

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT
PACIFIC OCS REGION

ACCIDENT INVESTIGATION REPORT

1. OCCURRED

DATE: 27-JUN-2008 TIME: 1233 HOURS

2. OPERATOR: Plains Exploration & Production Co
REPRESENTATIVE:
TELEPHONE:
CONTRACTOR:
REPRESENTATIVE:
TELEPHONE:

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

4. LEASE: P00441
AREA: SM LATITUDE:
BLOCK: 6374 LONGITUDE:

5. PLATFORM: IRENE
RIG NAME:

6. ACTIVITY: EXPLORATION (POE)
 DEVELOPMENT/PRODUCTION
(DOCD/POD)

7. TYPE:

HISTORIC INJURY
 REQUIRED EVACUATION
 LTA (1-3 days)
 LTA (>3 days)
 RW/JT (1-3 days)
 RW/JT (>3 days)
 Other Injury

FATALITY
 POLLUTION
 FIRE
 EXPLOSION

LWC HISTORIC BLOWOUT
 UNDERGROUND
 SURFACE
 DEVERTER
 SURFACE EQUIPMENT FAILURE OR PROCEDURES

COLLISION HISTORIC >\$25K <=\$25K

STRUCTURAL DAMAGE
 CRANE
 OTHER LIFTING DEVICE
 DAMAGED/DISABLED SAFETY SYS.
 INCIDENT >\$25K
 H2S/15MIN./20PPM
 REQUIRED MUSTER
 SHUTDOWN FROM GAS RELEASE
 OTHER Helicopter accident

6. OPERATION:

PRODUCTION
 DRILLING
 WORKOVER
 COMPLETION
 HELICOPTER
 MOTOR VESSEL
 PIPELINE SEGMENT NO.
 OTHER

8. CAUSE:

EQUIPMENT FAILURE
 HUMAN ERROR
 EXTERNAL DAMAGE
 SLIP/TRIP/FALL
 WEATHER RELATED
 LEAK
 UPSET H2O TREATING
 OVERBOARD DRILLING FLUID
 OTHER _____

9. WATER DEPTH: 240 FT.

10. DISTANCE FROM SHORE: 5 MI.

11. WIND DIRECTION: SW
SPEED: 4 M.P.H.

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

13. SEA STATE: FT.

14. PICTURES TAKEN: YES

15. STATEMENT TAKEN: YES

17. INVESTIGATION FINDINGS:

The accident flight was the second flight to Platform Irene on June 27, 2008. The same

Arctic Air crew involved in the accident had flown the accident helicopter to Platform Irene earlier in the day, and had landed and taken off without incident. Arctic Air's crew for the accident helicopter on the day of the accident was Captain [redacted], who was the pilot in command of the aircraft, and Captain [redacted].

Both are senior, experienced helicopter pilots. Captain [redacted] was flying the right seat, and was acting as what commonly is called the "Pilot Not Flying" or "PNF." Captain [redacted] was flying the left seat, and was acting as what commonly is called the "Pilot Flying" or "PF."

Arctic Air has reported that, on the morning of the accident, the accident helicopter was preflighted and accepted for operational flight by Captain [redacted] with no problems noted, no deferred maintenance and no inspections due. PXP is not aware of any mechanical problems with the accident helicopter, or of any stress issues or health concerns with the crew prior to the accident.

The first flight of the day in the accident helicopter took off at approximately 10:51 a.m. from the Santa Maria Airport. Scheduled landings were made without incident at Platform Hidalgo and, as mentioned above, at Platform Irene. The accident helicopter returned for landing at the Santa Maria Airport at approximately 11:45 a.m. The helicopter was refueled and restarted for the next takeoff at approximately 12:02 p.m. The first landing on this flight was on Platform Hidalgo, followed by a landing at Platform Hermosa. The helicopter then took off from Platform Hermosa at approximately 12:27 p.m., to fly to Platform Irene.

Arctic Air has reported that, at the time of takeoff from Platform Hermosa, the total weight of the helicopter was within the Maximum Takeoff Gross Weight limitations per the Sikorsky 76 Flight Manual, and the center of gravity was within limits per the Sikorsky 76 Flight Manual. At the time of takeoff, the weather at Platform Irene was reported as 500 foot ceiling, overcast (8/8 cloud cover), with 2 statute miles visibility due to mist. Winds were reported from 220 degrees true at 4 knots. The reported weather was within the limits of both the approved Offshore Pacific Lompoc Area Irene Copter Offshore ARA approach of 200 foot ceiling and ~ mile visibility based on "Lowest Radar Altitude" minima and Visual Flight Rules for helicopter operations under the Federal Aviation Regulations. (Arctic Air is an operator regulated under Part 135 of the Federal Aviation Regulations.)

