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**Submitted Electronically**

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Attn: Docket ID No. PHMSA-2014-0150

Re: Pipeline Safety: Comments on the Draft Hazardous Liquid Integrity Verification Process, HL IVP

The American Petroleum Institute (API) and the Association of Oil Pipe Lines (AOPL)<sup>1</sup> commend the Pipeline and Hazardous Material Safety Administration (PHMSA) for reaching out to liquid pipeline operators early during consideration of a Hazardous Liquid Pipeline Integrity Verification Process (HL IVP) and are pleased to offer the following comments in response to the agency's request for input.

Pipelines are one of the safest ways to transport liquid energy. A barrel of crude oil or petroleum products reaches its destination safely 99.999% of the time. However, the hazardous liquids pipeline industry (the industry) recognizes this record is still not satisfactory, so it strives for a jointly held safety value of zero incidents. To obtain this goal, personnel and financial resources, including over \$2.1 billion in 2013, are being dedicated. Additionally, operators have established industry-wide pipeline safety initiatives of: 1) improving inspection technology capabilities, 2) enhancing threat identification and response, and 3) expanding safety culture and management practices. Recommended practices (RPs) are being developed and implemented to address these ideas. Plus, guidelines for improved data integration and the appropriate uses of hydrostatic pressure testing are being created. These efforts are in addition to the normally-occurring meetings executives, managers of safety, operations, and engineering departments, as well as subject matter experts conduct. Numerous industry-funded and supported research and development (R&D) is also being conducted. The Pipeline Research Council International

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<sup>1</sup> The American Petroleum Institute (API) is a national trade association that represents over 600 member companies involved in all aspects of the oil and natural gas industry. API's members include producers, refiners, suppliers, pipeline operators, and marine transporters, as well as service and supply companies that support all segments of the industry. The U.S. oil and natural gas industry supports 9.8 million U.S. jobs and more than 8 percent of the U.S. economy. The Association of Oil Pipe Lines (AOPL) is a national trade association that represents owners and operators of oil pipelines across North America and educates the public about the vital role oil pipelines serve in the daily lives of Americans. AOPL members bring crude oil to the nation's refineries and petroleum products to our communities, including all grades of gasoline, diesel, jet fuel, home heating oil, kerosene, propane, and biofuels. AOPL members operate approximately 90% of the energy liquids pipeline miles in the United States.

(PRCI)<sup>2</sup> is leading a study to determine the most effective uses of hydrostatic pressure testing, and another to characterize and improve in-line inspection (ILI) technologies and analytic techniques, both with the aim of enhancing pipeline integrity management. PHMSA, with industry collaboration, initiated an extensive R&D program to improve pipeline integrity assessments of electric resistance welded (ERW) pipe to better understand the mechanisms of pipeline seam failures and cracking. All these efforts demonstrate the industry is already addressing many aspects of PHMSA's HL IVP proposal. Finally, and above all, unlike gas transmission operators, the industry was already compelled by regulation to determine maximum operating pressures (MOPs) for pipelines constructed prior to pipeline safety regulation.

Given the described efforts, API and AOPL urge PHMSA to consider whether its broad proposal, which includes widespread spike hydrostatic pressure testing, metallurgical testing of cut-outs, and other suggested verification methods, is "technically feasible, reasonable, cost effective, and practicable."<sup>3</sup> The proposed HL IVP does not appear to effectively further "integrity verification" beyond what operators have already done or are doing for HCA could affect and non-HCA segments. While PHMSA insists that there are mandates and recommendations for "verification" that apply to hazardous liquids pipelines, the Congressional mandates of the 2011 Pipeline Safety Act reauthorization<sup>4</sup> pertain solely to confirming the maximum allowable operating pressures of "grandfathered" natural gas transmission pipelines operating at 30% specified minimum yield strength (SMYS) or greater. PHMSA has decided to tie these directives to hazardous liquid pipelines operating at 20% SMYS or greater without providing any analysis or justification for going beyond what Congress directed. Given this lack of mandate or any showing that the proposal will benefit pipeline safety, API and AOPL question the value of moving forward with this proposal, particularly in light of the significant expenditure of required costs and resources.

Because of the research being conducted, RPs being drafted, and actions already taken by hazardous liquids operators to verify maximum operating pressures (MOPs) for pre-regulation pipelines, API and AOPL offer input on the following items:

1. The existing risk-based alternative (RBA) regulatory process
2. The high risk criteria
3. The use of spike hydrostatic pressure tests
4. Engineering critical assessments (ECAs)
5. The limited HL IVP chart options
6. The material documentation process

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<sup>2</sup> PRCI is a community of the world's leading energy pipeline companies, and the vendors, service providers, equipment manufacturers, and other organizations supporting our industry. Since its establishment in 1952, PRCI has been recognized around the world as a unique forum within the energy pipeline industry that develops and deploys research solutions that address the operational, maintenance, and regulatory challenges that face it.

