UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT
GULF OF AMERICA REGION

ACCIDENT INVESTIGATION REPORT

1. OCCURRED
   DATE: **01-DEC-2025** TIME: **1843** HOURS

2. OPERATOR: **Talos ERT LLC**
   REPRESENTATIVE:
   TELEPHONE:
   CONTRACTOR:
   REPRESENTATIVE:
   TELEPHONE:

- [ ] STRUCTURAL DAMAGE
- [ ] CRANE
- [ ] OTHER LIFTING
- [X] DAMAGED/DISABLED SAFETY SYS. **Emergency Disconnect**
- [ ] INCIDENT >$25K
- [ ] H2S/15MIN./20PPM
- [ ] REQUIRED MUSTER
- [ ] SHUTDOWN FROM GAS RELEASE
- [ ] OTHER

3. OPERATOR/CONTRACTOR REPRESENTATIVE/SUPERVISOR ON SITE AT TIME OF INCIDENT:

4. LEASE: **G15563**
   AREA: **GC** LATITUDE:
   BLOCK: **237** LONGITUDE:

5. PLATFORM: **B (Helix)**
   RIG NAME:

6. ACTIVITY:
- [ ] EXPLORATION(POE)
- [X] DEVELOPMENT/PRODUCTION(DOCD/POD)
- [ ] DECOMMISSIONING

7. TYPE:
   INJURIES:
- [ ] HISTORIC INJURY

	OPERATOR	CONTRACTOR
[ ] REQUIRED EVACUATION		
[ ] LTA (1-3 days)		
[ ] LTA (>3 days)		
[ ] RW/JT (1-3 days)		
[ ] RW/JT (>3 days)		
[ ] FATALITY		
[ ] Other Injury		

- [ ] POLLUTION
- [ ] FIRE
- [ ] EXPLOSION

LWC
- [ ] HISTORIC BLOWOUT
- [ ] UNDERGROUND
- [ ] SURFACE
- [ ] DEVERTER
- [ ] SURFACE EQUIPMENT FAILURE OR PROCEDURES

COLLISION [ ] HISTORIC [ ] >$25K [ ] <=$25K

8. OPERATION:
- [X] PRODUCTION
- [ ] DRILLING
- [ ] WORKOVER
- [ ] COMPLETION
- [ ] HELICOPTER
- [ ] MOTOR VESSEL
- [ ] PIPELINE SEGMENT NO.
- [ ] OTHER
- [ ] TEMP ABAND
- [ ] PERM ABAND
- [ ] DECOM PIPELINE
- [ ] DECOM FACILITY
- [ ] SITE CLEARANCE

9. CAUSE:
- [X] EQUIPMENT FAILURE
- [ ] HUMAN ERROR
- [ ] EXTERNAL DAMAGE
- [ ] SLIP/TRIP/FALL
- [X] WEATHER RELATED
- [ ] LEAK
- [ ] UPSET H2O TREATING
- [ ] OVERBOARD DRILLING FLUID
- [ ] OTHER _____

10. WATER DEPTH: **2200** FT.

11. DISTANCE FROM SHORE: **130** MI.

12. WIND DIRECTION:
    SPEED: M.P.H.

13. CURRENT DIRECTION:
    SPEED: M.P.H.

14. SEA STATE: FT.

15. PICTURES TAKEN:

16. STATEMENT TAKEN:

Incident:
On December 1, 2025, a Disabled Safety Systems Incident occurred on the Helix Producer 1 (HP-1) Floating Production Unit (FPU) operated by Talos ERT LLC and owned by Helix Energy Solutions located in Green Canyon (GC) Block 237 in the Gulf of America. On December 1, HP-1 was experiencing severe weather conditions with high winds when a primary loss of station event occurred. HP-1 was pushed outside of the safe zone of the watch circle which triggered an Emergency Disconnect (EDC). All the subsea infrastructure was successfully shut in; however, the buoy did not release from the vessel as required, leaving production attached. The vessel was able to return within fifteen feet around the center of rotation once the winds subsided. The vessel remained shut in and Talos began troubleshooting efforts to determine the cause of the failed disconnect.

