NPMS Operator Workshop Discussion Minutes
Wednesday, Nov 18, 2015

The workshop had a fast pace of discussion. The following minutes are an attempt to capture major discussion points, but not all discussion threads were able to be captured. Attendees are named when they identified themselves and the note-taker was able to capture the name.

NPMS team members mentioned below are:
Amy Nelson, PHMSA
Leigha Gooding, PHMSA
Katie Field, Michael Baker International
Bellinda Monge, Michael Baker International
Ron Brush, New Century Software
Chuck Wright, New Century Software

- Intro Q/A
  - No comments

- Technology Showcase
  - **Terry Boss, INGAA**
    - Concern with volume associated with new data
    - Unlinked data between submissions
    - Code lists don't match
  - **Mike ?**
    - What is the estimate on the increase in volume?
    - What additional attributes will be involved in change detection?
    - What will be the impact on the existing tool set?
    - How much pipeline detail will be available in PIMMA+?
  - **Attendee:**
    - Attributes not in a GIS, upon extraction, how would it be tracked with the segmentation?
  - **Mike Bordovsky (Kinder Morgan):**
    - Are IUs available for download?
    - Are contacted by inspectors trying to find the pipelines that fall under these units
    - Would find it helpful to have that information ahead of time
    - **Leigha:** IUs are for internal use only and not available online; however, if operators contact NPMS/DOT with the explanation as to why the IU data would be needed then the NPMS could make that available to the operator on a case-by-case basis.

- Geospatial data format and Linear Referencing Systems (LRS)
  - **Amy:** Show of hands, who uses the following:
    - ESRI (1/3 – 1/2 of room)
    - Smallworld (4-5 hands)
    - CAD (no hands, but comment from attendee saying some operators use CAD)

- PODS data model (1/3 of room)
- ESRI data model (4-5 hands)
- Custom scripts/tools (1/3 of room)
- No GIS/mapping program (no hands)
- **Attendee from PRC:**
  - NPMS Attributes and Operator code names for attributes are not the same
  - Thinks this is going to be the major issue
  - There's no industry standard
- **Attendee:**
  - Is the coating of a pipeline going to be captured?
  - Believes this is going to be an issue
  - Operators will coat the pipeline differently to change the risk factor of the pipeline
  - When the manufactures change coating, how is this expected to be captured?
- **Attendee:**
  - They have a field type along their database schema which will not match NPMS
  - Believes this will cause many issues when the formats don't match
  - Some sort of translation will be needed that can transfer formats over
- **Attendee:**
  - Comments:
  - Attributes may be attached to the spatial or linear referencing or have a 3D relation
  - As the information gets re-referenced to be more accurate, the data is constantly changing and becomes a more complex dataset
- **Attendee:**
  - Why should operators have to use the LRS system?
  - Why is it necessary to take the operator's shapefile and force it into an LRS
  - **Leigha:** Taking a shapefile and forcing it into a linear referencing will have its issues. We saw the linear referencing system as an option; however, we can't force operators to use an LRS system. But we are trying to match things up closer to the way operators have their data.
- **John Waldeck (Plains All American):**
  - Plains started using the personal geodatabase template provided by NPMS, but as they evolved, they moved over to a PODS system, and are currently using PODS. They have their derived layer pulling the 16 attributes required for their submission. Segmentation is a huge factor though and as more attributes are introduced so is the segmentation. Their PODS system currently has 400+ tables, and they only use 81 of those tables. They reviewed all the attributes, and confirmed that they are all coming out of PODS. They don't have to worry about the risks out of the database. HCAs are also captured in PODS. The challenge is going to be having to map some of the data. It will take some time to sort out the schema. But he uses the derived layer, and it has worked very well. However, given the discussion he's now considering the LRS submission format. Doesn't think the personal geodatabase is in operators' best interest anymore.
- **Terry Boss (INGA):**
  - HL systems may have some wall thickness changes due to class location changes

- Lots of changes going on
- GT system changes will be exponential because of the attributes being asked for

