NOTICE OF PROBABLE VIOLATION
PROPOSED CIVIL PENALTY
and
PROPOSED COMPLIANCE ORDER

VIA ELECTRONIC MAIL TO : [redacted]@amplifyenergy.com

April 6, 2023

Mr. Martyn Willsher
President and Chief Executive Officer
Amplify Energy Corp.
111 Ocean Boulevard, Suite 1240
Long Beach, CA 90802

CPF 5-2023-011-NOPV

Dear Mr. Willsher:

On October 1, 2021, the San Pedro Bay Pipeline, operated by Beta Offshore, a subsidiary of Amplify Energy Corp., failed off the coast of California, spilling approximately 588 barrels of crude oil into the San Pedro Bay, an inlet of the Pacific Ocean (Failure). On October 3 through 22, 2021, pursuant to 49 U.S.C. § 60117, representatives of the Pipeline and Hazardous Materials Safety Administration (PHMSA), Office of Pipeline Safety (OPS), responded to the failure site to conduct an accident investigation. Various other federal and state agencies also responded to the scene, including the United States Coast Guard (USCG), the Bureau of Safety and Environmental Enforcement (BSEE), the National Transportation Safety Board (NTSB), the California Department of Fish and Wildlife (CDFW), and local law enforcement. Private oil spill response organizations (OSROs) under contract with Beta Offshore also responded to the spill to assist in clean-up efforts.

The San Pedro Bay Pipeline is a 16-inch diameter transmission pipeline. It is approximately 17.79 miles in length, beginning offshore at Platform Elly, located off the coast of California in

Federal waters, and traveling onshore to the Beta Pump Station in the City of Long Beach, California. The offshore portion of the pipeline is approximately 15.19 miles in length and, the onshore portion is approximately 2.6 miles in length.[1]

The San Pedro Bay Pipeline is monitored and controlled by Beta Offshore's control room located offshore at Platform Elly, attended by one controller per 12-hour shift and staffed 24 hours per day[2]. The control rooms utilize a Supervisory Control and Data Acquisition (SCADA) System to remotely monitor and control the San Pedro Bay Pipeline. SCADA information, including pressure and flow information, line status, and system condition, is displayed on consoles located in the control room. Beta Offshore also utilizes a leak detection software known as ATMOS PIPE™ (ATMOS).[3] ATMOS is integrated into the SCADA system and provides real-time information on leak status of the San Pedro Bay Pipeline.[4]

On October 1, 2021, at approximately 4:10 pm,[5] the controller received ATMOS alarms indicating a leak was detected on the San Pedro Bay Pipeline.[6] Believing the alarm was caused by a loss of communication, the controller manually turned off the shipping pumps to "let it sit and settle out" before manually turning the pumps back on, believing this would clear the incoming alarms.[7] ATMOS, however, continued to generate leak alarms as the controller and others tried to determine if there was a leak, and if so, where it was located.[8] The controller proceeded to turn the shipping pumps on and off several more times in an effort to clear the alarms, before finally shutting down the San Pedro Bay Pipeline on the following day, October 2, 2021, at 6:04 am, approximately 14 hours after the first alarm and after receiving more than 83 leak alarms. Two hours later, at approximately 8:15 am, the San Pedro Bay Pipeline was

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[1] *See* Pipeline Safety Violation Report (Violation Report) at Exhibit A – Beta Offshore Annual Report for Calendar Year 2021.

[2] Beta Offshore has an additional control room located onshore at the Beta Pump Station. This control room controls the onshore portion of the San Pedro Bay Pipeline only. It is manned during the day shift, Monday-Friday, by one controller.

[3] ATMOS applies statistical techniques to the instrument readings, such as flow and pressure measurements taken at the inlet, outlet, and block valves along the pipeline, to determine whether these measurements correspond to normal pipeline operation, or a leak condition. *See* Violation Report at Exhibit B - Atmos LD 2001 Operation and Maintenance Manual V1.0, pg. 4.

[4] ATMOS sends a leak detection output signal to the SCADA system every ten (10) seconds. *See* Violation Report at Exhibit B - Atmos LD 2001 Operation and Maintenance Manual V1.0, pg. 6.

[5] All times are in Pacific Time unless otherwise noted.

[6] *See* Violation Report at Exhibit C - Alarm History (indicating that the alarm description was "Signal from ATMOS – Leak Detected"). ATMOS was only installed on the San Pedro Bay Pipeline and did not alarm on other infrastructure, such as the platforms.

[7] *See* Violation Report at Exhibit D - NTSB Interview Transcripts of Beta Offshore Personnel. Beta Offshore does not have a written procedure for this process.

[8] In an NTSB interview, the controller explained that he believed the first alarm "was just a regular loss of communication." *See* Violation Report at Exhibit D - NTSB Interview Transcripts of Beta Offshore Personnel.

isolated (valves were closed) after personnel observed an oil sheen on the water.[9]

The National Response Center (NRC) received several notifications related to the Failure:

- On October 1, 2021, at 7:59 pm, the NRC received a call from a third party reporting an unknown sheen in the water near its vessel in the Pacific Ocean.[10]

- On October 2, 2021, at 1:57 am, the NRC received a call from the National Oceanic and Atmospheric Administration (NOAA) reporting an unconfirmed oil leak near the beach in Huntington Beach, California, measuring approximately 2.8 nautical miles (nm) in length and up to 0.7 nm in width.[11]

- On October 2, 2021, at 9:07 am, the NRC received a call from Witt O'Brien's LLC[12] reporting a discharge of an unknown amount of crude oil into the Pacific Ocean. The report noted that the discharge was observed in the vicinity of a pipeline after a drop in pressure was noticed due to unknown causes.[13]

- On October 3, 2021, at 1:41 pm, the NRC received a call from the USCG reporting a potential major crude oil pollution incident associated with platforms Elly and Ellen in Newport Beach.[14] The report also stated that there were oiled wildlife and dead fish.

- On October 3, 2021, at 2:20 pm, the NRC received another call from USCG estimating that the spill amount was approximately 3,440 barrels.[15]

- On October 4, 2021, at 8:42 pm, the NRC received another call from Witt O'Brien's LLC reporting that Beta Offshore joined the USCG and OSRO organizations responding to the oil spill by containing and recovering the spilled oil. The report noted that Laguna Beach shorelines and Newport Beach had been impacted on water and shore sides, and protection strategies were implemented along the coast to protect these environmentally-

[9] In an NTSB interview, the controller explained he was informed about the oil sheen on the water of San Pedro Bay around 8:00 am or 8:15 am. *See* Violation Report at Exhibit D - NTSB Interview Transcripts of Beta Offshore Personnel.

