



Geospatial Data Submission Standards

In effort to make progress toward a digital mapping environment the Port of Houston Authority's ("Port Authority") Channel Development Department is requesting all pipeline license holders ("Licensee's") submit As-built survey quality geospatial data for all linear assets that cross any Port Authority owned properties or properties over which the Port Authority has jurisdiction. Active Port Authority Licensee shall submit As-built quality geospatial data for pipelines as part of the license application data submission process. Pipeline owner/operators typically maintain such information in conjunction with integrity management programs and CFR § 192 & 195 Minimum Federal Safety Standards.

State and Federal agencies currently request or require that owners/operators submit digital pipeline data to them. Port Authority requirements for digital pipeline data submission would not supersede or replace State and/or Federal regulations. Owner/Operators must still comply with all applicable State and/or Federal regulations.

1. General Requirements:

- a) Geospatial Data – Digital Data with lines marking the location of pipelines.
- b) Attribute Data – A database containing descriptive information about pipelines. There is one record in the database for each pipeline segment.
- c) Metadata – Descriptive information about how the geospatial and attribute data were prepared (i.e. data about data). This information includes the data projection, datum, and units.
- d) Pipeline Segment: A linear feature representing part or all of a pipeline system. A pipeline segment must have only two ends. No branches are allowed. A pipeline segment may be a straight line or may have any number of vertices. Each pipeline segment must be uniquely identified. The number of pipeline segments should be kept to the minimum needed to represent a pipeline system and its associated attributes. A unique line segment in GIS dataset should represent each pipeline segment.

2. Geospatial Data:

Geospatial data represent pipeline systems (linear) elements. Pipeline data must be submitted in digital format. All submissions should meet the As-built survey quality and accuracy standard requirements for digital geospatial data.

General requirements and formats that should be met when submitting digital geospatial data:

1. Submit ESRI shapefile or file geodatabase with incorporated attributes. For your convenience, a template ESRI shapefile and file geodatabase has been developed that contains attributes that meet Port Authority requirements and is available from the Port Authority's Channel Development Department. Please refer to the Attribute Field Definition Table in Attribute Data section for a list of the required and voluntary attributes, attributes definitions, and applicable values to be used with submittal.
2. Use Projected Coordinate System North American Datum (NAD) 1983 StatePlane Texas South Central (US Feet). Please note that the defined projection for Port Authority provided template is Projected, NAD83, US Feet, StatePlane; if your data is not in this projection, please re-project as necessary before adding data.
3. Provide spatially accurate As-built quality data.
4. One linear feature for each pipeline under Port Authority issued license.
5. Pipeline segment should be within the boundaries of Harris County or Chambers County jurisdiction.

3. Attribute Data

Licensees are required to provide descriptive information about the pipelines when submitting data to the Port Authority. The attribute data is essential information about the pipeline such as its name and commodity transported. Each pipeline segment submitted must be accompanied by a corresponding record in the attribute database table. For information about required and optional attributes, refer to the following:

Attribute Field Definition Table

Field Name	Field Type	Field Length	Short Description	Full Description	Acceptable Values (UPPERCASE)	Required Field
PHA_LICENSE	Character	10	Port Authority License Number	Unique 8-digit file number assigned by Port Authority to Owner of the Pipeline system. eg: 2017-0101 If you do not know your firm's Port Authority License Number, check with your Regulatory Compliance department.	Character	Y
OWNER_NM	Character	75	Owner Name	The Owner company name of the pipeline system. Owner company name should match the Port Authority issued License document.	Character	Y
OPER_NM	Character	75	Operator Name	The company name that physically operates the pipeline system.	Character	Y
SYS_NM	Character	40	System Name	Assigned by the operator. The operator's name for a functional grouping of pipelines.	Character	Y
SUBSYS_NM	Character	40	Sub System Name	Assigned by the operator. A unique name for a smaller sub-section of a pipeline system. A subset of SYS_NM.	Character	N
PLINE_ID	Character	20	Pipeline ID	Assigned by the operator. This is a unique identifier for a specific section of pipeline within a pipeline system.	Character	Y
DIAMETER	Double	5	Diameter	Nominal diameter of the pipeline segment, in inches (two decimal places if applicable, ##.##). For diameters of greater than 12 inches, outside diameter equals nominal diameter	Real Number	Y
COMMODITY	Character	3	Commodity Category	Abbreviation for the primary commodity carried by the pipeline system. CRD=crude oil PRD=non-HVL product AA=anhydrous ammonia LPG=liquefied petroleum gas NGL=natural gas liquids OHV=other HVLs CO2=carbon dioxide ETH=fuel grade ethanol EPL=abandoned pipelines that previously transported a liquid NG=natural gas PG=propane gas SG=synthetic gas HG=hydrogen gas OTG=other gas EPG=empty gas	CRD, PRD, AA, LPG, NGL, OHV, CO2, ETH, EPL, NG, PG, SG, HG, OTG, EPG	Y
STATUS_CD	Character	1	Pipeline Status Code	Identifies the current status of the pipeline segment: I=in service D=idle R=retired B=permanently abandoned	I, D, B, R	Y

