

# DIMP

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# Independence Day Movie



## My New Line

I'm Back.....



# Distribution Integrity Management Plan



## Past & Present - Where are we?

- Federal Register dated December 4, 2009- became law.
- No later than August 2, 2011 a *gas* distribution *operator* must develop and implement an integrity management program

# Distribution Integrity Management Plan



- Early indications – operators struggled developing their first DIMP plan. The rule had/has many determining factors for an operator to consider.
- Early on many used SHRIMP (Simple, Handy, Risk-based, IM Plan). Developed by APGA and SIF to assist small operators create initial plan.
- Let's consider some Frequently Asked Questions (FAQ's) to gauge progress!

## B.1.3 Why aren't distribution pipeline operators required to physically inspect their pipelines as are operators of other types of pipelines?



- Distribution pipelines are not subject to the same pressures as transmission pipelines and thus tend to leak rather than rupture.
- Important that **DIMP programs be focused** on identifying the conditions that can cause leaks
- **AND**
- addressing them before the failures occur and on managing leaks effectively.

## B.4.3 Will my plan be in compliance if I use SHRIMP?



- Using SHRIMP does not necessarily mean that an operator will be in compliance with DIMP requirements.
- Smaller operators used, and some still do.
- SHRIMP contains generic procedures. An operator's plan needs to reflect their own procedures, information sources, and practices.....

## C.3.3 Will companies operating in several states need to develop individual DIMP plans for each state?



- Multi-state operators may have one or more plans **BUT** must be able to filter by state their **risk ranking, measures to reduce risk, performance measures and baselines (by state)** and other related data and information.
- The operator must address any additional requirements for each state since individual states may have the authority to impose additional requirements on intrastate lines the state regulates.
- *SO... Ohio Valley Gas, Northern Indiana Public Service, and CenterPoint may only have one DIMP plan, but the plan must be able to:*



## C.3.4 What is the relationship between an operations & maintenance manual and a DIMP plan?



- An **O&M** manual contains written procedures describing how operators conduct operations and maintenance activities on their system. The activities address various threats to a pipeline's integrity.
- A **DIMP** plan is a written integrity management plan which describes the analysis of the operator's system,
  - *provides a relative risk analysis based on threats to the system,*
  - *and prescribes additional or accelerated actions as needed to address risks identified in the plan.*

## C.3.4 What is the relationship between an operations & maintenance manual and a DIMP plan, Cont...



- An operator may find it convenient to incorporate additional or accelerated actions, as determined to be necessary under its DIMP plan, into its O&M manual.
- As the operator evaluates the effectiveness of these actions, it may identify a need to modify those actions, potentially requiring additional modifications to its O&M plan. Indiana does require a revision history, a record of modifications to operators O&M manuals.
- ***What PSD has seen*** – *O&M plans do not always represent DIMP analysis findings in how it relates to their system, and outline additional or accelerated actions needed to address risks.*

# Knowledge of the System – still Key!



# Taking a closer Look



# It is Worse than Expected?



### C.3.6 How does the DIMP rule impact operators of gas piping systems on Military bases, Federal Government, or Indian Tribal Government land?



- PHMSA does not regulate pipeline systems owned and operated by the Military, Federal Government, or an Indian Tribal Government.
- A "**person**" is defined in Section 192.3 -The definition of "person" does not include the "Federal Government", "Military" or "Indian Tribal Governments." Gas pipeline systems owned and operated by the Military, Federal Government or Indian Tribal Governments are exempt from compliance with the pipeline safety regulations.

## C.3.6 How does the DIMP rule impact operators of gas piping systems on military bases, Federal Government, or Indian Tribal Government land, Cont...



