

## **NPMS Operator Submission Guide**

### **Tips for Preparing a Complete and Accurate NPMS Submission**

**Prepared by NPMS staff**

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# 1. Introduction

## 1A. Purpose of this Guide

The NPMS Operator Submission Guide was written to assist you, the operator, in preparing NPMS submissions while avoiding common mistakes that can delay submission processing. It includes expanded definitions of terms and submission elements, clarification on requirements, and other notes that we, the NPMS staff, hope will make the process of preparing a submission more efficient and problem-free.

## 1B. NPMS and Your Annual Report to PHMSA

The NPMS reporting requirement is not the same as the Annual Report reporting requirement. Effective October 1, 2015 NPMS submissions are required by the [Pipeline Safety: Miscellaneous Changes to Pipeline Safety Regulations](#) rule which supersedes the [Pipeline Safety Improvement Act of 2002](#)). Section 191.29 of the regulations manual pertains to gas transmission and Liquefied Natural Gas (LNG) plant operators; Section 195.61 of the regulations pertains to hazardous liquid pipeline operators. Failure to comply with this requirement will eventually lead to your case being referred to our Enforcement department. Please note that PHMSA frequently compares information in your Annual Report with your NPMS submission. PHMSA's [rule 2137-AE59](#) requires that operators use the same Operator ID (OPID) for reporting all PHMSA requirements about a given asset. In other words, if one of your pipeline systems is under OPID 1234 for your Annual Report, it must be under OPID 1234 in your NPMS submission as well. The mileage included in your NPMS submission should match the mileage reported in the PHMSA Annual Report. By "match" we mean they should be within 5% of each other. Variations greater than this could indicate that the same pipelines are not being reported in both places and may result in your submission being flagged for PHMSA's review. The interstate/intrastate designation in the Annual Report and NPMS submission must match. Discrepancies between the Annual Report and the NPMS submission will result in a request of clarification.

Please also note that if PHMSA changes the Annual Report due date in a given year, your NPMS due date does not automatically change. Consult the [What's New section](#) of the NPMS website for any deadline changes.

## 1C. How to Find Your Operator ID (OPID)

You will need to know your OPID before you can make an NPMS submission. The OPID is a number used for all PHMSA reporting requirements. The link below allows you to search for your OPID based on your operator name. If you cannot find your OPID, need to change your operator name, or have other OPID-related questions, please contact Jamerson Pender by email (Jamerson.Pender@dot.gov).

[https://hip.phmsa.dot.gov/analyticsSOAP/saw.dll?PortalPages&NQUser=pdm\\_web\\_user&NQPassword=Public\\_Web\\_User1&PortalPath=/shared/PDM%20Public%20Website/\\_portal/Operator%20Search%20NPMS](https://hip.phmsa.dot.gov/analyticsSOAP/saw.dll?PortalPages&NQUser=pdm_web_user&NQPassword=Public_Web_User1&PortalPath=/shared/PDM%20Public%20Website/_portal/Operator%20Search%20NPMS)

## 2. Making a Submission

### 2A. Full Replacement Submissions

NPMS submissions must fully replace your last submission; your last submission will be deleted and replaced with the incoming submission. This is necessary because of the tools that we use to process your submission. If you buy or sell pipelines, please notify us on the cover/transmittal sheet that you send in with your submission. This prevents pipelines from disappearing from the dataset when the old data is replaced.

### 2B. One Submission per Year per OPID

You are required to file one NPMS submission each year. Effective October 1, 2015 per the [Pipeline Safety: Miscellaneous Changes to Pipeline Safety Regulations](#) rule, operators of gas transmission pipelines and Liquefied Natural Gas (LNG) plants are required to submit updates (or a notification of no changes) to the NPMS by March 15 and operators of hazardous liquid pipelines are required to submit updates (or a notification of no changes) by June 15. The submitted data should reflect the data as of December 31 of the previous year. Operators are encouraged to submit prior to the due date. Submissions reflecting December 31 of the previous year are accepted starting January 2 of the current year (e.g., submission reflecting December 31, 2014 are accepted starting January 2, 105).

If you operate both liquid and gas pipelines, please make a single submission containing updated data for both gas and liquid pipelines by March 15. The cover letter should clearly state that BOTH the gas transmission and hazardous liquid pipelines reflect as of December 31 of the previous submission. If you are unable to submit updated liquid pipeline data by March 15, then two separate submissions are acceptable. If you are making two separate submissions, the submission received by March 15 should contain only the gas transmission pipelines; the submission received by June 15 should contain only the hazardous liquid pipelines. NPMS staff will merge the two separate submissions together once the hazardous liquid portion is received. All of the components (e.g., cover letter, metadata) are required for each of the two submissions. The cover letter should clearly state what the submission includes and what date it reflects. When the gas transmission portion is received, NPMS staff will perform an initial review of the data and notify you of the status. Once the hazardous liquid portion is received, NPMS staff will comprehensively review and process the data and request your final review via the NPMS Data Reviewer web map application. Please note that the submission date of the data will reflect the two different submission dates for the two different type of pipelines.

### 2C. Required Submission Components

An NPMS Data Submission has five required components:

- Cover/Transmittal Letter
- Metadata file (via NPMS Metadata/Attribute Builder)
- Geospatial Data
- Attribute Information
- Public Contact Information

## **2D. Download the Most Recent Template**

From time to time, we release new versions of the Metadata/Attribute Builder and the cover/transmittal letter. Please be sure you have the most recent version before starting your submission. Consult the “[Summary of Required Components](#)” page on the NPMS website for a downloadable template document. The “What’s New” page will have notification of recent updates.

## **2E. Include a Separate Cover/Transmittal Letter for LNG or BOT Submissions**

Liquefied natural gas plant (LNG) and breakout tank (BOT) submissions have a different processing method than pipeline submissions. Please fill out a separate, additional cover/transmittal letter if your submission includes LNG or BOT data. Updated template cover/transmittal letters for both LNG and BOT submissions have been created to assist you in fulfilling this requirement and may be found under the “[Summary of Required Components](#)” page on the NPMS website.

## **2F. Note Pipelines you Acquired, Divested, or Abandoned Under Your OPID**

When your submission is processed, we compare your incoming submission with your previous submission. Any spatial differences are flagged. It greatly simplifies the processing if you notify us of the pipelines you have acquired, divested (sold), or abandoned since your previous submission. You should indicate these pipelines on your cover/transmittal letter. Refer to Section 6 of this document for various bought/sold/abandoned scenarios and what specific information you should convey to us.

## **2G. NPMS Staff Contact Information**

Please direct questions about the following topics to NPMS staff (by email at [npms@dot.gov](mailto:npms@dot.gov) or by phone at 703-317-6294):

- Preparing your submission (how-to or technical questions)
- Revising or updating your submission
- Submitting abandoned lines, lines recently acquired, or new construction
- All other questions about the “nuts and bolts” of making a submission

Please direct questions about the following topics to Amy Nelson (by email at [amy.nelson@dot.gov](mailto:amy.nelson@dot.gov) or by phone at 202-493-0591):

- Whether you are required to make an NPMS submission
- Circumstances requiring an extension to your NPMS submission date
- Questions about PHMSA policies

## 3. Submission Review and Processing

### 3A. Quality Control Review

Once we receive your NPMS submission, we perform a series of quality control checks to ensure you submitted the proper components and you have properly categorized and described any changes. In summary, we perform the following checks:

- Review the cover letter to verify that all questions are answered and if there is any additional information included in the cover/transmittal letter that will help us process the pipeline data more efficiently.
- Review the metadata to ensure that the contact information is complete and the list of States and projection information has been entered.
- Review geospatial data to determine:
  - If it was submitted in one of the four acceptable formats (CAD drawing file, coordinate pairs, shapefile, personal/file geodatabase).
  - If it is a CAD file, ensure that the file only contains pipeline data and relates to a projection.
  - If it is coordinate pairs, ensure that it is in one of the two acceptable formats (delimited text file or Excel file) and that the coordinates are in Geographic Latitude Longitude Decimal Degrees.
  - If it is coordinate pairs, take the coordinates in the order that they are listed and convert to points and then into a linear feature.
  - If it is a shapefile, ensure that all individual file components that compose the shapefile have been submitted.
  - If the projection is not inherent to the geospatial data type, apply the projection information provided in the metadata file.
  - For all data types, check that the pipelines fall in the States listed in the metadata file.
- Review the attributes to determine:
  - If the attributes are submitted as an incorporated part of the geospatial data or if the attributes are contained within the NPMS Metadata/Attribute Builder output file.
  - If the required attributes are submitted and populated with valid values where applicable.
  - If the voluntary attributes are populated with valid values where applicable.
  - If the attributes and geospatial data are submitted as separate files, the two are joined (using the values in the OPER\_LINK field) to ensure that there are corresponding attributes for each pipeline feature in the geospatial data.
- Review the public contact information:
  - For an initial NPMS submission, verify that the public contact information has been submitted through the online form.
  - For subsequent submissions, verify that there is a public contact on file if it has not been updated (through the online form) for this submission year.
- Visually compare submission pipelines to pipelines previously submitted that are currently in the NPMS national layer. Specific items for this step include:
  - Review Question #2 in the cover letter where you should describe changes that have occurred since the last submission.

- Review revision code (REVIS\_CD) attribute values to see if they accurately describe the pipeline in comparison to the NPMS national layer and with regard to the cover letter content.
- For instance, if the cover letter mentions that a particular pipeline or pipeline system was divested to another operator, we would look for those pipelines in the NPMS national layer and confirm that they have been omitted from this year's submission.
- For instance, if the revision code attribute is "A" for addition, we would confirm that the pipeline(s) has not been previously submitted under that OPID.

### 3B. Notifying Operators of the Submission Status

Once the quality control steps are complete, we will send an email to your technical contact specified in the metadata (or primary contact if a technical contact is not specified) regarding the current status of the submission. In general, there are four types of status emails that you may receive from us:

- (1) An email stating that all components were received and no additional information is needed at this time. Receiving this email means that there are no known issues or outstanding questions regarding the submission. This submission is advanced to the processing stage.
- (2) An email listing any missing or incorrect components. For instance, you would receive an email identifying if the metadata was not submitted, if an invalid commodity code value was used, or if the revision code did not accurately reflect the pipeline, etc. We will likely request that you (re)submit the missing/incorrect components. If the issue is easy to resolve with some additional information, we may request that you supply the information in an email so we can edit the data on your behalf. Examples of when this situation would occur include when a single pipeline is missing the system name or when an invalid status code is utilized, such as "A" for active instead of "I" for in-service. In this case, our email to you will clearly state what information we expect. A submission in this state is then put on hold until the missing/incorrect components are resubmitted/resolved. **Please note that an NPMS submission is considered to be accepted as a valid submission only when all components have been received as correct; this also sets the received date of the submission.**
- (3) An email seeking clarification on specific items. As the submission is being reviewed, questions arise that do not necessarily relate to a missing or incorrect component.
  - A common scenario that raises questions is when not all pipelines that were previously submitted to the NPMS were included in this year's submission and there are no details regarding the status of these pipelines within the cover/transmittal letter. Were these pipelines reclassified and, therefore, are no longer under PHMSA's jurisdiction? Were these pipelines abandoned, and you opted not to voluntarily include them in the submission? Were the pipelines divested to another operator? Were the pipelines left out of this year's submission in error? In this scenario, we would send an email to you asking for the status of the missing pipelines.
  - Similarly, a note may have been included in the cover/transmittal letter, such as "pipelines were sold and not resubmitted," which is not sufficient detail for us to understand the situation – which pipelines (by system/subsystem/pipeline ID) specifically were sold and not resubmitted? To whom were the pipelines divested?
  - Yet another common scenario is when a submission does not contain details in the cover/transmittal letter about additions, and the submission contains pipelines marked with revision code "A" for addition. Upon comparison to the NPMS national layer, the



newly added pipelines appear similar to pipelines already in the national layer under a different operator. Were these pipelines acquired or transferred from another OPID, and are these the same physical pipelines? Or perhaps the pipelines are coincidentally similar to but are not the same pipelines. Ideally in this situation, the cover/transmittal letter will contain a note if the specific pipelines being added were purchased and from whom. If the information is not included or is not sufficient, we will send an email requesting clarification to you. A submission with outstanding questions is put on hold until you provide the information needed to move forward. Often, these questions can be resolved with an email response or a phone call; however, sometimes these questions reveal a larger problem that requires certain components to be resubmitted.

- (4) An email that is a combination of #2 and #3.

### **3C. Processing a NPMS Submission**

The next phase in the workflow includes the processing steps. During this phase, we add internal attributes, such as submission ID, submission date, and public contact ID, to assist with submission tracking. If necessary, the data is also reprojected from the submitted projection to the Geographic Latitude Longitude NAD83 coordinate system. With the help of a custom change detection tool, we process the data to relate the newly submitted pipelines to the pipelines already in the NPMS national layer. This step captures the history of a pipeline, such as a change in operator or pipeline status, which PHMSA may reference in the future. The Change Detection processing step may reveal issues that were not previously easily identifiable, including duplicate geospatial data, missing pipelines that were too small to easily locate during the quality control review phase, and geometry errors in the geospatial data. Depending on its severity, the issue could be resolved with a response email clarifying the situation or a resubmission of the submission component; we will clearly state what we expect.

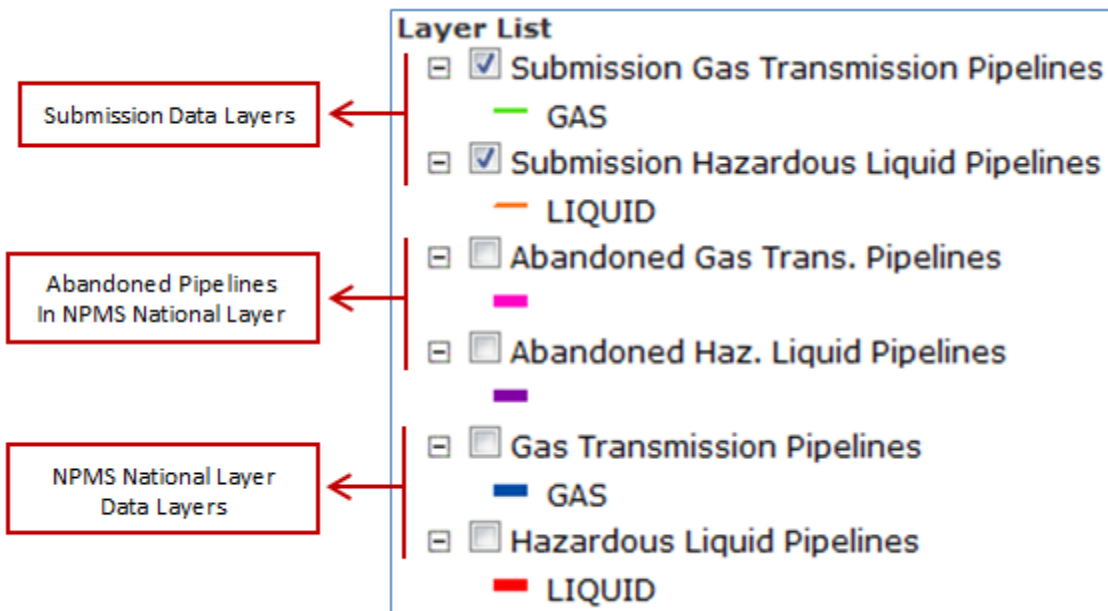
### **3D. Your Review of the Processed Submission**

Once these processing steps are completed, the submission data is ready for your final review. We will send an email to the contact(s) listed in your cover letter requesting that you review the submission pipeline data in the NPMS Submission Reviewer web map application. This email includes a link to the viewer and temporary user login information. The login is only valid for a 2-week period. If you need additional time to review the submission, you must contact us before the 2-week period ends so the review period may be extended. The login is only applicable to the NPMS Submission Reviewer viewer. This login does not apply to the PIMMA web map viewer or to the NPMS Data Reviewer web map viewer.

The NPMS Submission Reviewer viewer displays your submission data as well as pipelines previously submitted to the NPMS that are currently in the NPMS national layer for the OPID. The data layers that relate to the submission data begin with the word "Submission" in the title and are divided into gas pipelines and liquid pipelines.

Please note that regardless of what your pipeline submission contains, both of these submission layers will be displayed in the viewer. For instance, if your submission contains gas transmission pipelines and hazardous liquid pipelines, the gas transmission pipelines will be displayed in the Submission Gas Transmission Pipelines layer, and the hazardous liquid pipelines will be displayed in the Submission

Hazardous Liquid Pipelines layer. If the submission contains only gas transmission pipelines, the Submission Hazardous Liquid Pipeline layer will be included in the list of layers, but there will be no pipeline data associated with the layer. In addition to the layers displaying the submission data and the pipelines in the NPMS national layer for your OPID, layers displaying the pipelines previously submitted as abandoned under your OPID, if any, are also included. These layers are provided to assist you with verifying that the abandoned pipelines in this year’s submission, if any, have not been previously submitted to the NPMS as abandoned (since abandoned pipelines should only be submitted to the NPMS once).



Please be aware that breakout tank and LNG plant submissions are processed separately from pipeline submissions. If you included LNG plant data with your pipeline submission, your LNG plant submission data is separated from the pipeline submission data and is processed individually. The NPMS Submission Reviewer login relates to only one type of submission – pipelines or LNG plants or breakout tanks; once you log in, you will see the specific type listed. Additionally, the Submission Reviewer email will clearly state when it relates to LNG plants or breakout tanks. If you submit more than one type of data (LNG plants and pipelines together, for instance), you will receive two separate Submission Reviewer emails. Since these different types of data are processed individually, the timeline for the two will likely be different. As a result, you should not expect to receive the two Submission Reviewer emails at the same time.

As you review the data, keep the following questions in mind:

- Are the pipelines in the location that I expected them to be in?

- Do the pipelines have the right attribute information?
- Are pipelines missing from the submission data?
- Were pipelines that should not have been submitted inadvertently submitted?
- Am I submitting abandoned pipelines that were previously submitted as abandoned?
- Is there anything unusual that does not seem correct?

### **3E. Communicating Problems with Your Processed Submission**

If issues or questions arise, you should contact us before the 2-week review period expires. Depending on the severity of the issue, either we may edit the data on your behalf, or you may be required to resubmit the components that need updating. If the data is resubmitted, the data must go through the quality control and processing stages again, and the submission received date may also be updated to reflect when the NPMS received complete and correct data.

If you agree that the submission data is as expected and does not require corrections, you may alert us of this by responding to our Submission Reviewer email. You may also allow the 2-week review period to expire without contacting us. If we do not hear from you before the review period expires, we will assume that the submission data is correct, and the submission will be advanced to the final step. If you contact us to approve the submission data, the submission will be advanced to the final step before the review period expires.

### **3F. Finalizing Your Submission**

The final step in the submission process is the incorporation of the submission data to the NPMS national layer. The previously submitted data is removed from the internal NPMS national layer, and the newly submitted data is added; please note that this update is not automatically seen on the NPMS map viewers. Approximately once a month, the NPMS national layer data in the NPMS map viewers (PIMMA, NPMS Public Map Viewer, NPMS Data Reviewer, and NPMS Submission Reviewer) is updated. Depending on when the submission data is incorporated into the internal national layer in comparison to the map viewer update schedule, it could take up to a month to see the newly incorporated submission data in the NPMS map viewers. If you have any questions about whether your data has been incorporated and when it will appear in the map viewers, please contact us.

