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NPMS Minimum Requirements for 2025 and Beyond

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Abstract

At PPIM 2023 PHMSA and PODS presented on the upcoming NPMS Information Collection Changes with 2024 as "Year Zero" or the baseline foundational year for the new submittal requirements with additional minimum requirements for several years to come.

Now that we are in 2025 we will get an update from Monique Roberts, Executive Director of PODS and Leigha Gooding, PHMSA OPS GIS Manager on what they have learned since their 2023 presentation. Leigha manages NPMS (National Pipeline Mapping System) so we will hear first-hand on the new data attribute requirements for your NPMS submittal for 2025 and beyond as well as lessons learned in Year Zero (2024) from both PHMSA and Operators.

PODS and PHMSA have met with several operators over the last 12 months on their experiences with the new changes so we would like to share that information as well as review the MFA requirements, break out tank info, abandonment items, in-plant submissions and many other items that may need some clarification.

This presentation will also cover a high-level overview of the NPMS submittal process, the radical increase in segmentation and new attributes that PHMSA is expecting operators to capture over the next several years as well as some feedback on the new system from the PODS Community.

In addition, PHMSA would like to announce that we will start distributing an Updated Eco USA data layer to support Hazardous Liquids Integrity Management planning this spring, and they will add a national map option to the NPMS Public Map Viewer.

Did you know that the NPMS system uses the PODS Model? So, if you have ever uploaded your NPMS submittal you have used PODS! PHMSA has been a member of PODS for over a decade now in fact, so the PODS Association works closely to make sure that all data tables and schema are standardized for use by all operators and service companies that support them. The PODS Model is operator designed to comply with regulations, support specific pipeline operations and decrease risk through digital twin/asset knowledge management.

The National Pipeline Mapping System (NPMS)

The National Pipeline Mapping System (NPMS) www.npms.phmsa.dot.gov allows the user to view pipeline maps. It is a Geographic Information System (GIS) database containing locations of and information about gas transmission and hazardous liquid pipelines, liquefied natural gas (LNG) plants, and breakout tanks which are under the jurisdiction of the Pipeline and Hazardous Materials Safety Administration (PHMSA). The NPMS does not contain gas gathering or distribution pipelines.

How Is the NPMS Database Updated? Federal safety regulations require pipeline operators to update their NPMS data each year. Every day PHMSA works directly with operators to improve data accuracy. Every two months PHMSA publishes updates on the NPMS website and mapping applications. Look at a pipeline's Revision Date to see when it was last updated.

Who Uses the NPMS? PHMSA uses the NPMS for emergency response and mitigation, risk analysis, inspection planning, regulatory compliance and data analysis. Other federal, state, local and tribal governments, emergency responders and the public also use the NPMS for public safety, homeland security, environmental protection, land use planning, and energy research. Do not use the NPMS in place of calling 811 prior to excavation activities.

The NPMS web site is divided into user type portals. Click on the correct user type portal to view available information and resources. If you are new to the NPMS web site, click on the First Time Visitor portal to learn more about the NPMS user types. Additional links at the bottom of the NPMS home page link to About, FAQ and Contact Us pages.

The Government Official Portal is intended for government officials at the local, state or federal level, including emergency responders and tribal governments. Government officials can also access other related GIS data layers from this location. The Pipeline Operator Portal is intended for employees of pipeline operators who contribute data to the NPMS. This includes operators of gas transmission or hazardous liquid pipelines, breakout tanks and liquefied natural gas facilities under PHMSA jurisdiction. In addition to NPMS mapping data and resources, operators can access information regarding NPMS data submission requirements, procedures and additional GIS data layers to support integrity management planning. The General Public Portal is available for any member of the public. In addition to NPMS maps, data and resources, you can learn about regional PHMSA contacts, the Freedom of Information Act (FOIA), and other PHMSA and pipeline safety resources.

The Pipeline Open Data Standard (PODS) Association

The Pipeline Open Data Standard (PODS) Association www.pods.org is a non-profit member-driven organization providing the exclusive data model standard. Over the last 27 years, this standard has been adopted by 200+ pipeline operators and the service providers, vendors, and regulatory agencies

that support them. **The PODS Association and its model is the only Pipeline Open Data Standard and Community of its kind in the world.**

As a community, PODS is made up of thought leaders and innovators who share knowledge and expertise to build and maintain the only geospatial data model specifically designed by and for pipeline operators. Focusing on pipeline safety, single-system-of-record for pipeline asset locations and specifications, regulatory and integrity management, and inspection and repair analysis, our model has been implemented by over 200 pipeline operators in 39 countries, representing over 3 million miles of linear pipeline assets and systems including facilities, storage, stations, etc.

Our data model and modules can now support all pipeline systems (Oil, Gas, Water, Hydrogen, Carbon Sequestration, etc.), including the energy transition to renewables, for their entire lifecycle and with prescriptive business processes.

PODS Association's Data Model sets the foundation for visibility to the entire pipeline system lifecycle – supporting a system of engagement from multiple vendors/contractors working on construction projects to the foundation for your system of record and database management for compliance, safety, risk identification, mitigation and remediation. The PODS Data Model and Modules are recognized as the best practice integration platform for pipeline data and location information.

The PODS data model provides the database architecture pipeline operators need to submit regulatory reports, store critical information, analyze pipeline systems data, and manage geospatial data in a linear-referenced database which can be visualized in any GIS platform. It houses the attribute, asset information, construction, inspection, integrity management, regulatory compliance, risk analysis, history, and operational data that pipeline companies have deemed mission-critical to successfully managing natural gas, hazardous liquids, renewables and water pipelines.

The PODS data model is the industry standard used by pipeline operators to provide a single master source of information and eliminate localized silos of often unconnected information. As our worldwide industry increases their focus on pipeline integrity management (PIM), the importance of data integration should not be overlooked. The PODS data model provides guidelines for the tedious process of reconciling "as-built" data with operational and inspection data in one single source. Referencing and integrating data within a spatial context can help to provide pipeline operators with a definitive view or digital twin of their pipeline and systems for optimized asset knowledge management.

Other benefits of the PODS Model include:

- 'Open' – A GIS neutral or ESRI compatible platform with database architecture for a linear-referenced database.

