



Gas Distribution and Safety Equipment

**Summary of NORMAC Comments to DOT in Docket DOT-OST-2011-0025**  
April 15, 2011

1. Regulation 192.1009 is misguided, prejudicial and ineffective, violates Presidential Orders
2. Fittings have been inappropriately blamed for leaks when in fact Joints have leaked. Use of accurate terminology is critical for pipeline safety. Joints are created during installation in accordance with 49CFR 192.271-.287.
3. High profile reports by ENVIRON, PUCO Staff and NYPSC have been discredited.
4. PHMSA has not incorporated voluntary consensus standards into regulations as required by National Technology Transfer and Advancement Act of 1995
5. NORMAC recommends that DOT:
  - a. remedy the numerous fatal flaws inherent in 49 CFR §§192.1009 and the new Reporting Form, particularly the mis-use of terms “compression fitting or coupling” and “mechanical fitting”, where “joint” should be used.
  - b. retract those portions of ADB-08-02 that rely on the discredited ENVIRON, NY PSC, and PUCO Staff reports
  - c. hold individuals who provide flawed data and research regarding pipeline safety accountable
  - d. ensure that all investigations provide for independent fact finding and a complete record that is impartial, data-driven and reaches conclusive findings within a reasonable period of time.
  - e. require investigations to apply logical, rigorous methodologies and report root causes in a transparent manner
  - f. identify regulations that collect opinions rather than facts and modify these to align with the principles of Executive Orders 12866 and 13563

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**UNITED STATES OF AMERICA  
BEFORE THE  
DEPARTMENT OF TRANSPORTATION**

<b>Regulatory Review of Existing DOT</b>	)	<b>Docket DOT-OST-2011-</b>
<b>Regulations</b>	)	<b>0025</b>

**COMMENTS AND RECOMMENDATIONS OF NORTON MCMURRAY  
MANUFACTURING COMPANY**

Norton McMurray Manufacturing Company (NORMAC) appreciates the opportunity to submit its comments in response to the Notice and Request for Comments issued February 10, 2011, 76 Fed. Reg. 8940 (Feb. 16, 2011) in the above-referenced docket (hereinafter “Regulatory Review”). NORMAC commends the Department of Transportation (DOT) for undertaking a review of its regulations, in accordance with Executive Orders 13563 and 12866, in order to evaluate their continued validity and to determine whether they are crafted effectively to solve current problems or are insufficient to do so. Though these comments are intended to critique regulations promulgated by the Pipeline and Hazardous Materials Safety Administration (PHMSA), NORMAC supports PHMSA’s efforts to collect accurate incident and accident data in order that trends related to the root causes of such events may be analytically and transparently identified. NORMAC submits that the comments and recommendations discussed below, if adopted by DOT, will only reinforce this important effort.

## I.

### **NORMAC BACKGROUND**

Norton McMurray Manufacturing Company, known to gas pipeline operators throughout the United States as NORMAC, was founded in 1938 by Francis McMurray, a salesman, and Charles Norton, an engineer. Each of the founders left their successful employ with M.B. Skinner and Dresser, respectively, to form this new company. The product line that they designed, manufactured, and sold included compression fittings of all types, such as adapters, tees, elbows, couplings and later risers. NORMAC fittings are widely accepted and as a result millions have been sold to pipeline operators across the United States. NORMAC is a member of the American Gas Association (AGA), Southern Gas Association, and the Midwest Energy Association. NORMAC participates in ASTM committee F17, which has published D2513 and other pertinent safety standards. As one of the leading manufacturers of compression fittings of all types for over seven decades, NORMAC brings a unique perspective to this regulatory review effort.

Compression fittings are a product used to join lengths of pipe. They are easy to install, provide an immense margin of safety, can be adapted to a variety of situations, and have provided over 100 years of reliable service in natural gas applications. In the past ten years, however, concerns about the integrity of the product have been raised. These concerns must be considered in context – there are literally millions upon millions of compression fittings that have been properly installed and continue to provide safe reliable service decade after decade, not only in the U.S. but elsewhere. These millions,

however, do not attract attention, even though they should. Where there have been leaks, as explained below, the root causes have been clearly identified as improper installation or improper application of the product. These tragic incidents deserve proper investigation.

## II.

### COMMENTS

#### **A. PHMSA Regulation 49 CFR §192.1009 (2010) “What must an operator report when mechanical fittings fail?” and the Associated “Gas Distribution Mechanical Fitting Failure Form” Are Prejudicial and Ineffective, Fail to Follow White House Directives, And Must Accordingly Be Modified or Repealed**

**Introduction** - On October 1, 2010, PHMSA instituted 49 CFR §192.1009 (hereinafter referred to as “192.1009” or “Reporting Regulation”).<sup>1</sup> As will be shown, this regulation and the methods PHMSA is using to carry it out are flawed and violate both Executive Orders 12866 and 13563.<sup>2</sup> Most importantly, neither the Reporting Regulation nor the associated “Gas Distribution Mechanical Fitting Failure Form” (PHMSA F-7100.1-2) (hereinafter referred to as the “Reporting Form”) address the essential problem – improper use of compression fittings in designing and installing joints to connect natural gas pipe - which has led and may continue to lead to leaks of natural gas.

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<sup>1</sup> NORMAC respects DOT’s request to avoid commenting on relatively new regulations. However, in this situation NORMAC believes that adherence to Executive Orders 12866 and 13563 outweigh such request.

<sup>2</sup> NORMAC supports identification of areas where improper joints using compression fittings may have occurred and efforts to mitigate associated risks, as long as the efforts are carried out in a logical, well planned and effective manner, allowing for adjustments as facts are gathered, and insuring that such program is in full compliance with Executive Orders 12866 and 13563.

