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VERIFIED DIRECT TESTIMONY OF DONALD L. BULL

I. <u>INTRODUCTION</u>

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

A1. My name is Donald L. Bull. My business address is 870 Eastport Centre, Valparaiso, Indiana 46383. I am employed by NiSource Corporate Services Company ("NCSC") as the Director of Gas TDSIC Projects.

Q2. On whose behalf are you submitting this direct testimony?

A2. I am submitting this testimony on behalf of Northern Indiana Public Service Company LLC ("NIPSCO").

Q3. Please briefly describe your educational and business experience.

A3. I am a graduate of Michigan Technological University where I earned a Bachelor of Science degree in Chemistry. I also attended Purdue University Calumet where I studied both an undergraduate and graduate level mechanical engineering curriculum. I am certified as a Project Management Professional (PMP) by the Project Management Institute.

I have been employed by NIPSCO and NCSC in a variety of engineering, operations, and project management positions of increasing responsibility since 1980, most recently as Director – Outage Management & Systems Optimization. In that role, I managed the organization responsible for planning and executing Generation planned maintenance outages, maintained a full time outage management and project controls team, developed ad-hoc teams for all project disciplines and was responsible for integrating formal processes within those teams. I have been in my current position as Director of Gas TDSIC Projects since March 1, 2017.

Q4. What are your responsibilities as Director of Gas TDSIC Projects?

A4. As Director of Gas TDSIC Projects, I am responsible for the planning and execution of projects related to the improvement of NIPSCO's physical gas transmission, distribution, and storage systems. The planning and execution includes coordination of the project engineering, the permitting processes, and acquisition of real estate or easements which are performed by other departments within NIPSCO or NCSC. It also includes direct responsibility for developing detailed work scope documents and specifications, bidding the work, contractor selection, managing construction contracts, development and implementation of safety plans, daily project and contractor oversight, and project close-out. I also have responsibility for coordinating the project controls, including the preparation of annual budgets, the development and maintenance of project schedules, and cost control.

Q5. Have you previously testified before this or any other regulatory commission?

A5. Yes. I filed testimony supporting NIPSCO's request currently pending in Cause No. 45007 before the Indiana Utility Regulatory Commission ("Commission") for a Certificate of Public Convenience and Necessity for federally mandated projects associated with NIPSCO's proposed Pipeline Safety Compliance Plan to comply with U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration ("PHMSA") Rules, and approval of a Federally Mandated Cost Adjustment Mechanism and associated relief. I also filed testimony before the Commission in NIPSCO's Gas TDSIC tracker proceeding currently pending in Cause No. 44403-TDSIC-8.

Q6. What is the purpose of your direct testimony?

A6. The purpose of my direct testimony is to (1) summarize NIPSCO's 7-Year Gas TDSIC Plan for the period January 2019 through December 2025 ("Gas Plan 2" or "Plan") attached hereto as Confidential Attachment 2-A,

(2) discuss the relationship between Gas Plan 2, NIPSCO's current 7-Year Gas Plan ("Gas Plan 1") and NIPSCO's Pipeline Safety Compliance Plan, (3) explain how NIPSCO developed its Gas Plan 2, (4) explain the cost estimates associated with Gas Plan 2, and (5) explain why Gas Plan 2 constitutes eligible transmission, distribution, and storage system improvements ("eligible improvements").[1]

Q7. Are you sponsoring any attachments to your direct testimony?

A7. Yes. I am sponsoring Confidential Attachment 2-A and Attachment 2-B, both of which were prepared by me or under my direction and supervision.

Q8. What are your responsibilities with respect to NIPSCO's gas TDSIC projects?