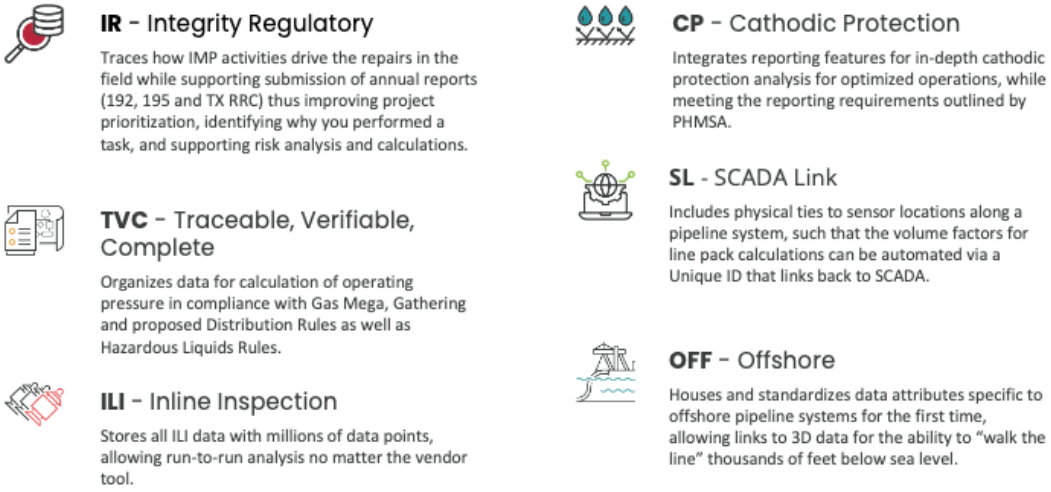
- Enabling system integration via service-oriented approaches so any experienced vendor can assist or support operators with migrating, implementing, modeling or maintaining their system.
- Decision-making tool integral to engineering and operational decision-making supporting functional business goals and objectives about pipelines and facilities.
- Scalable and extensible to adapt to changing business and technical landscapes.
- Provides maximum flexibility by allowing pipeline operators to implement and configure the data model to meet unique business needs and challenges.
- System integration with business systems and asset knowledge management tools enterprise wide.
- Interoperable robust data exchange mechanism enables users to seamlessly share data within and between organizations.
- Optimized performance for managing small to extremely large data sets, including inspection data, re-routes, historical information, and asset digitization providing controls for quality assurance.

New PODS Modules, Focused on Integrity and Regulation: Opening the Model to More Pipeliners

Now more than ever, visibility and optimization of in-ground assets are vital to our industry. The rising cost of failure, the public's focus on pipelines and the energy future, and the need for data transparency and accuracy to meet new regulations and newly regulated assets… everything is changing, so PODS is also!

The PODS Data Model was built for regulated pipeline and is continuously updated as new regulations are published. In fact, PHMSA is a PODS member and uses the model as a baseline for NPMS, so having your data in PODS is the easiest way for operators to submit their annual reports and NPMS uploads.

Our vision is to align more with the needs of operators, especially those who manage assets within various segments of the pipeline supply chain. PODS will now offer two core data models - PODS 7 and PODS 7 with Utility Network support. Both these core models will have the option to add to them regulatory and industry specific modules. With PODS standardizing on the core Esri Geodatabase, operators who have implemented the Esri Utility and Pipeline Data Model (UPDM) can also leverage these industry specific modules within their implementations.



High level overview of NPMS submittal process from PHMSA

The NPMS program is largely the PHMSA GIS program within the Office of Pipeline Safety (OPS) – essentially it's the federal and contract personnel that have all the GIS and IT development skillsets. They produce IT applications, mapping applications, form spatial analysis, etc. to support inspection planning and engineering research, as well as emergency response. PHMSA uses GIS in many ways, but the backbone of the NPMS is our pipeline database which, includes the pipeline assets that are submitted by approximately 1,700 (OPIDs) pipeline operating companies each year. It is in the regulations (listed below) that operators of gas transmission, and hazardous liquid need to make these submissions each year.

The PODS Community is made up of pipeline operators, service companies as well as government agencies and trade associations – PHMSA has been a government agency member of PODS since 2011 and is currently using a PODS data model as its baseline for the NPMS system using linear referencing. So by operators submitting their information annually they are using PODS and helping OPS update the pipe centerline and events throughout the model.

- Annual GIS data submissions represent operations as of 12/31 of the previous year
    - 49 CFR 191.29 (Gas Transmission and LNG)
        - Due each year on March 15
    - 49 CFR 195.61 (Hazardous Liquid and Breakout Tanks)
        - Due each year on June 15
- NPMS Operator Standards Manual
    - Outlines procedures and data standards
        - Spatial data and Attributes
        - Contact information
        - Metadata/Cover letter Information
- NPMS Operator Submission Supplemental Instructions (dot.gov)

    - Guidance and tips to help operators prepare accurate submittals
- Operator Submission and Validation Environment (OSAVE)
    - Application used by pipeline operators to complete NPMS pipeline, LNG plant, and breakout tank reporting requirements. Operators can view pipeline submission history, review their current NPMS data, run QC tools to check their pipeline data file before submittal, upload data submittals and enter metadata, edit their NPMS pipeline data in a mapping environment, or submit notifications to confirm pipeline data accuracy or remove data.

Updated NPMS Attribute Standards and Revision Summary

Information Collection 2137-0596

https://www.npms.phmsa.dot.gov/Documents/Updated%20Attributes%20Standards%20and%20Revision%20Summary.pdf

Introduction

The information presented here reflects the revision of the National Pipeline Mapping System (NPMS) Information Collection (OMB Control No. 2137-0596) approved by the Office of Management and Budget (OMB) on March 31, 2023 (Dockets PHMSA-2014-0092 and PHMSA-2021-0085). This document summarizes revisions to the NPMS data submittal requirements and explains the implementation timeline, the new spatial accuracy requirement and all attribute fields, names, properties and acceptable values. At the beginning of each year when new data elements are required PHMSA will publish an updated NPMS Operator Standards Manual and record video demonstrations or conduct webinars about the data standards and submission process changes. Information about current year NPMS submittal requirements can always be found on the NPMS website at www.npms.phmsa.dot.gov.

Revision Summary:

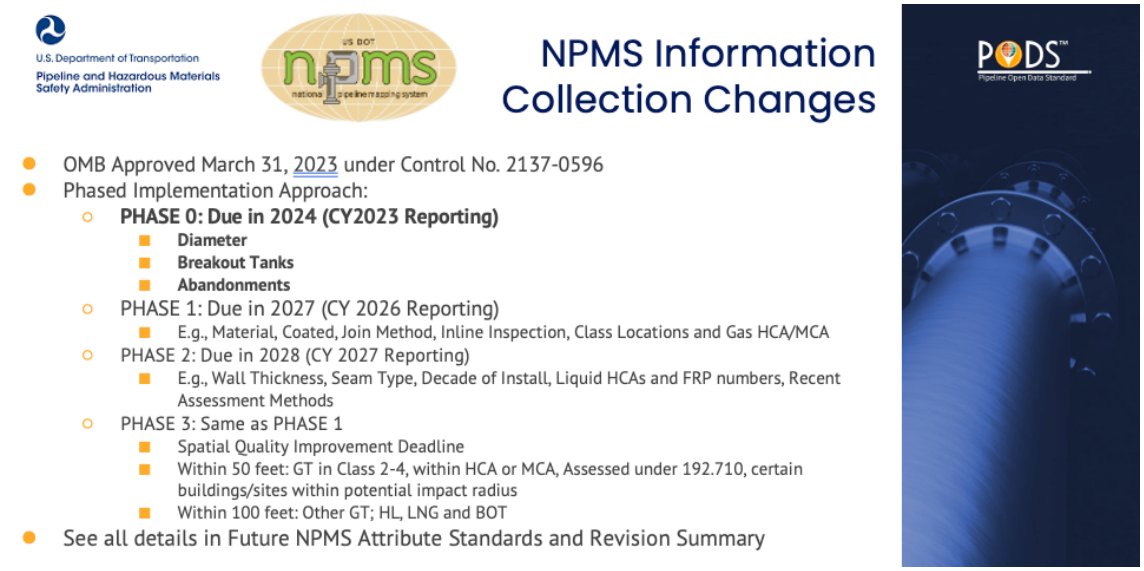
- Modernized spatial accuracy requirement.
- Updated pipeline, LNG plant and breakout tank attributes, as outlined in the attribute standards
- tables in this document.
- Previously voluntary data elements become required, including permanently abandoned
- (abandoned) pipelines that previously operated as gas transmission or hazardous liquid
- pipelines, pipeline diameter, pipeline commodity details, and breakout tank locations with
- attributes.
- When designated, pipeline attributes may be reported as unknown when accurate information is not available, or as a predominant value (representing at least 90% of the pipeline segment).