<sup>3</sup> "See PHMSA, "Role of the Committees," <http://www.phmsa.dot.gov/pipeline/regs/technical-advisory-comm>.

<sup>4</sup> 49 U.S.C. § 60139(d)(1).

## Existing PHMSA RBA Addressing MOP for Liquids Pipelines

Investigation of the San Bruno, CA natural gas pipeline incident revealed inaccurate and incomplete documentation to substantiate the Maximum Allowable Operating Pressure (MAOP) of the failed natural gas pipeline. This lack of information caused Congress to remove the so-called “grandfather” clause for natural gas pipelines<sup>5</sup>, which since 1970 has exempted many natural gas pipelines from pressure documentation and testing requirements. However, the 2011 law did not include such a mandate for liquid pipelines because prior regulation accomplished confirmation of historical operating pressures for liquids pipelines. For liquid pipelines, the “grandfather” clause was eliminated in 1998 when PHMSA amended 49 C.F.R. § 195.302 to require liquid pipeline operators to pressure test their pre-regulation liquid pipelines or apply RBA to set the MOP. These pressure tests and evaluations of liquid pipelines were completed more than 15 years ago, and liquid pipelines have operated under the results from this testing and analysis since. As a result, there is no regulatory gap in substantiation of MOP for liquids pipelines. Therefore, PHMSA’s proposal in the IVP to extend 49 U.S.C. § 60139(a)(1) from the targeted natural gas pipelines to liquids pipelines is unnecessary and unsupported by the specific language of the law or the regulatory gaps Congress intended to address with the law.

PHMSA's draft HL IVP also makes no specific provision for liquids pipelines previously subject to the RBA. There has been no suggestion in the fifteen plus years since the RBA was established that it was somehow deficient for validating MOP. Subjecting these pipelines to PHMSA's onerous HL IVP requirements not only duplicates previous requirements, but also would divert resources from higher-priority risks and activities.

## Broad PHMSA HL IVP Proposal Criteria

API and AOPL have concerns about the specifications for the pipe to be included in the verification process. In the 2011 pipeline safety law, Congress directed that PHMSA:

“issue regulations for conducting tests to confirm the material strength of **previously untested** natural gas transmission pipelines **located in high-consequence areas and operating at a pressure greater than 30 percent of specified minimum yield strength.**” (emphasis added)<sup>6</sup>

First, the MOP value of 20% SMYS is beyond the scope of the Federal statute. Additionally, it seems to be technically unjustified. Although PHMSA regulations use this operating level as the cut off for defining “low-stress pipelines,”<sup>7</sup> pipelines operating at 20% SMYS are generally

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<sup>5</sup> 49 U.S.C. § 60139(a)(1).

<sup>6</sup> 49 U.S.C. § 60139(d)(1).

<sup>7</sup> 49 C.F.R. § 195.2.

considered not susceptible to seam failures.<sup>8</sup> According to TTO5, piping is not susceptible to seam failure when it operates below 30% SMYS.<sup>9</sup> Given these facts, API and AOPL question PHMSA's decision to adhere to its low stress regulatory limit of 20% SMYS rather than what Congress mandated for natural gas pipelines and technical analysis shows to be a more appropriate threshold for susceptibility.

Furthermore, the language in 49 U.S.C. § 60139(a)(1) does not encompass piping in the following, which are included in the HL IVP proposal:

- Rural gathering lines that could affect an HCA
- Pipeline segments that could affect rights-of-way of a designated interstate, freeway, expressway, and other principal 4-lane arterial roadways
- Highly volatile liquid (HVL) pipelines

If liquids piping operating at 20% SMYS or above and piping in the proposed categories is to be a part of the HL IVP, operators would be required to concentrate safety efforts away from higher-risk, higher-priority pipelines. Federal statute and NTSB recommendations for past pipeline incidents all emphasize the importance of prioritizing pipeline safety in areas of population density, environmental sensitivity, or commercially navigable waters. PHMSA even established the integrity management regulations to ensure operators identified where their pipelines crossed through or could affect HCAs and put additional protective safety measures in place in these areas. As proposed, this process encompasses almost all of the liquid pipeline mileage, taking operator focus away from pipelines in regulatory agency-designated sensitive areas.