- o **Attendee:**
  - Will change detection be done on new attributes?
  - Should operators flag those changes?
  - Or should operators only flag when the existing attributes are changed?
  - **Leigha:** we mostly want operators to track/flag their spatial changes – changes in the geometry. Not so much the attributes. The revision code does tell us if only the attributes in a pipeline have changes, however, we're not necessarily looking to be told what attributes have changed. It just gives us the confidence to know that only the attributes changed for that pipeline

- o **Erin (AGA):**
  - The way the revision codes are labeled is what may be causing the confusion regarding attribute changes
  - Submissions are submitted as full replacements
  - With the new attributes, segmentation is expected to have constant changes
  - Are the revision codes even necessary with all the changes that are expected?
  - Everyone is preparing differently and have a unique system so it's hard to say overall how submissions will be put together and submitted
  - Unsure how the Annual Reports will look like or what will be requested from operators
  - Won't know how Annual Reports will be prepared until changes are released
  - **Katie:** If the Info Collection goes forward, PHMSA will take a look at the individual revision code values and assess if each one still make sense. The revision codes related to additions to the NPMS (codes "A," "J," and "C") are very important for NPMS analysts in the evaluation of the submission.
- o **Attendee:**
  - Created a hybrid model
  - Uses LRS, still has engineering stationing, vertices, pipe segment has become their centerline
  - Codes and domains are the same so that no translation is needed
- o **Attendee:**
  - The information requested in the Annual Report is not always in a GIS, therefore, it can be hard to get the information to match up
- o **Ted Peay (Questar):**
  - They use the same dataset for both the NPMS and the Annual Report submittal
  - Start processing in the late fall in preparation for their submissions
  - Can take 3-4 months before they actually finalize their reports
  - Compared domain list to what they have, they don't have a 1 to 1 match
  - There needs to be a set standard and get everyone on the same page, otherwise, the values won't match
- o **Attendee:**
  - PowerPoint slide: ROUTE; Using the compressor station image displayed in the slide, in the example of the center compressor station, they would have to bring

their pipelines to a vertex where the compression station is located, but in reality that's not what the pipelines do.

- Having to bring their pipelines to a vertex at a compression station is going to be an issue for them and potentially other operators
- **Ron:** The intention is not for the operator to falsely represent their data. If the transmission line ends at the compressor station and starts again off the operator's property, there should be a gap in NPMS data.
- NPMS Operator Standards states that there shouldn't be any gaps.
- **Leigha:** Believe that refers to not having gaps in a single feature, which creates a multi-part feature. Will take a look at the Standards and clarify that language.

- o **John Waldeck (Plains All American):**
  - For years they didn't submit inactive pipelines until recently (2014)
  - Now there is a clause stating that they have to submit both active and inactive pipe
  - So now, 1-5 days after the year ends, they close and only use that data for reporting, which helps keep their submittals consistent and matching
- o **WBI Energy in Montana:**
  - They are currently running PODS
  - As their prep, they tie up loose ends towards the end of the year as most operators
  - NPMS submission data comes out of their GIS database
  - The Annual Report data is collected from activity that occurs throughout the year
  - Takes about a month to prep their GIS

- Explanation of optional LRS submission format described in Appendix D
  - o **Amy:** Show of hands, who is using:
    - A linear referencing system (about half the room)
  - o **Attendee:**
    - In a one-to-one relationship with the attributes, a conversion can be done
    - The biggest problem is going to be in a one-to-many or many-to-one relationship
    - As new data gets put in, operators may end up with blank data for some of the pipelines in the system
    - There will be constant processing with updating those records
    - There's a question on the credibility when the NPMS says one thing and the operator's system says something else
  - o **Ted Peay (Questar):**
    - They do a spatial analysis to compare the spatial accuracy of the data and find the spatial differences
    - What process does NPMS use to compare the spatial accuracy of the data (e.g. when they have data with a 40FT accuracy and compare against a dataset with a 50FT accuracy)?
    - Uses imagery as a reference when they consider the accuracy of their data
    - What happens when their data is compared to another dataset that doesn't have the same type of accuracy?
    - **Amy:** as long as the operator has a thorough explanation on the accuracy of their data, PHMSA understands that some discrepancy may occur.