[10] *See* Violation Report at Exhibit E - NRC Report #1318437.

[11] *See* Violation Report at Exhibit F - NRC Report #1318442.

[12] Witt O'Brien's LLC is the company that Beta Offshore hired to contact the NRC in the event of a release.

[13] *See* Violation Report at Exhibit G - NRC Report # 1318463.

[14] *See* Violation Report at Exhibit H - NRC Report #1318540.

[15] *See* Violation Report at Exhibit I - NRC Report #1318543. This spill amount was later confirmed by Beta Offshore to be approximately 588 BBLs.

sensitive areas.[16]

On October 4, 2021, PHMSA issued a Corrective Action Order (CAO), CPF No. 5-2021-054-CAO, to Beta Offshore. The CAO requires that the San Pedro Bay Pipeline remain shut down until a number of corrective measures are undertaken. The CAO also requires, among other things, that Beta Offshore conduct testing of the failed pipe section and a root cause failure analysis and prepare a remedial work plan to ensure the safety of the pipeline. PHMSA also retains authority under the CAO to review and approve any plan to restart the line. To date, the San Pedro Bay Pipeline remains shut down.[17]

The NTSB launched an official investigation into the cause of the Failure.[18] On October 9, 2021, the NTSB, in collaboration with the USCG and PHMSA investigators, interviewed Beta Offshore personnel to learn about pipeline operations, maintenance, and emergency procedures, and actions taken by their personnel prior to, during, and after the Failure (NTSB Interviews).[19]

On December 15, 2021, a Grand Jury for the U.S. District Court for the Central District of California handed down an indictment related to the Failure, charging Amplify Energy Corp., Beta Operating Company, LLC d/b/a Beta Offshore, and San Pedro Bay Pipeline Company with one misdemeanor count of negligent discharge of oil under the Clean Water Act, 33 U.S.C. § 1251 et seq. On September 8, 2022, the Court accepted Defendants' guilty plea and imposed a fine and a four-year probationary period. (United States v. Amplify Energy Corp. et al., 8:21-cr-00226 (C.D. Cal 2022)).

On February 3, 2022, and May 12, 2022, pursuant to 49 U.S.C. § 60117 and 49 C.F.R. § 190.203, PHMSA requested additional information from Beta Offshore to aid in its investigation into the Failure (Request for Specific Information Letters). Beta Offshore provided responses to PHMSA on March 18, 2022, April 1, 2022, April 21, 2022, and June 10, 2022.

As a result of the PHMSA investigation, it appears that Beta Offshore has committed probable violations of the Pipeline Safety Regulations, Title 49, Code of Federal Regulations. The items inspected and the probable violations are:

1. § 195.52 Immediate notice of certain accidents.

(a) *Notice requirements*. At the earliest practicable moment following discovery, of a release of the hazardous liquid or carbon dioxide transported resulting in an event described in § 195.50, but no later than one hour after confirmed discovery, the operator of the system must give notice, in accordance with paragraph (b) of this section of any failure that:

[16] *See* Violation Report at Exhibit J - NRC Report #1318656.

[17] The CAO remains open as of the date of this Notice.

[18] The NTSB designated its inquiry as a marine investigation. PHMSA is not an official party to the investigation.

[19] *See* Violation Report at Exhibit D - NTSB Interview Transcripts of Beta Offshore Personnel.

(1) . . . .

(4) Resulted in pollution of any stream, river, lake, reservoir, or other similar body of water that violated applicable water quality standards, caused a discoloration of the surface of the water or adjoining shoreline, or deposited a sludge or emulsion beneath the surface of the water or upon adjoining shorelines; or

(5) In the judgment of the operator was significant even though it did not meet the criteria of any other paragraph of this section.

Beta Offshore failed to notify the NRC in accordance with § 195.52(a) [20] at the earliest practicable moment following discovery, but no later than one hour after confirmed discovery[21] of a failure that resulted in oil being released into the San Pedro Bay. Pursuant to § 195.50, an accident report is required for each failure where there is a release of 5 gallons (19 liters) or more of hazardous liquid.[22] In addition, § 195.52 requires an operator to give immediate notice to the NRC of a release described in § 195.50 that also impacts certain bodies of water or that is significant in the judgment of the operator. On October 1, 2021, at approximately 4:10 pm, Beta Offshore received two ATMOS leak detection alarms indicating that a leak was detected.[23] By 4:15 pm, the estimated leak amount generated by ATMOS was 33.95 bbls (1,677.9 gallons of oil).[24]

After receiving the leak detection alarms, indicating that a leak was present on its offshore underwater pipeline that had resulted in the release of approximately 33.95 bbls of crude oil, Beta Offshore had enough information to reasonably determine that a reportable release had occurred. In fact, between 4:10 pm and 5:10 pm, ATMOS generated a total of thirteen (13) leak

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[20] *See* 49 C.F.R. § 195.52(b) (requiring that "each notice required by paragraph (a) of this section must be made to the National Response Center.").

[21] *See* 49 C.F.R. § 195.2 (defining "confirmed discovery" to mean "when it can be reasonably determined, based on information available to the operator at the time a reportable event has occurred, even if only based on a preliminary evaluation.").

[22] § 195.50 Reporting accidents.
An accident report is required for each failure in a pipeline system subject to this part in which there is a release of the hazardous liquid or carbon dioxide transported resulting in any of the following:
(a) Explosion or fire not intentionally set by the operator.
(b) Release of 5 gallons (19 liters) or more of hazardous liquid or carbon dioxide…

[23] *See* Violation Report at Exhibit C – Alarm History; *see also id*. at Exhibit B – Atmos LD 2001 Operation Manual V1.0, page 8 (explaining how the ATMOS leak detection system algorithm determines if instrument readings indicate a leak is present, generates a leak alarm, and estimates the size and location of the leak allowing staff to assess leak severity and respond accordingly).

[24] *See* Violation Report at Exhibit K – SCADA Data*; see also id*. at Exhibit B – Atmos LD 2001 Operation Manual V1.0, pg. 40 (explaining how the ATMOS system estimates the size and location of the leak, noting estimates eventually converge upon a narrower range of values depending on the size of the leak and operating conditions, where a large leak under steady state operating conditions results in the most rapidly converging estimates).

alarms that were acknowledged by the controller.[25] Despite multiple leak alarms and corresponding leak size estimates generated by ATMOS, Beta Offshore did not notify the NRC until 17 hours after the first leak alarms, when its contractor called the NRC on October 2, 2021, at 9:07 am after observing an oil sheen in the San Pedro Bay.[26]

2. § 195.401 General requirements.

(a) No operator may operate or maintain its pipeline systems at a level of safety lower than that required by this subpart and the procedures it is required to establish under § 195.402(a) of this subpart.

