

Region 6 - Enforcement & Compliance Assurance Division
INSPECTION REPORT

Inspection Date(s):	4/26/2022 – 4/28/2022	
Media Program:	Air	
Regulatory Program(s)	Clean Air Act Section 112(r) and 40 Code of Federal Regulations (C.F.R.) Part 68 Chemical Accident Prevention Provisions – Risk Management Program (RMP)	
Company Name:	Ecovyst Inc.	
Facility Name:	Eco Services Operations, LLC – Baytown Plant	
Facility Physical Location:	3439 Park Street	
(city, state, zip code)	Baytown, Texas 77522	
Mailing address:	300 Lindenwood Drive, Valleybrooke Corp Center	
(city, state, zip code)	Malvern, Pennsylvania 19355	
County/Parish:	Harris County	
Facility Phone Number	(281)-691-6508	
Facility Contact:	Michael Marchut	Plant Manager
	Michael.Marchut@eco-services.com	
FRS Number:	110000463123	
Identification/Permit Number:	Air Operating Permit ID: O-01610	
RMP ID:	100000119677	
NAICS:	32518, Other Basic Inorganic Chemical Manufacturing	
SIC:	N/A	
Personnel participating in inspection:		
Charese Simpson	EPA Region 6	Inspector
Meredith McBurnett	Ecovyst	Operations Manager
George Zolas	Ecovyst	Process Safety Engineer
Mark Miget	Ecovyst	Maintenance Manager
Matias Juarez	Ecovyst	Reliability Engineer
EPA Lead Inspector Signature/Date		6/22/2022
	Charese Simpson	Date
Supervisor Signature/Date		
	Samuel Tates	Date

Section I – INTRODUCTION

PURPOSE OF THE INSPECTION

I, United States Environmental Protection Agency (EPA) Region 6 inspector Charese Simpson, arrived at the Eco Services Operations, LLC – Baytown Plant facility at 9:00 AM on Tuesday April 26, 2022, for an announced inspection. I met with Meredith McBurnett, George Zolas, and Mark Miget for an opening meeting (**Appendix 1**). I presented credentials and informed Eco Services personnel that this was an EPA inspection to determine compliance with the federal Chemical Accident Prevention Program. The scope of the inspection was a partial compliance evaluation (PCE), which included an evaluation of the facility's compliance with the Clean Air Act (CAA) Section 112(r) and the Chemical Accident Prevention Provisions in 40 C.F.R. Part 68 and the General Duty Clause. Eco Services Baytown is a non-union facility

FACILITY DESCRIPTION

Eco Services Operations, LLC is located at 3439 Park Street Baytown, Texas 77522. Eco Services Baytown employs approximately 32 full time employees. The facility's primary activities encompass manufacturing of sulfuric acid and the regeneration of spent sulfuric acid. Eco Services Baytown's regulated process includes six regulated substances that are present at the facility: Ammonia (anhydrous), Carbon Disulfide, Methyl Mercaptan, 2- Butene, 1, 3 Butadiene, Propylene, and Ethyl Mercaptan. Ammonia is used to reduce emissions from the sulfuric acid plant. Carbon Disulfide, Methyl Mercaptan, 2- Butene, 1, 3 Butadiene, Propylene, and Ethyl Mercaptan are parts of mixtures that are used as feed stocks to recover sulfur to make sulfuric acid. The following units were the primary focus during the Risk Management Plan (RMP) inspection: Ammonia System and Alternate Raw Materials (ARM). Eco Services Baytown occupies a 7-acre tract within the ExxonMobil Refinery. The facility is also a CAA Title V facility.

Section II – OBSERVATIONS

On Wednesday April 27, 2022, I was accompanied by Eco Services Baytown's personnel to conduct a tour of the site. I observed the process units, control room, and concluded to focus this inspection on the Ammonia System and Alternate Raw Materials (ARM). Prior to the tour, I was provided piping and instrumentation drawings (P&IDs) of the process units that assisted in the tour. In addition, Eco Services Baytown provided me with a facility overview and safety orientation video prior to making entry to the site.

