
VERIFIED DIRECT TESTIMONY OF ALBERT A. STONE

45007

1 INTRODUCTION

2 **Q1. Please state your name, business address and title.**

3 A1. My name is Albert A. "Andy" Stone. My business address is 801 E. 86th
4 Avenue, Merrillville, Indiana 46410. I am the Vice President and General
5 Manager of Northern Indiana Public Service Company ("NIPSCO").

6 **Q2. Please briefly describe your educational and business experience.**

7 A2. Prior to joining NIPSCO in 2014 as Vice President and General Manager, I
8 was the Operations Center Manager for 10 years at Columbia Gas of
9 Virginia ("CVA"), another operating company within NiSource, where I
10 managed the Chester, Fredericksburg, Lynchburg, and Vint Hill
11 Operations and was responsible for the management of day-to-day
12 operations within the natural gas distribution segment. Before this role, I
13 held front line supervisory positions with CVA as Service, Operations, and
14 Field Operations Leader as well as M&R Technician and Customer
15 Serviceman. I began my career at CVA on the frontlines as a Serviceman. I
16 have over 25 years in the gas industry.

1 I hold a Commonwealth of Virginia Soil and Water Conservation Erosion
2 and Sediment Control Certificate and have attended numerous seminars
3 and training sessions sponsored by the United States Department of
4 Transportation and the Federal Mediation and Conciliation Service of the
5 United States. I am certified in emergency response and propane/air plant
6 safety operations and have also attended the Appalachian Gas
7 Measurement and Regulation course at Robert Morris University in Moon
8 Township, Pennsylvania. I currently serve on the Gas Operations and Gas
9 Executive Committees of the Indiana Energy Association.

10 **Q3. What are your responsibilities as Vice President and General Manager?**

11 A3. As Vice President and General Manager, I am responsible for the day to day
12 operation of NIPSCO's physical gas transmission, distribution, and storage
13 systems including operations, maintenance and damage prevention. In
14 that capacity, I manage a workforce of nearly 600 employees providing safe
15 and reliable delivery of natural gas service to over 819,000 industrial,
16 commercial and residential customers. This includes NIPSCO's gas
17 construction segment with a labor force of 125 that is responsible for
18 distribution line extensions, main replacements and relocations, along with
19 a variety of betterment projects.

1 **Q4. Have you previously testified before this or any other regulatory**
2 **commission?**

3 A4. Yes. I presented testimony in Cause No. 44970 and in NIPSCO's currently
4 pending gas rate case in Cause No. 44988.

5 **Q5. What is the purpose of your direct testimony in this proceeding?**

6 A5. The purpose of my testimony is to (1) provide an overview of NIPSCO's
7 gas system, (2) describe the NIPSCO operations and maintenance ("O&M"),
8 Storage, and Damage Prevention Teams in the organization I lead, and (3)
9 support the cost estimates associated with seven (7) of the federally
10 mandated projects included in NIPSCO's proposed Pipeline Safety
11 Compliance Plan (the "Compliance Plan") that will be executed by crews in
12 my organization. NIPSCO Witness Cote describes the provisions of the U.S.
13 Department of Transportation, Pipeline and Hazardous Materials Safety
14 Administration ("PHMSA") Rules with which each of the projects is
15 intended to comply.

16 **Q6. Are you sponsoring any attachments to your direct testimony?**

17 A6. Yes. Together with NIPSCO Witnesses Cote and Bull, I am sponsoring a
18 portion of NIPSCO's proposed Pipeline Safety Compliance Plan, which is

1 attached to NIPSCO's Verified Petition filed in this Cause as Confidential
2 Attachment A. I also sponsor Attachment 3-A, which is a map of NIPSCO's
3 gas service territory showing each of NIPSCO's thirteen (13) Local
4 Operating Areas and the corresponding area of responsibility.

5 **NIPSCO'S GAS SYSTEM**

6 **Q7. Please provide an overview of NIPSCO's gas system.**

7 A7. NIPSCO owns and operates a natural gas local distribution company
8 ("LDC") that provides gas service to more than 819,000 customers in 32
9 counties in the northern tier of Indiana. NIPSCO has provided gas service
10 for more than 100 years and was merged with the systems previously
11 operated by Northern Indiana Fuel & Light Company ("NIFL") and
12 Kokomo Gas & Fuel Company ("Kokomo") in 2011. The NIPSCO system
13 is made up of more than 600 miles of transmission pipe, more than 17,000
14 miles of distribution lines, and on-system storage comprised of the Royal
15 Center Underground Storage facility and a liquefied natural gas facility
16 located in LaPorte, Indiana. NIPSCO's service territory is diverse and
17 incorporates large urban areas in Lake, St. Joseph and Allen Counties along
18 with primarily rural areas in much of its service territory. NIPSCO is
19 currently interconnected with seven (7) interstate pipelines via 37 points of

1 delivery ("PODs") across its footprint. The number of interconnected
2 pipelines and the use of a transmission backbone make NIPSCO's system
3 very flexible and operationally unique, and permit its system to be operated
4 differently from many other LDCs.