## 4. Submitting Your Geospatial and Attribute Data

To accommodate a range of capabilities, we accept the geospatial and attribute data in several different combinations. There are four unique combinations for submitting geospatial and attribute data:

- Combination 1 – shapefile or geodatabase with incorporated attributes
- Combination 2 – shapefile or geodatabase or CAD drawing with separate attributes
- Combination 3 – coordinate pairs with separate attributes
- Combination 4 – no changes to the data since the last submission

### 4A. Shapefile or Geodatabase with Incorporated Attributes (Combination 1)

Some operators have mapping systems that allow the NPMS attributes to be incorporated directly into the geospatial data. The file format for this combination will be a shapefile or geodatabase that includes the NPMS attributes. All pipelines should be submitted in a single file with a common projection. If you have separate files because of different projections, ideally you would reproject the data to a common projection/coordinate system, such as Geographic Latitude Longitude NAD83, and merge your pipelines into a single layer to submit to us. Submissions with multiple sets of geospatial data (such as one shapefile per pipeline) should be avoided; please contact us if this is unavoidable in your situation.

If you opt to use this combination, you should refer to the Pipeline Attribute Table and the LNG Plant Attribute Table in the [NPMS Operator Standards Manual](#) for a list of the required and voluntary attributes, attribute definitions, and applicable domain values. If submitting this combination, the attributes in the NPMS Metadata/Attribute Builder tool should not be populated: doing so is an unnecessary duplication of effort. Please note that for this combination, the OPER\_LINK attribute is not required; the OPER\_LINK value is used to link the geospatial and attribute data together, which is not applicable in this situation.

### 4B. Shapefile, Geodatabase, or CAD Drawing with Separate Attributes (Combination 2)

Some operators have mapping systems that store geospatial data and internal attributes but do not have the capability to incorporate the NPMS attributes directly into their spatial data. If you are one of these operators, you will submit a geospatial mapping file and a separate attribute file. The geospatial file may be a shapefile, a geodatabase, or a CAD drawing file. All pipelines should be submitted in a single file with a common projection. Submissions with multiple sets of geospatial data (such as one shapefile per pipeline) should be avoided; please contact us if this is unavoidable in your situation. If submitting a CAD drawing file, please refer to Section 9 of this document for specific file requirements.

If you opt to use this combination, you will enter the required attributes via the NPMS Metadata/Attribute Builder tool (see Section 5). When submitting a separate attribute file, it is essential that the OPER\_LINK (operator link) attribute be properly completed in both the geospatial file and the attribute file. The OPER\_LINK attribute is discussed in more detail in Section 5D of this document. For more detailed information regarding the required and voluntary attributes, including definitions, please

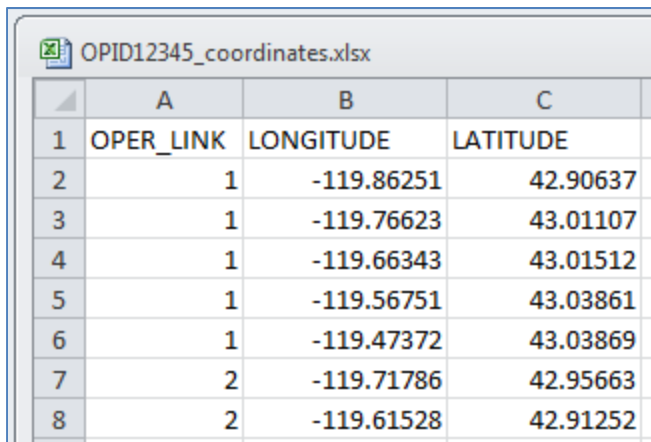
refer to the Pipeline Attribute Table and the LNG Plant Attribute Table in the [NPMS Operator Standards Manual](#).

#### 4C. Coordinate Pairs with Separate Attributes (Combination 3)

Some operators do not have access to a mapping system. If you are one of these operators, you are welcome to submit coordinate pairs representing the location and shape of your pipeline(s); we will build the pipeline line feature from the submitted coordinates. At a minimum, the pipe’s starting point, any bend/change in direction in the pipeline, and the pipe’s end point should be submitted. Each point/coordinate pair is represented by one latitude value and one longitude value. The coordinate pair must be in Decimal Degrees. If the coordinates are in Degrees, Minutes, Seconds format, they must be converted to Decimal Degrees before NPMS submission. There are many free online conversion tools that can assist with this task (search the Internet for “convert DMS to DD”). The coordinate pair data must follow the formatting outlined in the [NPMS Operator Standards Manual](#) so that our internal tools are able to process the data. You may also refer to the example below to see how we handle coordinate data submissions.

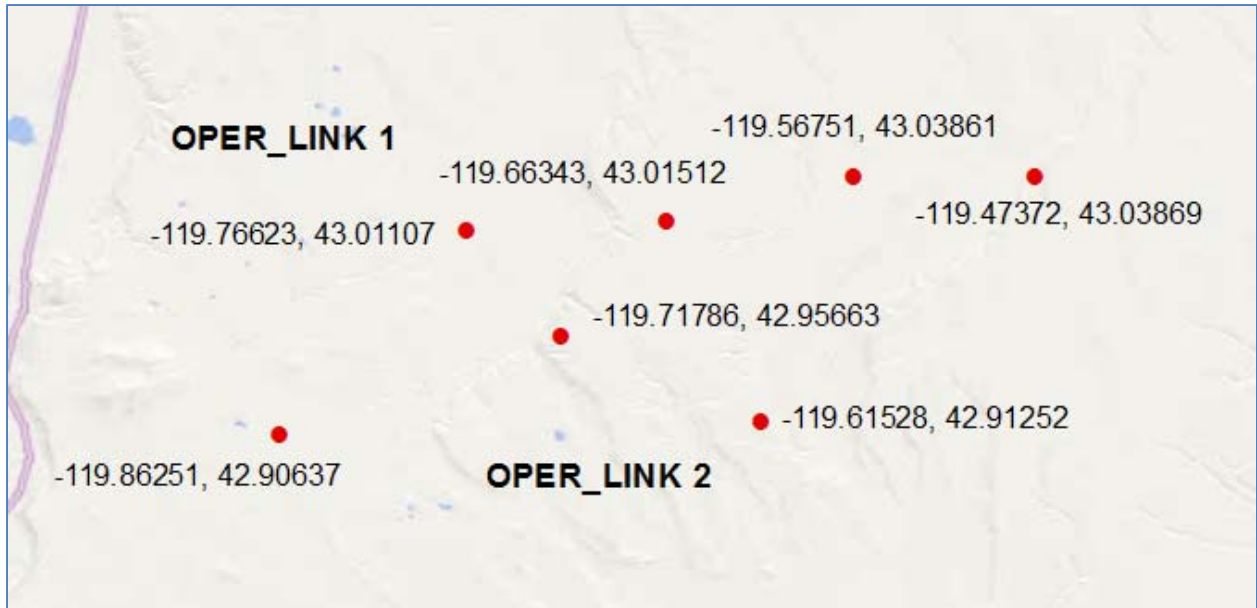
If you opt to use this combination, you will enter required attributes via the NPMS Metadata/Attribute Builder tool. When submitting a separate attribute file, it is essential that the OPER\_LINK (operator link) attribute be properly completed in both the geospatial file and the attribute file. The OPER\_LINK attribute is discussed in more detail in Section 5D of this document. For more detailed information regarding the required and voluntary attributes, including definitions, please refer to the Pipeline Attribute Table and the LNG Plant Attribute Table in the [NPMS Operator Standards Manual](#).

In this example, the following coordinate pairs represent the operator’s pipeline data. We would identify there are two pipeline features as indicated by the two OPER\_LINK values.

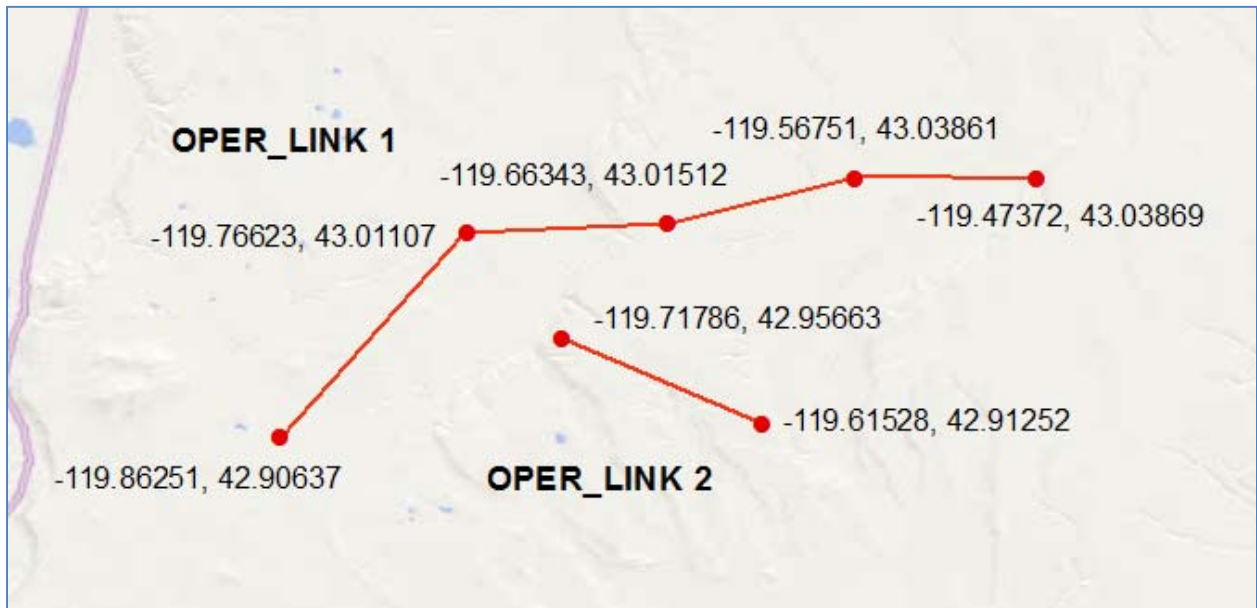


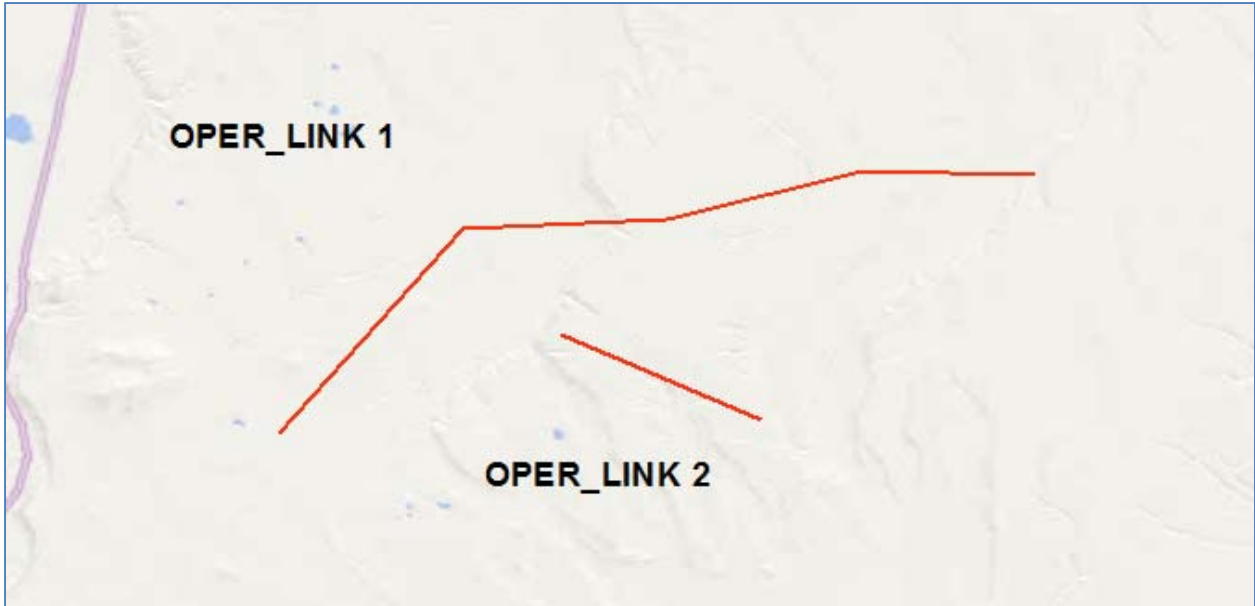
	A	B	C
1	OPER_LINK	LONGITUDE	LATITUDE
2	1	-119.86251	42.90637
3	1	-119.76623	43.01107
4	1	-119.66343	43.01512
5	1	-119.56751	43.03861
6	1	-119.47372	43.03869
7	2	-119.71786	42.95663
8	2	-119.61528	42.91252

When we receive this data, we plot the coordinates in our mapping system, taking into consideration the projection information indicated in the metadata file.



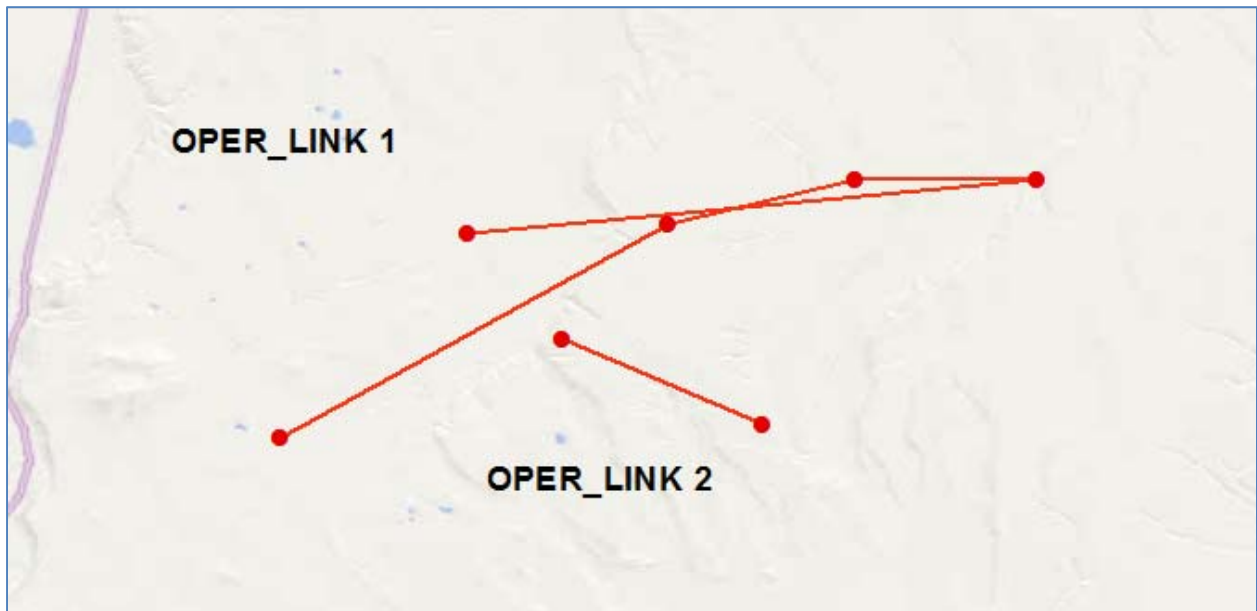
Once the coordinates are plotted as points, the points are converted to lines. The line(s) are built in the same order in which the coordinate pairs are listed in the Excel or text file.





If the coordinate pairs are submitted in the wrong order, the line created will be depicted incorrectly. In some cases, we will be able to identify that there is a potential problem, but in other cases, we may not be able to determine that there is an issue. As a result, it is important that you review and confirm the order of the coordinates before submitting them. The following is an example of coordinates that were submitted with one coordinate pair in the wrong order and the resulting lines:

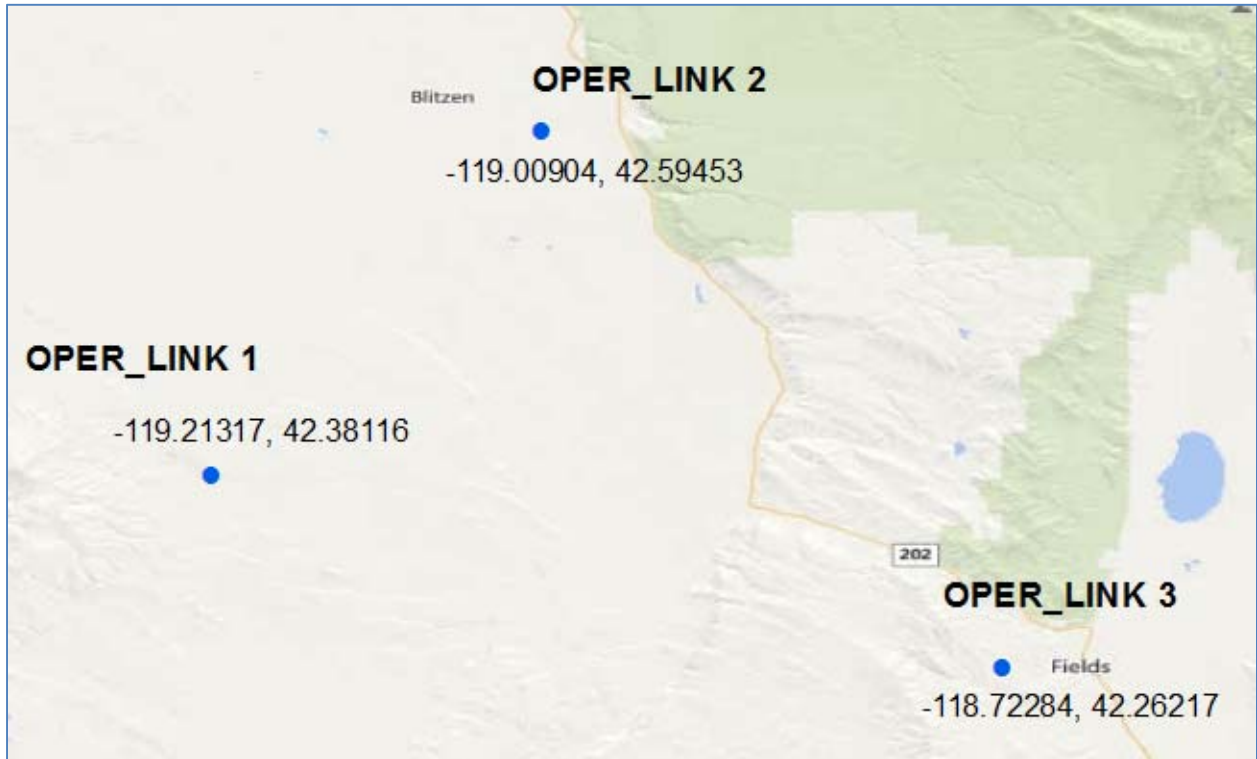
OPID12345_coordinates.xlsx				
	A	B	C	
1	OPER_LINK	LONGITUDE	LATITUDE	
2	1	-119.86251	42.90637	
3	1	-119.66343	43.01512	
4	1	-119.56751	43.03861	
5	1	-119.47372	43.03869	
6	1	-119.76623	43.01107	
7	2	-119.71786	42.95663	
8	2	-119.61528	42.91252	



The requirements for LNG plant submissions are the same as the requirements for pipeline coordinate points. The exception is that each coordinate pair should represent a single LNG plant. Each LNG plant coordinate pair should have a unique OPER\_LINK. Please note that since each coordinate pair represents just one LNG plant, it does not matter in what order the coordinate pairs are listed in the Excel or text file. In the following example, the operator has three LNG plants:

OPID12345_coordinates.xlsx			
	A	B	C
1	OPER_LINK	LONGITUDE	LATITUDE
2	1	-119.21317	42.38116
3	2	-119.00904	42.59453
4	3	-118.72284	42.26217





