

EXHIBIT F

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HEARING BOARD

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

In the Matter of the)	Case No. 5855-7
Petition for a Regular Variance by)	
Beta Offshore Operating, LLC)	DECLARATION OF JEFF ORTLOFF IN SUPPORT OF PETITION FOR A REGULAR VARIANCE
)	<u>Date:</u> December 7, 2023
)	<u>Time:</u> 9:30 A.M.
_____)	

DECLARATION OF JEFF ORTLOFF

1. I am the Director of Facilities Engineering for Amplify Energy Corp., Beta Offshore’s parent company. In this position, I am responsible for the engineering and design steps necessary for air quality compliance of the oil and gas production platforms known as "the Beta Facility," situated on the Outer Continental Shelf about nine miles off Huntington Beach, CA. Beta Offshore is headquartered at 111 W. Ocean Blvd., Suite 1240, Long Beach, CA 90802. The Facility is located on OCS Lease Parcels P300 and P301. The facts set forth herein are known personally to me to be true and correct, and I could and would so testify under oath if called as a witness.

2. Facility Business: Beta Offshore produces oil and gas from three platforms located about 9 miles offshore from Huntington Beach. Delivery of crude oil to the refinery by

pipeline instead of tanker is a major factor in the California Air Resources Board's calculating Beta's carbon intensity as the cleanest of all California and Worldwide oil production sent to California refineries. (1.59 grams of CO2 equivalent per megajoule of energy.)

3. Facility Equipment and the Early Stage of Beta's Air Quality Compliance Project: Beta relies on six internal combustion (IC) engines and six turbines to operate the platforms. Recent amendments to District Rules 1110.2 (November 1, 2019) and 1134 (February 4, 2022) require substantial NOx reductions from these engines and turbines by December 31, 2023 and January 1, 2024, respectively. Beta began its Air Quality (AQ) Compliance Project in August 2018 in anticipation of the rule amendments. Beta hired Yorke Engineering and an engineering and project management firm and, with this contract support, researched and evaluated:

- Increasing use of electricity from shore to reduce reliance on diesel power generation on the platforms – and synchronizing that power with platform-generated power
- Types of new/ replacement engines and turbines available to market which reduce NOx
- Engineering designs for installation of Selective Catalytic Reduction (SCR) systems on its IC engines

4. Anchor Damage to Pipeline and Resultant Oil Spill: In January 2021, two large container ships, prohibited from dragging anchor in the region of Beta's pipeline, violated that prohibition and snared the pipeline resulting over time in a rupture and major oil spill. Had Beta been notified of the damage, it could have avoided the spill. Once the spill became apparent, Beta shut down all transportation of oil from the platforms and all production from October 2021 until April 2023. During that time Beta primarily devoted resources to investigating and repairing the damage.

5. Eighteen Month Shutdown: For 18 months, Beta had little if any idea whether it would be allowed to resume pipeline operation and produce the oil that depends on the pipeline. With that future unclear, Beta's AQ Compliance Project was limited to timely application for the District permits required for its IC engines and turbines to comply with the new NOx limits.

6. Estimated Compliance Cost and Platform Expenses Despite Not Producing: Compliance is estimated to cost over 20 million dollars. While Beta is required by federal law to maintain personnel on the platforms at all times, Beta's revenue from the platforms was fully interrupted for that 18-month period.

7. Federal Agency Approval: On about April 7, 2023, three federal agencies, with input from the California State Lands Commission, authorized Beta to resume use of the pipeline which allowed Beta to return to production. The federal agencies are the US Army Corps of Engineers (USACOE), the Pipeline Hazardous Material Safety Administration (PHMSA in the US Dept of Transportation), and the Bureau of Safety and Environmental Enforcement (BSEE in the US Dept of Interior). Authorization from all three agencies was required before Beta could resume pipeline use.

8. Expedited Resumption of the Compliance Project: Immediately upon receipt of pipeline authorization, Beta reinstated and expedited the AQ Compliance Project. As of the end of October, 2023, Beta had expended or committed \$8,653,194 of the \$20,000,000 estimated to be required for compliance. By December 31, 2023, this amount will reach about \$10,700,000. By the end of August 2023, Beta was able to substantially increase use of shore power and reduce NOx emissions from the Centaur turbines that generate electricity on the platforms.

9. Variance Relief Is Needed: Despite prompt resumption of its AQ Compliance Project, Beta evaluated the remaining work and in the summer of 2023 determined that the Project could not be completed by the end of the year and that Beta would require variance relief for as long as nine months. Possible delay from Federal permit issuance for the changes, supply chain interruptions and offshore weather events could require an additional month, to the end of October 2024. Beta respectfully requests a regular variance for the turbines and internal combustion engines until October 30, 2024.