It is obvious what a “fitting” is, you can see it and touch it – it is a physical object just like a piece of pipe. A “joint”, however, is not so easy to understand. A joint is the interface between the fitting and the pipe. PHMSA’s regulations §§192.271-.287 properly maintain this distinction, but §192.1009 and the Reporting Form do not. At first, these issues may seem merely a matter of semantics, but as demonstrated below, proper use of terminology in this particular case is critical for pipeline safety and therefore must be corrected.

On December 4, 2009, in connection with its final rule requiring operators of gas distribution pipelines to develop and implement integrity management programs (Docket PHMSA-2004-19854, 74 Fed. Reg. 63,906 (Dec. 4, 2009)), PHMSA published notice of its intent to revise the agency’s Gas Distribution System Annual Report Form (PHMSA F 7100.1-1). As a result of several of the comments received, PHMSA decided to revise the provisions of the annual report relative to compression couplings. Following an additional comment period (75 Fed. Reg. 36,615 (June 28, 2010)), PHMSA issued a Final rule which broadened the scope by changing the term “Compression Coupling” to “Mechanical Fitting” and announced revisions to the annual report form. 76 Fed. Reg. 5494 (February 1, 2011).<sup>3</sup> The revisions included moving the “collection of mechanical fitting failure information” from Part F of the annual report form to the new Reporting Form.

**Critique** - First and foremost, the Reporting Regulation and Reporting Form are crafted ineffectively and will not solve current safety problems. PHMSA has stated that

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<sup>3</sup> A compression fitting is one type of mechanical fitting. The universe of mechanical fittings encompasses a vast number of products.

“The objective of the data collection is to identify mechanical fittings that, based on historical data, are susceptible to failure.”<sup>4</sup> Historical data has **already** revealed that where leaks have occurred, the root cause of the problem is improper installation or application of compression fittings (not any other type of mechanical fitting) when making a joint between that fitting and pipe; and that such leaks have occurred only within the specific territory of a current or legacy local gas distribution company. For example, while catastrophic leaks have occurred in Texas, those incidents were limited to only a select area of the state, and further to only a small portion of the gas distribution company’s (Atmos Energy’s) Lone Star Gas legacy service area within that state.<sup>5</sup>

One may reasonably conclude, then, that if future problems occur, they will occur only in those locations where improper installations were made or the compression fitting was improperly applied. Collecting more “data” in this complex and confusing manner is wasteful and not beneficial to address the real problem. It is not surprising that the Reporting Regulation and Reporting Form are insufficient to the task, as the regulatory objective is not clearly defined to address the root problem. As such they are in clear violation of Executive Order 12866 (“Each agency shall identify the problem that it intends to address... as well as assess the significance of that problem.”)

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<sup>4</sup> 76 Fed. Reg. 5495 (Feb. 1, 2011).

<sup>5</sup> See Notice of Proposed Rulemaking, *Risk-Based Leak Inspection Program, Leak Grading and Repair, and Mandatory Removal and Replacement Program*, GUD No. 9766 (issued Feb. 5, 2008); and “Proposed Rule 16 T.A.C. SEC 8.209 Distribution Facilities Replacements”, GUD No. 9997 (issued Sept. 10, 2010). See also “Renewed Request of NORMAC for Immediate Retraction and Adoption of Recommendations”, Docket No. PHMSA-RSPA-2004-19856 (filed Feb. 23, 2009) at pp. 13-16 for analysis of PHMSA’s misplaced reliance on “Railroad Commission of Texas Study Report on Compression Type Couplings” in ADB-08-02.

Second, the titles of the Reporting Regulation and Reporting Form are both inaccurate and misleading, creating an unfair bias against mechanical fittings as a marketable product, while ignoring the core problem that has been identified repeatedly in court decisions (e.g., Fremont, Nebraska and Lawrence, Kansas incidents),<sup>6</sup> decisions of the Federal Energy Regulatory Commission (FERC) discussed below, numerous findings by the National Transportation Safety Board (NTSB)<sup>7</sup>, and by PHMSA itself<sup>8</sup> – **failure of the joining procedure, joint installation, or joint design**. Indeed, the instructions for completing Form PHMSA F 7100.1-2 clearly indicate that the reporting requirements also apply to “failures in the joints between the fitting and the pipe” and “from any cause”, but the Reporting Form does not mention “joint”.

Lastly, the title - by singling out mechanical fittings – will subliminally if not directly lead the operator to blame this particular product over other causes. While a joint certainly involves the fitting, it is NOT the fitting. The problems that have led to the Reporting Regulation have not been with the fitting itself, but rather, in the joint where

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<sup>6</sup> See, for example, *Strong v. E. I. DuPont de Nemours Co., Inc.*, 667 F.2d 682 (8th Cir. 1981) (“Here, viewing the facts in the light most favorable to the plaintiff, Judge Denney could find that NNG and Mr. Strong knew or should have known of the pull-out hazard”); *Kearney v. Kansas Pub. Serv. Co.*, 233 Kan. 492, 665 P.2d 757 (1983) (“There is also no doubt but that KPS was in violation of the regulations in the instant case as they apply to the requirement for anchoring installations such as the one involved here.”).