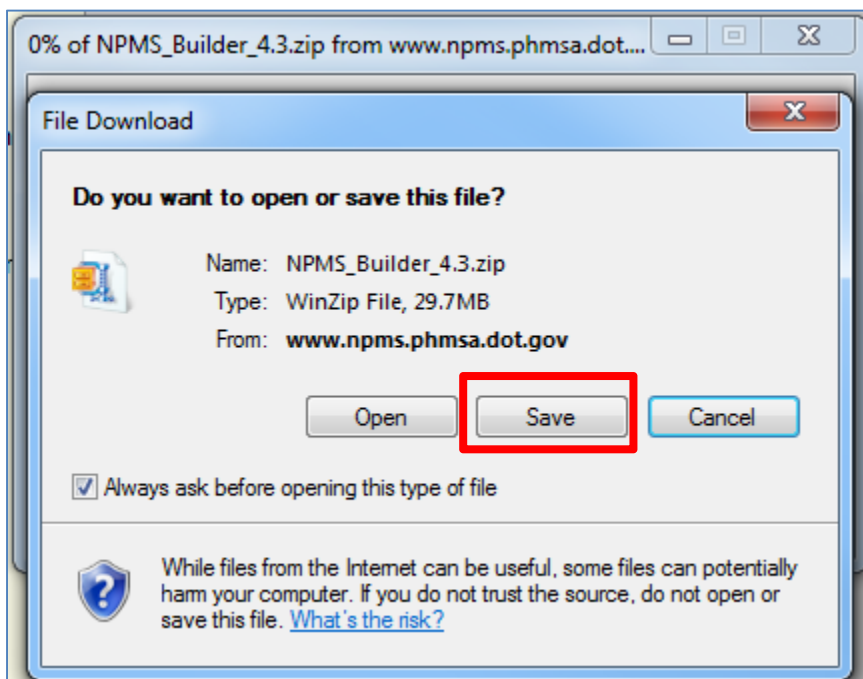
#### **4D. No Changes to the Data Since the Last Submission (Combination 4)**

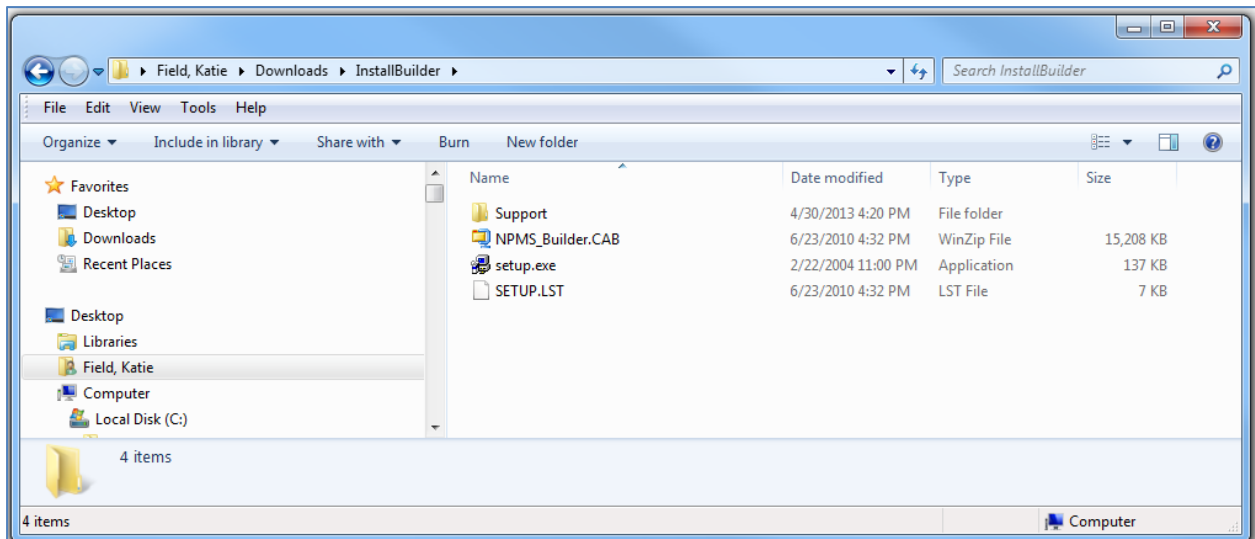
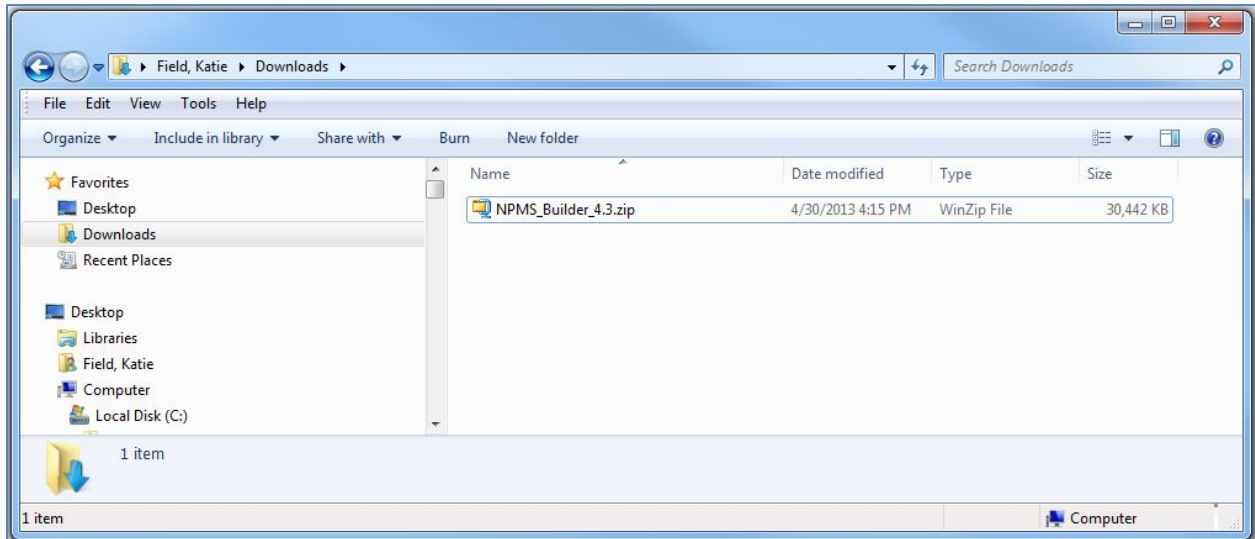
Each year, you should review the data for your OPID in the NPMS national layer to determine if there are any changes. If no changes have occurred since the last data submission, you may notify us of this instead of making a data submission. Please see Section 6A for details on what constitutes a change and how to notify us of the fact that no changes occurred.

## 5. Using the NPMS Metadata/Attribute Builder Tool

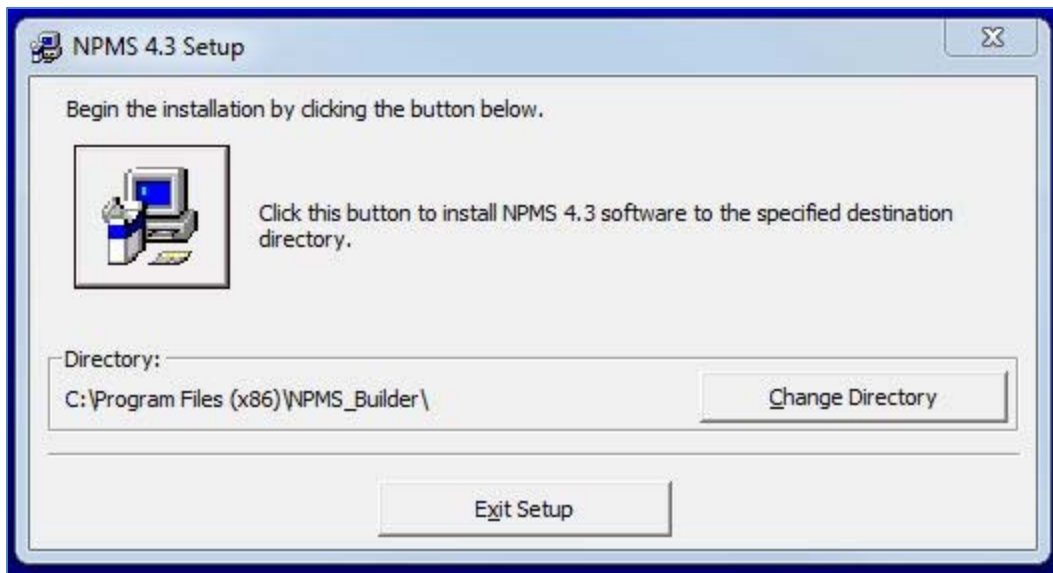
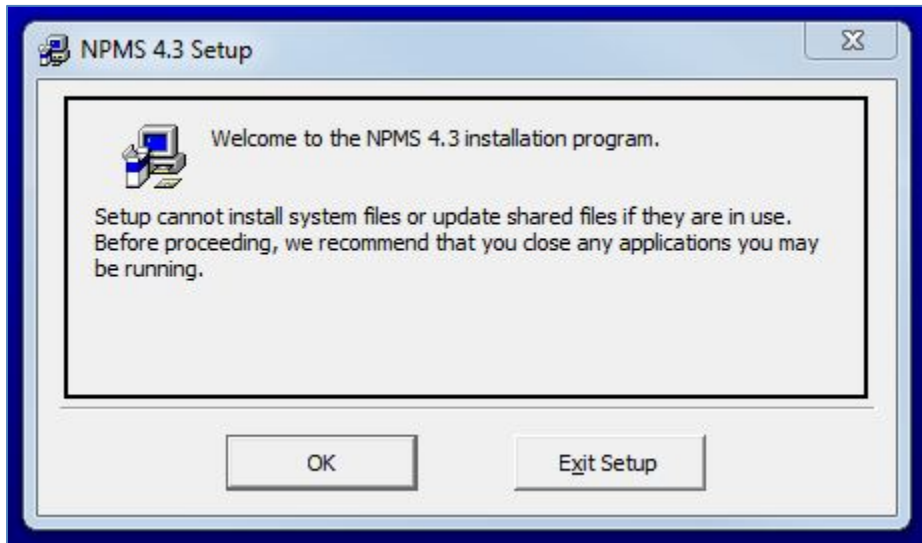
### 5A. Installing, Selecting Your Operator Name, and Saving the File

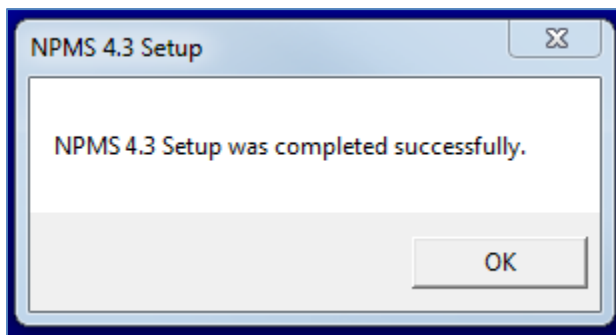
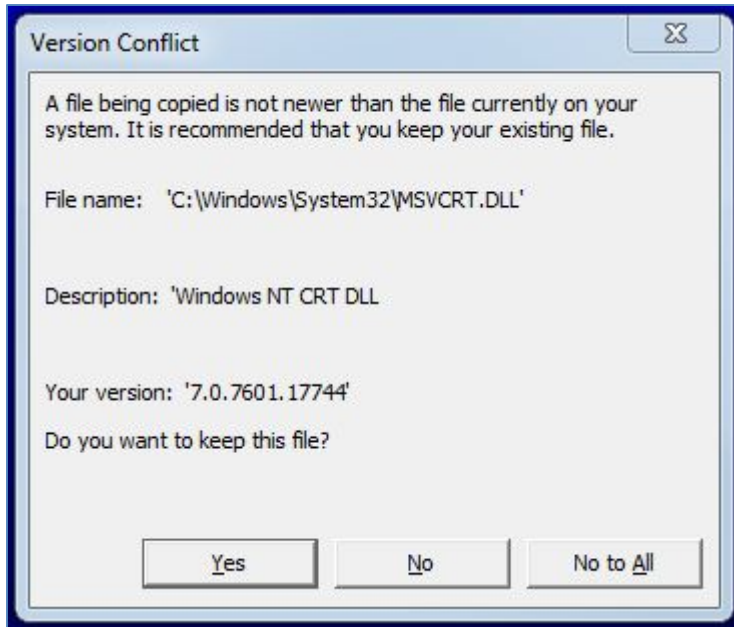
To get started with the NPMS Metadata/Attribute Builder tool, please [download the latest version of the tool](#). Be sure to save the downloaded file onto your computer before opening the zipfile; do not open the zipfile directly from the website as you will receive errors. The contents of the downloaded zipfile should be extracted to a folder on your computer; please select/create a folder as you wish – it has no bearing on the installation. When the files are extracted, be sure to retain the folder organization from within the zipfile. Do not attempt to run the installation executable from within the zipfile; doing so will result in installation errors.



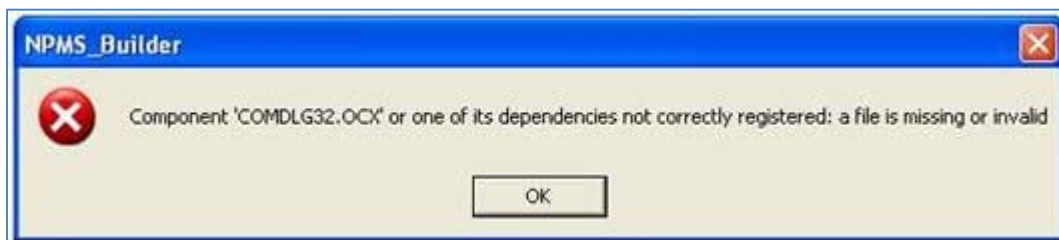


Before installing the latest version of the NPMS software, be sure to uninstall any existing NPMS software before proceeding with these steps. Once the files have been extracted to a folder on your computer, double-click on the “setup.exe” file to start the installation process. First you will be warned to close any in-use programs. Once the programs are closed, click the OK button. The next window displays where the NPMS Metadata/Attribute Builder tool will be installed on your computer. The default location is your Program Files (x86) (for Windows 7 and later users) folder on your C: drive. The tool will create a new folder named “NPMS\_Builder” at the installation location. If you would like to change the installation folder, you may do so at this time via the Change Directory button. When you are ready to proceed with the installation, click the button with the picture of the computer on it. As the software is installed, the tool will attempt to save some system files to your computer. If the installation process identifies that a newer version of the file already exists on your computer, you will be prompted to choose to either keep your existing file or overwrite your existing file with the one in the installation process. We strongly suggest that you always opt to keep the newer file. Once the installation process is complete, you will receive a message.





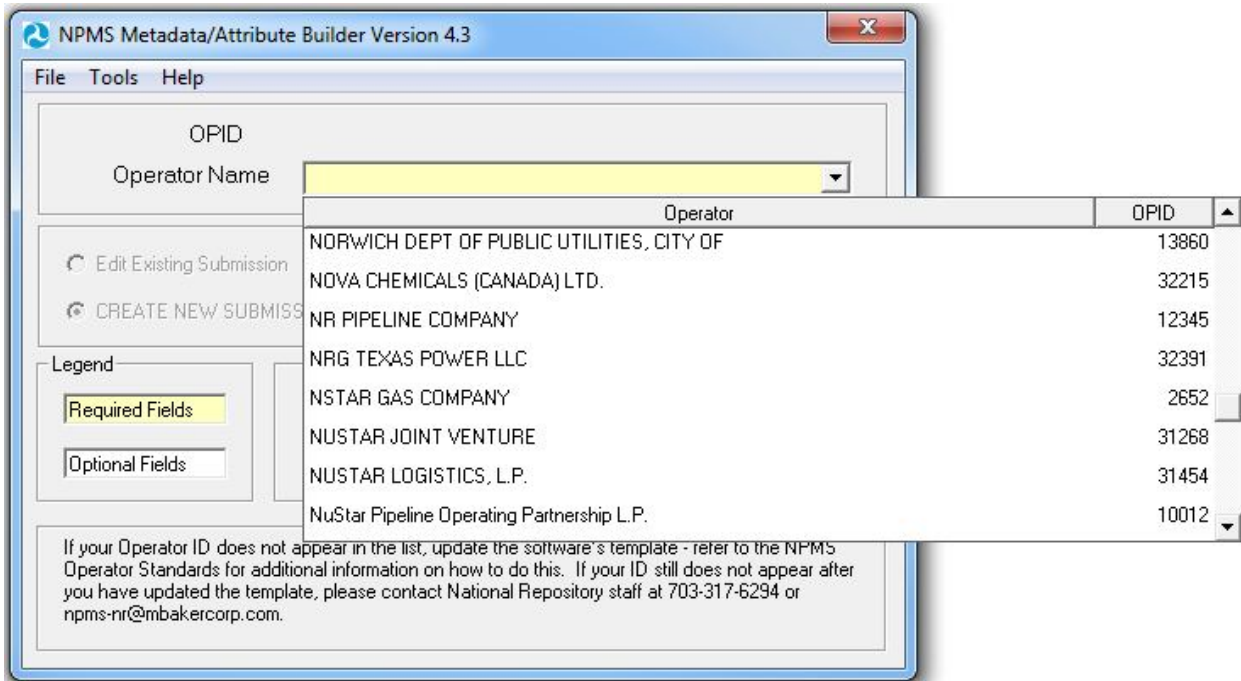
Once the NPMS Metadata/Attribute Builder tool is installed, you may access it via Start > All Programs > NPMS Metadata Attribute Builder. The Builder tool assumes that some files, particularly library files, already exist on your computer. If these files are missing, the tool will generate an error when you attempt to start the tool and will list which file is missing. Commonly, the component 'COMDLG32.OCX' is the one missing from your computer.

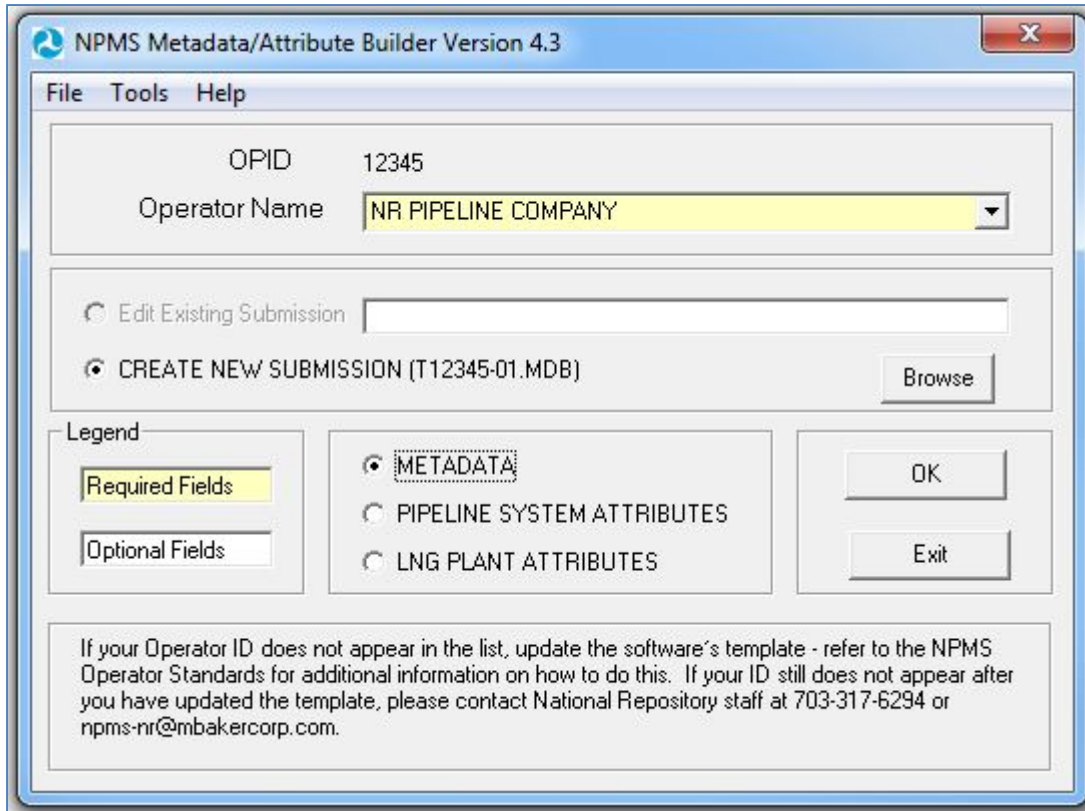


To correct this specific error regarding the COMDLG32.OCX component, you will need to download and install this component to your computer. Search Microsoft's website for information about this component, and you'll find multiple [support links](#) containing information about the error and where to download the component. On Windows XP, copy the COMDLG32.OCX file to C:\WINDOWS\system32,

then go to Start > Run... to open the Run prompt. In the prompt, enter this information: regsvr32.exe C:\WINDOWS\system32\comdlg32.ocx and click Enter. On Windows 7, this component should be installed and registered at C:\WINDOWS\SysWOW64\. Copy the COMDLG32.OCX file to this folder and then go to Start > Run... to open the Run prompt. In the prompt, enter this information: regsvr32.exe C:\WINDOWS\SysWOW64\comdlg32.ocx and click OK.

