the hazards of the process. Once onboarding is complete, the newly hired operator is assigned a job, and receives specific instruction about that job. The operator must pass a test, complete a field walk through to demonstrate field knowledge, and draw the process to certify competency. Each operator is able to progress from outside operator to board operator but must train and certify on each job.

EPA randomly selected eight operators *for a training records review. (Appendix 3)*. One operator who was hired February 25, 2019, but did not complete his initial operator certification until January 6, 2020. Three other operators were late for their refresher training, and at least one of these operators was 21 months overdue [AOC #3/AOC #4 - 40 C.F.R. § 68.71(a) and (b)].

40 C.F.R. § 68.73 Mechanical Integrity – EPA and LDEQ reviewed the written procedures SHAC established and implemented to maintain the ongoing integrity of its process equipment. The procedures ensured that the mechanical integrity program was guided by recognized and generally accepted engineering practices. Dereck LeBlanc is an API 510/570 certified inspector and oversees the fixed mechanical integrity at SHAC. EPA and LDEQ reviewed mechanical integrity inspections and tests for various process equipment at the facility. Each test reviewed for pressure vessels and storage tanks, piping systems, and pumps was conducted in a timely manner, and the documentation identified the date of the inspection or test, the name of the person who performed the inspection or test, the serial number or other identifier of the equipment on which the inspection or test was performed, a description of the inspection or test performed, and the results of the inspection or test. LDEQ noted several instances where the results of the testing of high-level alarms were not noted (*Appendix 3*)[AOC #5 - 40 C.F.R. § 68.73(d)(3)].

40 C.F.R. § 68.75 Management of Change (MOC) – SHAC established and implemented written procedures to manage changes (except for “replacements in kind”) to process chemicals, technology, equipment, and procedures, and, changes to stationary sources that affect a covered process. The procedures assured that the following considerations were addressed prior to any change: technical basis for change, impact of change on safety and health, modifications to operating procedures, necessary time period for the change, and authorization requirements for a proposed change.

SHAC employees involved in operating a process and maintenance and contract employees whose job tasks will be affected by a change in the process must be informed of, and trained in, the change prior to start-up of the process or affected part of the process; however, the training for an MOC for the expansion of area E was completed after the process was started up (*Appendix 4*)[AOC #6- 40 C.F.R. § 68.75(c)].

40 C.F.R. § 68.77 Pre-startup review (PSSR) - EPA reviewed SHAC's written PSSR procedures, as well as various PSSRs completed by the facility within the past five years. The PSSRs reviewed confirmed that, prior to the introduction of a regulated substance into the process, the construction and equipment design were completed in accordance with design specifications, the required safety, operating, maintenance and emergency procedures were in place, and that training of each employee involved in operating a process was completed.

40 C.F.R. § 68.79 Compliance audits – EPA and LDEQ reviewed SHAC's two most recent compliance audits (2018 and 2020). SHAC certified compliance with the provisions of this subpart at least every three years to verify that procedures and practices developed under this subpart are adequate and are being followed.

Lilah Villahermosa, PSM engineer, conducted SHAC's compliance audits. She is knowledgeable in the RMP process. SHAC documented the audit findings in a report and determined and documented an appropriate response to each of the findings. They retained the two most recent audits.

40 C.F.R. § 68.81 Incident investigation – SHAC is required to investigate each incident which resulted in or could reasonably have resulted in a catastrophic release of a regulated substance. I reviewed several incidents with accompanying investigations, but none resulted in, or had the potential to result in a catastrophic release. EPA reviewed SHAC's incident investigation procedure to ensure that if such an incident occurred, the facility would initiate the investigation, prepare the report, and document, correct, and communicate the incident investigation findings according to the RMP regulations.

40 C.F.R. § 68.83 Employee Participation – EPA and LDEQ reviewed SHAC's written plan of action regarding the implementation of the employee participation. This plan outlines how SHAC consults with employees and their representatives on the conduct and development of process hazards analyses and on the development of the other elements of process safety management.

40 C.F.R. § 68.85 Hot work permit – LDEQ reviewed hot work permits issued by SHAC. Each permit reviewed documented that fire prevention and protection requirements were implemented prior to beginning hot work operations. The permits indicated the dates authorized for hot work and identified the object on which the hot work was performed.

40 C.F.R. § 68.87 Contractors – SHAC uses the online system ISNetworld to obtain and evaluate information regarding the contract owner or operator's safety performance and programs. Prior to starting work onsite, contractors must attend the Gulf Coast Safety Council to receive site specific and general safety training during which the contractors are informed of known potential fire, explosion, or toxic release hazards related to the contractor's work and the process. Before starting a job, contractors are required by SHAC to complete a Job Safety Analysis (JSA), which SHAC audits.

Subpart E- Emergency Response

40 C.F.R. § 68.90 Applicability – SHAC is not a responding stationary source and must comply with the requirements of 40 C.F.R. § 68.93 and 40 C.F.R. § 68.96.