- **However**, if the system is owned and/or operated by a private entity, such as a contractor, then it must comply with the regulations under 49 C.F.R. 192. Therefore, the DIMP rule also impacts gas systems on military bases, land owned by the Federal Government, or on land owned by Indian Tribal Governments if the system is owned or operated by private entities.
- Consider: ***Grissom AFB, Camp Atterbury, Fort Harrison, reformatories...***
  - *What about access to locates, emergency response, leak surveys, CP?*
  - *How many locations are out there similar to these? Are they in your DIMP/O&M plan?*
  - *PS made aware of Vermillion Rise years ago – Old Army Depot*

## C.3.7 Are operators required to include “farm taps” in their distribution integrity management plan?



- In the past, distribution, gathering, and transmission operators connected landowners directly to transmission and gathering pipelines often in exchange for the right to install the pipeline across a landowner’s property. This connection is commonly referred to as a “farm tap”.
- Although new farm taps are not installed nearly as frequently, “farm taps” are very common. The vast majority of “farm taps” meet the definition of a distribution line, they do not meet the criteria to be classified as a gathering line or a transmission line.



# Farm Taps, cont.



- Operators of distribution, gathering, and transmission lines with “farm taps” must have a DIMP program meeting the requirements of Subpart P for this distribution pipeline.

**OR**

- In accordance with 192.740 - Each pressure regulating or limiting device, relief device (except rupture discs), automatic shutoff device, and associated equipment must be inspected and tested at least once every 3 calendar years, not exceeding 39 months

## C.4.a.4 What data will be required to be collected for new gas pipelines going in the ground?



- The DIMP regulation prescribes **two** minimum data elements that must be captured and retained on any new distribution pipelines:
  - the location where the new pipeline is installed and
  - the material of which it is constructed.

***Pipeline, defined in §192.3, means all parts of those physical facilities through which gas moves in transportation, including pipe, valves, and other appurtenance attached to pipe, compressor units, metering stations, regulator stations, delivery stations, holders, and fabricated assemblies.***

**AND**

## C.4.a.4 What data will be required to be collected for new gas pipelines going in the ground, Cont...



In addition, an operator must also consider the data it needs to comply with the various record keeping requirements in Part 192 such as:

- pipeline design, testing, construction, corrosion control,
  - customer notification, uprating, surveying, patrolling,
  - monitoring, inspection, operation & maintenance,
  - emergencies, and operator qualification.

**What PSD is finding** – even today, after all these years, operator's struggle with capturing and maintaining data records from this and the previous slide.

## C.4.b.1 Identify Threats – Must an operator use a computer- based risk analysis model?



**“NO”**

- Risk analysis is a process of understanding **what factors affect the risk** posed by a pipeline system and **which are most important.**
- For a **complex system,** use of a computer-based risk model may make this process easier, but the use of a computer-based modeling system is not required.
- For a simple distribution pipeline system, it is possible to do a credible analysis that leads to an understanding of factors/areas that are important to risk without use of such a model. *The GPTC guidelines include suggestions for simpler approaches.*

## C.4.b.2 Must each of the 8 threats be considered for every pipeline type?



**“YES”**

Plan must consider each of the 8 threats for the pipeline system. The eight threats categories are:

- corrosion
- natural forces
- excavation damage
- other outside force damage
- material or welds
- equipment failure
- incorrect operations
- other concerns that could threaten the integrity of its pipeline

# Must each of the 8 threats be considered for every pipeline type? **“YES”** *More defined examples*



## **External Corrosion**

- Bare Steel Pipe (CP or no CP)
- Cast iron pipe (graphitization)
- Coated and wrapped steel pipe (CP or no CP)
- Other metallic materials

## **Internal Corrosion Natural Forces**

- Outside force/weather: steel pipe
- Outside force/weather: plastic pipe
- Outside force/weather: cast iron pipe

## • **Excavation Damage**

- Operator (or its contractor)
- Third-party

## • **Other Outside Force Damage**

- Vehicular
- Vandalism
- Fire/Explosion (primary)
- Leakage (previous damage)
- Blasting
- Mechanical damage: Steel pipe, Plastic pipe, Pipe components

Must each of the 8 threats be considered for every pipeline type, Cont... *More defined examples*



