International Civil Aviation Organization

Eighth Meeting of the Aerodromes Operations and Planning Sub-Group (AOP/SG/8)

Bangkok, Thailand, 15 to 19 July 2024

Agenda Item 4: Provision of AOP in the Asia/Pacific Region

– Certification and Operations of Aerodromes

CHALLENGES IN EMERGENCY RESPONSE & RFFS FOR SEAPLANE OPERATIONS

(Presented by Maldives)

SUMMARY

This paper presents an overview of the Challenges faced in the provision of Emergency Response at Velana International Airport (VIA) the main hub of seaplane operations in the Maldives, and the remote locations where seaplane operations are conducted.

The paper also aims to discuss the specific challenges at remote locations, lagoons and shallow areas access to rescue vessels, multiple jurisdiction matters, communication flows between emergency service providers, required rescue equipment, rescue operations in adverse weather such as low visibility conditions, provision of medical care and reach, environmental concerns during salvage operations, fuel and water contamination, response time determination and training and education for the relevant staff.

1. INTRODUCTION

1.1 Ongoing efforts are focused on ensuring safe, sustainable, and accessible transportation throughout the Maldives, addressing the diverse and intricate requirements of this distinctive island nation. Added to these efforts MACL as the - main-hub - water aerodrome operator has developed its marine station that is the central focus for rescue operations to any incident/accident involving seaplane operations at the main-hub. At remote seaplane landing sites considerable efforts have been made in the last three (03) years or so to ensure that emergency preparedness and rescue efforts are tabled and addressed. From a tourism-oriented discipline to making respective managements understand the intricacies of the aviation sector especially from an emergency response scenario is demanding to say the least.

2. DISCUSSION

2.1 Regulatory Framework

2.1.1 Regulations for Water Aerodromes and Seaplane landing sites: -

- MCAR 138-A -Water Aerodromes Rules - Prescribes the requirements to the operators for developing, operation, and maintenance of water aerodromes.

- MCAR 138-B -Water Aerodromes Standards - Prescribes the standards for physical characteristics, obstacles limitation surface (OLS), visual aids, and operating procedures at certified water aerodromes.
- MCAR 138-C -Procedures and Requirements for Floating Platform License

2.1.2 Under MCAR 138-C, Chapter 8 describes Emergency Response Planning which stipulates the requirement for:

- Emergency Response Plan – which requires the licensee to submit an ERP to CAA.
- Appropriate Response Time – with the operational objective of the water rescue service to achieve a response time not exceeding 03 mins to the rapid response area.
- Appropriate Emergency Exercises – that licensee shall ensure that an operational emergency exercise be held/conducted once in every three (03) years.
- Training of Seaplane Handling Agents – the licensee shall ensure that the seaplane handling agent shall have undergone training once in every three (03) years on firefighting and emergency rescue scenarios.

2.2 Access to Accident sites

2.2.1 Accidents at the main-hub, are dealt by VIA Marine RFFS. The RFFS utilizes rescue vessels that are fast-rapid response vehicles that are deployed once an incident and accident is notified to the RFFS Station by the Control Tower.

2.2.2 Incidents & Accidents at remote locations/seaplane landing sites are a significant challenge that needs great preparation by the specific resort staff. As according to ASC 14-2 and the draft MCAR-138 C, the license holder ensures that procedures are in place at all licensed seaplane landing sites to assist aircraft in distress – with response to the landing and take-off runways. Incidents could range from single engine landings to wing-tip immersed in water incidents, to float damages during take-off & landings to runway excursions, runway incursion events to accidents such as aircraft submerged under water.

2.3 Area of Responsibility-Multiple Jurisdiction

2.3.1 Seaplane landing sites are normally located in close proximity to the resort that needs the passengers to be transferred to. As such when the licensee obtains the license from the CAA for that locale it is understood that the area of responsibility for emergency scenarios as described above in 2.2.2, the resort management will be responsible for immediate response to the accident site, which is prescribed by the Maldives Ministry of Tourism as 700m.

2.3.2 Seaplanes generally the (DHC-6) Twin Otter on a normal final approach does the 3degree glide on a stabilized approach to the cross the runway threshold at about 50m. As such a Critical Response Area (CRA) of 02nm is determined and agreed with the resort management and response teams. Beyond the 02nm it is agreed that the MNDF Coast Guard will be responsible for rescue operations.

2.4 Communications between Responding Agencies

2.4.1 Communication between responding units and agencies are critical for any response and rescue effort. Many a time communication failure is at the fore during an emergency scenario, primarily due to lack of practice in using the communication systems available.

2.5 Equipment requirements

2.5.1 VIA is adequately equipped for a water rescue incident with regards to rescue boats and the associated gear that is required.

2.5.2 Seaplane landing sites at remote locations do have some of the required equipment such as first-aid kits, blankets and other basic requirements. However, some important equipment such as Stretchers and spine while available are not in sufficient numbers to ensure the emergency effort is addressed. It is noteworthy that underwater egress is possible at all remote locations as they have highly trained dive-teams ready and available.

2.6 Provision of Medical Care at Remote Sites

2.6.1 Injuries sustained during an emergency landing or crash in water can complicate rescue efforts. Passengers may not have the necessary skills or equipment for survival in water, increasing the urgency of rescue operations.

2.6.2 Medical and Triage is taught at remote locations for all resort staff and they undergo rigorous training in first-aid, however, at such remote locations mass casualty handling can only be done at local hospitals and health centers in close proximity.

2.7 Environment concerns during Aircraft Salvage Operations

2.7.1 Efforts are made to ensure that there is minimal environmental impact during recovery operations, such as fuel spills or disturbance to marine eco-systems.

2.8 Rescue in Adverse Weather Conditions

2.8.1 High waves and strong wind conditions and strong currents make rescue operations difficult and dangerous.

2.9 Fuel Facility Management

2.9.1 Seaplanes typically use aviation fuel, which is highly flammable and can lead to intense fires that are difficult to control. Fire-fighting efforts also consider the potential for fuel contamination in water, requiring additional measures to prevent environmental damage.

2.10 Response Time

2.10.1 Reaching a seaplane on fire or sinking in a remote location can take longer, potentially allowing the fire to spread or totally submerge and cause additional damage. Different remote locations have different response times according to proximity from landing/take-off areas to the actual resort property. And these are defined in the ERP for that locale.

2.11 Drills & Simulations

2.11.1 Regular drills and simulations are necessary to prepare rescue teams for the unique challenges posed by seaplane emergencies. As such special emphasis is given to the following trainings:

- Full Scale Emergency Exercises
- Partial Emergency Exercises
- Modular Exercises
- Workshops

3. ACTION BY THE MEETING

3.1 The meeting is invited to note the information contained in this paper; and discuss any relevant matters as appropriate.

—END—