Subpart A – General

40 C.F.R. § 68.10 Applicability – Eco Services Baytown is an owner and operator of a stationary source that has more than a threshold quantity of regulated flammable substances, listed in 40 C.F.R. § 68.130, in a process, and as such is subject to these Chemical Accident Prevention Provisions. Eco Services listed the NAICS code (32518) Other Basic Inorganic Chemical Manufacturing, as the process in its Risk Management Plan (RMP). The Eco Services facility process is also subject to the Occupational Safety and Health Administration (OSHA) process safety management standard, 29 C.F.R. § 1910.119. These factors make the process at the Eco Services Baytown facility a Program 3 subject to 40 C.F.R. § 68.10(d).

40 C.F.R. § 68.12 General requirements – The owner or operator of a stationary source subject to this regulation shall submit a single Risk Management Plan (RMP), as provided in 40 CFR § 68.150 to 68.185. The RMP shall include a registration that reflects all covered processes. I reviewed the re-submission of Eco Service Baytown’s RMP. It listed the toxic and flammable regulated chemicals and the associated Program 3 processes.

40 C.F.R. § 68.15 Management –Eco Services developed a management system to oversee the implementation of risk management program elements, documented persons responsible for implementing the individual requirements of the risk management program and defined the lines of authority using its RMP Management Organizational Chart which lists responsibilities.

Subpart B – Hazard Assessment

40 C.F.R. § 68.20 Applicability – Eco Services Baytown 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 – Eco Services Baytown 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 – Eco Services Baytown identified and analyzed worst-case scenarios for each toxic and flammable substance in its two (2) Program 3 processes using the RMP*Comp™ software, thus meeting the requirements of the regulation.

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

40 C.F.R. § 68.30 Defining Off-Site Impacts - Population – Eco Services Baytown 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. Eco Services Baytown used the Circular Area Profiles application to define the population surrounding the facility. In addition, the facility provided a map documenting the nearest public receptor.

40 C.F.R. § 68.33 Defining Off-Site Impacts - Environment – Eco Services Baytown 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 – Eco Services Baytown reviewed and updated the off-site consequence analyses at least once every five years, as required by this subpart.

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

- documentation of vessels or pipelines;
- substances selected for worse case and alternative release scenarios;
- documentation of estimated quantity released, release rate, and duration of release;
- methodology used to determine distance to endpoint; and,
- data used to estimate population and environmental receptors

40 C.F.R. § 68.42 Five-year accident history – I reviewed Eco Services Baytown five-year accident history and OSHA 300 Logs from 2017 to present. I did not identify any accidental releases from the covered process that resulted in one or more of the following: on-site deaths, injuries, significant property damage on site, known off-site deaths, injuries, evacuations, sheltering in place, property damage, or environmental damage in its accident history.

Subpart D – Program 3 Prevention Program

40 C.F.R. § 68.65 Process Safety Information – Eco Services Baytown compiled written process safety information, which includes 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. Safety Data Sheets (SDSs) for the process chemicals were provided, and detailed process safety information was provided that contains the following data for the hazards of the substances used: toxicity information, permissible exposure limits, physical data, reactivity data, corrosivity data, thermal and chemical stability data, and the hazardous effects of inadvertent mixing of materials that could foreseeably occur. I reviewed documentation concerning the technology of the process, which included a block flow diagram, process chemistry, maximum intended inventory, safe upper and lower limits for such items as temperatures, pressures, flows, or compositions and, an evaluation of the consequences of deviation for each covered process. I reviewed documentation pertaining to the equipment of the process including materials of construction, piping and instrumentation diagrams (P&IDs), electrical classification, relief system design and design basis, ventilation system design, design codes and standards employed, material and energy balances, and safety systems.

40 C.F.R. § 68.67 Process hazard analysis (PHA) – Eco Services Baytown provided the PHA procedure manual for review. Eco Services performed PHAs that identified, evaluated, and controlled the hazards involved in the two (2) processes. The facility completes each PHA based on the five-year cycle from the previous PHA, as they are divided among the covered process unit. Eco Services conducts PHAs using the Hazard and Operability Study (HAZOP) technology to determine and evaluate the hazards of the process being analyzed.

