



Aeronautical Information Management

Automated Distribution of Land Use Proposal Data via KMZ Files

Effective Date: 7 February 2018

W-LDU-101 Version 18.2

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Record of Amendments

Effective Date	Version	Reason for Amendment
07 Feb 2018	18.2	Initial release

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1 General Information

1.1 Background

Recent updates to the NAV CANADA Land Use Proposal processing system include functionality to facilitate distribution of Land Use Proposal Submissions to external instrument procedure design organizations (EDOs) by the Land Use Office without the involvement of the NAV CANADA Instrument Flight Procedure (IFP) Design unit.

To view data, all data recipients require software capable of opening/viewing KMZ (compressed KML) data files; Google Earth (<http://earth.google.com>) is the most popular free application.

The information distributed by NAV CANADA is provided solely for the purpose of evaluating obstacles for potential impacts to instrument procedures. The information is provided to NAV CANADA in confidence by applicants and shall not be further distributed without prior consent of NAV CANADA.

1.2 Process Implementation

NAV CANADA had implemented this process in 2011 as a way to ensure all EDOs receive proposed and constructed projects and obstacle(s) that NAV CANADA is made aware of. This allows the EDOs to determine any possible impacts to the procedures they maintain and provide feedback.

1.3 Method of Distribution

Based on data input by the Land Use Office, two automated email notifications will be used to distribute Land Use Proposal data. These automated emails will be distributed on a daily basis (Monday to Friday) at 2:00 a.m. EST (3:00 a.m. EDT during DST).

1.3.1 Update of Registered Email Address

The list of email recipients will be maintained by the Land Use Office. Any request to change an email address to which data are distributed should be made via email to landuse@navcanada.ca or via telephone at 1-866-577-0247.

1.3.2 Distribution of Updated Data

Proposals submitted to NAV CANADA for assessment are still in the planning stage and may be subject to design changes. In the event that NAV CANADA is advised of data changes to a proposal and details have already been distributed through automated means, the Land Use Office will send data updates on an individual basis to all parties.

1.3.3 Days with No Data Processed

To ensure no ambiguity regarding the receipt of proposal data, email messages shall continue to be distributed on days where no Land Use Proposal data was processed. Messages indicating *No land use proposals were processed yesterday* or *No Notices of Construction were received yesterday* will be sent at the normal time.

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2 Conventions for Land Use Proposal Data

2.1 Proposal Location

When Land Use Proposals are submitted to NAV CANADA, the submission form requests the name of the nearest town or populated area. Unless the obstacle is to be depicted on charts and/or in publications, the information provided by the proponent is not verified.

Proposal locations should be determined based on the provided latitude/longitude rather than the nearest town to avoid any ambiguity.

2.2 Proposal Coordinates

Coordinate data will be provided in NAD83 degrees, minutes, and seconds (up to four decimal places).

2.3 Proposal Elevations/Heights

All heights provided will be in imperial units of measure (feet). In the case of multiple obstacles, *the provided height will be the ground elevation and AGL height of the highest obstacle (based on total elevation above mean sea level). This may not be the tallest AGL structure.*

2.4 Proposal Type and Description

Upon receipt, Land Use Office staff assigns a project type and description (sub-type) to every proposal.

While a comprehensive break-down of each proposal type and sub-type is beyond the scope of this document, projects are divided into the following main types:

- **Addition/Modification to Existing:** Proposals for the addition or modification of existing structures.
- **Airport Project:** Proposals at, adjacent to, or in the immediate vicinity of an aerodrome.
- **CNS Equipment:** Proposals relating to the installation, modification, or removal of communication, navigation, or surveillance (CNS) equipment.
- **Communication:** Proposals for communication towers or antennae.
- **Development Proposals/Plans:** Proposals circulated from cities, towns, or municipalities through their consultation processes. *Note that these proposals are often preliminary and may not contain precise obstacle data.*
- **Linear Structures:** Structures such as roads, bridges, cable crossings, transmission lines, etc.
- **Misc.:** Proposals that do not fit into other categories (for example, fireworks, balloon activities, parachuting activities, etc.).
- **Multiple Obstacle Submission:** Proposals consisting of multiple obstacles. *Note that not all proposals consisting of multiple obstacles are assigned this type. The **Multiple Obstacle** field on each KMZ placemark should be the authoritative source for determining the number of obstacles.*

- **Other Permanent Structures:** Permanent structures that do not fit into other categories.
- **Real Estate:** Requests for access to NAV CANADA real estate (for example, land, facilities, equipment, power systems, etc.).
- **Structure Confirmation:** Proposals to update/validate existing structure data.
- **Temporary Structure(s):** Structures of a temporary nature (generally, less than 18 to 24 months).
- **Wind Farm:** Areas of wind turbine development (greater than one turbine). Note that if a proposal is marked as a wind farm, the project description (sub-type) will consist of a single number that corresponds to the number of turbines in the development.
- **Wind Structures:** Proposals (other than wind farms) for wind measurement or power generation.

