

# Ohio Gas Association

2011 Spring Technical Seminar

## **Regulatory & Financial Issues Arising from Recent Pipeline Incidents**

Panelist: Brian Moidel - Dominion  
Jim Callahan - Duke Energy  
Chuck Kanoy - Vectren  
Moderator: John Spinks - Vectren

# Draft Legislation on Pipeline Safety Issues

- Require the installation of automatic or remote controlled shutoff valves on new transmission pipelines, where technically and economically feasible (Lautenberg Bill)

- Brian Moidel

- Require the secretary of transportation to establish time limits on accident and leak notification by pipeline operators to state and local governments and emergency responders (Lautenberg Bill)

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# Draft Legislation on Pipeline Safety Issues

- Require the secretary to evaluate whether integrity management system requirements should be expanded beyond currently defined HCAs and establish regulations as appropriate (Lautenberg Bill)  
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- Require smart pigging only as assessment tool, otherwise prohibit pipelines from operating at higher pressures (Feinstein/Boxer Bill)  
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# Brian Moidel

## Dominion

Require the installation of automatic or remote controlled shutoff valves on new transmission pipelines, where technically and economically feasible (Lautenberg Bill)



## Pipeline Safety Bills

### Installation of: Remote Control Valves and Automatic Shutoff Valves

<b>Feinstein-Boxer (Senate)</b>	SECTION 6. REQUIRED INSTALLATION AND USE OF REMOTE OR AUTOMATICALLY CONTROLLED VALVES. Not later than 18 months after the effective date, the Secretary shall prescribe regulations requiring the installation and use, <b><u>wherever technically and economically feasible</u></b> , of remotely or automatically controlled valves that are capable of shutting off in the event of an accident, including loss of power. The Secretary shall consult with the gas industry.
<b>Lautenberg</b>	SECTION 5. AUTOMATIC AND REMOTE-CONTROLLED SHUT-OFF VALVES. Not later than 2 years after the effective date, the Secretary shall by regulation require the use of ASVs or RCVs or equivalent technology, <b>where economically and technically feasible on pipelines <u>constructed after the date on which the Secretary issues a final rule.</u></b>
<b>Speier</b>	SECTION 6. Requires the Secretary to establish minimum standards for requiring the installation of automatic or remote shut off valves; <b><u>such valves will be required on all pipelines that are new or replaced; required within 2 years on all pipelines within 10 miles of a high-risk seismic fault if technically feasible; and required within 5 years in Class 3 or Class 4 high consequence areas.</u></b>

## Background

Federal pipeline safety regulations require operators to install in-line sectionalizing valves (“block valves”) on natural gas transmission pipelines at prescribed intervals in order to shut off the flow of gas for both routine maintenance activities and emergency response. One of the existing provisions of the Transmission Integrity Management Program (TIMP) rule (192.935) is for operators to evaluate if Automatic Shut-off valves (ASVs) or Remote Control Valves (RCVs) would be an efficient means to add protection to High Consequence Areas (HCAs) in the event of a gas release. In light of the San Bruno incident and the approx. 1hr 29min response time, legislators believe it is best for industry to install these valves to better respond to incidents that involve pipeline ruptures.

**An ASV is** a block valve assembly that senses pipeline pressure and/or flow data, and will close automatically, without human intervention, if the sensor observes an unusually high flow rate or abnormal pressure changes.

**An RCV is** a block valve assembly that can be closed from a remote location such as a gas control room. The RCV requires operating personnel to evaluate pipeline operating data and make a determination whether a pipeline problem exists based on available information such as pipeline pressure and flow rate. The RCV introduces human intervention, judgment and decision making into the valve closure process.

The presence of an ASV or RCV on a transmission pipeline will not prevent an incident from occurring. Studies on the potential benefits of ASVs and RCVs concluded that the vast majority of injuries, fatalities and property damage occur within the first few minutes of a pipeline failure. The potential benefits of an ASV or RCV would be to control the amount of natural gas released after the incident has occurred.

The vast majority of existing transmission lines were not designed or constructed to accommodate the retrofit installation of ASVs or RCVs. In urban areas, the lack of underground space immediately adjacent to the existing valve, necessary for the vault to contain the valve actuating equipment, would make the retrofit of a manual valve to an ASV or RCV virtually impossible.