A8. My involvement with NIPSCO's Gas Plan 1 began in March 2017 with the execution of the 2017 Gas Plan 1 projects. I also was involved in the development and review of the 2017 through 2020 Gas Plan 1 projects. I

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[1] "'Eligible transmission, distribution, and storage system improvements' means new or replacement electric or gas transmission, distribution, or storage utility projects that: (1) a public utility undertakes for purposes of safety, reliability, system modernization, or economic development, including the extension of gas service to rural areas; (2) were not included in the public utility's rate base in its most recent general rate case; and (3) either were (A) designated in the public utility's seven (7) year plan and approved by the commission under section 10 of this chapter as eligible for TDSIC treatment; or (B) approved as a targeted economic development project under section 11 of this chapter." Ind. Code § 8-1-39-2.

am responsible for the successful execution of NIPSCO's gas TDSIC projects, and provide direction, oversight, leadership, and supervision to the team developing and executing Gas Plan 1. For this proceeding, I have been responsible for coordinating the preparation of Gas Plan 2 in support of the relief requested in this proceeding. In that role, I have worked with engineers under my supervision as well as with others within the Company to compile, review, prioritize and analyze projects for incorporation into the Plan.

II. SUMMARY OF NIPSCO'S GAS PLAN 2

Q9. Please provide a summary of NIPSCO's Gas Plan 2.

A9. NIPSCO's Gas Plan 2 is focused on gas transmission, distribution, and storage system investments made for safety, reliability, system modernization or economic development. The overarching goal of NIPSCO's Gas Plan 2 is to make the necessary investments that enable NIPSCO to continue providing safe, reliable gas service to its customers into the future. The Plan is comprised of three segments: (1) investments aimed at maintaining the system reliability through the capacity of the system to deliver gas to customers when they need it (Gas System Deliverability); (2) replacement of certain system assets to ensure the ongoing integrity and safe operation of the gas system (Gas System Integrity); and (3) the extension of gas facilities into rural areas (Rural Gas Extensions). It is important to note that there is generally a beneficial overlap between these segments. For example, projects designed to improve Gas System Deliverability will frequently improve Gas System Integrity as well, through the upgrade or replacement of aging infrastructure. Table 1 summarizes Gas Plan 2 by investment segment.

Table 1 – Gas Plan 2 Investment by Segment

Investment Segment	Gas Plan 2 Projected Investment (Direct Capital Dollars)
Gas System Deliverability	$80,927,535
Gas System Integrity	$825,859,462
Rural Gas Extensions	$150,789,751
Plan Total	**$1,057,576,748**

Q10. Please describe each of the investment segments.

A10. Within the **Gas System Deliverability** investments, NIPSCO expects to generally add new gas mains and add or upgrade regulator stations to improve NIPSCO's ability to meet customers' deliverability demands. The methodology NIPSCO utilizes to identify these needs and the appropriate solutions are detailed later in this testimony.

Within the **Gas System Integrity** investments, NIPSCO plans to replace certain segments of NIPSCO's gas transmission, distribution, and storage facilities to ensure public safety. The assets have been identified through risk analysis, using both industry and NIPSCO specific data.

Within the **Rural Gas Extensions** investments, NIPSCO plans to make investments in new or upgraded gas mains and / or regulator stations, and new services to make natural gas available to rural customers. The proposed methodology to administer these rural gas extensions is detailed later in this testimony.

III. DEVELOPMENT OF GAS PLAN 2

Q11. Please describe the assets reviewed as part of Gas Plan 2.

A11. The assets reviewed as part of the Plan included all current transmission, distribution, and storage system assets at NIPSCO. NIPSCO previously engaged EN Engineering to work with NIPSCO engineering, planning, and system integrity teams to review NIPSCO's gas transmission and distribution strategies during the development of Gas Plan 1. The results of that review are generally carried through into Gas Plan 2 with some modifications to project scopes as system conditions warranted. The Gas Infrastructure Study prepared by EN Engineering dated October 2, 2013 is provided in Confidential Appendix 1 to the Plan. The Gas Infrastructure Study April 2017 Risk Model Update prepared by EN Engineering dated June 19, 2017 is provided in Confidential Appendix 2 to the Plan. The NIPSCO natural gas storage facilities were reviewed by Operations and Engineering personnel to identify and prioritize any potential safety, reliability or deliverability issues.

