



GOVERNMENT OF INDIA
OFFICE OF DIRECTOR GENERAL OF CIVIL AVIATION
TECHNICAL CENTRE, OPP SAFDARJANG AIRPORT, NEW DELHI

CIVIL AVIATION REQUIREMENTS
SECTION 4 - AERODROME STANDARDS
& LICENSING
SERIES 'F', PART IV
ISSUE I, DATED _____

DRAFT

F. No. File: 11011/02/2018-DOAS

**SUBJECT: PROCEDURES AND REQUIREMENTS FOR LICENSING OF WATER
AERODROME**

1. INTRODUCTION

- 1.1 With the growth of aviation industry, the country is expected to witness increase in area of aircraft operations, particularly due to Regional Connectivity Scheme (RCS). This also paves the way for utilization of seaplanes from coastal as well as terrestrial water bodies. There is a necessity to regulate these water bodies used by seaplane under RCS, these sites shall be licensed by DGCA.
- 1.2 Rule 78 requires that no aerodrome shall be used as a regular place for landing and departure by a scheduled air transport service or for a series of landing and departures by any aircraft carrying passengers or cargo for hire or reward unless it has been licensed.
- 1.3 In addition to aviation legislation, a seaplane in contact with the water is subject to maritime regulation, including the international regulations for the prevention of collision at sea and local byelaws, these requirements are not addressed in this CAR.
- 1.4 This CAR lays down requirements for grant of license for water aerodromes operated under public use category and is issued under the provision of Rules 133A of the Aircraft Rules 1937. This CAR also details the minimum facilities that are required at the seaplane landing sites for Day-VFR operations.

2. Applicability

- 2.1 The CAR is applicable for grant of license for water aerodromes operated under public use under day-VFR operations.

3. Definitions

When the following terms are used in this CAR they have the following meanings:

‘Amphibian plane’ an amphibious aircraft or amphibian is an aircraft that can take off and land on both land and water.

‘Dock’. A floating platform extending from the shore, on water and supported by pillars or pontoons to hold in position, intended to alongside seaplanes for the purposes of loading or unloading passengers, cargo, fueling or parking.

‘Fixed Jetty’ a platform inside protected waters installed for the purpose of embarkation and disembarkation of passengers or cargo by aircraft. A fixed jetty is permanently attached to the ground and cannot be moved.

‘Floating Jetty’ An anchored, defined platform inside protected waters licensed for the purpose of embarkation and disembarkation of passengers or cargo by aircraft. (These could also mean attached jetties).

‘Licensee’ The license holder of the water aerodrome.

‘Landing area’ That part of a movement area intended for the landing or take-off of aircraft.

‘Movement area’ That part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, consisting of the manoeuvring area and the apron(s).

‘Manoeuvring area’ That part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, excluding aprons.

‘Protected Area’ An area usually located on the atoll-ward side near islands, which is protected from large waves by the surrounding reef or lagoon.

‘Response Time’ is the time between the initial call to the Rescue and Fire Fighting Services (RFFS) and the first effective intervention at the accident site by a rescue and firefighting vessel.

‘Seaplane’ – A fixed winged aeroplane which is designed for taking off and landing on water and includes amphibians operating as sea planes

‘Turn Around’ An aircraft while operating a scheduled or charter flight after having reached its destination and having discharged its passengers, cargo etc. returns to its station from which the flight had earlier originated.

‘Water aerodrome’ A defined area on water (including any buildings installations and equipment) intended to be used either wholly or in part for the arrival, departure and movement of aircraft.

‘Water Runway or Channel’ A defined rectangular area on a water aerodrome, intended for the landing and take-off run of aircraft along its length.

4. Requirement for Grant of license

4.1 The applicant for water aerodrome shall obtain and forward, along with the application form, attested copies of the clearance/ permissions to the DGCA from the following:

- i. Ministry of Defence;
- ii. Ministry of Home Affairs (applied through MOCA)
- iii. Ministry of Environment and Forests, Government of India;
- iv. Ministry of Shipping
- v. Owner of the water body; and
- vi. Local authority such as municipal corporation/committee or urban development board/authority of the State or its Country and Maritime Planning Department.

5. Site Selection.

5.1 Site selection for a seaplane base is very critical and is determined by factors such surround public obstructions, water currents, area geography, local regulations, the presence of other airports in the area, public accessibility, the presence of wildlife, development of the surrounding area and commercial or recreational boating activities. When designing a seaplane base, enough space should be accounted for recommended water runway dimensions, water depths and approach slops.

5.2 Applicant for development of Water aerodrome shall select the site that meets the requirement and make a statement regarding its suitability.

6. Licensing Process.

6.1 The licensing process requires the DGCA to ascertain through a systematic process whether or not a water aerodrome has minimum facilities and required procedures in place for operations of safe, secure, efficient and regular civil air transport services. This process involves five distinct phases as stated below:

6.1.1 **Pre-application Phase.** During this phase, the applicant conducts initial assessment, prepares plans and makes inquiries from the DGCA in regard to the process involved in licensing of the water aerodrome. The prospective

applicant, at this stage is required to provide a letter of intent to the DGCA outlining the proposal including the following

- (a) Suitability of the water aerodrome site.
- (b) The most demanding seaplane intending to be operated.
- (c) Approximate date of commencement

A pre-application meeting may be held with the applicant, if so desired by DGCA.

6.1.2 Formal application Phase. During this phase, the applicant is required to submit the complete application CA 96(WA-1) (Attachment –I) along with “Schedule for the issue of Water aerodrome License” (Attachment –III) to the DGCA along with fee prescribed in the Aircraft Rules 1937. The prescribed fee shall be paid online, the link for license fee payment is available at www.dgca.nic.in.

6.1.2.1 The application for a water aerodrome license shall be accompanied with a Water aerodrome Manual, prepared in accordance with the guidelines contained in *Aerodrome Advisory Circular (ADAC) 1 of 2006*. The water aerodrome manual shall contain all the information, procedures and instructions that are necessary to enable the operating staff, competent to perform their duties in such a manner that will ensure the water aerodrome to be safe for use by aircraft.