### **Appropriate Spike Hydrostatic Pressure Testing Levels**

API and AOPL have significant concerns if a blanket 100-110% of SMYS value is required for spike hydrostatic pressure testing. Every pipeline is different, and a "one-size-fits-all" requirement, such as a spike pressure test at some arbitrary level, will be ineffective and many times unwarranted when determining MOP. Operators have significant experience completing "fit-for-purpose" tests to determine MOP, and ask PHMSA to recognize that certain situations warrant a spike test, while others require a hydro-test at a lower pressure or an engineering assessment. Should an HL IVP regulatory proposal be issued, PHMSA should not require in all cases that MOP be determined based on hydro-tests at a level between 100-110% SMYS. At minimum, the industry hopes the agency will consider the aforementioned PRCI research and industry guideline for hydrostatic pressure testing, once they are completed, before determining whether to move forward with any such proposal.

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<sup>8</sup> *TTO Number 5 Low Frequency ERW and Lap Welded Longitudinal Seam Evaluation Final Report* (April 2004) available at [https://primis.phmsa.dot.gov/iim/docstr/TTO5\\_LowFrequencyERW\\_FinalReport\\_Rev3\\_April2004.pdf](https://primis.phmsa.dot.gov/iim/docstr/TTO5_LowFrequencyERW_FinalReport_Rev3_April2004.pdf) [hereinafter "TTO5"].

<sup>9</sup> TTO5 at 18, 27.

## **Engineering Critical Analysis**

API and AOPL agree that the use of ECA is an important option for addressing many pipeline safety goals, but are concerned that this option for determining MOP in the HL IVP proposal is not sufficiently detailed. ECAs could be very valuable to pipeline operators and beneficial to the public because they would allow for calculation of MOPs in question without removing pipelines from service, obtaining and disposing of large volumes of water, or completing other complex analyses or actions associated with the alternate options that PHMSA proposes. The ECA process can be completed using modern technology and existing knowledge, and can provide sufficient data for an MOP determination. In fact, the RBA allowed in the late 1990s could serve as a basis for the design of ECAs with well-known engineering equations and other construction, financial, operating, inspection, and repair documentation supplementing.

Pipeline operators recognize the need to demonstrate the validity of any ECA approach developed. Therefore, a project has been initiated by PRCI to formulate and develop an industry-wide ECA process in 2015. Among other goals, this project will validate and provide guidance regarding the processes available to establish the material and condition of a pipeline, especially when documentation is absent. While still in the initial stages, the industry looks forward to working with PHMSA on the details of an ECA process that will satisfactorily establish a safe operating pressure.

Finally, API and AOPL believe it is essential that PHMSA respond to pipeline operator IVP submissions promptly, at least within six months of submission. Any HL IVP regulations that PHMSA may propose should include a presumption that if the agency does not respond to such a submission within this time frame, the proposed MOP and supporting documentation will be deemed acceptable.

## **Limited HL IVP Chart Options**

While the appropriate application of hydro-testing or ECA should verify MOPs, the other potential options provided for MOP determination and/or mitigation are extremely penalizing or unworkable under most situations. A pipeline replacement can take significant time to execute, forcing a de-rate of an existing line until completed. Additionally, a replacement may not be necessary. Also, the alternative technology option is ambiguous, and operators are wary that a new technology may be viewed unfavorably by PHMSA personnel, causing it to be rejected arbitrarily in the future, even if it was accepted initially.

## **Material Documentation Process**

The extensive requirements for material documentation described in the proposed HL IVP chart are overly cumbersome and burdensome. First, no regulations, past or present, require pipeline operators to keep specific, original documentation, such as material test records (MTRs). Effectively imposing a retroactive testing requirement to identify the piping material, where no

data is available, would be impracticable to implement. Additionally, mandating a sampling program, possibly exposing the pipelines to outside force damage and settlement issues, would be a misuse of resources. Finally, requiring extensive records searches misdirects funding and personnel from the more beneficial, existing integrity programs. Pipeline operators use a combination of hydro-tests, robust integrity assessments, and data integration programs to maintain pipeline integrity, and PHMSA should generate any proposal recognizing these efforts that are already in-place.

API and AOPL appreciate the opportunity to provide feedback regarding the proposed HL IVP and respectfully request that PHMSA take into account these comments as it further considers this proposal. In addition, we look forward to commenting further during PHMSA's planned public forum and throughout the formal rulemaking process to ensure a full understanding of industry's concerns with PHMSA's proposal, as well as potential solutions that would promote improved pipeline safety.



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