



CANADIAN AVIATION REGULATION ADVISORY COUNCIL (CARAC)
NOTICE OF PROPOSED AMENDMENT (NPA)

EXECUTIVE SUMMARY

Transport Canada is proposing an amendment to the *Canadian Aviation Regulations* (CARs) to establish regulatory requirements for the operation and certification of water airports in Canada. This amendment will ensure that water airports operate at an equivalent level of safety to land airports and heliports, which have existing regulatory requirements in the CARs.

BACKGROUND

According to section 302.01 of the CARs, an aerodrome must be certified if it is located within the built-up area of a city or town, if it receives scheduled air service for the transport of passengers, or if the Minister deems it to be in the public interest and to further the safe operation of the aerodrome. Certified aerodromes (airports) must comply with Subpart 302 of the CARs and the associated standards. These requirements were introduced in 1996 and were based on land airports. In 2007, the CARs were amended to introduce Subpart 305 on Heliports, which extended the certification framework to include heliports.

The existing regulatory framework provides no certification, or operational requirements for water aerodromes. Some water aerodrome operators are using the existing *TP 4884 - Water/Ice Aerodrome Standards and Recommended Practice* as guidance in the conduct of their operations. *TP 4884* includes minimal standards and recommended practices for the development and operation of both water and ice aerodromes, however it has no force of law as it is not incorporated by reference into Part III of the CARs.

The number of passengers that travel by seaplane is increasing in Canada and will continue to increase. To ensure the safety of the travelling public, Transport Canada is proposing an amendment related to water airports that would provide the certification, operational, management, safety and reporting requirements for water airports. The amendment would set out specific requirements for water airports, similar to those of land airports and heliports, to ensure the safety of all passengers and staff using or working in water airports.

There are currently 48 water aerodromes that are located within the built-up area of a city or town; and/or, have scheduled passenger service. These sites would be subject to the new proposed amendment.

The International Civil Aviation Organization (ICAO) provides general guidance to member States for establishing national regulations for water aerodromes. The guidance material is meant to be used in conjunction with ICAO Annex 14 to the Convention on International Civil Aviation, Volume I – Aerodrome Design and Operations. While the guidance is helpful to member States, Chapter 3 of Annex 14 (Physical Characteristics) only applies to land aerodromes. ICAO has not developed Standards and Recommended practices for water aerodromes.

Other States are seeking to develop their own water aerodrome operations, including Indonesia and Greece. They have asked Canada for guidance regarding water airports because of the lack of ICAO requirements and the prevalence of water aerodromes in Canada. The development of modern



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regulations for water airports could allow Canada to become an ICAO leader on this subject.

Additionally, this amendment will ensure that there is no conflict with the current *Canada Shipping Act, 2001 and Collision Regulations*. It should be noted that a seaplane travelling on the water (i.e., taxiing) is considered a vessel and is required to abide by the *Canada Shipping Act, 2001* and the *Collision Regulations*. The *Collision Regulations* ensure that all traffic on water are operating under the same rules for the safe manoeuvring of vessels, including outlining the procedures to follow to avoid a collision.

STATEMENT OF THE PROBLEM AND POLICY CONSIDERATIONS

Subpart 302 of the CARs and the associated standards are written for land airports and pertain to the characteristics of the terrain the airport rests upon; for example, the slope of the ground, the size and colour of markings painted on the pavement, the load bearing capacity of the pavement, the location, and the colour and size of signs. There are no specific requirements that apply to water airports.

Furthermore, the number and frequency of commercial flights originating from water airports has significantly increased since 1999. Transport Canada estimates 500,000 passengers travel by scheduled seaplane flights each year. This highlights the need for specific requirements for water airports.

The current regulations for the certification of aerodromes as airports (CARs Part III, Subpart 2) and the associated standards (*Aerodrome Standards and Recommended Practices* - TP 312) are intended for the certification of land aerodromes as land airports.

The amendment would establish the requirements for the certification and operation of water airports in Canada and allow a standardized application of safety requirements by Transport Canada.

Transport Canada is establishing requirements for water airports as it is a gap in the regulatory regime. The lack of Standards and Recommended Practices from ICAO and the growing interest in establishing requirements for water airports within Canada and internationally also contributed to the decision to develop an amendment for water airports.

