



Aeronautical Information Management

Instrument Procedure Design Submission Overview for Aerodromes

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Record of Amendments

Effective Date	Version	Reason for Amendment
15 Apr 2016	16.5	Original publication
3 Apr 2017	17.3	Changed contact email addresses to a single, new email address; section 1.1, changed “severe” to “major”; section 1.3.1, deleted first paragraph, clarified a sentence; section 1.3.2, changed “should” to “shall”; section 1.3.4, added “or aircraft operator”, and added to the Note and bullet point following the note; deleted section 1.3.5, <i>Non Aerodrome as a Sponsor</i> ; new section 1.3.5, added the point that was deleted in section 1.3.4 and a new point regarding altimeter setting source; Chapter 2 intro: added new content describing EDO and Sponsor responsibilities; section 2.1, made minor amendments to clarify text; section 2.2, defined “Quality”, made minor amendments to clarify text, and changed “AIM Procedure Design” to “IFP Design” to reflect current organization; section 3.2.1, changed where to find minima in TP 308”, clarified content regarding a registered aerodrome without attestation, replaced “Operations Specification” with “Special Authorization”, removed specific TP 308 reference; section 3.3.1, added the requirement for aerodrome operators to be copied on all correspondence regarding data; section 3.3.2, added a new sentence about altimeter setting source; section 4.1, minor amendments to formatting; section 4.2, specified who sends the notification; no safety impact identified by these amendments
9 Apr 2020	20.3	Amended sections 1.3.4, 1.3.5, 2 Intro, 2.1, 3.2.1, 3.3.1, 3.3.2, 4.1, 4.2, 5, 6; added new sections 3.3.3, <i>Processing Requirements – AIM SD Data Collection Specialist</i> , 3.3.5, <i>Approved Altimeter Setting Source</i> , 3.5, <i>Ongoing Maintenance of IPs</i> , and 3.6, <i>Instrument Procedure Maintenance</i> ; deleted section 2.2, <i>Preferred EDO List</i> ; no safety impact identified by these amendments [2020-00079]

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1 General

1.1 Purpose of this Document

For a full copy of the *External Design Organization (EDO) IPD Submission Manual*, please contact service@navcanada.ca.

This document provides an overview regarding interaction between NAV CANADA and External Instrument Procedure Design Organizations (EDOs) with respect to the development, maintenance and submission of Instrument Procedures (IP) for publication in the *Canada Air Pilot (CAP)* or the *Restricted Canada Air Pilot (RCAP)*.

This document does not apply to Instrument Procedures developed by the Department of National Defence (DND) submitted for publication in the GPH 200 series of products.

1.2 Regulatory Context

There are two sections of the *Canadian Aviation Regulations (CARs)* Part VIII that are applicable to the development and publication of IPs:

- CARs Part VIII, Subpart 3, Aeronautical Information Service (AIS), provides the definition of an Aeronautical Information Service and the regulations to be adhered to in providing that service. Within the context of this document, NAV CANADA is authorized by the state to provide the Aeronautical Information Service for Canada.
- CARs Part VIII, Subpart 3, Development and Publication of Instrument Procedures, provides the regulations pertaining to development of Instrument Procedures in Canada. All instrument procedure design organizations developing Instrument Procedures for publication in Canada are subject to these regulations.

1.3 Roles and Responsibilities

1.3.1 Transport Canada

Regulatory oversight of the NAV CANADA AIS/AIM is exercised by Transport Canada. In this role, Transport Canada has the responsibility to ensure that the provision of the AIS/AIM is conducted in manner that is in accordance with CARs Part VIII.

Transport Canada is the authority for issuing and updating TP 308, *Criteria for the Development of Instrument Procedures*. Exemptions or deviations to the approved instrument procedure design criteria must be obtained in writing from the appropriate Transport Canada Authority.

1.3.2 NAV CANADA

Under the Civil Air Navigation Service Commercialization Act (CANSCA) 1996, NAV CANADA is assigned responsibility for the Canadian Aeronautical Information Service. NAV CANADA exercises this responsibility through publication of the state Integrated Aeronautical Information Package. Instrument Procedures form part of the Integrated Aeronautical Information Package and are published in the CAP or RCAP.

As stated, NAV CANADA has the responsibility for the state AIS as outlined in CARs Part VIII. This responsibility includes the requirement to receive and/or originate, collate or assemble, edit, format, publish/store and distribute aeronautical information/data concerning the entire territory of the State as well as areas in which the State is responsible for air traffic services outside its territory.

As the provider of the Aeronautical Information Service, NAV CANADA AIM aeronautical data is considered the state source. As such, this state aeronautical data shall be used as the foundation data for the development of IPs. Required updates to the state aeronautical data must be provided to NAV CANADA by the accountable source for validation prior to use for other aeronautical purposes such as development of IPs.

In the role of publisher of IPs in the Integrated Aeronautical Information Package, NAV CANADA must collect and verify the aeronautical data related to Instrument Procedures. Additionally, NAV CANADA must have assurance that the requirements of CARs Part VIII have been met. To meet this requirement, a quality check of IPs and the associated aeronautical data is conducted according to NAV CANADA internal processes and procedures. Publication of an IP is dependent on meeting the aeronautical data and IP design requirements of CARs Part VIII.