Once the Builder tool opens, select your operator name from the drop down list.

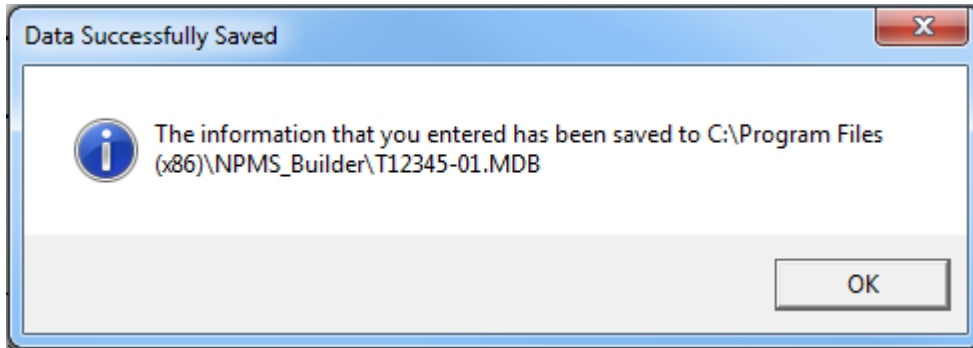




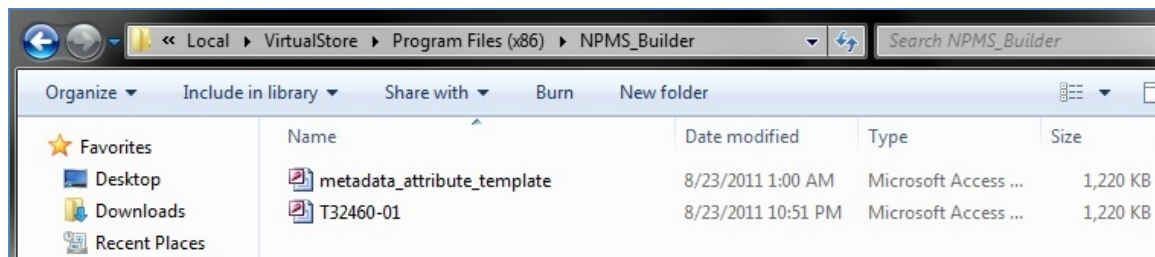
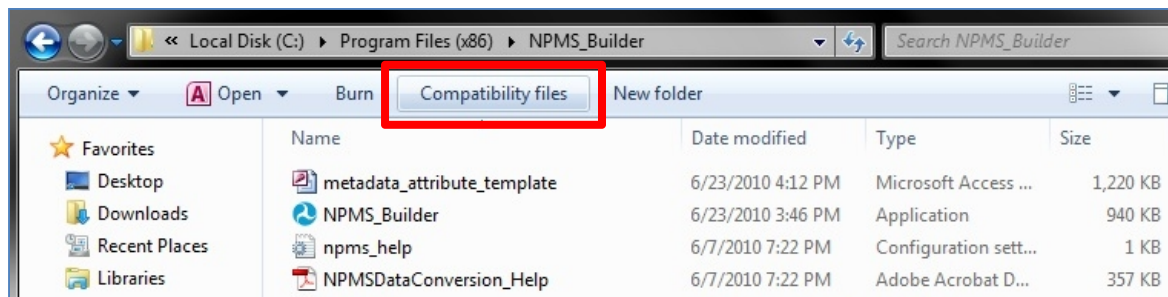
If your operator name is not listed or is listed with an outdated name, you can change that in the source file with just a few steps. First, close the Builder tool. In Windows Explorer, navigate to the location where the tool is installed (e.g., C:\Program Files (x86)\NPMS\_Builder) and locate the file named metadata\_attribute\_template.mdb. Double-click on this file to open it within Microsoft Access. Once the file opens, locate the table named id\_ops and double-click on it to open it within Access. If your operator name is missing, go to the bottom of the list and add your OPID and operator name. If your operator name is wrong, locate your OPID and update the operator name value. Close the table and the Access file (changes will automatically be saved). If you find that the metadata\_attribute\_template.mdb file is read-only or uneditable, please contact your IT department as this is related to a setting/configuration on your computer. If you do not have Access installed on your computer and need to add your OPID, please contact us; we will send you an updated metadata\_attribute\_template.mdb to replace the one that comes with the installation package.

Once your operator name is selected, you will find the tool determines if a file for your OPID already exists. If a file does exist (in the folder where the tool is installed such as C:\Program Files (x86)\NPMS\_Builder), the Edit Existing Session option automatically activates so that you can edit the file you already created. If a file for your OPID does not already exist, the tool will automatically select the CREATE NEW SUBMISSION option. The file name that will be created is listed next to the option. If you wish to create a new file rather than edit an existing one, you may manually select the CREATE NEW SUBMISSION option. Note that the output is automatically named to include your OPID (e.g., T12345-001.mdb).

As you exit from one of the sections within the Builder tool (metadata, pipeline attributes, LNG plant attributes), your file is automatically saved. As part of the exit process, the tool displays a message reminding you where the metadata file was created on your computer. Please note that unless you specifically create and edit multiple Builder output files, the values entered in the metadata section, pipeline attributes section, and LNG plant attribute section are saved in the same file. We greatly prefer you have a single file for all sections.



Please be aware that if you are using Windows 7 or later, your computer may be configured to utilize a Virtual Store location to store files which are of an older file type, like the .mdb file extension is to Microsoft Access. If your computer is configured in this manner, it will appear like your file is stored in the stated output location, such as the C:\Program Files (x86)\NPMS\_Builder folder, but it is actually stored in a VirtualStore folder on your C: drive. You can tell if your computer is configured this way because when you navigate to the NPMS\_Builder file in Windows Explorer, you will see an item on the menu bar named "Compatibility files." If you click on this button, you will be routed to the VirtualStore location where the file is actually stored.

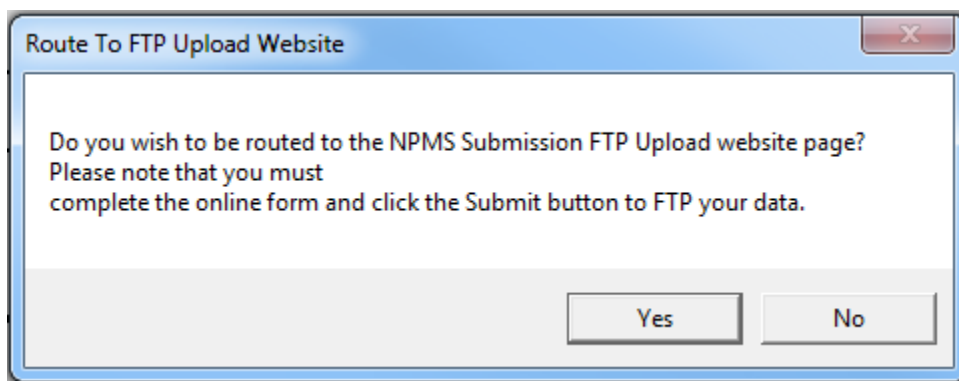


To more easily work with the files, you may opt to drag and drop or copy and paste the files from the VirtualStore folder to the location where the Builder tool is installed, such as the C:\Program Files



(x86)\NPMS\_Builder folder. If your computer is configured in this manner and you have not moved the files out of the Virtual Store location, when you attempt to locate your Builder output file via the Browse button on the NPMS FTP Upload tool, you will not be able to find your file. You must copy or move the file out of the VirtualStore for it to be locatable in the FTP Browse window.

The tool then asks you if you wish to be routed to the NPMS FTP Upload website page. The Builder tool has not yet been updated since the recent change to the NPMS FTP Upload page website address. Therefore, at this time you should always opt to not be automatically routed to the NPMS FTP Upload website page. You should access the NPMS FTP Upload website page (<https://phmhqnwas071.phmsa.dot.gov/npmsftp/>) directly from the NPMS website. Please note that no information is automatically sent to us through the Builder tool; you must upload it for us to receive it. Additionally, when sending the output Builder file to us (e.g., T12345-01.mdb) you must send this file through the NPMS FTP Upload page as our NPMS email system rejects many attachment types, including .mdb and .zip files.



## 5B. Preparing the Metadata File

Metadata is “data about data” and answers the “who, what, when, where” questions about the data. The customized NPMS metadata collected from operators includes primary and technical contacts, the general location of the data, and the projection of the geospatial data. To ease the metadata creation process and to capture the specific information that the NPMS seeks, all operators are required to submit metadata created with the NPMS Metadata/Attribute Builder, which is downloadable to your computer. The METADATA component of the software must be completed for each NPMS submission.

To start the metadata portion of the tool, make sure the METADATA option is selected and click the OK button.

NPMS Metadata/Attribute Builder Version 4.3

File Tools Help

OPID 12345

Operator Name NR PIPELINE COMPANY

Edit Existing Submission

CREATE NEW SUBMISSION (T12345-01.MDB)

Legend

METADATA

PIPELINE SYSTEM ATTRIBUTES

LNG PLANT ATTRIBUTES

If your Operator ID does not appear in the list, update the software's template - refer to the NPMS Operator Standards for additional information on how to do this. If your ID still does not appear after you have updated the template, please contact National Repository staff at 703-317-6294 or npms-nr@mbakercorp.com.

Metadata Entry - Step 1 of 2

Operator

OPID 12345

Operator Name NR PIPELINE COMPANY

Primary NPMS Contact

First Name

Last Name

Title

Company Name

Address 1

Address 2

City

State

Zip Code

Work Phone

Ext

Fax Number

E-Mail

Technical Contact for this submission (Optional)

First Name

Last Name

Title

Company Name

Address 1

Address 2

City

State

Zip Code

Work Phone

Ext

Fax Number

E-Mail

Legend

Required Fields Optional Fields

Next >> Save and Exit

In the first window of the metadata section, you are prompted to enter a primary and technical contact. The technical contact is the person we will contact with questions regarding your submission data and is the person to whom we send submission processing status emails. The primary contact is the person that we contact regarding general information about changes to the NPMS submission process (such as the introduction of a new tool), or with questions about your OPID and associated data. Please note that the primary contact must be someone employed by your company; the primary contact cannot be a hired consultant. The technical contact may be a hired consultant, if desired. For some operators, the primary and technical contacts are the same person; in this case, you should fill out only the primary contact portion of the form. Although the contact's email address is not required in this version of the tool, please include the email address as this is how a majority of our communication with you is conducted.

Metadata Entry - Step 1 of 2

Operator

OPID 12345

Operator Name NR PIPELINE COMPANY

Primary NPMS Contact

First Name Joe

Last Name Smith

Title Compliance Manager

Company Name NR COMPANY, INC

Address 1 123 Main Street

Address 2

City Springfield

State VA

Zip Code 98425

Work Phone 123-987-6543

Ext

Fax Number

E-Mail jsmith@nrcompany.com

Technical Contact for this submission (Optional)

First Name Sally

Last Name Johnson

Title GIS Analyst

Company Name NR COMPANY, INC

Address 1 123 Main Street

Address 2

City Springfield

State VA

Zip Code 98425

Work Phone 123-987-1234

Ext

Fax Number

E-Mail sjohnson@nrcompany.com

Legend

Required Fields Optional Fields

Next >> Save and Exit

Once the contact information is completed click the Next>> button to proceed to the next window where you are prompted to enter information about where your pipelines are located and what projection your geospatial data is based on.

Operator

OPID 12345

Operator Name NR PIPELINE COMPANY

Date of Submittal 4/30/13

General Overview

(1) List the state(s) covered by the submitted data (use two-letter postal code, separated by comma such as KY, LA).

Projection Questions

For the submitted geospatial data, please specify the following:

(2) What is the datum of the data?

(3) What are the measurement units of the data?

(4a) What is the projection of the data ?

(4b) If state plane, which State Plane Zone? If multiple zones, select first zone and elaborate in Question 5.

(4c) If UTM, which UTM zone? If multiple zones, select first zone and elaborate in Question 5.

(5) Please provide any general comments about the projection information above. IF APPLICABLE, include projection information about parallels, origin (reference latitude), and central meridian here. Projection information about multiple UTM and State Plane zones crossed by your pipeline system should also be inserted here.

Legend

Required Fields Optional Fields

<< Previous Save and Exit

In Question #1, list the States in which your submitted pipeline data is located. We compare this list of States to where your geospatial data is located in our mapping system as a quality control check. For instance, if you state that your pipelines are in Louisiana, but your pipeline data falls in Texas, we will contact you to determine if your metadata information is wrong or if your submitted data is wrong. Similarly, if you list that your pipelines are in North Carolina and South Carolina, but your geospatial data only falls in South Carolina, we will contact you to determine if the geospatial data is missing some of the pipelines or if the metadata is wrong.

Questions #2 through #5 relate to the projection or coordinate system that your geospatial data is based on. A projection or coordinate system is the way that the spherical Earth is transferred onto a flat

surface. All projections/coordinate systems distort the Earth's surface in some manner. Different projections distort the surface in different ways. Some projections, like State Plane and Universal Transverse Mercator (UTM), have associated zones that help limit the distortion in specific areas, like the west coast of the United States or the most southern portion of Texas. All projections/coordinate systems are accompanied by a datum. The datum defines where the center of the Earth is and, thus, where the measurements for the projection/coordinate system start. Projections/coordinate systems are also associated with a unit of measure, such as decimal degrees, meters, or feet. The continental United States is depicted in three different projection/coordinate systems in the example below; you can see how each projection/coordinate system orients the data differently.



Coordinate System: Geographic Latitude Longitude  
Datum: NAD83  
Units: Decimal Degrees



Projection: UTM, Zone 16  
Datum: NAD83  
Units: Meters



Projection: State Plane, Zone Colorado South  
Datum: NAD83  
Units: Feet

If you are interested in obtaining additional information about projections, the Internet has many sites describing geospatial projections, such as [https://en.wikipedia.org/wiki/Map\\_projection](https://en.wikipedia.org/wiki/Map_projection).

In the Builder tool, you must complete Questions #2 (datum), #3 (measurement units), and #4 (projection) for all NPMS submissions. If your projection is State Plane, select the appropriate zone under Question #4b. If your projection is UTM, select the appropriate zone under Question #4c. Under Question #5, please convey to us any information about your projection, such as custom projections, that are not captured in the previous questions. The geospatial data dictates what information you submit for these questions. If you are unsure about your projection information, please consult your mapping group or whoever collected the data. For instance, GPS units have the ability to collect data in various projections; whoever configured the GPS's projection setting can tell you what projection it was set to when the coordinate location was collected. For some operators, the projection/coordinate system is an inherent part of the geospatial data, like in geodatabase files. Even though the projection is included in the geospatial data, you should still complete this projection section in the metadata. Having that information allows us to cross-check and potentially repair the data if it seems to be in the wrong location.

**Metadata Entry - Step 2 of 2**

Operator  
 OPID 12345  
 Operator Name NR PIPELINE COMPANY  
 Date of Submittal 4/30/13

**General Overview**  
 (1) List the state(s) covered by the submitted data (use two-letter postal code, separated by comma such as KY, LA).  
 OR

**Projection Questions**  
 For the submitted geospatial data, please specify the following:

(2) What is the datum of the data? NAD83

(3) What are the measurement units of the data? Decimal Degrees

(4a) What is the projection of the data? Geographic (Lat/Long)

(4b) If state plane, which State Plane Zone? If multiple zones, select first zone and elaborate in Question 5.

(4c) If UTM, which UTM zone? If multiple zones, select first zone and elaborate in Question 5.

(5) Please provide any general comments about the projection information above. IF APPLICABLE, include projection information about parallels, origin (reference latitude), and central meridian here. Projection information about multiple UTM and State Plane zones crossed by your pipeline system should also be inserted here.

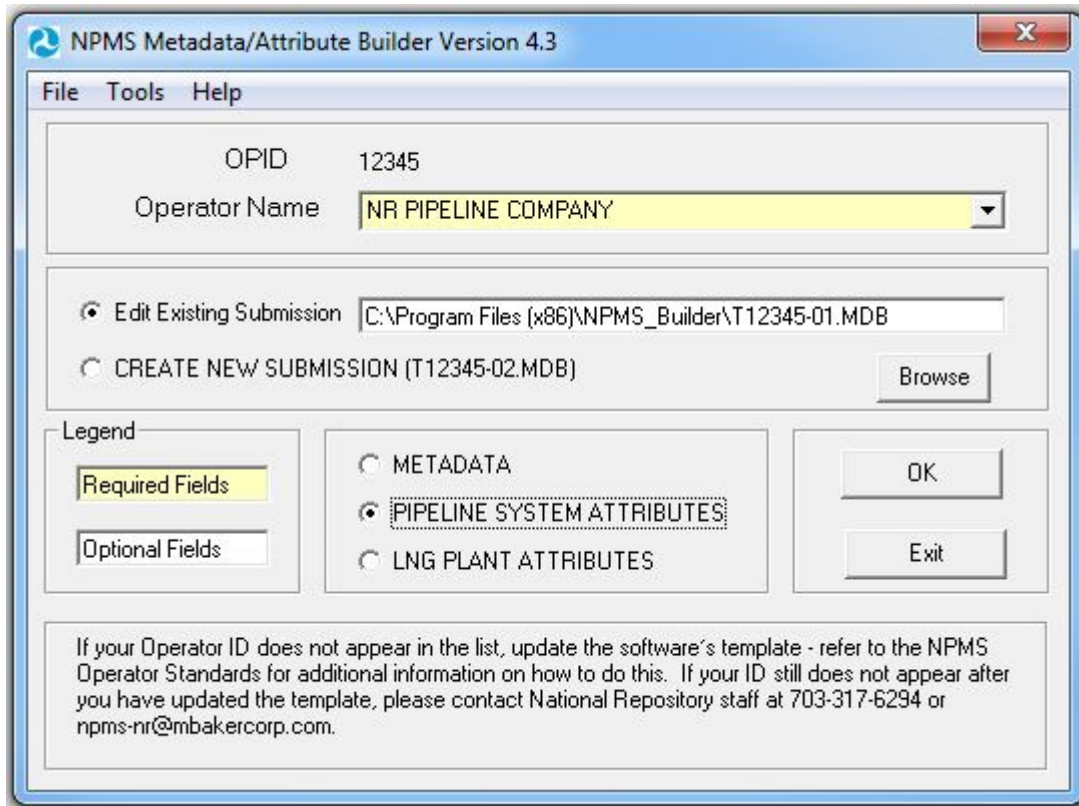
**Legend**  
 Required Fields Optional Fields

<< Previous Save and Exit

Once you have completed the metadata projection portion of the Builder tool, click the “Save and Exit” button to return to the main window.