Canada is experiencing an increase in seaplane traffic that is anticipated to keep growing; the increased traffic also increases the likelihood of an accident or incident at a water aerodrome. The amendment is required to ensure the safety of passengers, flight crews and those working at water aerodromes across Canada.

ANALYSIS SUMMARY



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Regulating seaplanes operations at water airports in Canada is intrinsically linked to Transport Canada's broader efforts to improve seaplane safety. Transport Canada has undertaken actions to address seaplane safety in Canada, including:

- An awareness campaign, where various promotional products were updated, in addition to launching a new Transport Canada [web portal for seaplane operators and passengers](#); and,
- The publication of a regulatory amendment, in March 2019, to require the donning of personal flotation devices by passengers and crew in Subpart 703 operations and mandatory egress training for Subpart 704 and 703 pilots to address the risks associated with egress and drowning in seaplane operations.

Transport Canada has addressed many safety issues related to the operation of seaplanes; addressing certification requirements at water airports remains a safety concern that needs to be addressed in this area.

There are currently six certified water airports operating in Canada. Those water airports that currently hold a water airport certificate will be required to submit an application to receive a new water airport certificate under the amendment.

In addition to the six certified water airports, Canada has many water aerodromes that provide scheduled passenger services. Air operators that operate scheduled air services at these water aerodromes are authorized to do so in their air operator certificate by Transport Canada. Transport Canada inspectors currently do not have formal regulations or standards to follow when inspecting these water aerodromes, therefore regulations on the certification of water airports are required.

Consultation

A Notice of Proposed Amendment was published in 1999 (NPA1999-280) outlining proposed amendments to the CARs for water airports. Transport Canada has continued to work on the amendment for water airports. Given the amount of time that has lapsed since the last consultation, this new NPA was developed to provide stakeholders with an opportunity to provide comments prior to any pre-publication in the *Canada Gazette*, Part I.

RECOMMENDED SOLUTION

The amendment establishes the requirements for the certification and operation of water airports, including safety requirements, organizational requirements, emergency response plans, and reporting requirements. The amendment ensures the safety of passengers travelling by seaplane and using water airports. The amendment outlines the safety systems and requirements that water airports would have to meet and would ensure an equivalent level of safety as the requirements for land airports and heliports.



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OBJECTIVES

The objective of this proposal is to introduce amendments related to the certification and operation of water airports that would ensure the safe operation of water airports.

PROPOSED CHANGES

Subpart 306 would be added to the CARs and would outline the requirements for the certification and operation of water airports in Canada. The proposed new Subpart 306 would contain the requirements outlined below. **Transport Canada is formally seeking input from stakeholders on two distinct Applicability options (please see below). Submissions should clearly indicate the option being commented on.**

Applicability

Option 1

All water aerodromes would be required to be certified as a water airport if they:

- are located in the built-up area of a city or town or,
- have scheduled passenger service.

In addition, the Minister would have the authority to make an order indicating that a water aerodrome that does not meet the criteria above must be certified as a water airport if the issuance of a water airport certificate would be in the public interest and would further the safe operation of the aerodrome.

Option 2

All water aerodromes would be required to be certified as a water airport if they:

- are located in the built-up area of a city or town; or,
- receive more than 14 scheduled passenger movements per day; or,
- receive any aircraft with a seating configuration, excluding pilot seats, of nine or more for scheduled passengers service.

In addition, the Minister would have the authority to make an order indicating that a water aerodrome that does not meet the criteria above must be certified as a water airport if the issuance of a water airport certificate would be in the public interest and would further the safe operation of the aerodrome.



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Certification

To operate a water aerodrome, the water airport operator must hold a water airport certificate and must have an approved water airport operations manual.

An applicant for a water airport certificate must submit an application to the Minister that includes the name and civic address of the proposed water airport, the name and mailing address of the applicant, and, if applicable, the name of the person that the applicant proposes to appoint as the water airport manager. The application needs to include the proposed water airports operations manual and documentation outlining the obstacle limitation surface, the geographic coordinates, the elevation, and the range of tides or water levels. The applicant must also demonstrate that they have consulted with local government authorities with respect to the boundaries and land adjacent to the water airport.