Q12. Why did NIPSCO select the transmission, distribution, and storage system improvements included in Gas Plan 2?

A12. Based on current information, Gas Plan 2 represents the best path forward to ensure the continued delivery of safe and reliable gas service to NIPSCO's customers in a cost effective manner. In considering the Plan design, NIPSCO conducted comprehensive reviews of many segments of its gas system. The Plan seeks to fulfill commitments made in Gas Plan 1, address the high priority safety, operational and integrity needs, and extend gas facilities into rural areas. Projects were also reviewed to provide a high level of confidence that they could be executed as proposed. A broader portfolio of projects was prioritized to develop the specific improvements included in the proposed Plan.

The transmission, distribution, and storage system investments included in Gas Plan 2 are required for the public's convenience and necessity. The Plan cost-effectively addresses safety, reliability, system modernization, and economic development concerns, and provides incremental benefits for NIPSCO's customers.

Gas Plan 2 can be viewed as a continuation of Gas Plan 1 in both form and function with some lessons learned incorporated from Gas Plan 1, as well as a reprioritization and addition of projects to extend the Plan past the limits of Gas Plan 1. Gas Plan 2 was developed with a goal to improve the execution of the larger transmission pipeline replacement projects in particular. It was clear from executing Gas Plan 1 that increased lead time for engineering, material, land and easement acquisition, and environmental and railroad permitting was required. Gas Plan 2 typically provides a two to three year window prior to large project execution in order to mitigate as much of the project execution risk as possible. Another improvement to Gas Plan 2 was the decision to involve a greater number of internal stakeholders into the initial scoping of the proposed projects to reduce the risk of a critical item being omitted. NIPSCO also intends to continue to provide periodic updates to the Gas Infrastructure

Study to help demonstrate the impact that the transmission pipeline replacement projects are having on the overall transmission system.

Q13. Did NIPSCO make changes or apply lessons learned from Gas Plan 1 in developing Gas Plan 2?

A13. Yes. The development of Gas Plan 2 incorporated changes and lessons learned from Gas Plan 1. NIPSCO included a broad group of stakeholders in developing the projects to assure comprehensive work scopes were developed to meet project objectives. NIPSCO utilized Planet Forward Energy Services ("PFES") to complete detailed cost estimates, followed by internal stakeholder reviews of the estimates. Details of the process to develop cost estimates are detailed later in this testimony. NIPSCO also attempted to address parties' concerns with multiple unit projects by identifying specific projects and the project timeframe in which they are planned to be completed.

Q14. Are there any multiple unit projects included in Gas Plan 2?

A14. No. Each Project within Gas Plan 2 has a specifically designated asset or assets and a currently planned year. Although not every designated asset in Gas Plan 2 has its own Project ID, this was done simply to keep the plan manageable from a filing and execution stand point. For example, Project ID IM37 – Electronic Flow Corrector Replacement includes 168 individual assets to be worked each year. Each of these 168 assets per year have clearly been identified with a unique identifier and with a currently planned year of execution within the support documentation contained within Confidential Appendix 3. See Confidential Appendix 3, Pages 100-111. NIPSCO does continue to use unit cost estimates for some projects within Gas Plan 2, particularly projects more than 2 years out from execution, but expects to progress to high level, site specific estimates in all but one project in the first plan update as engineering is completed for 2019 projects. NIPSCO expects to continue to utilize a unit cost estimate for Project ID IM37 – Electronic Flow Corrector Replacement due to the high number of assets to be replaced each year, and the very similar nature of the work per asset. For this project, utilizing a unit cost estimate simply makes sense because the cost of developing individual, site-specific estimates for so many assets that are so similar would not be efficient.

Q15. Please describe the incremental benefits associated with Gas Plan 2.