6.1.2.2 An identifiable person, In-charge for the operations and maintenance of the water aerodrome shall be designated as ‘**ACCOUNTABLE MANAGER**’. The Accountable manager shall be the applicant for issue of water aerodrome license. In addition, a list of qualified, experienced and trained crew required for operations and maintenance of water aerodrome shall also be provided.

6.1.2.3 The water aerodrome operator shall ensure that aeronautical information essential for civil aviation, the associated airspace and the ground services is published in water aerodrome manual and is notified to AIS in accordance with CAR section 9 series I Part I.

6.1.2.4 Water aerodromes are unique for their security requirements particularly due to two fronts, one with land and other with water. The water aerodromes should arrange for security based on guidelines issued by BCAS. These Security arrangements should be approved by BCAS.

6.1.2.5 The water aerodrome invariably will fall within the jurisdiction of an ATS unit. Applicant for the water aerodrome to be licensed shall demonstrate the functional arrangements for provision of ATM, RFF, AIS and Meteorological services for VFR operations.

6.1.2.7 The formal application shall be submitted at least ninety (90) days before date of intended operations.

6.1.2.8 The DGCA will make a formal assessment of the applicant’s proposal and invite the applicant for a formal application meeting where the details relating

to the licensing process would be formally discussed. Although arrangements could be made for the application to be submitted at that meeting, it is advisable that the documents are submitted in advance so that the DGCA can confirm that all required material have been submitted, at the formal application meeting or comment thereon.

- 6.1.3 **Document evaluation Phase.** During this phase, the DGCA will undertake a detailed study of the water aerodrome manual and other documents, which accompanied the formal application. The documentation shall be complete, accurate and current to satisfy the DGCA's requirements before the inspection phase. There may be series of discussions between the DGCA and the nominated post holders of the applicant at this stage in regard to establishing the validity/ acceptability of the applicant's procedures. It should be noted that the documents shall reflect precisely the mode and manner in which the applicant intends conducting the civil air transport operations and once approved, they shall form a part of the understanding between the DGCA and the water aerodrome operator in regard to future civil air transport operation to that water aerodrome.
- 6.1.4. On satisfactory examination, a provisional approval shall be granted for assessment of the procedures and other applicable requirements during the demonstration phase. Final approval shall be granted post successful completion of demonstration phase.
- 6.1.5 **Demonstration and Inspection Phase.** During this phase, the applicant needs to demonstrate to the DGCA that the applicant is in a position to conduct the proposed operations in accordance with the procedures detailed in the Water aerodrome Manual utilizing the personnel/ facilities/ equipment identified in the formal application. This phase may reveal the need for some operational changes, which in turn may require the applicant to make amendments to the documents originally submitted. All elements of water aerodrome manual shall be satisfactorily completed before proceeding to the certification phase.
- 6.1.6 On completion of inspection, proving flight may be conducted in consultation with Flight Standard Directorate (FSD) and the report is required to be submitted along with the documents. The SOP for operation of seaplane to and from the water aerodrome shall be vetted by Flight Standard Directorate.
- 6.1.7 **Licensing Phase.** When all the previous phases have been satisfactorily completed, the water aerodrome license may be granted, if the DGCA is satisfied that applicant has complied with all relevant requirements. In case of the non-compliance of the requirement by the applicant, license may either be refused or granted with limitations/ restrictions / conditions as deemed appropriate by the DGCA, if it is considered that the overall safety is not compromised.
- 6.1.7.1 **Validity:** A water aerodrome license shall remain valid for a period of 2 years. Initially a provisional license shall be issued for a period of 6 months during which implementation of the water aerodrome operation is monitored and corrective action, if any, are completed based on observations made during this

period. Regular license shall be accorded after post implementation monitoring period and completion of corrective action.

7. Obligations of a License holder

7.1 Compliance with standards and practices: The water aerodrome operator shall comply with the requirements specified in Annexure III to this CAR and with any conditions imposed by DGCA.

7.2 Competence of operational and maintenance personnel: The water aerodrome operator shall position adequate number of qualified and skilled personnel to perform all critical activities for water aerodrome operation and maintenance.

7.2.1 Water aerodrome operation and maintenance: The water aerodrome operator shall operate and maintain the water aerodrome in accordance with the procedures set out in the water aerodrome manual. To ensure the safety of aircraft, the DGCA may give directives to a water aerodrome operator to modify the procedures set out in the water aerodrome manual. The water aerodrome license holder shall ensure the safety of aircraft in the associated airspace and other areas such as aeronautical information service, meteorological authorities, and security.

7.3 **Safeguarding of Water aerodrome/ Airspace:** The license holder shall safeguard the water aerodrome and its vicinity by establishing and implementing processes in accordance with GSR 751 (E) or any other Govt. notification on the subject published from time to time.

7.4 **Notifying and reporting:** A water aerodrome operator shall adhere to the requirement to notify and report to the DGCA, air traffic control and pilots within the specified time limits required by these regulations.

1. Notification of inaccuracies in aeronautical information service (AIS) publications.
2. Notification of changes to the water aerodrome facilities, equipment and level of service planned in advance.
3. Issues requiring immediate notification such as:
 - a) obstacles, obstructions and hazards at or near water aerodrome,
 - b) reduction in level of service:

8. Renewal of License

8.1 The license holder shall submit the application for the renewal of license CA96 (WA-2) along with the prescribed fee, at least two months prior to the date of

expiry of water aerodrome license. The original water aerodrome license should be enclosed for renewal.

- 8.2 A copy of the last self-inspection report shall also be submitted with the application. The self-inspection should have been completed within 30 days preceding the renewal application.
- 8.3 Status of pending items with the water aerodrome operator based on the inspections and any conditions imposed on the license should also be submitted along with.
- 8.4 Details of all the trainings and refreshers that have been carried out during the validity of license shall also be submitted along with the application.
- 8.5 The water aerodrome Manual shall be updated as per the amendment procedure. The details all the amendments shall be submitted if not submitted earlier as per such requirement.