Although both ASVs and RCVs potentially allow for somewhat faster closure of a block valve than a manually operated valve, they also introduce the possibility of a false valve closure with unintended consequences. For example, ASVs could inadvertently close due to routine events such as a decrease in pipeline pressure due to peak cold or hot weather flow rates. The resulting impact could be the loss of service to thousands of customers for multiple days, including sensitive customers such as hospitals, schools, chemical plants and power plants.



## Benefits (Pros) vs Potential Problems (Cons)

### Benefits:

An **ASV** will automatically open or close a valve in response to predetermined pipeline operating criteria more rapidly than a manually operated valve that requires operating personnel to travel to the valve location.

The **RCV** potentially allows a line valve to be operated sooner than a manually operated valve, once a decision has been made by personnel monitoring the remote pipeline data that an emergency condition exists. The potential time savings of an RSV is based on a number of variables, such as the physical location of the valve relative to available operating personnel, the amount of time before the controller determines that an emergency condition exists and decides to close the valve, etc.

## Potential Problems:

Since the **ASV** will operate automatically without human evaluation or interpretation of system operating data, there is a possibility of an unintended valve operation and related consequences. It is impossible to anticipate all of the potential situations that may require a valve to be operated while identifying exceptions.

Based on available but potentially incomplete information, the gas controller must evaluate whether an apparent anomaly in operating conditions constitutes an incident or emergency, requiring an immediate **RCV** valve closure, or whether the unusual condition is based on a routine event, such as a high flow condition due to peak cold weather system flow rates, the start-up of a major industrial customer, or simply instrumentation malfunction.

## **“Potential” NTSB Recommendation based on San Bruno Incident:**

Better shut-off valves to quickly control the damage from a pipeline rupture. PG&E committed during the NTSB hearings to installing a dozen valves in a pilot project this summer, most likely included on Peninsula transmission lines. PG&E President Chris Johns promised to expand that pilot project, one of the moves that led Rep. Jackie Speier, D-Hillsborough, who has been highly critical of the company, to declare PG&E could become "the gold standard" for gas pipeline operators.

# Jim Callahan

## Duke Energy

Require the secretary of transportation to establish time limits on accident and leak notification by pipeline operators to state and local governments and emergency responders (Lautenberg Bill)

**Mr. Lautenberg**  
**Senate Bill (S) 3856**  
**September 28, 2010**

Not later than 18 months after the date of enactment of this Act, the Secretary of Transportation shall—

- (1) prescribe regulations, after notice and an opportunity for a hearing, that establish time limits for accident and incident telephonic notification by pipeline operators to State and local government officials and emergency responders when a spill or rupture occurs; and
- (2) review procedures for pipeline operators and the National Response Center to provide thorough and coordinated notification to all relevant emergency response officials and revise such procedures as appropriate.

**Mr. Schauer**  
**House Representatives (H.R.) 6008**  
**July 30, 2010**

**§ 60138. Telephonic notice of certain incidents**

(a) IN GENERAL.—An owner or operator of a pipe line facility shall provide immediate telephonic notice of—

(1) a release of hazardous liquid or another substance regulated under part 195 of title 49, Code of Federal Regulations, resulting in an event for which notice is required under section 195.50 of such title; and

(2) a release of gas resulting in an incident, as defined in section 191.3 of such title.

(b) IMMEDIATE TELEPHONIC NOTICE DEFINED.—

In subsection (a), the term ‘immediate telephonic notice’ means telephonic notice, as described in section 191.5 of such title, to the Secretary and the National Response Center **at the earliest practicable moment following discovery of a release of gas or hazardous liquid and not later than one hour following the time of such discovery.**

**Mr. Schauer**  
**House Representatives (H.R.) 6008**  
**July 30, 2010**  
**(continued)**

(2) CLERICAL AMENDMENT.—The analysis for such chapter is amended by adding at the end the following:

(b) GUIDANCE.—Not later than 60 days after the date of enactment of this Act, the Secretary shall issue guidance to clarify the meaning of the term “discovery” as used in section 60138(b) of title 49, United States Code, as added by subsection (a) of this section.