### 5C. Preparing the Attribute File

Some operators do not have the capability to incorporate the NPMS attributes directly within the geospatial data. If you are one of these operators, you need to create the attribute data via the NPMS Metadata/Attribute Builder tool. To get started on this task, first open the Builder tool and select your operator name from the drop down list. Then select the PIPELINE SYSTEM ATTRIBUTES option and click the OK button.



The Pipeline Attribute Data Entry Screen opens. This window can be thought of as two halves – the top half and the bottom half. The top half captures information about the system name, whether the pipeline is interstate or intrastate, and transported commodities. The bottom half captures the unique ID for the pipeline line, the subsystem name, the diameter, whether the pipeline is a low stress pipeline, the status of the pipeline, the quality/accuracy of the geospatial data for that line, and the type of revisions that have occurred to this line since its last NPMS submission. (Note: you must scroll to the right to see the revision code attribute.)

All of the information entered in the top half must apply to all of the records entered in the bottom half. If the information in the top half does not apply to all of your pipelines, use the Add button to create another window. At the top of the window there is a (#X of Y) notation, such as (#1 of 1), which tracks which window you are currently on.



Pipeline Attribute Data Entry Screen

**PIPELINE SYSTEM ATTRIBUTES (#1 of 1)**

Operator  
 OPID 12345  
 Operator Name NR PIPELINE COMPANY

Other Attribute  
 Interstate  Intrastate  
 System Name

Commodity  
 Type  
 Detail 1  
 Detail 2  
 Detail 3  
 Description  
 Specific commodity information, for example "jet fuel"

Pipeline Segment Attributes

	OPER_LINK	PIPELINE ID	SUBSYSTEM NAME	DIAM.	LOW STRESS	STATUS	DATA QUALITY
*							

Legend  
 Required Fields  Optional Fields

Previous Next Add Delete Save and Exit

SCENARIO 1

In the following example, there are two detached pipelines. Both pipelines are in the same system, carry the same commodity and are both intrastate. Because of this, both lines can be entered in the bottom half of the screen.

Pipeline Attribute Data Entry Screen

**PIPELINE SYSTEM ATTRIBUTES (#1 of 1)**

Operator  
 OPID 12345  
 Operator Name NR PIPELINE COMPANY

Other Attribute  
 Interstate  Intrastate  
 System Name OREGON TRANSMISSION

Commodity  
 Type NATURAL GAS  
 Detail 1 WET, SOUR NATURAL GAS  
 Detail 2  
 Detail 3  
 Description  
 Specific commodity information, for example "jet fuel"

Pipeline Segment Attributes

	OPER_LINK	PIPELINE ID	SUBSYSTEM NAME	DIAM.	LOW STRESS	STATUS	DATA QUALITY
	1	OR-1		12	NO	IN SERVICE	EXCELLENT: WITHIN 50
▶	2	OR-2		6	NO	IN SERVICE	GOOD: 301-500 FEET
*							

Legend  
 Required Fields  Optional Fields

Previous Next Add Delete Save and Exit

SCENARIO 2

In the following example, there are two pipelines. One pipeline transports propane gas while the other transports crude oil. Since the two pipelines differ in the attributes that fall in the top half of the window, a new window must be added to accurately capture both pipelines. Note the (#1 of 2) and (#2 of 2) designations indicating there are two different windows.

**Pipeline Attribute Data Entry Screen** X

**PIPELINE SYSTEM ATTRIBUTES (#1 of 2)**

**Operator**

OPID 12345

Operator Name NR PIPELINE COMPANY

**Commodity**

Type **PROPANE GAS**

Detail 1

Detail 2

Detail 3

Description

Specific commodity information, for example "jet fuel"

**Other Attribute**

Interstate  Intrastate

System Name **WESTERN SYSTEM**

**Pipeline Segment Attributes**

	OPER_LINK	PIPELINE ID	SUBSYSTEM NAME	DIAM.	LOW STRESS	STATUS	DATA QUALITY
▶	1	98756	CALIFORNIA GAS	12	NO	IN SERVICE	EXCELLENT: WITHIN 50
*							

**Legend**

Required Fields Optional Fields

Previous
Next
Add
Delete
Save and Exit

Pipeline Attribute Data Entry Screen

### PIPELINE SYSTEM ATTRIBUTES (#2 of 2)

Operator  
 OPID 12345  
 Operator Name NR PIPELINE COMPANY

Other Attribute  
 Interstate  Intrastate  
 System Name WESTERN SYSTEM

Commodity  
 Type CRUDE OIL  
 Detail 1 SWEET CRUDE  
 Detail 2  
 Detail 3  
 Description  
 Specific commodity information, for example "jet fuel"

Pipeline Segment Attributes

	OPER_LINK	PIPELINE ID	SUBSYSTEM NAME	DIAM.	LOW STRESS	STATUS	DATA QUALITY
	2	368741	NEVADA HAZ LIQ	12	YES	IN SERVICE	GOOD: 301-500 FEET
*							

Legend  
 Required Fields  Optional Fields

Previous Next Add Delete Save and Exit

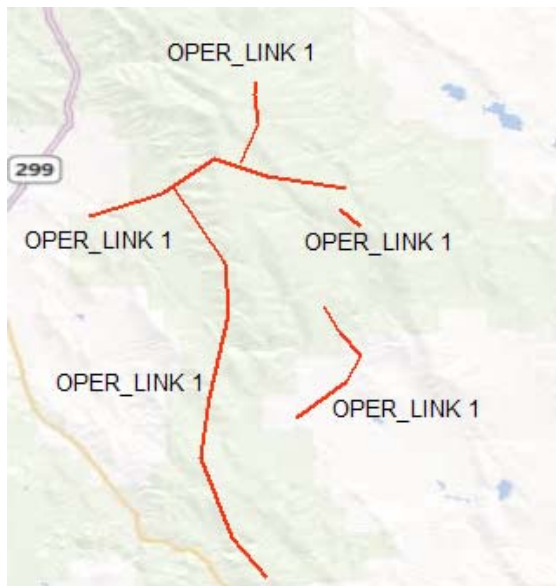
Please note that the OPER\_LINK attribute is different than the PIPELINE ID (or PLINE\_ID) attribute. The PIPELINE ID attribute is a unique value that you assign to your pipeline segments. The value may be text, numbers, or a combination of the two. The OPER\_LINK attribute is a unique, numeric value used to link the submitted geospatial data and attribute data. Please refer to Section 5D of this document for more detailed information regarding the OPER\_LINK attribute. Unlike the OPER\_LINK attribute, which is removed once the link between the geospatial and attribute data is established, the PIPELINE ID attribute is retained in the submission data and is included when the processed submission data is incorporated into the NPMS national layer. The PIPELINE ID is often used by us when questions arise regarding specific pipeline segments; having the unique value ensures that all parties are referring to the same pipeline. The PIPELINE ID attribute is also displayed on the NPMS web map viewers, and users of the viewers may use this value to reference specific pipelines when they contact you with questions. Since the PIPELINE ID is used to reference specific pipelines, it is especially valuable when the PIPELINE ID is maintained from year to year. Having that consistency in the submission data helps us understand how this year's submission data matches to the previous year's submission for historical tracking purposes.

Please be aware that the Builder tool contains a software bug related to the LOW STRESS attribute. The tool requires the LOW STRESS attribute to contain a value even for pipelines that should not have this value populated. Only in-service hazardous liquid pipelines should have a LOW STRESS attribute value. If your pipelines are gas transmission or idle/retired/abandoned hazardous liquid, please select whatever LOW STRESS value you like. During the processing of your submission, we will remove this unneeded value from your data. We apologize for any inconvenience.

Once you have completed the attribute portion of the Builder tool, click the “Save and Exit” button to return to the main window.

### 5D. Purpose of the OPER\_LINK Attribute

The OPER\_LINK attribute is an essential part of the separate geospatial and attribute components. The OPER\_LINK attribute is the way the attributes are linked to the geospatial data. In the following example, you can see how using the same OPER\_LINK value for all lines in the geospatial data and attribute data is unusable and confusing to us. Given data such as this, it is impossible to link the two sets of data together, and as a result, the proper attributes cannot be associated with the correct geospatial data.



Pipeline Attribute Data Entry Screen

**PIPELINE SYSTEM ATTRIBUTES (#1 of 1)**

Operator  
 OPID 12345  
 Operator Name NR PIPELINE COMPANY

Commodity  
 Type ANHYDROUS AMMONIA  
 Detail 1  
 Detail 2  
 Detail 3  
 Description  
 Specific commodity information, for example "jet fuel"

Other Attribute  
 Interstate  Intrastate  
 System Name NR-WEST

Pipeline Segment Attributes

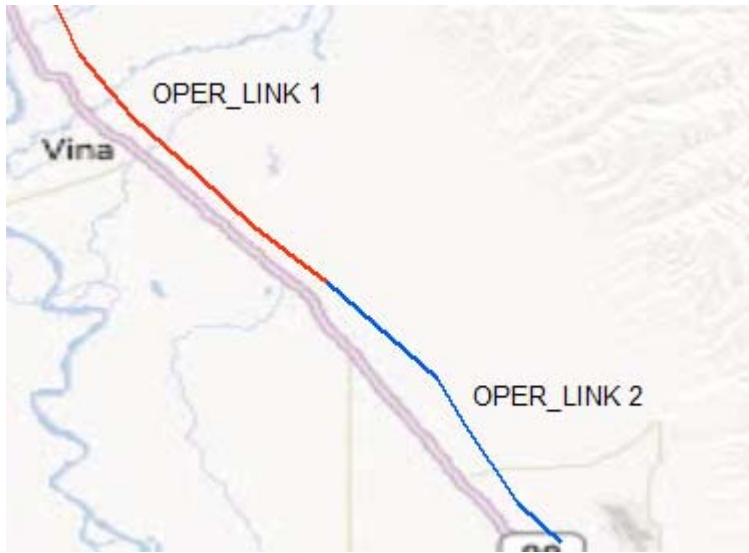
OPER_LINK	PIPELINE ID	SUBSYSTEM NAME	DIAM.	LOW STRESS	STATUS	DATA QUALITY
1	5		0	NO	IN SERVICE	GOOD: 301-500 FEET
1	4		62.5	YES	IN SERVICE	VERY GOOD: 50-300 FEET
1	1		6.25	YES	IN SERVICE	EXCELLENT: WITHIN 50
1	3	FEEDER LINE	8	NO	IN SERVICE	EXCELLENT: WITHIN 50
1	2	MAIN LINE	8	NO	IN SERVICE	GOOD: 301-500 FEET

Legend  
 Required Fields  Optional Fields

Previous Next Add Delete Save and Exit

A similar issue involves geospatial data that is submitted without the OPER\_LINK attribute or OPER\_LINK values that do not match the corresponding geospatial and attribute data. In some cases, operators cannot modify their geospatial data to include an attribute named OPER\_LINK. In this case, you are welcome to use any unique, numeric attribute in the geospatial data in place of the OPER\_LINK attribute. If you would rather use a text-based attribute, you can use the PIPELINE ID attribute in place of the OPER\_LINK attribute. If you decide to use the PIPELINE ID attribute, you must ensure that the substitute OPER\_LINK/PIPELINE ID attribute has values that match the attribute records in the Builder tool. Additionally, to avoid the data being incorrectly linked, you must make a note in the NPMS cover/transmittal letter alerting us to which attribute in the geospatial data should be used in place of the OPER\_LINK value.

When attributes change along a pipeline, the pipeline must be broken into separate OPER\_LINK values even if the segments are physically connected. A pipeline whose diameter changes from 10 inches to 12 inches, for instance, should be segmented at the point where the diameter change occurs. Attributes for both segments must be included in the Builder tool.



Pipeline Attribute Data Entry Screen

**PIPELINE SYSTEM ATTRIBUTES (#1 of 1)**

Operator  
 OPID: 12345  
 Operator Name: NR PIPELINE COMPANY

Commodity  
 Type: EMPTY GAS  
 Detail 1:   
 Detail 2:   
 Detail 3:   
 Description:   
 Specific commodity information, for example "jet fuel"

Other Attribute  
 Interstate  Intrastate  
 System Name: VINA

Pipeline Segment Attributes

OPER_LINK	PIPELINE ID	SUBSYSTEM NAME	DIAM.	LOW STRESS	STATUS	DATA QUALITY
1	65-VINA		12	NO	IDLE	EXCELLENT: WITHIN 50
▶ 2	64-VINA		10	NO	IDLE	EXCELLENT: WITHIN 50
* <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

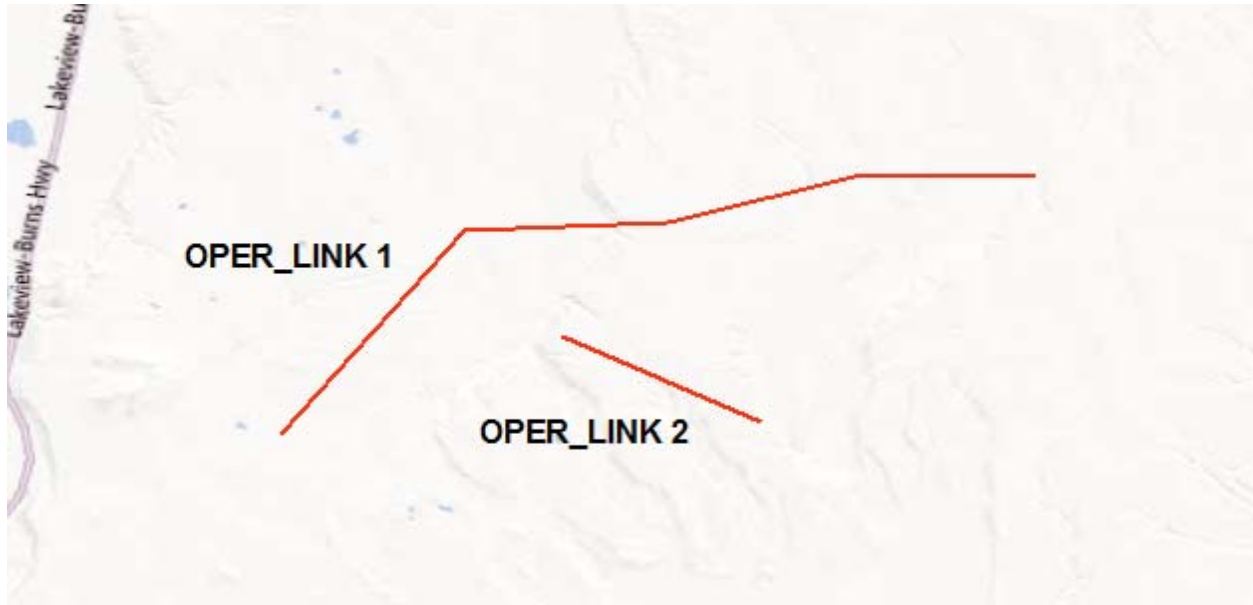
Legend  
 Required Fields  Optional Fields

Previous Next Add Delete Save and Exit

When we receive separate geospatial and attribute files as part of the submission package, we join the two sets of data based on the OPER\_LINK. The result of this combination is geospatial data with integrated attributes.

## SCENARIO 1

In referring to SCENARIO 1, the following images show how the geospatial and attributes inputs are linked to create geospatial data with joined attributes.





**Pipeline Attribute Data Entry Screen**

**PIPELINE SYSTEM ATTRIBUTES (#1 of 1)**

Operator  
 OPID: 12345  
 Operator Name: NR PIPELINE COMPANY

Commodity  
 Type: NATURAL GAS  
 Detail 1: WET, SOUR NATURAL GAS  
 Detail 2:   
 Detail 3:   
 Description:   
 Specific commodity information, for example "jet fuel"

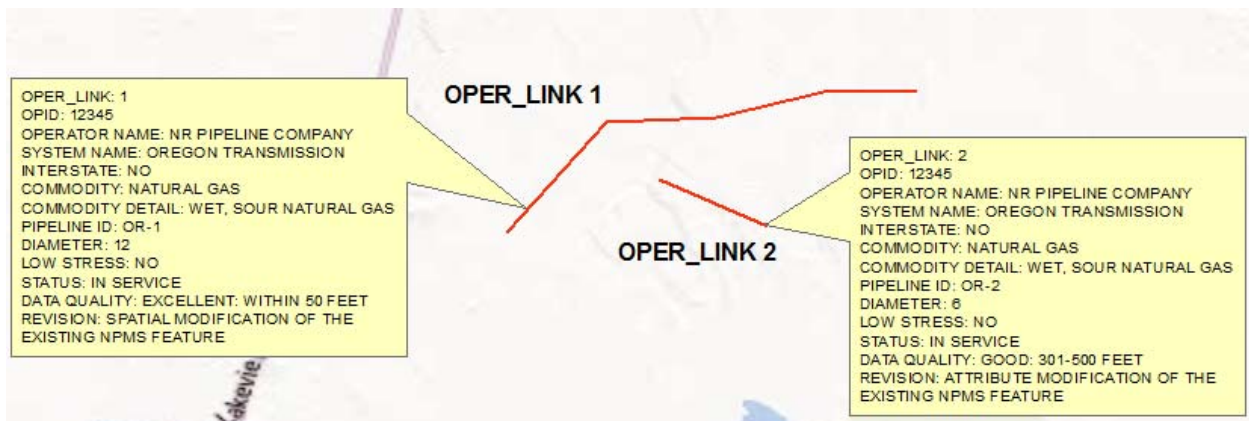
Other Attribute  
 Interstate  Intrastate  
 System Name: OREGON TRANSMISSION

Pipeline Segment Attributes

	OPER_LINK	PIPELINE ID	SUBSYSTEM NAME	DIAM.	LOW STRESS	STATUS	DATA QUALITY
	1	OR-1		12	NO	IN SERVICE	EXCELLENT: WITHIN 50
▶	2	OR-2		6	NO	IN SERVICE	GOOD: 301-500 FEET
*							

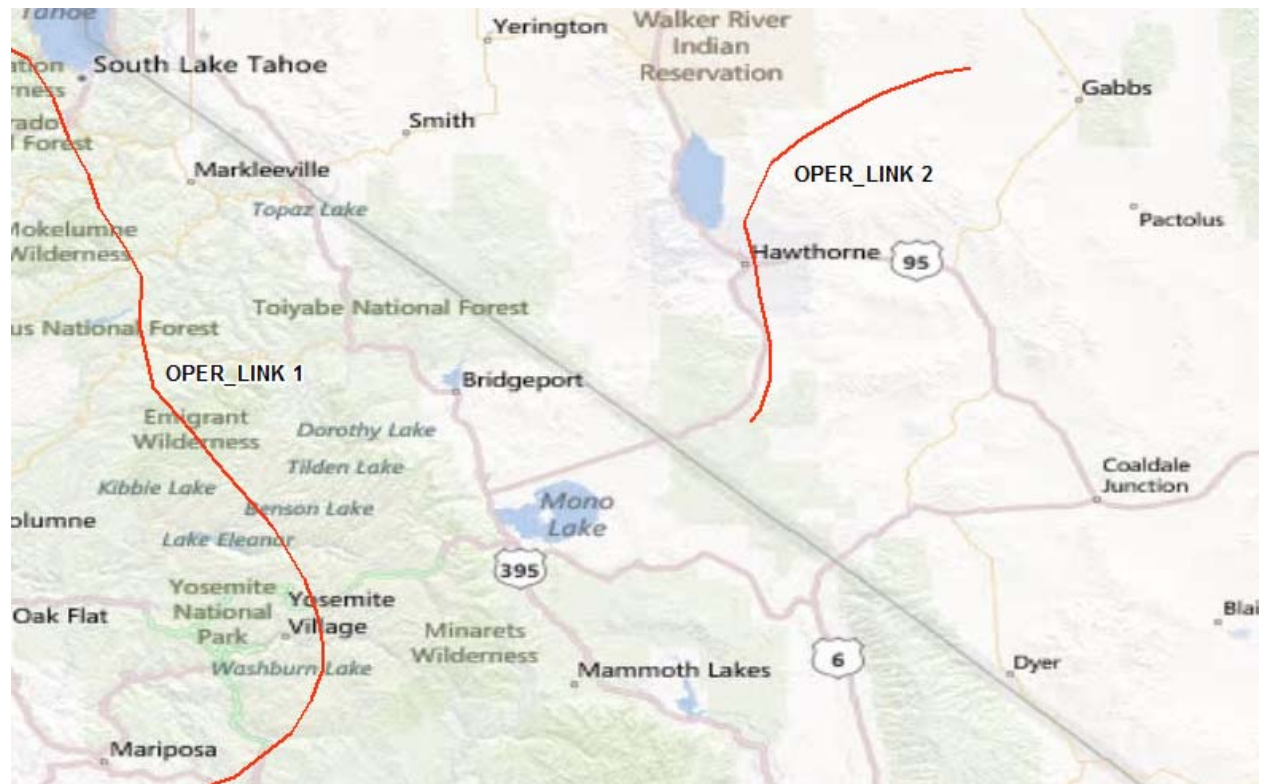
Legend  
 Required Fields  Optional Fields

Previous Next Add Delete Save and Exit



**SCENARIO 2**

In referring to SCENARIO 2, the following images show how the geospatial and attributes inputs are linked to create geospatial data with joined attributes.