9. Cancellation of Water aerodrome License

- 9.1 Regulatory Authority may cancel or suspend a licence when the water aerodrome no longer meets the licensing requirements.
- 9.2 The operator may also request cancellation of the water aerodrome license where the water aerodrome is closed for operations.
- 9.3 Where the water aerodrome license has been cancelled the operator shall remove all facilities and equipment installed for the purpose of the water aerodrome operation as soon as possible but not later than ninety (90) days from the reception of the notice of cancellation.

10. Requirement of Water aerodrome

- 10.1 Water aerodrome flight operations require development of the facility which is spread both in water and land. In order to have safe operations minimum requirements of water aerodrome operations are given out in Annexure-III of this CAR. However the water aerodrome operator may supplement the suggested requirement to enhance flight safety and security of the water aerodrome. Requirements as given out are to be complied without any aberration or waiver.

11. Submission of Applications

- 11.1 Applications for site selection, grant of license and renewal of license etc. are required to be signed with seal by the Owner or CEO or Managing Director of the company or any authorized signatory under whose name such authority is issued by any of the above persons.
- 11.2 All applications duly completed in all respect shall be forwarded to DGCA at the following address;

Director General of Civil Aviation
(Attn. : Director of Operations – Aerodrome Standards)
DGCA Complex, Opposite Safadarjung Airport,
New Delhi - 110003, I N D I A.
Email: doas@dgca.nic.in (for correspondence only)

B S Bhullar
Director General of Civil Aviation
ATTACHMENT- I
FORM CA 96 (WA-1)

APPLICATION FOR WATER AERODROME LICENCE

(In triplicate)

1. DETAILS OF LICENCEE (as required to be shown on the license)

- 1.1 Full name of applicant (in capital letters)
- 1.2 Address of applicant (in capital letters)
- 1.3 Telephone Number(s)
- Fax Number
- Email/ Telex number
- 1.4 Nationality of the Applicant

2. DETAILS OF WATER AERODROME (as required to be shown on the license)

- 2.1 Place name by which the water aerodrome is to be known in all future references
- 2.2 Name and Address of the owner of water aerodrome
- Telephone Number
- Fax Number
- Email / Telex Number
- 2.3 Situation of the water aerodrome site with reference to the nearest airport, railway station and town/village
-

2.4 State / District in which situated

2.5 Latitude / longitude of the water aerodrome

2.6 Grid reference in WGS 84
(attach a survey map, scale 1:10,000 showing by means of broken line the exact boundaries of the water aerodrome)

2.7 Elevation of the water aerodrome (AMSL)

2.8 Orientation and length of water runway (s) (in feet and meter)

3. WATER AERODROME ACTIVITIES

3.1 Whether your own aircraft only will use the water aerodrome YES NO

or

do you propose to use the water aerodrome by own aircraft as well as other aircraft ? YES NO

If use by others aircraft, state whether prior permission or notice is required. YES NO

3.2 Please provide details of proposed CNS-ATM facilities.

3.3 Please provide details of proposed MET facilities;

3.4 Type and maximum total weight of the largest / heaviest aircraft for which the water aerodrome is designed, including overall length and maximum fuselage width.

TYPE	
WEIGHT	
LENGTH	
WIDTH	

4. CONTROL OF THE WATER AERODROME

Are you the owner of the water aerodrome site YES NO

IF NO – Please state:

4.1 Details of the rights you hold over the water/ land

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4.2 The period for which you hold these rights, including terminating date

FROM	TO	TERMINATION

5. PERMISSIONS AND APPROVALS

NAME AND ADDRESS OF AUTHORITY	DATES AND APPROVAL	REFERENCE OF APPROVAL
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5.1 Ministry of Defence;

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5.2 Ministry of Home Affairs;

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5.3 Ministry of Environment and Forest

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5.4 Ministry of Shipping

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5.5 Owner of the land

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5.6 Local authority such as municipal corporation / committee or urban land development Board/authority of the State or its Country and Town Planning Department.

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6. AERODROME MANGEMENT PERSONNEL

6.1 Managing Director or person having specific responsibility for safety.
(To be completed only where the applicant is a company/ corporate/society)

Name

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Status/ Designation

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Telephone number

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6.2 The person in charge of day to day operation of water aerodrome.
(Please enclose a current Curriculum Vitae [CV])

Name

Status/ Designation

Telephone number

6.3 The person responsible for Water aerodrome Safety.
If different from 6.2 (Please enclose a current Curriculum Vitae [CV])

Name

Status/ Designation

Telephone number

6.4 Provider of the CNS - ATM

Name

Address

6.5 Provider of the MET services

Name

Address

6.6 The person responsible for overseeing the day to day provisions of RFF

Name

Status/ Designation

Telephone number

7. WATERROME MANUAL

7.1 Is an water aerodrome Manual enclosed with this application? (Ref Rule 81)

YES NO

7.2 If no please indicate when this is likely to be submitted to DGCA.

(Note: An water aerodrome Licence will not be granted until an acceptable water aerodrome Manual has been received by DGCA)

8. DETAILS OF FEES

8.1 Challan No. for online deposit

8.2 Amount
(Attach a sheet showing the calculation of amount as per runway length)

8.3 Date & name of the drawee bank

9. ANY OTHER INFORMATION: (the information may include details in annex 1, 2 & 3)

I hereby certify that the forgoing information is correct in every respect and no relevant information has been withheld.

DATE.....

NAME.....
(in capital letters)

SIGNATURE OF APPLICANT

POSITION HELD.....
(with official seal)

- Note:
1. Application not completed in all respect and not accompanied with relevant enclosures is likely to be rejected.
 2. The application shall be signed by the owner of the company. In case of any other person authorized by the owner, authorization should be attached with the application.
 3. It is an offence to make any false representation with the intent to deceive, for the purpose of procuring the grant of an aerodrome licence.