Beta Offshore operated its pipeline at a level of safety that was lower than that required by Subpart F – Operations and Maintenance, and the procedures required to be established under § 195.402(a).[27] During the Failure event, Beta Offshore personnel decided to disengage the ATMOS leak detection system (i.e., place it in "sleep" mode) and use the operator's *Manual Leak Detection* procedure to try to identify the leak while the pipeline continued to operate.[28] This procedure noted, however, that it was only to be used "[i]n the event of a communications breakdown between Platforms Elly and the Beta Pump Station…."[29] However, there was no communications breakdown between Platform Elly and the Beta Pump Station during the Failure event.

Further, not only did Beta Offshore use an inapplicable procedure during the Failure event, but they did not follow it correctly. For example, the procedure requires controllers to immediately shut down the pipeline if a leak alarm occurs.[30] Despite eighty-three (83) total leak alarms,[31] Beta Offshore did not immediately shut down the line and continued to operate the pipeline and engage in manual leak detection, resulting in effectively pumping oil into the pipeline, and subsequently the San Pedro Bay, for hours.

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[25] *See* Violation Report at Exhibit C - Alarm History.

[26] *See* Violation Report at Exhibit G - NRC Report # 1318463.

Even if Beta Offshore believed that ATMOS was generating false alarms and there was not a leak, given the amount and frequency of the alarming from the CPM system specifically designed to detect leaks, and the location of the pipeline in an environmentally sensitive area, personnel should have realized this event was significant enough to report under § 195.52(a)(5).

[27] *See* § 195.402(e)(3) (operators are required to have and follow emergency response procedures on taking necessary action, such as emergency shutdown or pressure reduction, to minimize the volume of hazardous liquid or carbon dioxide that is released from any section of a pipeline system in the event of a failure).

[28] *See* Violation Report at Exhibit B - Atmos LD 2001 Operation Manual V1.0, pgs. 14-16 noting that "sleep" mode should only be utilized if maintenance work is being carried out on the instrumentation associated with the leak detection system to avoid the generation of a false alarm during maintenance work.

[29] *See* Violation Report at Exhibit N - SPBPL-001.00 - SPBPL 16 Manual Leak Detection, pg. 1.

[30] *Id.*

[31] *See* Violation Report at Exhibit C – Alarm History.

3. § 195.402 Procedural manual for operations, maintenance, and emergencies.

(a) *General*. Each operator shall prepare and follow for each pipeline system a manual of written procedures for conducting normal operations and maintenance activities and handling abnormal operations and emergencies. This manual shall be reviewed at intervals not exceeding 15 months, but at least once each calendar year, and appropriate changes made as necessary to insure that the manual is effective. This manual shall be prepared before initial operations of a pipeline system commence, and appropriate parts shall be kept at locations where operations and maintenance activities are conducted.

Beta Offshore failed to follow a manual of written procedures for each pipeline system for conducting normal operations and maintenance activities and handling abnormal operations and emergencies. During the Failure, Beta Offshore failed to follow: (1) Procedure 17.05 Pipeline – *Start Up and Shut Down of 16" SPBPL*; (2) SPBPL 16" SPBPL-009.11 - *Emergency Shutdown, Isolation and Drawdown*; (3) Procedure 1.01 - *Reporting and Control of Accidents*, (4) Procedure 5.02 - *CPM and Leak Detection*; and (5) Procedure 17.08 – *Abnormal Operation,* as detailed further below.

(1) Beta Offshore failed to follow its Procedure 17.05 *Pipeline - Start Up and Shut down of 16" SPBPL* by not immediately shutting down the San Pedro Bay Pipeline when it received two ATMOS leak alarms. In relevant part, the procedure required Beta Offshore to "[i]mmediately shut down the pipeline and call the Platform Supervisor or PIC (person-in-charge) if any of the following occur; Leak warning on LDS [leak detection system]."[32] Despite receiving two ATMOS leak alarms at approximately 4:10 pm on October 1, 2021, Beta Offshore did not notify the PIC until 7:15 pm and did not ultimately shut down the San Pedro Bay Pipeline until approximately 6:04 am on October 2, 2021.[33]

(2) Beta Offshore failed to follow its SPBPL 16" SPBPL-009.11 - *Emergency Shutdown, Isolation and Drawdown* procedure by not isolating the San Pedro Bay Pipeline immediately when a pipeline leak was indicated by ATMOS. In relevant part, the procedure stated, "[i]n the event of an indicated or suspected pipeline leak, the San Pedro Bay Pipeline is to be isolated by closing Shutdown Valve SD 5-02B-1 at Platform Elly, ML-4 at the Queen Mary Vault and V-520 and V-530 at the Beta Pump Station. After initial isolation, valve ML-1 and ML-3 will be

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[32] *See* Violation Report at Exhibit O - Procedure 17.05 - Start Up and Shutdown of 16 SPBPL, pg. 5.

[33] *See* Violation Report at Exhibit D - NTSB Interview Transcripts of Beta Offshore Personnel stating that Beta Offshore did not notify the PIC until 7:15pm and did not ultimately shut down the San Pedro Bay Pipeline until approximately 6:04am on October 2, 2021. *See also id.* at Exhibit P – Pump On-Off Summary. Between 4:10 pm and the time when the PIC was notified of the leak alarm at 7:15 pm, the following did occur while trying to investigate the cause of the leak alarms effectively restarting and shutting down the San Pedro Bay Pipeline each time;

- Pump P05A was turned off once;
- Pump P05B was turned on once and turned off once
- Pump P05C was turned on three times and turned off twice.

closed….”[34] Despite receiving eighty-three (83) ATMOS leak alarms between 4:10 pm and midnight on October 1, 2021,[35] Beta Offshore did not isolate the pipeline and close the requisite valves until approximately 8:15 am on October 2, 2021.[36]

This procedure also required Beta Offshore to “[a]nnually simulate this process in the procedure and review with all personnel that could possibly be involved.”[37] Despite this requirement, Beta Offshore could not provide any records to demonstrate that it annually simulated emergency shutdown, isolation, and drawdown of the San Pedro Bay Pipeline with its personnel for the past five years.[38] This was evident during the Failure event when controllers and others failed to follow the processes prescribed in this procedure.

(3) Beta Offshore failed to follow its Procedure 1.01 - *Reporting and Control of Accidents*, which states “[t]he [PL Supervisor and HS&E Supervisor] is responsible for the documentation and reporting of pipeline facility accidents”[39] and “[a]t the earliest practicable moment following the discovery, and not later than 1 hour following the time of such confirmed discovery, of a hazardous liquid or carbon dioxide release meeting at least one of the criteria below, the DOT must be contacted by telephone at 800-424-8802 (National Response Center- NRC) and notified of any release resulting in any of the following….”[40] Further, the PL Supervisor and HS&E Supervisor did not document or report the Failure pursuant to Beta Offshore’s written procedures; it was called in via a third-party contractor.[41] In addition, Beta Offshore failed to report the Failure to the NRC within the time period specified by its procedures.