## **Material or Weld**

- Manufacturing defects
- Materials/Plastic
- Weld/Joint

## **Equipment Failure**

- System Equipment

## **Incorrect operation**

- Inadequate procedures
- Inadequate safety practices
- Failure to follow procedures
- Construction/Workmanship defects

**Other Failure Causes that the Operator has experienced.**

# Must each of the 8 threats be considered for every pipeline type, Cont...



Some threats may not be relevant to all pipe types or all operators' circumstances. Some threats may apply but are not obvious. For example:

- Corrosion is not a threat to plastic facilities but could be a threat to tracer wires, transition fittings, or to short pieces of metal main or services in a plastic system.
- Material or weld failures could apply to plastic (the brittle failure issue and potential for faulty fusion joints, for instance).
- Excavation damage occurs regardless of the pipe material.



# Other Threats



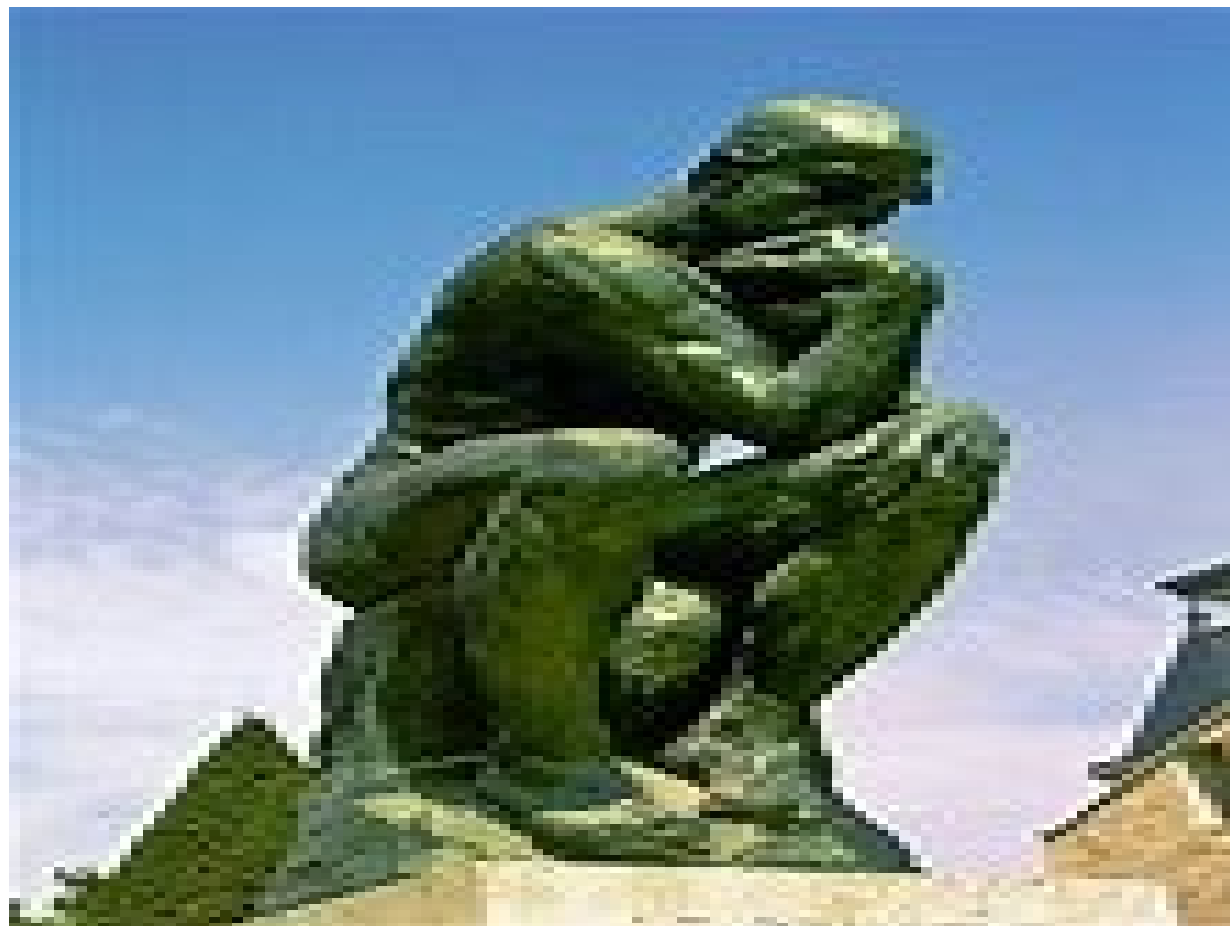
Overbuilds – pipeline facility enclosed within or a building is built on top of the pipeline- What about decks?