Each PHA I reviewed addressed the hazards of the process and included: identification of any incident that had a likely potential for catastrophic consequences; engineering and administrative controls applicable to hazards and their interrelationships; consequences of failure of engineering and administrative controls; stationary source siting factors; human factors; and an evaluation of a range of the possible safety and health effects of failed controls.

I specifically examined Eco Services Baytown's most recent PHA reports for the Anhydrous Ammonia System. The PHA 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 PHA was performed by a team with expertise in engineering and process operations. The team included appropriate personnel from Eco Services and an engineering consultant with knowledge of the facility and in the specific PHA methodology used.

Eco Services Baytown 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. One action item from the 2017 Anhydrous Ammonia PHA had a due date of 8/18/2017 but was completed on 10/26/2017. **[AOC # 1 - 40 C.F.R. § 68.67(e)].**

40 C.F.R. § 68.69 Operating Procedures – Eco Services Baytown developed and implemented written operating procedures that provide instructions or steps for conducting activities associated with each covered process, consistent with the safety information. The operating procedures I reviewed addressed: the steps for each operating phase (initial and normal startup, normal operations, temporary operations, emergency operation and shutdown, normal shutdown, and startup following a turnaround or after emergency shutdown); the consequences of deviation and mechanisms to correct and/or avoid deviation; safety and health considerations; the properties of, and hazards presented by, chemicals used in the process; the precautions necessary to prevent exposure; quality control for raw materials; and, the safety systems and their functions. The covered unit has a shared drive where operating procedures are stored electronically. In addition, hard copies of the operating procedures are kept in the control room and are accessible to process operators. During the inspection, I reviewed Eco Services Baytown safe work procedures, including lock out/tag out procedures and confined space entry procedures. The company utilizes confined space and safe work permits which is required prior to any contractor entering a confined space. Eco Services Baytown is required to annually certify that operating procedures are current and accurate. I reviewed Eco Services Baytown operating procedure certifications which indicated the operating procedures are current and accurate.

40 C.F.R. § 68.71 Training – I reviewed Eco Services Baytown's training program and employee training records with Meredith McBurnett. The facility's training program ensured that each employee presently operating a covered process, and each employee newly assigned to a covered process trained or tested to qualify as competent in an overview of the process and in the operating procedures that pertain to their duties.

During the inspection, I reviewed training records for six randomly selected employees to ensure that initial and refresher training were documented, that each employee involved in covered operations received and understood the training, and refresher training was administered at least every three years. Out of the six employees randomly selected one employee was seven (7) months late in completing their refresher training. **[AOC #2- 68.71(b)].**

40 C.F.R. § 68.73 Mechanical Integrity – I reviewed the written procedures Eco Services established and implemented to maintain the ongoing integrity of its process equipment. Matias Juarez, Reliability Engineer for Eco Services Baytown, and Mark Miget, Maintenance Manager, explained the facility's mechanical integrity program. The procedures ensured that the mechanical integrity program was guided by recognized and generally accepted engineering practices.

I reviewed documentation of Eco Services Baytown's mechanical integrity process and inspection records for RMP covered equipment. Eco Services Baytown utilizes appropriate equipment surveillance and preventative maintenance activities for the process equipment. The facility uses a third-party contractor, Tech Corr, to maintain and conduct inspections on equipment. During the inspection, Eco Services Baytown provided training records of personnel who are American Petroleum Institute (API) certified. Eco Services Baytown did not have any overdue inspection or testing on fixed or rotating equipment.