A15. The Plan focuses on maintaining safe, reliable service for NIPSCO's customers in a cost effective manner. While the Plan addresses all four types of eligible investment in the TDSIC Statute (safety, reliability, system modernization and economic development),[2] most of the Plan's investments positively impact public safety. Safety drivers focus on risk reduction related to gas system leaks, pipeline ruptures, or incidents of pressure excursion. Reliability drivers include the avoidance of gas outages or curtailments driven from the inability to maintain gas system pressure during peak load events. System modernization implicates both safety and reliability by upgrading the facilities to current industry standards. The Gas Plan 2 also extends the benefit of natural gas service to rural areas.

Q16. Will NIPSCO's Gas Plan 2 need to be updated?

A16. Yes. A prudent 7-year plan is dynamic, not static. While considerable analysis and thought went into the development of Gas Plan 2, it is important to recognize that the Plan is reflective of the characteristics of the gas system and the needs of NIPSCO's customers as they exist at the time the Plan was developed. As NIPSCO learns more in the upcoming

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[2] Ind. Code Ch. 8-1-39 (Transmission, Distribution, and Storage System Improvement Charges and Deferrals) was enacted as part of Senate Enrolled Act 560 and became effective on April 30, 2013 (the "TDSIC Statute").

years, the Plan will be updated in semi-annual filings. NIPSCO's proposed update process is set out below.

Q17. Please explain how Gas Plan 2 is presented and organized.

A17. Gas Plan 2 follows the same format and provides the same detail currently included in Gas Plan 1. Table 2 shows how Gas Plan 2 is organized.

Table 2 – Gas Plan 2 Presentation

Plan by Project Category	Provides a high level summary showing the breakout of investment by year for both transmission and distribution.
Plan by FERC Account	Provides a high level summary showing the break down by Federal Energy Regulatory Commission ("FERC") Uniform System of Account number by year for both transmission and distribution.
Project Detail by Year	Provides project detail separately for each year of the Plan (2019-2025). Detailed scopes and estimate summaries (project estimates) are included in Confidential Appendix 3.
Project Detail Summary by Year	Provides all of the projects included in the Plan by project category by year showing the total investment of the Plan.
Confidential Appendix 1	Gas Infrastructure Study Risk Model dated October 2, 2013
Confidential Appendix 2	Gas Infrastructure Study Risk Model Update dated June 19, 2017

Confidential Appendix 3	Project Estimates and Contingent Project List (including supporting documentation)
Confidential Appendix 4	Summary of Unit Costs

Q18. Relating to Gas Plan 2, please explain why the subtotals for the transmission and distribution project categories differ from the subtotals for transmission and distribution Federal Energy Regulatory Commission ("FERC") accounts.

A18. There are differences in the transmission and distribution subtotals when comparing Project Category to FERC account. Some projects, such as inspect and mitigate projects, incur charges that are booked to both distribution and transmission FERC accounts. However because a majority of project costs related to specific projects are charged to either distribution or transmission FERC accounts, the project is classified into either a transmission or distribution project category on Gas Plan 2.

IV. <u>PLAN UPDATE PROCESS</u>

Q19. Please describe the Plan update process proposed in this filing.

A19. NIPSCO proposes to follow an update process very similar to the process from Gas Plan 1. NIPSCO proposes to continue the current process of meeting with stakeholders approximately four weeks prior to filing each updated plan.

The Plan will be updated with NIPSCO's best estimate by project for each calendar year. For most projects, Class 2 or Class 3 level estimates will be provided one calendar year in advance of construction. For example, 2020 estimates will be updated with Class 2 or Class 3 level estimates in 2019. Confidential appendices described in Table 2 above will be updated as new, relevant information becomes available during the plan update process. Project Change Requests ("PCRs") will be provided to support project estimate changes during the current year for projects with variances of $30,000 of 15%, whichever is greater. Actual costs will be included in the plan update when a given calendar year is closed out. The timing of when actual costs will be updated will vary depending on the actual costs cutoff period. Rural extension inputs, indirect cost percentages and AFUDC percentages will also be updated as new, relevant information is available.