1.3.3 Aerodrome Operator

The aerodrome operator is the accountable source for aeronautical and obstacle data related to an aerodrome. The aerodrome operator is responsible to ensure the aeronautical data related to the aerodrome is complete and current. These data include but are not limited to aerodrome information and the associated instrument procedure for the aerodrome. While aerodrome operators can sponsor instrument procedures and contract the design and maintenance to a third party, they are still the accountable source for that procedure.

1.3.4 Instrument Procedure Sponsor

There may be locations where development of an IP is desirable for a specific commercial purpose that does not meet the NAV CANADA's Level of Service Policy. In these cases, an Aerodrome or aircraft operator sponsors the development and publication of an Instrument Procedure. Where the Sponsor is not the Aerodrome Operator, the Sponsor shall make an agreement with the Aerodrome Operator to provide Instrument Procedures (IP) to the Aerodrome. As a Sponsor, the aerodrome or aircraft operator engages the services of an EDO to develop and maintain the IP on their behalf. The Sponsor is responsible to:

- Ensure the IP is developed according to CARs Part VIII;
- Ensure the IP has been designed in accordance with any policies concerning wildlife, environmental, noise or any other applicable criteria;
- If designed using alternate criteria, obtain a "Deviation Approval" letter from the minister (ref TC AC 803-004);
- Have a maintenance plan in place for the published Instrument Procedure (this includes an obstacle evaluation plan in place to assess the impact of proposed or newly constructed obstacles on the published IPs);
- Develop a NOTAM plan indicating the Flight Information Centre (FIC) contact information required to produce a NOTAM for the procedure;

- Notify NAV CANADA when contact information changes for the aerodrome;
- Advise NAV CANADA when the maintenance contract is no longer in place or when the IP is no longer sponsored at edo@navcanada.ca;
Note: NAV CANADA will not accept transfer of maintenance for a procedure contracted for design by an External Design Organization unless NAV CANADA is contracted to do so.
- Confirm the altimeter setting source is approved by Transport Canada;
- Confirm with NAV CANADA on the validity of the documentation in situations where a private altimeter source is used;
- Request extensions, deviations and exemptions from regulatory criteria by submitting the necessary requests to Transport Canada; and
- Use NAV CANADA submission policy and associated forms.

For Sponsors who are not the Aerodrome operator, the Sponsor shall provide a letter from the Aerodrome authorizing the organization to act as a Sponsor on their behalf; the letter shall include the scope of activities expected of the Sponsor by the Aerodrome.

1.3.5 External Design Organization (EDO)

Design Organizations not contracted by NAV CANADA are considered EDOs who develop IPs on behalf of a Sponsor. EDOs are responsible to:

- Support the Sponsors coordination with NAV CANADA ANS Planning on potential sites for IP development to determine the NAV CANADA service level.
- Support the Sponsor's coordination with the applicable Air Traffic Services organization prior to commencing the design and when changes to existing Instrument Procedures are developed that may impact ATC operations. This ensures compatibility with the existing ANS structure.
- Ensure the aerodrome operator submits any new or revised aeronautical data resulting from development of the IP to NAV CANADA AIM SD Data Collection.
- Submit all data requests, submissions and queries to the edo@navcanada.ca mailbox.
- Support the Sponsor's coordination with Transport Canada for any required exemptions or deviations to the standards of CARs Part VIII.
- Support the Sponsor's submission of newly developed or revised instrument procedures for publication in accordance with the instructions contained in this document.
- Retain original instrument procedure design documentation of sufficient detail and traceability to satisfy regulatory audit requirements.
- Ensure the availability of an altimeter setting source that meets the requirements of CARs Section 804.01.c or exemption conditions.
- Review, revise and maintain published instrument procedures according to regulatory requirements and sponsorship agreements.
- Be fully responsible for the quality of the design and flight inspections performed under CARs Part VIII.
- Provide an estimate by January 1st of each Calendar year of any planned design activities including new procedures and those due cyclic/regulatory review to be published between the following September to August to edo@navcanada.ca. This information will be used by NAV CANADA to determine the level of effort required to process the submitted IPs.

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2 EDO Program

In recent history, EDO designs have been incorporated into the integrated network of procedures published by NAV CANADA under its legislated mandate to provide Air Navigation Service (ANS) for Canada. Going forward, NAV CANADA will work solely with the Accountable Source or Sponsor (defined in section 1.3.4 *Instrument Procedure Sponsor*) when accepting design submissions for publication.

To maintain the integrity of the national ANS, NAV CANADA has defined an Instrument Procedure Design Submission Process that outlines the required activities for Sponsors to submit standards-compliant designs for publication.

Under Canada's ANS framework, there are a number of entities tasked with the responsibility for the upkeep of elements of the ANS. Aerodromes are considered the accountable source for all information regarding the aerodrome including the instrument procedures designed for the Aerodrome's facilities.