Field Name	Field Type	Field Length	Short Description	Full Description	Acceptable Values (UPPERCASE)	Required Field
QUALITY_CD	Character	1	Data Quality Code	Operator's estimate of the positional accuracy of the submitted pipeline segment: A= within 50 feet B= 50 – 300 feet U= Unknown / above 300 feet	A, B, U	Y
OPID_PHMSA	Integer	8	Operator Number	Unique tracking number assigned by U. S. Department of Transportation office of PHMSA to the company that physically operates the pipeline system. If you do not know your firm's OPID, check with your DOT/Regulatory Compliance department or the NPMS website.	Positive integer	Y
T4_PERMIT	Integer	8	T-4 Permit Number	A 5-digit pipeline permit number generated by the TEXAS RRC to identify a pipeline operating in Texas	Positive integer	Y
P5_NUM_TX	Integer	8	P5 Operator Number	A 6-digit number generated by the TEXAS RRC to identify a pipeline operator	Positive integer	Y
SUBMIT_DT	Character	10	Submit Date	Date that the pipeline data was submitted to the Port Authority The correct format is (YYYY-MM-DD) note that the Field should contain the dashes.	YYYY-MM-DD	Y

3.1 Rules for Attribute Data Input

When submitting digital attribute information, adhere to the following rules:

1. Use only UPPERCASE when defining field names.
2. Use only UPPERCASE when inputting data into the attribute tables.
3. Omit all punctuation **except** for periods (.), spaces (), backslashes (\), colons (:), commas (,), hyphens (-), and underscores (_).
4. Use Port Authority specified abbreviations only. Please refer to the Attribute Field Definition Table in Attribute Data section for a list of applicable abbreviations.
5. Be consistent. Names and terms should be exactly replicated throughout a submission. For example, if a pipeline system is named Texas Line (SYS_NM = "TEXAS LINE"), the license holder should consistently use the full and exact name. The owner should not use alternative names like "TX Line" or "Texas."

3.2 Digital Submission Techniques

Port Authority will accept the following GIS formats for data submission:

1. ESRI ArcGIS Shapefile Format
Licensee's may submit data to Port Authority using Shapefile format of ESRI's ArcGIS desktop software. Submit at least the .SHP (geospatial data file), the .SHX (positional index file), the .DBF (attribute data file), and the .PRJ (projection data file) in the submission. Zip the output folder and submit it to Channel Development Department, Licenses/Permits Program.
2. ESRI ArcGIS Geodatabase Format
Licensee's may submit data to Port Authority using file geodatabase format of ESRI's ArcGIS desktop software. Zip the output folder and submit it to Channel Development Department, Licenses/Permits Program.

For your convenience, a template ESRI shapefile and file geodatabase has been developed that contains attributes that meet the Port Authority requirements and is available from Channel Development department. Please refer to the Pipeline Field Definition Table in Attribute Data section for a list of the required and voluntary attributes, attributes definitions, and applicable values to be used with submittal.

4. Submitting the Data

To submit your pipeline submission package transmit your files via email to chandev@poha.com

To transmit your files via email, perform the following steps:

1. Zip together all of the required components (i.e. data files). The zipped data file should contain your company name and date of submittal. Please use underscores (_) between company name and date (e.g. XYZCompany_20170601.zip). For multiple submittal on same date, append date with _002, _003, _004 (e.g. XYZCompany_20170601_001.zip).
2. Attach Zip file to New Email
3. In subject line enter: Companyname_date of submittal (e.g. XYZCompany_20170601). For multiple submittal on same day, append date with _002, _003, _004 (e.g. XYZCompany_20170601_002)
4. Enter following information in your email body:
 - a) Name of the Zip file: (e.g. XYZCompany_20170601.zip).
 - b) Contact Information of the person responsible for generating this data:
 - c) Notes: Any other information you wish to convey
5. Send Email to the chandev@poha.com

Note: Port Authority Email Systems will automatically reject email with attachments larger than 50 MB.

Please contact the Channel Development Coordinator for any questions related to the data submission process.

Jacqueline D. Muñoz
Coordinator, Channel Development Business
Port Houston
111 East Loop North
Houston, Texas 77029
O: 713.670.2441
E: chandev@poha.com