

FEDERAL OPERATING PERMIT - TECHNICAL REVIEW SUMMARY

GENERAL OPERATING PERMIT (GOP) REVISION

GOP Type:	514	Company:	Salt Creek Midstream, LLC
Permit #:	O4027	Site:	Pecos Gas Processing Plant
Project #:	35997	Application Area:	Pecos Gas Processing Plant
Regulated Entity #:	RN110016037	Customer #:	CN605432491
Region:	7	County:	Reeves
NAICS Code:	211130	NAICS Name:	NATURAL GAS EXTRACTION
Permit Reviewer:	John Walker		

SITE INFORMATION

Physical Location: Intx of IH 20 and CR 211 the site is on the south side of IH 20 at mile marker 29 and on the east side of CR 211

Nearest City: Pecos

Major Pollutants: CO, NOX, VOC

Additional FOPs: None

PROJECT SUMMARY

Salt Creek Midstream, LLC's Pecos Gas Processing Plant is a Natural Gas Extraction facility subject to the requirement of 30 TAC Chapter 122 which requires it to apply and obtain a Federal Operating Permit (FOP). The FOP was last renewed on 01/25/2023. A minor revision application was received by TCEQ on 11/16/2023. The minor revision application incorporated an alteration to Standard Permit No. 149139 issued on 11/15/2023 which added engines, heaters, a glycol dehydration unit, a flare, and a combustor. All necessary information to complete the authorization to operate (ATO) under General Operating Permit (GOP) No. 514 was provided by the applicant in various forms (OP-1, OP-2, OP-SUMR, various UA Forms, OP-REQ1 (page 87), and OP-ACPS). The COR from the STEERS submittals certify the information present in the application.

PROCESS DESCRIPTION

Pecos is a natural gas processing facility located in Reeves County, Texas. The facility receives sweet natural gas from gathering pipelines and produces NGLs.

Common Area

Inlet Equipment

The inlet gas is sent to a slug catcher and a 2-phase separator with the gas outlet sent to one of the three cryogenic ("cryo") trains (plants). The liquid outlet from the separator flows through one of two parallel gas-fired heaters (EPNs: H-02001 and H-02701) and then to a 3-phase separator. Gas from the separator is compressed by one of two VRUs (EPNs: C-03901 and C-04101) and is sent to join the inlet gas stream, downstream of the slug catcher. Water from the 3-phase separator is sent to the 1,000-barrel (bbl) process water/slop oil separator tank (FIN: TK-81001) with the separated water and oil ending up in the 1,000-bbl process water storage tank (FIN: TK-81201) and the 750-bbl slop oil tank (FIN: TK-80101). Condensate product from the 3-phase separator is sent to the pressurized condensate tanks, then on to a condensate stabilizer and atmospheric storage tanks (FINs: TK-81301, 81302, 81101, and 81102) with separated NGLs going to pressurized storage. A hot oil loop, with a gas-fired heater (EPN: H-07501), provides heat transfer for the stabilization system. The site also has a flare (EPN: FL-83002) that controls emissions from the condensate and slop storage tanks, stabilizer, pressurized tanks/loading, separators, VRU compressor blowdowns, and various relief valves in the Common Area.

Loading

NGL/Condensate product is normally shipped out via pipeline, but the site has the capability to load from the pressurized tanks into pressurized transport trucks (EPN: NGL-Load) when necessary. When NGL loading occurs, all related emissions are vented to the flare (EPN: FL-83002). The process water/slop oil from the process water and slop oil tanks is removed from the site via truck loading location (EPN: LF-03) and Stabilized Condensate from RVP 9 Stabilized Condensate tanks is removed from the site via truck loading location (EPN: LF-02). A flare (EPN: FL-83002) is utilized to control the stabilized condensate and process water/slop oil emissions.

Fugitives

Fugitive emissions from the Common Area (EPN: FUG) are estimated separately from fugitives located in the Cryo 1 (EPN: FUG2), Cryo 2 (EPN: FUG3), and Cryo 3 (EPN: FUG4) areas.

Maintenance, Startup, and Shutdown

Salt Creek has several planned MSS activities. During shutdowns and scheduled maintenance, residue compressors containing natural gas are blown down (EPN: MSS-Blowdown) to the atmosphere. Inlet gas lines from the upstream gas gathering system are regularly pigged and the pig receivers are located inside the plant property. The pigging does not release emissions until the pig traps are opened to retrieve the pigs (EPN: MSS-Pigging).

Cryogenic ("Cryo") Process Units - Cryo 1, Cryo 2, and Cryo 3

High-pressure gas enters the cryo portion of the site and is treated in one of three cryo trains which follow similar operations as discussed below.

Treatment of Incoming Gas

Cryo 1 and Cryo 2 use identical processes, therefore, EPNs from Cryo 1 are referenced here as an example of both plants. An amine unit (FIN: AU-01) treats the natural gas entering the plant to remove carbon dioxide (CO₂) and any residual hydrogen sulfide (H₂S). Rich amine from the Cryo 1 and Cryo 3 amine contactors is sent to the flash tank and amine regenerator at Cryo 1 (Note: Cryo 3 is the only plant that does not have its own amine regeneration process). Lean amine from the amine regenerator is sent back to the amine contactors of Cryo 1 and Cryo 3. The amine process is followed by a glycol & mole sieve dehydration system (FIN: V-1103 and V-1105A/B/C) to remove water and prevent hydrate formation under cryogenic conditions. The amine process and dehydration system have associated heaters and/or reboilers (EPN's: H-1801, V-1506, and H-1101) to regenerate the process mediums. The amine system has a combustor (EPN: D-1702) that controls emissions from the process, and the plant flare (EPN: D-1701) controls emissions from the closed vent system for the plant. There are five (5) combustion devices for each plant (Cryo 1 and Cryo 2).