## Current Code:

### §191.5 Telephonic notice of certain incidents.

Title 49 CFR Part 191

#### §191.5 Telephonic notice of certain incidents.

- (a) **At the earliest practicable moment following discovery**, each operator shall give notice in accordance with paragraph (b) of this section of each incident as defined in §191.3.
- (b) Each notice required by paragraph (a) of this section shall be made by telephone to 800-424-8802(in Washington, DC, 267-2675) and shall include the following information:
  - (1) Names of operator and person making report and their telephone numbers.
  - (2) The location of the incident.
  - (3) The time of the incident.
  - (4) The number of fatalities and personal injuries, if any.
  - (5) All other significant facts that are known by the operator that are relevant to the cause of the incident or extent of the damages.



## **4901:1-16-05 Notice and reports of service failures and incidents**

(A) Telephone notice of incidents and service failures.

(1) Operators shall provide telephone notice to the chief on all incidents, as defined in rule [4901:1-16-01](#) of the Administrative Code, within two hours of discovery. This includes any telephone notice which is required to be made to the United States department of transportation pursuant to 49 C.F.R. 40, 49 C.F.R. 191, 49 C.F.R. 192, and 49 C.F.R. 199 as effective on the date referenced in paragraph (D) of rule [4901:1-16-02](#) of the Administrative Code. Telephone notice requires personal contact with the chief or good faith efforts to make personal contact for all incidents. Operators unable to make personal contact with the chief shall leave a message on the commission's incident line, which is 1-614-466-7542.

## **4901:1-16-05 Notice and reports of service failures and incidents (Cont.)**

- (A) Telephone notice of incidents and service failures.
- (2) Operators shall provide telephone notice to the chief on all service failures, which involve an interruption of service to one hundred or more customers for a period of two hours or more, within two hours after discovery. Telephone notice requires personal contact with the chief or good faith efforts to make personal contact for all qualifying service failures. Operators unable to make personal contact with the chief shall leave a message on the commission's incident line, which is 1-614-466-7542.

§191.3 Definitions.  
Effective Date January 1, 2011

Incident means any of the following events:

- (1) An event that involves a release of gas from a pipeline, or of liquefied natural gas, liquefied petroleum gas, refrigerant gas, or gas from an LNG facility, and that results in one or more of the following consequences:
  - (i) A death, or personal injury necessitating in-patient hospitalization;
  - (ii) Estimated property damage of \$50,000 or more, including loss to the operator and others, or both, but excluding cost of gas lost;
  - (iii) Unintentional estimated gas loss of three million cubic feet or more;
  
- (2) An event that results in an emergency shutdown of an LNG facility. Activation of an emergency shutdown system for reasons other than an actual emergency does not constitute an incident.
  
- (3) An event that is significant in the judgment of the operator, even though it did not meet the criteria of paragraphs (1) or (2) of this definition.

## §191.3 Definitions

### Prior to 1-1-2011

"Incident" means any of the following events:

- (1) An event that involves a release of gas from a pipeline or of liquefied natural gas or gas from an LNG Facility and
  - (i) A death, or personal injury necessitating in-patient hospitalization; or
  - (ii) Estimated property damage, **including cost of gas lost**, of the operator or others, or both, of \$50,000 or more.
- (2) An event that results in an emergency shutdown of an LNG facility.
- (3) An event that is significant, in the judgment of the operator, even though it did not meet the criteria of paragraphs (1) or (2).

# Chuck Kanoy

## Vectren

Require the secretary to evaluate whether integrity management system requirements should be expanded beyond currently defined HCAs and establish regulations as appropriate (Lautenberg Bill)

# IM Beyond HCAs

## § 192.905 How does an operator identify a high consequence area?

- (a) *General.* To determine which segments of an operator's transmission pipeline system are covered by this subpart, an operator must identify the high consequence areas. An operator must use method (1) or (2) from the definition in §192.903 to identify a high consequence area. An operator may apply one method to its entire pipeline system, or an operator may apply one method to individual portions of the pipeline system. An operator must describe in its integrity management program which method it is applying to each portion of the operator's pipeline system. The description must include the **potential impact radius** when utilized to establish a high consequence area. ( See appendix E.I. for guidance on identifying high consequence areas.)
- (b)(1) Identified sites. An operator must identify an identified site, for purposes of this subpart, from information the operator has obtained from routine operation and maintenance activities and from public officials with safety or emergency response or planning responsibilities who indicate to the operator that they know of locations that meet the identified site criteria. These public officials could include officials on a local emergency planning commission or relevant Native American tribal officials.