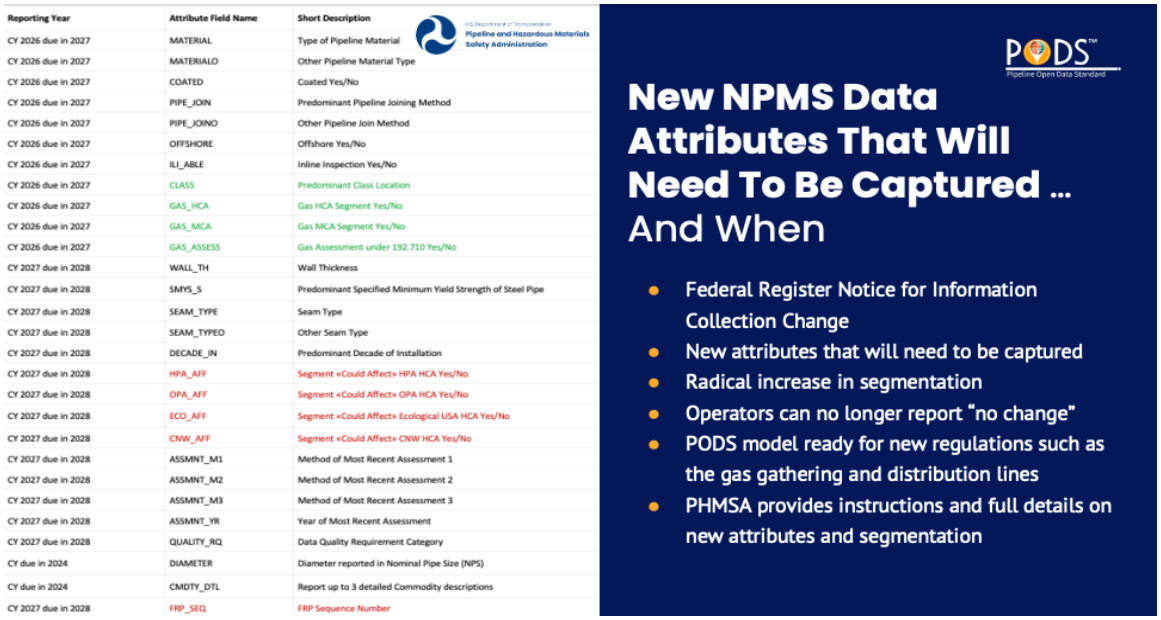
Implementation Timeline

Phase 0 has already started with CY23 submissions/2024 due dates. PHMSA started requiring Phase 0 data elements, including pipelines, LNG plants and/or breakout tanks permanently abandoned during the reporting year, in NPMS submittals due in 2024 (reporting the system as-of 12/31/2023).

PHMSA will start collecting Phase 1 data no earlier than 2027 (reporting the system as-of 12/31/2026) and Phase 2 data no earlier than 2028 (reporting the system as-of 12/31/2027). The spatial accuracy requirements in Phase 3 are mandatory in 2027 (reporting the system as-of 12/31/2026). The required implementation phase for each data element and the modernized spatial accuracy requirement are explained below.

PHMSA cannot accept new data elements prior to the required implementation phase. PHMSA currently accepts data that meets the modernized spatial accuracy and any voluntary data element in the NPMS Operator Standards Manual currently available on the NPMS website.





*Note: No Change notifications are no longer acceptable – that is only true during the Phase 1/3 and Phase 2 rollout years.

*Note: Each year, the new revised standards will be released by January.

No later than 2027, hazardous liquid pipeline operators must submit data with a positional accuracy within +/— 50 feet. No later than 2027, gas transmission operators must submit data within +/— 50 foot accuracy for all segments which meet one or more of the following criteria:

1. In a Class 2, Class 3, or Class 4 area;
2. Within an HCA or MCA;
3. Required to be assessed under 49 CFR 192.710; or
4. Has one or more buildings intended for human occupancy or an identified site within its potential impact radius.

All other gas transmission pipeline segments, abandonments, LNG plants and breakout tanks must be mapped to a positional accuracy within +/— 100 feet.

Feedback on Phase 0

- **What are the biggest or most common challenges/questions operators have/ask about Phase 0?**
    - Operators have expressed their concern about future IC attributes and the increased segmentation they will cause. There is general worry that their data will have too much segmentation and be difficult to work with.
    - Operator issues generally stem from not reading the new standards or guidance. They commonly do the following:
        - <u>Pipes:</u>
            - Omitting abandoned lines in a submission, or generally not knowing they need to submit them
            - Trying to submit a No Change without populating a diameter value
            - Trying to submit a No Change and getting confused when they can't.
            - Submitting the incorrect revision codes due to not recognizing the diameter change. They don't see that new value being submitted as a change and list the revision code incorrectly.
        - <u>BOTs</u>
            - Submitting the old cover letters that are no longer applicable, not downloading the new templates, or not submitting all the

required components. Over half of the initial BOT submissions reviewed by NPMS staff this year had issues (missing required data, spatial errors where the data plotted incorrectly).
    - Poor BOT spatial quality; Tank points aren't always spatially located on the imagery of the tanks and exceed the range of the selected quality code. Difficult to determine if the issue is an inconsistency of the imagery vs the operators system or if the operator's data is wrong. We've been contacting operators to inquire when we find this situation.
    - Operators have asked for a way to update their contact info for BOTs. This functionality is in progress for the future, but we do not have a release date at this time.

- **Did the NPMS team collecting/processing/communicating with operators about Phase 0 have any lessons learned?**
    - The main issues we encounter stem from the operators not reading the new standards.
    - Particularly for Phase 1 and Phase 2, we will get the updated/new standards posted online earlier to give operators more time to reference them. We do not plan an increased level of outreach via mass emails, we sent multiple waves of emails last year regarding new standards, OSAVE, MFA.

