CAL FIRE – Office of the State Fire Marshal

Pipeline and Breakout Tank Submission Standards

California Resources Agency
Department of Forestry and Fire Protection
State Fire Marshal
Pipeline Safety Division

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1. Contacts

If you have any questions regarding this document, or the requirements described here, please contact the representative listed below at CALFIRE - Office of the State Fire Marshal, Pipeline Safety Division.

1.1. State Pipeline Mapping System

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1.2. National Pipeline Mapping System

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2. Internet Addresses

National Pipeline Mapping System   www.npms.phmsa.dot.gov
CA Department of Forestry   www.fire.ca.gov
Office of the State Fire Marshal   http://osfm.fire.ca.gov
U.S. Geological Survey www.usgs.gov

3. List of Acronyms

AA.............................Anhydrous Ammonia

ABD ....Abandoned

AIR............................Air

BDB ....Biodiesel Blend

CO2...........................Carbon Dioxide

CRD ....Crude Oil

EPL ....Abandoned Pipeline

ETH...........................Fuel Grade Ethanol

GAS...........................Natural Gas

GIS ....Geographic Information System

HVL ....Highly Volatile Liquid

JTF ....Jet Fuel

LPG...........................Liquefied Petroleum Gas

MUD ....Drilling Mud

NGL ....Natural Gas Liquids

NGS...........................Natural Gasoline

NLS ....Non Rural Low Stress

NOJ ....Non Jurisdictional

NPMS........................National Pipeline Mapping System

NTG ....Nitrogen

OFP ....Offshore Pipeline/State Waters

OOS...........................Out of Service

OSFM.........................Office of the State Fire Marshal

PPS............................Pipeline, Pipeline Segment or Pipeline System

REF ....Refined Products (non HVL)

RGL...........................Rural Gathering Line

RLS ....Rural Low Stress

UGL ....Urban Gathering Line

USGS ....United States Geological Survey

WTR...........................Water

4. Introduction

The CALFIRE - Office of the State Fire Marshal (OSFM) State Pipeline Mapping System is a Geographic Information System (GIS), housed in the Pipeline Safety Division. Created by State AB 592, the OSFM Pipeline Mapping System's intent is to map all OSFM jurisdictional pipelines.

The State Pipeline Mapping System contains the location and selected attributes of hazardous liquid pipelines and breakout tanks. The State submission standards have a positional accuracy goal of ±100 feet and require event attribute tables for AGE, DIAMETER, CATEGORY and COMMODITY. Breakout tank submissions are discussed in Section 7.

5. Naming Conventions

For each operator submission, the operator will submit one **File Geodatabase** containing all the required feature classes and associated tables. The operator is required to submit their **File Geodatabase** in a zip file. Please use the follow naming conventions below for your **File Geodatabase, feature classes AND associated event attribute tables**:

Geodatabase Name:

- *{OperatorName}_{Year}*
- *{OperatorName}* should have no spaces or special characters
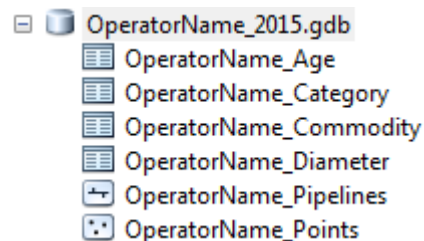- *{Year}* should be the year the data is being submitted for

Feature Class Names:

- *{OperatorName}_Pipelines*
- *{OperatorName}_Points*

Event Attribute Table Names:

- *{OperatorName}_Age*
- *{OperatorName}_Category*
- *{OperatorName}_Commodity*
- *{OperatorName}_Diameter*

Example – Event Attribute Tables

6. Submission Standards

6.1. Attribute

Operators are required to provide descriptive information about the pipelines when submitting data to the OSFM State Pipeline Mapping System. The attribute data is essential information about the pipeline, and it is significantly different from the spatial data. There is, however, a unique relationship between the attribute data and the spatial data. In a feature class, each record in the attribute table defines one spatial feature, and vice versa. Therefore, there must be an equal number of records in the attribute table as there are linear features or points features in the spatial component. The State standard reflects portions of the national standard, except for the addtional required attributes of AGE, CATEGORY, COMMODITY and DIAMETER.

Attribute data must be submitted within a FILE GEODATABASE. One FILE GEODATABASE shall include all the following:

- Pipeline feature class
- Pipeline Start/End Point feature class
- Age event attribute table
- Category event attribute table
- Commodity event attribute table
- Diameter event attribute table

In all cases, operators should be careful to follow the field name, field type, and field length standards listed in **Tables 1-7**.