2.5 Proposal with Multiple Obstacles

During proposal evaluation, Land Use Office staff will determine whether a proposal consists of multiple obstacles. A *multiple obstacle* proposal may consist of obstacles in multiple locations (in close proximity) or may consist of a single obstacle with multiple heights (for example, building with associated crane).

If a proposal consists of multiple obstacles, the coordinates of the proposal (as they appear on the KMZ placemark) shall be set to be the geometric centre of the proposal area.

The Land Use Office defines the geometric centre of a proposal area as the average of the northern-most and southern-most obstacle latitudes and the average of the eastern-most and western-most obstacle longitudes.

The **multiple obstacles** field on the KMZ placemark will be set to the radius of the obstacle area. The Land Use Office calculates the obstacle area radius by centring a circle upon the geometric centre of the obstacle area, determining the minimum radius of circle that encompasses all proposed obstacles, and then rounding the radius to the closest increment not smaller than the minimum calculated radius.

Land Use has the following radius selections available:

- **< 1NM** Obstacles all within 1 NM
- **< 5NM** Obstacles all within 5 NM
- **< 10NM** Obstacles all within 10 NM
- **< 25NM** Obstacles all within 25 NM
- **> 25NM** Obstacles are outside 25 NM

2.6 Proposal Construction Notification Types

In certain situations, the Land Use Office may request to be notified by the proponent regarding the construction of the proposal. Construction notifications may be received by the Land Use Office in advance of the scheduled work; however, the data will not be shown in the KMZ files until the date upon which the Land Use Office acts upon the notice.

Construction notifications can be divided into the following two categories.

2.6.1 Construction Completion Notifications

If no action is required prior to the erection of the proposed obstacle(s), a construction completion notice will be requested. In this case, the notification type indicated on the KMZ placemark will be either **Completion** or **On Completion**.

When a construction completion notification is received, NAV CANADA considers the obstacle to be in place at full height as of the construction *completion* date indicated on the notice.

If received in advance, the notice is not processed until the completion date indicated on the notice; the placemark will appear in the daily KMZ file the same day upon which NAV CANADA has processed the notice.

2.6.2 Construction Start Notifications

If NOTAM action is required prior to a structure being erected, an advance notice of construction (usually ten business days) will be requested. In this case, the notification type indicated on a KMZ placemark will be either **10-Day** or **90-Day**.

When a construction start notice is received, NAV CANADA considers the obstacle to be in place at full height as of the construction start date indicated on the notice.

If received in advance, the notice is not processed until two to three business days prior to date indicated on the notice; the placemark will appear in the daily KMZ file the same day upon which NAV CANADA has processed the notice.

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3 Daily Email

3.1 New Proposed Obstacles

The daily *New proposed obstacles* email contains a single KMZ file with a name based on the date that data was processed followed by the suffix *_Submissions*. This file contains data regarding all proposals sent for stakeholder comment by the Land Use Office on the previous calendar day (or previous three calendar days in the case of Monday's email).

3.1.1 Iconography

Single obstacle proposals will be marked with a green circle icon (Figure 1) and the proposal file number. Multiple obstacle proposals will be marked with a concentric green circle icon (Figure 2) and the proposal file number.



Figure 1: Single Obstacle Icon (Proposed)



Figure 2: Multiple Obstacle Icon (Proposed)

3.1.2 Data

When the KMZ placemark is clicked, the information balloon (Figure 3) appears and contains:

- File number (assigned by the Land Use Office)
- Location
- Latitude and longitude
- Ground elevation (above mean sea level)
- Height (above ground level)
- Type and description (sub-type)
- Multiple Obstacle indicator

17-1221 / 2762.4672 ft

File No / N° du fichier :	17-1221
Location / Emplacement :	Hilda, AB
LAT (N) / N (LAT) :	50° 34' 27.48"
LONG (W) / W (LONG) :	110° 05' 03.12"
Ground (ft) / Sol (pi) :	2467.1916
Height AGL (ft) / Hauteur AGL (pi) :	295.2756
Total Elevation (ft) / Hauteur total (pi) :	2762.4672
Land Use Type / Type d'utilisation de terrains :	Communication / Communication
Description / Description :	Existing - Guyed Tower [M] / Tour existante haubaunée [M]
Multiple Obstacles / Obstacles Multiples :	No / Non

Directions: [To here](#) - [From here](#)

Figure 3: Sample Obstacle Data Balloon (Proposed)

3.2 New Notices of Construction

The daily *New notices of construction* email contains a single KMZ file named based on the date that data was processed followed by the suffix *_NOC*. This file contains data regarding all proposals for which a notice of construction will be acted on by the Land Use Office on that day. *Please note that this differs from proposed obstacles from the day before. This is to ensure that data regarding constructed obstacles are not received by external parties a day late.*

3.2.1 Iconography

Single obstacle proposals for which a notice of construction has been acted on will be marked with a red circle icon (Figure 4) and the proposal file number. Multiple obstacle proposals for which a notice of construction has been acted on will be marked with a concentric red circle icon (Figure 5) and the proposal file number.