The helicopter arrived above Platform Irene without incident. Prior to landing, Captain [redacted] initiated a right pedal turn while the helicopter still was in a hover over the flight deck. The right pedal turn pivoted the aircraft fuselage clockwise about the main rotor system. During this maneuver, the helicopter's tail rotor blades struck the rig. The helicopter then fell on its left side on the flight deck. The left main gear collapsed on the deck. After the gear collapsed, the helicopter fuselage was at an angle where the main rotor blades made contact with the flight deck and/or the "man-catcher." The helicopter skipped and rotated in a clockwise direction about the main rotor, and spun on its left side on the deck. The helicopter came to rest on its left side.

At some point when the helicopter was on its side and still in motion, Captain [redacted] (the Pilot Not Flying) released his seat belt early. This caused Captain [redacted] to be forced on top of Captain [redacted]. As a result, the pilots had some difficulty in reaching the engine/fuel levers, which eventually were secured after the helicopter stopped rotating on the deck. When Captain [redacted] was able to release his arm, which had been trapped by Captain [redacted] when Captain [redacted] released his seat belt early, Captain [redacted] was able to secure the battery switch. The helicopter shut down took place at approximately 12:33 p.m.

On the platform, Platform Irene personnel (which also included an on-site Arctic Air dispatcher) immediately began emergency procedures to evacuate the helicopter, to prevent fire and to secure the wreckage and scene. Platform Irene personnel immediately sounded the fire alarm in the quarters and an announcement made that there was an incident on the helideck. All platform smoking areas and crew quarters were secured immediately. All routine rig operations were suspended.

Platform Irene personnel also immediately assisted in the orderly evacuation of passengers and the crew as soon as the helicopter came to rest. Platform Irene personnel, who realized that some fuel had spilled, discharged fire extinguishers and

used fire hoses to dilute fuel in a precautionary effort to prevent fire. Platform Irene personnel also provided on-site emergency first aid medical treatment. Fuel that spilled on passengers, personnel or clothing was addressed with soapy water. PXP supervisory personnel were promptly notified and provided instructions to maintain order on the flight deck, and to prevent unnecessary environmental impact from fuel leakage. A Site Safety Plan (Form ICS 208 HM) and Incident Briefing (Form ICS 20 10S) were generated and implemented using the incident management system for the response to the incident. A PXP General/Safe Work Permit and Job Safety Analysis were completed to safely formulate and execute a plan for securing the wreckage and fuel, and for clearing the helipad of the wreckage.

Within just minutes of the accident Platform Irene personnel alerted Platform Harvest, and other platforms about the accident and requested assistance. Platform Irene personnel also promptly notified the United States Coast Guard about the accident, and communicated and coordinated with the Coast Guard as events unfolded following the accident.

PXP estimated that approximately 15 gallons of fuel had spilled into the ocean. Accordingly, Clean Seas LLC ("Clean Seas") was requested to respond. At approximately 2:00 p.m., a Clean Seas oil spill response vessel was on site performing reconnaissance and found that the spilled fuel had dissipated on its own. All appropriate agencies were notified including Minerals Management Service, United States Coast Guard, National Response Center, and as a courtesy the California Office of Emergency Services.

Platform Irene personnel, working with PXP management and Arctic Air's lead mechanic, formulated and implemented a plan for securing the helicopter wreckage. The next day the helicopter wreckage was loaded onto a boat and transported to Port Hueneme, California, without incident.

Some of the passengers received minor to moderate injuries including abrasions, bruising, neck and/or back strain or soreness, pulled tendons and other similar injuries. Passengers with these injuries sought and received follow-up diagnosis and medical treatments where appropriate.

Arctic Air has reported that drug testing of Captains [redacted] and [redacted] was performed following the accident, and that the results were negative for any substances. On or about March 2, 2008, nearly four months before the accident, PXP had the deck at Platform Irene repainted. Arctic Air made over 350 landings without incident at Platform Irene after the repainting and before the accident flight and there were no reports of any problems or confusion with the repainting. Captain [redacted], the Pilot Flying, personally made over 60 landings at Platform Irene after the repainting and before the accident.

The rig at Platform Irene can be moved such that, at certain times, the rig is closer to the flight deck than at other times. On or about June 23, 2008, the rig was moved into the position that it was on the day of the accident. Countless landings have been made at Irene with the rig in the position it was on the day of the accident. Captain [redacted] himself made approximately 11 landings at Platform Irene between June 24, 2008 and the accident flight, including one earlier landing without incident on the day of the accident, and there were no reports of any problems or confusion about the rig location.

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

PXP investigated the accident with the assistance of experienced, expert offshore helicopter pilots. PXP has determined that pilot error caused the accident. In light of where the Pilot Flying was hovering the helicopter over the pad, and where the rig was located near the pad, the Pilot Flying should not have made the right pedal turn

placing the tail rotor just a few feet from the rig and from two I-Beams protruding from the rig. Even under the light winds at the platform at the time of the accident, this maneuver allowed too little margin for error. The Pilot Flying misjudged the landing or otherwise had a momentary loss of situational awareness after placing the helicopter in a position with little margin for such error, which, in turn, caused the pilot to maneuver the helicopter into a position where the tail rotor blades struck the structure.