6.2. Geospatial Data

Geospatial data represents pipeline systems (linear) and start/end data (point) elements. Pipeline and point data must be submitted in a FILE GEODATABASE. Please contact the OSFM, Pipeline Safety Division if you are unable to meet this standard. All submissions should meet the ±100-foot accuracy standard. Each pipeline must be represented by a linear feature. Polygon features will not be accepted. Due to the Age, Diameter, Category and Commodity requirement, direction of the line will mark direction of the pipeline flow. In the case of multiple flow pipelines, the direction of the line should point in the primary flow direction.

The following discusses various requirements and formats that operators should meet when submitting digital geospatial data.

1. Use NAD 1983 California (Teale) Albers (US FEET). In all cases, clearly state the **datum, coordinate system/ projection, and measurement units** on the accompanying metadata form.

2.   Provide spatially accurate data. The state pipeline mapping system strives for minimum accuracy of   ±100 feet. The spatial accuracy of the digital submission should be clearly stated on the accompanying metadata form.

3.   Always submit pipeline systems (lines), start/end (points) and associated attribute tables in your FILE   GEODATABASE.

4.   Review data for quality. Common problems include: start/end points not snapped to pipelines,   overshoots and undershoots at pipeline intersections, gaps in lines, stray points and lines that do not   represent a pipeline or start/end point, duplicate points and lines.

6.3.   Accuracy

Accuracy standards will be enforced for both spatial and attribute data. If any attribute data deviates from the required standards, OSFM Staff will first try to correct the deviation. If the only solution will require significant data changing, the submission will not be accepted. Data deemed unacceptable will be returned to operators for correction and subsequent resubmission. Attribute data quality must be ensured and will go through a rigorous quality control process.

Spatial data accuracy will meet or exceed United State Geologic Survey spatial data standards for 1:24,000 scale topographic quadrangle maps. USGS 1:24000 scale standard meets the OSFM required positional accuracy goal of ±100 feet.

6.4.   Electronic Submissions

Electronic submissions must be an acceptable media format, free from virus, and meet the standards set forth below:

Format
> All files must be submitted in an electronic file format and within a file geodatabase. The file geodatabase must be zipped and submitted via email to: Lisa Dowdy
> lisa.dowdy@fire.ca.gov

Projection
> All file geodatabases and attribute tables must be in the following projection: **NAD 1983 California (Teale) Albers (US FEET)**

Linkage
> Each spatial feature must be linked clearly to an individual attribute record, with a complete set of required attributes." (See Sections 3 & 4)

Metadata
> Metadata submissions must be made with each data submission. Use the *Office of the State Fire Marshal, Pipeline Safety Division's, Standard Metadata Template*.
> https://osfm.fire.ca.gov/divisions/pipeline-safety-and-cupa/geographic-information-systems/

6.5. <u>Quality Procedures</u>

After the OSFM receives and inputs all data, we will perform several in-house quality control procedures to ensure completeness and correctness in both spatial and attribute characteristics. Spatial accuracy will be ensured through a rigorous registration process. Attribute completeness will be ensured by checking each entered record for properly entered values.

7. Pipeline Feature Class Attribute Data

Operators are required to provide descriptive information about the pipelines when submitting data to the OSFM's State Pipeline Mapping System. The attribute data is essential information about the pipeline such as operator name, CSFM LID, system name and length (in feet). To simplify the submission, the required attribute data has been kept to a minimum. Operators are required to create a table using the fields shown in **Table 1** (pipeline features) and **Table 2** (start/end points) in this document.

Each pipeline submitted must be accompanied by a corresponding record(s) and attribute database table. Pipeline features must be in the following coordinate system: **NAD 1983 CALIFORNIA (TEALE) ALBERS (US FEET).**

Create a Pipeline Feature Attribute Table as seen below in **Table 1** (*{OperatorName}_Pipelines*)

TABLE 1

Pipeline Line Feature Class Attribute Table

Field Name	Field Type	Field Length	Short Description	Full Description	Acceptable Values	Required Field
PLINE_ID	String	4	Pipeline ID	Assigned by the State Fire Marshal. This is a unique numeric identifier for a specific pipeline	Character	Yes
OPER_NM	String	40	Operator Name	The company name that physically operates the pipeline system.	Character	Yes
SYS_NM	String	40	System Name	Assigned by the operator. The operator's name for a functional grouping of pipelines.	Character	Yes
FROM_MEASURE	Long Integer	N/A	Start Measure Value (Feet)	The start measure value for where the specific pipeline or pipeline segment begins.	Positive Integer	Yes
TO_MEASURE	Long Integer	N/A	End Measure Value (Feet)	The end measure value for where the specific pipeline or pipeline segment ends.	Positive Integer	Yes