10. Expediting the Project: Beta is expediting the following steps toward compliance, as described in Exhibit E to the Variance Petition:

- Engineering for the following:
 - Procurement and installation of the selective catalytic reduction systems
 - Hydraulic, electrical, structural and facility steps require for NOx reduction and synchronizing new equipment with existing
 - Further reduction of on-platform power generation
- Procurement of compliance project equipment and material

11. Equipment Needing Variance Relief: Beta requests a Regular Variance for the following equipment:

- Six Internal Combustion (Rig) Engines: Devices D81 through D86, Non-Emergency, Diesel Fuel, Caterpillar, Model D398PCTA, with aftercooler, Turbocharger, 853 BHP with generator, 600 KW.
- Six Selective Catalytic Reduction (SCR) systems to be retrofitted to those six IC (Rig) Engines: Devices C197 through C202, Umicore DNX-929 or Cormetech CMHCDST, with Oxidation Catalyst, Johnson Matthey, Model BX-70-D-8, 76 CU.FT. with Urea Injection System
- Three Centaur Gas Turbines: Devices D98 through D100, NJ-01-A, Diesel Fuel, Process Gas, Solar Model Centaur GCI-CB-ID, 42 MMBTU/HR with Generator, 2.5 MW
- Three SCR systems to be retrofitted to those three Centaur Turbines: Devices C203 through C205, Umicore DNX-929 or Cormetech CMHCDST, with Oxidation Catalyst, Johnson Matthey, Model BX-70-D-8, 76 CU.FT. with Urea Injection System
- Three Saturn Gas Turbines, generating electricity on the platforms and to be replaced by on-shore electric power: Devices D95 through D97 (NP-07-A, NP-10A, and NP-10-B, respectively) Diesel Fuel, Process Gas, Solar Model Saturn MGI-SB, 2.9 MMBTU/HR with Pump, Water Injection

12. Why the Equipment is Necessary to Operations: The Facility (SCAQMD ID 166073) includes three offshore platforms: Elly, Ellen and Eureka located approximately 9 miles

offshore from Huntington Beach and 15 miles from Long Beach Harbor.

Due to the location of the Platforms, only a limited amount of electrical power is available from the on-shore SCE municipal grid. Given this limited access to power, the three (3) Centaur turbines and their generators located on Platform Elly are essential to provide the required amount of electrical power to operate the Facility until additional electrical infrastructure for on-shore power can be installed at the Facility.

The three (3) Saturn turbines engines on Platform Elly drive water pumps, which are required to provide pressure to transport produced fluid for reservoir injection.

The six (6) Caterpillar rig engines regulated under District Rule 1110.2, are located three (3) on Platform Eureka and three (3) on Platform Ellen. These engines power their respective drilling rigs to maintain the wellbore integrity of the subsea wells.

13. Regular Maintenance and Inspection: The equipment is and will be constantly maintained and the maintenance program that is currently in place will continue throughout the variance period, including:

- Daily visual inspections
- Corrective maintenance as required based on daily inspections
- Quarterly visual emissions inspections
- 400-hour inspections
- Bi-annual tune ups by qualified third parties.
- Annual Comprehensive Maintenance by a qualified third party, including tearing down and rebuilding engines or swapping out engines according to a regular schedule based on hours of operation.

14. Seeking Variance Relief from Rules and Permit Conditions: For the requested Regular Variance, Beta requests relief from the following Rules and Permit Conditions:

- Rule 1134(d)(3), (e)(2) and (e)(3) -- The reduced NOx emission limits cannot be achieved by 01/01/2024
- Rule 2012 – Cannot comply until after SCR retrofit for reporting lower NOx limits
- Rule 1110.2(d), (e)(2), (e)(4), (e)(10), (f)(1)(C) and (f)(1)(D) -- The