A water airport certificate would be issued to the applicant if the proposed water airport operations manual is approved; if the proposed water airport meets the physical characteristics of a water airport; if the obstacle limitation surfaces meet the requirements; and, if the applicant demonstrates their ability to maintain the organizational structure and to conduct the operational management of the proposed water airport.

The airport operations manual would contain:

- a description of the physical characteristics and water airport boundary;
- the level of service and the types of services that would be provided;
- the largest aircraft that is intended to be used at the water airport;
- a description of the organizational structure;
- a description of the operational procedures;
- a copy of any agreement or memorandum of understanding that affects the operation of the water airport, including emergency services;
- information that makes it possible to verify that the water airport meets the requirements and any applicable standards related to physical characteristics, obstacle limitation surfaces, markers, markings and signs;
- an emergency response plan;
- a record of any amendments to the manual and a description of the process for making any amendments;



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- a list of people who have copies of the manual; and,
- a statement, signed by the Minister, that the manual and any amendments have been approved.

Any amendments to the airport operations manual must be approved by the Minister. The airport operator must also distribute the manual, and any applicable amendments, to any person or institution referred to in the manual.

Holders of an Airport Certificate

Operators of a water aerodrome who hold an airport certificate in respect of a water aerodrome on the day before the regulations come into force may apply for a water airport certificate by submitting their proposed water airport operations manual and a written application. A water airport certificate would be issued to an operator if the water airport operations manual is approved, the water airport meets the requirements related to physical characteristics, and the obstacle limitation surfaces requirements are met. Water airport certificates in respect of a water aerodrome would expire on the day the regulations come into force.

Management of the Water Airport

The water airport operator would carry out the following responsibilities:

- maintaining the organizational structure of the water airport;
- keeping the water airport operations manual up to date;
- reviewing each aeronautical information publication as soon as it is received, and immediately notify the Minister and the provider of aeronautical information of any inaccuracies;
- notifying the provider of aeronautical information of any changes to the operational information;
- removing any object or obstruction hazardous to aviation safety, as soon as practicable, that is located within the water airport boundary;
- ensuring that the water airport operates in accordance with the Regulations;
- managing the water airport operations;
- coordinating the functions that affect the management of water airport operations;
- supervising the production and amendment of the water airport operations manual;
- liaising with regulatory authorities on all matters that relate to water airport operations, including



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amendments to the water airport operations manual;

- liaising with external agencies, including marine operators and the providers of air navigation services, on all matters that relate to water airport operations;
- receiving and acting on any aeronautical information that affects safety at the water airport; and,
- maintaining a water airport operations library that includes, at a minimum, the current editions of aeronautical information publications.

Additionally, the water airport operator must immediately notify the Minister and the appropriate air traffic control unit or flight service station of any of the following:

- the presence of any object that penetrates an obstacle limitation surface;
- the existence of any obstruction or condition hazardous to aviation safety at, or in the vicinity of, the water airport;
- any reduction in the level of service provided;
- the closure of any part of the movement area; and,
- the existence of any other condition hazardous to aviation safety and against which precautions should be taken.

If the air traffic control unit or flight service station cannot be contacted, the airport operator must immediately communicate, either visually or orally, with the affected pilots.

The operator of a water airport can allow another person or entity to operate the water airport on their behalf if there is a written agreement between the parties and a copy of the agreement is included in the water airport operations manual. However, the original operator of the water airport continues to be responsible for the fulfilling all regulatory requirements.

The Minister must be notified in writing within 14 days of a change to the water airports name. The Minister must also be notified in writing at least 14 days before ceasing to operate the water airport. If the operator of a water airport proposes to transfer the operation of the water airport to another operator, the Minister shall issue a water airport certificate to the proposed operator. The water airport certificate is issued only if the Minister was notified at least 14 days in advance and the proposed operator submits an application to the Minister at least 14 days in advance. All requirement of the regulations shall be met on the day of the transfer.

A water airport operator may appoint a water airport manager and assign the operator's responsibilities to the manager. The assignment of the operator's responsibilities to the manager and the acceptance



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of these responsibilities by the manager must be documented in writing.