<sup>7</sup> See, for example, “Pipeline Accident Brief: Explosion, Release, and Ignition of natural gas, Rancho Cordova, California, December 24, 2008” (NTSB Report No. PAB-10-01), adopted May 18, 2010; “Kansas Public Service Company, Inc., Explosion and Fire, Lawrence, Kansas, December 15, 1977” (NTSB Report No. PAR-78-04), adopted July 5, 1978; “Nebraska Natural Gas Company, Pathfinder Hotel Explosion and Fire, Fremont, Nebraska, January 10, 1976.” (NTSB Report No. PAR-76-06), adopted July 7, 1976; NTSB Safety Recommendation, P-85-31, adopted Nov. 27, 1985; “Pipeline Accident Report, National Fuel Gas Company, Natural Gas Explosion and Fire, Sharpsville, Pennsylvania, February 22, 1985” (NTSB/PAR-85/02), adopted Oct. 25, 1985.

<sup>8</sup> ADB-86-02, issued Feb. 26, 1986, properly recognized that incidents had occurred due to improper joint design and recommended that “Each operator of natural gas pipelines review their present procedures for using mechanical couplings on plastic pipe to insure that the design of the coupling used, and the qualifications of the person(s) doing the joining meet the requirements of the Federal pipeline safety regulations contained in CFR Part 192 and in particular Sections 192.273(b), 192.281(e), 192.283(b), 192.285, and 192.287.”

factors including operator qualifications, adherence to qualified procedures, and simply following manufacturer's instructions have great influence over whether or not the joint will leak. Compression fittings are not unique in this regard. The same applies to all engineered systems, including the brakes in your car or a pipeline joint made by welding. Thus, the incorrect terminology in the titles of both the Reporting Regulation and Reporting Form should not be lightly dismissed as insignificant labels; rather, they clearly show a lack of focus on the real problem, and thus a clear violation of Executive Order 12866 ("Each agency shall identify the problem that it intends to address... as well as assess the significance of that problem.")

Third, the new Reporting Form does not seek to determine if regulations 49 CFR §§192.271-.287 were in fact followed. These regulations were carefully developed to qualify and regulate **only** the joining procedure; they do not pertain to the fitting. The new Reporting Form should be designed to assist PHMSA's responsibility to enforce its regulations, not provide a means to evaluate a product. Thus, Form 7100.1-2 is ineffective by failing to collect data that will demonstrate compliance and consistency with Part 192.

Fourth, the new reporting requirement assumes, *a priori*, and without any empirical data, that certain types of products are problematic on all systems. From an engineering perspective, this is extremely troubling to NORMAC because of the lack of evidence supporting this contention.

Fifth, the operator self-reports their opinion as to apparent cause. Self-reporting is not as reliable as hard data, and special care must be taken to ensure statistical validity of



self-reports. For example, researchers should ensure that respondents are qualified to offer such an opinion. Because the instant Reporting Form and program fail in this regard, the “data” is suspect at best. Opinions are purely subjective, unverifiable and of little value except to continue a pattern of acceptance, use and publication by PHMSA of flawed research and reports that are not based on hard data.

Importantly, the Reporting Form does not seek root causes for leaks, as intended by PHMSA.<sup>9</sup> Without identifying root causes, PHMSA (1) cannot effectively solve problems, (2) leaves itself open to criticism if further leaks, explosions, injuries or deaths occur and PHMSA is still “collecting data”; and (3) has failed to adhere to its own promise to conduct “detailed failure cause analysis”.<sup>10</sup>

Sixth, the new Reporting Form is contrary to the goal and emphasis of the Distribution Integrity Management Program (“DIMP”), which is intended to encourage gas companies to prioritize safety related problems and focus resources on the higher priority risks. The instant reporting program is prescriptive, applying the same “solution” to all operators, whether their installation practices are sound or not. DIMP is both cost and benefit effective by purposely avoiding prescriptive, one-size-fits-all remedial measures; while the new reporting requirement focuses on collecting data on **all** mechanical fittings that contain a rubber seal. It is certainly not cost effective to collect data on factory-assembled risers, flanges, unions, meter swivels, stab fittings, etc. when

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<sup>9</sup> Ironically, while underscoring that “In discussing the revised form with the Technical Pipeline Safety Standards Committee (“TPSSC”), PHMSA conveyed that the purpose of the information to be collected is to determine the root cause of the fitting failures”, the resulting Reporting Regulation and Reporting Form unfortunately failed to achieve that stated purpose. 75 Fed. Reg. 36615, 36617 (June 28, 2010).

<sup>10</sup> “PHMSA is proposing that a report be submitted within 90 days because we consider 90 days to be reasonable time for conducting **detailed failure cause analysis.**” 73 Fed. Reg. 36015, 36026 (June 25, 2008) (emphasis added).

the problem had nothing to do with joints made with these fittings. This flaw in the new Reporting Form also flies in the face of Executive Order 12866 (“When an agency determines that a regulation is the best available method of achieving the regulatory objective, it shall design its regulations in the most cost-effective manner to achieve the regulatory objective.”).

Seventh, the program does not specify any data analysis plan<sup>11</sup> or performance objectives, further violating Executive Order 12866: (“Each agency shall identify and assess alternative forms of regulation and shall, to the extent feasible, specify performance objectives, rather than specifying the behavior or manner of compliance that regulated entities must adopt.”)

In sum, the Reporting Regulation and Reporting Form are wasteful and ineffective to identify further areas of the country where sub-standard **joints** may have been made or to mitigate risk. The Reporting Form and instructions are complex, confusing, impose unnecessary burdens, and are not designed to seek out root causes. The program has no clearly stated purpose and therefore its effectiveness cannot be measured. This program violates the Executive Orders in multiple ways and leaves PHMSA open to reasonable criticism.