RECLAIM facility cannot meet the applicable NO_x emission limit by 12/31/2023

- Rule 1303 (a)(1)-BACT -- Operator cannot comply with equipment being equipped with BACT until SCR are installed
- Rule 1100(d)(1)(B) -- Operator cannot meet the RECLAIM transition requirements for Rule 1110.2 by 12/31/2023, as required by this reference in Rule 1100.
- Permit Condition (PC) A63.15 – NO_x emissions may exceed 6.1 lb/day limit for Rig Engines.
- PC A63.16 – NO_x emissions may exceed 117.5 lb/day for gas turbines
- PC D12.8 – Temperature gauge cannot be monitored and maintained until SCR is installed to Rig Engines
- PC D12.9 – Pressure gauge cannot be monitored and maintained until SCR is installed to Rig Engines
- PC D12.10 – Flow meter cannot indicate the urea injection flow rate until SCR is installed to Rig Engines
- PC D12.11 -- Flow meter cannot indicate the urea injection flow rate until SCR is installed (rig engines)
- PC D12.12 -- Temperature gauge cannot be monitored and maintained until SCR is installed (gas turbines)
- PC D12.13 -- Pressure gauge cannot be monitored and maintained until SCR is installed (gas turbines)
- PC D12.14 -- Flow meter cannot indicate the urea injection flow rate until SCR is installed (gas turbines)
- PC D29.5 -- Source test at the outlet of the SCR serving the equipment cannot be performed until SCR is installed (rig engines)
- PC D29.6 -- Source test at the outlet of the SCR serving the equipment cannot be performed until SCR is installed (gas turbines)
- PC E193.2 -- Cannot assure compliance with backpressure limit until equipment is installed and operating
- PC E448.4 -- Rig engines will be in noncompliance of the I&M plan

- PC E448.9 -- Operator may not be able to comply with timeline requirements of the I&M plan submittal
- PC H23.10 -- Rig engines cannot comply with requirements in Rule 1110.2 by 12/31/2023
- PC H23.9 -- Gas turbines cannot comply with requirements in Rule 1134 by 1/1/2024
- PC F2.1 -- Operator cannot comply with the NOx emission limit

15. Equipment or Activities Under Variance Coverage?: No other equipment or activities are currently under variance coverage.

16. Any Notices of Violation or to Comply Within Past Year?: The District has issued two notices of violation to Beta during the past year. Copies are attached. NOV P79006 was issued May 18, 2022 primarily for fugitive leaks and a failed source test by Rig Engine D81. NOV P73299 was issued July 25, 2023 for failed source tests by Rig Engines D81 and D82. These engines will be source tested again on November 27, 2023, with final results available in about 60 days.

17. Public Complaints Within Six Months?: There have been no complaints from any Member of the Public within the last six months.

18. Beyond Reasonable Control: The need for this regular variance is beyond Beta Offshore's reasonable control. The anchor dragging by two vessels in a no anchor dragging zone in September 2021 was not only beyond Beta Offshore's control, but Beta did not know and was not informed by the Coast Guard or the LA-Long Beach Marine Exchange. With sufficient notice of the displacement caused to the pipeline by the illegal anchor dragging, Beta could have avoided the subsequent oil spill. During the 18-month shutdown of all production and all platform revenue, Beta devoted its attention and resources towards investigating the cause and damage from the pipeline rupture, completing the necessary remediation activities, repairing and performing other corrective actions, and pursuing relief for the damage to its operations and against the third parties that caused the pipeline rupture. Despite this focus, Beta timely applied

for and received the District permits required for the steps toward compliance. During this 18-month period, Beta had no certainty that it would be allowed to return to using the repaired pipeline or to resume offshore production.

19. When Became Aware: Although Beta understood that its ability to meet the deadlines in Rules 1110.2 and 1134 would be difficult when operations were authorized to resume on April 7, 2023, it promptly resumed work on the AQ Compliance Project and moved to advance and complete Project tasks. After accounting for remaining work needed to complete the Project in the summer of 2023, Beta was able to identify the steps of the Project that could not be completed by the end of 2023 and to predict the additional time needed to complete the outstanding Project tasks.

20. Actions Taken Toward Compliance:

- Prior to 4/7/2023, Beta applied for the necessary permits (received).
- Beta began the following on or about April 7, 2023 and is continuing: SCR, hydraulic, electrical, structural, and facility engineering.
- Beta began Electrification (Parallel Power/ Power Synchronization) work on or about 4/7/2023 and is continuing this work.
- Beta began Material Procurement on or about 4/25/2023 for long lead items, including competitive bidding. Beta performed everything it could to meet the deadlines, as well as discovered ways to expedite deliveries. Beta initiated immediate mobilization of effort once approval was granted from federal regulators on or about 4/7/2023.
- Beta substantially decreased fuel consumption and emissions from the Centaur Turbines on 8/30/2023.
- Beta increased load from shore power on or about 8/30/2023 by maximizing current electrical configurations.

