



Workshop BMPs

The INGAA Foundation, Inc.

Guidelines for Contractors to Prepare for PHMSA Inspection*

**compiled from The INGAA Foundation's March 2, 2017 workshop*

Revision: 0

Last Revised: 6/16/2017

INTRODUCTION

The Pipeline and Hazardous Materials Safety Administration, a branch of the Department of Transportation, more commonly known as PHMSA is tasked to “protect people and the environment by advancing the safe transportation of energy and other hazardous materials that are essential to our daily lives.” It is PHMSA’s mission to ensure that new pipelines are built in accordance with the federal safety standards so they do not endanger people or the environment. One of the main means of fulfilling their mission is to inspect these construction projects. Contractors and operators should work together to ensure they are prepared and know how to respond when PHMSA conducts an inspection.

Being prepared for a PHMSA Inspection means ensuring that rigorous contract documents are in place, are on-site and that they are always followed throughout the project. PHMSA inspects both new constructions and replacement facilities (that also require Operator Qualification (OQ)) to ensure compliance with applicable federal code(s), industry standards and project specifications. PHMSA expects the operator and contractor to know how to work safely on the pipeline in accordance with safety regulations, company procedures and best practices. When visiting a site, PHMSA inspectors expect to see appropriate site security, an orderly worksite and applicable procedures being followed.

To help contractors best prepare for the next PHMSA inspection, these guidelines look at the PHMSA inspection from three different perspectives: PHMSA, the operator, and the contractor. The guidelines also include an appendix with a general list of items and Best Management Practices (BMPs) to prepare prior to a PHMSA inspection.

A. PHMSA EXPECTATIONS AT THE JOB SITE DURING AN INSPECTION

1.) ISSUES TO CONSIDER*

a.) How does PHMSA view contractor employees versus pipeline company employees?

As far as PHMSA is concerned, contractor employees are the same as employees of the operator. They all are expected to be prepared and to follow safety and other guidelines.

b.) What are PHMSA’s expectations of a contractor at the job site?

If PHMSA asks a question to a worker on the front line, the worker should be able to explain the procedure. If the worker doesn’t know, he or she should feel comfortable redirecting the question, especially when discussing regulatory issues.

**per Linda Daugherty, PHMSA*



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c.) What does PHMSA expect to see?

PHMSA expects to see pipeline work consistent with regulations and the operator's project specifications. Areas of inspection could include welding (appropriate shelter, practice), steel pipe alignment or contingency plans as well as all construction phases that could affect the quality of the pipeline. If a PHMSA inspector is on site and sees a dangerous situation, they must flag it. PHMSA can, but does not generally, stop work. PHMSA can identify problems when it sees there is a need to address.

d.) Who can PHMSA talk to?

Anyone working is open to a PHMSA inspector's questions. If someone is in the middle of a specific job, PHMSA will not talk to them. PHMSA inspectors will never knowingly create a safety hazard while doing their job. An employee should feel free to politely tell an inspector to wait if he/she feels it is unsafe to talk at the moment.

e.) What can PHMSA ask for or discuss? What will PHMSA take pictures of?

PHMSA inspectors may ask for procedures prior to seeing the work. Also, if PHMSA sees practices inconsistent with what they have seen before on other projects, PHMSA may ask for the procedure and the origin of that procedure. A PHMSA inspector may propose theoretical scenarios.

PHMSA may take pictures and/or ask for other documentation. Sometimes PHMSA will take pictures for evidence purpose, but generally will not take pictures of people unless they are part of the safety issue (ex. a welder not wearing gloves).

Additionally, PHMSA inspectors are trained to recognize and monitor signs of drug or alcohol use and they may note these situations.

f.) When is it appropriate for a contractor to ask PHMSA to leave?

A contractor can ask a PHMSA inspector to leave if the inspector is conducting unsafe practices (i.e. wearing insufficient PPE, behaving inappropriately, asking workers to do something different than they have been trained for/an action inconsistent with procedures) or if you feel they have crossed an ethical, moral or legal line. The contractor should coordinate this decision with the operator as appropriate. The operator should remain engaged in the PHMSA inspection process at all times.