In addition to the loss of situational awareness discussed above, the pilot not flying's response to the emergency increased risks during the accident. The standard throughout aviation is to remain seated. In addition to the loss of situational awareness discussed above, the Pilot Not Flying's response to the loss of the seatbelt, harness or restraint device securely fastened, until all motion has stopped. The Pilot Not Flying should not have removed his seat belt until the helicopter had ceased all motion. By releasing the seatbelt early, the Pilot Not Flying was thrown on top of the Pilot Flying, thereby pinning the Pilot Flying's arms. The Pilot Not Flying put himself in an awkward position, where it became difficult to expedite the necessary engine/fuel lever shutdown. The crew did manage to shut down the engine, fuel and battery without fire.

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

20. LIST THE ADDITIONAL INFORMATION:

On June 27, 2008, at approximately 12:33 p.m., an S-76 helicopter ("the helicopter" or "the accident helicopter") operated by Arctic Air Service Inc. ("Arctic Air") impacted the flight deck on Platform Irene. The helicopter suffered substantial damage. Some of the eight passengers sustained minor to moderate injuries. A member of the rig crew sustained minor back pain and other minor injuries after the accident during the evacuation of the helicopter, either by jumping down some stairs or by helping to pull people out of the helicopter.

Background:

Plains Exploration & Production Company ("PXP") contracts with Arctic Air for flight services to transport personnel and equipment of PXP and of third parties between landing sites in California and Platforms Irene, Harvest, Hermosa and Hidalgo. Arctic Air is a provider of contract and on-demand charter of helicopters to a variety of customers including those in the oil and gas and maritime industries. Arctic Air's corporate offices are located at the Santa Maria Airport in Santa Maria, California, and Arctic Air operates from the Santa Maria Airport, the Santa Barbara Airport in California and the Astoria Regional Airport in Warrenton, Oregon. PXP estimates that nearly 20,000 helicopter landings have been made at Platform Irene, and that Arctic Air has made well over 7,000 helicopter landings at Platform Irene since January 1, 2000. PXP estimates that that Arctic Air has made well over 36,000 helicopter landings at Platforms Irene, Harvest, Hermosa and Hidalgo combined since January 1, 2000.

To see a copy of the FAA Accident/Incident report, go to

"P:\TIMS\Attachments\Events\Incidents\08-0627 FAA Accident Report.pdf"

21. PROPERTY DAMAGED:

NATURE OF DAMAGE:

Arctic Air's Sikorsky 76

ESTIMATED AMOUNT (TOTAL):

22. RECOMMENDATIONS TO PREVENT RECURRENCE NARRATIVE:

PXP has investigated potential safety issues of helicopter landings at Platform Irene under circumstances where the rig is moved relatively closer to the flight deck. Potential issues exist if the hover and landing take place with the tail rotor very close to the rig (and to the two protruding I-Beams) when the rig position is closer to the flight deck. Since wind direction at the platform varies, and operational requirements require, in a general sense, landing and takeoff into the wind (subject to a number of factors), there are occasions when helicopter landings must be made with the tail rotor generally towards the rig (and the nose and main rotors facing away from the rig). In order to ensure that the circumstances that resulted in the accident are not repeated, and that all landings at Platform Irene (including those where the tail rotor generally is towards the rig) are made with a sufficient margin for error, the following changes to procedures for flying to Platform Irene have been and are being implemented:

- 1 Prior to flights to Platform Irene, Arctic Air will obtain and receive information as to the specific rig location relative to the flight deck.
- 2 Prior to commencing morning flights, and again prior to commencing afternoon flights, Arctic Air's pilots in command will give briefings to the other pilots that addresses, among other matters, the Platform Irene rig location, weather conditions and the use of specific platform markings at Irene.
- 3 Arctic Air pilots will visually confirm the location of the helicopter over the landing deck at platform Irene by using the specific Platform markings requested by Arctic Air to ensure situational awareness of the crew is maintained at all times and to ensure all landings at Platform Irene are made with sufficient margin for error, even when the tail rotor must be turned toward the rig.
- 4 Arctic Air has and will address the circumstances of the Pilot Not Flying's non standard response to the emergency

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENT: NO

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

25. DATE OF ONSITE INVESTIGATION: 28-JUN-2008

28. ACCIDENT CLASSIFICATION: MINOR

26. ONSITE TEAM MEMBERS: Paul Napoleone /

29. ACCIDENT INVESTIGATION PANEL FORMED: NO
OCS REPORT:

30. DISTRICT SUPERVISOR: Phillip R. Schroeder

27. OPERATOR REPORT ON FILE: YES

APPROVED
DATE: 17-NOV-2008