For the purpose of this program, Sponsors are aerodromes or aircraft operators. It is the responsibility of the Sponsor to submit *Canadian Aviation Regulation* (CAR) compliant instrument procedure design submissions to NAV CANADA and all communications related to the status of any submission will be coordinated through the Sponsor.

EDOs (acting on behalf of Sponsors) are responsible at aerodromes where NAV CANADA has IPs to coordinate with NAV CANADA to keep common IP data consistent; for example, 100 NM Safe Altitude.

When a Sponsor is not the aerodrome operator, the aerodrome operator shall sign the Sponsor's Responsibility Form to indicate concurrence with the Sponsor's IP(s).

External Design Organizations that are contracted by Sponsors to provide design services, in the context of this policy, would provide:

- a. Development of an instrument procedure design;
- b. Maintenance of an instrument procedure design, including the responsibility to request NOTAM issuance when required, and manage NOTAMs as appropriate;
- c. Geographic and/or obstacle survey of the aerodrome, or
- d. Flight inspection services.

In all cases, EDOs are considered by NAV CANADA as sub-contractors to Sponsors. NAV CANADA AIM will only accept submissions directly from a Sponsor (and not its Agents/Contractors) and will address any issues that arise with a submission with the Sponsor.

For clarity, the ownership of intellectual property rights, if any, in a particular instrument procedure is not a matter of NAV CANADA concern or authority. Intellectual property rights in instrument procedures are a matter of negotiated, contractual rights between Sponsors and EDOs. NAV CANADA suggests that Sponsors and EDOs consult their respective legal counsel in respect of intellectual property rights of instrument procedures.

These definitions and roles are important for NAV CANADA to manage the risk in changes to aeronautical information and for the timely publication of designs.

2.1 Registered EDO Program

Valid instrument procedures are the product of accurate data, trained designers and diligent quality review. In an effort to support the Sponsors, and indirectly the EDO companies, NAV CANADA established a Registered EDO Program.

Being a participant to the program will include:

- a. Access to NAV CANADA aeronautical data to support design development;
- b. Access to the NAV CANADA-hosted criteria interpretation website;
- c. Access to NAV CANADA AIM annual work plans; and
- d. Communication of status, without preference, as a Registered member of the EDO Program; and,
- e. Access to the Altimeter Source Reference List (ASRL) and Altimeter Source Compliance Status available through NAV CANADA Connexion.

In return for being a participant, NAV CANADA requires:

- a. An estimate provided by January 1st of each Calendar year of any EDO's planned design activities including new procedures and those due cyclic/regulatory review to be published between the following September to August. Changes to this estimate should be provided quarterly.;
- b. EDOs to maintain a good standing in the program through:
 - a. Maintaining training in design criteria for designers, through training approved by Transport Canada. Training records must be provided to NAV CANADA for auditing purposes.
 - b. Maintaining an auditable set of information related to the quality control of submissions it may prepare for Sponsors for ultimate submission by the Sponsor to NAV CANADA.

Registration for the EDO Program can be requested through NAV CANADA AIM at edo@navcanada.ca.

Being a registered EDO with NAV CANADA is intended to eliminate potential time delays in processing and publishing instrument procedures. It is also intended to help control ANS costs by reducing the duplication of work through advanced planning for work at aerodromes and reduce NAV CANADA quality control services.

With the implementation of the program, NAV CANADA will no longer accept designs from Sponsors who use EDOs not participating in the Registered EDO Program.

2.2 Reserved

3 Instrument Procedure Design and Maintenance

3.1 NAV CANADA Provision of Service

Provision of service by NAV CANADA is determined on a case-by-case basis through application of the NAV CANADA Level of Service policy. The contact address for NAV CANADA Programs Coordination is service@navcanada.ca.

3.2 Publication of Instrument Procedures

3.2.1 The Instrument Procedure Inventory

The Instrument Procedure Inventory contains two types of Instrument Procedures: Public Instrument Procedures and Restricted Instrument Procedures. EDOs developing or revising Instrument Procedures to be published in the inventory must clearly identify on the Instrument Procedure Submission Form which category of Instrument Procedure has been developed.

Prior to publication in the instrument procedure inventory, each submitted Instrument Procedure will be reviewed in accordance with NAV CANADA AIM Policy and Procedures.

Public Instrument Procedure

Criteria-compliant Instrument Procedures at certified aerodromes or registered aerodromes for which an Aerodrome Operator Attestation has been received shall be published in the *Canada Air Pilot* as indicated in *TC AC 301-001*. Guidance on the requirements for the Aerodrome Operator Attestation may be found at the following hyperlink: <http://www.tc.gc.ca/eng/civilaviation/opssvs/managementservices-referencecentre-acs-300-301-001-119.htm>. The *Aerodrome Operator Attestation Form* (F-IPD-124) is available on the NAV CANADA corporate website.