V. CONTINGENT PROJECTS FOR GAS PLAN 2

Q20. What is the Contingent Project List included in Confidential Appendix 3?

A20. The Contingent Project List is a list of projects that are not currently included in the portfolio of prioritized projects NIPSCO currently foresees completing in Gas Plan 2. That said, during the course of the development of Gas Plan 2, NIPSCO evaluated a number of projects that were desirable and would qualify under the TDSIC Statute. These projects would provide additional value to NIPSCO's customers by increasing safety, deliverability or reliability of NIPSCO's gas systems, but currently fall outside of the current prioritized list. With the exception of the New Regulator Station and Redundant Feed to USX project that is currently estimated based on a unit cost, all of the projects included in the Contingent Project List have developed scopes and high level site specific estimates.

Q21. Is NIPSCO proposing that the Commission approve the Contingent Project List as part of Gas Plan 2?

A21. Yes. NIPSCO proposes that the projects included on the Contingent Project List would be approved as part of Gas Plan 2, but would only be completed in the event that capital dollars currently in the Plan become available through the execution of projects favorably compared to current estimates or in the event that another project on the list is for some reason completed outside of TDSIC or falls in terms of priority. Having the opportunity to complete projects identified on the Contingent Project List allows the execution of additional projects that provide value to its customers so long as the incorporation of those projects from both an operational and financial perspective can be justified.

Q22. Please provide an example of how the Contingent Project List might work.

A22. As an example, assuming Project A included in Gas Plan 2 receives a favorable bid or is otherwise completed under the approved estimate by $1,000,000. NIPSCO would show this new lower estimate for Project A as a reduction in an update filing. In that same update filing, NIPSCO would move a project (Project B) from the Contingent Project List that roughly fits into the scope of the decrease of $1,000,000 experienced in Project A. For purposes of this example, assuming the estimate for Project B is $1,000,000. NIPSCO would show the project estimate for Project B as an increase in Gas Plan 2, with an overall net change to Gas Plan 2 of $0.

VI. RELATIONSHIP BETWEEN GAS PLAN 1, GAS PLAN 2, AND PIPELINE SAFETY COMPLIANCE PLAN

Q23. How does NIPSCO propose to transition from Gas Plan 1 to Gas Plan 2?

A23. As of February 1, 2018, approved projects from Gas Plan 1 fall into four categories: (1) completed projects with assets that are already in service, (2) projects that are anticipated to be completed and in service by the end of 2018, (3) projects that have already been incorporated into projects proposed in Gas Plan 2 or are not expected to be in service by the end of 2018, and (4) projects that will not be completed and in service by the end of 2018 and have not been included in Gas Plan 2. Because December 31, 2018 is the end of the future test year in NIPSCO's pending general rate case in Cause No. 44988, assets in categories one and two that are in service on December 31, 2018 will be incorporated into rate base as part of the rate base true up process. All of those projects will be removed from NIPSCO's Gas Plan 2 in compliance filings to be made in Cause No. 44988. Projects in category two that are not in service on December 31, 2018 along with projects in category three will remain in Gas Plan 2. Projects in category four will be included in NIPSCO's rate base in its next general rate case.

Q24. How would outstanding or "trailing" invoices for projects placed in service prior to the end of 2018 be treated?

A24. The possibility exists that a limited number of invoices for projects placed in service prior to the end of 2018 would be received after the assets are placed in service. Any "trailing" invoices would be eligible for rate base treatment in NIPSCO's next general rate proceeding, but would not be recovered in the gas TDSIC tracker.

Q25. Does NIPSCO propose to terminate Gas Plan 1 when the first tracking proceeding under Gas Plan 2 is initiated?