- **Attendee:**
  - What is the right-of-way?
  - If you're using PIR (Potential Impact Radius, you're using another method to determine if a pipeline is located at an HCA
  - It gets complicated trying to figure out why it is the right-of-way rather than trying to just use class location
  - Concerned with using the DOT roadway dataset because of the accuracy and consistency, for instance the centerline goes all over the place.
  - **Amy:** Will talk to PHMSA team about the roadway dataset and operators' concerns.
- **Erin (AGA):**
  - The topic of expanding the scope of the HCA definition, needs to be tackled during a formal rulemaking and not during the Info Collection meeting
  - Awaiting GT ruling
- **John Waldeck (Plains All American):**
  - Concern with how much PHMSA is willing to take on:
    - E.g. If their system lists a line as "poly", but the acceptable value is "plastic"
    - There is a variance in the code look up. There's going to be issues and conflicts. How much is PHMSA willing to take the responsibility with the cleanup of the data
    - **Amy:** "Poly" isn't a choice so you would have to select a value that is listed
    - **John Waldeck:** Cleanup of the data would be required, which will impact when they are able to submit
    - **Katie:** The work is on the operator to make the changes to their system once the domain list and the values are final and posted. The NPMS staff is not pipeline people, but mapping people. NPMS staff would not be able to make the proper judgement to know that "poly" = "plastic"
- **Attendee:**
  - Every operator may have their own definition of a route, pipeline segment, etc.
  - **Ron:** It is up to the operator how they define a pipeline and segmentation
  - Every operator may have their own unique LRS system setup. Will NPMS staff be accepting the different LRS systems?
  - **Ron:** Yes.
- **Paul:**
  - When they do a replacement they may do it with the pipeline considered as distribution rating, but internally it's considered as one transmission line
  - In a LRS system their lines would no longer be considered continuous
  - **Katie:** If the distribution portion of the line is located at the beginning or end of the route, you could just subtract the non-transmission portions from the line.
  - **Ron:** Transmission pipe is replaced with distribution grade pipe in the middle, which changes the material of the pipe. That would have been considered 1 continuous pipe (e.g. pipe A), but now it would be split into multiple routes
  - **Amy:** Distribution data is not accepted and should not be submitted
  - **Ron:** Segmentation would need to be forced and the distribution portion of the pipeline would not be submitted but only the transmission portions of the pipeline

- o **Washington Gas:**
    - Uses Smallworld
    - They house the HCAs in different object layers
    - Is there an alternative to submitting the traditional or LRS method?
    - Will operators be able to submit multiple shapefiles?
    - They're moving to a new system and would have dynamic segmentation
    - Are trying to find an alternative in the mean time
    - **Leigha/Ron:** There may be a need for the NPMS to accept spatialized event tables if that option means that more operators will submit in the LRS format. That is something that PHMSA will investigate and consider further.
- o **Attendee:**
    - Distribution and transmission look and operate identical
    - It's the SMYS that makes them different
    - Their segmentation will drastically change with the addition of attributes
    - If they dynamically generate Line IDs for the purposes of submitting to the NPMS with all the new attributes, there will be no way to track what happened with the pipelines because those pipelines will not exist anywhere in their system.
- o **Bill Redmond (Dominion):**
    - Uses small world
    - They use FME to export their data as shapefile
    - Can they submit multiple shapefiles? Or do they need to find a way to combine them so that they can submit all of the required attributes?
    - **Amy:** It's a possibility but will need further discussion. Is a traditional format going to be better?
    - Yes. Because they can just export their data through FME easily.

- Segmentation in Geospatial Data
    - o **Amy:**
        - Do operators segment their data in any other ways aside from attributes?
    - o **Paul:**
        - When their system was put into a GIS system, the data had unnecessary segmentation in places for no reason
        - Will a submission with 2 pipelines having identical attributes be accepted?
        - **Leigha:** Submissions will not be rejected; however, unnecessary segmentation isn't beneficial to the NPMS or the operators. Regardless, the submissions will not be rejected. The NPMS wants to maintain the operator's route (in the LRS method). With the traditional method, the NPMS may clean up some of that duplicate data.
        - What is the real level of detail expected with the coating (coding?) types
        - **Erin (AGA):** topic should probably be discussed during the Predominate section
    - o **Attendee:**
        - They have 25 year old technology
        - They have segmentation because that's just how the data was done.
        - They have had made cleanup efforts but other things have higher priority so the unnecessary segmentation has not all been removed