An Aerodrome Operator Attestation is required for every registered aerodrome runway end to which a public Instrument Procedure is developed and must be included with the instrument procedure submission package. Instrument Procedures to runways at registered aerodromes that do not have a corresponding Aerodrome Operator Attestation will be published as a Restricted Instrument Procedure in the RCAP. Lowest minima for these Instrument Procedures will be set as per TP 308.

Any deviation required for an instrument procedure sponsored by an aerodrome must be requested in accordance with Transport Canada procedures.

Restricted Instrument Procedures

There are a number of factors used to determine that an Instrument Procedure is restricted and must be published in the *Restricted Canada Air Pilot*:

- **Exemption or Deviation:** Instrument Procedures that require an exemption from CARs Part VIII to deviate from the criteria specified in TP 308 shall be published in the RCAP:
 - Each Instrument Procedure that requires an exemption from CARs Part VIII to deviate from the criteria specified in TP 308 shall be submitted to Transport Canada for approval.
 - Transport Canada will formally respond to requests by aerodromes for exemption from CARs Part VIII to deviate from the criteria specified in TP 308 by letter. If approved, the letter shall become part of the design file and a copy shall be included with the IP design submission package forwarded to NAV CANADA.
 - Each approved exemption from CARs Part VIII to deviate from the criteria specified in TP 308 will be subject to a Special Authorization. The text of the Special Authorization will be provided by Transport Canada and shall be included in the IP design submission package forwarded to NAV CANADA.
- **Registered Aerodrome without Attestation:** An IP to a landing surface for which an Aerodrome Operator Attestation has not been received that is criteria compliant (except for TP 308 (minimum standards for Aerodromes)) shall ***NOT*** be published in the CAP.
- **Airborne Radar Approach (ARA) Procedures:** These IPs are specific to Rotary Wing Aircraft servicing offshore oil platforms. ARA IPs are submitted for inclusion in the RCAP by Transport Canada and are published without review by NAV CANADA. Transport Canada determines the Ops Spec requirements for ARA IP and provides the text with the submission.

3.3 Aeronautical Data

3.3.1 Collection

NAV CANADA AIM SD Data Collection is responsible to coordinate with accountable sources for the collection of aeronautical data. This data is validated, stored and then used to create aeronautical products for use by the aviation community.

There are instances where External Instrument Procedure Design Organizations act on behalf of an aerodrome operator as the accountable source for aerodrome data. A letter from the aerodrome operator authorizing the EDO to act on his/her behalf must be provided. Aeronautical data collected and submitted in this regard must be verified by NAV CANADA AIM SD Data Collection Specialists. Aerodrome operators will be copied on all correspondence with regards to aerodrome data.

External Instrument Procedure Design Organizations who are acting as the accountable source for aeronautical data on behalf of an aerodrome operator should refer to the TP 312 for the accuracy and resolution required for aerodrome data. This is particularly true for aeronautical data related to precision and non-precision runways that will be used in the Instrument Procedure design process.

When providing aeronautical data, submitters should be prepared to submit the associated metadata. For example, an accountable source that submits revised runway threshold coordinates will be required to provide information about how and when the data was collected. Submissions shall be through EDO@navcanada.ca.

3.3.2 Submission

The TP 308 Volume 1 Chapter 1 Paragraph 170 states that instrument procedures shall be submitted as detailed by NAV CANADA, in accordance with NAV CANADA process and procedures, and shall show the name and signature of the Designer, Independent Reviewer, Flight Check Pilot, and the individual responsible for ATS coordination.

New or revised aeronautical data must be submitted to NAV CANADA, AIM SD Data Collection. An AIM SD Data Collection Specialist will review the submitted data and request clarification and/or corrections from the EDO prior to the data being used in the Instrument Procedure design process..

3.3.3 Processing Requirements - AIM SD Data Collection Specialist

The primary role of the AIM SD Data Collection Specialist is to collect, validate, process and store aeronautical information/data (A/D) in accordance to the requirements set out in CARs and the ICAO Annexes. The specialist is responsible for processing changes to A/D in a timely manner to support an efficient and effective ANS in accordance to ICAO Annexes 4 and 15 as mandated by CARs Part VII subpart 03. In addition, duties are to be performed in accordance with the NAV CANADA Safety Management System (SMS) policies.

To ensure the data is fully processed by AIM SD Data Collection, new or revised aeronautical data must be received at least 90 days prior to submission of the completed IP design. For further information on the aeronautical data submission process, contact AIM Service Delivery by phone at 1-866-577-0247 or by email at edo@navcanada.ca.

3.3.4 Obtaining Aeronautical Data for IP Design

Validated aeronautical data related to all aerodromes in Canada are available for use by Registered EDOs. Data will be provided by NAV CANADA to requesting Registered EDOs on a site-by-site request basis. All EDOs should use EDO@navcanada.ca for data requests (A/D, obstacle and magnetic variation).

For sites no longer served by NAV CANADA under the Level of Service Instrument Procedure Policy, NAV CANADA will provide NAV CANADA Instrument Procedure submission forms to an EDO after the Sponsor has contracted the EDO and provides NAV CANADA with a signed Sponsor Responsibility Form.