ATTACHMENT- II
FORM CA 96 (WA-2)

APPLICATION FOR RENEWAL OF WATER AERODROME LICENCE

1. Water Aerodrome License No.
2. Name of the Water Aerodrome
3. Enclose the Water Aerodrome License in original.
4. Enclose copy of last self-inspection report.
5. Enclose the copy of updated Water Aerodrome Manual (soft copy also)
6. Status of Exemptions granted and review report of mitigation measures (enclose report)
7. Details of license renewal fee
a. Challan No. of Bharat-kosh
b. Amount

It is certified that no change in the physical characteristics of the water aerodrome including the erection of new buildings and alterations to the existing buildings or to visual aids at)
the water aerodrome have been made without prior approval of the DGCA since the issue/ last renewal and approved changes in the water aerodrome facilities have been duly incorporated in the Water aerodrome Manual wherever necessary.

SIGNATURE OF APPLICANT

DATE.....

NAME.....

POSITION HELD
(with official seal)

- Note:
1. Application not completed in all respect and not accompanied with relevant enclosures is likely to be rejected.
 2. The application shall be signed by the owner of the company. In case of any other person authorized by the owner, authorization should be attached with the application.

3. It is an offence to make any false representation with the intent to deceive, for the purpose of procuring the grant of a water aerodrome licence.

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**SCHEDULE FOR ISSUE OF WATER AERODROME LICENCE/
INSPECTION SCHEDULE**

(In triplicate)

1	Name Of The Water Aerodrome			
2	State Water Aerodrome Dimensions			Length: (m)
				Width: (m)
				Depth: (m)
3	Water Aerodrome Reference Temperature			
4	WATER AERODROME REFERENCE POINT			
4.1	Latitude / longitude of the Water aerodrome reference point			---°---'---" N ---°---'---" E
4.2	Elevation of the Water aerodrome reference point (amsl)		Feet (.....meter)
5	PHYSICAL CHARACTERISTICS			
5.1	Water Runway Designation			
5.2	Length			
5.3	Width			
5.4	Depth			
5.5	Water (Sea) State (1, 2 Or 3)			
5.6	Turning Basin			
5.7	Water Strip			
a.	Length			
b.	Width			
c.	Depth			
<i>NOTE: Attach Drawings of water aerodrome showing the details of runways, thresholds, taxiways, aprons, etc.</i>				
6.	VISUAL AIDS FOR NAVIGATION			
6.1	Wind Direction Indicators			
a.	Location			
b.	Colour			
c.	Swings Freely			
6.2	Signal Square			
6.3	Water Aerodrome Beacon			
a.	Location			
b.	Colours			
c.	Flashes per Minutes			
7.	WATER TAXIWAY			
7.1	Number of water taxiways			
7.2				
8.	APRON			
8.1	Size			
8.2	Number of Parking Stands			
8.3	Flood lights			
8.4	Mooring facilities			
9.	OBSTACLE LIMITATION SURFACES (VFR)			
9.1	Date of Obstacle Survey			
9.2	Maps and Charts including Type A Charts.			
9.3	Location of Obstacles			
9.4	Marking / Lighting of Obstacles			
9.5	Hazards to flying.			

10.	RESCUE AND FIRE FIGHTING	
10.1	Water Aerodrome Category	
10.2	No. of Trained RFF Crew	
10.3	RFF Equipment for Water Aerodrome (Provide List)	
10.4	Availability of Rescue Vessel.	
11.	GENERAL INFORMATION	
11.1	Access control and security provisions as per BCAS requirements.	
11.2	Approval letter from BCAS	
11.3	Terminal building with capacity.	
11.4	Passenger facilities	
12.	DOCUMENTS	
12.1	Water Aerodrome Manual	
12.2	Water Aerodrome Emergency Plan	
12.3	Wildlife Hazard Reduction Plan.	
12.4	Water Aerodrome Boat Operations.	
12.5	Water Aerodrome Apron Management.	

This is to certify that all SARPS applicable in respect of this water aerodrome has been complied with or a list of Deviations from SARPS in respect of the water aerodrome is enclosed.

I hereby certify that the forgoing information is correct in every respect and no relevant information has been withheld.

DATE.....

SIGNATURE OF APPLICANT
NAME.....
(in capital letters)

POSITION HELD
(with official seal)

- Note:
1. Application not completed in all respect and not accompanied with relevant enclosures is likely to be rejected.
 2. The application shall be signed by the owner of the company. In case of any other person authorized by the owner, authorization should be attached with the application.
 3. It is an offence to make any false representation with the intent to deceive, for the purpose of procuring the grant of an water aerodrome licence.
 4. Annexure I, II & III are informatory and may be filled up as applicable for water aerodrome.

**SCHEDULE OF INSPECTION FOR RENEWAL/ SURVEILLANCE OF WATER
AERODROME LICENCE**

Name of Water aerodrome: _____

Date of Inspection: _____

S.No	PHYSICAL CHARAVTERISTICS	OBSERVATIONS	ACTION TAKEN
1.	GENERAL		
a.	Latitude and Longitude		
b.	Local Land Marks		
c.	Declared Distance for each runway		
d.	The condition of the runway surface as per sea state e.g, 1,2 or 3		
e.	Details of obstructions		
	(i) along the border of the landing area		
	(ii) Surrounding the water aerodrome.		
f.	Is the water aerodrome liable to be unserviceable due to any changes?		
g.	Any special precautions necessary when landing or taking-off and the conditions under which precautions are necessary.		
h.	Mention any physical features in the vicinity which might cause the formation of drafts or eddies.		
i.	Status of visual ground aids.		
j.	Apron discipline		
k.	Display of sign boards		
2.	ANY OTHER HAZARDS		
a.	Ensure that there is no object in the safety area except for those that are required because of their functions.		
b.	Construction work		
c.	Check marking for correct colour coding, peeling, blistering, chipping and fading.		
d.	Check signs to ensure they are of the correct colour coding, easy to read and that all lights are working and not obscured.		
e.	Check that the signs are not missing and they have correct legend and orientation with no broken panels.		
3.	LIGHTS		
a.	Check airport rotation beacon is visible and working properly.		
b.	Check the wind cone to ensure that it swing freely and, if lighted, that all lights are operating.		
4.	MAINTENANCE OF NAVIGATIONAL		
a.	Serviceability/ reliability status of air/ ground communication facilities.		