The new Reporting Form and Reporting Regulation ask for opinions and accept those opinions without verification. This methodology merely repeats the problems

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<sup>11</sup> NTSB as far back as 1980 recommended that the Materials Transportation Bureau (MTB) delay implementation of data collection forms until a “data analysis plan” is developed and coordinated with such forms. NTSB recommendations P-80-61 through 65 may be instructive to the current manner in which §192.1009 is being implemented today. See NTSB Safety Recommendations P-80-61 through -65 issued August 20, 1980. Further, DOT may find value in reviewing the related NTSB recommendations P-85-18 and 19, dated July 1, 1985

discussed in Section B., below, where opinions and speculative theories were reported as if they were facts. As such, this research effort is counterproductive.

As noted above, PHMSA has reported that “The objective of the data collection is to identify mechanical fittings that, based on historical data, are susceptible to failure.”<sup>12</sup> Essentially, the question being asked is “Which type of mechanical fitting has failed the most often?”, which is a different question from “which type is most susceptible?” PHMSA’s regulations §§192.271-.287 lay out qualification procedures specifically aimed at proving whether or not a joint made with a mechanical fitting is “susceptible” to leakage or pullout. This is the proper manner to determine “susceptibility”. It is improper to conclude that a product is more “susceptible” to failure based on data collection that does not even seek to prove or disprove the role that joining procedures have had on failures cited in the historical data.

What PHMSA should be asking are two things: 1) Are there any more inadequate “joints” involving compression fittings out there? And 2) If so, where are they? Once these locales are identified, PHMSA should hold the owners of those locales accountable for mitigating those risks.

DOT has requested that commenters identify candidate rules for review. NORMAC believes that the flawed data collection under Form F7100.1-2 should be first on that list. Time is of the essence to avoid the perpetuation of inaccurate and misleading perceptions that will result if the multitude of problems inherent in this new data collection process are not rectified. If DOT/PHMSA is truly dedicated to collecting

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<sup>12</sup> *Supra*, n.5.

**accurate** incident and accident data in order that trends related to the root causes of such events may be analytically and transparently identified, and reacting to such statistical trends with long term policies that make this country safer, then the agency will want to be able to look back at the data collected under Form F7100.1-2 over a five or ten year period and be able to rely with utmost confidence on its trending accuracy. In its current form, that effort is destined for failure.

**B. DOT Must Take All Necessary Steps To Insure That PHMSA’s Regulatory Actions Related to Compression Fittings are Based on Data that is Complete, Accurate and Independently Verifiable**

Compression type fittings have been successfully used across the globe since the 1800’s. Problems have arisen only in select, specific service areas of the U.S. Yet despite NORMAC’s and other similarly situated manufacturers’ best efforts to insure that state and federal regulators have a complete and accurate record on which to base their incident conclusions, PHMSA persists in issuing advisory bulletins and incident reporting forms (see above discussion) that question the inherent safety of these products.<sup>13</sup> In all instances identified by NORMAC where this has occurred, conclusions were reached by PHMSA (1) without being independently verified; (2) without insuring that the published summaries of incident reports and related regulatory proceedings at the federal and state levels were complete and objective; (3) without first seeking input from the affected

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<sup>13</sup> Most glaringly, PHMSA has never supported the allegation in its Advisory Bulletin (ADB-08-02) that “The second failure mode involves leakage through the sealing surface between the coupling and the pipe. This occurred when the integrity of long-term viscous and elastic effects of the seals degraded which eventually caused a leak path to develop.” 73 Fed. Reg. 11695, 11696 (March 4, 2008). If this were true, then such leaks would be occurring in an even distribution across the globe, and this has not been the case. Such inappropriate statements not only raise unreasonable fears among current and potential new users of compression fittings, but also distract attention and valuable resources away from actual risks.

manufacturers to verify such concerns and claims, and most importantly, (4) without determining if the information being relied upon was the best and most current information concerning the issues at hand. NORMAC respectfully requests that as part of its broad regulatory review, DOT determine that the continued validity of PHMSA's advisory and data collection procedures related to mechanical fittings violate the transparency and justification requirements of Executive Orders 13563 and 12866, and therefore must be modified.

NORMAC submits the following salient examples of unsupported and incomplete reports improperly relied upon by PHMSA to justify both its 2008 Advisory Bulletin (ADB-08-02) and the new Reporting Form and program. The common theme in each case below is that inadequate research was performed, and the resultant reports presented unsupported opinions and theories as if they were facts:

**Washington Gas Light Company (“WGL”)**

In its Advisory Bulletin (ADB-08-02), PHMSA relied upon the 2005 report of WGL (hereinafter ENVIRON Report) on the “increased incidence of natural gas leaks attributed to gaskets and gas quality on mechanically coupled steel pipe in a major portion of its distribution system.”<sup>14</sup> Ultimately, after lengthy evidentiary hearings, a FERC Administrative Law Judge (“ALJ”) found the ENVIRON Report to be of “little value”.<sup>15</sup>

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<sup>14</sup> The referenced report, dated July 1, 2005, was a study undertaken at WGL's request by ENVIRON International Corporation (ENVIRON), working with Polymer Solutions, Inc. and Akron Rubber Development Laboratory, to investigate the causes of the increased leaks on a portion of WGL's system.