TABLE 1 - EXAMPLE

OperatorName_Pipelines

OBJECTID *	SHAPE *	PLINE_ID	OPER_NM	SYS_NM	FROM_MEASURE	TO_MEASURE	SHAPE_Length
3	Polyline	0000	Operator Name	Line 0000	0	26140	26139.116798
4	Polyline	9999	Operator Name	Line 9999	0	8059	8058.933434
5	Polyline	9999	Operator Name	Line 9999	8059	12584	4524.693317

8. Start and End Point Feature Attribute Data

Point features represent the start and end point of each line feature. Start and end points MUST BE placed exactly on the end of the pipeline; there cannot be any gaps between the pipeline and start/end points.

Create a Start and End Point Attribute Table as seen below in **Table 2 (*{OperatorName}_Points*)**

**Points must be placed exactly on each end of the pipeline; there should be only one Start point and one End point per pipeline ID

TABLE 2

Pipeline Point Feature Class Attribute Table

Field Name	Field Type	Field Length	Short Description	Full Description	Acceptable Values	Required Field
PLINE_ID	String	4	Pipeline ID	Assigned by the State Fire Marshal. This is a unique numeric identifier for a specific pipeline	Positive Integer	Yes
TYPE	String	5	Point Type	The point type defining if the point is a start or end point. There should only be one start point and one end point for each line id. Do not include points for where there are gaps or multiple pipeline segments.	START; END	Yes
MEASURE	Long Integer	N/A	Measure Value (Feet)	The measure value for where the specific start or end point fall on the specific pipeline.	Positive Integer	Yes

TABLE 2 - EXAMPLE

OperatorName_Points

OBJECTID *	SHAPE *	PLINE_ID	TYPE	MEASURE
1	Point	0000	START	0
2	Point	0000	END	26140
3	Point	9999	START	0
4	Point	9999	END	12584

9. Event Attribute Tables for Age, Category, Commodity and Diameter

Pipeline Age is <u>required</u> pursuant to California Government Code, Section 51010.5 and State standards require Category and Diameter. An event attribute table must be submitted for each required type (Age, Category, Commodity and Diameter). <u>Each Event Attribute Table must include a FROM_ MEASURE and TO_ MEASURE record for each pipeline. The maximum TO_ MEASURE record for the pipeline must match the LENGTH field of the Pipeline Feature Attribute Table so that each PLINE ID has an event feature record for the entire line and not just a portion of it.</u> There should be no skips in measure values from minimum FROM_MEASURE to maximum TO_MEASURE for a pipeline. Values should be continuous from 0 to the length of the line.

9.1.   Age Event Attribute Table

Create an Age Event Attribute Table as seen below in **Table 3 (*{OperatorName}_Age*)**

** All event attribute tables must have a FROM_MEASURE and TO_MEASURE field that is in Feet. Maximum TO_MEASURE record for the pipeline must match the LENGTH field of the Pipeline Feature Attribute Table. There should be no skips in measure values from minimum FROM_MEASURE to maximum TO_MEASURE for a pipeline.

TABLE 3

Age Event Attribute Table

Field Name	Field Type	Field Length	Short Description	Full Description	Acceptable Values	Required Field
PLINE_ID	String	4	Pipeline ID	Assigned by the State Fire Marshal. This is a unique numeric identifier for a specific pipeline	Positive Integer	Yes
AGE	Long Integer	N/A	Age (Year)	Year the section of pipeline was built or replaced	Character	Yes
AGE_STATUS	String	1	Age Status Code	The status code for the section of the pipeline. (B)uilt, (R)eplaced	B; R	Yes
FROM_MEASURE	Long Integer	N/A	Start Measure Value (Feet)	The start measure value for where the specific age event begins along the pipeline.	Positive Integer	Yes
TO_MEASURE	Long Integer	N/A	End Measure Value (Feet)	The end measure value for where the specific age event ends along the pipeline.	Positive Integer	Yes

TABLE 3 EXAMPLE - AGE EVENT ATTRIBUTE TABLE

OperatorName_Age

OBJECTID *	PLINE_ID	AGE	AGE_STATUS	FROM_MEASURE	TO_MEASURE
1	0000	1991	R	0	11057
2	0000	1958	B	11057	26140

9.2. Category Event Attribute Table

Create a Category Event Attribute Table as seen below in **Table 4 (*{OperatorName}_Category*)**