21. Harm to Beta if Variance Not Granted: If the variance is not granted, the expected economic losses for Beta are extremely variable and dependent on multiple factors, including but not limited to commodity prices, operating expenses, and required capital investments. The revenues currently generated from Beta production will be critical to funding

the large investment required to achieve the compliance discussed in this petition. If the Variance is not granted, multiple employees would be laid off, and many supply chains would be negatively impacted or closed. These services directly impact the local community and taxable state revenue such as marine / dock services, local transportation, skilled laborers and professionals, such as engineers and consultants, as well as local manufacturing and material suppliers. Additionally, the royalties paid by Beta to the Federal government helps fund local offices and personnel at the Bureau of Safety and Environmental Enforcement (BSEE) and the Bureau of Ocean Energy Management (BOEM). Beta also works closely with the University of Southern California, NASA and NOAA by supporting their oceanic and atmospheric research as they utilize Beta offshore equipment when that equipment is operating.

22. Curtail or Terminate Operations: There is no benefit from shutting down the equipment for which Beta seeks variance coverage compared to the cost of the shutdown. Beta's operations were completely shut down for 18 months after ship damage to its pipeline resulted in a spill, and Beta had no revenue for that period. Continuing operation at present is critical to providing resources for the continuation and expedition of the \$20 million Air Quality Compliance Project.

23. Considered Shutting Down or Curtailing Operations: Beta has considered shutting down and curtailing operations of the oil production that relies on the equipment for which Beta seeks variance coverage. As noted, production was shut down for 18 months with a complete revenue loss. Another shut down would jeopardize Beta's ability to complete the AQ Compliance Project. Further, as detailed below, Beta will take specific steps and make best efforts to mitigate the excess emissions and achieve compliance for some equipment early during the variance period.

24. Excess Emissions: Total daily excess emissions, calculated on a potential to emit/worst case basis are 3,495 pounds per day of NOx. Mitigation steps detailed in the next Paragraph will reduce these emissions by 1,531 pounds NOx per day, leaving final excess emissions at 1,964 pounds NOx per day. While Beta takes excess emissions seriously, and is expediting efforts to complete the AQ Compliance Project, please note that these emissions will

occur approximately nine miles from shore.

25. Mitigation of Excess Emissions: Beta will mitigate excess emissions during the requested variance period and achieve step-wise emission reductions:

- Beta will only operate 2 of 3 Centaur electricity-generating turbines during the period of non-compliance, except in the case of an emergency that creates a risk to the health or safety of personnel and/or environment, thus mitigating emissions from this one large turbine source.
- By the end of January 2024, assuming no emergency or unexpected delay, 1 of 3 Saturn turbines will be replaced with an electric motor driven by increased shore power. By the end of February 2024, again assuming no emergency or unexpected delay, the second of 3 Saturn turbines will be replaced with an electric motor. By the end of March 2024, Beta anticipates that all Saturn turbines will have been replaced and the water pumps that the Saturns currently drive will be fully electrified. This phase-out will be achieved by synchronizing the electrical phases of the offshore generated power with the municipal power phase.
- As of August 30, 2023, substantial electrical load from the Centaurs had been shifted to the municipal power grid, reducing natural gas and diesel usage and emissions. This has created a range of 50 to 80 percent reduction in fuel consumed and substantially reduced emissions.
- Beta will only operate 3 of the 6 rig engines at any one time unless an emergency situation arises and creates a risk to personnel and/or environment that cannot be avoided without operating one or more additional rig engine.

26. Nuisance Not Expected: Operation under the variance order is not expected to result in a violation of Health and Safety (H&S) Code Section 41700 (nuisance).

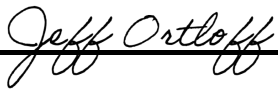
27. Final Compliance, Absent Delay from Emergency or Unexpected Events:

Assuming no emergency or unexpected delay, Beta expects to replace one Saturn Turbine with an electric motor by the end of January 2024; a second by the end of February 2024 and the third by the end of March 2024. Assuming no unexpected delays in material delivery,

engineering, construction or federal permits, Beta expects to achieve final compliance by SCR retrofit for one Centaur Turbine by the end of May 2024, for the second by the end of July 2024 and for the third by the end of September 2024. Assuming no unexpected delays in material delivery, engineering, construction or federal permits, Beta expects to achieve final compliance by SCR retrofit for the three Platform Eureka rig engines and the three Platform Ellen rig engines by the end of July.

28. Respectful Request: Beta Offshore respectfully requests that the Hearing Board grant Beta's Petition for a Regular Variance beginning December 31, 2023 and continuing through October 30, 2024.

I declare under penalty of perjury, under the laws of the State of California and the United States of America, that the foregoing is true and correct to the best of my knowledge and that this affidavit was executed this 27th day of November 2023 at Houston, Texas.



Jeff Ortloff
Director, Facilities Engineering
Amplify Energy Corp., Parent Company to Beta
Offshore Operating, LLC

Attachments: Two Notices of Violation Issued by the SCAQMD to Beta Offshore within the past year