Washouts – If experienced, need to consider both actual & potential threats. (even if no leaks occur(ed)).

Aldyl “A” pipe – If is in your system, It **IS** a Threat!

What about Duraline? How many updates have been published?  
Added as a threat to the system? It **IS** a Threat!

# Think About It



# After all these years---Is it in there?



## C.4.b.3 Condition of facilities that are at risk for potential damage from external sources



Cross Bores of gas lines in sewers – predominately where trenchless technology is used. Does the potential for cross bores of sewers resulting in gas lines intersecting with sewers need to be determined?

**“YES”**

- Using this technology without measures to locate sewer laterals and other unmarked facilities, there may be a risk.
- **If this excavation damage threat applies to the operator, they MUST evaluate its risk to their system.**
- Depending on risk evaluation – may need to identify & implement measures.

## C.4.c.1 What are the key things an operator should be focusing on when developing an effective risk assessment methodology?



- High-quality data is essential to an effective risk assessment. The IM plan must contain procedures for how the operator evaluates and ranks risks.
- Operators need to have a plan to identify and define the data necessary for the analyses. Additionally, processes should be in place to provide for data accuracy, completeness, and consistency. They should have a procedure to validate data and improve future data collected. **TVC – Traceable, Verifiable, Complete-** See slide 15 & 16 above
- Operators must consider the risks (likelihood as well as the consequences of a failure) that might result from each threat. A potential incident of relatively **low likelihood which produces significant consequences** may be a higher risk than an incident with somewhat greater likelihood which may not produce major consequences.

## C.4.c.3 How are newly identified threats to the system's integrity expected to be handled in an operator's DIMP plan?



- A DIMP plan addresses system integrity issues which occur over time. DIMP should address system integrity issues through data analysis.
- However, newly identified issues may require immediate action.
- Example: start experiencing problems with a new style of fitting. Another example is the discovery of a material previously unknown to be contained within the system that has been identified as highly susceptible to failure. *M.T.Deason fittings, Duraline pipe, etc..*
- These risks should be addressed immediately and added to the DIMP plan as soon as feasible. The operator's response is dependent on the severity and location of the threat. If an operator discovers a threat which needs immediate risk reduction measures, they should implement the necessary actions.

## C.4.d.2 How will small operators, with limited staff, be able to implement the requirements for risk analysis and selection of risk control measures?



- The level of analysis for risk control measures to be implemented are related to the complexity of an operator's system, and variability of threats across a system.
- Operators with small staffs typically operate smaller, simpler systems, so risk analysis and risk control measures should be less than operators of more-complex systems.
- Guidance for large and small operators begins at section I. The document is located on the PHMSA's DIMP web site under DIMP Key Documents <http://primis.phmsa.dot.gov/dimp/documents.htm>.

C.4.d.3 If an operator already has a leak management program, does the operator have to implement a new program in response to this regulation?



## “Not necessarily”

- Operators may not need to implement new leak management programs. Rather, operators should review their current leak management program to assure that it is effective and when needed
- Adjust their program to comply with the regulation. Leak management is an important factor in managing the risks associated with distribution pipeline systems.