Sequence of Events:
On the evening of December 1, the HP-1 FPU was operating under normal conditions when severe weather suddenly moved into the area. Talos reported that they were not aware of the approaching weather, and the conditions changed extremely quickly with heavy rain and winds in excess of 70 mph.
At 6:43 p.m., the vessel was positioned five feet from center; the weather was normal, with winds around 20 mph out of the southwest. Approximately fifteen seconds later, the winds had increased to 65 mph and changed direction out of the northwest. At approximately 6:44 p.m., the winds had exceeded 77 mph, and the vessel was pushed to almost 70 feet off center. This activated the Watch Circle Zone 2, which is an alarm-only zone triggered at 66 feet.
At approximately 6:45 p.m., HP-1 was pushed to a maximum of 103 feet from center due to the sudden onset of extreme winds. The bridge began the shut-in and disconnect sequence prior to this point, when HP-1 was around 70 feet off center. The field shut in and the crew believed all components functioned as required. Due to deplorable conditions, visibility was poor and a disconnect could not be verified from the bridge. An operator went to the turret to verify the disconnect and it was discovered that the buoy had not dropped. The operator prepared to initiate another drop via the Extreme Emergency Disconnect (EEDC), which is a hydro mechanical disconnect that requires manual operation of a three-way ball valve and coupling of the EEDC supply line to hydraulically force open the clamps, dropping the buoy. There are two EEDCs located on board, one near the life rafts on the starboard (right) side and one on the turret (EEDC #2) on the port (left) side. The operator was notified that the HP-1 had returned to center, not to initiate the EEDC#2.
It was reported that the weather subsided as quickly as it progressed. At approximately 6:48 p.m., the wind calmed down and HP-1 safely returned to the center zone of the watch circle. Assessments of the top side and subsea infrastructure were made following the incident. No damage was found in either location, and there were no reported injuries. Following the incident, the vessel remained shut-in and, troubleshooting efforts continued to determine the cause of the failed disconnect.

BSEE Investigation:
At approximately 9:30 p.m. on December 1, 2025, the BSEE Houma District After Hours received an initial notification via phone call of a failed EDC event that occurred on the HP-1 FPU. A detailed timeline describing the event was included in the email communication chain after the follow-up email. BSEE investigators were made aware of the situation, and the decision was made to conduct a follow-up investigation (IF) the next day. However, weather conditions did not permit investigators to fly offshore the following day. Another attempt was made on December 3 and BSEE investigators successfully made it offshore.
During the IF on December 3, 2025, Investigators met with Talos management and learned that Talos' HP-1, a vessel known as a Floating Production Unit vessel, was reconstructed to function as an offshore production facility, and designed to disconnect from a buoy and move off location for reasons such as dry-dock, weather, or

other emergencies. BSEE learned that at HP-1, multiple alternative systems exist for initiating buoy disconnection, including manual, automatic, and extreme emergency systems. Once disconnected, the buoy, which is connected to the subsea risers, will submerge to approximately 100 feet below the water surface.

Retrieval of the buoy is completed by utilizing a Remote Operate Vehicle (ROV) and two large cables lowered into the water. The ROV then attaches the cables to the buoy using large shackles, and the buoy is then raised back to the FPU into the turret section by large hydraulic winches. This turret section of the vessel houses the buoy and allows the vessel to rotate around the stationary buoy to adjust for sea heading while production is online.

Once the buoy is guided back into the turret, it is connected to a section of the turret called the multi-bore connector or quick connect/disconnect (QCDC). On this QCDC is a stab plate, and this is what allows production to flow onto the vessel through the production train. Production to HP-1 originates from subsea wells connected to the FPU via subsea production risers (risers). The buoy serves as the connection between the risers and the production train on the FPU. Once the connection is successful, two hydraulic pistons are closed, allowing twelve clamps to latch on to the buoy to close and hold it in place.

HP-1 is held in place by Dynamic Positioning (DP) and is the only FPU in the Gulf of America that operates on DP. The DP system at HP-1 is a computer-controlled system that automatically maintains a vessel's position and heading using its own thrusters and propellers, eliminating the need for anchors. There is a designated area of circumference that HP-1 must maintain to maximize production and minimize equipment stress. Distances from this center location form Watch Circles, which are safety systems designed to protect the facility and prevent pollution. The watch circle distances and designed functions are:

- 66 feet from center – Will sound an alarm facility wide
- 100 feet from center – Will initiate a subsea Emergency Shutdown (ESD)
- 120 feet from center – Will initiate a sequence disconnect (SDC) which is the automatic disconnect of the buoy from the vessel

Personnel have the choice to manually disconnect once the 66 feet alarm sounds. However, the automatic responses to shut in and disconnect will initiate at the 100 feet and 120 feet circle.