40 C.F.R. § 68.75 Management of Change (MOC) – I reviewed Eco Services Baytown’s MOC procedure. The written MOC procedure assured the facility managed changes to process chemicals, technology, equipment, procedures, and changes to stationary sources that effect a covered process. The procedure 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. At the time of the inspection, I reviewed several MOCs. Employees involved in operating a process and maintenance and contract employees whose job tasks will be affected by a change were not always trained prior to start up, according to the following MOCs: MOC-3.3-BAY-20220421-1034, MOC 1.5-BAY-20210908-668, and MOC-ECO-BT-20-7. **[AOC #3- 68.75(c)].**

40 C.F.R. § 68.77 Pre-startup Safety Review (PSSR) – I reviewed Eco Services Baytown’s PSSR procedure and selected pre-startup safety reviews for the associated MOCs. The PSSRs documented that, when the facility installed a new stationary source, or significantly modified an existing source, a review was conducted prior to the introduction of a regulated substance into the process, the construction and equipment design were completed in accordance with design specifications, required safety, operating, and maintenance procedures, with adequate emergency procedures in place, and training.

40 C.F.R. § 68.79 Compliance Audits – Eco Services Baytown provided their most recent certified RMP Compliance Audit documents, conducted in 2018 and 2021. The facility’s audits were conducted by AE Solutions and Eco Services employees participated in the audits. Eco Services Baytown certified that they evaluated 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. Eco Services Baytown’s compliance audit was conducted by at least one person knowledgeable in the processes and they developed a report of the audit findings. Eco Services Baytown is required to promptly determine and document an appropriate response to each of the findings of the compliance audit, however, Eco Services Baytown failed to document those deficiencies were corrected. **[AOC #4- 68.79(d)].**

Figure 1.

2018 Compliance Audit

Issue Number	Observed Facts/Description of Issue	Target Completion Date	Actual Completion Date
BAY-2018A-02	A review of 17 completed hot work permits indicated that 3 of the permits were missing fire watch information...	July 31, 2018	September 5, 2018
BAY-2018A-03	The site could not readily produce sufficient documentation describing the worst case and alternative case release scenarios chosen, the rationale for their selection....	July 31, 2018	September 5, 2018

40 C.F.R. § 68.81 Incident Investigation – During the inspection, Eco Services Baytown provided a list of all incident investigations that occurred within the past five years. Of those reviewed, the incident

investigation team consisted of at least one person knowledgeable in the process involved. Eco Services Baytown has an incident management standard work practice procedure for both near-miss and incident reporting. Eco Services Baytown investigated each incident that resulted in, or could reasonably have resulted in, a catastrophic release of a regulated substance.

40 C.F.R. § 68.83 Employee Participation – Eco Services Baytown developed a written plan of action regarding the implementation of the employee participation required by this section, which is integrated into the program elements. Eco Services Baytown’s written plan describes how they consult with employees on the performance and development of process hazard analyses, and on the development of the other elements of process safety management regarding under the rule. The action plan provides employees access to process hazard analyses and to all other information that must be developed under this rule.

40 C.F.R. § 68.85 Hot Work Permit – Eco Services Baytown provided their hot work procedure that detailed guidance for hot work/safe work activities at the site. I reviewed various hot work permits. Each permit I reviewed documented that fire prevention and protection requirements were implemented prior to beginning hot work operations.

40 C.F.R. § 68.87 Contractors – I reviewed Eco Services Baytown’s contractor procedure. Eco Services uses the online system Avetta 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 Houston Area 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.

Eco Services periodically evaluates the performance of the contract owner or operator in fulfilling their obligations by conducting period critical procedure audits. During these audits, Eco Services evaluates its contractor’s performance as they conduct critical procedures. They also audit critical procedures permits that are written by the contractors to ensure that contractors are complying with the safe work procedures implemented on site.

Subpart E – Emergency Response

40 C.F.R. § 68.90 Applicability – Eco Services Baytown is designated as a “responding” stationary source in case of an accidental release of a regulated substance.

40 C.F.R. § 68.93 Emergency Response Coordination Activities – Eco Services Baytown 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.

40 C.F.R. § 68.95 Emergency response program – I reviewed Eco Services Baytown’s emergency response plan. The plan included: procedures for informing the public and local emergency response agencies about accidental releases and procedures and measures for emergency response after an accidental release of a regulated substance. Eco Services Baytown emergency response plan did not include proper documentation of first aid and emergency medical treatment necessary to treat

accidental human exposures [AOC #5 68.95(a)(1)(ii)]. The plan did include procedures for the use of emergency response equipment, and for its inspection, testing, and maintenance or training for employees in relevant emergency response procedures. Eco Services provided procedures for the use of emergency response equipment, and for its inspection, testing. The facility provided training documentation for all employees in relevant procedures. I reviewed Eco Services CPR/first aid training documentation, which is provided every 2 years. Several members of the Emergency Response Team were late taking CPR/first aid training [AOC #6 68.95(a)(3)].