# IM Beyond HCAs

## § 192.905 (Cont.) How does an operator identify a high consequence area?

- (b)(2) If a public official with safety or emergency response or planning responsibilities informs an operator that it does not have the information to identify an identified site, the operator must use one of the following sources, as appropriate, to identify these sites.
- (i) Visible marking ( e.g., a sign); or
  - (ii) The site is licensed or registered by a Federal, State, or local government agency; or
  - (iii) The site is on a list (including a list on an internet web site) or map maintained by or available from a Federal, State, or local government agency and available to the general public.
- (c) Newly identified areas. When an operator has information that the area around a pipeline segment not previously identified as a high consequence area could satisfy any of the definitions in §192.903, the operator must complete the evaluation using method (1) or (2). If the segment is determined to meet the definition as a high consequence area, it must be incorporated into the operator's baseline assessment plan as a high consequence area within one year from the date the area is identified.

# IM Beyond HCAs

## § 192.903 What definitions apply to this subpart (High Consequence Area)?

(Method 1) An area defined as—

- (i) A Class 3 location under §192.5; or
- (ii) A Class 4 location under §192.5; or
- (iii) Any area in a Class 1 or Class 2 location where the potential impact radius is greater than 660 feet (200 meters), and the area within a potential impact circle contains 20 or more buildings intended for human occupancy; or
- (iv) Any area in a Class 1 or Class 2 location where the potential impact circle contains an identified site.



# IM Beyond HCAs

**§ 192.903 (Cont.) What definitions apply to this subpart (High Consequence Area)?**

**(Method 2) The area within a potential impact circle containing—**

- (i) 20 or more buildings intended for human occupancy, unless the exception in paragraph (4) applies; or
- (ii) An identified site.

# IM Beyond HCAs

## § 192.903 (Cont.) What definitions apply to this subpart (High Consequence Area)?

- (3) Where a **potential impact circle** is calculated under either method (1) or (2) to establish a high consequence area, the **length of the high consequence area** extends axially along the length of the pipeline from the outermost edge of the **first potential impact circle** that contains either an identified site or 20 or more buildings intended for human occupancy to the **outermost edge** of the **last contiguous potential impact circle** that contains either an identified site or 20 or more buildings intended for human occupancy. (See figure E.I.A. in appendix E.)

# IM Beyond HCAs

## § 192.903 (Cont.) What definitions apply to this subpart (High Consequence Area)?

- (4) If in identifying a **high consequence area** under paragraph (1)(iii) of this definition or paragraph (2)(i) of this definition, the radius of the **potential impact circle** is greater than 660 feet (200 meters), the operator may identify a high consequence area based on a **prorated number of buildings** intended for human occupancy with a distance of 660 feet (200 meters) from the centerline of the pipeline until December 17, 2006. If an operator chooses this approach, the operator must prorate the number of buildings intended for human occupancy based on the ratio of an area with a radius of 660 feet (200 meters) to the area of the potential impact circle (i.e., **the prorated number of buildings intended for human occupancy is equal to  $20 \times (660 \text{ feet})$  [or  $200 \text{ meters}$ ]/potential impact radius in feet [or meters]<sup>2</sup>** ).

# IM Beyond HCAs

## **Possible expansion approaches**

- Method 1 or total pipeline
- Legacy transmission systems constructed pre-1970

## **Hurdles for expansion**

- Legacy record keeping
- Assessment effectiveness vs. assessment expansion
- Regulatory Inflation range:
  - Urban area transmission pipelines: 2 to 1
  - Rural area transmission pipelines: 14-20 to 1

Require smart pigging only as assessment tool, otherwise prohibit pipelines from operating at higher pressures  
(Feinstein/Boxer Bill)