The system used on the evening of December 1 consisted of two buttons, yellow and red, that initiate a shut-in and disconnect sequence when activated simultaneously. The yellow button initiates a subsea shut-in, and the red button will initiate the buoy disconnect sequence. Once the sequence is activated, the buoy should be released in less than one minute. The order of activation is yellow, immediately followed by red. There are four locations of these buttons stationed throughout the vessel: In the bridge, the Offshore Installation Manager (OIM) office, the control room, and the Motor Control Center (MCC). The station on the bridge was activated on December 1 in response to the weather event.

BSEE also learned that there are twelve clamps stationed in the turret above the buoy that hold it in place. These clamps are operated by two hydraulic pistons that are designed to open in response to an EDC signal. One piston is sufficient to open all clamps, the other is in place for redundancy. Talos discovered in the initial troubleshooting following the incident that the primary hydraulic piston did not function, which resulted in a failed disconnect. Talos reported that the hydraulics bled down properly as designed, so the piston should have operated. Further investigation into the matter revealed that the piston was replaced in 2024 when HP-1 was on drydock, along with a full replacement of the clamp O-rings. However, multiple drops occurred since that time with success, including the annual inspection and for Hurricane Francine evacuation.

Further investigation into the pistons revealed corrosion build up including heavy rust on the rotating collars of the multi-bore connector (QCDC). It was hypothesized that the buildup of rust possibly prevented the pistons from functioning properly. Talos cleaned and removed the entire collar surface of the rust built up to ensure a smooth surface. Fresh grease was also applied directly to the surfaces and into all

grease nipples around the QCDC as per the lubrication procedures of the FES Disconnect Transfer System Operating and Maintenance Manual. Both pistons were function-tested numerous times to ensure smooth operation of all contact points, bearings, clamps, etc. Talos presented BSEE with a plan to verify full functionality, redundancy, and reliability of all the disconnect systems. The plan was to simulate the scenario experienced on December 1, with a multistep procedure, followed by multiple tests after the buoy has been successfully disconnected to ensure system functionality. All components in the system would be verified during these tests. BSEE agreed with the proposed plan and instructed Talos that these tests will need to be witnessed by BSEE personnel to give approval to return to service. BSEE investigators planned to return to location once Talos was prepared to begin the testing.

After the initial IF, Talos began conducting their own tests separate from the BSEE investigation. On December 3, 2025, after BSEE departed HP-1, Talos conducted their first test by recreating the event. HP-1 was brought out to 103 feet in the same southeasterly direction. The EDC was activated with an unsuccessful disconnect once again. Visual pressure gauges and trends showed the signal was sent to the pistons, but failed to actuate once more.

Talos then attempted to test the SDC via watch circle activation. The set point to auto disconnect was temporarily changed from 120 feet to 100 feet. This method produced a successful disconnect and the buoy dropped. After retrieval of the buoy, Talos continued to test the EDC, EEDC, and SDC again as planned; all producing successful drops. Once the tests were completed, Talos elected to change out the malfunctioning piston with a spare they had on board and conducted further testing as necessary following the replacement of an EDC piston per procedure. BSEE was notified and prepared to return to HP-1 to witness the required testing needed for approval to return to production.

On December 7, 2025, BSEE investigators returned to HP-1 to witness the required tests needed for approval. Upon arrival, Talos informed BSEE that they continued to conduct several scenarios of testing following the piston replacement. Including, a recreation of the incident, plus the SDC and both EEDC locations. BSEE required Talos to conduct four tests: an incident recreation, an automatic activation of the SDC, and manual activation tests for both EEDCs.

The first test BSEE witnessed was a recreation of the incident. One investigator was positioned in the bridge to verify EDC activation via buttons, and the other was positioned on deck with a proper view of the buoy from a safe location to verify release. At approximately 5:30 p.m. on December 7, Talos conducted the incident recreation test and brought HP-1 out to 103 feet of the watch circle. The EDC was activated with the bridge button system and BSEE investigators witnessed a successful disconnect and buoy drop. Talos expressed to BSEE that the turn around to reattach the buoy was about five hours.

Once HP-1 had successfully latched onto the buoy, the automatic SDC test at the 120-foot watch circle was conducted. Both BSEE investigators positioned themselves in the control room, which displayed a live visual simulation of watch circle boundaries, the vessel’s position, and real-time crossing points. Live camera feeds of the buoy were also available for verification. The test began at approximately 9:20 p.m., with HP-1 drifting toward the 100-foot watch circle. At 9:25 p.m., HP-1 crossed the 100-foot mark, successfully triggering a subsea ESD. HP-1 continued drifting until it crossed the 120-foot mark at approximately 9:30 p.m., at which point the SDC successfully activated, disconnecting the buoy. BSEE investigators verified the buoy drop via live camera footage. Due to the lengthy retrieval process and investigators’ work-hour limitations, testing concluded for the night.