- As long as PHMSA will not be rejecting the submission, a cleanup of the data will most likely not be completed on their part
- **Chuck:**
  - Distribution operators who have lines rated as transmission because of the SMYS, falls in line with a route, however a route is a continuous line. Do operators have a number of discontinuous pipe with the same route ID or unique identifier? Wants feedback.
  - **Attendee:** Outside of an LRS model, they will take groups of pipeline and assign them a unique ID. What would have been a continuous route ID now consists of 4-5 IDs
  - **Attendee:** Having multiple lines with the same ID causes confusion in the map viewer. Users will click on a line and will get a return of multiple records with the same IDs/attributes making it difficult to follow
- **Katie:**
  - If you have a linear referencing system, are there any other issues that might come up that might cause operators to not submit in the LRS format?
- **Attendee (Bill Redmond?):**
  - They have major segmentation
  - If the NPMS will be redefining and removing segmentation, how is the NPMS going to be doing this?
  - **Leigha:** If the traditional method is used, when there are segments with attributes not required by the NPMS, those lines will be removed from the centerline.
  - **Katie:** Yes the data will be coalesced, however, our questions regarding the pipeline(s) and actions taken on the data is done to the submitted pipe data
  - **Operator:** How does it affect when they've submit 3 segments that the NPMS has coalesced to 1 segment, and down the line, in a future submittal, their 3 segments are compared to what is now just 1 segment?
  - **Katie:** We will have to review the data with that same formatting in mind
- **Rosanne Rogers:**
  - They don't have an LRS system
  - Just had a comment
- **Mike Lahey:**
  - Uses PODS spatial
  - There's an OPER_LINK as integer, but they use GUIT in their database. Instead of using the integer, can they submit as text?
  - **Amy:** Definitely not ready to start accepting this data now. PHMSA can look at changing OPER_LINK to text to make it more accommodating in the Info Collection version. OPER_LINK could also be included as text now (doesn't need to wait for the Info Collection).
  - **Katie:** In the current Standards the OPER_LINK is only used to join the spatial data to the attribute data when operators submit their attributes using the builder tool. While the OPER_LINK is hard coded in the NPMS Metadata Attribute Builder tool as an integer, operators don't have to use that attribute to make the connection between the two pieces of data. The operator is welcome to use another value,

such as the PLINE ID (text), as the connector; just be sure to include a note regarding that in the cover letter or else the NPMS analyst won't understand. Currently, as soon as that link is made the OPER_LINK is dropped – it is not retained in the data as it moves along the workflow.

- o **Terry Boss (INGA):**
    - If operators are going to try to submit accurate data on the centerline? If operators are going to overlay it in a Google map for accuracy? Trying to figure out the overall accuracy - where things are going to be and how accurate data is going to be in comparison to what the operators have internally
    - **Operator:** There are things operators, the general public, and emergency responders want to see. There's going to be different translations of the data. Not sure what the risk model is going to show
    - **Erin (AGA):** There's a major concern out there with the accuracy issue with all the attributes out there. That the information will be misunderstood at PHMSA and at the state level where the riskiest pipelines are located. Because you're laying all this "inaccurate" information on top of each other and trying to deduce where risky pipelines are located. You guys probably understand this, but the people at PHMSA need to have a discussion about the accuracy of all this and how it will get translated by users.
    - **Amy:** If the accuracy is 500FT, data doesn't become less accurate because you're using linear referencing.
    - **Leigha:** We do not do the same level of risk ranking that operators do. The GIS is just one piece of the puzzle, but we're not trying to replicate the same risk ranking.
    - **Roger Little (PHMSA Risk Expert):** We're more at a national level. We're aggregating things. If the accuracy is 500FT, it's not anything we're not already using at 500FT. Any issues with the accuracy perceived will definitely go through careful consideration. And we don't reveal any of our risk evaluations to the public.
- Predominant
    - o **Josh (Marathon Pipeline):**
        - They use the PODS model
        - The predominance wouldn't benefit them because they track all changes already
    - o **Amy:**
        - Show of hands - who tracks the changes of a pipeline no matter how small? All raise hands
    - o **Terry Boss (INGA):**
        - Is there a value of submitting tracked changes at that level if not used at a risk level?
        - The more data the more chances there are for breaks in the data.
        - You're getting two different views from a company because it's coming from two different folks (e.g. What's the value? And what's the data going to be used for?)
    - o **John Waldeck (Plains All American):**
        - Preference would be to submit the actual year (i.e. the actual data in PODS) and not predominance because that would just require additional cleanup