(4) Beta Offshore failed to follow its Procedure 5.02 - *CPM and Leak Detection*. The procedure required that its CPM leak detection system comply with API RP 1130 in operating, maintaining,

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[34] *See* Violation Report at Exhibit Q - SPBPL 16” SPBPL-009.11 - Emergency Shutdown, Isolation and Drawdown, pg. 1.

[35] *See* Violation Report at Exhibit C – Alarm History.

[36] *See* Violation Report at Exhibit D - NTSB Interview Transcripts of Beta Offshore Personnel.

[37] *See* Violation Report, Exhibit Q - SPBPL 16” SPBPL-009.11 - Emergency Shutdown, Isolation and Drawdown, pg. 1 (requiring relevant personnel to “review and discuss safety and scope of operation of procedure, and [m]ake note of any changes in this procedure that need addressing”).

[38] *See* Violation Report at Exhibit R - Beta Offshore Response Letters to PHMSA February 3, 2022’s Request for Specific Information, Response to request #32.

[39] *See* Violation Report at Exhibit S - Procedure 1.01 - Reporting and Control of Accident, pg.1, and Exhibit T - Pipeline O&M Number Assignment Table.

[40] *See* Violation Report at Exhibit S - Procedure 1.01 - Reporting and Control of Accident, pg. 2.

[41] *See* Violation Report at Exhibit G - NRC Report # 1318463. Although it is common for operators to utilize third-party contractors for NRC reporting, Beta Offshore failed to update its written procedures to memorialize this practice and therefore its conduct was not in accordance with its procedures at the time of the Failure.

testing, record keeping, and dispatcher training of the system.[42] Beta Offshore, however, failed to implement API RP 1130, Section 6.5 – "Pipeline Controller Training and Retraining," which requires that the users of the CPM system (i.e., controllers) and any CPM support staff have appropriate CPM training.

During the NTSB interviews, both controllers on duty during the Failure event stated that they were never trained on the ATMOS leak detection system at all.[43] This is corroborated by the lack of records maintained by Beta Offshore demonstrating that for the past five years, controllers were trained to recognize leaks using ATMOS Leak Detection System, or were trained on Section 6.5 topics such as Hydraulics, Alarming/Performance, Data Presentation, Instrument Failure, Validating CPM Alarms, Line-pack Change (Online) Trending, CPM System Operation, Abnormal Functions, and other Leak Detection Techniques.[44]

Despite Beta Offshore's written procedures that required this training, its controllers were not trained on these topics, as evidenced by their actions during the Failure event. For example, during the Failure, controllers continually shut the shipping pumps on and off (without closing any valves) in an effort to clear the alarms without performing additional actions to investigate the cause of the leak alarms. During the NTSB Interviews, the night shift controller stated that controllers have been taught this practice and he has done it many times before.[45]

(5) Beta Offshore failed to follow its Procedure 17.08 – *Abnormal Operation* implementing the requirements set forth in § 195.402(d)(5).[46] This procedure stated that the company "will undertake a review of personnel response … [and] …the review shall consider the actions taken, and whether the procedures followed were adequate…."[47] Beta Offshore could not provide any records to demonstrate that operator personnel response to abnormal conditions had been

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[42] *See* Violation Report at Exhibit U - Procedure 5.02 - CPM and Leak Detection. *See also* 49 C.F.R. § 195.444.

[43] *See* Violation Report at Exhibit D - NTSB Interview Transcripts of Beta Offshore Personnel

[44] *See* Violation Report on pgs. 22-33. *See also id* Violation Report at Exhibit R - Beta Offshore Response Letters to PHMSA February 3, 2022's Request for Specific Information, Response to request #10, #14 and #15.

[45] This is in direct conflict with the ATMOS LDS Operations Manual, which requires controllers to respond to alarms by inspecting graphical trends. *See* Violation Report at Exhibit B - Atmos LD 2001 Operation Manual V1.0, pg. 43.

[46] § 195.402 Procedural manual for operations, maintenance, and emergencies.
(a) . . . .
(d) *Abnormal operation.* The manual required by paragraph (a) of this section must include procedures for the following to provide safety when operating design limits have been exceeded:
(1) . . . .
(5) Periodically reviewing the response of operator personnel to determine the effectiveness of the procedures controlling abnormal operation and taking corrective action where deficiencies are found.

[47] *See* Violation Report at Exhibit V - Procedure 17.08 – Abnormal Operation, pg. 2

periodically reviewed to determine the effectiveness of the procedures controlling abnormal operation or whether any corrective action was taken where deficiencies were found.[48]

4. § 195.446 Control room management.

(a) *General.* This section applies to each operator of a pipeline facility with a controller working in a control room who monitors and controls all or part of a pipeline facility through a SCADA system. Each operator must have and follow written control room management procedures that implement the requirements of this section. The procedures required by this section must be integrated, as appropriate, with the operator's written procedures required by § 195.402. An operator must develop the procedures no later than August 1, 2011, and must implement the procedures according to the following schedule. The procedures required by paragraphs (b), (c)(5), (d)(2) and (d)(3), (f) and (g) of this section must be implemented no later than October 1, 2011. The procedures required by paragraphs (c)(1) through (4), (d)(1), (d)(4), and (e) must be implemented no later than August 1, 2012. The training procedures required by paragraph (h) must be implemented no later than August 1, 2012, except that any training required by another paragraph of this section must be implemented no later than the deadline for that paragraph.

On multiple occasions, Beta Offshore failed to follow its written control room management procedures that implement the requirements of § 195.446, as detailed further below.

(1) Beta Offshore failed to follow its CRM Procedure, Section 304-*Shift Change Information and Accountability*, implementing the requirements set forth in § 195.446(b), during the Failure event.[49] Section 304 of Beta Offshore's CRM procedure required the operator to use Form #304 or equivalent to document shift change information and requires at least nine types of information that must be recorded, reviewed, and signed by both controllers that are part of the shift change.[50]

Beta Offshore could not provide any records to demonstrate that Beta Offshore's controllers documented the required minimum information listed above using the required Form 304 or equivalent during shift changes prior to and during the Failure event.[51] In addition, during the

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[48] *See* Violation Report on pgs. 22-33 and Violation Report at Exhibit R - Beta Offshore Response Letters to PHMSA February 3, 2022's Request for Specific Information, Response to request #30.