Pipeline Attribute Data Entry Screen

### PIPELINE SYSTEM ATTRIBUTES (#1 of 2)

**Operator**

OPID 12345

Operator Name NR PIPELINE COMPANY

**Commodity**

Type **PROPANE GAS**

Detail 1

Detail 2

Detail 3

Description

Specific commodity information, for example "jet fuel"

**Other Attribute**

Interstate  Intrastate

System Name **WESTERN SYSTEM**

**Pipeline Segment Attributes**

	OPER_LINK	PIPELINE ID	SUBSYSTEM NAME	DIAM.	LOW STRESS	STATUS	DATA QUALITY
▶	1	98756	CALIFORNIA GAS	12	NO	IN SERVICE	EXCELLENT: WITHIN 50
*							

**Legend**

Required Fields Optional Fields

Previous
Next
Add
Delete
Save and Exit

Pipeline Attribute Data Entry Screen

### PIPELINE SYSTEM ATTRIBUTES (#2 of 2)

Operator  
 OPID 12345  
 Operator Name NR PIPELINE COMPANY

Other Attribute  
 Interstate  Intrastate

System Name WESTERN SYSTEM

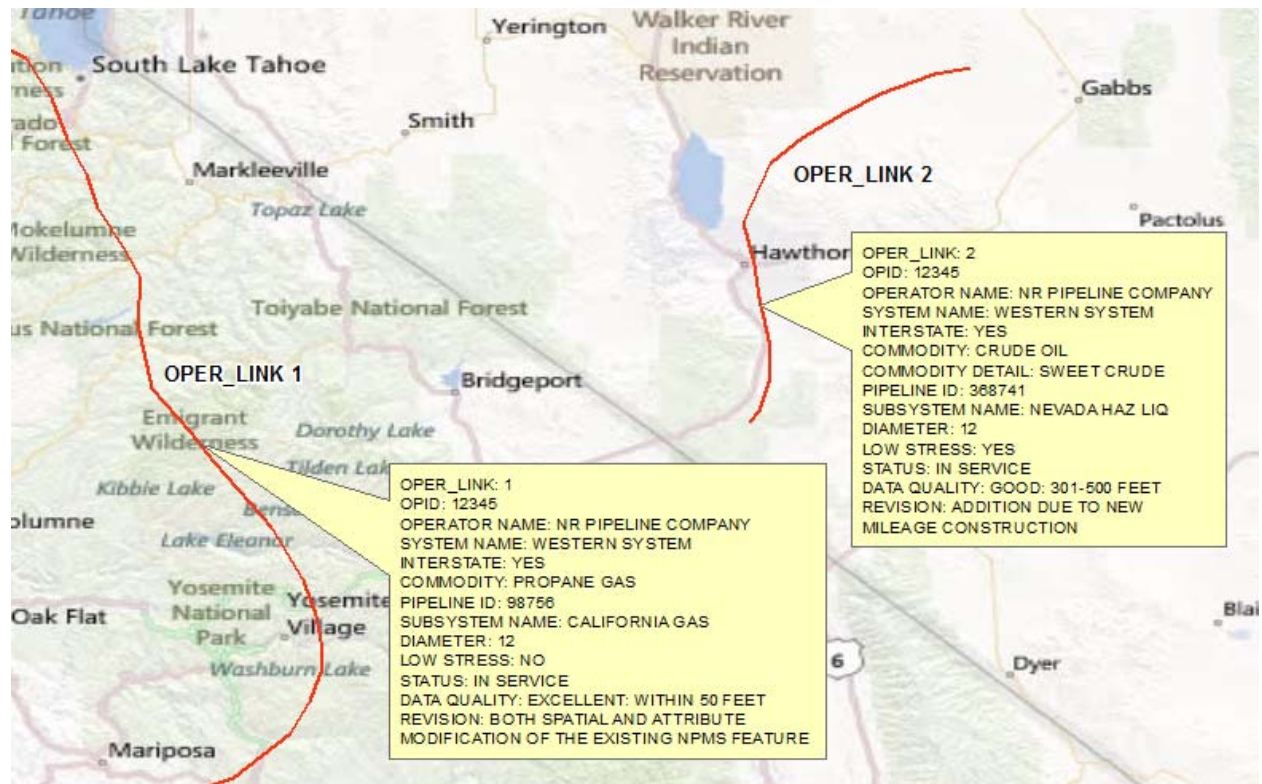
Commodity  
 Type CRUDE OIL  
 Detail 1 SWEET CRUDE  
 Detail 2  
 Detail 3  
 Description  
 Specific commodity information, for example "jet fuel"

Pipeline Segment Attributes

	OPER_LINK	PIPELINE ID	SUBSYSTEM NAME	DIAM.	LOW STRESS	STATUS	DATA QUALITY
/	2	368741	NEVADA HAZ LIQ	12	YES	IN SERVICE	GOOD: 301-500 FEET
*							

Legend  
 Required Fields  Optional Fields

Previous Next Add Delete Save and Exit



## 6. Data Changes and Notifications of No Changes

This section contains information about how to notify us about changes in your pipeline assets.

### 6A. Notifications vs. Data Submissions

As previously discussed, every time you submit data to the NPMS, your submission must fully replace all of your OPID data in the NPMS national layer. However, as long as data for your OPID currently exists in the NPMS national layer, you may be able to submit a notification to us instead of making a data submission when a certain change applies to all of your pipelines. This is only true for three scenarios:

- 1) ***All of the pipelines under your OPID should be removed from the NPMS:*** If your OPID no longer operates any of the pipelines currently in the NPMS, you can submit a Notification of OPID Removal to us in lieu of a data submission. Examples of this situation include:
  - a. All pipelines were sold or divested to another operator
  - b. All pipelines were removed from the ground
  - c. All pipelines are no longer gas transmission or hazardous liquid pipelines under PHMSA's jurisdiction

If any of the above applies to your OPID, you must submit to the NPMS a Notification of Removal for your OPID. You should preferably submit this notification to us via the NPMS Data Reviewer web map viewer. You may also submit this notification to us via email. If you are sending the notification to us via email, your email must be accompanied by the cover/transmittal letter. In the cover/transmittal letter, please include an explanation of the applicable scenario in Question #2. If the pipelines were divested, please include when the pipelines were divested and to whom, including contact information for the operator that acquired it. In Question #3, please state the RMV (removal) submission type.

- 2) ***All of your pipelines were abandoned in place since your last submission:*** If every pipeline for your OPID that is included in the NPMS national layer has been abandoned in place, you can submit to us a Notification of OPID Abandonment instead of a data submission. This does not apply if only some of your pipelines were abandoned. A Notification of OPID Abandonment will only apply to your NPMS submission, and therefore it is not the same as deactivating your OPID for all PHMSA reporting purposes. You should preferably submit a Notification of OPID Abandonment to us via the NPMS Data Reviewer web map viewer. You may also submit this notification to us via email. If you are sending the notification to us via email, your email must be accompanied by the cover/transmittal letter. In the cover/transmittal letter, for Question #2, please clearly state that all pipelines under your OPID that are in the NPMS have been abandoned. In Question #3, please state the RMV (removal) submission type.

If any of the abandoned lines cross a Commercially Navigable Waterway or are offshore, you must complete an Abandonment Certification form and include it with your Notification of OPID Abandonment. We have created an Abandonment Certification Form Template to assist you in

fulfilling this requirement. You can find the template in Appendix B of the [NPMS Operator Standards Manual](#) or on the “[Overview of Submission Process](#)” page on the NPMS website.

- 3) ***None of your pipelines have changed:*** Each year you should review the data for your OPID in the NPMS national layer to determine if there are any changes. You may perform this review in the NPMS Data Reviewer web map viewer. You may also, at any time, request a copy of your pipelines in the NPMS national layer in shapefile format for use in your mapping system. In this case, you must submit a data request through our [online form](#). If the data for your OPID that is currently in the NPMS national layer still accurately reflects your pipelines as of December 31 of last year, you may submit to us a Notification of No Changes instead of making a data submission. By submitting a Notification of No Changes, you are agreeing that between your last data submission and December 31 of the previous calendar year, all of the following are true:
- a. Your OPID has not acquired, divested, or constructed and put into service any pipeline assets.
  - b. Your OPID has not abandoned any pipeline assets.
  - c. None of the attributes describing your pipelines have changed (e.g., same commodity, system name, pipeline status, etc.).
  - d. You do not have spatially improved (resurveyed) data.

If all of the above are true, notify us that you have no changes. Ideally, you should submit this notification via the NPMS Data Reviewer web map viewer. You may also notify us by email. If sending an email, please include your OPID and a clear statement about there being no changes to your pipelines since the last data submission. Please note that submitting a Notification of No Changes is only applicable after an initial submission has been received, processed, and incorporated into the NPMS national layer.

If you have not had any changes to the spatial location or attributes of your pipeline data since your last submission, but your public contact, primary contact, or technical contact has changed, you may still submit to us a Notification of No Changes. You can update your public contact, primary contact, and technical contact information at any time throughout the year. You should update your public contact information by filling out and submitting our [online public contact information form](#). If your primary and/or technical contacts have changed, please send an email to us that includes your OPID; the first name, last name, company name, mailing address, phone number, and email address of the new contact; and whether the person(s) is the new primary and/or technical contact.

## **6B. Changes that Occurred in the Present Calendar Year**

Just like your Annual Report, all NPMS data submissions should include your pipelines as of December 31 of the previous calendar year. If you sold a pipeline on January 1, 2014, you will still include this pipeline in your 2014 NPMS data submission. If PHMSA notices a difference between your NPMS data submission and your Annual Report, your OPID will be flagged and you will be contacted by PHMSA to

address the data discrepancy. See Section 1B to read more about the relationship between an NPMS Submission and your Annual Report to PHMSA.

### **6C. Assets were Sold/Divested or are Now Operated Under a Different OPID**

If assets were sold, divested, or operated under a different OPID as of December 31 of the previous calendar year, do not include these sold or divested pipelines in your new NPMS data submission. For instance, in the scenario where OPID 12345 sold some pipelines to OPID 98765 in October 2013, OPID 12345 would not include those pipelines in their 2014 data submission; rather, OPID 98765 would submit those pipelines to the NPMS in their 2014 data submission.

So that we may clearly understand and treat the pipelines in the NPMS national layer appropriately, it is essential that you notify us when pipelines are sold, divested, or operated under a different OPID. In the cover/transmittal letter, include a detailed description under Question #2 identifying the pipeline segment(s) that were sold, divested, or that changed operatorship. You can use previously submitted NPMS attributes (i.e., System Name, Sub System Name, or Pipeline ID) to identify the pipeline segments, or you can describe the area (e.g., NG lines in Allegheny County, PA). We will use this information to justify the change during the Change Detection process (read about the Change Detection process in Section 10). Otherwise, we may put your submission on hold and contact you for an explanation about why pipelines are missing from your data submission.

Be sure to provide the OPID, company name, and contact person of the new pipeline operator under Question #2 in the required NPMS cover/transmittal letter. If you do not know this information, speak with the person who filed your PHMSA Operator Registry Notification (Type D or Type G) for this sale, divestiture, or change in operating entity.

### **6D. Jurisdictional Changes (Including Pressure Downgrades)**

Only particular types of pipelines are required to be submitted to the NPMS. Since pipelines may move in and out of PHMSA's jurisdiction, please refer to the NPMS Operator Standards for the definition of the types of pipelines that you must submit to the NPMS. An example of when a pipeline moves out of NPMS/PHMSA jurisdiction is when a pipeline's pressure is downgraded from the transmission category (which does need to be in your NPMS submission) to a gathering category (which does not need to be in your NPMS submission). As long as this change occurred during the last calendar year, do not include this pipeline in your new data submission. Include a detailed description under Question #2 in the required NPMS cover/transmittal letter to identify the pipeline segment(s) that no longer meet the NPMS submission requirement due to a jurisdictional change.

When a pipeline moves into NPMS/PHMSA jurisdiction (e.g., a gathering line's pressure is increased to re-characterize it as a transmission line), if this change occurred during the last calendar year, include this pipeline segment(s) in your new NPMS data submission. Select 'J' (addition to the NPMS national layer due to mileage that is new to PHMSA's jurisdiction) as the Revision Code attribute value for this pipeline segment. Include a note under Question #2 on the NPMS Data Submission cover/transmittal letter to identify the new pipeline segment(s) that meet the NPMS submission requirement due to a jurisdictional change. You can use the submitted NPMS attributes (i.e., System Name, Sub System



Name, or Pipeline ID) to identify the pipeline segments, or you can describe the area (e.g., NG lines in Allegheny County, PA). We will use this information to justify the change during the Change Detection process (read about the Change Detection process in Section 10). Otherwise, we may put your submission on hold and contact you for an explanation about why extra pipelines are in your submission.

### **6E. Newly Acquired Pipelines or Pipelines that were Transferred to Your OPID**

Pipelines that were newly acquired or transferred to your OPID during the last calendar year should be included in your new NPMS data submission. Select 'A' (addition to the NPMS national layer) as the Revision Code attribute value for this pipeline segment. Please note that although this pipeline may have been previously included in the NPMS national layer and therefore does not seem to be an addition, we classify it as an addition because it is an addition to your OPID. Include a note under Question #2 in the required NPMS cover/transmittal letter to identify the pipeline segment(s) that were purchased, acquired, or transferred. You can use the submitted NPMS attributes (i.e., System Name, Sub System Name, or Pipeline ID) to identify the pipeline segments, or you can describe the area (e.g., NG lines in Allegheny County, PA). For pipelines that are acquired from an OPID not related to your company, please include the OPID, operator name, and contact information of the previous pipeline operator under Question #2 in the cover/transmittal letter. For pipelines that were transferred from another OPID related to your company, please include the OPID and operator name of the previous pipeline operator.

We will use this information to justify the change during the Change Detection process (read about the Change Detection process in Section 10). Otherwise, we may put your submission on hold and contact you for an explanation about why extra pipelines are in your submission and/or why they overlap existing pipeline data that belongs to another pipeline operator in the NPMS.

If you do not know this information, speak with the person who filed your PHMSA Operator Registry Notification (Type D or Type G ) for this purchase, acquisition, or change in operating entity.

### **6F. Newly Constructed Pipelines**

Pipelines that were newly constructed and went into service during the last year should be included in your new NPMS data submission. For instance, pipelines that were constructed and went into service in 2013 should be in your 2014 data submission. Pipelines that were constructed in 2013 and went into service in 2014 should be in your 2015 data submission. Select 'C' (addition due to construction) as the Revision Code attribute value for these types of pipeline segments. Include a note under Question #2 in the required NPMS cover/transmittal letter to identify the pipeline segment(s) that were newly constructed. You can use the submitted NPMS attributes (i.e., System Name, Sub System Name, or Pipeline ID) to identify the pipeline segments, or you can describe the area (e.g., NG lines in Allegheny County, PA). We will use this information to justify the change during the Change Detection process (read about the Change Detection process in Section 10). Otherwise, we may put your submission on hold and contact you for an explanation about why extra pipelines are in your submission.

In some cases, you might build a new portion of pipeline as an extension to an existing pipeline. This newly constructed portion must be its own pipeline segment in your NPMS submission. This new segment would have 'C' as the Revision Code attribute value. The existing pipeline would be a separate segment in your NPMS data submission and would have a revision code that most appropriately fit the changes (or lack thereof) that occurred on that segment.

Please note that newly constructed pipelines are related to the re-route of a pipeline or the creation of a pipeline in a location where a pipeline did not previously exist. If a pipeline or a portion of pipeline in an existing right-of-way is replaced with a new pipeline in the same location, the NPMS does not consider this to be a newly constructed pipeline. In this situation, the Revision Code attribute value would be 'N' (no change to the existing NPMS feature), 'S' (spatial modification of the existing NPMS feature), 'T' (attribute modification of the existing NPMS feature), or 'B' (both a spatial and an attribute modification of the existing NPMS feature) depending on the other changes (or lack thereof) on the pipeline.

## 6G. Newly Abandoned Pipelines

Pipelines that were newly abandoned during the last calendar year should be included in your new NPMS data submission. Do not resubmit abandoned lines already included as abandoned in the NPMS national layer. If you are unsure what abandonments your OPID has reported to the NPMS, please send an email requesting a shapefile of your abandoned lines to us. You may also view pipelines previously reported as abandoned in the NPMS Data Reviewer web map viewer; there are separate layers in the Layer List for abandoned gas transmission pipelines and abandoned hazardous liquid pipelines. When submitting pipelines as abandoned, be sure to change their Status Code attribute value to 'B' and the Commodity to EPL (empty liquid) or EPG (empty gas) to indicate that the pipeline is abandoned. If you are not sure whether your pipeline is considered to be abandoned according to the NPMS's definition of abandoned, refer to Section 7B of this document for the list and description of each pipeline status.

If the attribute value change is the only change that has occurred (i.e., no spatial data change), select 'T' (attribute modification of the existing NPMS feature) as the Revision Code attribute value for this pipeline segment. Please note that a change to your revision code is not the same as an attribute change to the pipeline segment. If attribute values changed in addition to the spatial location or shape, select 'B' (both a spatial and an attribute modification of the existing NPMS feature) as the Revision Code attribute value for this pipeline segment. Include a note under Question #2 on the NPMS data submission cover/transmittal letter to explain if any such changes should be expected (e.g., you abandoned all pipes in Alaska). We will use this information to justify the change during the Change Detection process (read about the Change Detection process in Section 10). Otherwise, we may put your submission on hold and contact you for an explanation about the changes we see in your submission.

If any of the abandoned lines included in your submission cross a commercially navigable waterway, or are offshore, you will need to complete an Abandonment Certification form and include it with your NPMS data submission. PHMSA has created an Abandonment Certification Form Template to assist you in fulfilling this requirement. You can find this template in Appendix B of the [NPMS Operator Standards Manual](#) or in the "[Overview of Submission Process](#)" page on the NPMS website.