## C.4.d. 6 In order to eliminate the need for a leak management program, how quickly would an operator need to repair all leaks?



- The rule states that a leak management program is not needed if all leaks are repaired when found. All “hazardous leaks” **MUST** be repaired promptly.
- To eliminate the need for a leak management program, an operator would need to continue to work on each leak, **hazardous** and **nonhazardous**, until it is eliminated as opposed to scheduling the repair or periodically monitoring the leak.

## C.4.d.11 How can an operator demonstrate that their leak management program is effective?



Operators need to evaluate the effectiveness of their leak management program through a **self-audit program**. The basic elements of a leak management program are:

1. Locate the leaks in the distribution system – *(your plan needs to describe your leakage detection procedures)*
2. Evaluate the actual or potential hazards associated with these leaks *(your plan needs to describe your leak classification criteria)*
3. Act appropriately to mitigate these hazards *(your plan needs to describe your leak repair or monitoring schedule)*

## C.4.d.11 How can an operator demonstrate that their leak management program is effective, Cont...



4. Keep records *(of leak surveys, leaks, and self-audit data)*
5. Self-assess to determine if additional actions are necessary to keep people and property safe *(The purpose of a periodic self-assessment is to determine if the leak management program is effective and, if necessary, to identify changes necessary to ensure that it is effective. Your plan needs to include how you perform your self-assessment and the results of the self-assessment.)*
  - An operator must either include the leak management program procedures in its DIMP plan or reference the procedures in your O&M.

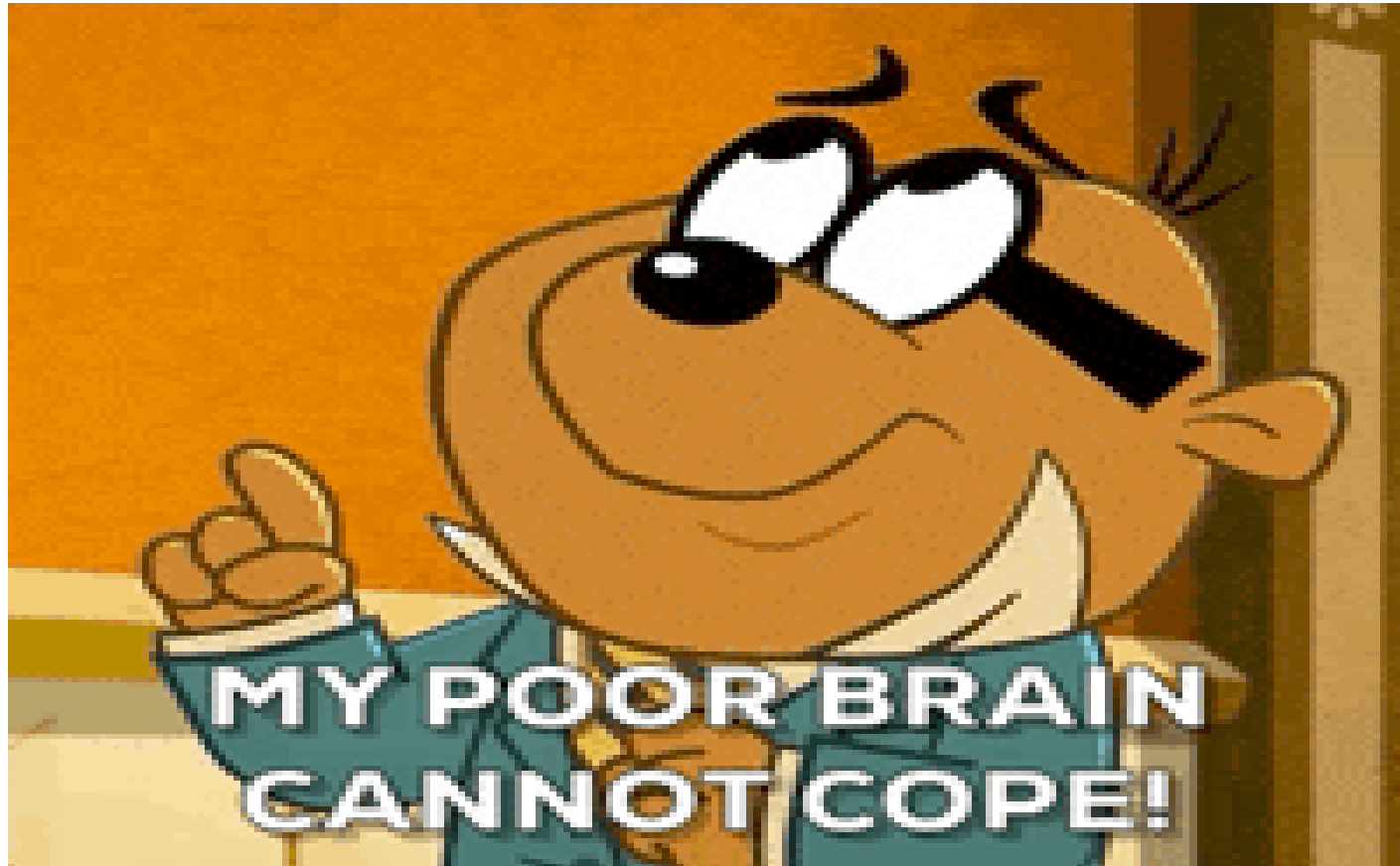
# Another New Twist!!