** **All event attribute tables must have a FROM_MEASURE and TO_MEASURE field that is in Feet. Maximum TO_MEASURE record for the pipeline must match the LENGTH field of the Pipeline Feature Attribute Table. There should be no skips in measure values from minimum FROM_MEASURE to maximum TO_MEASURE for a pipeline.**

TABLE 4

Category Event Attribute Table

Field Name	Field Type	Field Length	Short Description	Full Description	Acceptable Values	Required Field
PLINE_ID	String	4	Pipeline ID	Assigned by the State Fire Marshal. This is a unique numeric identifier for a specific pipeline	Positive Integer	Yes
CATEGORY – in Priority Order	String	3	Pipeline category	Abbreviation of pipeline category in priority order. RGL=Rural Gathering Line; RLS=Rural Low Stress; OFP=Offshore Pipeline/State Waters; OOS=Out-of-Services (Idle, Purged of Hazardous Liquid); UGL=Urban Gathering Line; NLS=Non Rural Low Stress; PPS=Pipeline, Pipeline Segment or Pipeline System, ABD=Abandoned, NOJ=Non Jurisdictional	RGL; RLS; OFP; OOS; UGL;NLS; PPS; ABD; NOJ	Yes
FROM_MEASURE	Long Integer	N/A	Start Measure Value (Feet)	The start measure value for where the specific category event begins along the pipeline.	Positive Integer	Yes
TO_MEASURE	Long Integer	N/A	End Measure Value (Feet)	The end measure value for where the specific category event ends along the pipeline.	Positive Integer	Yes

TABLE 4 EXAMPLE – CATEGORY EVENT ATTRIBUTE TABLE

OperatorName_Category

	OBJECTID *	PLINE_ID	CATEGORY	FROM_MEASURE	TO_MEASURE
▶	1	0000	PPS	0	21375
	2	0000	OOS	21375	26140

9.3.   Commodity Event Attribute Table

Create a Commodity Event Attribute Table as seen below in **Table 5** (*{OperatorName}_Commodity*)

** All event attribute tables must have a FROM_MEASURE and TO_MEASURE field that is in Feet. Maximum TO_MEASURE record for the pipeline must match the LENGTH field of the Pipeline Feature Attribute Table. There should be no skips in measure values from minimum FROM_MEASURE to maximum TO_MEASURE for a pipeline. NOTE:

Pipelines shipping multiple refined products should have a REF commodity code.

TABLE 5

Commodity Event Attribute Table

Field Name	Field Type	Field Length	Short Description	Full Description	Acceptable Values	Required Field
PLINE_ID	String	4	CSFM Line ID	California State Fire Marshal's unique identifier for the pipeline.	Positive Integer	Yes
COMMODITY	String	3	Commodity Category	Abbreviation for the primary commodity carried by the pipeline system. CRD=Crude Oil; REF=Refined Products (non-HVL); JTF=Jet Fuel (only); NGS=Natural Gasoline; LPG=Liquified Petroleum Gas; NGL=Natural Gas Liquids; CO2=Carbon Dioxide; AA=Anhydrous Ammonia; HVL=Highly Volatile Liquid, Butane or Propane; ETH=Fuel Grade Ethanol; BDB=Biodiesel Blend; EPL=Abandoned Pipelines that Previously Transported a Liquid; WTR=Water; NTG=Nitrogen; MUD=Drilling Mud; GAS=Natural Gas; AIR=Air	CRD; REF; JTF; NGS; LPG; NGL; CO2; AA; HVL; ETH; BDB; EPL; WTR; NTG; MUD; GAS; AIR	Yes
FROM_MEASURE	Long Integer	N/A	Start Measure Value (Feet)	The start measure value (feet) for where the specific commodity event change begins along the pipeline.	Positive Integer	Yes
TO_MEASURE	Long Integer	N/A	End Measure Value (Feet)	The end measure value (feet) for where the specific commodity event change ends along the pipeline.	Positive Integer	Yes

TABLE 5 EXAMPLE – COMMODITY EVENT ATTRIBUTE TABLE

OperatorName_Commodity

OBJECTID *	PLINE_ID	COMMODITY	FROM_MEASURE	TO_MEASURE
1	0000	CRD	0	21375
2	0000	WTR	21375	26140

9.4.   Diameter Event Attribute Table

Create a Diameter Event Attribute Table as seen below in **Table 6 (*{OperatorName}_Diameter*)**

** All event attribute tables must have a FROM_MEASURE and TO_MEASURE field that is in Feet. Maximum TO_MEASURE record for the pipeline must match the LENGTH field of the Pipeline Feature Attribute Table. There should be no skips in measure values from minimum FROM_MEASURE to maximum TO_MEASURE for a pipeline.