b.	Inter-unit communication and adequacy thereof		
c.	Direct speech circuit for serviceability and reliability		
d.	Check quality of recording		
e.	Check whether MET reports are received expeditiously		
f.	Serviceability status of MET equipment		
5.	CONSTRUCTION AREA		
a.	Check construction underway on or near the water aerodrome that could affect aircraft operations		
b.	Check if the construction equipment especially tall cranes etc, being used at construction sites are forming any obstruction.		
c.	Check obstructions are properly marked and lighted.		
6.	AVIATION FUEL STATION		
a.	Check the location of Aviation Fuel Station (AFS) vis-à-vis terminal building and other installations.		
b.	Check the AFS including security, fire protection, general housekeeping, fuel dispensing facilities and procedures.		
c.	Check grounding clips and cable to ensure they are available in good condition		
d.	Check to ensure that the appropriate signs for the AFS are installed and that all gates are capable of being closed and locked.		
e.	Check the AFS is clean, not littered with debris, vegetation is not growing in or around the area, and presence of any flammable materiel		
f.	Check the “NO SMOKING” sign are prominently displayed at various places in the AFS.		
g.	Check whether any fire in the AFS is likely to endanger the Terminal Building and other installations.		
7.	RESCUE AND FRE FIGHTING		
a.	Check aircraft rescue and firefighting equipment availability,		
b.	Check all required fire-fighting equipment are in operable condition and adequate crews are available.		
c.	Check to ensure communication systems are operable		
d.	Check the adequacy of the firefighting agents		
e.	Check the fire station has lay out of the aircraft operating to and from the water aerodrome showing location of doors,		

	engines and emergency evacuation from aircraft.		
f.	Check ambulance has all necessary First-Aids facilities and medicines within prescribed life.		
g.	Check whether public address system is available		
h.	Check grid map displayed in fire station, control tower and each CFT		
i.	Check whether RT is fitted in each rescue and firefighting vessel		
8.	ARRANGEMENTS AND SERVICES		
a.	Watch hours and arrangements outside these hours.		
b.	Facilities for picketing aircraft.		
c.	Adequacy of fire extinguishers provided in building		
d.	Check the nature of the medical facilities available		
e.	Check the availability of the doctors		
9.	FLYING RESTRICTIONS		
a.	Check particulars of any restrictions on flying in the neighborhood of the water aerodrome.		
10.	WILDLIFE HAZARD		
a.	Provide any wildlife such as large flocks of birds or animals hazards on or adjacent to the water aerodrome.		
b.	Provide details on AEMC meetings held and status of implementation of recommendations, wild life hazards management etc		
11.	PASSENGER FACILITIES		
a.	Check whether all passenger facilities are available and properly maintained.		
b.	Seating arrangements in terminal building including sterile area		
c.	Arrangement and availability of drinking water		
d.	Availability of snack bar/ Restaurant		
e.	Proper maintenance of toilets/ dustbins		
f.	Availability and serviceability of Public telephone booth/ STD/ ISD		
g.	Availability and serviceability of PA system		
h.	Proper positioning of serviceable fire extinguisher in terminal building including appropriate signage of fire points and escape routes in emergency		
i.	Adequate Sign Board		
j.	Complaint book with terminal manager and action taken on these complaints.		

k.	Availability of Tourist information centre/ inquiry counter/ Assistance booth.		
l.	Adequacy and serviceability of X-ray baggage system HHMD/ conveyer belt/ Escalator if available.		
m.	Air conditioners, ventilation, emergency exists.		
n.	Adequacy of counters and weighing machines and their last calibration done		
o.	Flight information display adequacy		
p.	Availability of vehicle parking stand		
12.	ANY CHANGE IN THE DOCUMENTS		
a.	Water aerodrome Manual		
b.	Water aerodrome emergency planning (including details of exercises during intervening period)		
c.	Disable aircraft removal plan		
d.	Wildlife hazard reduction plan		
e.	Apron management service		
f.	Water aerodrome vehicle operations		
g.	Vessel movement guidance and control systems		
13.	SAFETY MANAGEMENT SYSTEM		
a.	Provide details like implementation status/internal audit by safety manager/ review of operating procedures/ analysis and implementation of accident/ incident investigation etc		
14.	CHANGE IN ORGANISATION STRUCTURE		
a.	Provide details on changes in the management and key personnel responsible for operation and management of water aerodrome including system of ensuring adequacy of incumbent by management		
15.	INTRODUCTION OF NEW FACILITIES		
a.	Provide details on date, procedure and compliance of applicable regulations for commissioning including acceptance by appropriate level in management		
16.	ANY OTHER OBSERVATIONS		

I hereby certify that the forgoing information is correct in every respect and no relevant information has been withheld.

SIGNATURE OF APPLICANT

DATE.....
NAME.....
(in capital letters)
POSITION HELD.....
(with official seal)

- Note:*
- 1. Application not completed in all respect and not accompanied with relevant enclosures is likely to be rejected.*
 - 2. The application shall be signed by the owner / authorized person of the company.*
 - 3. It is an offence to make any false representation with the intent to deceive for the purpose of procuring an water aerodrome license.*

DRAFT

INFORMATION ON THE WATER AERODROME SERVICES

1. **SECURITY**

Procedures for security check of passengers and their hand baggage inside the terminal building and the system/ procedure for checking the entrance of passengers, visitors and other pre boarding anti hijacking check should be formulated normally in accordance with the standards and recommended practices of Annex 17 of ICAO and the instructions of the BCAS and Home Ministry Circulars. Arrangements for guarding the vital installations at the water aerodrome serving the ATC Services and other Navigation and Landing Aids. Security coverage shall be in accordance with ICAO requirements as well as that of Ministry of Home Affairs. Information on the following shall be provided:

- i. System of checking the entry of passengers and visitors inside the terminal building.
- ii. Provision of anti-hijacking control room and facilities provided therein.
- iii. Availability of;
 - a) Hand held metal detectors,
 - b) Door frame metal detector,
 - c) X-Ray machine/ manual for screening hand baggage and the Checked in baggage,
 - d) Dog squad,
 - e) Bomb disposal unit,
 - f) Isolation bay,
 - g) Cooling Pit.