5 **NIPSCO GAS OPERATIONS**

6 **Q8. How is NIPSCO's gas operation organized?**

7 A8. NIPSCO's gas operation is organized into thirteen (13) Local Operating
8 Areas ("LOAs"). Crews assigned to each LOA are responsible for
9 conducting day-to-day maintenance activities within a specific geographic
10 area. A map of NIPSCO's gas service territory showing each LOA and its
11 corresponding area of responsibility is attached hereto as Attachment 3-A.
12 Within each LOA, crews are designated as either Construction &
13 Maintenance (known as "Street" crews) or as Construction (known as
14 "52G" crews).

15 **Q9. Do those crews perform all of NIPSCO's system additions and**
16 **replacements?**

17 A9. No. Street crews in my organization are responsible for performing repair
18 and maintenance assignments on NIPSCO's gas transmission and
19 distribution assets while 52G crews are responsible for the construction of

1 distribution line extensions, facility replacement or relocation, and some
2 system improvement projects. Non-routine projects and projects that
3 exceed the expertise, staffing, or capabilities of the 52G crews are generally
4 bid to outside contractors and managed by NIPSCO's Major Projects
5 Group. These include most projects involving NIPSCO's higher pressure
6 facilities including its transmission and high pressure distribution trunk
7 lines. The portions of the proposed Pipeline Safety Compliance Plan that
8 are managed by the Major Projects Group are addressed by NIPSCO
9 Witness Bull.

10 **NIPSCO GAS STORAGE**

11 **Q10. Please provide an overview of NIPSCO's gas storage organization.**

12 A10. NIPSCO operates two (2) on system storage facilities – the Royal Center
13 Underground Storage ("RCUGS") facility located near Royal Center,
14 Indiana, and the liquefied natural gas liquefaction/vaporization facility
15 located in LaPorte, Indiana. Together these facilities provide NIPSCO with
16 approximately 8 billion cubic feet of on system storage capacity. The
17 NIPSCO storage organization consists of 32 employees responsible for the
18 operation and maintenance of these facilities to ensure their availability and
19 performance as required to support NIPSCO's gas system.

1 NIPSCO DAMAGE PREVENTION

2 Q11. Please provide an overview of NIPSCO's damage prevention
3 organization.

4 A11. NIPSCO's damage prevention organization is responsible for helping to
5 manage and mitigate the risk of damage through a variety of activities
6 including underground facility locating, excavator engagement and
7 outreach and damage investigation. Increasingly, the damage prevention
8 function also entails the capture and evaluation of data related to
9 excavation activities and damage events. NIPSCO has a dedicated staff of
10 13 employees charged with working with NIPSCO's locate contractors and
11 with the excavator community to reduce the risk of damage to NIPSCO's
12 underground gas facilities. NIPSCO's damage prevention organization
13 also audits the locate contractors to detect any locator training deficiencies
14 by performing field audits of random locates. Members of this organization
15 also work with NIPSCO's communications group to help with public
16 awareness efforts. The damage prevention organization holds meetings
17 with employees and excavators to raise awareness of damage prevention
18 and promote public safety. They gather, organize and retain data to look
19 for trends that could help improve the program. This staff is supported by

1 NiSource resources that assist in coordinating damage prevention activities
2 across the NiSource footprint.

3 **COMPLIANCE PLAN PROJECTS**

4 **Q12. Which of the projects included in the Compliance Plan are you**
5 **sponsoring?**

6 A12. I am sponsoring the following seven (7) projects included in the
7 Compliance Plan:

- 8 • Project No. PS5 – Enhanced Emergency Responder Outreach
9 Project;
- 10 • Project No. PS6 – DIMP Administration / Leak Data
11 Verification Project;
- 12 • Project No. PS7 – Service Card Enhancements Project;
- 13 • Project No. PS8 – Fiberglass Riser Replacement Project;
- 14 • Project No. PS9 – Legacy Cross Bore Remediation Project;
- 15 • Project No. PS10 – Underground Storage Integrity Project;
16 and
- 17 • Project No. PS11 – Farm Tap Remediation Project

18 Each of these projects is discussed below. NIPSCO Witness Cote
19 discusses the federally mandated compliance requirement that
20 drives each of the projects.

PROJECT NO. PS5 – ENHANCED EMERGENCY RESPONDER OUTREACH PROJECT

Q13. Please describe Project No. PS5 – Enhanced Emergency Responder Outreach Project.