TABLE 6

Diameter Event Attribute Table

Field Name	Field Type	Field Length	Short Description	Full Description	Acceptable Values	Required Field
PLINE_ID	String	4	CSFM Line ID	California State Fire Marshal's unique identifier for the pipeline.	Positive Integer	Yes
DIAMETER	Double	5	Diameter	Nominal diameter of the pipeline segment, in inches (three decimal places if applicable, ##.###).	Real Number	Yes
FROM_MEASURE	Long Integer	N/A	Start Measure Value (Feet)	The start measure value (feet) for where the specific commodity event change begins along the pipeline.	Positive Integer	Yes
TO_MEASURE	Long Integer	N/A	End Measure Value (Feet)	The end measure value (feet) for where the specific commodity event change ends along the pipeline.	Positive Integer	Yes

TABLE 6 EXAMPLE – DIAMETER EVENT ATTRIBUTE TABLE

OperatorName_Diameter

OBJECTID *	PLINE_ID	DIAMETER	FROM_MEASURE	TO_MEASURE
1	0000	8	0	3897
2	0000	6	3897	11057
3	0000	10.75	11057	26140

10.   Breakout Tank Submissions

The OSFM State Pipeline Mapping System accepts data submissions for breakout tanks under OSFM jurisdiction. OSFM accepts breakout tank data in the following formats:

- ESRI Shapefile

To complete the submission, operators are required to provide geospatial and attribute

information for each individual tank they operate and answer all question on the Breakout Tank Submission form. **Table 7** show the attribute table for breakout tank data.

10.1.   Types of OSFM Breakout Tank Submissions

Operators must classify breakout tank submissions as one of the following types. The type of submission must be identified on the Breakout Tank Metadata accompanying the submission.

INI – Initial Submissions to the OSFM contain data submitted for the first time for a given operator. If an operator has previously submitted data, then you cannot make an Initial Submission again. The revision code (SUB_TYPE) of all tanks should be set to **"A"** for addition.

FRP – Full Replacement Submission should be made whenever it is necessary to apply changes to your data. A full replacement must include all operator data because it will replace all previously submitted data. The revision codes (SUB_TYPE) for tanks are **"M"** for modification or **"A"** for addition.

RMV – Removal of Submission should only be made when **all** the data for an operator needs to be removed. Either the breakout tanks were sold and are no longer operated by the company or the breakout tanks are no longer in use and were dismantled. If either one of these situations describes all the breakout tanks for an operator, you can make a Removal request. For a Removal request, please complete the Breakout Tank Submission form. Under Question 1 of the Breakout Tank Submission form include an explanation of why all the data for the operator should be removed, including the effective date for the change. If the breakout tanks were sold, include the transaction date, company name, and phone number where staff can reach the new operator.

If either of these scenarios describes only **some** of the breakout tanks you must make a Full Replacement Submission submitting only the active breakout tanks operated by the company.

10.2.   Breakout Tank Submission Form

All breakout tank submissions must be accompanied by a Breakout Tank Submission form. This form is included with the *Office of the State Fire Marshal, Pipeline Safety Division's, Standard Metadata Template*. https://osfm.fire.ca.gov/media/10022/metadata-information.pdf.**.** This form is meant to provide OSFM staff with key information for processing your breakout tank submission, and allow you to communicate any additional information.

10.3.   Submitting via ESRI Format

Operators are required to submit their data in an ESRI Shapefile or file geodatabase format and should follow the procedure below.

- Create a shapefile/geodatabase named "BOT_<COBILLCODE>_<IU>, where <COBILLCODE> is your three-digit billing ID with OSFM and <IU> is the inspection unit under which the breakout tanks fall.

- Add the attribute fields identified in Table 7.

- Ensure that the values you enter conform to the "Acceptable Values" column in Table 7.

- Create one record (row) in the attribute table for each tank

- Create one point per breakout tank and ensure that the (fieldname) field contains exactly the same name for each tank in a given tank farm

- Ensure that the mandatory fields identified in the "Required Field" column in Table 7 are populated with data

- Use NAD 1983 California (Teale) Albers (US FEET)

- Longitude and Latitude should be in the following format: decimal degrees with five decimal places (example, -118.22222, 38.44224)

- Zip the shapefile/geodatabase and send it with the Breakout Tank Metadata form to OSFM staff via email to PipelineNotification@fire.ca.gov.