Figure 4: Single Obstacle Icon (Constructed)



Figure 5: Multiple Obstacle Icon (Constructed)

3.2.2 Data

When the KMZ placemark is clicked, the information balloon (Figure 6) appears and contains:

- File number (assigned by the Land Use Office)
- Location
- Latitude and longitude
- Ground elevation (above mean sea level)
- Height (above ground level)
- Notification type
- Multiple Obstacle indicator

17-2340 / 80.3805 ft

File No / N° du fichier :	17-2340
Location / Emplacement :	Lincoln, NB
LAT (N) / N (LAT) :	45° 52' 11.0356"
LONG (W) / W (LONG) :	66° 31' 10.3784"
Ground (ft) / Sol (pi) :	52.4934
Height AGL (ft) / Hauteur AGL (pi) :	27.8871
Total Elevation (ft) / Hauteur total (pi) :	80.3805
Notification Type / Type d'avis :	10-Day / 10 jours
Multiple Obstacles / Obstacles Multiples :	Yes, < 1 NM radius / Oui, rayon < 1 MN

Directions: [To here](#) - [From here](#)

Figure 6: Sample Obstacle Data Balloon (Constructed)

3.3 Requests for Additional Data for Multiple Obstacles

Due to the nature of data received by the Land Use Office, it is sometimes difficult to encapsulate all the proposal data with a single set of coordinates and heights (such as multiple obstacle submissions).

In the event that additional information is required for the purposes of conducting an assessment, requests may be sent via email to landuse@navcanada.ca (quoting the proposal file number).

A Land Use specialist will typically provide a Google Earth KMZ with the locations depicted and an Excel spreadsheet that contains the individual locations and heights of all obstacles. More complex projects may have additional documentation provided (for example, Airport Construction).

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4 Review Timelines and Responses

4.1 Review Timelines

4.1.1 Standard Proposals

Based on the date of distribution, NAV CANADA will hold proposals for ten (10) business days to await comments from external parties.

4.1.2 Rush Proposals

Many Land Use Proposals received by NAV CANADA are provided without the requested 30 business day processing time. Based on the obstacle's location, height, and construction date, roughly 15 to 20 percent are processed on a *rush* basis; that is, review of the proposal is expedited to ensure a reply can be sent prior to the estimated construction date.

To provide a response prior to construction, especially in the case where procedure impacts or safety concerns are identified, it may be necessary to reply to a proponent without the standard ten business day review period. In these situations, the Land Use Office shall reply to the proponent clearly stating:

- The proposal data has been distributed to external design organizations as procedures they maintain may be affected; however, the external organizations have not been given adequate opportunity to respond due to the short timeline provided by the proponent.
- The proponent should contact the external design organization(s) directly to ensure they are not affecting any instrument procedures.
- Contact information for external design organization(s) possibly affected by the proposed development.

4.2 Response to NAV CANADA

Unless a proposal impacts instrument procedures or follow-up action is requested, a response to all Land Use Proposals is not required, nor expected.

4.2.1 Method of Response

If a response is to be provided, it should be sent via email to landuse@navcanada.ca (quoting the proposal file number).

4.2.2 Request for Specific Notification of Construction

Depending on the situation, NAV CANADA may request a construction notice (start and/or completion) or may request no notice at all. If advance notification of construction start is required to mitigate impacts to instrument procedures, a specific request should be made in the email response to NAV CANADA to ensure timely notification to external instrument procedure design organizations.

4.3 NAV CANADA Response to Proponent

If comments (other than those stating *no impact*) are forwarded to the Land Use Office, they will be included in NAV CANADA's response to the proponent along with the commenter's contact information.

NAV CANADA's response to each submission reflects the outcome of our assessment and any potential for impacts to our operations. Each response letter states that our assessment *neither constitutes nor replaces any approvals or permits required by Transport Canada, Industry Canada, other Federal Government departments, Provincial or Municipal land use authorities or any other agency from which approval is required*; therefore, comments provided by external parties will not be used as a basis upon which NAV CANADA conditionally approves or opposes a proposed development.

5 Acronyms and Abbreviations

The following acronyms and abbreviations are used in this document.

AGL	Altitude above Ground Level
AIM	Aeronautical Information Management
CNS	Communication, Navigation, or Surveillance
EDO	External Design Organization
IFP	Instrument Flight Procedure

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6 Approvals

This document shall be reviewed on a regular basis in accordance with the *BMP – Control of Documents*.

The *Automated Distribution of Land Use Proposal Data via KMZ Files* outlines the procedures used by Land Use Office personnel.

Should more information be required concerning the processes in this manual, please send an email to the Manager, AIM IFP Service Delivery.

This publication is issued under the approval of the following manager in accordance with the approval requirements described in the *BMP – Control of Documents*.



[Gheorghe Adamache](#)
Manager, AIM IFP Service Delivery

February 2018
Date

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