2. **PASSENGERS / VISITORS**

Give particulars of the following or any other accommodation provided for passengers and the pilots in each case:

- i. Waiting Room
- ii. Lavatories
- iii. Hotel
- iv. Restaurant
- v. Parking of vehicles
- vi. Transport available to and from the Water aerodrome.

3. **CARGO HANDLING**

Information on cargo handling facilities, such as existence of a separate cargo terminal.

FACILITIES FOR AIRCRAFT

1. **REFUELLING**

Information on physical location of the fuel tanks, their capacity and the type of refueling facility – hydrant or bowser particularly from the view point of safety of terminal building and other adjoining facilities should be given. The names and addresses with Telephone No. of the agencies having AFS at the water aerodrome shall also be given.

Safety precautions/ measures to be taken during refueling at an AFS as well as the emergency procedures for handling AFS fires shall also be established.

2. **ACCOMODATION**

- i. Facilities for picketing aircraft in the open.
- ii. State in respect of hangers, if available
 - a) Length and Breadth
 - b) Depth of water
 - c) Head room (door height)
 - d) Width and depth of doorway
 - e) Structure (material)
- iii. Hanger accommodation normally available to conduct inspection/rectification on aircraft.

REQUIREMENT FOR WATER AERODROME LICENSE

1. REQUIREMENTS FOR SITE SELECTION

- 1.1 When selecting a site for a water aerodrome, the following shall be taken into consideration:
- a. If the location is inside the house reef of the island, the conditions are conducive for safe operations.
 - b. If the location is outside the house reef, whether adequate safety measures are taken to protect the area of operation;
 - c. Depth of sea bed in the proposed area of operation and the size of aircraft intended to be operated;
 - d. Distance of water aerodrome or floating platform from the servicing islands;
 - e. Maritime movements in the location;
 - f. Navigable airspace;
 - g. Effect on the surrounding community; and
 - h. Available length of clear and safe water runway with respect to the size and type of aircraft intended for use.
- 1.2 Location shall be such that cross wind operations are kept to a minimum and downwind operations shall be avoided. In other words the landing and take-off areas should be oriented to permit operations into wind. Nature Reserved designated marine areas and Fishing Grounds shall not be used for water aerodromes or to install floating platforms. The water runway shall be free from large obstructing coral rubbles to a definite depth and located inside protected waters which are safe to use during landing/take-off by a definite aircraft.
- 1.3 Operational procedures should be developed for safe seaplane taxiing and mooring in the proximity of other seaplanes and obstacles that minimize the risk of damage to occupied or unoccupied seaplanes, particularly where this might result from variations in wind direction; water current, depth, sea state, and flow of tide.

2. PERSONNEL

The Water aerodrome Operator shall determine the number of personnel required to comply with the requirements.

2.1 Accountable Manager

- 2.1.1 The Water aerodrome Operator (WO) shall appoint and identify a person as the accountable manager to be responsible and accountable on behalf of the Water aerodrome Operator for meeting the requirements of this regulation.

2.1.2 The appointed accountable manager shall have control over the financial and human resources required for the operations or activities authorized to be conducted under the license.

2.2 Water aerodrome Manager (WM)

2.2.1 The WO shall appoint a Water aerodrome Manager (WM) who has knowledge of following:-

- (a) Contents of the Water aerodrome Operations Manual (WOM).
- (b) Contents of the Water aerodrome Certificate and related operational procedures; and
- (c) The regulations, standards and other applicable regulations and standards necessary to carry out the duties and responsibilities to ensure safety.

2.2.2 Responsibilities of the Water aerodrome Manager are as under:-

- (a) exercising operational management of the water aerodrome
- (b) coordinating the functions which impact on operational management
- (c) supervising the development and amendment of the WOM
- (d) liaising with the regulatory authorities on all matters concerning Water aerodrome Operating, including modifications to the WOM;
- (e) Ensuring that the maintenance of the water aerodrome operations are being conducted in accordance with current regulations, standards and WOM;
- (f) receiving and taking action on any aeronautical information affecting the safety of the Water aerodrome;

2.3 Operational Crew

2.3.1 The licensee shall ensure that where vessels are used to transfer passengers from the floating platform to the terminal, the Passenger Transfer Vessel (PTV) driver is made aware of aircraft operations and shall have undergone training (once every two (02) years) to take the operational responsibility of the transfer/parking of vessels at the floating platform.

2.3.2 The vessels may also be required for the purpose of rescue and firefighting. The crew members involved with such operational requirement should also undergo training as per their laid down periodicity.

3. OBLIGATIONS OF THE WATER AERODROME OPERATOR

3.1 The Water aerodrome Operator shall notify the Regulatory Authority in writing of any change in the physical characteristic or operations of the Water aerodrome

3.2 WO will also notify the relevant service provider of aeronautical information services of changes to operational information published in the aeronautical information publications; and

- (a) where a hazardous condition has been identified, issue a NOTAM identifying the hazard; and
- (b) where a change in water aerodrome operations constitutes a change to the provisions identified in the water aerodrome license, ensure the change has been approved by the Regulatory Authority.

3.3 As soon as aware, the Water aerodrome Operator shall give information to the AIS, notice of any of the following circumstances;

- a) any projection by an object through an obstacle limitation surface relating to the water aerodrome;
- b) the existence of any obstruction or hazardous condition affecting aviation safety at or in the vicinity of the water aerodrome;
- c) any reduction in the level of services at the water aerodrome published in an aeronautical information publication;
- d) the closure of any part of the maneuvering area of the water aerodrome; and
- e) any other conditions that could be hazardous to aviation safety at the water aerodrome and against which safety measures are warranted.

3.4 The water aerodrome operator shall remove or cause to be removed from the dockside of the water aerodrome any object or other obstruction that is hazardous to aviation safety.