40 C.F.R. § 68.93 – Emergency response coordination activities – SHAC affirmed that they coordinate response needs with local emergency planning and response organizations to determine how the stationary source is addressed in the community emergency response plan and to ensure that local

response organizations are aware of the regulated substances at the stationary source, their quantities, the risks presented by covered processes, and the resources and capabilities at the stationary source to respond to an accidental release of a regulated substance. SHAC is a part of the mutual aid for St. Johns Parish and St. Charles Parish. LDEQ noted that SHAC did not document coordination with local authorities, including: the names of individuals involved and their contact information (phone number, email address, and organizational affiliations); dates of coordination activities; and nature of coordination activities [AOC #7 - 40 C.F.R. § 68.93].

40 C.F.R. § 68.96 Emergency response exercises – As a part of coordination with local emergency response officials required by 40 C.F.R. § 68.93, SHAC will be required to conduct an emergency response tabletop exercise before December 21, 2026, and at a minimum of at least once every three years thereafter.

Subpart G- Risk Management Plan

40 C.F.R. § 68.190 Updates – SHAC resubmitted its RMP on June 7, 2019.

40 C.F.R. § 68.195 Required corrections – SHAC next RMP re-submission is due by June 2024, unless an update or correction is required by 40 C.F.R. § 68.190 and 40 C.F.R. § 68.195.

Section III – AREAS OF CONCERN

EPA Region 6 inspector Kayla Buchanan and LDEQ inspectors Keri Meyers, Jamie Vicknair, and Glen Jenkins, conducted a closing conference at SHAC on Friday, May 6, 2021. During the closing conference, we reviewed the following Areas of Concern noted during the inspection.

AOC # 1: Operating Procedures - 40 C.F.R. § 68.69(a)(3) requires SHAC to develop and implement written operating procedures that provide clear instructions for safely conducting activities involved in each covered process consistent with the process safety information and that address safety and health considerations.

Two of the operating procedures (Norco Procedure (PRO) Specialty Catalyst Critical_IC5 Recovery Column Shut Down and Norco Procedure (PRO) Specialty Catalyst Critical_IC5 Recovery Column Operation) reviewed did not address safety and health consideration precautions necessary to prevent exposure, including engineering controls, administrative controls, and personal protective equipment

AOC # 2: Operating Procedures - 40 C.F.R. § 68.69(c) requires SHAC to certify annually that its operating procedures are current and accurate.

The operating procedures were certified on the following dates: June 14, 2018, June 30, 2019, November 30, 2020, and November 2021. The 2020 certification was 10 months overdue.

AOC #3: Mechanical Integrity - 40 C.F.R. § 68.73(d)(3) requires SHAC to document each inspection and test that has been performed on process equipment. The documentation must identify the date of the inspection or test, the name of the person who performed the inspection or test, the serial number or other identifier of the equipment on which the inspection or test was performed, a description of the inspection or test performed, and the results of the inspection or test.

LDEQ noted several instances where the results of the testing of high-level alarms were not noted.

AOC #4: Training - 40 C.F.R. § 68.71(a) requires SHAC to train each employee in an overview of the process and in the operating procedures prior to the employee operating a newly assigned process.

One operator who was hired February 25, 2019, but did not complete his initial operator certification until January 6, 2020.

AOC #5: Training - 40 C.F.R. § 68.71(b) requires SHAC to provide refresher training at least every three years, and more often if necessary, to each employee involved in operating a process to assure that the employee understands and adheres to the current operating procedures of the process.

Three operators were late for their refresher training, and at least one of these operators was 21 months overdue

AOC #6: Management of Change - 40 C.F.R. § 68.75(c) requires SHAC to inform and train employees involved in operating a process, and maintenance and contract employees whose job tasks will be affected by a change, on the change prior to start-up of the process or affected part of the process. *The training for an MOC for the expansion of area E was completed after the process was started up.*

AOC #7: Emergency response coordination activities – 40 C.F.R. § 68.93(c) requires SHAC to document coordination with local authorities, including: the names of individuals involved and their contact information (phone number, email address, and organizational affiliations); dates of coordination activities; and nature of coordination activities.

SHAC could not produce this documentation.

Section IV – FOLLOW UP

No additional information was received by EPA after exiting the Facility on May 7, 2022.

Section V – LIST OF APPENDICES

All Appendices other than Appendix 1 are classified as Confidential Business Information (CBI) or Sensitive Appendices and are not included in the online published inspection report. CBI Appendices include documents that are claimed CBI by the facility. Sensitive Appendices may include appendices that will not be posted but are not explicitly CBI. These could include Personally Identifiable Information (PII) or Homeland Security sensitive information

- Appendix 1 – Opening and closing conference sign-in sheets
- Appendix 2 – SHAC OPS 1-4 - Various Operating Procedures
- Appendix 3 – SHAC MI - Various Instrumentation Mechanical Integrity Tests
- Appendix 4 – SHAC MOC 1 – Area E MOC and Training