<sup>15</sup> 115 FERC ¶ 63,009 at P. 217 (Initial Decision issued April 11, 2006). The ALJ's decision was ultimately affirmed by the FERC. 119 FERC ¶ 61,075, at P 204 (FERC affirms ALJ finding that ENVIRON Report and its author Dr. Loftus's testimony “were of little value”), *order on reh'g*, 121 FERC¶

It was not, and did not purport to be, an independent report by an independent expert, although it appeared to be styled as such. Unlike an independent report, it carried a DISCLAIMER to the effect that the report was only valid to the extent that the information provided to ENVIRON was accurate and complete. That information was selected by WGL, not the expert. The result was predetermined by WGL and dictated to the expert in a series of e-mails. Information at variance with the predetermined result was selected out by WGL or otherwise disregarded.<sup>16</sup>

Similarly, in a separate FERC certificate proceeding involving Dominion Cove Point LNG's proposed expansion of its LNG Terminal in Calvert County, Maryland, the FERC also found that WGL's (ENVIRON's) arguments were not supported by the evidence. Rather, while the change in gas composition could not be ruled out entirely as a contributing factor, FERC determined that it would not have caused any increase in leak rates in the absence of more significant contributing factors, namely, the application of hot tar, increase in operating pressure and a decrease in temperatures.<sup>17</sup> During these FERC proceedings, due process permitted the views of all affected parties, including manufacturers, to be heard. Indeed, at a February 22, 2006 Procedural Conference held by the FERC's Energy Project Section, NORMAC's President, Glenn McMurray, illustrated the substantial safety margins of NORMAC couplings and demonstrated that WGL installation practices were the primary cause of leaks on their system. As the

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61,267 (2007), *affirmed*, *Florida Gas Transmission Co. v FERC*, 604 F.3d 636 (D.C. Cir. 2010). (hereinafter "*AES v FGT*").

<sup>16</sup> *Id.* at P 215.

<sup>17</sup> *Dominion Cove Point, LNG*, 115 FERC ¶61,337 at P 73 (2006), *order on reh'g*, 118 FERC ¶61,007 at P 54 (2007) ("We are convinced that the ability of the elastomer seals within a subset of compression couplings had been compromised by WGL's application of hot tar as a method of corrosion protection"), *affirmed in part and vacated in part*, *Washington Gas Light Co. v FERC*, 532 F.3d 928 (DC Cir. 2008), *reh'g denied en banc* (The Court found that FERC did not have enough evidence to support its conclusion that WGL would be able to repair the couplings that had been damaged by hot tar prior to the in-service date, and therefore vacated and remanded the case to FERC on the timing issue alone); *order on remand*, 125 FERC ¶ 61,018 (2008), *order on reh'g and clarification*, 126 FERC ¶ 61,036 (2009).

federal agency with the exclusive authority under the Natural Gas Act to approve or deny an application for the construction or expansion of an LNG terminal,<sup>18</sup> and as demonstrated by the breadth of Staff's inquiries and in depth analysis of the causation issue, FERC was fully competent to consider complex scientific and technical issues concerning gas quality and public safety, including the primary causes of gas leaks.

**Lesson #1:** The records in these two separate federal proceedings, in which the ENVIRON Report's findings were comprehensively and independently evaluated by FERC nearly two years prior to the issuance of the Advisory Bulletin (ADB-08-02), demonstrate that PHMSA's reliance on the discredited ENVIRON Report to support the Advisory Bulletin was in error and should have been retracted. Moreover, because increases in operating pressures and decreases in temperature occur in all areas, including those abutting the WGL service area, it becomes clear that hot tar applied in massive doses during the installation process was the root cause of WGL's leaks, as determined by the FERC.

#### **New York State Public Service Commission ("NY PSC")**

As justification for the same Advisory Bulletin, PHMSA reported that in 1993, the NY PSC concluded an investigation "concerning the increased incidence of leaks attributed to gaskets and gas quality in a coupled steel natural gas distribution system on Long Island."

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<sup>18</sup> 15 U.S.C. § 717b(e)(1).

The NY PSC investigation<sup>19</sup> focused on an opinion that a new “drier” gas from Canada introduced into the then Long Island Lighting Company (LILCO) system caused leaks at joints between NORMAC (and no other brand) compression fittings and steel pipe. In the course of their investigation, neither LILCO nor the NY PSC could find any other taker of this new gas who had experienced similar problems. Notably, no one in Canada has raised such a concern. However, according to an internal LILCO document admitted into evidence in the *AES v. FGT* proceeding before the FERC,<sup>20</sup> leaks actually occurred at joints between LILCO’s pipe and fittings made by three separate manufacturers: Dresser, Guardian,<sup>21</sup> and NORMAC. Notably, the NY PSC report/order failed to mention that LILCO sent samples of both NORMAC and Guardian couplings to NORMAC for analysis, and that NORMAC reported to LILCO that the leaks were due to insufficient tightening of the fittings at the time of installation. Because the NY PSC report and LILCO experience were referenced in support of WGL’s and ENVIRON’s arguments, FERC in reviewing the complete record in the *Dominion Cove LNG* proceeding determined that:<sup>22</sup>

With regard to the LILCO experience, the Commission found that during the installation process of the compression couplings, LILCO did not apply enough torque to the compression cup-style nut in order to prevent possible cold flow of the gasket which could lead to leaks.

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<sup>19</sup> In the Matter of the Consumer Protection Petition to Establish a Prudence Proceeding Against the Long Island Lighting Company Related to the Replacement of Approximately 45,000 Natural Gas Service Lines Equipped with Norton-McMurray Couplings (NY PSC, Case 93-G-0401). ) available at <http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=11003305>

<sup>20</sup> *AES v FGT*, Exh. No. LNG-90 “Testing Of Normac Compression Couplings”, Project Engineer Steve Greco, January 26, 1993 available at <http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=11003046>, pg. 10.