A13. The Enhanced Emergency Responder Outreach Project is intended to address the need to establish enhanced relationships with local first responders and external stakeholders to improve public outreach and safety. As discussed by NIPSCO Witness Cote, such outreach is an integral part of PHMSA's Distribution Integrity Management Program ("DIMP") and is an area that NIPSCO has determined should be prioritized in an effort to better prepare its communities for appropriate reaction to emergency pipeline situations. The project entails an additional full time position and the production of appropriate materials to support the outreach effort. NIPSCO expects to pattern its approach after a very successful pilot program undertaken by one of its affiliate LDCs, Columbia Gas of Massachusetts, by hiring a retired public safety official (such as a fire chief or someone else with similar knowledge and background) who can act as a liaison for NIPSCO to enhance outreach to fire departments and others. Fire departments are most often the first to arrive on the scene of a gas emergency and their initial actions can make a significant difference in

1 preventing a federally reportable incident (an incident that causes \$50,000
2 dollars of property damage, an injury resulting in hospitalization, a
3 fatality).

4 **Q14. Please describe the projected federally mandated costs associated with**
5 **the Enhanced Emergency Responder Outreach Project and how the cost**
6 **estimates were developed.**

7 A14. NIPSCO projects the federally mandated costs associated with the
8 Enhanced Emergency Responder Outreach Project to be \$ [REDACTED] over the
9 four year period 2018 through 2021 (\$ [REDACTED] in 2018, \$ [REDACTED] in 2019,
10 \$ [REDACTED] in 2020, and \$ [REDACTED] in 2021). All of the federally mandated costs
11 associated with this project are O&M expenses. The initial year of the
12 project targets the hiring of a full time Emergency Outreach Liaison under
13 a two year contract and the purchase and development of materials
14 necessary to develop the outreach effort and begin development of an
15 online training module. In the second year, the online training module
16 would be rolled out and provided to first responders. In the third year of
17 the project, NIPSCO envisions negotiating a three-year contract with its
18 Emergency Responder Liaison but anticipates that the expenses associated
19 with its online training module would begin to diminish and settle in to a

1 lower, ongoing run rate.

2 **Q15. Please describe any alternatives to the Enhanced Emergency Responder**
3 **Outreach Project that demonstrate the project is reasonable and**
4 **necessary?**

5 A15. There are no alternatives for compliance with the outreach requirements of
6 DIMP and the Enhanced Emergency Responder Outreach Project as
7 proposed is intended to advance NIPSCO's outreach program in line with
8 the requirement of continuous improvement.

9 **Q16. Will the Enhanced Emergency Responder Outreach Project extend the**
10 **useful life of an existing facility and, if so, what is the value of that**
11 **extension?**

12 A16. No. There are no facilities addressed as part of the Enhanced Emergency
13 Responder Outreach Project.

14 **PROJECT NO. PS6 – DIMP ADMINISTRATION / LEAK DATA VERIFICATION PROJECT**

15 **Q17. Please describe Project No. PS6 – DIMP Administration / Leak Data**
16 **Verification Project.**

17 A17. The DIMP Administration / Leak Data Verification Project is intended to
18 enable the review of historic leak records to verify that the data captured in

1 NIPSCO's digital database is accurate and reliable. Leak records are a
2 critical underpinning to a number of DIMP progressive improvement
3 initiatives. This project will fund the hiring of two full time Compliance
4 Specialists dedicated to the support and administration of NIPSCO's DIMP
5 program. One Compliance Specialist will be responsible for supporting
6 and administering NIPSCO's DIMP program – a task that is currently
7 undertaken on a temporary basis by the State Compliance Manager in
8 concert with his other responsibilities. The second Compliance Specialist
9 will be responsible for the review and verification of NIPSCO's historic leak
10 records and the input of that data into a model so that the data can be used
11 for predictive modelling in support of DIMP's progressive improvement
12 requirement.

13 **Q18. Please describe the projected federally mandated costs associated with**
14 **the DIMP Administration / Leak Data Verification Project and how the**
15 **cost estimates were developed.**

16 A18. NIPSCO projects the federally mandated costs associated with the DIMP
17 Administration / Leak Data Verification Project to be \$[REDACTED] over the four
18 year period 2018 through 2021 (\$[REDACTED] for 2018, \$[REDACTED] in 2019, \$[REDACTED]
19 in 2020, and \$[REDACTED] in 2021). All of the federally mandated costs

1 associated with this project will be O&M expenses. The cost estimates for
2 the DIMP Administration / Leak Data Verification Project were based on
3 the midpoint salary of two Compliance Specialist positions for 2018,
4 escalated by 2% for inflation over each of the four years of the Project.

5 **Q19. Please describe any alternatives to the DIMP Administration / Leak Data**
6 **Verification Project that demonstrate the project is reasonable and**
7 **necessary?**

8 A19. Data leak verification is a necessary pre-requisite to the advancement of
9 NIPSCO's DIMP plan, and dedicating an employee to capture that data is
10 the most efficient way to accomplish that. NIPSCO currently has no full
11 time support for its DIMP plan, and with the size of the NIPSCO system
12 such a position is warranted. As a result, there were no alternatives
13 evaluated.