# What



# Is it Incorporated in your DIMP/O&M Plan



## C.4.e.2 Does every measure to address risk require a performance measure?



### “Yes”

- Each risk reduction measure or group of measures an operator identifies through their risk evaluation process needs to have a performance measure.
- Operators must establish a baseline for every performance measure.
- Operators must be prepared to explain why each performance measure was chosen and describe **how the performance measure data is or will be collected.**

## C.4.f.1 How often does an operator need to evaluate its program?



- Operators must evaluate their program at a period appropriate for their system, but at an interval not exceeding five years. (*per code*)
- An operator should re-evaluate its IM program whenever new knowledge, new threats or other information would substantially alter the operator's DIMP program.
- This could range from once each calendar year to less frequently but must not exceed once every five years.





## C.4.f.2 What constitutes a periodic evaluation, Cont ...



- Review of:
- Frequency of the measures to reduce risk, where applicable
- Effectiveness of the measures to reduce risk. This includes, at minimum, reviewing the results of the performance measure(s) for each measure taken to reduce risk.
- Measures implemented to reduce risk and refine/improve as needed (i.e. add new, modify existing, or eliminate if no longer needed)
- Performance measures, their effectiveness, and if they are not still appropriate, refine/improve
- *(PS historically has recommended- annually, with a revision log to track changes)*

# Mechanical Fitting Failure



Not required to be reported by PHMSA any longer.... **However –**

- Operators are still required to include Mechanical fitting failures which result in a leak eliminated or repaired as part of the total leaks in whatever “Cause of Leak” category applies in Part “C” - TOTAL LEAKS AND HAZARDOUS LEAKS ELIMINATED/REPAIRED DURING THE YEAR, (annual report)
- **but** they do not require a separate line item identifying them as “Mechanical”
- These type fittings must also be incorporated in the operators DIMP plan as a threat, if leaks occur....