# Smart Pigging Only

- LDC transmission systems require retrofitting
- Smart Pig capabilities to address threats
  - Corrosion pits, TPD deformation – stnd MFL
  - SSC, Long seam, Girth welds –
    - **Transverse Field Inspection (TFI)**
    - **Ultrasonic Testing (UT)**
    - **Electro-Magnetic Acoustic Transducer (EMAT)**
  - Liquid Couplet required – UT
- Flow control issues more challenging w/ LDC
- Pipeline Cleaning

# Pipeline Safety Bills

## Additional PHMSA Resources

<b>Administration Bill</b>	SEC.3. ADDITIONAL RESOURCES. The Secretary shall <b>increase the personnel of PHMSA by a total of <u>40 FETs</u></b> to carry out the pipeline safety program, including 10 in 2011, 10 in 2012, 10 in 2013 and 10 in 2014. Personnel added to conduct data collection, IT, inspections, support for enforcement, and overall mission of PHMSA.
<b>Senate Draft</b>	SEC. 24. ADDITIONAL RESOURCES. The Secretary shall <b>increase the personnel of PHMSA by a total of <u>40 FETs</u></b> to carry out the pipeline safety program, including 15 in 2012, 15 in 2013 and 10 in 2014. Personnel added to conduct data collection, IT, inspections, support for enforcement, and overall mission of PHMSA.
<b>Feinstein-Boxer (Senate)</b>	SEC. 3. ADDITIONAL RESOURCES FOR PHMSA. The Secretary shall <b>increase the personnel of PHMSA by not fewer than <u>100 FETs</u></b> to carry out the pipeline safety program, including not < 25 in 2011, not< 25 in 2012, not< 25 in 2013 and not < 25 in 2014. Personnel added to conduct data collection, IT, inspections, support for enforcement, and overall mission of PHMSA.

## Pipeline Safety Bills

### Additional PHMSA Resources

<b>Lautenberg</b>	SEC. 24. ADDITIONAL RESOURCES. The Secretary shall <b>increase the personnel of PHMSA by a total of <u>40 FETs</u></b> to carry out the pipeline safety program, including 9 in 2011, 10 in 2012, 10 in 2013 and 10 in 2014. Personnel added to conduct data collection, IT, inspections, support for enforcement, and overall mission of PHMSA.
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# Pipeline Safety Bills

## Cost Recovery for Oversight of Large Projects

<b>Administration Bill</b>	SEC.9. COST RECOVERY FOR DESIGN REVIEWS. (n)(1) If the Secretary conducts design safety reviews in connection with a proposal to construct, expand, or operate a gas or liquid pipeline, including construction inspections and oversight, <b>the person proposing the project <u>may pay costs associated with the review.</u></b> (2) Notification-For any new pipeline construction project the Secretary will conduct a design review, the entity proposing the project will provide specifications, construction plans and procedures at least 120 days prior to construction.
<b>Senate Draft</b>	SEC. 18. COST RECOVERY FOR DESIGN REVIEWS. (n)(1) If the Secretary conducts design safety reviews in connection with a proposal to construct, expand, or operate a gas or liquid pipeline, including construction inspections and oversight, <b>the person proposing the project <u>may pay costs</u></b> associated with the review.(2) Notification-For any new pipeline construction project the Secretary will conduct a design review, the entity proposing the project will provide specifications, construction plans and procedures at least 120 days prior to construction.
<b>Feinstein-Boxer (Senate)</b>	SEC.14. COST RECOVERY FOR DESIGN REVIEWS. (n)(1) If the Secretary conducts design safety reviews in connection with a proposal to construct, expand, or operate a gas or liquid pipeline, including construction inspections and oversight, <b>the person proposing the project <u>may pay costs associated with the review.</u></b> (4) Notification-For any new pipeline construction project after the date of enactment in which the Secretary will conduct a design review, the entity proposing the project will provide specifications, construction plans and procedures at least 120 days prior to construction.

# Pipeline Safety Bills

## Cost Recovery for Oversight of Large Projects

**Lautenberg**

SEC. 18. COST RECOVERY FOR DESIGN REVIEWS. (n)(1) (a) REVIEW COSTS- If the Secretary conducts design safety reviews in connection with a proposal to construct, expand, or operate a gas or liquid pipeline, including construction inspections and oversight, **the person proposing the project may pay costs** associated with the review. (B) PROJECTS TO WHICH APPLICABLE - **language in (A) only applies to projects that have design and construction costs totaling at least \$3.4 billion; is a multi-state project at least 100 miles in length; or uses new or novel technologies or designs.** (2) Notification-For any new pipeline construction project the Secretary will conduct a design review, the entity proposing the project will provide specifications, construction plans and procedures at least 120 days prior to construction.