TABLE 7 EXAMPLE – BREAKOUT TANK EVENT ATTRIBUTE TABLE

Field Name	Type₁	Length	Description	Full Description	Acceptable Values	Field
OPID	I	5	PHMSA OPS ID	Unique tracking number assigned by PHMSA to the company that physically operates the breakout tank farm. If you do not know your firm's OPID, check with your DOT/Regulator Compliance department or the NPMS website.	Positive integer	Y
C_BILL_NU	I	3	OSFM Operator Billing ID	Unique tracking number assigned by OSFM to the operator that physically operates the breakout tank farm.	Positive integer	Y
COMPANY	C	50	Company	Name of the company that physically operates the tank or tank farm.	Character	Y
TANK_NAME	C	50	Tank Name	Assigned by operator. The operator's name for a functional grouping of tanks (e.g. tank farm, tank hotel, etc.). The operator's Facility ID (FAC0000) for a tank/tanks	Character	Y
TANK_ID	C	4	Tank ID	Assigned by OSFM. This is an identifier for a specific tank	Character	Y
INSP_UNIT	C	5	OSFM assigned number	Assigned by OSFM. The inspection unit number assigned to a company (i.e. 0320B)	Character	Y
FAC_ID	C	7	OSFM assigned Facility ID	Assigned by OSFM. The operator's Facility ID (FAC0000) for a tank/tanks	Character	Y
COMMODITY	C	50	Abbreviation code for Primary commodity stored in tank	CRD=Crude Oil; REF=Refined Products (non-HVL); JTF=Jet Fuel (only); NGS=Natural Gasoline; LPG=Liquefied Petroleum Gas; NGL=Natural Gas Liquids; CO2=Carbon Dioxide; AA=Anhydrous Ammonia; HVL=Highly Volatile Liquid, Butane or Propane; ETH=Fuel Grade Ethanol; BDB=Biodiesel Blend; AIR=Air	Character	Y
COMMODITY2	C	50	Abbreviation code for Secondary commodity stored in tank	CRD=Crude Oil; REF=Refined Products (non-HVL); JTF=Jet Fuel (only); NGS=Natural Gasoline; LPG=Liquefied Petroleum Gas; NGL=Natural Gas Liquids; CO2=Carbon Dioxide; AA=Anhydrous Ammonia; HVL=Highly Volatile Liquid, Butane or Propane; ETH=Fuel Grade Ethanol; BDB=Biodiesel Blend; AIR=Air	Character	Y
COMMODITY3	C	50	Abbreviation code for Tertiary commodity stored in tank	CRD=Crude Oil; REF=Refined Products (non-HVL); JTF=Jet Fuel (only); NGS=Natural Gasoline; LPG=Liquefied Petroleum Gas; NGL=Natural Gas Liquids; CO2=Carbon Dioxide; AA=Anhydrous Ammonia; HVL=Highly Volatile Liquid, Butane or Propane; ETH=Fuel Grade Ethanol; BDB=Biodiesel Blend; AIR=Air	Character	Y