## C.6.3 Am I required to submit my DIMP Plan to any Federal or State Regulator?



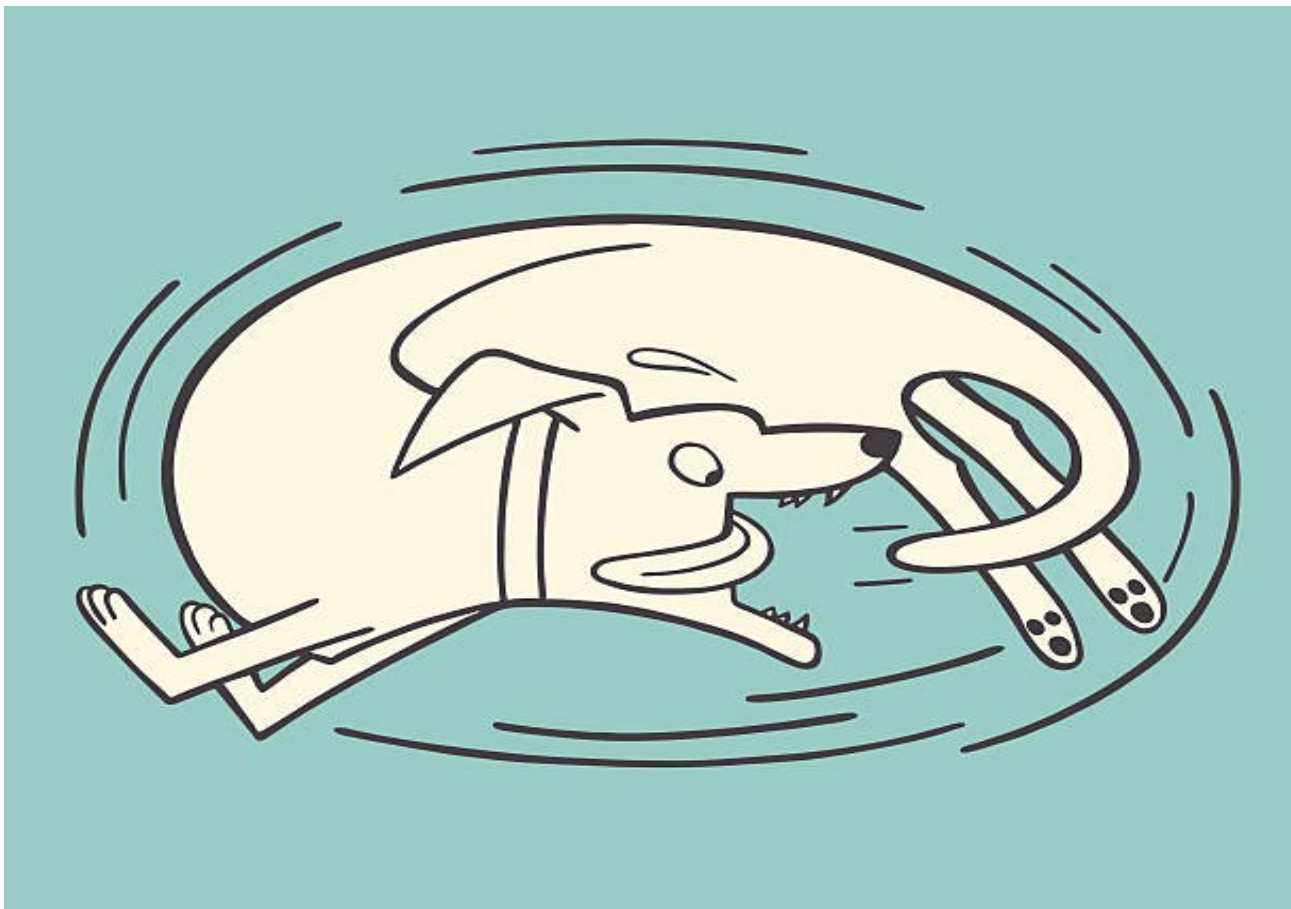
**“YES”**

- Pipeline safety regulations do not require an operator to submit its DIMP Plan to PHMSA. A copy of the DIMP Plan must be available for inspectors to review during a pipeline safety inspection.
- **Indiana does require DIMP plan submissions**, it may be included in general requirements to submit all required plans.

Feel like this at the end of the day?



Or this?



# Do Field Personnel Know what form(s) to complete?



Don't Give Up!!





# Get Everybody Rowing in the same Direction



# Find Your Happy Place



# This isn't your Grand Daddy's Gas Company



# Questions??





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