<sup>21</sup> Guardian fittings (identified as “Normak-Round Nut” in the internal LILCO report), were distributed by NORMAC to the natural gas industry in the late 1950’s.

<sup>22</sup> *Dominion Cove Point LNG*, 118 FERC ¶ 61,007 at P 104 (2007) (internal citation omitted).



**Lesson #2:** Once again, by failing to report subsequent events and findings by the FERC that LILCO<sup>23</sup> had not applied enough torque to the compression cup-style nut at installation,<sup>24</sup> PHMSA unnecessarily and inappropriately raised fears with regard to the integrity of compression couplings. Any reliance by PHMSA on the discredited NY PSC investigation was improper and should be corrected.

### **Public Utilities Commission of Ohio**

The same Advisory Bulletin improperly relied upon a report sponsored by the Staff of the Public Utilities Commission of Ohio (“PUCO”) to examine riser types,<sup>25</sup> installation and performance as a result of four reportable incidents and a number of non-incident riser failures.<sup>26</sup> PHMSA was strongly urged to review the data underlying the Staff Report, as NORMAC believes and has stated in comments to PUCO that the conclusions of the Staff Report are seriously flawed.<sup>27</sup>

In particular, the Report refers to cracks in gaskets and deformed retainers as positively correlated to leaking risers. However, an in depth review of the raw data that

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<sup>23</sup> The legacy property LILCO is now part of National Grid.

<sup>24</sup> *Id.* at PP 99-104; see also, *AES v FGT* at P 204.

<sup>25</sup> The primary riser under investigation, labeled generically as “Design A” in PUCO documents, is actually the NORMAC riser using the same basic design as in all NORMAC couplings, elbows, adapters, etc.

<sup>26</sup> These and similar concerns have been raised with PHMSA but to no avail. *See* Comments, Recommendations and Request for Immediate Retraction of NORMAC, filed April 23, 2008 in PHMSA-RSPA-2004-19856, demonstrating the damage that may be caused by substantial inaccuracies in reporting. *See also* Renewed Request of NORMAC for Immediate Retraction and Adoption of Recommendations, filed February 23, 2009, providing evidence of additional state agency determinations that rebut prior inaccurate reporting.

<sup>27</sup> *See* Comments and Associated Exhibits of NORMAC, filed February 5, 2007 (PUCO Case No. 05-463-GA-COI). Comments available at <http://dis.puc.state.oh.us/DocumentRecord.aspx?DocID=dacf6e1d-d2ba-4a04-a83d-f037b2851339> ;Exhibits available at <http://dis.puc.state.oh.us/DocumentRecord.aspx?DocID=0b910e99-3ec1-492f-8972-98b384e6606> .

was collected by the testing laboratory (Akron Rubber Development Laboratory) reveals a disconnect between the actual data and the conclusions that the consultants drew. The data reveals that properly working NORMAC risers contain a high percentage of “cracks” in gaskets and “deformed” retainers (which are perfectly normal on a proper installation made with sufficient torque) where the leaking ones did not.

Prior to the Statewide Investigation, the PUCO had commenced an investigation into the safety and security of riser installations in the Cincinnati Gas & Electric Co. (CG&E) (now Duke-Ohio) territory where two of the four reportable incidents occurred.<sup>28</sup> Regarding the first of these incidents, the PUCO Staff filed an **investigation report**. Their findings included:

From the testing results of the Normac risers, it was determined the Normac compression coupling on the riser would not have failed if the riser had been assembled and tightened according to manufacturer instructions and CG&E policy and procedure.<sup>29</sup>

Based on data collected and as part of a Corrective Action Plan approved by PUCO, CG&E removed approximately 9% of the NORMAC risers installed in their territory, focusing on those installed in 1999, rather than any other year.<sup>30</sup> The

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<sup>28</sup> PUCO .Case No. 00-0681-GA-GPS. “In the Matter of the Investigation of The Cincinnati Gas & Electric Company Relative to Its Compliance with the Natural Gas Pipeline Safety Standards and Related Matters”.

<sup>29</sup> Public Utilities Commission of Ohio Pipeline Investigation Report (March 19, 2003), Exhibit 4 of NORMAC “Exhibits to Support Comments by Glenn R. McMurray, representing Norton McMurray Manufacturing “NORMAC”.” Available at <http://dis.puc.state.oh.us/DocumentRecord.aspx?DocID=0b910e99-3ec1-492f-8972-98b384e66606>

<sup>30</sup> A Report by the Staff of The Public Utilities Commission of Ohio, Staff Update on Case No. 00-681-GA-GPS, January 26, 2005, at pg. 4, available at <http://dis.puc.state.oh.us/DocumentRecord.aspx?DocID=CB39FD8665262BD685256F950076CB45>

justification for not removing the remaining risers (over 110,000) of this design was that:<sup>31</sup>

The Battelle investigation<sup>32</sup> did not identify any inherent design defect with the flexible service head adapter style risers.

In closing the Statewide Investigation, despite the claims contained within their own Staff's Report that certain designs were prone to failure, the PUCO again allowed continued installation and use of those very designs, but strongly and repeatedly cautioned that proper installation is important.<sup>33</sup>

Subsequent to the Statewide Investigation, Columbia Gas of Ohio (COH) filed a request with the PUCO to replace and simultaneously take over ownership of those gas service lines deemed "prone to failure". In support of their request to assume responsibility for the safety and security of the installation, COH interpreted the findings of the Staff Report as follows:<sup>34</sup>

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<sup>31</sup> *Id.* at pg. 8.