The water airport manager must have knowledge of the contents of the water airport operations manual, the water airport certificate, the operational procedures and any laws, regulations or standards that ensure safety or affect his responsibilities. The water airport manager must not assign duties within the airport boundary to personnel unless they have successfully been trained for their specific duties and completed an initial training course on human and organizational factors related to safety as described in the water airport operations manual. These training records must be kept for a minimum of 24 months.

The Minister must be notified in writing within 14 calendar days after appointing or replacing a water airport manager.

The water airport operator must keep the following documents for at least two years:

- Any agreement to allow another person or entity to operate the water airport on the behalf of the operator;
- Any document indicating that the responsibilities of the operator have been assigned to a water airport manager;
- A summary of consultations on the emergency response plan;
- A record of the annual review of the emergency response plan; and,
- A records of the last two tests of the emergency response plan.

Reporting of Information

The operator must report to the Minister and the provider of aeronautical information services, the following information:

- the water airport elevation;
- the magnetic bearings of the channels;
- the range of tides or water levels;
- the average speed and the direction of any current;
- the dimensions of the water airport and of any required facility;
- the arrival and departure procedures;



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- information relating to electronic navigation aids;
- the presence and location of the geographical points, visual references, markings and markers;
- the location of the shoals or other hazards;
- contact information for the operator of the water airport;
- the hours of operation of the water airport;
- the communication frequency used by the water airport;
- operational procedures;
- operational restrictions;
- cautions; and,
- information on any significant obstacle that is at, or in the vicinity of, the water airport, including the location of each obstacle, its maximum elevation, and the nature of the obstacle.

The operator must also report the following information to the provider of aeronautical information services as soon as possible, if it is likely to adversely affect the normal operation of an aircraft, so it can be disseminated:

- any change in the condition of the movement area;
- the operational status of the water airport facilities;
- any damage to a shore facility;
- any submerged hazard or surface hazard, such as a log boom;
- abnormally high or low water depth;
- any current; and,
- a change in any other conditions or circumstances that is likely to constitute a significant hazard.



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Safety Requirements

Physical Characteristics

The following requirement must be met at each water airport:

- The channel must be at least 120 m wide.
- The channel must be at least 800 m long.
- The channel must have a depth of at least 1.8 m, unless the water airport is restricted to aircraft requiring less than 1.8 m then the depth would be determined based on the requirements of those aircraft.
- A shore facility must be provided for the safe embarkation and disembarkation of passengers that must:
 - provide a safe clearance between the aircraft and any other object;
 - be kept in good condition;
 - if it is a floating facility, it must be attached or anchored in a way that prevents shifting or becoming detached;
 - allow the safe movement of passengers;
 - have adequate tie-down points at each aircraft parking position to secure the aircraft; and,
 - have a width that is at least 1.5 times the width of the floats or landing gear of the largest aircraft that would use the facility.
- A turning basin must:
 - be large enough to allow the largest aircraft to turn;
 - have a water depth of at least 1.2 m, unless the water airport is restricted to aircraft requiring less than 1.2 m then the depth would be determined based on the requirements of those aircraft; and,
 - have a clearance of at least 15 m between the edges of the turning basin and any obstacle.
- A taxi channel must:



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- have a width of at least 45 m; and,
 - have a water depth of at least 1.2 m, unless the water airport is restricted to aircraft requiring less than 1.2 m then the depth would be determined based on the requirements of those aircraft.
- Mooring or anchoring facilities must:
 - allow the largest aircraft to turn;
 - provide a safe clearance between an aircraft and any other object; and,
 - have a water depth of at least 1.2 m, unless the water airport is restricted to aircraft requiring less than 1.2 m then the depth would be determined based on the requirements of those aircraft.
- Obstacle limitation surfaces, consisting of take-off, approach and transitional surfaces, must be established.
- Take-off and approach surfaces must be established at both ends of the channel, unless the channel is restricted to one-direction arrivals and opposite direction take-offs, and must be either:
 - straight-in surface whose centre line is a straight line that aligns with the centre line of the channel;
 - an off-set surface whose centre line is a straight line that is off-set from the centre line of the channel; or,
 - a curved surface whose centre line is a straight line that is a combination of a straight line and an arc of a constant radius.
- Take-off and approach surfaces, and transitional surfaces must meet the location and dimensional requirements.
- No fixed objects or structures are allowed within the water airport boundary unless:
 - it is used for marine navigation purposes; or,
 - it is frangible; and, used for air navigation purposes or is essential to the safe operation of an aircraft.
- Every fixed object must be marked with a colour in accordance with *The Canadian Aids to Navigation System*, TP 968, as amended from time to time, published by the Canadian Coast