3.5 The water aerodrome operator shall

- a) conduct a formal survey of the Obstacle Limitation Surfaces, based on lowest normal tide or water level
- b) provide OLS charts and lists of obstacles in the vicinity of the Water aerodrome environment and include the information in the WOM.

4. PHYSICAL CHARACTERISTICS

4.1 **Units of Measurement:** Except as specified, units of measurement shall be as follows and the same shall be included in the Water aerodrome Operations Manual:

- a) Elevations to the nearest meter;
- b) Linear dimensions to the nearest one-half meter;
- c) Geographic coordinates in latitude and longitude to the nearest second;
- d) Geographic co-ordinates measured in accordance with WGS 84 reference datum;
- e) Bearings given to the nearest degree;
- f) Water depth to the nearest meter to the nearest decimal; and
- g) Range of tides or water levels to the nearest meter to the nearest decimal.

4.2 Water aerodrome Reference Point

4.2.1 The water aerodrome reference point (WRP) should be located at the planned geometric center of the maneuvering area, or of the main one if more than one is provided.

4.2.2 A Water aerodrome Reference Elevation (WRE) should be determined at the WRP. This elevation should be determined from the Chart Height, or the lowest recorded water level, converted to an elevation in meters above Means Sea Level.

5. MOVEMENT AREA

5.1 License holder shall determine the area of any land and water on which sea plane operations may take place. This area will be designated as movement area.

5.2 Water runway and runway strip

5.2.1 The landing area(s) should be rectangular in shape, and should encompass all parts of the water surface intended for the taking off and landing of seaplanes.

5.2.2 The following water aerodrome dimensions shall be available for the landing area

- a) The dimension of the landing area (Runway) shall be a minimum 800m X 60m.
- b) The dimension of landing area including strip shall not be less than 920m X 120m; and
- c) The depth of the water in the take-off and landing area shall not be less than 1.8m unless the airport is restricted to aircraft requiring less than 1.8m in which case the depth of the water shall be based on the requirements of aircraft type.

5.3 Taxiways

5.3.1 Taxiways should be provided where required, to permit safe and expeditious surface movement of aircraft.

5.3.2 Where taxiways are provided, the width of taxiways shall not be less than 45 meters.

5.3.3 Depth of taxiways shall not be less than 1.2 m (4 ft).

5.4 Apron

5.4.1 Facilities to emplane and deplane passengers, Baggage and Cargo (apron) shall be provided in the form of a dock, ramp or beach and floating platform, shall be based on the requirements of the seaplanes using the water aerodrome.

5.4.2 Where a dock is provided, it shall;

- a. be designed in such a manner as to provide a safe clearance between an aircraft wing and any object the dock could come in contact with;
- b. be in a condition that permits constant use without injury to persons or damage to aircraft;
- c. where applicable, be attached or anchored in a manner that prevents it from shifting position or becoming detached;
- d. have access from the shore that provides for the safe movement of persons using the facility;
- e. have sufficient tie down points at each aircraft parking position to secure aircraft; and
- f. When an aircraft is normally secured in a position where any aircraft propeller overhangs the dock and constitutes a hazard to the movement of persons using the facilities, the hazard shall be clearly indicated.

5.4.3 Where a ramp or beach is provided, it shall

- a. be built at least 1.5 times the width of floats or landing gear of the largest seaplane intended to use the facility;
- b. be designed in such a manner as to provide a safe clearance between an aircraft and any object it could come in contact with; and
- c. be designed for the seaplane using the facility.

5.4.4 Where Floating Platform is provided, it shall

- a. provide adequate support and buoyancy for the loads imposed by embarking/disembarking passengers and their luggage;
- b. be anchored in a manner that prevents it from shifting position or becoming detached.

6. OBSTACLE LIMITATION SURFACES (OLS)

6.1 Obstacles limitation Surfaces of the Water aerodrome shall correspond to the dimensions for land-based runway code numbers 1, 2 and 3 respectively as given in ICAO, Annex 14 Volume I Table 4-1/ GSR 751.

7. WILDLIFE HAZARD

7.1 Licence holders shall provide a bird hazard/wildlife management plan that includes the identification of the risk and hazards that may exist, and suitable mitigation measures.

7.2 All reasonable measures should be taken to discourage birds from gathering in the movement area, and under anticipated departure and arrival flight paths.

8. VISUAL AIDS

8.1 Wind Indicators

8.1.1 A wind direction indicator shall be installed which should be of a conspicuous colour and in the form of a truncated cone.

8.1.2 The wind direction indicator shall be visible at a height of 1000feet above the indicator and visible from any portion of the movement area.

8.2 Marker Buoys

8.2.1 Marker buoys shall be visible to landing aircraft from a height of 300m and for maneuvering aircraft in any part of movement area.

8.3 Take-off and Landing Area Markers

8.3.1 Where there is no conflict with marine traffic or marine regulations;

- a) Both ends of the take-off and landing area shall be marked with floating markers.
- b) The markers shall be visible from a distance greater than 2 nautical miles.

- c) Each markers shall be
 - i. Coloured International orange and white; or
 - ii. Alternating international orange and white
 - iii. Where it is impracticable to mark the take-off/ landing area as specified in:
 - a. Guidance such as geographical points and/or other visual references shall be provided to designate the take-off and landing area; and
 - b. These visual references shall be identified and published.

8.4 Strobe Lights/ Beacon lights

8.4.1 For floating platforms located outside the house reef and in open waters strobe lights/ bacon lights shall be installed, it shall be:

- a) White or coloured flashes shall be yellow and white. Total flashes shall be between 20 to 30 flashes per minute.
- b) Located in an area that is easily and constantly seen by both marine and air traffic; and
- c) Radio activated or activated by the water aerodrome operator or designated agency.
- d) Beacon lights shall be installed on the floating platforms on the outer reef and its height shall not be one (1) meter from the level of the platform. The beacon and its fixing strut shall be made out of frangible material. The beacon shall be 'ON' from dusk to dawn or as approved in Water aerodrome Operation Manual.