EDOs will be granted access to an Altimeter Source Reference List (ASRL) via Connexion. This list will indicate whether a source is compliant or not and is acceptable for use. NAV CANADA owned sources are compliant. See section 3.3.5, *Approved Altimeter Setting Sources* for guidance on the use of approved altimeter setting sources.

For new submissions, EDOs are expected to obtain the required documentation from Transport Canada that attests that a private (non-NAV CANADA) altimeter setting source meets the requirements of CARs 804.01(c) or has been granted an exemption. EDOs may contact Transport Canada at the following email address to obtain this information: ANS Operations Weather Info / Info Météo Opérations SNA (TC) TC.ANSWeatherInfo-InfoMeteoSNA.TC@tc.gc.ca. New submissions where there is not an approved source will be accepted provided the operator intends to acquire approval to support the IPs. NAV CANADA must receive the required documentation from Transport Canada at least 150 days prior to the date on which the IPs are published. The submission must include a statement from the EDO that the operator intends to establish an approved source. Absence of such a statement where there is no approved source will result in the submission being rejected as non-compliant.

If the required documentation is not received by 150 days prior to the publication date, NAV CANADA will reject the submission and inform the submitter of the requirement. The procedure sponsor and/or Aerodrome Operator will be copied on the rejection letter. This process will also apply to any remote source (RASS) that is referenced in the submission.

3.3.5 Approved Altimeter Setting Sources

All instrument approach procedures are predicated on the availability of an Approved Altimeter Setting Source.

Refer to the *Altimeter Source Reference List (ASRL)* on Connexion for current information on the status of the applicable Altimeter Setting Source. This can be a local source at the airport or a remote source.

In the ASRL, the compliance of the source is indicated as a YES/NO field. If a site uses a remote source, the compliance status of the source is found under the identifier of the source.

1. When a valid local altimeter setting source exists, it shall be used in the development of Instrument Approach Procedures (IAPs) supporting that site.
2. When developing (IAPs) to a site with pre-existing IAPs, congruency shall be maintained between altimeter setting sources.
 - a. Where use of previously established sources is not possible, co-ordination shall be conducted, in advance of submission for publication, to ensure congruence in publication of IAPs; that is, all IAPs shall be updated to reflect new source information.
3. Where a site includes 24 hr altimeter setting coverage, no Remote Altimeter Setting Source (RASS) shall be developed except:
 - a. At sites where the availability of a local altimeter setting source is achieved through use of an AWOS or LWIS reporting system generating a METAR AUTO coded report, LWIS coded report or an approved AUTO report for any portion of the day or night, a RASS shall also be published unless no alternate, compliant, source exists.
4. Where a site does not include a local 24 hr altimeter setting source, a RASS shall be developed to support 24 hr operation if it is possible to do so.
5. When a requirement exists to incorporate a RASS into an IAP:
 - a. Congruence in altimeter setting sources shall be maintained with any pre-existing IAPs;
 - b. The nearest full- time altimeter source existing within Canadian Domestic Airspace (that can be obtained by aircraft prior to commencing the instrument approach procedure) shall be incorporated as a RASS;
 - c. When a part-time source is nearer than a full- time source, and can provide improvements to minima of at least 100 ft, one alternate RASS source, in addition to a full-time (non-local) source, may be included;
 - d. A non-Canadian source to support an IAP shall only be considered when no alternative exists that would produce approximately equivalent minima;
 - e. No more than 2 RASS shall be published for a procedure (subject to the above).
6. When using an altimeter setting source that is owned by other-than-NAV CANADA or DND to support IAPs, procedure designers shall exercise diligence to ensure a monitoring and maintenance plan is in effect for the source. This plan shall contain provision for notifying the maintaining design organization of any change of status for the altimeter source.

7. Utilization of any altimeter setting source is conditional upon the source meeting Canadian regulatory requirements.
 - a. NAV CANADA and DND altimeter setting sources are deemed to be compliant with CAR 804.01
 - b. Where an altimeter setting source is owned by other-than-NAV CANADA or DND such altimeter setting sources shall not be deemed to have met the requirements of CAR 804.01 until either of the following has been accomplished;
 - NAV CANADA has received Transport Canada's notification of source compliance; or
 - NAV CANADA has been supplied a copy of the Transport Canada issued exemption to CAR 804.01(c).
 - c. When a non-Canadian source is required to be used to support IAP development, proof of compliance with foreign State regulations is required when submitting for publication.
 - For altimeter setting sources existing within U.S. domestic airspace, proof of compliance shall consist of FAA documentation indicating location and compliance with State regulation. In the case of U.S.-based AWOS, FAA form 6700-3 or equivalent State documentation would satisfy the requirement.
 - For altimeter setting sources generated from the French National Weather Service, State documentation shall indicate location and compliance with State regulations.
 - d. Where a non-Canadian source is used in the development of a site's IAPs, a valid Canadian RASS shall also be developed to support that site where possible.
 - e. Record of source compliance shall be stored on NAV CANADA's Connexion site.
 - f. When documentation of source compliance does not yet exist within Connexion, it shall be provided by the procedure designer a minimum of 150 days prior to the planned publication date.