If you believe a PHMSA employee has crossed a safety, ethical, moral or legal line – call Linda Daugherty (202-368-5330) immediately and report the situation to the DOT Office of Inspector General (202-366-1959).



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g.) Where does operator qualification (OQ) apply per PHMSA regulations?

OQ requirements apply to operations, maintenance work, hot tie-ins, and hydrostatic testing. A good rule of thumb is that OQ applies whenever interacting with a pipeline carrying live gas. OQ requirements do not currently apply to new construction unless an operator has applied for a special permit. If an operator has a special permit, PHMSA may specify specific OQ requirements needed for new construction.

h.) When talking about asking a regulator to leave a site, is there a possibility that PHMSA could replace him or her with another inspector?

Sometimes people don't agree; these situations are more about personality than actual issues. If you have this type of conflict, first contact the operator then, per PHMSA, the PHMSA regional director if appropriate. If a PHMSA inspector is a safety hazard, ask them to leave and notify the appropriate parties (see "*When can a Contractor Ask PHMSA to Leave?*").

B. OPERATOR'S PERSPECTIVE ON PHMSA INSPECTIONS

For an operator, being "PHMSA-ready" starts with ensuring rigorous inspection expectations. Any issue a contractor may have is something PHMSA can further investigate or opposition can use, so it is important to think beyond the inspection. An operator will be the primary contact with PHMSA, aiming to answer 90% of questions PHMSA may have. The operator is responsible for collecting paperwork throughout construction to be used during such inspections.

PHMSA will typically announce when it plans to inspect. However, it does not have to specify whether it intends to inspect operator or contractor work. Specifications, procedures and requirements are in contracts. With this top-down approach, foremen need to understand these specifications and procedures and relay them throughout the workforce to ensure compliance. Operators should ensure that everyone on the project site understands the scope of work and could access pertinent design and permit documents. On the front end, operators ask themselves, "Do I have the appropriate scope of work, a qualified contractor, and a highly-qualified inspection staff?" When PHMSA announces a visit, they will be talking to contractor employee(s) and operator inspector(s), asking for qualifications and knowledge of procedures. Welders and other qualified workers may have worked with other companies, so make sure they are referencing *your* company's project specifications. Confirm that necessary OQs are properly documented and up-to-date while qualified workers are performing tasks. Prior to a PHMSA visit, request inspectors to go through a mock-PHMSA inspection that includes checks for OQs.



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When interacting with PHMSA inspectors, designate a primary speaker on each subject. This keeps PHMSA from having to return to these topics later. When your speakers exhibit knowledge on a procedure, it incentivizes PHMSA to come to you for industry input in the future. To keep conversation moving smoothly, do not conduct side talk when inspectors are on-site and focus on the questions at hand, answering each question adequately but without oversharing.

An operator should decide in advance how it will answer requests to send digital copies of specifications or procedures to PHMSA inspectors prior to their visit. Look at the hardcopy on-site/in-person so PHMSA can focus on procedures relevant to the project.

After an inspection, it is the responsibility of the owner/operator to provide the contractor immediate feedback of inspection results and/or concerns.

C. CONTRACTORS: EXPECTING & PREPARING FOR A PHMSA INSPECTION

1.) INTRODUCTION

Preparing for a PHMSA inspection means assuring the job being performed is in accordance with the project and federal safety specifications. The pipeline operator should be responsible for answering most of PHMSA's inquiries.

2.) ISSUES TO CONSIDER

a.) How should a contractor prepare for a PHMSA inspection?

Prior to an inspection, it is imperative for the operator to coordinate with the contractor regarding the PHMSA inspector's intended schedule. Depending on the size of the project, either the operator or the contractor can be responsible for delivering the safety orientation to the PHMSA inspector before the inspector is allowed on site or on the ROW. Either the operator contractor must notify the PHMSA inspector of any required safety orientations or PPE prior to the PHMSA inspector arriving on site. The PHMSA inspector is responsible for budgeting time for the orientation in his schedule.