14 **Q20. Will the DIMP Administration / Leak Data Verification Project extend**
15 **the useful life of an existing facility and, if so, what is the value of that**
16 **extension?**

17 A20. No. There are no facilities addressed as part of the DIMP Administration /
18 Leak Data Verification Project.

1 PROJECT NO. PS7 – SERVICE CARD ENHANCEMENTS PROJECT

2 **Q21. Please describe Project No. PS7 – Service Card Enhancement Project.**

3 A21. The Service Card Enhancement Project is intended to facilitate the indexing
4 of NIPSCO's more than 860,000 paper service card records and the
5 capturing of attribute data and service line mapping data from those
6 records for incorporation into a single system and the integration with
7 NIPSCO's Geographic Information System. Service cards are paper records
8 for each gas service in NIPSCO's service territory that have been used over
9 the years to capture installation and repair data along with a (typically hand
10 drawn) map of the service and its route from the main to the meter. While
11 these service cards are available now as a digital image, they are not
12 indexed in a way to permit easy searching and the individual data points
13 have not been captured for location, inspection, and damage prevention
14 purposes.

15 Figure 1 is a photograph of a typical service card. Inasmuch as excavator
16 damage is the single greatest cause of federally reportable incidents in the
17 United States, and accessible records are a vital component of an effective
18 damage prevention program, NIPSCO sees this project as essential if it is to
19 continue to make progress in continuing to drive down damage rates in its

1 Back

111200 REV. 02					MATERIAL AND EQUIPMENT DATA					
					SERVICE PIPING		METER PIPING		REGULATOR	
					STUB	STUB EXTENSION OR FULL SERVICE			SIZE	
PIPE SIZE					88		5/8"		3/4"	
LENGTH					FT. IN.		FT. IN.		8-18-97	
DATE INSTALLED					PLASTIC				DATE SET	
TYPE OF JOINTS									METER BAR	
TYPE OF COATING									KIND	
KIND OF SOIL									DATE SET	
DEPTH									CURB COCK AND BOX	
LIST OF OTHER MATERIAL					STEEL SHIELD RISER				TYPE COCK	
									SIZE	
									TYPE BOX	
									PAVEMENT	
WORK DONE ON									PERMIT NO.	
CHARGED TO									PERMIT COST	
REMARKS									TYPE PAV.	
									SIZE OPENING	
									SERVICE REPORTED INACTIVE	
									DATE	
									DATE RECORDED	
									RECORDED BY	
									8/20 97	
									LT	
									JACKSON	

2

3 Q22. Were portions of this project originally included in NIPSCO's 7-Year Gas
4 TDSIC Plan approved in Commission's April 30, 2014 Order in Cause No.
5 44403?

6 A22. Yes. The System Integrity Data Integration project approved as part of
7 NIPSCO's 7-Year Gas TDSIC Plan originally contemplated the ability to
8 capture and integrate service card data in addition to the data contained in
9 NIPSCO's linen books that contain historical data about NIPSCO's mains.
10 As NIPSCO explained in its case-in-chief in Cause No. 44403-TDSIC-3, it
11 became evident that the complexity and expense of the service card portion
12 of the System Integrity Data Integration project had been underestimated,

1 and the project was revised to remove the service card component of the
2 project.

3 **Q23. Please describe the projected federally mandated costs associated with**
4 **the Service Card Enhancement Project and how the cost estimates were**
5 **developed.**

6 A23. NIPSCO projects that the federally mandated costs associated with the
7 Service Card Enhancement Project to be \$[REDACTED] over the four year
8 period 2018 through 2021 (\$[REDACTED] for 2018 with a 2% escalation per year
9 through 2021). All of the projected costs associated with this project will be
10 O&M expenses. The cost estimates for the Service Card Enhancement
11 Project were developed to index NIPSCO's 865,417 service cards, the cost
12 of the personnel required to review and capture the data attributes from
13 each, along with the cost of incremental office space to accommodate that
14 work. The labor costs were estimated based on the midpoint salary of
15 fourteen full time and sixteen part time employees plus two part time
16 Project Managers to oversee the project. The project will require technical
17 expertise to appropriately interpret the service card data, quality assurance
18 personnel to ensure the accuracy and completeness of the data captured
19 and input process. The accuracy and completeness of the work in this

1 project is critical to NIPSCO's ability to successfully rely upon the
2 information in subsequent efforts to predictively model the system to the
3 service line level and to enhance the ability to perform accurate and timely
4 locates as required by both federal and state law.

5 **Q24. Please describe any alternatives to the Service Card Enhancement Project**
6 **that demonstrate the project is reasonable and necessary?**

7 A24. As I discussed above, the need to fully index and copy service card data
8 was identified during the creation of NIPSCO's 7-Year Gas Plan and is
9 necessary to permit the progressive improvement under NIPSCO's DIMP
10 plan. The approach chosen is reasonable because NIPSCO considered and
11 tried a number of alternatives including the outsourcing of the project
12 previously and was unable to obtain satisfactory accuracy. Once
13 completed, this project will provide an additional foundation for NIPSCO's
14 DIMP and damage prevention activities for the future.