- **NPMS team feedback related to MFA implementation or NPMS account/data request policies?**
    - Mirroring the comments above, operator issues usually stem from operators not reading the emails that are sent to them. Please hammer home the importance of watching out for email notifications or guidance that NPMS staff send out.
    - We generally find that operators do not have an issue navigating the MFA process and the instructions are fairly straightforward.
        - We have seen a few isolated issues of operators having problems with login.gov, but not with the NPMS side of the MFA account/system

Attributes

Operators are required to provide descriptive information about each pipeline facility feature in their annual NPMS submittals. The attribute data is essential information about each pipeline segment, breakout tank, or LNG plant and includes information about the facility, operator, operations, assessments or location. The following tables outline all attribute fields and acceptable values as required by OMB's approved modifications to the NPMS Information Collection. The first field indicates if the attribute is required in

implementation Phase 0, 1, 2 or 3; attributes that were approved and required as part of the NPMS Information Collection prior to January 2020 are grey in this field, a hash symbol (#) indicates the previously collected values will be accepted until that phase, and an asterisk (*) indicates an attribute that becomes mandatory during that phase. For permanently abandoned pipeline facilities, report attributes that reflect operations prior to permanent abandonment, unless otherwise noted. For additional technical details about current NPMS national standards, submission procedures, and attribute templates please visit the NPMS website at www.npms.phmsa.dot.gov.

YES in the Public column indicates that the attribute could be made available to the public. NO indicates that the attribute could be made available only to government officials. N/A in the Public column indicates that the attribute exists only in the background and is not available to the public or government officials.

New data elements to be collected in Phase 1 and 2 are not required on permanently abandoned pipelines. A caret (^) in the field titled "Attribute Field Required?" clarifies this attribute is not required on permanently abandoned lines.

Pipeline Attribute Table (GIS Polyline Layer)

Phase	Attribute Field Name	Public	Short Description	Pipeline Attribute Field Full Description	Acceptable Values - UPPERCASE	Attribute Field Required? *Gas, Liquid, Both or otherwise as indicated*
	OPER_LINK	N/A	Unique Link ID	Field Type = Character, Field Length 20 Link between the geospatial elements (pipeline segments) and their respective attribute records. Assigned by the operator or the operator's software package (i.e., COVER-ID, MSLINK_ID, etc.). Note: the OPER_LINK and the PLINE_ID may be identical. Once processing is complete, the OPER_LINK value will be removed from the data by NPMS staff as it will no longer be needed.	Character	Both- If your attributes are **not** included in the geospatial file.
	OPID	YES	Operator ID Number	Field Type = Integer, Long Unique tracking number assigned by PHMSA to the company that physically operates the pipeline system. If you do not know your company's OPID, check with your DOT/Regulatory Compliance department or the NPMS website. Always use the same OPID for all PHMSA reporting requirements that apply to the pipeline segment. For example, if you use OPID 100 for this pipeline segment in the NPMS, you must use OPID 100 for this pipeline segment on the Annual Report to PHMSA.	Positive integer	Both
	OPER_NM	YES	Operator Name	Field Type = Text, Field Length = 100 The name of the company that physically operates the pipeline system. This is the company name associated with this OPID Number in PHMSA records.	Character	Both
	SYS_NM	YES	Pipeline System Name	Field Type = Text, Field Length = 40 Assigned by the operator. The operator's name for a functional grouping of pipelines.	Character	Both
	SUBSYS_NM	YES	Pipeline Sub-System Name	Field Type = Text, Field Length = 40 Assigned by the operator. A unique name for a smaller sub-section of a pipeline system. A subset of System Name.	Character	Not Required
	PLINE_ID	YES	Pipeline Segment ID	Field Type = Text, Field Length = 20 Assigned by the operator. A unique identifier for a specific segment of pipeline within a pipeline system.	Character	Both

Phase	Attribute Field Name	Public	Short Description	Pipeline Attribute Field Full Description	Acceptable Values - UPPERCASE	Attribute Field Required? *Gas, Liquid, Both or otherwise as indicated*
*0	DIAMETER	NO	Diameter reported in Nominal Pipe Size (NPS)	Field Type = Double (5, 3) Nominal pipe size of the pipeline segment; identifies the diameter with a dimensionless value, (e.g., 8.625" outside diameter pipe is reported as NPS 8, 5" outside diameter pipe is NPS 4.5). Decimals are only accepted when less than NPS 5.	Positive Integer or Decimal when less than NPS 5	Both
	COMMODITY	YES	Primary Commodity Category	Field Type = Text, Field Length = 3 Identifies the primary commodity carried by the pipeline system. Valid Liquid Commodities: CRD=crude oil, PRD=non-HVL petroleum product, AA=anhydrous ammonia, LPG=liquefied petroleum gas, NGL=natural gas liquids, OHV=other HVLs, CO2=carbon dioxide, ETH=fuel grade ethanol, and EPL=permanently abandoned pipeline segment that previously transported a liquid (only acceptable when Pipeline Status Code is reported as PB). Valid Gas Commodities: NG=natural gas, PG=propane gas, SG=synthetic gas, HG=hydrogen gas, LG=landfill gas, OTG=other gas, and EPG=permanently abandoned pipeline segment that previously transported a gas (only acceptable when Pipeline Status Code is reported as PB). Note that when propane is transported as a liquid, report the Primary Commodity Category as LPG. The PG value should only be reported when the propane is transported as a gas. Note that when the pipeline segment is permanently abandoned, the use of EPL or EPG should represent the commodity that was previously transported. For instance, a natural gas transmission line that was later filled with water during the permanent abandonment process would be coded EPG because a gas commodity was last transported. Please report if the abandoned pipeline segment is refilled with water, nitrogen, or another permanent abandonment material in the Commodity Description field. Note that EPG and EPL may only be used for permanently abandoned pipelines. Active unfilled pipelines, even if they are purged, should reflect the commodity last transported. If the pipeline is purged and refilled with a non-transported material please report the fill material (e.g., water, nitrogen) in the Commodity Description field.	Liquid Commodities CRD, PRD, AA, LPG, NGL, OHV, CO2, ETH, EPL Gas Commodities NG, PG, SG, HG, LG, OTG, EPG	Both