Field Name	Type₁	Length	Description	Full Description	Acceptable Values	Field
MAX_CAP	D	6	Size of Tank	Nominal size of the tank (bbls)	Positive	Y
DIAMETER	D	5	Tank Diameter	Diameter of the tank	Positive	Y
HEIGHT	D	5	Tank Height	Height of the tank	Positive	Y
TANK_TYPE	C	50	Tank description	Type of Tank: Atmospheric; Welded, Low-pressure; Shop-fabricated; High pressure;	Character	Y
ROOF_TYPE	C	1	Roof description	Roof Type: E: External Floater I: Internal Floater F: Fixed	Character	Y
LINING	C (YES/NO)	3	Lining Present	Does the tank have a lining (YES/NO)	Character	Y
CP_TYPE	C	20	Type of CP	Does the tank have CP	Character	Y
COMMENT	C	100	Explanation	Explain why there is no CP installed	Character	Y
ALARM_TYPE	C (YES/NO)	3	Alarm(s) Used	Type of Alarms installed on Tank: H:High, HH: High High, O: Overfill, OT: Other	Character	Y
CONST_TYPE	C	50	Tank construction method	Construction Type: Bolted steel, Welded Steel; Rivets, Other	Character	Y
CODEBUILT	C	6	Governing Code	Standard used to build tank	Character	Y
INSTAL_DATE	I	4	Construction Year	Four-digit year of facility construction (e.g. "1990").	Positive	Y
FABRICATOR	C	25	Company who built tank	Company who originally constructed the tank	Character	Y
CONTA_TYPE	C	25	Type of containment used	Containment used around tank: 1: concrete wall, 2: Earthen Berm, 3: Other	Positive Integer	Y
CONT_CAP	I	6	Max containment capacity	Max capacity of containment method (bbl)	Positive Integer	Y
OWNER	C	60	Facility Owner	Name of the owner of the tank/tank farm	Character	Y
FIRSTNAME	C	50	Contact First Name	First name of the person to contact for information regarding the tank/tank farm	Character	Y
LASTNAME	C	50	Contact Last Name	Last name of the person to contact for information regarding the tank/tank farm	Character	Y
TITLE	C	30	Contact Title	Contact person's title	Character	Y
PHONE	C	10	Phone Number	Primary telephone number for the contact person	Character	Y
EMAIL	C	50	Email Address	Contact person's email address.	Character	Y
LONGITUDE	D	19, 5	Longitudinal Coordinate	The longitudinal coordinate in decimal degree format (e.g. -###.#####).	Negative	Y
LATITUDE	D	19, 5	Latitudinal Coordinate	The latitudinal coordinate in decimal degree format (e.g. ##.#####).	Positive	Y
SUB_TYPE	C	1	Submission Type	Identifies this tank/tank farm as an A= addition to the OSFM submission M=modification to the existing OSFM, or D=deletion of a previous submission.	Character	Y

11. Examples, Scenarios & Attribute Information

11.1. Line, Point and Event Attribute Information

Line Features

- ➢ Can be multiple records for one pipeline id
- ➢ We need a FROM_MEASURE and TO_MEASURE field for each record of a pipeline id. For example, if one portion of a pipeline (one record) measure is 0-700 then the second portion (a second record for the same pipeline id) will be a 700-900 measure.

Point Features

- ➢ For all pipelines, include <u>one</u> start point and <u>one</u> end point (start point at start of the line and end point at the very end of the line).
- ➢ Include a MEASURE field that has MEASURE values for both the start point and end point. The start point should be 0 and the end point should reflect the total length of the full pipeline MEASURE value.

Event Attribute Data

- ➢ For all pipelines, include <u>one</u> event table for each attribute (age, category, commodity, and diameter). See sample table in Scenarios 1-3.

Possible Scenarios you may Encounter

Scenario 1 – Continuous Pipeline of 100 ft
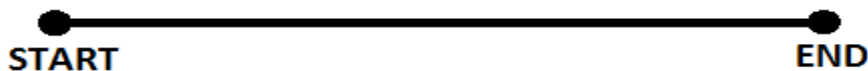
- ➢ One record for pipeline id 0000 (one continuous line)
  - o Full line segment would include FROM_MEASURE of 0 and TO_MEASURE of 100

OperatorName_Pipelines_Scenario1

OBJECTID *	SHAPE *	PLINE_ID	OPER_NM	SYS_NM	FROM_MEASURE	TO_MEASURE	SHAPE_Length
1	Polyline	0000	Operator Name	Line 0000	0	100	100.883658

- ➢ Two points – one start and one end point

- o Start point has MEASURE of 0
- o End point has MEASURE of 100

OperatorName_Points_Scenario1

OBJECTID *	SHAPE *	PLINE_ID	TYPE	MEASURE
1	Point	0000	START	0
2	Point	0000	END	100

➢ Sample Event Table (age, category, commodity, diameter)

OperatorName_Commodity_Scenario1

OBJECTID *	PLINE_ID	COMMODITY	FROM_MEASURE	TO_MEASURE
1	0000	CRD	0	100

Scenario 2 – Pipeline of 100 ft with Gap

START   END

➢ Two records for pipeline id 0000 (two line segments with a gap in between)
- o First line segment includes FROM_MEASURE of 0 and TO_MEASURE of 50
- o Second line segment includes FROM_MEASURE of 50 and TO_MEASURE of 100

OperatorName_Pipelines_Scenario2

| OBJECTID *	SHAPE *	PLINE_ID	OPER_NM	SYS_NM	FROM_MEASURE	TO_MEASURE	SHAPE_Length
1	Polyline	0000	Operator Name	Line 0000	0	50	50.09703
2	Polyline	0000	Operator Name	Line 0000	50	100	50.159437