[49] § 195.446 Control room management.
(a) . . . .
(b) *Roles and responsibilities*. Each operator must define the roles and responsibilities of a controller during normal, abnormal, and emergency operating conditions. To provide for a controller's prompt and appropriate response to operating conditions, an operator must define each of the following:
(4) A method of recording controller shift-changes and any hand-over of responsibility between controllers; and … .

[50] *See* Violation Report at Exhibit W - CRM Procedure, pgs.15-16.

[51] *See* Violation Report on pgs. 39-44; *see also* Violation Report at Exhibit R - Beta Offshore Response Letters to PHMSA February 3, 2022's Request for Specific Information, Response to Request #22. Although the company

NTSB Interviews, the controller stated that the shift change briefing is done verbally and controllers do not write down what is discussed or sign anything, despite the express requirements to do so in Beta Offshore's written procedures.[52]

(2) Beta Offshore failed to follow its CRM Procedure, Section 500 - *Shift Lengths, Schedules, and Off-Duty Time*, that implemented the requirements in § 195.446(d)(1) and (4),[53] during the Failure event:

CRM Procedure Section 500 - *Shift Lengths, Schedules, and Off-Duty Time*, Table 501A, stated that the maximum unscheduled hours during extended shifts when working on a 12-hour/shift schedule is 18 hours, and the minimum time off is 10 hours when working more than a 16 hours extended unscheduled shift.[54] During the Failure event, Beta Offshore failed to follow this procedure by allowing its dayshift controller to work for 22.5 hours, from 4:30 am on Thursday, September 30, 2021, to 2:00 am on Friday, October 1, 2021. Further, Beta Offshore failed to follow this procedure when it allowed that same controller to report for duty just two and a half hours after being released from his first shift at 5:00 am on October 1, 2021, thus not providing 10 hours of time off, or 8 hours of continuous sleep.[55]

CRM Procedure Section 500 further stated that "[t]he decision to work an extended shift greater than 16 hours shall be managed through section #108, deviation and exception process.[56] Section 108 explained that Beta Offshore's Compliance Specialist and/or Operations Supervisor may approve deviations to this manual, but only if the deviation does not relax this manual's requirements below those required by the applicable federal or state pipeline safety regulations. If the aforementioned party is unavailable, their supervisor may approve deviations on the advice of the supervision of the Control Room. Documentation of all deviations, including applicable

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produced sign-in sheets, it did not provide completed Form 304 documents, or equivalent forms that documented the required information.

[52] *See* Violation Report at Exhibit D - NTSB Interview Transcripts of Beta Offshore Personnel.

[53] § 195.446(d) Control room management.
(a) . . . .
(d) *Fatigue mitigation*. Each operator must implement the following methods to reduce the risk associated with controller fatigue that could inhibit a controller's ability to carry out the roles and responsibilities the operator has defined:
(1) Establish shift lengths and schedule rotations that provide controllers off-duty time sufficient to achieve eight hours of continuous sleep;
(4) Establish a maximum limit on controller hours-of-service, which may provide for an emergency deviation from the maximum limit if necessary for the safe operation of a pipeline facility.

[54] *See* Violation Report at Exhibit W - CRM Procedure, pg. 24.

[55] *See* Violation Report at Exhibit D - NTSB Interview Transcripts of Beta Offshore Personnel. The controller awoke at 4:30 am and reported for duty at 5:00 am.

[56] *See* Violation Report at Exhibit W - CRM Procedure, pg. 26.

analysis, must be available to support any approved deviation. Records of deviation may be in any form as long as it contains the required information.[57]

Beta Offshore failed to provide records to demonstrate that the decision to require the dayshift controller to work an extended shift greater than 16 hours was managed in accordance with Section #108 of its CRM Procedure. PHMSA's Request for Specific Information Letter included a request to provide any records of deviation related to hours of service and alarm management changes from May 1 to October 4, 2021. Beta Offshore did not provide any records in response.[58]

(3) Beta Offshore failed to follow its CRM Procedure, 608-2 - *Alarm Management Plan Review*, that implements the requirements in § 195.446(e). Its procedure stated that "[t]his review shall be conducted and documented by the Elly Control Room Operator, Elly Facilities Operator, Sr. Pipeline Tech, Pipeline Superintendent, and personnel knowledgeable in this area."[59] Documents provided by Beta Offshore in response to PHMSA's Request for Specific Information Letter failed to demonstrate that the Elly Control Room Operator, Elly Facilities operator, and Sr. Pipeline Tech had reviewed its Alarm Management Plan.[60]

(4) Beta Offshore failed to follow its CRM procedure as required. Specifically, an operators' CRM procedure is required by §§ 195.446(a) and (e)(2) to identify at least once each calendar month the points affecting safety that have been taken off scan in the SCADA host, have had alarms inhibited, generated false alarms, or that have had forced or manual values for periods of time exceeding that required for associated maintenance or operating activities. Beta Offshore's procedure required compliance with this activity, but Beta Offshore was unable to demonstrate compliance during the inspection through records or any other means.[61]

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[57] *See* Violation Report at Exhibit W - CRM Procedure, pgs. 7-8.

[58] *See* Violation Report on pgs. 49-44 and Violation Report at Exhibit R - Beta Offshore Response Letters to PHMSA February 3, 2022's Request for Specific Information, Response to request #19.

[59] *See* Violation Report at Exhibit W - CRM Procedure pg. 45.

[60] *See* Violation Report at Exhibit X - Beta Offshore Response Letter to PHMSA's Request for Specific Information, dated June 10, 2022.

[61] *See* 49 C.F.R. § 195.446(j)(1) (requiring operators to maintain for review during inspection records that demonstrate compliance with the requirements set forth in § 195.446).

Despite having a written control room management procedure that incorporated the requirements set forth in § 195.446(e)(2), and the requirement to follow its CRM Procedure pursuant to § 195.446(a), Beta Offshore stated in its response to PHMSA's RSI that it completes this requirement by regularly reevaluating its alarm and safety equipment, but does not maintain records of these evaluations. *See* Violation Report at Exhibit R - Beta Offshore Response Letters to PHMSA February 3, 2022's Request for Specific Information, Response to Request #2; *see also* Violation Report at Exhibit W - CRM Procedure, pg. 47 (noting that Beta Offshore's written procedures require that the minimum documentation for the monthly reviews of points taken off scan must include dates showing (1) when points were taken off scan/inhibited/forced/manual, (2) when points were restored, (3) the duration of outage, and (4) results of the review).

5. § 195.446 Control room management.