## Pipeline Safety Bills

### Miscellaneous Items

<b>Senate Draft</b>	SEC. 6. EXCESS FLOW VALVES-(2) (B) No later than 2 years after the date of enactment, <b>the Secretary shall evaluate</b> the appropriate use of excess flow valves on new or replaced branch services, multi-family facilities, and small commercial facilities
<b>Lautenberg</b>	SEC. 6. EXCESS FLOW VALVES-(2) (B) No later than 2 years after the date of enactment, <b>the Secretary shall prescribe regulations</b> , after notice, to require the use of EFVs, where economically and technically feasible, on new or entirely replaced branch services, multi-family facilities, and small commercial facilities.
<b>Senate Draft</b>	SEC. 3- PIPELINE DAMAGE PREVENTION. (a) Minimum Standards- revises to define terms to qualify for State damage prevention grants, including; (A) appropriate participation by all underground operators, including gov't (B) participation by all excavators, including gov't and contractors (C) flexible and effective enforcement under State law re participation and use of one call systems (2) <b>Exemptions prohibited</b> - State one-call system may not exempt municipalities, State agencies or their contractors.

## Pipeline Safety Bills

### Miscellaneous Items

**Lautenberg**

SEC. 3- PIPELINE DAMAGE PREVENTION. (a) Minimum Standards- revises to define terms to qualify for State damage prevention grants, including; (A) appropriate participation by all underground operators, including gov't (B) participation by all excavators, including gov't and contractors (C) flexible and effective enforcement under State law re participation and use of one call systems (2) **Exemptions prohibited**- State one-call system may not exempt municipalities, State agencies or their contractors from notification requirements.

# Draft Legislation on Pipeline Safety Issues

- Require the installation of automatic or remote controlled shutoff valves on new transmission pipelines, where technically and economically feasible (Lautenberg Bill)
- Expand excess flow valve requirements to include multi family residential and small commercial facilities (Lautenberg Bill)
- Increase Civil Penalties for violators of pipeline regulations and civil penalties for obstructing investigations (Lautenberg Bill)
- Eliminate exemptions and require all local and state government agencies and their contractors to notify one call centers prior to digging (Lautenberg Bill)

# Draft Legislation on Pipeline Safety Issues

- Require the secretary of transportation to establish time limits on accident and leak notification by pipeline operators to state and local governments and emergency responders (Lautenberg Bill)
- Require the secretary to evaluate whether integrity management system requirements should be expanded beyond currently defined HCAs and establish regulations as appropriate (Lautenberg Bill)
- Make pipeline information, inspections and standards available to the public on the PHMSA website (Lautenberg Bill)
- Authorize additional pipeline inspectors and pipeline safety support employees, phased in over 4 years (Lautenberg Bill)

# Draft Legislation on Pipeline Safety Issues

- Allow PHMSA to recover costs for oversight of large pipeline design and construction projects (Lautenberg Bill)
- Double the number of federal pipeline safety inspectors (Feinstein/Boxer Bill)
- Require electronic flow valves (Feinstein/Boxer Bill)
- Require smart pigging only as assessment tool, otherwise prohibit pipelines from operating at higher pressures (Feinstein/Boxer Bill)
- Require secretary of transportation to consider pipe age and seismicity of an area when identifying pipelines deserving the highest level of safety oversight (Feinstein/Boxer Bill)

# Draft Legislation on Pipeline Safety Issues

- Requires the following collection of data on pipeline infrastructure for NPMS; Such other geospatial, technical, or other pipeline data, including design and material specifications, as the Secretary considers necessary to carry out the purposes of this chapter, including preconstruction design reviews and compliance inspection prioritization. (Feinstein/Boxer Bill)
- Require all pipeline operators notify all owners and residents of property within 2,000 feet of a transmission line of the presence of that line (Speier Bill)