40 C.F.R. § 68.96 Emergency Response Exercises – As part of coordination with local emergency response officials required by §68.93, Eco Services Baytown consulted with officials to establish an appropriate frequency for field exercises.

Subpart G – Risk Management Plan

40 C.F.R. § 68.190 Updates – Eco Services Baytown RMP was re-submitted on July 12, 2019.

40 C.F.R. § 68.195 Required corrections – Eco Services Baytown’s next RMP registration re-submission is due by July 12, 2024, unless an update or correction is required by 40 C.F.R. 68.190 or 40 C.F.R. 68.195 prior to the five-year renewal deadline.

Section III – AREAS OF CONCERN

AOC 1 – 40 C.F.R. § 68.67(e)- Process Hazard Analysis

“(e) The owner or operator shall establish a system to promptly address the team's findings and recommendations; assure that the recommendations are resolved in a timely manner and that the resolution is documented; document what actions are to be taken; complete actions as soon as possible; develop a written schedule of when these actions are to be completed; communicate the actions to operating, maintenance and other employees whose work assignments are in the process and who may be affected by the recommendations or actions.”

One action item from the 2017 Anhydrous Ammonia PHA had a due date of 8/18/2017 but was completed on 10/26/2017.

AOC 2 – 40 C.F.R § 68.71(b)- Training

“(b) Refresher training. Refresher training shall be provided 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. The owner or operator, in consultation with the employees involved in operating the process, shall determine the appropriate frequency of refresher training.”

Out of the six employees randomly selected one employee was seven (7) months late in completing their refresher training.

AOC 3 – 40 C.F.R § 68.75(c)- Management of Change (MOC)

“(c) Employees involved in operating a process and maintenance and contract employees whose job tasks will be affected by a change in the process shall be informed of, and trained in, the change prior to start-up of the process or affected part of the process.”

At the time of the inspection, I reviewed several MOCs. Employees involved in operating a process and maintenance and contract employees whose job tasks will be affected by a change were not always trained prior to start up, according to the following MOCs: MOC-3.3-BAY-20220421-1034, MOC 1.5-BAY-20210908-668, and MOC-ECO-BT-20-7.

AOC 4 – 40 C.F.R § 68.79(d) Compliance Audit

“(d) The owner or operator shall promptly determine and document an appropriate response to each of the findings of the compliance audit, and document that deficiencies have been corrected.”

Eco Services Baytown is required to promptly determine and document an appropriate response to each of the findings of the compliance audit, however, Eco Services Baytown failed to document those deficiencies were corrected.

AOC 5 – 40 C.F.R § 68.95(a)(1)(ii)- Emergency Response Program

“(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: (1) An emergency response plan, which shall be maintained at the stationary source and contain at least the following elements: (ii) Documentation of proper first aid and emergency medical treatment necessary to treat accidental human exposures.”

Eco Services Baytown emergency response plan did not include proper documentation of first aid and emergency medical treatment necessary to treat accidental human exposures.

AOC 6 – 40 C.F.R § 68.95(a)(3)- Emergency Response Program

“(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: (3) Training for all employees in relevant procedures.”

I reviewed Eco Services CPR/first aid training documentation, which is provided every 2 years. Several members of the Emergency Response Team were late taking CPR/first aid training.

Closing Meeting - I conducted a closing conference at Eco Services Baytown on April 28, 2022. During the closing conference, I reviewed the Areas of Concern noted during the inspection.

Section IV – FOLLOW UP

No additional information was received by EPA after exiting the Facility on April 28, 2022.

Section V – LIST OF APPENDICES

Appendix 1 – Opening conference/Exit briefing sign-in sheet