3.4 Obstacle Data

3.4.1 Existing Obstacles

Validated obstacle data for all areas of Canada are available for use by External Instrument Procedure Design Organizations. A licence agreement between the External Instrument Procedure Design Organization and NAV CANADA may be required. For further information, contact NAV CANADA Customer and Commercial services by Phone (613) 563-7652 or email service@navcanada.ca. Under the registered EDO Program, EDOs are automatically provided this data under the agreement.

3.4.2 New Obstacles

During the course of collecting aeronautical data, completing the IP design process and the necessary flight check, EDOs occasionally become aware of man-made obstacles that are not in the NAV CANADA AIM obstacle database. In these cases, NAV CANADA requests that as much information about the obstacle as possible be submitted to [AIM Land Use](#) for further investigation.

3.5 Ongoing Maintenance of IPs

IPs may be affected by temporary changes to the IP environment (for example, threshold displacement/relocation, runway elevation changes, or airspace restrictions triggered by airshows, fireworks, or forest fires) or permanent changes implemented without advance notice (that is, using a NOTAM).

EDOs shall monitor changes to the ANS by monitoring NOTAMs so the IPs which they maintain will continue to be criteria compliant. This requires the EDO to assess changes that may impact the IPs for which they are responsible to determine if there is an impact. When there is an impact, the EDO shall take appropriate timely action to maintain criteria compliance; for example, issue a NOTAM. Failure to do so results in compromising safety.

To issue a NOTAM:

1. The EDO writes the proposed NOTAM on the *AIM NOTAM Request Form* (F-NOF-100) detailing the specifics of the requested NOTAM. Guidance on writing a NOTAM can be found in the *Canadian NOTAM Operating Procedures* found on the NAV CANADA website (under Publications; Aeronautical Information Products; Products and Services; Canadian NOTAM Operating Procedures).
2. The EDO contacts the FIC responsible for the site and sends the FIC the *NOTAM Request Form*. Additionally, the EDO sends a copy of the *NOTAM Request Form* to the AIM IFP Design Supervisor and the EDO mailbox (edo@navcanada.ca).
3. The FIC may request clarification. Once clarified, the FIC sends the NOTAM request to the NOF for issuance.
4. The EDO monitors the NOTAM, including:
 - Extending or cancelling it before the TIL APRX / EST (ICAO format) time.
 - Cancelling AMEND PUB / PERM (ICAO format) NOTAM after the IP amendment is published.
 - Developing a tracking mechanism to manage all NOTAMs that they have issued.

Failure to maintain an IP may result in revocation of the procedure at the discretion of NAV CANADA.

3.6 Instrument Procedure Maintenance

The maintenance program for IPs must address all of the requirements of TP 308. Every IP published in the Instrument Procedure Inventory must have a maintenance program in place. The maintenance program is the responsibility of the Sponsor. Documentation that a maintenance program is in place is required as a part of the Instrument Procedure Design Submission Package. This requirement can be met by completing a *Sponsor's Responsibility Form*.

4 Submission Process

4.1 Overview

The submission process describes the information required and the format in which to submit IPs for publication in the CAP or RCAP.

This submission process does not relieve or exempt the Sponsor and associated External Instrument Procedure Design Organization from any of its regulatory responsibilities under CARs Part VIII.

Original IP design material shall be retained by the External Instrument Procedure Design Organization on behalf of the Sponsor. This original design material should be used in the maintenance program, regulatory audit and any other purpose as determined by the original designer. To complete internal review of the procedure development and to record all aeronautical information used in the design, NAV CANADA requires copies of certain sections of the IP design file. The IP will be assessed based on the submitted information.

A minimum of 250 days prior to desired publication date, the External Instrument Procedure Design Organization shall submit a complete and correct package for the desired site. NAV CANADA will review the submission documentation and seek clarification when necessary.

NAV CANADA will advise EDOs of the planned publication date of their IPs prior to the publication date. This will permit EDOs to review files in queue to ensure no new obstacles impact the IP and submit amendments if there are impacts. Please note that some issues may change the planned publication date. For example, production capacity changes, shared site issues, data discrepancies, submission form discrepancies, and criteria non-conformance may disrupt planned publication.

If data discrepancies are observed during the NAV CANADA review, consultation with the Sponsor and External Instrument Procedure Design Organization will be required. To reduce the opportunity for delays in publishing new or revised instrument procedures, it is very important that the instrument procedure design submission be complete and not contain discrepancies.

Submitted IPs will be reviewed according to NAV CANADA policies and procedures. The review process shall be stopped and communication with the Sponsor and External Instrument Procedure Design Organization initiated if any of the following conditions exist:

- the submission package is not complete,
- no coordination with ATC has occurred,
- data discrepancies are noted, or
- the instrument procedure does not meet the requirements of CARs Part VIII.

The procedure may be returned in whole to the submitter as not accepted for publication and a new submission will be required.