Phase	Attribute Field Name	Public	Short Description	Pipeline Attribute Field Full Description	Acceptable Values - UPPERCASE	Attribute Field Required? *Gas, Liquid, Both or otherwise as indicated*
*1	CMDTY_DTL1	NO	Commodity Detail 1	Field Type = Text, Field Length = 3 Identifies the primary commodity's first subcategory detail. Required for active filled pipeline segments if the primary commodity defined in the Commodity Category field is CRD, PRD, or NG. This field should be blank for pipeline segments reporting all other primary commodities. The primary commodity CRD has the following subcategories: CRW=sweet crude, CRR=sour crude. The primary commodity PRD has the following subcategories: RGS=refined non-ethanol blended gasoline, RFD=refined fuel oil, diesel, RKJ=refined kerosene, jet fuel, OTR=other, ETB=ethanol blended gasoline, BDB=biodiesel blend, OBI=other biofuels. The primary commodity NG has the following subcategories: NG1=pipeline quality or tariff quality natural gas, NG2=wet but non-sour natural gas, NG3=sour but non-wet natural gas, NG4=wet, sour natural gas.	CRW, CRR, RGS, RFD, RKJ, OTR, ETB, BDB, OBI, NG1, NG2, NG3, NG4	Both- If Status Code is active filled (AF) and Primary Commodity Category is crude oil (CRD), non-HVL petroleum product (PRD) or natural gas (NG).
	CMDTY_DTL2	NO	Commodity Detail 2	Field Type = Text, Field Length = 3 Identifies the primary commodity's secondary subcategory detail if more than one applies. Refer to the Commodity Detail 1 field for additional information and valid values. If only one commodity detail applies, this field should be blank.	CRW, CRR, RGS, RFD, RKJ, OTR, ETB, BDB, OBI, NG1, NG2, NG3, NG4	Not Required
	CMDTY_DTL3	NO	Commodity Detail 3	Field Type = Text, Field Length = 3 Identifies the primary commodity's tertiary subcategory detail. Refer to the commodity field for additional information and valid values. If only one or two commodity details apply, this field should be blank.	CRW, CRR, RGS, RFD, RKJ, OTR, ETB, BDB, OBI, NG1, NG2, NG3, NG4	Not Required
	CMDTY_DESC	YES	Commodity Description	Field Type = Text, Field Length = 40 Describes additional details about the commodity carried by the pipeline segment. If a pipeline segment is permanently abandoned or purged, report if that pipeline segment was filled with water, nitrogen, or another material. For example, "PURGED WITH NITROGEN".	Character	Not Required
	INTERSTATE	YES	Interstate Yes/No	Field Type = Text, Field Length = 1 Yes / No designator to identify if the pipeline system is an interstate pipeline. Y=interstate, N=intrastate. (Use PHMSA definitions for interstate status; see NPMS Operator Standards Manual glossary).	Y, N	Both

Phase	Attribute Field Name	Public	Short Description	Pipeline Attribute Field Full Description	Acceptable Values - UPPERCASE	Attribute Field Required? *Gas, Liquid, Both or otherwise as indicated*
	LOW_STRESS	NO	Low Stress Yes/No	Field Type = Text, Field Length = 1 Yes / No designator to identify if the hazardous liquid pipeline segment is a low stress pipeline. Y=low stress, N=not low stress. Required for active filled liquid pipeline segments. If the hazardous liquid pipeline operates at 20% or less of SMYS, the segment is a low stress pipeline. Field should be left blank for gas pipelines, active unfilled pipelines or permanently abandoned pipelines.	Y, N	Liquid- If Pipeline Status Code is active filled (AF)
#1	STATUS_CD	YES	Pipeline Status Code	Field Type = Text, Field Length = 2 Identifies the status of the pipeline segment as of the reporting year (i.e., December 31 of the previous year). AF=active filled (transported a commodity), AU=active unfilled (option when a pipeline segment is not permanently abandoned in place, but also did not transport a commodity), PA=permanently abandoned in place in accordance with federal regulations.	AF, AU, PA	Both
3	QUALITY_RQ	NO	Data Quality Requirement Category	Field Type = Text, Field Length = 1 Identifies if the segment is subject to a 50-foot positional accuracy standard or a 100-foot positional accuracy standard. Liquid segments are subject to a 50-foot positional accuracy. 50-foot positional accuracy is required for gas segments when one or more of the following criteria are met: 1. In a Class 2, Class 3, and Class 4 area; 2. Within an HCA or MCA; 3. Required to be assessed under 49 CFR 192.710; and 4. Has one or more buildings intended for human occupancy or an identified site within its potential impact radius. 100-foot positional accuracy applies to all other gas segments and all permanently abandoned segments A=50 feet, B=100 feet.	A, B	Both
#3	QUALITY_CD	NO	Data Quality Code (Positional Accuracy)	Field Type = Text, Field Length = 1 Identifies the positional accuracy of the submitted data. A=less than 5 feet, B=5-25 feet, C=25.01-50 feet, D=50.01-100 feet, E=greater than 100 feet	A, B, C, D, E	Both

Phase	Attribute Field Name	Public	Short Description	Pipeline Attribute Field Full Description	Acceptable Values - UPPERCASE	Attribute Field Required? *Gas, Liquid, Both or otherwise as indicated*
#1	REVIS_CD	YES	Revision Code	Field Type = Text, Field Length = 1 Identifies the type of revision that applies to this pipeline segment. Describes how this pipeline segment has changed compared to the previous NPMS submission for this OPID. NPMS staff rely on this attribute to support change detection and creation of spatialized pipeline history and will consider improvements to revision codes as change detection systems are designed. C=this segment is a new addition to the NPMS for this OPID this year, due to new construction that adds mileage or is a re-route (e.g., laid a new segment of pipe around a separate pipeline segment), J=this segment is a new addition to the NPMS for this OPID this year, due to mileage that is new to the NPMS reporting requirement (e.g., upgraded from gas gathering to gas transmission, new to Part 195 reporting regulations), E= this segment is a new addition to the NPMS for this OPID this year to correct an error in not submitting previously, Q= this segment is a new addition to the NPMS for this OPID this year, due to an acquisitions/transfer from another operator/OPID B=a spatial and/or attribute modification to a pipeline segment included in the previous NPMS submittal for this OPID, or N=no change to the matching pipeline segment included in the previous NPMS submittal for this OPID (e.g., nothing about the operation of this pipeline segment or the data representing this pipeline segment has changed – the spatial and attribute components are an exact match). Please read more about selecting the correct Revision Code value in the NPMS Operator Submission Supplemental Instructions. If you submit a pipeline segment with Revision Code C, J, Q or E and it appears to match a pipeline segment included in the previous NPMS submittal for this OPID, NPMS staff cannot accept and process your data submission. The same is true if you submit a pipeline segment with Revision Code N and there is no exact match for that pipeline segment in the previous NPMS submittal for this OPID.	C, J, E, Q, B, N	Both
1	MATERIAL	YES	Type of Pipeline Material	Field Type = Text, Field Length = 3 Identifies the material of the pipeline segment. C=cast iron, P=plastic, S=steel, CM=composite, W=wrought iron, O=other.	C, P, S, CM, W, O	Both ^