15 **Q25. Will the Service Card Enhancement Project extend the useful life of an**
16 **existing facility and, if so, what is the value of that extension?**

17 A25. Not directly. To the extent that the data captured prevents the replacement
18 of a service line that would otherwise have been damaged, there could be

1 an extension of the useful life of that line. However, the primary benefit of
2 the project is safety rather than asset life.

3 **PROJECT NO. PS8 – FIBERGLASS RISER REPLACEMENT PROJECT**

4 **Q26. Please describe Project No. PS8 – Fiberglass Riser Replacement Project.**

5 A26. The Fiberglass Riser Replacement Project is intended to replace fiberglass
6 service risers when they are identified on the NIPSCO distribution system.

7 **Q27. What is a fiberglass service riser and why do they require replacement?**

8 A27. A service riser is a piping component of the natural gas service line that
9 protects the gas service pipe as it transitions from below ground to above
10 ground and just upstream of the gas meter. In the past, some risers were
11 made of fiberglass which becomes brittle over time and therefore affords
12 no protection to the service line. In particular, fiberglass risers are prone to
13 shatter from comparatively minor external force such as being struck by a
14 lawn mower. Once shattered, the fixture is prone to leaking at or near the
15 meter generally at the base of an external wall -- a particularly dangerous
16 location. NIPSCO estimates that there are approximately 19,000 fiberglass
17 risers across its distribution system that require replacement.

18 **Q28. Please describe the projected federally mandated costs associated with**

1 **the Fiberglass Riser Replacement Project and how the cost estimates were**
2 **developed.**

3 A28. NIPSCO projects the federally mandated costs associated with the
4 Fiberglass Riser Replacement Project to be \$[REDACTED] over the four year
5 period 2018 through 2021 (\$[REDACTED] in 2018, with a 2% escalation per year
6 through 2021). All of the projected costs associated with this project will be
7 O&M expenses. The cost estimates for the Fiberglass Riser Replacement
8 Project were based on the known cost of replacement for a service line riser
9 as reflected in NIPSCO's annual filing made with the Commission in
10 accordance with 170 IAC 5-1-27(D). NIPSCO estimates that the average cost
11 of replacement will be \$[REDACTED] per riser.

12 **Q29. Please describe any alternatives to the Fiberglass Riser Replacement**
13 **Project that demonstrate the project is reasonable and necessary?**

14 A29. The alternative to a fiberglass riser replacement program is to replace the
15 risers as they fail and/or as leaks are reported. The programmatic approach
16 is reasonable and necessary because it will allow for the replacement of all
17 risers within a specified time without the risks associated with a riser failure
18 or leak in very close proximity to the building. NIPSCO will also be in a
19 position to plan the work and procure the needed materials in an efficient

1 way. With that said, NIPSCO will continue to replace risers in the event of
2 a leak or failure at the time of the discovery.

3 **Q30. Will the Fiberglass Riser Replacement Project extend the useful life of an**
4 **existing facility and, if so, what is the value of that extension?**

5 A30. No. The Fiberglass Riser Replacement Project is an asset replacement
6 project and as such is not intended to extend the life of the assets being
7 replaced.

8 **PROJECT NO. PS9 – LEGACY CROSS BORE REMEDIATION PROJECT**

9 **Q31. Please describe Project No. PS9 – Legacy Cross Bore Remediation Project.**

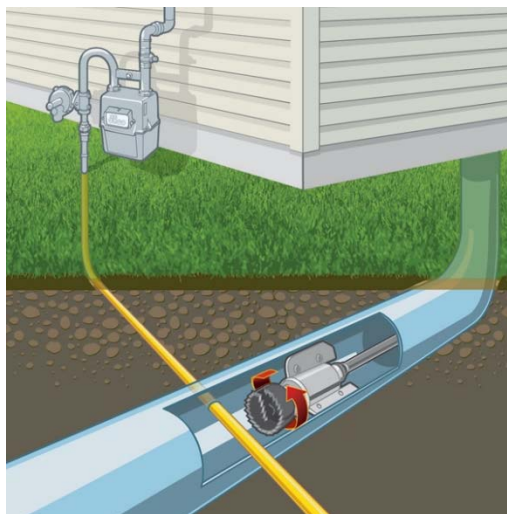
10 A31. The Legacy Cross Bore Remediation Project is intended to remediate legacy
11 cross bores identified across NIPSCO's distribution system. Cross bores are
12 a known industry issue and the risk warrants investigation and
13 remediation.

14 **Q32. What is a cross-bore?**

15 A32. A "cross-bore" occurs when another utility line is accidentally bored through
16 a sewer, septic, or storm drain line. While contemporary horizontal boring
17 practices and updated damage prevention laws generally reduce the
18 likelihood of new cross-bores, older techniques and technology were not

1 always as safe, and cross-bores were created without the knowledge of
2 installation crews because the boring unit could pass through a sewer or
3 septic line without producing any telltale signs. Cross-bores present a very
4 dangerous situation because if the sewer/septic line becomes clogged and
5 must be cleaned out, the equipment used to root out the clog can damage
6 or rupture the cross bored gas line resulting in the leakage of gas into the
7 sewer/septic system and thereby into the attached residence or business.
8 Frequently this type of damage is unknown to the crew cleaning the line
9 because the reamer head cuts through the gas line with little or no
10 resistance. Figure 2 below is an illustration of a cross-bored gas line.