(a) G*eneral*. This section applies to each operator of a pipeline facility with a controller working in a control room who monitors and controls all or part of a pipeline facility through a SCADA system. Each operator must have and follow written control room management procedures that implement the requirements of this section. The procedures required by this section must be integrated, as appropriate, with the operator's written procedures required by § 195.402. An operator must develop the procedures no later than August 1, 2011, and must implement the procedures according to the following schedule. The procedures required by paragraphs (b), (c)(5), (d)(2) and (d)(3), (f) and (g) of this section must be implemented no later than October 1, 2011. The procedures required by paragraphs (c)(1) through (4), (d)(1), (d)(4), and (e) must be implemented no later than August 1, 2012. The training procedures required by paragraph (h) must be implemented no later than August 1, 2012, except that any training required by another paragraph of this section must be implemented no later than the deadline for that paragraph.

Beta Offshore failed to follow its CRM procedure as it relates to the requirement to monitor the content and volume of general activity being directed to and required of each controller at least once each calendar year, but at intervals not exceeding 15 months, that will assure controllers have sufficient time to analyze and react to incoming alarms.[62] Beta Offshore's procedure required compliance with this activity, but Beta Offshore was unable to demonstrate compliance during the inspection through records or any other means.[63]

6. §195.446 Control room management.

(a) . . . .

(b) *Roles and responsibilities*. Each operator must define the roles and responsibilities of a controller during normal, abnormal, and emergency operating conditions. To provide for a controller's prompt and appropriate response to operating conditions, an operator must define each of the following:

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[62] 49 C.F.R. § 195.446(e)(5).

[63] *See* 49 C.F.R. § 195.446(j)(1) (requiring operators to maintain for review during inspection records that demonstrate compliance with the requirements set forth in § 195.446).

Beta Offshore's written control room management procedure that incorporated the requirements of this section also required documentation, stating that "[o]nce per calendar year or whenever significant changes are being made as determined by the MOC process, an activity review will be conducted by the Pipeline Superintendent, with the findings documented on memorandum or other acceptable method." *See* Violation Report at Exhibit W - CRM Procedure, pg. 45 and Violation Report at Exhibit R - Beta Offshore Response Letters to PHMSA February 3, 2022's Request for Specific Information, Response to request #4; *see also* § 195.446(a) (requiring operators to follow their CRM procedures).

(1) . . . .

(5) The roles, responsibilities and qualifications of others who have the authority to direct or supersede the specific technical actions of controllers.

Beta Offshore did not define in its CRM procedures the roles, responsibilities and qualifications of others who have the authority to direct or supersede the specific technical actions of controllers.[64] During the Failure event; the controller was directed by the Pipeline Superintendent to place the ATMOS leak detection system into "sleep" mode.[65] Since the controller was unfamiliar with this task and had never performed it before, the Pipeline Superintendent provided verbal instructions over the telephone.[66] The Pipeline Superintendent, however, was not identified in Beta Offshore's written procedures as someone who had the authority to direct the controller's actions. The procedure also failed to document the Pipeline Superintendent's required roles, responsibilities, or qualifications.

7. § 195.446 Control room management.

(a) . . . .

(d) *Fatigue mitigation*. Each operator must implement the following methods to reduce the risk associated with controller fatigue that could inhibit a controller's ability to carry out the roles and responsibilities the operator has defined:

(1) . . . .

(2) Educate controllers and supervisors in fatigue mitigation strategies and how off-duty activities contribute to fatigue;

(3) Train controllers and supervisors to recognize the effects of fatigue; and

Beta Offshore failed to educate controllers and supervisors in fatigue, mitigation strategies and how off-duty activities contribute to fatigue, and train controllers and supervisors to recognize the effects of fatigue. Despite Beta Offshore having a written control room management procedure noting that it would provide training on fatigue mitigation strategies once every three

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[64] *See* Violation Report at Exhibit W - CRM Procedure, pgs. 12-14. Although the procedures include the roles and responsibilities of controllers during normal, abnormal, and emergency events, they do not include the roles, responsibilities and qualifications of individuals who can direct or supersede the actions of the controllers.

[65] Sleep Mode disables leak detection function. *See* Violation Report at Exhibit B - Atmos LD 2001 Operation Manual V1.0, pg. 16

[66] *See* Violation Report at Exhibit D - NTSB Transcripts of Beta Offshore Personnel.

years to qualified controllers or when required by the management-of-change process,[67] records provided by Beta Offshore failed to demonstrate that Beta Offshore conducted periodic fatigue education/training for controllers and control room supervisors who were present at the time of the Failure, at the requisite intervals required in its procedure.[68]

8. § 195.446 Control room management.

(a) . . . .

(h) *Training*. Each operator must establish a controller training program and review the training program content to identify potential improvements at least once each calendar year, but at intervals not to exceed 15 months. An operator's program must provide for training each controller to carry out the roles and responsibilities defined by the operator. In addition, the training program must include the following elements:

Beta Offshore failed to provide training to its controllers to carry out the roles and responsibilities defined by the operator that includes (1) Responding to abnormal operating conditions likely to occur simultaneously or in sequence[69], (2) Providing controllers with a working knowledge of the pipeline system[70], especially during the development of AOCs, (3) Providing an opportunity for controllers to review relevant procedures in advance of their application for setups that are periodically, but infrequently used,[71] and (4) Providing control room team training and exercises that included both controllers and other individuals, defined by the operator, who would reasonably be expected to operationally collaborate with controllers (control room personnel) during normal, abnormal or emergency situations for the past three years.[72] Beta Offshore could not produce documents to demonstrate that Beta Offshore has provided training to its controllers and supervisors that covers these topics.[73]

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[67] *See* Violation Report at Exhibit W - CRM Procedure, pg. 30. In contrast, Fatigue Training records that were submitted by Beta Offshore in response to PHMSA's Request for Specific Information notes that this training is to be conducted yearly. *See* Violation Report at Exhibit Y - Fatigue Training Records.

[68] *See* Violation Report at Exhibit R - Beta Offshore Response Letters to PHMSA February 3, 2022's Request for Specific Information, Response to request #1; *see* Violation Report on pgs. 65-66 (noting that multiple controllers did not have records to demonstrate that they had completed the training on the requisite topics).

[69] 49 C.F.R. § 195.446(h)(1).

[70] 49 C.F.R. § 195.446(h)(4).

[71] 49 C.F.R. § 195.446(h)(5); *see also,* Violation Report at Exhibit W - CRM Procedure, pg. 56, which required that each controller be trained on roles and responsibilities and lists the elements of the training program, including responding to AOCs, a working knowledge of the pipeline system, and reviewing procedures for infrequent setups in advance of their application.

[72] 49 C.F.R. § 195.446(h)(6).