Phase	Attribute Field Name	Public	Short Description	Pipeline Attribute Field Full Description	Acceptable Values - UPPERCASE	Attribute Field Required? *Gas, Liquid, Both or otherwise as indicated*
1	MATERIALO	YES	Other Pipeline Material Type	Field Type = Text, Field Length = 40 Describes the type of pipeline material if other (O) is selected in the Type of Pipeline Material field.	Character	Both- If Type of Pipeline Material is other (O) ^
2	WALL_TH	NO	Wall Thickness	Field Type = Double, (4,3) Wall thickness of the pipeline segment, in inches (three decimal places, #.###). When the wall thickness is unknown, report the wall thickness as 9.999.	Decimal	Both ^
1	COATED	NO	Coated Yes/No	Field Type = Text, Field Length = 1 Yes / No designator to identify if the pipeline segment is coated. Y=coated, N=not coated.	Y, N	Both ^
1	PIPE_JOIN	YES	Predominant Pipeline Joining Method	Field Type = Text, Field Length = 1 Identifies the actual or predominant (90% of pipeline segment) pipeline joining method for this pipeline segment. W=welded, C=coupled, S=screwed, F=flanged, P=plastic pipe joint, U=unknown, O=other.	W, C, S, F, P, U, O	Both ^
1	PIPE_JOINO	YES	Other Pipeline Join Method	Field Type = Text, Field Length = 40 Describes the pipeline joining method when Predominant Pipeline Join Method is reported as other (O).	Character	Both- If Pipe Join is other (O) ^
2	SMYS_S	NO	Predominant Specified Minimum Yield Strength of Steel Pipe	Field Type = Integer, Long Identifies the actual or predominant (90% of pipeline segment) specified minimum yield strength (SMYS) when Type of Pipeline Material is steel pipe (S), reported in pounds per square inch gauge (psig). When SMYS is unknown, report the SMYS as 9999.	Positive Integer	Both- If Material is steel (S) ^

Phase	Attribute Field Name	Public	Short Description	Pipeline Attribute Field Full Description	Acceptable Values - UPPERCASE	Attribute Field Required? *Gas, Liquid, Both or otherwise as indicated*
2	SEAM_TYPE	NO	Seam Type	Field Type = Text, Field Length = 10 Identifies the seam type for this pipeline segment. SMLS=seamless LFERW=low frequency or direct current electric resistance welded, HFERW=high frequency electric resistance welded, UERW=electric resistance welded with unknown frequency (possible if made around 1970), DSAW=double side submerged arc weld, SSAW=single side submerged arc weld, SPRSAW=spiral single side submerged arc weld, EFW=flash weld, LAPW=lap weld, FBW=furnace butt weld, PLAS=plastic, O=other unlisted seam type, or U=unknown seam type.	SMLS, LFERW, HFERW, UERW, DSAW, SSAW, SPRSAW, EFW, LAPW, FBW, PLAS, O, U	Both ^
2	SEAM_TYPEO	NO	Other Seam Type	Field Type = Text, Field Length = 40 Describes the seam type when Seam Type is reported as other (O).	Character	Both- If Seam Type is other (O) ^
2	DECADE_IN	NO	Predominant Decade of Installation	Field Type = Text, Field Length =5 Identifies the actual or predominant (90% of pipeline segment) decade of installation for this pipeline segment. P1940=Pre-1940; P1950=1940-1949; P1960=1950-1959; P1970=1960-1969; P1980=1970-1979; P1990=1980-1989; P2000=1990-1999; P2010=2000-2009; P2020=2010-2019; P2030=2020-2029; U=unknown.	P1940, P1950, P1960, P1970, P1980, P1990, P2000, P2010, P2020, P2030, U	Both ^
1	OFFSHORE	YES	Offshore Yes/No	Field Type = Text, Field Length = 1 Yes / No designator to identify if the pipeline segment is offshore. Y=offshore, N=onshore per 49 CFR §191.3 and 49 CFR §195.2. Must reflect onshore/offshore designations reflected in operator's Annual Report to PHMSA.	Y, N	Both ^

Phase	Attribute Field Name	Public	Short Description	Pipeline Attribute Field Full Description	Acceptable Values - UPPERCASE	Attribute Field Required? *Gas, Liquid, Both or otherwise as indicated*
1	ILI_ABLE	NO	Inline Inspection Yes/No	Field Type = Text, Field Length = 1 Yes / No designator to identify if the pipeline is capable of accepting an inline inspection (ILI) tool with currently available technology. Y=capable, N=not capable. Per NACE Standard RP0102-2002: Inline Inspection is defined as the inspection of a pipeline from the interior of the pipe using an in-line inspection tool. Also called intelligent or smart pigging. Inline Inspection Tool is defined as a device or vehicle that uses a nondestructive testing technique to inspect the pipeline from the inside. Also known as intelligent or smart pig.	Y, N	Both ^
1	CLASS	NO	Predominant Class Location	Field Type = Short Integer Actual or predominant (90% of pipeline segment) class location for a gas transmission pipeline segment (per 49 CFR § 192.5). 1=class 1, 2=class 2, 3=class 3, 4=class 4	1, 2, 3, 4	Gas ^
1	GAS_HCA	NO	Gas HCA Segment Yes/No	Field Type = Text, Field Length = 1 Yes / No designator to identify if a gas pipeline segment is in a gas HCA (High Consequence Area) per 49 CFR § 192.903. Y=in a gas HCA, N=not in a gas HCA. If a pipeline segment is in an MCA or is subject to assessment under 192.710 it cannot be in an HCA.	Y, N	Gas ^
1	GAS_MCA	NO	Gas MCA Segment Yes/No	Field Type = Text, Field Length = 1 Yes / No designator to identify if a gas pipeline segment is in a gas MCA (Moderate Consequence Area) per 49 CFR § 192.3. Y=in a gas MCA, N=not in a gas MCA. If a pipeline segment is in an HCA it cannot be in an MCA.	Y, N	Gas ^
1	GAS_ASSESS	NO	Gas Assessment under 192.710 Yes/No	Field Type = Text, Field Length = 1 Yes / No designator to identify if a gas pipeline segment is subject to assessment per 49 CFR § 192.710. Y=subject to 192.710 Assessment, N=not subject to 192.710 Assessment. If a pipeline segment is in an HCA it cannot be subject to assessment under 192.710.	Y, N	Gas ^
2	HPA_AFF	NO	Segment «Could Affect» HPA HCA Yes/No	Field Type = Text, Field Length = 1 Yes / No designator to identify if the liquid pipeline segment is in an area that could affect a High Consequence Area (HCA) categorized as a Highly-Populated Area (HPA). Y=could affect, N=could not affect.	Y, N	Liquid ^