11 Figure 2 – Cross-bore Illustration



1 **Q33. How can the risk associated with cross-bored gas lines be reduced?**

2 A33. Once identified, remediation of cross-bored gas lines is comparatively
3 simple, and entails excavating the cross-bore and relocating the gas line and
4 repairing or replacing the sewer line involved. The more difficult task is
5 identifying locations where cross-bores have occurred. Many times cross-
6 bores exist in conflict with a sewer line for long periods of time without the
7 knowledge of the utility or the customer. Moreover, the frequency and
8 location of cross-bores is highly variable from area to area and is dependent
9 on a number of factors including the age of the gas and sewer systems and
10 the way specific areas were developed over time. Fortunately, technology
11 has been developed to permit remote cameras to be inserted into sewer
12 lines to identify the presence of obstructions including gas lines. By using
13 this technology, cross-bores can be identified and remediated before
14 damage or rupture occurs.

15 **Q34. Have similar projects been undertaken by any of NIPSCO's affiliate**
16 **LDCs?**

17 A34. Yes. Cross-bore remediation initiatives have been undertaken by Columbia
18 Gas of Ohio (83 cross-bore remediated), Columbia Gas of Pennsylvania (196
19 cross-bore remediated), and Columbia Gas of Virginia (96 cross-bores

1 remediated).

2 **Q35. Please describe the projected federally mandated costs associated with**
3 **the Legacy Cross Bore Remediation Project and how the cost estimates**
4 **were developed.**

5 A35. NIPSCO projects the federally mandated costs associated with the Legacy
6 Cross Bore Remediation Project to be \$ [REDACTED] over the four year period
7 2018 through 2021 (\$ [REDACTED] in 2018, \$ [REDACTED] in 2019, \$ [REDACTED] in 2020, and
8 \$ [REDACTED] in 2021. All of the projected costs associated with this project will
9 be O&M expenses. The cost estimates for the Legacy Cross Bore
10 Remediation Project were based on a cost per cross-bore of \$ [REDACTED], which is
11 based on an average of the cost of the cross-bore remediations actually
12 experienced by NIPSCO's affiliate LDCs in Ohio, Pennsylvania and
13 Virginia. NIPSCO estimates that 71 cross-bores will be found per year in
14 the 59 miles per year NIPSCO intends to investigate.¹ That projection is
15 below the cross-bores per mile experienced in Pennsylvania and Virginia
16 but higher than that experienced in Ohio based upon a comparison of the

¹ NIPSCO proposes to capture the cost of investigating 59 miles of distribution main per year in base rates. See Adjustment OM 2-F in Cause No. 44988.

1 character of the respective service territories.

2 **Q36. Please describe any alternatives to the Legacy Cross Bore Remediation**
3 **Project that demonstrate the project is reasonable and necessary?**

4 A36. The alternative to a proactive cross-bore remediation program is to
5 remediate cross bores when they are identified. Because the risk associated
6 with the ignition of gas within a building is so high, the programmatic
7 approach is reasonable and necessary. With that said, NIPSCO will
8 continue to remediate cross-bores at the time of the discovery.

9 **Q37. Will the Legacy Cross Bore Remediation Project extend the useful life of**
10 **an existing facility and, if so, what is the value of that extension?**

11 A37. No. The Legacy Cross Bore Remediation Project results in asset
12 replacement project and as such is not intended to extend the life of the
13 assets being replaced.

14 **PROJECT NO. PS10 – UNDERGROUND STORAGE INTEGRITY PROJECT**

15 **Q38. Please describe Project No. PS10 – Underground Storage Integrity**
16 **Project.**

17 A38. The Underground Storage Integrity Project is intended to comply with the
18 Interim Final Rule on Underground Storage published by PHMSA on

1 December 16, 2016 and effective on January 18, 2017 (the "IFR"). As
2 discussed by NIPSCO Witness Cote, the IFR revised portions of the PHMSA
3 Rules applicable to underground storage facilities such as RCUGS to
4 address critical safety issues related to downhole facilities, including wells,
5 wellbore tubing, and /casing, at underground natural gas storage facilities.
6 The IFR mandate that additional actions be performed to ensure the safety
7 and integrity of underground storage facilities and operations including
8 functional and integrity testing of wells and installation of emergency and
9 security facilities. For NIPSCO, each well that down-hole testing
10 determines to be non-compliant will require retirement or other
11 appropriate remediation if it is to remain in service. In addition, NIPSCO
12 plans to install Jersey barriers on each wellhead and security bollards to
13 protect each well head valve from damage by vehicles and equipment. The
14 IFR requires the performance of baseline assessments for all 87 wells that
15 are part of NIPSCO's underground storage facilities within ten years.