If your review of previously abandoned pipelines reveals a pipeline was reported as abandoned when it was actually in service, idle, or retired during the last year, please include this pipeline in your NPMS data submission with the correct Status Code. Please also include a detailed note under Question #2 of the required NPMS cover/transmittal letter explaining the situation and what pipelines are affected. We will need to clearly understand this situation so that the pipelines marked as previously abandoned may be removed from the NPMS national layer. If there is confusion on this issue, we may put your submission on hold and contact you for an explanation about the changes we see in your submission.

## **6H. Resurveyed Lines or Location Corrections**

Resurveyed lines or spatial location corrections should be included in your new NPMS data submission. If the spatial shape or location of the pipeline is the only change (i.e., no attribute values changed), select 'S' (spatial modification of the existing NPMS feature) as the Revision Code attribute value for this pipeline segment. Please note that a change to your revision code is not the same as an attribute change to the pipeline segment.

If attribute values changed in addition to the spatial location or shape, select 'B' (both a spatial and an attribute modification of the existing NPMS feature) as the Revision Code attribute value for this pipe segment. Include a note under Question #2 on the NPMS data submission cover/transmittal letter to explain if we should expect those changes (e.g., resurveyed all pipelines in Idaho to improve spatial accuracy). We will use this information to justify the change during the Change Detection process (read about the Change Detection process in Section 10). Otherwise, we may put your submission on hold and contact you for an explanation about the changes we see in your submission.

## **6I. Attribute Changes**

If there have been changes to the attribute values during the last year, update the necessary attribute value(s) and include the pipeline segment in your data submission. If the attribute change is the only change (i.e., no spatial change), select 'T' (attribute modification of the existing NPMS feature) as the Revision Code attribute value for this pipeline segment. Please note that a change to your revision code is not the same as an attribute change to the pipeline segment.

If attribute values changed in addition to the spatial shape or location, select 'B' (both a spatial and an attribute modification of the existing NPMS feature) as the Revision Code attribute value for this pipeline segment. Include a note under Question #2 on the NPMS data submission cover/transmittal letter to explain if we should expect those changes (e.g., pipelines in Ringgold, GA, changed from in-service to idle). We will use this information to justify the change during the Change Detection process (read about the Change Detection process in Section 10). Otherwise, we may put your submission on hold and contact you for an explanation about the changes we see in your submission.

## **6J. Pipeline Segments with No Changes**

In your NPMS data submission, there may be changes to some pipelines but not others. For those pipelines that have had no spatial or attribute changes during the last calendar year, include the same pipeline segments and attribute values that were used in your last NPMS data submission, but change the Revision Code attribute value to 'N' (No Change to the existing NPMS feature) for those pipeline

segments. Pipelines that are submitted with a revision code indicating that a change has occurred when it appears that no change has occurred may cause us confusion. To avoid a delay in the review and processing of your NPMS submission, please be sure to always apply the right Revision Code attribute value to your pipeline segments.

### **6K. Pipeline Segments with Replaced Casings**

When you replace casings on an existing pipeline in the national layer for your OPID, the NPMS does not consider this to be a newly constructed pipeline. In this situation, the Revision Code attribute value would be 'N' (no change to the existing NPMS feature), 'S' (spatial modification of the existing NPMS feature), 'T' (attribute modification of the existing NPMS feature), or 'B' (both a spatial and an attribute modification of the existing NPMS feature) depending on the other changes (or lack thereof) on the pipeline.

## 7. Clarifying NPMS Attribute Choices

### 7A. Determining the Correct Revision Code Value

The Revision Code attribute is a required part of any NPMS data submission. If you have purchased, constructed, or modified a pipeline in some way, you must communicate this change to us. Completing the Revision Code value accurately is critical for the Change Detection step to be successful. Using a Revision Code of “N” when a spatial change has actually occurred may require us to put your entire submission on hold and contact you for additional information or corrections to your submission. You can read more about the Change Detection process to understand how we use your Revision Code attribute value in Section 10.

We recommend that operators start their year with an ‘N’ recorded in an attribute field for each segment included in their NPMS data submission. You can then modify that value or your records as necessary throughout the year. As a new pipeline segment is added, choose the correct Revision Code based on why the pipe segment was added:

- A = Addition (related to an acquisition, a change in segmentation, or an error in not reporting the pipeline previously)
- C = Addition due to construction
- J = Addition due to mileage that is new to PHMSA’s jurisdiction

As a pipeline is modified, choose the correct Revision Code based on what was modified:

- S = Spatial modification of the existing NPMS feature
- T = Attribute modification of the existing NPMS feature
- B = Both a spatial and an attribute modification of the existing NPMS feature

If a pipeline segment is not added or altered at any point during the year, the segment’s attribute value will remain an ‘N’ to indicate that no changes were made. If all of your pipeline segments have an ‘N’ at the end of the calendar year, you can complete a Notification of No Changes in lieu of preparing an NPMS data submission. See Section 6A to read more about preparing a Notification of No Changes for all pipelines in your OPID in lieu of an NPMS data submission.

### 7B. In Service, Idle, Abandoned, or Retired?

The following tips should help you determine your pipeline status:

- Status Code = ‘I’ - If your pipeline is operating normally, choose In Service.
- Status Code = ‘D’ - If your pipeline is not currently carrying a regulated commodity, but it still appears on your annual report to PHMSA and you have plans to bring it back into service at some point in the future, choose Idle.
  - Note that the Commodity attribute value for idle pipelines should reflect the last transported commodity. The use of ‘EPL’ (empty liquid) and ‘EPG’ (empty gas) is reserved only for abandoned pipelines.

- Status Code = ‘R’ - If your pipeline is not currently carrying a regulated commodity, but it still appears on your annual report to PHMSA and you have **no** plans to bring it back into service at some point in the future, choose Retired.
  - Note that the Commodity attribute value for retired pipelines should reflect the last transported commodity. The use of ‘EPL’ (empty liquid) and ‘EPG’ (empty gas) is reserved only for abandoned pipelines.
- Status Code = ‘B’ - If you have filed the necessary paperwork to abandon a line, and the line does not appear in your annual report to PHMSA, choose Abandoned. An abandoned pipeline has been permanently removed from service and has been abandoned in place. Pipelines that were abandoned and were removed from the ground should not be included in your NPMS data submission. Be sure to submit abandoned lines only once (in the first NPMS submission after they are abandoned). Please refer to Section 6G of this document for additional details regarding the abandonment of pipelines.
  - Note that the Commodity attribute value for abandoned pipelines should reflect the type of commodity that was previously transported – select ‘EPL’ (empty liquid) for pipelines that previously transported a hazardous liquid commodity or select ‘EPG’ (empty gas) for pipelines that previously transported a gas commodity.

### **7C. System, Subsystem, and Pipeline ID (PLINE\_ID) names**

We appreciate consistency in your system and subsystem names as well as your Pipeline ID (PLINE\_ID) values. This helps us perform accurate Change Detection tasks and successfully track your pipeline segments through the years. When possible, please use the exact same names for your systems and subsystems from year to year. If you name a system “Eastern System” one year and “Eastern Sys” the next, we cannot make an automatic match.

### **7D. Commodity Detail**

Commodity detail is an optional attribute in NPMS submissions. It gives finer detail about the commodity the pipeline is transporting. Commodity detail is only applicable for the commodities ‘CRD’ (crude), ‘PRD’ (product), and ‘NG’ (natural gas). The commodity detail choices are listed in the Pipeline Attribute Table in the NPMS Operator Standards Manual.

### **7E. Interstate**

Interstate is a required attribute in NPMS submissions. This attribute stores ‘Y’ for interstate pipelines and ‘N’ for intrastate pipelines. PHMSA defines an interstate pipeline as one that is regulated by the Federal Energy Regulatory Commission (FERC). The Interstate designation in the NPMS submission must match the designation included in the Annual Report.

### **7F. Low Stress**

Low stress is a required attribute in NPMS submissions for in service pipelines transporting a hazardous liquid. For these pipelines the value should be ‘Y’ (yes) or ‘N’ (no) to indicate if the pipeline is low stress. PHMSA defines low stress pipelines as in service hazardous liquid pipelines that operate at 20% or less of

SYMS. This attribute should be left blank for all ide/retired/abandoned hazardous liquid pipelines and all gas transmission pipelines.

## **7G. Best Practices for All Attributes**

In order to expedite your submission processing and remain in compliance with the requirement to submit an acceptable NPMS submission each year, please ensure:

- You use only the approved values for each field;
- You complete all of the mandatory fields; and
- You keep text fields, such as System Name, Subsystem Name, and Pipeline ID (PLINE\_ID), as consistent as possible through the years.

## 8. Tips for Accurate Spatial Representation of Pipelines

### 8A. Pipelines that Share a Right-of-Way

Each pipeline segment in your NPMS submission should represent a unique pipeline, not a pipeline right-of-way (ROW). If you have parallel lines that share a ROW, you need to represent each pipeline separately in your data submission. For example, do not duplicate the same pipeline feature geometry three times to represent three pipelines that share a ROW. The Subsystem Name or Pipeline ID (PLINE\_ID) attributes should also indicate that each line is different.

### 8B. In-Plant Pipelines

You should not submit to the NPMS any pipelines within a plant. Such pipelines make the Change Detection process more difficult and do not benefit the NPMS national layer. If we identify pipelines that appear to be in-plant piping, we may contact you to confirm and remove the data from the submission. Pipelines within a gas storage field are not considered in-plant piping.

### 8C. Pipeline Segmentation

Please keep pipeline segmentation to a minimum, and keep it consistent. Unless an NPMS attribute is changing, there is no reason to segment a pipeline. Also, unless a pipeline attribute is changing from one year to the next, changes to pipeline segmentation over time should be avoided. If pipeline data is stored in a way where there is a lot of unnecessary segmentation, the data should be dissolved in a way where the results will be consistent from one year to the next.

Submissions with a lot of segmentation, or submissions where segmentation has changed since the previous submission, require additional processing time during the Change Detection process. We will likely have more questions about how to accurately match pipeline segments in these submissions, which can result in unnecessary phone calls or emails asking you for clarification.



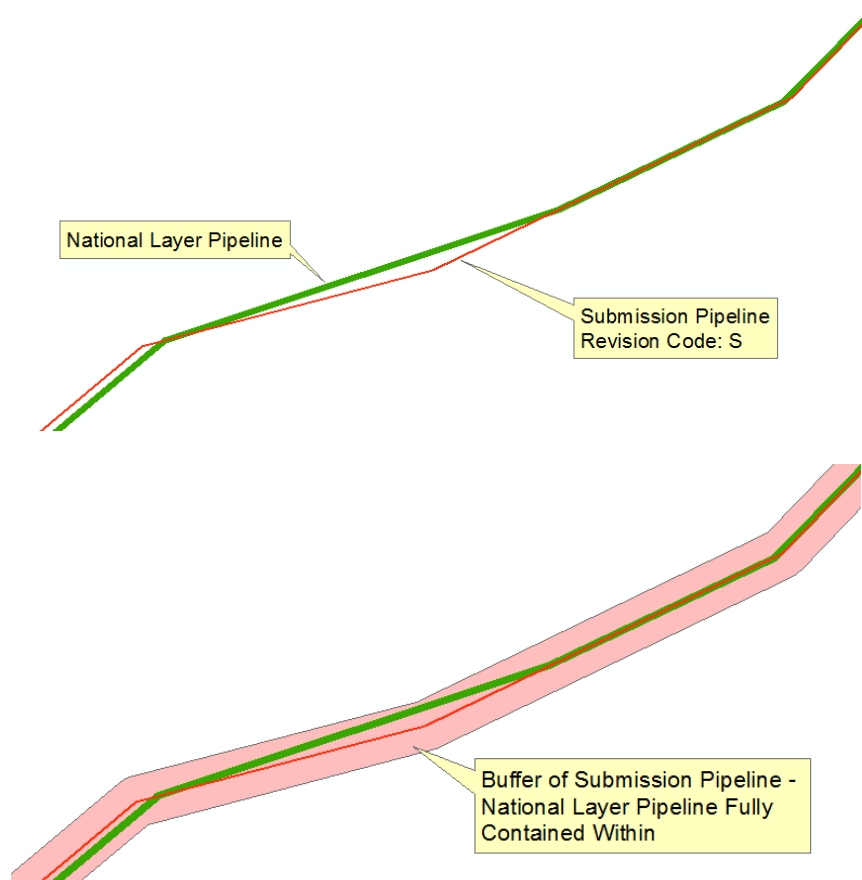
## 9. Tips for CAD Drawing Submissions

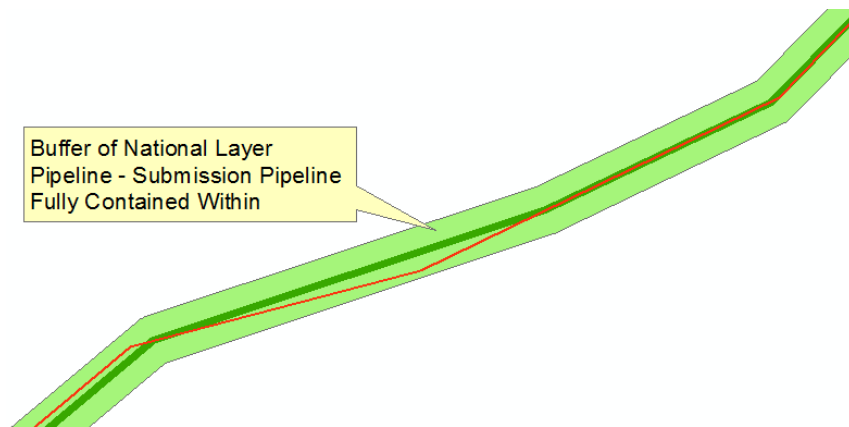
Some operators store their geospatial data in a CAD (Computer Aided Design) system. The output file is commonly referred to as a CAD file, CAD drawing file, or a drawing file (.dwg or dxf file extension). In order for us to accept and process your geospatial component in CAD format, there are a few steps and precautions you need to take beforehand:

- 1) A coordinate system must be associated with the data and recorded properly in the metadata. The NAD83 geographic coordinate system is preferred for CAD submissions to the NPMS.
- 2) The CAD drawing **MUST** be stripped of **ALL** data layers other than the pipelines intended for submission to the NPMS. We will not be able to accept any CAD submission with other data layers included, such as roads or other pipeline-related facilities.
- 3) The NPMS Metadata/Attribute Builder tool must be used to submit the attributes separately from the geospatial data in the CAD drawing if the required NPMS attributes cannot be included within the CAD drawing.
- 4) There must be unique information stored in the layer properties of your pipeline layer(s) that we can use when joining the attributes from your Builder file with the correct pipeline segments in your CAD drawing. Each unique record in the Builder file requires an OPER\_LINK (number) value (please refer to Section 5D of this document for additional information about the OPER\_LINK attribute). The number you assign to this field in the Builder tool must also be present in the Layer Properties of the corresponding pipeline segment(s). You may also apply this concept using the PIPELINE ID field if you prefer to use a text string rather than a number to identify your unique systems (e.g., Line A and Line B rather than 01 and 02). Adding the OPER\_LINK or PIPELINE ID values to the drawing as annotation is not acceptable. You can use one of the following methods to make sure your submission will be accepted:
  - a. Calculate a specific Pipeline Layer Property to equal the values you assigned to the OPER\_LINK or PIPELINE ID fields in the Builder tool. For example, calculate the Layer Description of each pipeline segment in the CAD drawing to the value you assigned to the corresponding OPER\_LINK or PIPELINE ID in the Builder file. As a result, attributes associated with OPERLINK = 123 describe the pipeline with Layer Description = 123. This may require you to separate the pipeline segments into separate layers in the drawing so each layer's description will have the same unique value as its corresponding Builder tool record.
  - b. Choose a value for the OPER\_LINK or PIPELINE ID field that matches a unique value already stored in the corresponding pipeline segment's Layer Properties (i.e. the handle value). If you choose to use values already stored in the Pipeline Layer Properties, they must be unique to the pipeline segment or group of segments that correspond to that one specific Builder tool record. This is the only way we will be able to assure the correct Builder attribute records are joined to the correct pipeline segments.

## 10. Role and Overview of Change Detection

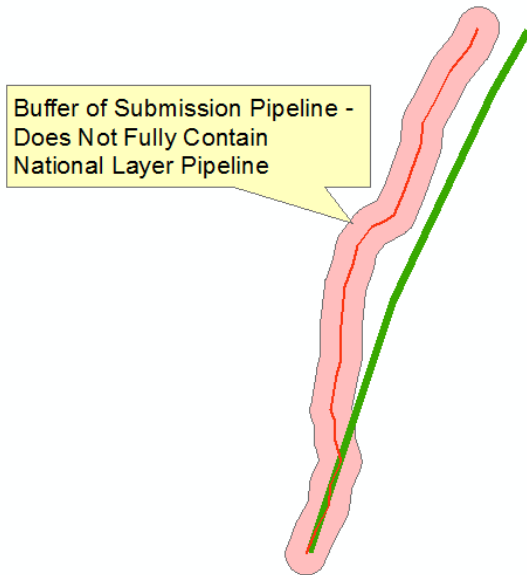
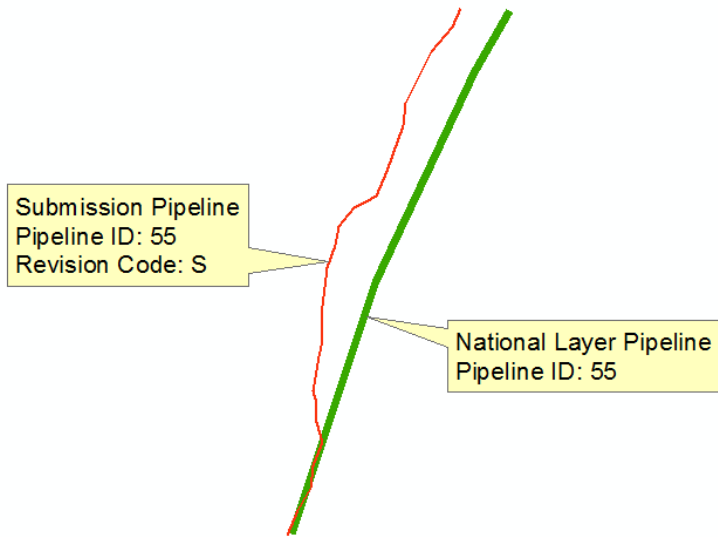
We utilize a custom tool, called Change Detection, to link newly submitted pipelines to pipelines in the NPMS national layer. Linking the pipelines in this manner from year-to-year builds a history of the pipelines that tracks and displays changes over time. Changes of interest include the transfer of the pipelines from one operator to another, changes in commodities and status, and the addition of pipelines due to new construction. The Change Detection process begins with the tool's automated attempt to match this year's data to existing data. In simple terms, for each line segment in the submission, the tool builds a buffer around the feature and looks to see what pipelines in the NPMS national layer fall within the buffer. If a national layer pipeline is found within the buffer of the submission pipeline, the national layer feature is then cross-buffered to check if it also captures the submission feature. Since the purpose is to identify similar pipelines, including their length, this cross-buffering prevents a long pipeline from being matched to a relatively short pipeline simply because it falls within the buffer.