Phase	Attribute Field Name	Public	Short Description	Pipeline Attribute Field Full Description	Acceptable Values - UPPERCASE	Attribute Field Required? *Gas, Liquid, Both or otherwise as indicated*
2	OPA_AFF	NO	Segment «Could Affect» OPA HCA Yes/No	Field Type = Text, Field Length = 1 Yes / No designator to identify if the liquid pipeline segment is in an area that could affect a High Consequence Area (HCA) categorized as an Other Populated Area (OPA). Y=could affect, N=could not affect.	Y, N	Liquid ^
2	ECO_AFF	NO	Segment «Could Affect» Ecological USA HCA Yes/No	Field Type = Text, Field Length = 1 Yes / No designator to identify if the liquid pipeline segment is in an area that could affect a High Consequence Area (HCA) categorized as an Ecological USA (either operator-determined Ecological USA or one from the datasets distributed by PHMSA) per 49 CFR § 195.6. Y=could affect, N=could not affect.	Y, N	Liquid ^
2	CNW_AFF	NO	Segment «Could Affect» CNW HCA Yes/No	Field Type = Text, Field Length = 1 Yes / No designator to identify if the liquid pipeline segment is in an area that could affect a High Consequence Area (HCA) categorized as a Commercially Navigable Waterway (CNW). Y=could affect, N=could not affect.	Y, N	Liquid ^
2	ASSMNT_M1	NO	Method of Most Recent Assessment 1	Field Type = Text, Field Length = 5 Identifies the most recent method, if the pipeline segment is required to be assessed per § 195 Subpart F, §192 Subpart O, or § 192.710. ILI=inline inspection, PT=hydrostatic pressure test, DIR=direct assessment method, GWUT=guided wave ultrasonic testing, EXAM=direct examination, O=other assessment method. If an assessment is required, but has not been completed yet, enter PEND. If assessment is not required, enter NOTR.	ILI, PT, DIR, GWUT, EXAM, O, PEND, NOTR	Both ^
2	ASSMNT_M2	NO	Method of Most Recent Assessment 2	Field Type = Text, Field Length = 5 Use this field only if more than one assessment method was performed during ASSMNT_YR. ILI=inline inspection, PT=hydrostatic pressure test, DIR=direct assessment method, GWUT=guided wave ultrasonic testing, EXAM=direct examination, O=other assessment method. If only one assessment method applies, this field should be blank.	ILI, PT, DIR, GWUT, EXAM, O	Not Required ^

Phase	Attribute Field Name	Public	Short Description	Pipeline Attribute Field Full Description	Acceptable Values - UPPERCASE	Attribute Field Required? *Gas, Liquid, Both or otherwise as indicated*
2	ASSMNT_M3	NO	Method of Most Recent Assessment 3	Field Type = Text, Field Length = 5 Use this field only if more than two assessment methods were performed during ASSMNT_YR. ILI=inline inspection, PT=hydrostatic pressure test, DIR=direct assessment method, GWUT=guided wave ultrasonic testing, EXAM=direct examination, O=other assessment method. If only one or two assessment method applies, this field should be blank.	ILI, PT, DIR, GWUT, EXAM, O	Not Required ^
2	ASSMNT_YR	NO	Year of Most Recent Assessment	Field Type = Integer, Short The 4-digit year of the most recent assessment (e.g, 2022), If the segment of pipeline is required to be assessed per § 195 Subpart F, § 192 Subpart O, or § 192.710. Leave this field blank if ASSMNT_M1 is PEND or NOTR.	Positive Integer	Both- If Method of Most Recent Assessment 1 is neither NOTR nor PEND ^
2*	FRP_SEQ	NO	FRP Sequence Number	Field Type = Integer, Short Facility Response Plan (FRP) Sequence Number assigned by PHMSA and provided to the operator in the Letter of Approval (LOA) for the operator's submitted FRP. If PHMSA has not assigned the FRP Sequence Number yet, submit 9999. If the Primary Commodity Category field is CRD or PRD, and the Offshore Yes/No field is N, this field cannot be left blank.	Positive Integer	Liquid- if applicable per 49 CFR § 194 ^

LNG Plant Attribute Table (GIS Point Layer, centroid)

Phase	Attribute Field Name	Public	Short Description	LNG Plant Attribute Field Full Description	Acceptable Values (UPPERCASE)	Field Required?
	OPID	YES	Operator ID Number	Field Type = Integer, Long Unique tracking number assigned by PHMSA to the company that physically operates the LNG plant. If you do not know your company's OPID check with your DOT/Regulatory Compliance department or the NPMS website. Always use the same OPID for all PHMSA reporting requirements that apply to the LNG plant. For example, if you use OPID 100 for this LNG plant in the NPMS, you must use OPID 100 for this LNG plant on the Annual Report to PHMSA.	Positive integer	Required
	OPER_NM	YES	Operator Name	Field Type = Text, Field Length = 100 The name of the company name that physically operates the LNG Plant. This is the company name associated with this OPID in PHMSA records.	Character	Required
	LNG_NM	YES	LNG Plant Name	Field Type = Text, Field Length = 40 Assigned by the operator. The operator's name for the LNG Plant	Character	Required
	LNG_ID	YES	LNG Plant ID	Field Type = Text, Field Length = 20 Assigned by the operator. A unique identifier for a specific LNG plant. Operators must use the same LNG ID value for this specific plant in the LNG Impoundments attribute table, LNG Exclusion Zones attribute table and LNG Annual Report to PHMSA. The LNG ID will be used to relate information from the Annual Report, Impoundment and Exclusion Zone data to this LNG plant. NPMS staff will also use the LNG ID to support updates to the NPMS LNG database.	Character	Required
1#	STATUS_CD	YES	LNG Status Code	Field Type = Text, Field Length = 1 Identifies the status of the LNG plant as of the reporting year (i.e., December 31 of the previous year). AF=active filled, AU=active unfilled, PA=permanently abandoned in accordance with federal regulations.	AF, AU, PA	Required
1#	QUALITY_CD	NO	Data Quality Code (Positional Accuracy)	Field Type = Text, Field Length = 1 Identifies the positional accuracy of the submitted plant centroid location. A=less than 5 feet, B=5-25 feet, C=25.01-50 feet, D=50.01-100 feet, E=100.01 or greater.	A, B, C, D, E	Required

Phase	Attribute Field Name	Public	Short Description	LNG Plant Attribute Field Full Description	Acceptable Values (UPPERCASE)	Field Required?
1#	REVIS_CD	YES	LNG Plant Revision Code	Field Type = Text, Field Length = 1 Identifies the type of revision that applies to this LNG plant. Describes how this LNG plant has changed compared to the previous LNG NPMS submission for this OPID. NPMS staff rely on this attribute to accurately update the NPMS LNG database. C=this LNG plant is a new addition to the NPMS for this OPID this year, due to new construction, J=this LNG plant is a new addition to the NPMS for this OPID this year, due to a plant that is new to the NPMS reporting requirement, E=this LNG plant is a new addition to the NPMS for this OPID this year, to correct an error in not submitting previously, Q=this LNG plant is a new addition to the NPMS for this OPID this year, due to an acquisition/transfer from another operator/OPID, B=a spatial and/or attribute modification to a LNG plant point location included in the previous NPMS submittal for this OPID, or N=no change to the matching LNG plant included in the previous LNG NPMS submittal for this OPID (e.g., nothing about this LNG plant or the data representing this LNG plant changed – the spatial and attribute components are an exact match). Please read more about selecting the correct Revision Code value from the NPMS Operator Submission Guide.	C, J, E, Q, B, N	Required
1	TYPE	NO	Type of LNG Plant	Field Type = Text, Field Length = 2 Identifies the type of LNG Plant. BL=base load, PS=peak shaving, SA=satellite, MT=mobile/temporary, O=other. When the Type of LNG Plant is mobile/temporary the centroid location should reflect the location where it is typically stored.	BL, PS, SA, MT, O	Required ^
1	CAPACITY	NO	Total Capacity	Field Type = Integer, Long Total capacity of LNG Storage in Barrel units (bbl).	Positive integer	Required ^
1	CNSTR_YEAR	NO	Year Constructed	Field Type = Integer, Long Identifies the year the LNG Plant was constructed (matches "date put in service" from the operator's Annual Report). Leave this field blank if TYPE is MT.	Positive 4 Digit Integer; (example: 2022)	Required- if Type of LNG Plant is not MT ^