<sup>32</sup> Battelle Memorial Institute, Final Report on An Investigation into Leaks from Risers to The Cincinnati Gas & Electric Company" (Dec. 2004); see Exhibit 1 of "Exhibits to Support Comments by Glenn R. McMurray, representing Norton McMurray Manufacturing "NORMAC"" available at <http://dis.puc.state.oh.us/DocumentRecord.aspx?DocID=0b910e99-3ec1-492f-8972-98b384e66606>

<sup>33</sup> In the Matter of the Investigation of the Installation, Use, and Performance of Natural Gas Service Risers throughout the State of Ohio and Related Matters, Case No. 05-463-GA-COI, FINDING AND ORDER issued March 12, 2008, at ¶. 22. Available at

<http://dis.puc.state.oh.us/DocumentRecord.aspx?DocID=6eeac852-2bf3-47e8-a586-7175a955fddb>

<sup>34</sup> Application of Columbia Gas of Ohio, Inc., In the Matter of the Application of Columbia Gas of Ohio, Inc. for Approval of Tariffs to Recover Through an Automatic Adjustment Clause Costs Associated with the Establishment of an Infrastructure Replacement Program and for Approval of Certain Accounting Treatment, Case No. 07-478-GA-UNC (April 25, 2007) at ¶ 4, available at <http://dis.puc.state.oh.us/TiffToPdf/A1001001A07D25B65636E63908.pdf>; see also Opinion and Order, In the Matter of the Application of Columbia Gas of Ohio, Inc. for Approval of Tariffs to Recover Through an Automatic Adjustment Clause Costs Associated with the Establishment of an Infrastructure Replacement Program and for Approval of Certain Accounting Treatment, Case No. 07-478-GA-UNC (April 9, 2008), available at <http://dis.puc.state.oh.us/DocumentRecord.aspx?DocID=47ca2bad-255a-436c-bae7-2e5501e84403>.

...it concluded that certain types of field-assembled, or "Design A" risers, were more prone to failure if not assembled and installed properly.

Based on serious safety concerns, the PUCO ruled on July 11, 2007, some eight months prior to PHMSA's issuance of the Advice Bulletin, that the issues in the case should be split and that COH, **not** independent plumbers, should immediately begin replacing installations on an expedited basis. The issues regarding how costs should be borne and other issues continued to be heard by the PUCO after this safety related ruling.<sup>35</sup>

Subsequent testimony by PUCO Staff supported COH's request through written testimony.<sup>36</sup>

Yet, the record shows that Columbia is in a better position in terms of knowledge and means of repairing this crucial piece of the gas pipeline delivery system than the average homeowner or landlord.

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Because Columbia will have managerial oversight of both riser and hazardous customer service line repair and replacement, they will have the authority to fire a plumber who decides to take shortcuts. USP witness Phipps stated that as many as one-third of contractors hired to perform work on service lines or risers may take shortcuts that could lead to leaks. USP witness Phipps agreed that the authority

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<sup>35</sup> *Id.* at pg. 23.

<sup>36</sup> Post-Hearing Reply Brief Submitted on Behalf of the Staff of the Public Utilities Commission of Ohio, In the Matter of the Application of Columbia Gas of Ohio, Inc. for Approval of Tariffs to Recover Through an Automatic Adjustment Clause Costs Associated with the Establishment of an Infrastructure Replacement Program and for Approval of Certain Accounting Treatment, Case No. 07-478-GA-UNC (February 19, 2008) at 1, 13, 22, *available at* <http://dis.puc.state.oh.us/ViewImage.aspx?CMID=A1001001A08B19B55033E60763>.

to hire and fire is important in a process such as this. This authority will act as a deterrent to shoddy work by employees and contractors alike.

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The current system is flawed. While a few home owners may shift risks of repair costs to warranty companies, they cannot shift the risk of suffering damage as a result of inadequate repair work on a gas line.

The PUCO Staff Report is contradicted by PUCO's own decision to allow continued use of the very design they claimed was "prone to failure". The PUCO Staff Report is also contradicted by Battelle:<sup>37</sup>

The conclusion based on the available data is that the Normac® riser should serve its function if it is installed correctly. In particular, this means that an adequate installation torque is applied, leading to compression of the gasket. No systematic mechanism for these leaks to become catastrophic leaks was evident.

PUCO Staff's admission that the Ohio system is flawed, that plumbers had performed "shoddy work", and that Columbia is in a better position to control the installation process clearly shows where the responsibility for the four reportable incidents lie.

Yet PHMSA relied solely (and inappropriately) on the PUCO Staff Report, ignoring PUCO's determination that safer installations will result if the gas company, rather than independent, unregulated plumbers, perform the work.

**Lesson #3:** These reports cannot be relied upon, because each contains factually unsupported conclusions. Yet PHMSA did rely on all three, not only to justify issuance

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<sup>37</sup> See, *supra*, n.33 at pg. iii.

of Advisory Bulletin ADB-08-02, but also to justify implementing the Reporting Regulation and new Report Form, a clear violation of Executive Order 12866, which requires agencies to “base its decisions on the best reasonably obtainable scientific, technical, economic or other information”. It appears, however, that PHMSA failed to make any reasonable effort to validate these reports or even determine if they “held up in court”. Further, little has been done to hold anyone accountable for improper research regarding compression fittings, or for allowing such detrimental behaviors to continue.