[73] *See* Violation Report at Exhibit R - Beta Offshore Response Letters to PHMSA February 3, 2022's Request for Specific Information, Response to request #6 and #9; *see* Violation Report on pgs. 72-74.

9. § 195.505 Qualification program.

Each operator shall have and follow a written qualification program. The program shall include provisions to:

(a) . . . .

(b) Ensure through evaluation that individuals performing covered tasks are qualified;

Beta Offshore failed to ensure a thorough evaluation that individuals performing covered tasks were qualified. Specifically, the night shift controller who called in sick on September 30, 2021, was replaced by another person who was not qualified as a controller. Beta Offshore informed PHMSA that this individual occasionally works in the control room, where he shadows a qualified controller as part of his training, and that he was not a qualified controller at the time of the Failure event.[74] In addition, documents provided by Beta Offshore demonstrate that the controllers who were present at the time of the Failure had missed some years of the required training, and other personnel who were present and responded at the time of the Failure did not have the required training at all.[75]

10. § 195.54 Accidents reports.

(a) Each operator that experiences an accident that is required to be reported under § 195.50 must, as soon as practicable, but not later than 30 days after discovery of the accident, file an accident report on DOT Form 7000-1.

Beta Offshore failed to file an accident report on DOT Form 7000-1 as soon as practicable but not later than 30 days after the discovery of the Failure. Specifically, Beta Offshore filed its accident report on December 3, 2021, which is more than 30 days after the discovery of the accident on October 1, 2021.[76]

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[74] *See* Violation Report at Exhibit X - Beta Offshore Response Letters to PHMSA May 12, 2022's Request for Specific Information. Response to request #1.

[75] *See* Violation Report at Exhibit R - Beta Offshore Response Letters to PHMSA February 3, 2022's Request for Specific Information. Response to request #1, #4, #8, #14; See Violation Report on pgs. 80-81

[76] *See* Violation Report at Exhibit Z – Accident Report. Shortly after the Failure, Beta Offshore initiated a series of discussions with PHMSA regarding the submission of the report and raised concerns regarding certain data inputs on the form. In response, PHMSA provided instructions and feedback on filling out the form. In addition, PHMSA provides detailed instructions for the written reports on its website. See https://www.phmsa.dot.gov/forms/operator-reports-submitted-phmsa-forms-and-instructions (last accessed Nov. 16, 2022). Despite Beta Offshore having sufficient instructions, it did not complete the minimum required fields to allow for report submittal and therefore did not timely submit the form through the PHMSA online portal as required.

Proposed Civil Penalty

Under 49 U.S.C. § 60122 and 49 CFR § 190.223, you are subject to a civil penalty not to exceed $257,664 per violation per day the violation persists up to a maximum of $2,576,627 for a related series of violations. For violation occurring on or after March 21, 2022, and before January 6, 2023, the maximum penalty may not exceed $239,142 per violation per day the violation persists, up to a maximum of $2,391,412 for a related series of violations. For violation occurring on or after May 3, 2021, and before March 21, 2022, the maximum penalty may not exceed $225,134 per violation per day the violation persists, up to a maximum of $2,251,334 for a related series of violations. For violation occurring on or after January 11, 2021, and before May 3, 2021, the maximum penalty may not exceed $222,504 per violation per day the violation persists, up to a maximum of $2,225,034 for a related series of violations. For violation occurring on or after July 31, 2019, and before January 11, 2021, the maximum penalty may not exceed $218,647 per violation per day the violation persists, up to a maximum of $2,186,465 for a related series of violations. For violation occurring on or after November 27, 2018, and before July 31, 2019, the maximum penalty may not exceed $213,268 per violation per day, with a maximum penalty not to exceed $2,132,679. For violation occurring on or after November 2, 2015, and before November 27, 2018, the maximum penalty may not exceed $209,002 per violation per day, with a maximum penalty not to exceed $2,090,022.

We have reviewed the circumstances and supporting documentation involved for the above probable violations and recommend that you be preliminarily assessed a civil penalty of $3,389,734 as follows:

Item number	PENALTY
1	$50,200
2	$225,134
3	$1,526,800
4	$1,228,900
5	$50,200
6	$50,200
7	$50,200
8	$81,900
9	$126,200

Warning Item

With respect to Item 10, we have reviewed the circumstances and supporting documents involved in this case and have decided not to conduct additional enforcement action or penalty assessment proceedings at this time. We advise you to promptly correct this item. Failure to do so may result in additional enforcement action.

Proposed Compliance Order

With respect to Items 2, 3, 4, 5, 6, 7, and 8, pursuant to 49 U.S.C. § 60118, the Pipeline and Hazardous Materials Safety Administration proposes to issue a Compliance Order to Beta

Offshore. Please refer to the Proposed Compliance Order, which is enclosed and made a part of this Notice.

Response to this Notice

Enclosed as part of this Notice is a document entitled *Response Options for Pipeline Operators in Enforcement Proceedings*. Please refer to this document and note the response options. All material you submit in response to this enforcement action may be made publicly available. If you believe that any portion of your responsive material qualifies for confidential treatment under 5 U.S.C. §552(b), along with the complete original document you must provide a second copy of the document with the portions you believe qualify for confidential treatment redacted and an explanation of why you believe the redacted information qualifies for confidential treatment under 5 U.S.C. § 552(b).

Following your receipt of this Notice, you have 30 days to respond as described in the enclosed *Response Options*. If you do not respond within 30 days of receipt of this Notice, this constitutes a waiver of your right to contest the allegations in this Notice and authorizes the Associate Administrator for Pipeline Safety to find facts as alleged in this Notice without further notice to you and to issue a Final Order. If you are responding to this Notice, we propose that you submit your correspondence to my office within 30 days from receipt of this Notice. The Region Director may extend the period for responding upon a written request timely submitted demonstrating good cause for an extension.

In your correspondence on this matter, please refer to **CPF 5-2023-011-NOPV**, and for each document you submit, please provide a copy in electronic format whenever possible.