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Guard, unless:

- the object is conspicuous as a result of its shape, size or colour; or,
 - the object is impracticable to mark with a colour in which case display markers or flags would be displayed on or above the object.
- If an object is hazardous to the operation of aircraft, the object must be removed or any measures necessary to ensure aviation safety must be undertaken in accordance with a risk analysis.
- A risk analysis must be conducted to establish the required clearance above a waterway, river or canal that is used as the movement area.
- All overhead wires, catenaries or similar objects located inside the water airport boundary must be marked in accordance with Standard 621.
- Unless the wind direction can be obtained by radio, a wind direction indicator must be installed. The wind direction indicator must be of a conspicuous colour, in the form of a truncated cone, and visible both in flight from an altitude of 300 m and from the channel.
- Channels must be identified using geographical points or other visual references; or, using marking or markers in accordance with *The Canadian Aids to Navigation System*, TP 968, as amended from time to time, published by the Canadian Coast Guard.
- If shoals or other hazards could adversely affect the normal operation of the water airport, they must be identified by installing marker buoys.
- If dock identification markings are used, they must be triangular; displayed on the upper surface of the dock so they are visible from an altitude of 300 m; and, made of non-slip material.
- If dock edge markings are used, they must be displayed on each side of the dock where docking can occur.
- Dockside signs must be displayed that are clearly visible to those accessing the dockside that indicate that access is prohibited while an aircraft or its propeller are in motion. A sign clearly indicating the hazard must be displayed if any part of a secured aircraft overhangs the dock and constitutes a hazard to those accessing the dockside. In addition, if a restriction needs to be placed on a dockside, then a sign would be displayed that identifies the restriction and the portion of the dockside to which it applies.

Emergency Services

An emergency response plan must be developed and be readily available at the water airport. The



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emergency response plan would be developed in consultation with the individuals and organization that are impacted by the plan (i.e., air operators, authorities with jurisdiction over the body of water, marine operators, air navigation service providers, law enforcement, emergency responders and health service providers). The plan must specify the procedures to be followed in the case of an incident or accident that involves an aircraft within the boundaries or in the vicinity of the water airport; a medical emergency; a water rescue, a fire, an oil or fuel spill, the recovery of an aircraft and any other situation identified in a risk analysis. The plan must describe the emergency measure to be taken for each type of emergency; describe the roles and responsibilities of airport personnel and emergency organizations for each type of emergency; list the names and contact information for all persons, and emergency organization that could assist with an emergency; include a copy of any agreements entered into for the provision of emergency services; and, set out the lines of authority and relationships between the emergency organizations. In addition, the plan sets out the process for reviewing and updating the plan and the procedures for distributing the plan to the emergency organizations identified in the plan.

The plan must be reviewed every year and updated as required. The operator must carry out a test of the emergency response plan at intervals not exceeding three year.

Emergency equipment must be readily available at the water airport, including a life buoy and a lifeline or long pole for use in water rescues; certified fire extinguishers and absorbent material for use on an oil or fuel spill. Sufficient vessels and trained personnel must be readily available during the arrival and departure of flights to pick up the maximum number of passengers and crew allowed on board the largest aircraft that can be used at the water airport.

Fire prevention

To prevent fires, no one would be allowed to smoke or display an open flame at the shore facility or in an area where smoking or an open flame is likely to create a fire hazard that could endanger persons or property.

Recommended Consultation Stream

This NPA will be shared online for consultation. A forty-five (45) day comment period is recommended.

***UNTIL AUGUST 22, 2019, COMMENTS ON THIS NOTICE MAY BE ADDRESSED, IN WRITING, TO:**

CARAC contact info: CARRAC@tc.gc.ca

*Comments received after the above mentioned deadline will not be considered in subsequent updates



Transport
Canada

Transports
Canada

CARAC ACTIVITY REPORTING NOTICE #: 2019-014

DATE: July 8, 2019

SUBJECT: **Water Airports**

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