16 **Q39. Please describe the projected federally mandated costs associated with**
17 **the Underground Storage Integrity Project and how the cost estimates**
18 **were developed.**

19 **A39.** NIPSCO projects the federally mandated direct capital costs associated with

1 the Underground Storage Integrity Project over the four year period 2018
2 through 2021 to be \$ [REDACTED] (\$ [REDACTED] in 2019, and \$ [REDACTED] in 2020) for the
3 installation of Jersey barriers and safety bollards at each well site over the
4 course of two years beginning in 2019. NIPSCO projects that federally
5 mandated incremental O&M expenses associated with the Underground
6 Storage Integrity Project for the period will be an additional \$ [REDACTED]
7 (\$ [REDACTED] for 2018, \$ [REDACTED] in 2019, \$ [REDACTED] in 2020, and \$ [REDACTED] in 2021).
8 These expenses include the cost of baseline assessments on 10 of the 87 wells
9 at RCUGS each year. NIPSCO's preliminary investigation indicates that
10 each of the 87 wells have tubing that requires mechanical integrity testing
11 and inspection at an estimated cost of \$ [REDACTED] per well for completion of a
12 Gamma ray, neutron, temperature, hi-resolution flux leakage and cement
13 bond log for each to determine whether defective tubing exists and requires
14 replacement. Additional site supervision charges totaling approximately
15 \$ [REDACTED] per year will also be required as part of the testing and inspection
16 process as NIPSCO lacks sufficiently experienced and specialized
17 personnel to oversee the work. In addition to this integrity testing, the
18 estimate contemplates the hiring of an additional full time integrity
19 engineer to administer the risk modeling, and incremental ongoing

1 maintenance and reporting required by the IFR. These values were
2 escalated 2% a year for inflation for 2019 through 2021.

3 **Q40. Please describe any alternatives to the Underground Storage Integrity**
4 **Project that demonstrate the project is reasonable and necessary?**

5 A40. NIPSCO completed a preliminary assessment of the RCUGS wells, and
6 concluded that the remediation described above was the only appropriate
7 course of action under the IFR. The only alternative approach would have
8 entailed more significant well construction/replacement/adaptation at a
9 higher cost.

10 **Q41. Will the Underground Storage Integrity Project extend the useful life of**
11 **an existing facility and, if so, what is the value of that extension?**

12 A41. The impact on the useful lives of the 87 wells at RCUGS through the
13 Underground Storage Integrity Project is unknown. The primary benefit of
14 the Project will be increased safety and integrity safety rather than asset life.

15 **PROJECT NO. PS11 – FARM TAP REMEDIATION PROJECT**

16 **Q42. What is a farm tap?**

17 A42. PHMSA defines a farm tap as “any service line directly connected to a
18 production, gathering, or transmission pipeline that is not operated as part

1 of a distribution system" other than those used only to power irrigation
2 pumps. 49 CFR §192.740 (the "Farm Tap Rule"). Historically, farm taps
3 were often provided to farmers in exchange for an easement through which
4 a transmission line runs or to secure other underground rights such as
5 access to a potential storage reservoir. It is not unusual for LDCs to provide
6 "one off" distribution service to farm tap customers served directly from an
7 interstate pipeline because the pipeline does not have authority to provide
8 retail service. For NIPSCO, farm taps that provide service to retail
9 customers are interconnected with NIPSCO's DOT jurisdictional
10 transmission (> 350 psig), high pressure distribution trunk lines (280 psig),
11 and high-pressure distribution lines (> 150 psig), but not to interstate
12 pipelines. As discussed by NIPSCO Witness Cote, the Farm Tap Rule
13 applies only to farm taps interconnected with DOT jurisdictional
14 transmission lines.

15 **Q43. Please describe the farm taps on NIPSCO's system.**

16 A43. NIPSCO estimates that there are approximately 300 farm taps on its system
17 that are interconnected with NIPSCO DOT jurisdictional transmission lines.
18 Preliminary site evaluations were conducted for 277 of the farm tap
19 locations to determine whether tap facilities were above or below ground.

1 Field engineers then reviewed and developed cost estimates for 195 of the
2 sites. It was determined that 52 of the 195 farm taps were originally
3 installed underground and would require replacement with an above
4 ground facility to permit ongoing inspections required by the Farm Tap
5 Rule. It was determined that 14 of the 195 farm taps were originally
6 installed above ground but would still require full replacement to make
7 them compliant with the Farm Tap Rule. It was determined that 38 of the
8 195 farm taps were in locations that would require the retirement of the
9 farm tap entirely and the re-connection of the affected customers to an
10 existing NIPSCO distribution line. Finally, it was determined that 86 of the
11 195 farm taps were determined to require no action or were already
12 scheduled to be remediated as part of another project and 5 of the 195 will
13 be retired with no further action required.