Cryo 3 is similar to Cryo 1 and Cryo 2; however, there are slight differences in the amine and dehydration process flows. An amine contactor treats the natural gas entering the plant to remove carbon dioxide (CO₂) and any residual hydrogen sulfide (H₂S). Cryo 3 is the only plant without an amine regenerator, so rich amine from the amine contactor is sent to the Cryo 1 and/or Cryo 2 amine flash tanks and amine regenerators. Lean amine from those regenerators is returned to the Cryo 3 amine contactor. The amine process is followed by a glycol & mole sieve dehydration system (FIN: V-3103 and V-3105A/B/C) to remove water and prevent hydrate formation under cryogenic conditions. The dehydration system has associated heaters and/or reboilers (EPN: V-3506, H-3101) to regenerate the process mediums. The dehydration system has a combustor (EPN: HZZ-3101) that controls emissions from the process, and the plant flare (EPN: D-3701) controls emissions from the closed vent system for the plant. There are a total of four (4) combustion devices for this plant (Cryo 3).

Cryogenic Tower

Cryo 1, Cryo 2, and Cryo 3 use identical processes; therefore, EPNs from Cryo 1 are referenced here as an example of all three (3) plants.

Gas entering the plant is cooled by a gas/gas exchanger and demethanizer reboiler, after which it flows to a cold separator. Liquid from the lower section of the cold separator feeds midway into the demethanizer tower, which separates the methane from the liquids. High-pressure cold vapor from the cold separator flows to the turbo expander and subcooler. The cooled gas and condensed liquid flows into the demethanizer tower where the gas rises, and the liquid descends. The liquid product exits the bottom of the tower, and the NGLs are then typically transferred from the NGL surge tank to a pipeline; however, a truck loadout system (EPN: NGL-LOAD) is present for infrequent transfer of NGLs to pressurized trucks. The cold residual gas exits the top of the tower and flows through the subcooler and into the gas/gas heat exchanger. Warm gas exiting the gas/gas exchanger flows to the suction side of the turbo expander and then to compression by natural gas-fired residue compressor engines (EPNs: K-1100A/B/C/D, K-2100B/C/D, and K-3100A/B/C) for pipeline delivery. There are a total of ten (10) compressor engines across all 3 plants.

TECHNICAL REVIEW

Application/Project Summary

1. Were any of the GOP index Nos. submitted in this application revised or updated?..... Yes
 - a. Were any of these resolved without the submittal of a new UA form?..... No
2. Were provisional requirements or form OP-REQ3 submitted?..... No
3. Was form OP-REQ2 submitted?..... No
4. Were any high-level GOP index numbers included in the IMS for this project?..... No
5. Was Periodic Monitoring (PM) required and included in the IMS?..... Yes
6. Was Compliance Assurance Monitoring (CAM) required and included in the IMS?..... No
7. Was monitoring added in the IMS for emission limits identified in a Standard Permit or PBR?..... No
8. Were any existing GOP Index Nos. revised or updated? No
9. Did this project incorporate a revised GOP? No

Permit reviewer notes:

The following units with their GOP index Nos. were added:

- Form OP-UA2
 - o Unit IDs K-3100A, K-3100B, and K3100C for MACT ZZZZ applicability with GOP Index No. 514-21-016, and NSPS JJJJ applicability with GOP Index No. 514-24-039.
- Form OP-UA6
 - o Unit IDs H-3101 and V-3506 for NSPS Dc non-applicability with GOP Index No. 511-19-002.
- Form OP-UA7
 - o Unit IDs D-3701 and HZZ-3101 for 30 TAC Chapter 111, Visible Emissions with GOP Index No. 514-04-004, NSPS A applicability with GOP Index No. 511-12-008, and MACT A non-applicability with GOP Index No. 514-07-001 (511-12-008 was originally submitted in this application but later updated).
- Form OP-UA62
 - o Unit ID V-3103 for MACT HH applicability with GOP Index No. 514-02-002.

The existing GOP index numbers were not revised or updated with this project.

Retained existing PM and no changes occurred with this project.

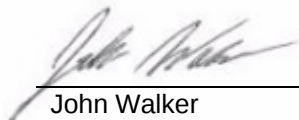
Delinquent Fee Check

1. The delinquent fee check was performed on August 6, 2024.
2. Were there any delinquent fees owed? No

IMPORTANT MILESTONES

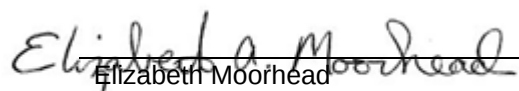
Milestone (Standard)	Start Date	End Date
Date Application Received by TCEQ	11/16/2023	
Date Project Received by Engineer	11/29/2023	
Technical Review Period	12/15/2023	06/28/2024

EFFECTIVE PERMIT ISSUANCE DATE: August 14, 2024



John Walker
Permit Reviewer
Operating Permits Section
Air Permits Division

08/06/2024
Date



Elizabeth Moorhead
Team Leader
Operating Permits Section
Air Permit Division

08/09/2024
Date

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