NAV CANADA will make every attempt to review submissions related to existing IPs prior to their expiry. New IPs are reviewed on a first in, first out policy. NAV CANADA reserves the right to process a submission in an expedited manner if it is deemed material to the ANS.

Each IP submitted by, or on behalf of, a Sponsor from an External Instrument Procedure Design Organization shall have a regulatory review date assigned. Each Instrument Procedure developed by an External Instrument Procedure Design Organization and published in the *Canada Air Pilot* or the *Restricted Canada Air Pilot* is valid until the assigned regulatory review date. This date is determined by

NAV CANADA from the information provided on the Submission Form in accordance with the direction provided in Transport Canada's *Advisory Circular (AC) No. 803-004 Restricted Instrument Procedures*.

4.2 Submission Processing

When a submission is posted into the CONNEXION website, NAV CANADA performs a series of reviews before accepting for publication in the State AIP.

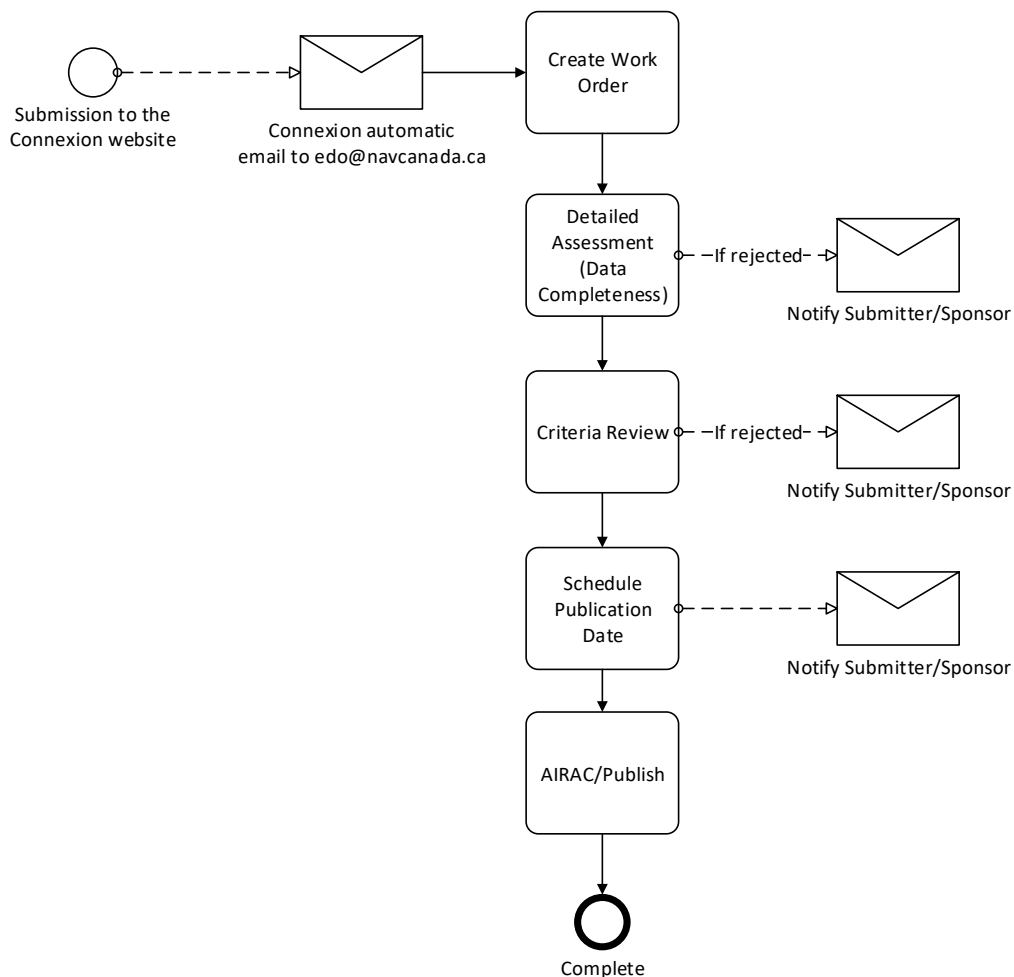


Figure 1: EDO Production Process within NAV CANADA

The steps outlined in **Error! Reference source not found.** are internal NAV CANADA processes. Of note to submitters are the following:

- Submitting through the CONNEXION website will trigger an email notification to AIM Production Planning that a submission has been made.
- If there are critical issues of submission in data completeness review or the criteria review, the submission is rejected, and the submitter and sponsor will be notified. This means that a new submission will be required.
- When the submission has successfully gone through data completeness and criteria review, the submission is deemed accepted. Notification of the acceptance of the submission and an intended effective date (Publication Date) will be sent to the submitter and the sponsor by IFP Design. If there is an outstanding altimeter setting source approval and/or flight check, they will be required 150 days before publication of the procedure.