➢ Two points – one start and one end point
- o Start point has MEASURE of 0
- o End point has MEASURE of 100

OperatorName_Points_Scenario2

OBJECTID *	SHAPE *	PLINE_ID	TYPE	MEASURE
1	Point	0000	START	0
2	Point	0000	END	100

➢ Sample Event Table (age, category, commodity, diameter)

OperatorName_Commodity_Scenario2

	OBJECTID *	PLINE_ID	COMMODITY	FROM_MEASURE	TO_MEASURE
▶	1	0000	CRD	0	100

Scenario 3 – Pipeline with an Offshoot or Lateral
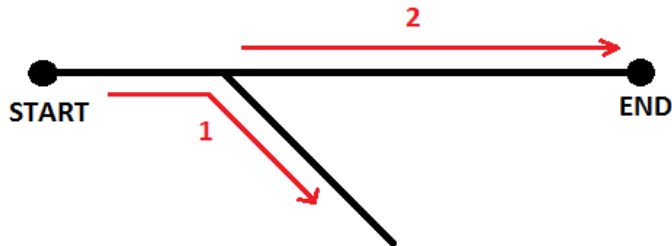
- ➢ Two records for line id 0000 (two line segments – 1 and 2)
  - ○ First line segment (1) includes FROM_MEASURE of 0 and TO_MEASURE of 40
  - ○ Second line segment (2) includes FROM_MEASURE of 40 and TO_MEASURE of 120

OperatorName_Pipelines_Scenario3

	OBJECTID *	SHAPE *	PLINE_ID	OPER_NM	SYS_NM	FROM_MEASURE	TO_MEASURE	SHAPE_Length
	1	Polyline	0000	Operator Name	Line 0000	0	40	39.986388
▶	2	Polyline	0000	Operator Name	Line 0000	40	120	80.034422

- ➢ Two points – one start and one end point
  - ○ Start point has MEASURE of 0
  - ○ End point has MEASURE of 120

OperatorName_Points_Scenario3

	OBJECTID *	SHAPE *	PLINE_ID	TYPE	MEASURE
	1	Point	0000	START	0
	2	Point	0000	END	120

- ➢ Sample Event Table (age, category, commodity, diameter)

OperatorName_Commodity_Scenario3

	OBJECTID *	PLINE_ID	COMMODITY	FROM_MEASURE	TO_MEASURE
▶	1	0000	CRD	0	100

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12. OPERATOR SUBMISSION CHECKLIST

DIGITAL SUBMISSIONS

- ☐ Does each feature include a complete attribute record as defined in the State standard?
- ☐ Have the attribute records been uniquely linked to the point or line feature?
- ☐ Has the digital file been projected to the correct units and datum as stated in the State standard?
- ☐ Has the submission file been exported and formatted in a File Geodatabase format?
- ☐ Do the data file names and associated attribute tables meet the naming convention standards?
- ☐ Are all of the geospatial files included in this submission?
- ☐ Is there an Age, Category, Commodity, Diameter table with populated records as described in the State guidelines?

ATTRIBUTE DATA

- ☐ Have all required fields in each feature attribute record been completed?
- ☐ Does each attribute record have a unique link to its line or point element in the geospatial file?
- ☐ Has the attribute data been created and formatted per the State standard?
- ☐ Does each geospatial element have an attribute record?
- ☐ Are there properly populated Age, Category, Commodity and Diameter event attribute tables as specified in the State standards?
- ☐ Do all the event attribute tables include correct FROM_MEASURE and TO_MEASURE fields, which include a maximum TO_MEASURE value equal to the LENGTH field of the Pipeline Feature Class Attribute Table?
- ☐ Are there no skips in measure values from minimum FROM_MEASURE to maximum TO_MEASURE for each pipeline?

BREAKOUT TANK DATA

- ☐ Have all required fields in the feature attribute record been completed?
- ☐ Has the attribute data been created and formatted per the State standard?
- ☐ Use the *OSFM, Pipeline Safety Division's Breakout Tank Submission Form.*
- ☐ Is the contact information current on the *OSFM, Pipeline Safety Division's Standard Metadata Template*?
- ☐ Has a brief description of the Breakout Tank data changes been provided?
- ☐ Has the Submission Type been marked on the form?

METADATA

- ☐ Use the *OSFM, Pipeline Safety Division's Standard Metadata Template.*
- ☐ Is the contact information current?
- ☐ Has the file name of the digital file(s) been entered in the State Standard Metadata Template?
- ☐ Are all the required sections of the metadata completed?