SAFETY NOTICE

2016.02 - Aviation Occurrence Risk of Collision

PURPOSE

This Safety Notice highlights a potential system safety deficiency that poses a risk of collision between an offshore vessel and a helicopter conducting a Non-Directional Beacon / Airborne Radar Approach (NDB-ARA) to an offshore installation.

BACKGROUND

A helicopter was conducting a NDB-ARA approach to an offshore installation. At the same time that the helicopter was in the final approach phase of the instrument procedure to the installation, an offshore supply vessel was transiting approximately two nautical miles to the east of the installation. As the aircraft broke through the cloud base, the pilots observed the vessel moving across the final approach path. The aircraft passed by the vessel at an altitude of approximately 150' above water level (AWL) and a range of between 100'-150' to the aft of the vessel. (The highest obstacle on the vessel is 118'). The maximum wave height at the time was approximately 8', which resulted in a vertical separation of only 24'. The aircraft continued with its approach to the facility and landed without further incident.

The C-NLOPB conducted a review of this near collision and identified that gaps may exist in marine and aviation standard operating procedures, protocols and/or policies within or between Operator and Helicopter Service Provider (HSP) aviation programs that could contribute to a risk of collision between marine vessels and helicopters during the approach phase of flight, to an offshore installation, under Instrument Meteorological Conditions (IMC).

Following this event, Operators and Helicopter Service Providers (HSP) in the Canada-Newfoundland and Labrador Offshore Area implemented a number of mitigations to prevent recurrence. These mitigations included:

- Changes to Approach Standard Operating Procedures were made in collaboration between the HSP and the Operators for approach and landings to include clear instructions for the following:
    - Thirty minutes prior to arrival at an installation clear direction for the type of information to be requested (weather, helideck heading, sea state, etc.)
    - If the cloud base is less than 1500' or the visibility is less than three nautical miles, the name, distance, bearing and type of all vessels within seven nautical miles of the facility and confirmation from the Radio Operator that all vessels reported will remain stationary or if transiting, will avoid the approach path of the helicopter
    - At the 20 minute and 10 minute call in points, the flight crew will communicate the planned approach path to installations and Standby Vessels
- The HSP presented ARA/NDB awareness training to the Marine Contractors Forum in November 2014.
- The Operator and HSP shared information related to this incident with other Operators to ensure that improvement opportunities are communicated.

NDB-ARA procedures permit Instrument Flight Rules (IFR) descents to an altitude of 150' above water level (AWL) or 50' above the helicopter landing zone – whichever is higher. These minimums are lower than the minimums for most precision approaches overland but do not have the associated ground-based navigation aids (high-intensity lighting etc.) and Air Traffic Control guidance / oversight.

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LEGISLATION

The ***Canada-Newfoundland and Labrador Atlantic Accord Implementation Act, Section 205.012*** states *"Every operator shall take all reasonable measures to ensure the health and safety of all employees and other individuals at its workplaces and of all employees or other passengers while — and immediately before — being transported on a passenger craft to or from any of those workplaces."*

RECOMMENDED ACTION

The C-NLOPB encourages Operators and HSPs new to our jurisdiction, and those in other jurisdictions involved in offshore travel by helicopter, to review their marine and aviation protocols and standard operating procedures for any gaps or omissions that could lead to a similar incident and to take into consideration the following requirements:

- All surrounding vessels remain relatively stationary once the vessel plot has been provided to the aircrew
- Communications of the planned approach path to the installation and surrounding vessels
- Clear instructions in place for vessels to remain clear of the approach path of the helicopter
- Limitation of helicopter weather radar in detecting large vessels at close range and low altitude
- Monitoring of vessel positions during the helicopter approach to the installation
- Discussion/revision of NDB-ARA approach procedures with the flight crew, the installation and vessels

Given the recent advancements in offshore approach technology and studies completed on offshore approaches in other jurisdictions, Aviation Regulators, Operators and HSPs should consider whether these offshore approaches continue to be the best/safest option and that they are sound and appropriate with reference to non-precision (NDB) minima - weather radar used for guidance / obstacle clearance / collision avoidance and determine if the associated risk is as low as reasonably practicable.

This notice shall be posted onboard installations which are operating under an authorization issued by the C-NLOPB in a prominent place accessible to every employee at the workplace.

Questions regarding this Safety Notice may be directed to the C-NLOPB Chief Safety Officer at the address shown below.

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