Contractors should instruct crew members to be polite, concise and truthful when answering questions. If a crew member doesn't know the answer to a question, he or she should simply say that he/she does not know and then refer the question to an appropriate party. Instruct crew members not to speak in absolutes ("we never," "we always"); instead use qualifying statements like "we normally will," "we usually will").



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Contractors should confirm safety specifications as well as required construction specifications and procedures for the activities being performed are on-site before the inspector arrives.

b.) What should a contractor expect during an inspection?

Expect both safety and personnel qualification inspections. Quality inspections also may occur simultaneously with safety and personnel inspections. Contractors should not misrepresent an issue as PHMSA will conduct extensive research as a part of an inspection. Misrepresentation can also skew the PHMSA-contractor relationship. PHMSA inspectors will visually examine pipe for:

- adherence to the construction specifications;
- personnel proficiency with instruments;
- compliance with comprehensive written construction specifications, and;
- adherence to welding procedure(s);
- compliance with coating specifications.

Both operators and contractors are responsible for ensuring employees and hired inspectors are prepared. Check for these compliances before the PHMSA inspector arrives.

c.) How often do PHMSA inspections occur?

PHMSA inspections may occur at random. PHMSA will place priority on projects costing over \$10 million. The inspections may also occur in conjunction with PHMSA's integrated inspection of an operator. Holding a mock PHMSA inspection is a great way to prepare employees.

If an unplanned PHMSA inspector arrives on-site, the contractor should first contact the operator.

d.) PHMSA inspectors might file a Standard Inspection Report (Form 5) to the Director within 60 days of an inspection. Where can I access and review the material in the Form 5 entitled: "Evaluation Report of Gas Pipeline and Compressor Station Construction"?

Form-5 can be found at:

www.phmsa.dot.gov/staticfiles/PHMSA/DownloadableFiles/Files/PHMSA_Form_5_2009.pdf

Note that on recent inspections, PHMSA has moved away from utilizing Form 5 and is instead providing a generated question set similar to the integrated inspection question sets. The link to the IA set is here:

https://phmsa.dot.gov/staticfiles/PHMSA/DownloadableFiles/Pipeline/Inspection,%20Evaluation,%20a%20Qualification%20Forms/PHMSA_GT_IA_Question_Set_May_2015.pdf



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e.) What should be done after an inspection?

Operators and contractors should communicate with the owner to ensure they provide the contractor immediate feedback of inspection results and/or concerns. If necessary, contractors should immediately implement corrective and preventive actions.

f.) General Inspection Advice

- Know your role
- Make yourself available when needed
- Be cordial and respectful
- Make sure you understand the question
- Focus on answering the specific question (don't go off-topic)
- Avoid side discussions
- Do not argue
- If you do not know, say so, and direct the inspector to the appropriate point of contact.
- Provide requested documentation or arrange to provide it later if additional time is required. Keep thorough notes (including photos) and maintain a list of all documents provided to the PHMSA inspector (both documents that were reviewed during the inspection as well as any document presented as a hard copy and/or an electronic copy).

D. CONTACT/REVISIONS

To contact the INGAA Foundation about these BMPs or to suggest clarification, etc. please contact Richard R Hoffmann, Executive Director at rhoffmann@ingaa.org or (202) 216-5909.

ADDITIONAL BMPS & PMHSA INSPECTION DETAILS

1.) INTRODUCTION

PHMSA will inspect to see that pipeline work being executed is in accordance with the contract documents and federal safety rules. A contractor must fully understand the Owner/Operator's construction specifications and procedures as located in the contract documents and execute daily quality workmanship practices to the same level they exercise safety on the project.

The following checklists are to assist in preparation of PHMSA inspections. With all documentation, confirm it is up to date, complete and accurate.

These checklists are meant to assist in preparing for an inspection and may need to be expanded depending on company requirements.