A25. Yes. From an administrative standpoint and for the benefit of simplicity, NIPSCO intends to terminate Gas Plan 1 upon the filing of its first petition under Section 9 of the TDSIC Statute seeking cost recovery under Gas Plan 2. Under the TDSIC Statute, NIPSCO cannot file its first petition under Section 9 of the TDSIC Statute for Gas Plan 2 until nine months after an Order is approved in NIPSCO's pending general rate case in Cause No. 44988. The Commission currently projects that Order will be approved on or before September 24, 2018, so the first tracker proceeding under Gas Plan 2 could likely not be filed until after June 24, 2019. Therefore, any projects in the category two will be known long before the first tracker filing for Gas Plan 2. In anticipation of these projects in category two being in service by December 31, 2018 and the fact that they have been discussed at length in Gas Plan 1 filings and no changes have been made to the scope of those projects, these projects are not included in Sections

VII and VIII below.

Q26. Please describe the projects in each of the four categories you identified as of February 1, 2018.

A26. Attachment 2-B shows each of the projects included in Gas Plan 1 in Column A. The next four columns identify with an "x" the Gas Plan 1 projects that meet the criteria shown in the column headings. Column B identifies those Gas Plan 1 projects that were complete and in service as of February 1, 2018 (category one). Column C identifies those Gas Plan 1 projects currently scheduled to be in service by December 31, 2018 (category two). Column D identifies those Gas Plan 1 projects that are included in Gas Plan 2, including those projects identified in Column C (category three). Column E identifies those Gas Plan 1 projects that were not complete and in service as of February 1, 2018 and are not included in Gas Plan 2 (category four).[3]

Q27. Why are some projects included in both Columns C and D?

A27. Projects identified in Column C from Gas Plan 1 are not in service as of February 1, 2018, but are expected to be in service by December 31, 2018.

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[3] There are three projects in category four. One of the projects is in FMCA (Project ILI7) and two of the projects are not in FMCA or Gas Plan 2 (Project ILI5 and IM22).

The entire value (May 1, 2014 through December 31, 2018) of the projects listed in Column C is included in the 2019 estimates in Gas Plan 2 in the event that any of these projects do not go in service by December 31, 2018. Therefore, any project identified in Column C is also identified in Column D, which indicates that the project is included in Gas Plan 2.

Q28. Are there any line items from Gas Plan 1 that are not included in Attachment 2-B?

A28. Yes. Corrosion Rectifiers Install/Replace [Project ID DIM3] and Denham Station 7179-1 Odorant System Rebuild [Project ID DIM5] were not included because the costs from these Project IDs were transferred to IM24-DIM3 and IM29-DIM5, respectively, when those projects were reclassified from distribution to transmission.[4] These two Project IDs have a zero balance and are cancelled work orders and were therefore not included in Attachment 2-B.

VII. COST ESTIMATES

Q29. Please summarize the estimated costs associated with NIPSCO's Gas Plan 2.

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[4] Project ID DIM3 and DIM 5 were re-classified as transmission projects in Cause No. 44403 TDSIC-4.

A29. As shown in Confidential Attachment 2-A, the total estimated capital cost of the 7-Year Gas Plan is $1,254.8 million, including direct capital ($1,057.6 million), indirect capital ($162.4 million) and allowance for funds used during construction ("AFUDC") ($34.8 million). Indirect capital includes costs which are incurred in performing capital projects but are not charged directly to a specific work order. Table 3 shows the estimated annual amounts for direct capital costs, indirect capital costs and AFUDC included in NIPSCO's proposed Gas Plan 2.