5 Related Documentation

The following documents are used in conjunction with this manual to fulfill requirements:

- *Canada Air Pilot (CAP)*
- *Restricted Canada Air Pilot (RCAP)*
- *Canadian Aviation Regulations (CARs)*
- *Civil Air Navigation Service Commercialization Act (CANSCA)*
- *TP 308 Criteria for the Development of Instrument Procedures*
- *ICAO Annexes 4, 14, 15*
- *Transport Canada Advisory Circular (AC) No. 301-001 and 803-004*
- *Transport Canada Civil Aviation Directive (CAD) No. REG-003*
- *Approach Submission Form (F-IPD-129)*
- *Departure / SID Submission Form (F-IPD-130)*
- *STAR Submission Form (F-IPD-131)*
- *Sponsor's Responsibility Form (F-IPD-123)*
- *Aerodrome Operator Attestation Form (F-IPD-124)*

It is the responsibility of the EDO to obtain the current version of the forms from the NAV CANADA Connexion website.

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6 Definitions

Accountable Source	A person or organization responsible and liable for the information or service they provide.
Agent	Any person or organization contracted by a Sponsor to perform IP Design services.
Contractor	Any person or organization contracted by a Sponsor to perform IP Design services.
Error Collection Process	One element of NAVCANADA's Data and IP Design review process.
Major Error	<p>An incorrect item within the submitted design file that is not in compliance with:</p> <ul style="list-style-type: none"> a. Regulatory requirements; for example, CARs, TP 308 b. AIM Design standards <p>Example: FAS DB with data that would guide an aircraft to touch down outside the Touch Down Zone or cross the Threshold at a height that does not comply with regulatory TCH requirements per TP 308.</p>
Minor Error	<p>An incorrect item within the submitted design file that does not fit the definition of a Major error, is editorial in nature and does not require a redesign:</p> <ul style="list-style-type: none"> a. Errors related to value precision/accuracy, or textual/clerical b. Errors that could result in a significant service penalty due to required NOTAM, flight crew or ATC action
Quality Assurance	All the planned and systematic activities implemented within the quality system, and demonstrated as needed, to provide adequate confidence that an entity will fulfill requirements for quality.
Repetitive Errors	A specific error that occurs consistently (same data element) – occurs three times in ten submissions.
Significant (to ATC operations)	Changes within controlled airspace to tracks or altitudes in congested areas; for example, loss of cardinal altitude.
Sponsor	The person or organization that funds and supports the IPs that are submitted, maintained and reviewed.
Sponsorship Agreement	An arrangement/contract between the sponsor and the EDO that gives the EDO the responsibility/Authority to maintain, conduct periodic reviews, amend procedures and perform commissioning and periodic flight checks.
Validation	Confirmation through the provision of objective evidence that the requirements for a specific intended use or application have been fulfilled (ISO 9000). The activity whereby a data element is checked as having a value that is fully applicable to the identity given to the data element, or a set of data elements that is checked as being acceptable for its purpose.

Verification

Confirmation by examination and provision of objective evidence that specified requirements have been fulfilled.

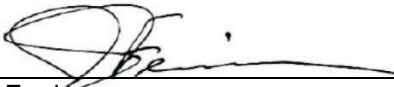
7 Acronyms and Abbreviations

5LNC	5 Letter Name Code
AIRAC	Aeronautical Information Regulation and Control
AIM	Aeronautical Information Management
AIS	Aeronautical Information Service
ANS	Air Navigation System
ARA	Airborne Radar Approach
ATS	Air Traffic Services
CANSCA	Civil Air Navigation Service Commercialization Act
CAP	<i>Canada Air Pilot</i>
CARs	<i>Canadian Aviation Regulations</i>
CRC	Cyclic Redundancy Check
DND	Department of National Defence
EDO	External Design Organization approved to perform design in Canada
FAS	Final Approach Segment
FIC	Flight Information Centre
FPDAM	Design Software
GNSS	Global Navigation Satellite System
IAP	Instrument Approach Procedure
ICAO	International Civil Aviation Organization
ILS	Instrument Landing System
IP	Instrument Procedure
LOC	Localizer
LP	Localizer Performance without Vertical Guidance
LPV	Localizer Performance with Vertical Guidance
LUA	Land Use Assessment
MA	Missed Approach
MSA	Minimum Sector Altitude
NACC	North American, Central American and Caribbean Region
NAVAID	Navigational Aid
NDB	Non Directional Beacon
RCAP	<i>Restricted Canada Air Pilot</i>
RIP	Restricted Instrument Procedure
RNAV	Area Navigation
RRD	Regulatory Review Date
SID	Standard Instrument Departure
STAR	Standard Arrival Route
TP 308	<i>Criteria for the Development of Instrument Procedures</i>
VHF	Very High Frequency
VOR	VHF Omnidirectional Range
WAAS	Wide Area Augmentation System

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8 Approvals

This document shall be reviewed on a regular basis in accordance with the *BMP – Control of Documents* and is issued under the approval of the following in accordance with the approval requirements described in the *BMP – Control of Documents*.



Jim Ferrier
Director, Aeronautical Information Management
(AIM), Flight Operations, and CNS Operations

April 2020
Date



Mathieu Mongeau
Manager, AIM Instrument Flight Procedure (IFP)
Service Delivery

April 2020
Date

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