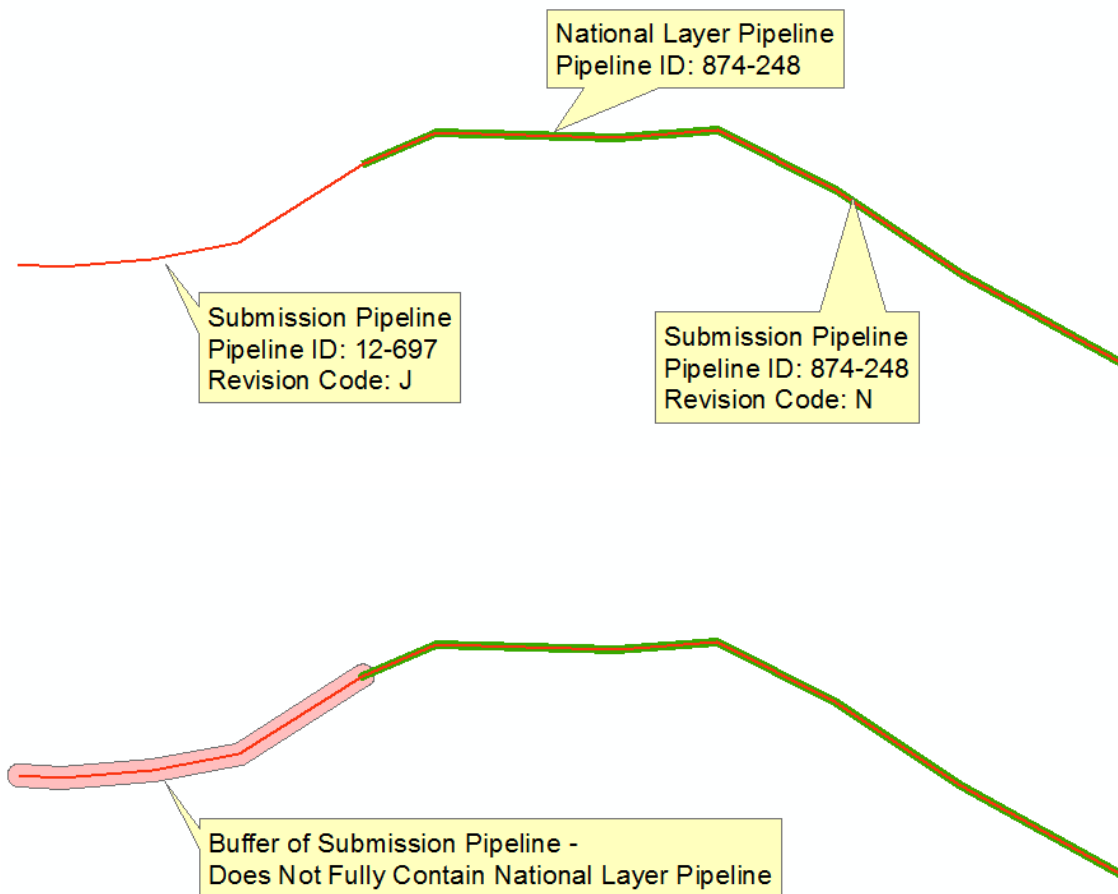


If a similar match is found, the tool links the two pipelines. If no match is found, the tool flags the submission pipeline for manual review. The tool operates on a series of detailed-use cases that dictate how the tool should treat each matched and unmatched scenario. These use cases help ensure that the right pipelines are being matched. For instance, just because a pipeline in the NPMS national layer is similar to a submitted pipeline, it does not mean that the pipelines should be matched; when matching the data, the use cases take into consideration the OPID of both the submission and national layer data and the submission pipeline's revision code attribute value.

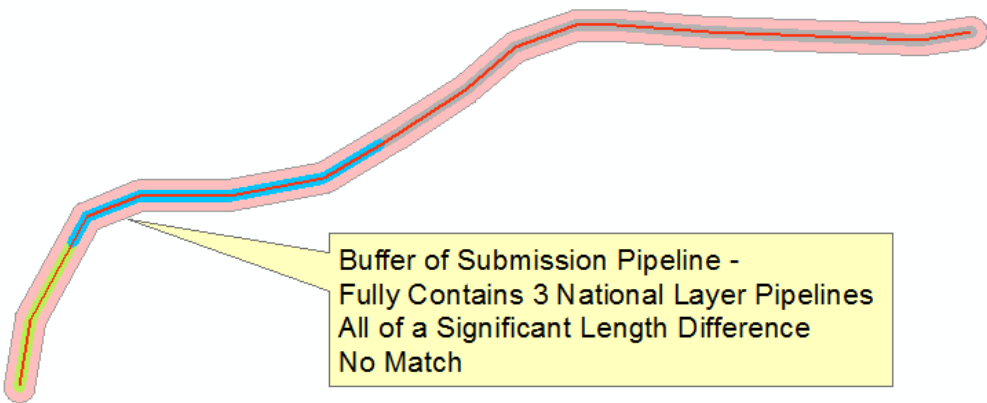
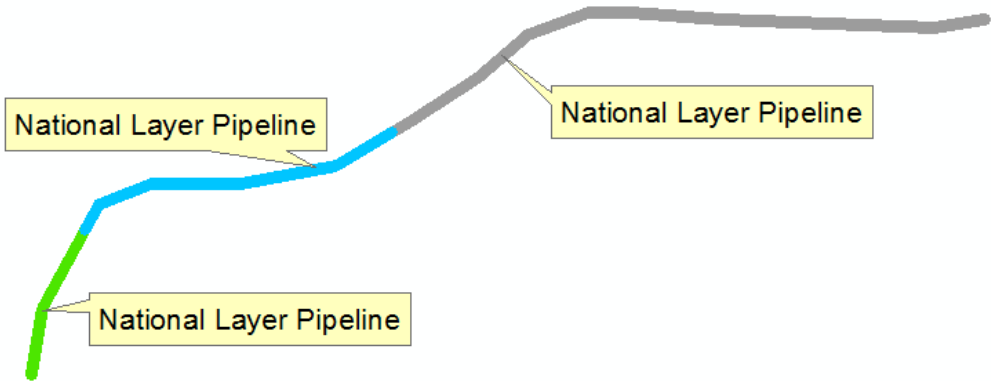
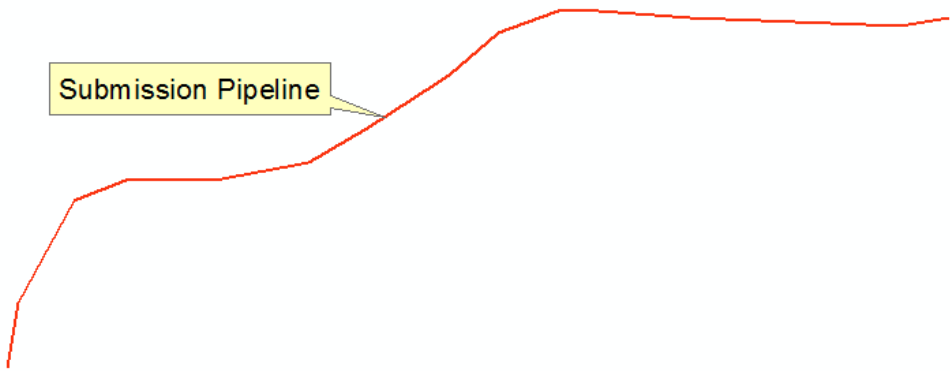
Unmatched pipelines (both unmatched submission pipelines and unmatched NPMS national layer pipelines) are flagged for our review. The unmatched pipelines are associated with various use cases to help us assess the situation. For instance, an unmatched submission pipeline with a revision code of 'S' (spatial modification of the existing NPMS feature) is categorized as a different use case than a submission pipeline with the revision code of 'J' (addition due to mileage that is new to PHMSA's jurisdiction). In the case of the pipeline with the 'S' revision code, it would have been expected that the automated check function would have found a match. Since the national layer pipeline was not captured in the automated buffering of the submission pipeline, it is likely that the corresponding national layer pipeline is too different from the submission pipeline to automatically be considered a match. We would review this submission pipeline and attempt to manually match it to an existing national layer pipeline. If we are unable to find a match, we will contact you to determine what the appropriate revision code should be (i.e., 'J' for new to PHMSA's jurisdiction, 'C' for new construction, or 'A' for addition due to pipeline purchase, segmentation, or inadvertently forgotten in the past).



For pipelines submitted with the 'J' revision code, it is not surprising and actually preferred that the automated process fails to locate an acceptable match in the national layer. Since this revision code means that the pipeline is being added to the NPMS since the last submission, it should not have a corresponding pipeline in the national layer. In this case, we will confirm the tool's finding and mark the submission pipeline as newly added. If a likely match is identified, then we would consult the notes in the NPMS cover/transmittal letter and contact you for clarification. Is this the same pipeline and, therefore, the revision code is incorrect? Or is this a different pipeline? If so, what is the status of the existing pipeline in the national layer that was the potential match (i.e., why wasn't this pipeline resubmitted)?

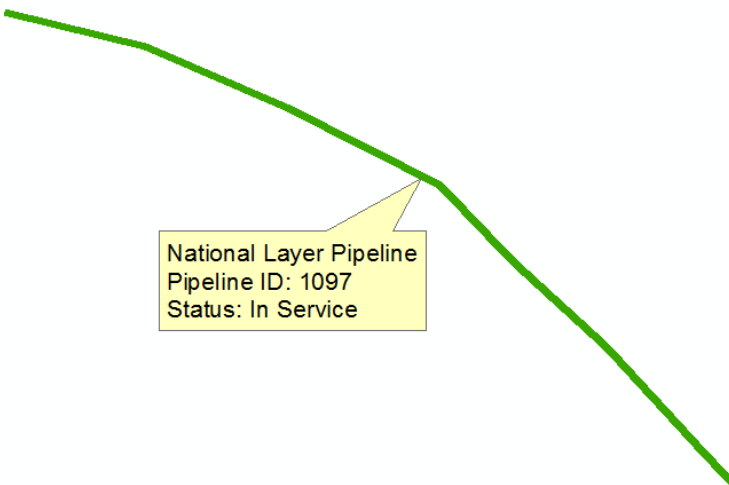


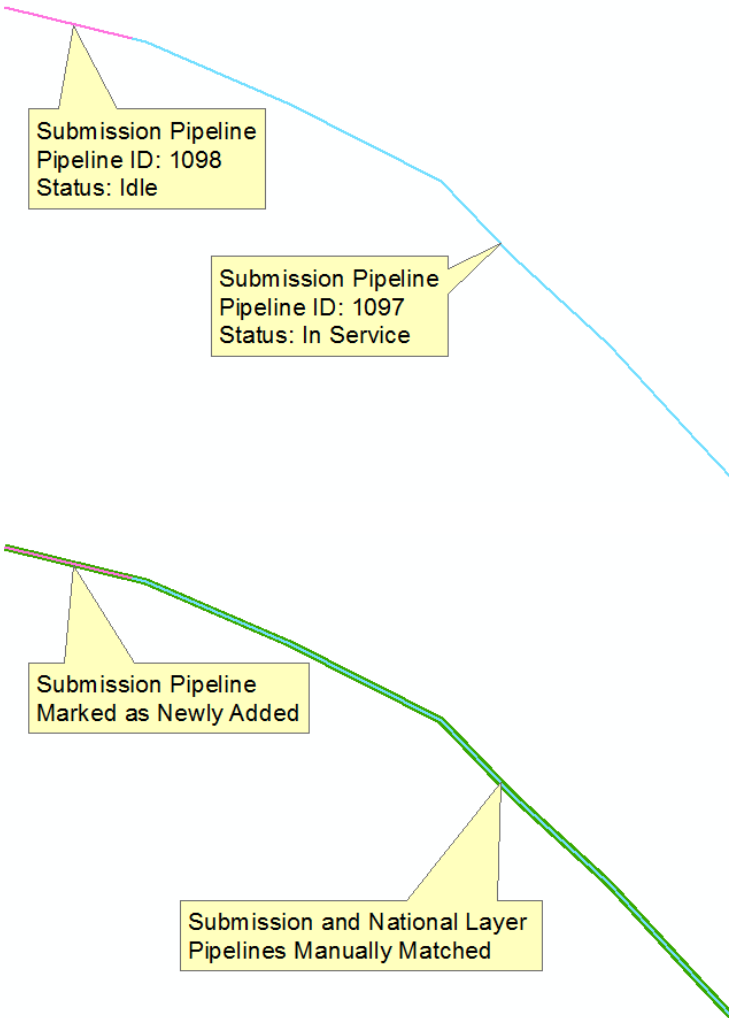
Segmentation of the submission data in relation to the national layer data greatly impacts how successful the Change Detection tool is at automatically matching the two sets of data. For instance, when a pipeline was originally submitted as a single segment and is then submitted as three segments (even though there have been no changes in the NPMS attributes), the tool is unable to match any of the submission segments to the national layer segments. We have to review these pipelines individually and manually match one of the submission segments to the single national layer segment. Since a national layer segment may participate in only one match, the other two submission segments are marked with the use case that defines the submission segments as newly added. A similar situation occurs in the reverse scenario. When the national layer pipeline is composed of three segments and the submission pipeline is a single segment, the tool is unable to create a match. We have to manually match the submission segment to one of the three national layer segments; the remaining two national layer segments would be marked with the use case that will delete the national layer segments from the national layer. While this may be minimal effort for us with a submission that has very low mileage, it is a significant effort when you consider the thousands of miles of pipelines that we process each year. This lack of automated matching and resulting manual matching is why we request that the segmentation remain as consistent as possible from year-to-year.



Since the use cases depend upon the revision code attribute value, it is essential that the revision code accurately captures what changes occurred to the pipeline segment since the last submission. If the segment requires manual matching, it is also critical that we can rely on the revision code so that poor assumptions are not made. Having accurate revision codes also helps you avoid receiving emails from us asking for clarification about what is occurring at a specific location. Similarly, without having to reach out to operators for clarification or edits, we can process submissions faster and can incorporate them into the NPMS national layer more quickly.

In some cases, a pipeline is segmented to accommodate changes in an attribute since the last submission. For instance, this can occur when a portion of the pipeline has changed status from in service to idle. Since the status of the pipeline is one of the attributes included in the NPMS, the pipeline must be segmented at the point where the pipeline goes from in-service to idle. In this situation, the submission segment which most closely matches the existing pipeline in the national layer should have its revision code set to 'S' to indicate that there is a spatial change. If, in addition to the spatial change, an attribute has also changed, like updating the commodity or adding a subsystem name, the revision code should be set to 'B' to indicate that there is both a spatial and an attribute change since the last submission. In this scenario, for the submission segment that has an idle status, the revision code should be 'A' to indicate it is an addition to the NPMS. This particular segment has never existed before in the NPMS, and that is why it is set as an addition. When we manually match the data in the Change Detection step, the submission segment with the 'S' (or 'B') revision code would be matched to the existing national layer segment. The submission segment with the 'A' revision code would be marked as newly added.

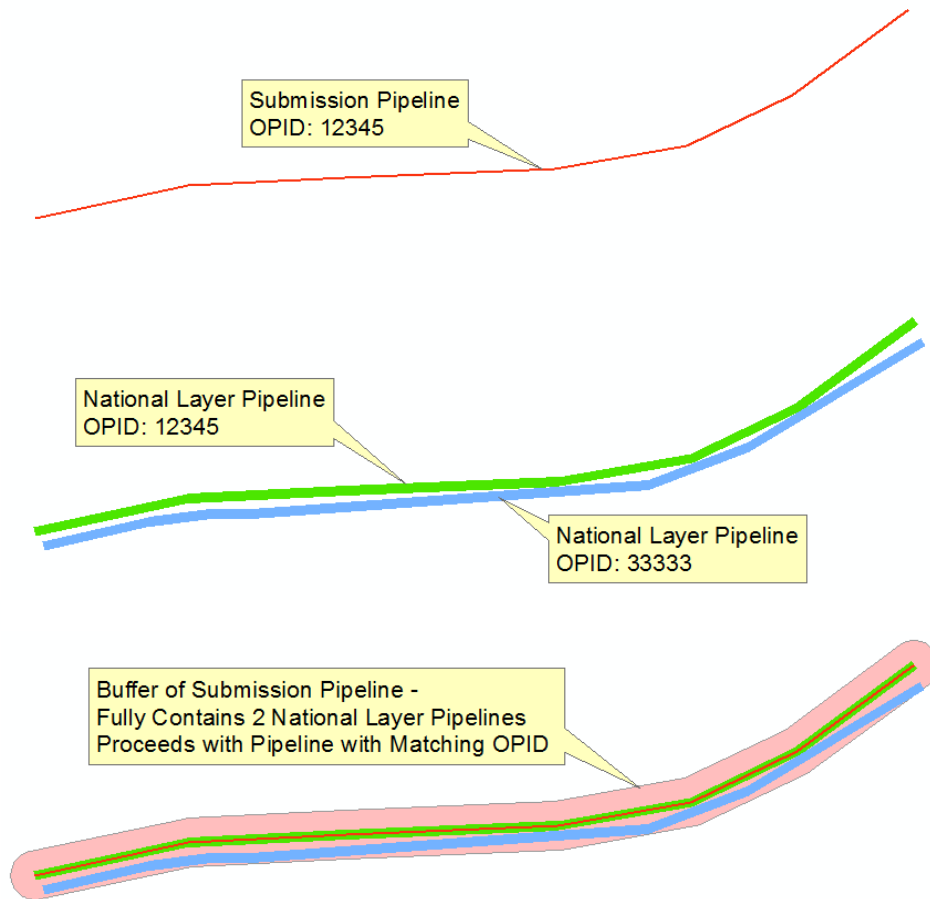




It is not uncommon for pipelines to be acquired and, thus, be reported under a different operator. For NPMS submissions, pipelines transferred from one OPID to another OPID under the same parent company should be treated in the same manner as pipelines that are acquired from an operator not associated with the same parent company as the NPMS submitter. In order to assist us, this situation should be clearly detailed in the cover/transmittal letter. If you are including pipelines in your submission that were acquired from another owner/operator, these pipelines should be marked with the revision code 'A' to indicate it is an addition to the NPMS. Even if these pipelines were previously included under a different OPID, you would include these pipelines as revision code 'A' because they are new to your OPID. During the Change Detection step, the tool will attempt to automatically match the submission data to national layer pipelines regardless of the OPID of the national layer pipeline data. The tool has specific rules it follows where it first attempts to match the submission segment to a national layer segment of the same OPID. If no match is found, the tool then attempts to match the submission segment to a national layer segment of any OPID. If a potential match related to another OPID is found, the tool flags the potential match as needing further verification. Based on information provided in the cover/transmittal letters by the pipeline buyer and seller, we will confirm if the potential



match is valid. If there are questions regarding the validity of the match, we will contact the submitter/buyer for clarification before accepting or rejecting the match.



Once all of the submission pipelines are either matched or marked as newly added, we address any unmatched national layer pipelines of the same OPID. As noted before, some of the unmatched national layer pipelines may be marked for deletion due to changes in segmentation. The remaining national layer pipelines are researched to determine what the appropriate action is. We refer to the cover/transmittal letter content to determine the reason a pipeline was not included in a submission. If the pipeline was reclassified and is no longer under PHMSA’s jurisdiction or simply was submitted in error in the past, the national layer pipeline is marked for deletion. If the pipeline was abandoned, the national layer pipeline is marked to be converted to abandoned status when the submission is incorporated into the national layer. During the incorporation process, the abandoned pipeline is converted from the operator’s OPID and name into a generic NPMS 99999 OPID with the operator name “ABANDONED.” Additionally, the operator’s public contact information is stripped from the abandoned pipeline. If the pipeline was divested to another operator, the national layer pipeline is marked to be converted to a sold pipeline when the submission is incorporated into the national layer. During the incorporation process, the sold pipeline is converted from the operator’s OPID and name to the generic NPMS 88888 OPID with the operator name “SOLD.” Like the abandoned process, the public contact

information relating to the original operator is removed from the sold pipeline. If the cover/transmittal letter does not describe the situation (at all or with enough detail) regarding the unmatched national layer pipelines, we will contact you for clarification.