8.5 Hazardous Areas

8.5.1 Danger zone on the platform underneath the Aircraft wing when the aircraft is docked to the floating platform shall be marked with a "DANGER" sign and painted alternating international orange and white.

- a) Where shoals or other hazards could endanger a seaplane, marker buoys shall be installed to clearly indicate the hazardous area.
- b) Marker bouys for delineating hazardous area shall be coloured international orange.
- c) diagonal stripes, restricting passengers from the docking area until aircraft propellers have come to a complete stop.

9. PASSENGER TRANSFER VESSEL (PTV)

9.1 If floating platforms are provided for emplaning and deplaning passengers the water aerodrome operator shall provide a mechanized transfer vessel that will be available for the purpose of transferring passengers to and from the floating platforms to the shore.

9.2 The water aerodrome operator shall ensure that instructions are given to the PTV drivers about the direction of water runway, and the movements of the aircraft for taxi and the specific time of its arrivals.

10. RESCUE AND FIRE FIGHTING SERVICES (RFFS)

10.1 At a water aerodrome where the hours of operation are notified, the RFFS should be available from minimum 15 minutes before till 15 minutes after the times published. Where the hours of operation are not notified, the RFFS should be available prior to the engine start of the first departing seaplane, or to the first arriving seaplane commencing its final approach; and until the last arrival is moored, or 15 minutes after take-off of the final seaplane whichever is later.

10.2 RFFS personnel shall receive initial and recurrent competence-based training relevant to their role and task, and shall at all-time be physically capable of performing the tasks expected of them.

10.3 Procedures for the enhancement of passenger and crew post-accident survival should be developed, and facilities in terms of staff and equipment, appropriate to the type of seaplane operations anticipated at the water aerodrome, should be provided. Within the provision of these procedures and facilities, account should be taken of the effect that variable environmental conditions might have on the ability of the rescue staff to respond rapidly to accidents and incidents.

10.4 Where provided, a rescue vessel should be of a design and size that would allow survivors to be brought aboard, or it should be equipped with an adequate number of floatation devices of a design that would enable survivors to remove themselves from the water.

10.5 All vessels shall be at least 200 m away from the floating platform and the maneuvering area when the seaplane is on final for landing or ready for take-off.

10.6 The level of protection provided at a water aerodrome for rescue and firefighting shall be appropriate to the water aerodrome using principles in paragraphs 9.2.4 and 9.2.5 of CAR Section 4 Series B Part I.

10.7 Types of extinguishing agents and the amount of water for foam production and complimentary agents shall be provided on the rescue and firefighting vessel/(s) in accordance with the water aerodrome category determined under Table 9-1 and Table 9-2 of CAR Section 4 Series B Part I.

10.8 A discrete communication system shall be provided linking the water aerodrome fire station, control tower (if available), fire and rescue vessel/(s), fire and rescue vehicles and any other fire station.

10.9 An alerting system for rescue and fire-fighting personnel, capable of being operated by that station, shall be provided at a fire station, any other fire station at the terminal and the water aerodrome control tower.

11. RESPONSE TIME

11.1 For water aerodromes within the house reef, the operational objective of the RFFS shall be to achieve a response time not exceeding three (03) minutes to any point of each operational water runway, in optimum visibility and surface conditions.

11.2 Where water aerodromes are located outside the house reef of an island and where access is not easy to the floating platform, the response time shall be as agreed by the Regulatory Authority and the operator and as such, this time shall be recorded and reflected in the Water aerodrome Emergency Plan (WEP) for that locale.

11.3 The following equipment shall be available in rescue and firefighting vessels:

- a. Area Maps
- b. Navigational Charts
- c. Bailing Buckets
- d. Water Pumps
- e. Wool Blankets (for passengers and crew)
- f. Bullhorn(s)
- g. Communication Equipment
- h. Emergency Lights
- i. Flares
- j. Forcible Entry Tools
- k. Marine Night Vision Binoculars
- l. Life rafts (with paddles or oars)
- m. Medical Kit
- n. Navigational Equipment
- o. Portable Resuscitation Equipment
- p. Flood Lights (500 watts or greater)
- q. Rescue Nets
- r. Stretchers and Litters
- s. Rescue Throwing Bags and Anchors

12 EMERGENCY PLANNING

12.1 The licensee shall prepare an Emergency Response Plan (ERP) for the particular water aerodrome or floating platform and shall be accepted /approved by the Regulatory Authority.

12.2 The emergency plan should consider the particular hazards associated with seaplane operations, including:

- a. passenger evacuation into a further life-threatening environment, e.g. deep water;
- b. the onset of hypothermia, and its associated effects, during and following prolonged immersion in cold water; and
- c. the immediate toxicity and respiratory effects on survivors in the water following the ingestion of floating fuel and oils and their associated vapours, and fire suppressant foams, powders and gases.

12.3 ERP shall contain provisions for:

- a. water rescue;
- b. fire response; and
- c. recovery of disabled aircraft from the movement area.

13. GENERAL

13.1 Architectural and infrastructure related requirement for the optimal implementation of security requirement shall be integrated in the design of the water aerodrome as per the BCAS guidelines issued in this regard from time to time.

13.2 DGCA may do inspections of the water aerodromes during the construction period if required to assess the progress, quality assurance system and security adopted by the applicant. Final inspection will be done after the applicant gives the completion report and makes a request for licensing of the water aerodrome

13.3 Inspections shall be carried out at regular intervals by the Water aerodrome operator to check the underwater and above water structural conditions of platforms, docks and ramps including the safety equipment provided. Records of such inspections shall be kept and available for inspection by Regulatory Authority, if and when required.

13.4 The following safety equipment shall be readily available on the floating platforms, dock and ramps :

- a. 30 m life line ropes – adequate to cater for the number of seaplane docking positions
- b. Life Rings - adequate to cater for the number of seaplane docking positions
- c. Fire extinguishers – for each seaplane docking position one extinguisher

Note:- The objectives of emergency planning outlined in CAR SEC4 Series B Part I Chapter 9, Additional guidance on seaplane ICAO Airport Services Manual (Doc 9137) Part.7