2.) PRE-INSPECTION CHECKLISTS

a.) Necessary Documents Available for On-Site Review

- Construction Drawings and Materials Lists
- Class Location Mapping
- Construction Specifications and any Variances
- Material Certifications (MTRs, CoC's, etc.)
- Operator Qualifications (OQ's), when applicable
- Welding Procedures and Specifications
- Welder Qualification Reports
- Coating Reports
- NDE Procedures
- NDE Qualification Records
- NDE Technician Certifications
- Inspection Reports
- X-Ray Film/AUT Scans
- Hydrotest Records
- Cathodic Protection Plans, when applicable

b.) General Inspection Preparation

- What are the pipe specification(s), including proof of MAOP? (i.e. diameter, grade, wall thickness, and type of pipe; appropriate safety factor selected, etc.)
- Are comprehensive written construction specifications available and adhered to?
- Do all welders have a booklet with copies of the Welding Procedure(s) and Welder Qualification Report(s)?
- Are all crews equipped with applicable calibrated equipment and calibration certifications?

- Are calibrations current?
- Are inspections performed to check adherence to the construction specifications?
- Are inspectors performing visual inspection and/or taking readings to check for adherence to the welding procedure?
- Are workers proficient with their instruments?
- Does the pipeline have an effective external coating and does it meet the coating specifications?
- Was external protective coating inspected (by jeeeping, etc.) prior to lowering the pipe into the ditch? If jeeeping was used, at what voltage was it performed?
- Has coating damage been repaired as required?

c.) Welding

- Welder Qualification Reports (each welder must have copy of individual certification and project-specific requirements).
- Index of Qualified Welders/Processes Qualified for
- Welder Procedure Specification(s)
 - Welding Process
 - Correct welding rods and rod storage
 - Preheat, if applicable
 - Amperage / Voltage Parameters
 - Travel Speed
 - Post Weld Heat Treatment, if applicable
 - Welders qualified to weld to the WPS presented
- Current NDE Process(es), Procedures & Personnel Qualifications
- Weld Map (All pertinent data collected/documentated)
- Welder Identifications Unique to Individuals
 - Pipe Joint #
 - Heat # of Pipe Joint
 - NDE / X-Ray #
- Weld Area Checked for Moisture

d.) Coating

- Was correct coating product used?
- Has the coating been stored according to manufacturer recommendation prior to use?
- Has the coater reviewed the company specification and manufacturer application procedure sheets?
- Were the company specification and manufacturer application procedure sheet verified and documented through QC inspection reports?
- Was the mixing of the two-part liquid epoxy done correctly and in appropriate proportions?
- Has the coating's expiration date been checked?
- Are pipe preparations per specifications (anchor profile, cleanliness, thickness of coating and surface temperature)?

- Was the coating applied correctly and to specified DFT (dry film thickness) range?
- Was holiday detection (“jeeping”) done at the correct voltage, using a qualified “jeep” and inspector?
- Has coating been applied by qualified personnel?

e.) Excavation/Backfill

- Ditch preparation
- Pipe support in the ditch (padding, sand bags, spacing)
- Proper installation techniques (lifting and lowering stresses)
- Backfill (prevent dents/ovality)
 - Padding
 - Rock shield
 - Overburden (placing cuts back)
- Pipe Design (wall thickness and grade) adequate for MAOP
- Are cathodic protection (CP) test wires properly attached to the pipeline?

f.) Hydrostatic Testing

- Has it been verified that company specifications and requirements are onsite and acknowledged prior to start of hydro-test?
- Is all testing equipment operating properly and with up-to-date calibration certifications?
- Has equipment calibration been properly documented?
- Have all dewatering / environmental permits and concerns been addressed and adhered to?
- Has the test been conducted by qualified personnel and were final reports signed off by qualified personnel?

g.) Suggestions for Better Overall QA/QC

- Inspection and Testing Plans (ITPs)
- Quality Management Plan (QMP)
- Foreman and/or Inspector Reports with Quality Checklist
- JSA with place for Quality Topics to be discussed
- Tracking cost of quality control through database.
- Good Communication among Owners, Contractors and Inspectors.