- Never understood the decade of installation from PHMSA's perspective. Operator needs to know how old the pipeline is because even if it's taken out of service, they need to know the age of the pipeline.
  - **Chris Barb:**
    - It's PHMSA's responsibility to generalize after the fact because the operators have to track the changes to a pipeline no matter how small.
  - **Terry Boss (INGA):**
    - If you have an operator who has their data set up in the format with the attributes then it's not so hard, but for operators who have to put their data into a GIS and then still have to format it, it is harder
  - **Morgan Powell:**
    - If they have to extract the data to manipulate it the way it has to be, it will take up a lot of time because she is the only person in the GIS group for her company
  - **Chuck:**
    - Even though there's some reduction in segmentation by looking at decade of installation it's not going to have any overall impacts to the segmentation (aside from wall thickness)
  - **Scott Bloom:**
    - The models handle the segmentation, are we looking to reduce it on PHMSA's side?
    - **Leigha:** The centerline and the segmentation we have to deal with in change detection is the biggest concern.
  - **Erin (AGA):**
    - The hesitance about using predominance is because it's not useful in all applications for the analysis PHMSA wants to do
    - Operators want to be able to take credit for their maintaining their pipelines and want that reflected in the data (e.g. coating, pipe join method , welding at the end of a pipe)
  - **Operator:**
    - For the attributes like coating, would it be actual or predominant?
    - **Amy:** It would be actual not predominant
    - **Ted Peay (Questar):** There's no requirement from their operations system to collect this information so it would bring a huge burden to their group
  - **Erin (AGA):**
    - Through the submission process people are comfortable selecting "unknown" where it makes sense
    - What could the consequences be for selecting unknown?
    - Operators will ask if their NPMS data has to be verified, assumed, estimated or complete. How will unknowns be managed?
    - **Amy:** Risks calculations would be affected, therefore, we want to restrict where unknowns are used. NPMS data is not sent out through FOIA. Work with CSA when info is requested. We direct users to the public viewers. We've never been forced to release anything through FOIA that affects the security risks.
  - **Erin (AGA):**

- Conservative assumptions vs actual verified data (e.g. wall thickness, validation process)
- Are the conservative assumptions the kind of information that the NPMS is trying to accept?
- PHMSA is going to see a pipeline much riskier from an operations standpoint
- **Amy:** Integrity management, operators are classifying pipelines under HCA when it's not always the case, versus doing the calculations, to play it safe.

- **Erin (AGA):**
  - MAOP type records will be addressed during rulemaking. By requesting certain attributes ahead of time, operators are in a holding pattern waiting for how to handle certain situations, and the NPMS are already asking for these attributes.

- **Attendee:**
  - They have a lot of unknown values that they are currently looking for values to enter, for example, wall thickness. Do they just put an assumption?
  - **Leigha:** Do operators not need to know wall thickness?
  - **Attendee:** In the past the documentation doesn't have the information completed, so now they find themselves making assumption on what those values might be based on purchases made at that particular point in time. So if "unknown" is not an option, what are they expected to enter if they're not sure?
  - **Amy:** Operators will be given time to research this information
  - **Attendee:** Operators expect instructions to provide direction on how to go about their questions. Operators should be told to take their values from a certain point, and if unknown, then take it to another point, and so forth. Answers aren't expected right now, but when changes are put in place, operators should be directed on how to go forward.
  - **Attendee:** For assumed values that are unknown, there are values that might be unknown through legacy/acquisitions. The data is the data. For risk models they use very conservative assumptions. But for GIS, the value is unknown. If this attribute is unknown, this is the derived value to be entered in place. If there is an assumed value to be used for the risk assessment, the model should have what values are known and which are assumed so when PHMSA is looking at the data, it's known that it is not a true value.