Breakout Tank Attribute Table (GIS Point Layer, Centroid)

Phase	Field Name	Public	Short Description	Breakout Tank Attribute Full Description	Acceptable Values (UPPERCASE)	Required Field
0*	OPID	YES	Operator ID Number	Field Type = Integer, Long Unique tracking number assigned by PHMSA to the company that physically operates the breakout tank. If you do not know your company's OPID check with your DOT/Regulatory Compliance department or the NPMS website. Always use the same OPID for all PHMSA reporting requirements that apply to the breakout tank.	Positive integer	Required
0*	OPER_NM	YES	Operator Name	Field Type = Text, Field Length = 100 The name of the company name that physically operates the breakout tank. This is the company name associated with this OPID in PHMSA records.	Character	Required
0*	TANK_ID	YES	Breakout Tank ID	Field Type = Text, Field Length = 20 Assigned by the operator. A unique identifier for a specific breakout tank. NPMS staff will use the Tank ID to support updates to the NPMS breakout tank database.	Character	Required
0*	FAC_NAME	YES	Breakout Tank Facility Name	Field Type = Text, Field Length = 100 Assigned by the operator. A functional name for a grouping of tanks (e.g., a tank facility, a tank farm).	Character	Required
0*	CNSTR_YEAR	YES	Construction Year	Field Type = Integer, Long Four-digit year of facility construction (e.g. "1990").	Positive 4 Digit Integer; (example: 2022)	Required
0*	TANKSIZE	NO	Nominal Size of Breakout Tank	Field Type = Integer, Short Nominal size of the tank **in thousands of barrels** (e.g. a tank that holds 50,000 barrels is reported as **50**).	Positive Integer	Required
0*	COMMODITY	YES	Primary Commodity Category	Field Type = Text, Field Length = 5 Identifies the primary commodity stored in the breakout tank. CRD=crude oil, PRD=non-HVL petroleum product, AA=anhydrous ammonia, LPG=liquefied petroleum gas, NGL=natural gas liquids, OHV=other HVLs, CO2=carbon dioxide, ETH=fuel grade ethanol, and NONE=the tank did not store a commodity during the reporting year	CRD, PRD, AA, LPG, NGL, OHV, CO2, NONE	Required
	COMMODITY2	YES	Commodity Category 2	Field Type = Text, Field Length = 5 Identifies the secondary commodity stored in the breakout tank. Use this field only if more than one commodity type is stored in this tank. CRD=crude oil, PRD=non-HVL petroleum product, AA=anhydrous ammonia, LPG=liquefied petroleum gas, NGL=natural gas liquids, OHV=other HVLs, CO2=carbon dioxide, ETH=fuel grade ethanol. Leave this field blank if the tank does not store a secondary commodity.	CRD, PRD, AA, LPG, NGL, OHV, CO2	Not Required

Phase	Field Name	Public	Short Description	Breakout Tank Attribute Full Description	Acceptable Values (UPPERCASE)	Required Field
	COMMODITY3	YES	Commodity Category 3	Field Type = Text, Field Length = 5 Identifies the tertiary commodity stored in the breakout tank. Use this field only if more than two commodity types are stored in this tank CRD=crude oil, PRD=non-HVL petroleum product, AA=anhydrous ammonia, LPG=liquefied petroleum gas, NGL=natural gas liquids, OHV=other HVLs, CO2=carbon dioxide, ETH=fuel grade ethanol.. Leave this field blank if the tank does not store a tertiary commodity.	CRD, PRD, AA, LPG, NGL, OHV, CO2	Not Required
0*	FRP_SEQ	NO	FRP Sequence Number	Field Type = Text, Field Length = 20 Facility Response Plan (FRP) Sequence Number assigned by PHMSA and provided to the operator in the Letter of Approval (LOA) for the operator's submitted FRP. If PHMSA has not assigned the FRP Sequence Number yet, submit 9999. If the Primary Commodity Category field is CRD or PRD this field cannot be left blank.	Character	If applicable per 49 CFR § 194 ^
0*	STATUS_CD	YES	Breakout Tank Status Code	Field Type = Text, Field Length = 2 Identifies the status of the breakout tank as of the reporting year (i.e., December 31 of the previous year). AF=active filled (stored a commodity), AU=active unfilled (option when a breakout tank is not permanently abandoned in place, but also did not store a commodity), PA=permanently abandoned in place in accordance with federal regulations.	AF, AU, PA	Required
0*	QUALITY_CD	NO	Data Quality Code (Positional Accuracy)	Field Type = Text, Field Length = 1 Identifies the positional accuracy of the submitted data. A=less than 5 feet, B=5-25 feet, C=25.01-50 feet, D=50.01-100 feet, E=100.01 or greater.	A, B, C, D, E	Required

Phase	Field Name	Public	Short Description	Breakout Tank Attribute Full Description	Acceptable Values (UPPERCASE)	Required Field
0*	REVIS_CD	YES	Breakout Tank Revision Code	Field Type = Text, Field Length = 1 Identifies the type of revision that applies to this breakout tank. Describes how this breakout tank has changed compared to the previous breakout tank NPMS submission for this OPID. NPMS staff rely on this attribute to accurately update the NPMS breakout tank database. C=this breakout tank plant is a new addition to the NPMS for this OPID this year, due to new construction, J=this breakout tank is a new addition to the NPMS for this OPID this year, due to a tank that is new to the NPMS reporting requirement, E=this breakout tank is a new addition to the NPMS for this OPID this year, to correct an error in not submitting previously, Q=this breakout tank is a new addition to the NPMS for this OPID this year, due to an acquisition/transfer from another operator/OPID, B=spatial and/or attribute modification to a breakout tank point location included in the previous NPMS submittal for this OPID, or N=no change to the matching breakout tank included in the previous breakout tank NPMS submittal for this OPID (e.g., nothing about this breakout tank or the data representing this breakout tank changed – the spatial and attribute components are an exact match). Please read more about selecting the correct Revision Code value from the NPMS Operator Submission Guide.	C, J, E, Q, B, N	Required