As demonstrated, there is a pattern of misinformation and speculative opinions, couched as factual findings, beginning at the PUC level and continuing to the federal level. Where will it end? If DOT is to properly enforce its regulations and protect public safety, this cultural pattern must be broken. PUCs must use accurate data and hold operators accountable for their actions; and in turn PHMSA must hold PUCs accountable for their actions. For this reason, DOT must step in and require PHMSA to refrain from making unsubstantiated statements and to independently assess the weight that investigations like these should be given.<sup>38</sup>

### **C. NORMAC Endorses the Comments of NSPE**

As recognized by the National Society of Professional Engineers (NSPE) in their March 3, 2011 comments in this docket, evaluating and updating regulations to reflect current industry standards is critical to protecting the public health and safety. Therein

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<sup>38</sup> NORMAC requests that DOT apply the same rigor and diligence to reassessing the value of the new Reporting Form and program as it did in dispelling allegations of manufacturer blame for runaway acceleration of Toyota vehicles. In both situations, public safety is at stake.

(at pp. 5-6), NSPE commented that various ASTM standards have not been integrated by PHMSA into existing regulations affecting pipeline safety as required by the National Technology Transfer and Advancement Act (NTTAA).<sup>39</sup> NORMAC supports those comments and suggests further that as standards are incorporated into PHMSA regulations that describe required practices of pipeline operators, PHMSA maintain their effective focus on the specific actions or procedures performed by those entities and individuals subject to the regulation. For example, 49 CFR §192.283 properly hones in on performance requirements for “joints” produced by the pipeline operator while avoiding performance requirements on the vague category of “products”. There are numerous reasons justifying this separation of “joint” from “fitting” and §§192.271-.287 admirably uphold this distinction.

#### **D. NORMAC Recommendations for Improving DOT Regulatory Review**

In response to DOT’s request that commenters address how DOT’s current processes for reviewing regulations might be expanded or otherwise adapted to meet the objectives of Executive Order 13563, NORMAC submits the following recommendations:

- DOT should require PHMSA to immediately remedy the numerous fatal flaws inherent in 49 CFR §§192.1009 and the new Reporting Form, particularly the mis-use of terms “compression fitting or coupling” and “mechanical fitting”, where the term “joint” should be used.

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<sup>39</sup> National Technology Transfer and Advancement Act of 1995, Pub. L. No. 104-113, 110 Stat. 775.

- DOT should require PHMSA to retract those portions of ADB-08-02 that rely upon the ENVIRON, NY PSC, and PUCO Staff reports as incomplete and unreliable reference points, provide supplemental notice **to industry** of such retraction, and direct PHMSA to re-evaluate all decisions they or PUCs have made based upon those reports.
- DOT must hold accountable those at the state level and within PHMSA who provide flawed data and research regarding pipeline safety, or those who permit such detrimental behavior to persist.
- Prior to issuing any future warning, advisory, or regulation, PHMSA should be required to ensure that it has independently verified the reports upon which it intends to rely. PHMSA reliance on incomplete, unreliable and unverified information can lead to misguided policies that unnecessarily ignite fear and distract attention from the true causes of the problem.
- PHMSA should be authorized to take all necessary steps to ensure that PUC investigation procedures (a) provide for independent fact finding and a complete record that is impartial, data-driven and reaches conclusive findings within a reasonable period of time; and (b) actively solicit manufacturers' input from the outset of any investigation. That certainly has not been NORMAC's experience to date, despite its best efforts to participate. The result, in NORMAC's opinion, has been the entry of incomplete, skewed and thus unreliable reports into the historical record which render sound decision making about pipeline safety difficult if not impossible.



- To aid in preventing future problems, DOT should reassess its regulation requiring operators to conduct investigations (49 CFR §192.617) and require operators, PHMSA Staff, and PUCs to apply logical, rigorous methodologies that clearly identify and report root causes in a transparent manner, so that findings can be independently verified.
- Regulations that require (or result in) collection of data based on opinions rather than facts should be identified and modified to align with the principles of Executive Orders 12866 and 13563, along with any other applicable policies or regulations.

#### **E. NORMAC Recommendations for Setting Priorities and Selecting Rules for Review**

In response to DOT's request that commenters address factors that DOT should consider in setting priorities and selecting rules for review, NORMAC submits the following additional recommendations:

- PHMSA should be required to contract with one or more firms with expertise in statistical methodology, with the task of:
  - Identifying existing regulations that do not utilize sound statistical methods;
  - Identifying existing regulations whose purpose is not clearly defined;
  - Identifying existing regulations that lack sufficient metrics for determining whether their purpose has been accomplished or if sufficient progress has been made toward the stated goal;

- Given the critical importance of its pipeline safety regulations, DOT should retain the services of an independent party who would review PHMSA's regulations every five years and identify those that are not aligned with Orders 12866 and 13563 and NTTAA. DOT could then prioritize and calendar for review and reassessment those identified, rather than wait for the next ten-year review. Affected professional organizations should be included in this identification process.
- To the extent that any of the above proposals are deemed not to be within DOT's current authority, NORMAC urges the Secretary of DOT to transmit to Congress legislative recommendations the Secretary considers necessary and appropriate to implement these requests.

### **III.**

#### **CONCLUSION**

NORMAC is dedicated, first and foremost to enhancing pipeline safety. Accordingly, we stand ready to participate in any such efforts that PHMSA may undertake. As an AGA member, NORMAC abides by the Statement of Safety Culture and volunteers on committees including the Plastic Materials Committee. Should DOT or PHMSA decide to gather stakeholders to assist in the analysis of data, develop performance metrics, identify root causes, etc., all of which NORMAC strongly endorses, please accept the Company's offer to assist.

WHEREFORE, for the foregoing reasons, NORMAC requests that its comments in the captioned docket be accepted, and that its recommendations be adopted.

Respectfully submitted,

**NORTON MCMURRAY MANUFACTURING CO.**

By: */s/ electronically filed*

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