- **Smallworld operator:**
  - For an attribute that is the same through several pipelines (e.g. all pipes are natural gas), is there a straight forward way to submit that without having to include attributes that are not of use for them?
  - As an intrastate operator, their pipelines are inspected by the state. Would those IUs be made available to operators as well?
  - **Amy:** Operators could send to the NPMS the cover letter what minor attribute changes have occurred to the data.
  - **Leigha:** We only have federal inspection units. There are intrastate pipelines in the NPMS that are inspected by the state that do not have any units assigned.

- **Scott Bloom:**
  - How would you define, "currently available technology"?

- They have ways to inspect the lines through nontraditional means.
- **Amy:**
- **Attendee:** Is it pigable from a facilities standpoint? Yes?
- **Attendee:** It's a question on the Annual Report. If it has all the hydraulics necessary, they label the line as pigable, if not, it's classified as non-pigable.
  - **Judy Isle:**
    - For the LRS, you do not need the D value? Also, what is the timeline?
    - **Amy:** Submissions in 2018 would be the first ones to contain any new data (i.e. Phase 1). There's not much in phase 1, but that would be in the 2018 submissions.
  - **Judy Isles:**
    - Are there any changes between 2016 and 2017?
    - **Amy:** No. Gas operators are expected to submit before March 15th, and liquid operators are expected to submit before June 15th. The earlier the better.
  - **Judy Isle:**
    - Would prefer to have a longer field length for the PLINE_ID
    - Also, they have included a Comments field to store additional information to help explain the changes to their data, which has helped them immensely. Perhaps including that in the model as an option for operators might help others as well.
    - **Amy:** Something like that can be made available and optional for operators.
  - **Attendee:**
    - If they have sold or purchased a pipeline, which needs to be singled out. However, the attributes have changed, would that also need to be singled out?
    - **Leigha:** We don't need to have attribute changes spelled out. We're mostly concerned with the spatial changes, owner ship changes, where has the pipeline gone or come from.
  - **Attendee:**
    - If they have changes to their PLINE_IDs for example. What used to be 2 segments have now become 1 segment, and as a result, a completely new PLINE_ID has been assigned to the line entirely, does that matter?
  - **Attendee:**
    - If the change in a pipeline is 20FT or 200FT, what's the threshold of when it's considered a spatial change that needs to be submitted?
    - **Leigha:** The revision code for spatial changes is intended to reflect a change in the geometry of the pipeline
  - **Attendee:**
    - Do you want to track if the MAOP has changed?
  - **Attendee:**
    - When changes occur in the Standards, they go through 3 comment periods?
    - **Angela (PHMSA):** This is happening for the upcoming changes to occur in the Standards with the Info Collection
    - **Leigha:** The NPMS makes changes to the Operator Standards to make things clearer and to clarify the intent so operators can understand things better. Not necessarily to add things.
  - **Attendee:**

- When the changes to the revision code happened, it drove them bonkers
- **Leigha**: Operators were given wiggle room from the analyst to help operators ease into those changes
- **Amy**: Operators are only sent to enforcement when they are not willing to work with the analyst on making the appropriate changes to their data.
- **Leigha**: The attributes/revision code values were always put in place, PHMSA just hadn't care about them as much, therefore, were not required. However, with Change Detection, PHMSA realized that they rather get clearer, more accurate revision code values from operators than having to call/email operators to get the information needed.
  - **Erin (AGA):**
    - Operators have GIS for pipeline safety purposes and so they can know their system best. Their priority is to keep their pipelines safe. Operators want PHMSA to know that and that whatever PHMSA requires should not divert operators away from their priorities.
    - **Leigha:** The changes being made are for the purposes of pipeline safety.
  - **Attendee:**
    - Is there a definition for the different classes?
    - **Amy:** NPMS Operator Standards Draft for the Info Collection