14 **Q44. Do NIPSCO's existing underground farm taps pose a higher safety risk**
15 **than those that were installed above ground?**

16 A44. Not that we are aware of. The underground farm taps installed years ago
17 were installed with emergency shut off valves that shut off the flow of gas
18 in instances where pressure increases. The installation of these valves
19 protected against an unrestricted flow of gas in the event of a regulator

1 failure, excavator damage or other condition that would otherwise have
2 been problematic. That said, those installations could obviously not be
3 readily inspected so compliance with the Farm Tap Rule would be
4 impossible. The Farm Tap Rule requires that inspections be performed on
5 all farm taps within three years of the effective date of the Rule.

6 **Q45. Please describe Project No. PS11 – Farm Tap Remediation Project.**

7 A45. The Farm Tap Remediation Project is intended to comply with the Farm
8 Tap Rule by first inspecting the facility, then based on specific findings: (1)
9 replace the existing farm tap, (2) retire the farm tap and interconnect the
10 customer with NIPSCO distribution lines, (3) modify existing above ground
11 stations to standards compliant with the Farm Tap Rule, or (4) take no
12 action because the current facilities are adequate and compliant. The goal
13 of the project is to make all farm taps subject to the Farm Tap Rule
14 compliant and in a position to be placed on the required 3-year inspection
15 cycle by the end of 2020.

16 **Q46. Please describe the projected federally mandated costs associated with**
17 **the Farm Tap Remediation Project and how the cost estimates were**
18 **developed.**

1 A46. NIPSCO projects the federally mandated costs associated with the Farm
2 Tap Remediation Project over the four year period 2018 through 2021 to be
3 \$ [REDACTED] (\$ [REDACTED] in 2018, \$ [REDACTED] in 2019, and \$ [REDACTED] in 2020) for
4 direct capital costs and \$ [REDACTED] (\$ [REDACTED] in 2018, \$ [REDACTED] in 2019, and \$ [REDACTED]
5 in 2020) for O&M expenses. The estimated direct capital cost for each type
6 of remediation was developed by field engineers based on the known cost
7 of capital components together with capitalized labor estimates for the
8 retirement and installation of replacement facilities, plus an estimate for
9 acquisition of land rights where required.

10 While individual circumstances are expected to vary widely, NIPSCO
11 estimates that underground taps can be replaced with appropriate above
12 ground facilities for an average of \$ [REDACTED] per tap in direct capital costs
13 which are then escalated 3% a year for inflation, or an estimated total of
14 \$ [REDACTED] over the three year program. This average costs includes the cost
15 to retire the existing underground tap and move the connection into a
16 compliant above ground location. It is anticipated that additional land
17 rights may be required for many of these sites based upon limitations in the
18 language of the original easements obtained from the landowner that limit
19 the installation of above ground facilities.

1 NIPSCO estimates that above ground farm taps requiring replacement can
2 be replaced for an estimated average direct capital cost of just over \$ [REDACTED]
3 per tap in direct capital costs which are then escalated 3% a year for
4 inflation, or an estimated total of \$ [REDACTED] over the course of the three year
5 Project.

6 NIPSCO estimates that direct capital costs associated with farm taps to be
7 retired and replaced with service connections to existing NIPSCO
8 distribution lines to be about \$ [REDACTED] per tap which are then escalated 3% a
9 year for inflation, or a total of about \$ [REDACTED] over the three year Project.

10 The remaining farm taps that would simply be retired are not included in
11 the project.

12 For the projected 123 farm taps that do not require replacement or
13 retirement but rather only minimal maintenance to make the facilities
14 compliant with the Farm Tap Rule, the estimated O&M cost is \$ [REDACTED] per tap
15 which is then escalated 2% a year for inflation, or a total of \$ [REDACTED] over the
16 course of the project.

17 **Q47. Please describe any alternatives to the Farm Tap Remediation Project that**
18 **demonstrate the project is reasonable and necessary?**

1 A47. As I discussed above, site evaluations were performed for all known farm
2 tap locations and a determination was made as to how to most efficiently
3 enable compliance. Wherever possible, connection to distribution facilities
4 was considered a superior option because it eliminated the need for the
5 farm tap and the ongoing incremental O&M required under the Farm Tap
6 Rule. In many cases, however, NIPSCO's ability to extend distribution
7 mains to serve these locations was not an efficient choice given the rural
8 character of the area and the density of customers.

9 **Q48. Will the Farm Tap Remediation Project extend the useful life of an**
10 **existing facility and, if so, what is the value of that extension?**

11 A48. The impact of the Farm Tap Remediation Project on the useful life of
12 existing facilities is unknown. Some sites will require replacement of the
13 existing facilities, others will add equipment to existing installations, and
14 facilities at other sites will be eliminated entirely.

15 **CONCLUSION**

16 **Q49. Does this conclude your prepared direct testimony?**

17 A49. Yes.

VERIFICATION

I, Albert A. Stone, Vice President and General Manager for Northern Indiana Public Service Company, affirm under penalties of perjury that the foregoing representations are true and correct to the best of my knowledge, information and belief.



Albert A. Stone

Date: November 8, 2017