Sincerely,

Dustin Hubbard
Director, Western Region
Pipeline and Hazardous Materials Safety Administration

Enclosures: *Proposed Compliance Order*
Response Options for Pipeline Operators in Compliance Proceedings

cc: Mr. Dan Steward
Vice President of Operations
Beta Offshore

Mr. Rich Armstrong
Pipeline Superintendent
Beta Offshore

PROPOSED COMPLIANCE ORDER

Pursuant to 49 United States Code § 60118, the Pipeline and Hazardous Materials Safety Administration (PHMSA) proposes to issue to Beta Offshore a Compliance Order incorporating the following remedial requirements to ensure the compliance of Beta Offshore with the pipeline safety regulations:

A. In regard to Item 2 of the Notice pertaining to Beta Offshore operating its pipeline at a level of safety that was lower than that required by Subpart F – Operations and Maintenance and the procedures it is required to establish under § 195.402(a), Beta Offshore must complete the following to comply with § 195.401(a):

1. Amend procedure SPBPL-001.00 - SPBPL 16 *Manual Leak Detection* to:
    a. Clearly define and provide an example(s) of what a "communication breakdown" is; and
    b. Clearly define when to use the procedure. For example, can this procedure be used when the LDS is working? Should this procedure not to be used to verify an LDS leak alarm? etc.; and

2. Submit the revised procedure to PHMSA for review and approval within 90 days of the receipt of the Final Order.

B. In regard to Item 3 of the Notice pertaining to Beta Offshore's failure to follow for each pipeline system a manual of written procedures for conducting normal operations and maintenance activities and handling abnormal operations and emergencies, Beta Offshore must complete the following to comply with § 195.402(a):

1. Amend Procedure 17.05 *Pipeline – Start Up and Shut Down of 16" SPBPL* to include at a minimum:
    a. A detailed description of activities to which the procedure applies (i.e., equipment maintenance, pigging operations, normal shipping, etc.); and
    b. On page 5 of the procedure, under Abnormal Operating Conditions (AOC), clearly define the definition of "immediately shut down the pipeline" and when immediate shutdown should be employed (e.g., whenever an AOC is detected, or LDS issues a leak alarm, both scenarios, etc.,)

2. Amend SPBPL 16" SPBPL-009.11 - *Emergency Shutdown, Isolation and Drawdown Procedure* to include at a minimum:
    a. A process on how to determine the location of a leak accurately, with detailed step-by-step instructions for a controller to follow;
    b. A process on when and how a drawdown procedure can be used;
    c. A process on when and how to safely return the pipeline to service after an emergency shutdown; and

d. The title of the person who will be responsible for each specific task (i.e., Who is responsible for deciding if drawdown will be utilized? Who is responsible for shutting down the pump and closing the valve? etc.)

3. Amend Procedure 17.08 – *Abnormal Operation* to include at a minimum:
    a. A form to document the investigation, corrective repairs, and replacement done for the abnormal operating conditions;
    b. How often the review of personnel response to abnormal operating conditions to determine the effectiveness of the procedures controlling abnormal operation and taking corrective action where deficiencies are found will be done and a form to document the review;
    c. Clearly define "shutting down the system." For example, if an AOC occurs, what is the procedure to use for shutting down the system?

4. Submit the amended procedures to PHMSA for review and approval within 90 days of the receipt of the Final Order.

5. Prior to pipeline restart, submit to PHMSA for review the qualifications and training records of all controllers to demonstrate that they were trained pursuant to Section 6.5 of API Recommended Practice 1130, "Computational Pipeline Monitoring for Liquids: Pipeline Segment," 3rd edition, September 2007, (API RP 1130) as required by Procedure 5.02 - CPM and Leak Detection.

C. In regard to Item 4 of the Notice pertaining to Beta Offshore's failure to follow its written control room management procedures that implement the requirements of § 195.446, specifically for failing to identify at least once each calendar month the points affecting safety that have been taken off scan in the SCADA host, have had alarms inhibited, generated false alarms, or that have had forced or manual values for periods of time exceeding that required for associated maintenance or operating activities, Beta Offshore must amend its CRM Procedure to include a detailed process on how a deficiency will be promptly remediated.

D. In regard to Item 5 of the Notice pertaining to Beta Offshore's failure to monitor the content and volume of general activity being directed to and required of each controller at least once each calendar year, but at intervals not exceeding 15 months, that will assure controllers have sufficient time to analyze and react to incoming alarms, Beta Offshore must amend its CRM Procedure to include a detailed process for:
    1. Identifying and measuring the workload (content and volume of general activity) being directed to an individual controller, and
    2. Means of determining that the controller has sufficient time to analyze and react to incoming alarms.

E. In regard to Item 6 of the Notice pertaining to Beta Offshore's failure to define the roles and responsibilities of a controller during normal, abnormal, and emergency operating conditions in their CRM procedure, to comply with § 195.446(b)(5), within 90 days of the receipt of the Final Order, Beta Offshore must amend and submit to PHMSA for review and approval its procedure that includes a detailed process for defining who has authority and their qualifications to direct or supersede the specific technical actions of a controller and disallowing others to direct controller actions (in any operating mode), including the circumstance(s) in which he or she may do so, and how this practice will be documented.

F. In regard to Item 7 of the Notice pertaining to failing to educate controllers and supervisors in fatigue mitigation strategies and how off-duty activities contribute to fatigue and train controllers and supervisors to recognize the effects of fatigue, prior to pipeline restart, Beta Offshore must complete the following to comply with § 195.446(d):

1. Provide training on fatigue risk management to all controllers and supervisors; and
2. Provide PHMSA a copy of Fatigue Risk Management training materials that will be used to train all controllers and supervisors.

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G. In regard to Item 8 of the Notice pertaining to Beta Offshore's failure to provide training to its controllers to carry out the roles and responsibilities defined by the operator that includes responding to abnormal operating conditions likely to occur simultaneously or in sequence, providing controllers with a working knowledge of the pipeline system, especially during the development of AOCs, and providing an opportunity for controllers to review relevant procedures in advance of their application for setups that are periodically but infrequently used, Beta Offshore must amend its CRM Procedure to include:

1. The name or title of the training modules that the controllers are required to take and how often they have to take the trainings, and
2. A detailed process for providing an opportunity for controllers to review relevant procedures in advance of their application for setups that are periodically, but infrequently used.
3. Establishing who, regardless of location, operationally collaborates with control room personnel,
4. Defining the frequency of new and recurring team training,
5. Addressing all operational modes and operational collaboration/control, and
6. Incorporation of lessons learned from actual historical events and other oil-gas industry events

H. Upon approval of all the amended procedures by PHMSA, Beta Offshore must:

1. Review the approved amended procedures with and provide a training simulation to all facilities operators, control room operators, persons-in-charge (PICs), supervisors, superintendents, and safety personnel within 90 days of PHMSA's approval; and
2. Provide records to PHMSA to demonstrate that review and training has been conducted and submit all the completion records to PHMSA within 30 days of the review and training completion.

I. It is requested that Beta Offshore maintain documentation of the safety improvement costs associated with fulfilling this Compliance Order and submit the total to Mr. Dustin Hubbard, Director, Western Region, Pipeline and Hazardous Materials Safety Administration. It is requested that these costs be reported in two categories: 1) total cost associated with preparation/revision of plans, procedures, studies, and analyses, and 2) total cost associated with replacements, additions, and other changes to pipeline infrastructure.