

Spatial Data (Shapefiles) Submission Requirements for IRIS

This document sets out the standards for the preparation and submission of spatial data used for purposes of mapping the location of pipelines including flowlines.

1. Spatial Data Submission

Spatial data must be provided in a shapefile format.

Shapefiles are to be submitted to IRIS as a Zip archive file. The archive file must include the following file types: .SHP, .SHX, .DBF, .PRJ. Other file types generated by the mapping application may be included in the file.

Note: It is recommended that data file names include the name of the pipeline owner or its BA ID to provide for easy identification of electronic submissions.

2. Spatial Data Standards

2.1 Referencing Segment Start and End Points

Pipeline segment spatial data must be in the form of a polyline that represents the location of the pipeline within the right-of-way derived from a survey plan.

The start point and end point of each pipeline segment must be the actual physical start point and end point of that pipeline segment.

Note: Well or facility site lease boundaries or break points for changes in design code or code of construction are not to be considered when referencing a pipeline segment. The polyline must show the physical extent of the pipeline segment from its start point to the end point of the right of way.

If the right-of-way of a pipeline does not extend beyond the edge of lease boundary, then the start and end points of the pipeline must be the start and end points of the edge of the lease boundary.

2.2 Spatial Datum

Table 1 sets out the spatial datum standards for all shapefiles being submitted into IRIS.

Table: 1: Spatial Datum Standards

Item	Standard
Datum	NAD83(CSRS) UTM Extended Zone 13N
WKID	2957
Authority	EPSG
Projection	Transverse Mercator
False Easting	500000.0
False Northing	0.0
Central Meridian	-105.0
Scale Factor	0.9996
Latitude of Origin	0.0
Linear Unit	Meter (1.0)
Geographic Coordinate System	NAD83_Canadian_Spatial_Reference_System
Angular Unit	Degree (0.017453292519943295)
Prime Meridian	Greenwich (0.0)
Datum	D_North_American_1983_CSRS
Spheroid	GRS_1980
Semi-major Axis	6378137.0
Semi-minor Axis	6356752.314140356
Inverse Flattening	298.257222101

3. Pipeline Segment Data

3.1 Segment Data – New Pipeline Applications and Current Licenced Pipelines

All shapefiles for new applications submitted after the implementation date must include the following data:

Feature Name: Pipeline (including flowline) Segment

Description: Information describing the pipeline segment (polyline geometry represents the location of the segment within the surveyed right-of-way as derived from a survey plan)

Geometry: polyline

Pipeline Segment Attributes:

FID	Object ID	Mandatory	System Defined Unique identifier
GEOM	Geometry	Mandatory	The spatial geometry data
LineNo	Long Integer	Mandatory	A unique number to represent the line in the provided shapefile.
PrevSegNo	Text (50)	Optional	Previous Segment Number; this attribute is used for pipeline amendment applications. When used, it must match the Pipeline Segment Number (Segment Alias) on an existing pipeline segment within IRIS. This attribute must be blank for a New Pipeline Licence application.

3.2 Spatial Data for Previously Exempt Pipeline

If a shapefile cannot be rendered for a previously exempt flowline, the start and end location coordinates from the various Infrastructure Types as decimal degrees must be submitted. ER will derive a geospatial shapefile for the licence based on the information submitted.

4. Pipeline Segment Business Rules

- Pipeline segments must not self-intersect or self-overlap.
- Pipeline segments must not extend beyond the boundary of Saskatchewan.
- All pipeline segments must be digitized in the direction of the substance flowing through the pipeline.