Poor weather conditions on December 8 prevented Talos from safely retrieving the buoy due to rough seas. Talos explained that retrieval of the buoy in such conditions is hazardous and could result in equipment damage and personnel injury. The decision was made to stand down until weather conditions improved. By early morning on December 9, the weather conditions had subsided enough to allow HP-1 to safely maneuver over the buoy and retrieve it. At approximately 4:22 a.m. on December 9, Talos conducted the

test on the manual EEDC #1 located on the starboard side of the vessel near the life raft station. One BSEE investigator was stationed in the bridge for a proper view of the buoy. The other was positioned on site at the EEDC #1. A Talos operator activated the valves to initiate the disconnect sequence. The test was successful and the buoy dropped.

HP-1 was able to successfully retrieve the buoy around midday on December 9. EEDC # 2, located on the turret, was the only station left to be tested. At approximately 3:00 p.m. on December 9, Talos conducted the final test on the EEDC #2. Both BSEE investigators were positioned at EEDC to witness; the buoy was visible from this position. The disconnect was initiated and the buoy successfully dropped. With all required tests completed successfully, investigators expressed satisfaction and instructed Talos to request final approval to return to production through the BSEE Houma District.

Once HP-1 was back on normal production status, Talos sent the removed piston onshore to a contractor to conduct a proper teardown inspection to identify any deficiencies. The contractor conducted a full teardown inspection of the piston, including inspection for internal failure, leaks, and any other issues that would prevent the cylinder from retracting. The contractor concluded that no abnormalities were found after the inspection and multiple function tests were completed on the piston. The cylinder functioned normally, and no failure of the cylinder could be found. Only minor discrepancies were identified, including negligible corrosion on the exterior of the piston body and miniscule scratches observed on the rod. However, the contractor reported that these deficiencies were within operational tolerance and should not be considered as the contributing cause to the incident.

Conclusion:

After all the evidence gathered during the onsite follow-up, reviewing witness statements, taking pictures, and witnessing the tests of the disconnect systems presented by Talos, BSEE concludes that the direct cause of this incident was the hydraulic piston that failed to open during the event on December 1. Had the piston functioned properly, as witnessed by BSEE, the buoy would have successfully dropped and allowed HP-1 to safely disconnect from production during severe conditions.

Additionally, one contributing cause to this incident is the severe weather conditions that abruptly took place on the evening of December 1. Talos expressed that they were aware of weather passing north, but no weather was forecasted for their location. Had this weather event not occurred, the loss of station would not have occurred and there would have been no need to originally disconnect. Had Talos been aware of the approaching storm, better preparations could have been made, including a head change, which would have better held the vessel in place on center location.

Talos implemented multiple long term corrective actions as a result of this incident. Proper lubrication and inspection will be conducted after every disconnect and before reconnection in accordance with the FES Disconnect Transfer System Operating and Maintenance Manual. This will occur at least annually as well as any event separate from testing that may require a disconnect to occur. All lubrication, maintenance, and inspections of the QCDC will be tracked and monitored in the company's electronic maintenance management system.

18. LIST THE PROBABLE CAUSE(S) OF ACCIDENT:

Equipment Failure (Inoperable Equipment): The inoperable Ram on the QCDC did not allow for the buoy to drop, resulting in a failed disconnect of production.

19. LIST THE CONTRIBUTING CAUSE(S) OF ACCIDENT:

Work Environment (Other weather influences): The abrupt change to extreme winds contributing to the sudden shift of the vessel and the need to disconnect. Talos was aware of weather passing north, but was not aware of the severity.

20. LIST THE ADDITIONAL INFORMATION:

N/A

21. PROPERTY DAMAGED:

N/A

NATURE OF DAMAGE:

N/A

ESTIMATED AMOUNT (TOTAL):

22. RECOMMENDATIONS TO PREVENT RECURRANCE NARRATIVE:

N/A

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENT: **NO**

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

N/A

25. DATE OF ONSITE INVESTIGATION:

03-DEC-2025

26. Investigation Team Members/Panel Members:

28. ACCIDENT CLASSIFICATION:

29. ACCIDENT INVESTIGATION PANEL FORMED:

NO

27. OPERATOR REPORT ON FILE:

OCS REPORT:

30. DISTRICT SUPERVISOR:

Amy Gresham

APPROVED DATE: **29-MAY-2026**