Table 3 - Gas Plan 2 – Annual Cost Breakdown by Type

	Year 1 2019	Year 2 2020	Year 3 2021	Year 4 2022	Year 5 2023	Year 6 2024	Year 7 2025	Total
Direct	$319,351,206	$112,851,128	$117,853,245	$131,697,066	$129,305,494	$129,535,408	$116,983,201	$1,057,576,748
Indirect	$51,629,510	$16,937,829	$17,677,986	$19,754,561	$19,395,824	$19,430,312	$17,547,479	$162,373,501
AFUDC	$9,330,169	$3,893,669	$4,065,936	$4,543,548	$4,461,041	$4,468,976	$4,035,920	$34,799,259
Total	**$380,310,885**	**$133,682,626**	**$139,597,167**	**$155,995,175**	**$153,162,359**	**$153,434,696**	**$138,566,600**	**$1,254,749,508**

Q30. Do indirect capital costs and AFUDC fluctuate over time and how have they been incorporated into project cost estimates?

A30. Yes. NIPSCO Witness Racher discusses the origin and calculation of indirect costs and AFUDC. Indirect capital costs fluctuate up or down based on a variety of inputs including the level of direct capital costs and indirect labor and benefit costs. The indirect capital cost percentage is updated in each TDSIC plan update filing to reflect the most current information available.

Q31. Has NIPSCO modified its estimation techniques for indirect costs and AFUDC?

A31. Yes. Based largely on issues raised by NIPSCO's stakeholders during the tracker proceedings following approval of Gas Plan 1, it became clear that the fluctuation of indirect capital costs and AFUDC was a concern. As a result, NIPSCO made an effort to take into account recent experience in the development of Gas Plan 2 and apply conservative estimates for indirect costs and AFUDC so as to forecast a realistic estimate for those costs.

Q32. Does that mean that NIPSCO will likely over-recover indirect capital costs and AFUDC in its tracker filings?

A32. No. Estimates of indirect capital costs and AFUDC will be adjusted to then-current levels prior to cost recovery.

Q33. Please describe how NIPSCO's Gas Plan 2 provides the best estimate of the cost of the gas transmission, distribution, and storage system investments included in Gas Plan 2.

A33. Gas Plan 2 includes projects that are similar to work NIPSCO performed as part of its Gas Plan 1. NIPSCO gained significant experience with respect to the costs necessary for project completion. Cost estimates for this work are based on NIPSCO's recent experience on a range of the Gas Plan 1 projects of different types. As noted above, NIPSCO applied lessons learned during Gas Plan 1 into the project development and cost estimating process for Gas Plan 2.

Large projects include detailed work scope definition, preliminary engineering, near-final route selection, on-site real estate and environmental reviews. Cost data from recent projects was used as the basis for the estimates in most cases, with experience modifiers considered for site specific conditions. For example, areas where extensive dewatering would be required were identified. Areas where horizontal directional drilling would be required were studied to determine how the drill plan would be executed. Detailed bill of materials were developed through the preliminary engineering and updated prices were obtained from NIPSCO suppliers.[5] A preliminary high level schedule was also

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[5] "Bill of materials" is an industry term used to describe a list of the materials required for the completion of a specific project.

developed to identify detailed engineering, land acquisition, and permitting lead time requirements.

Small projects used parametric or unit price estimates that reflect a mix of contractor and internal labor resources similar to the allocation of work maintained during Gas Plan 1. A review of route and site conditions was completed for many projects. Broad internal stakeholder input was collected to assure comprehensive integrated work scopes with formal review and extensive documentation.

In summary, NIPSCO followed a rigorous project development, cost estimating, and review process to provide its best estimate for each project included in the Plan.

Q34. Please describe the general process that PFES followed for estimate development.

A34. PFES worked with NIPSCO to incorporate both lessons learned from Gas Plan 1 and industry best practices when developing, reviewing, revising and finalizing project cost estimates. PFES also considered risks and opportunities derived during design reviews and field site visits which were incorporated into a risk matrix. As a result, a risk matrix is now shown in the project estimate summaries included in Confidential Appendix 3, where applicable.

In creating a cost estimate, PFES generally followed a process that was designed to align contributors with a logical approach for developing, reviewing, revising and approving the planning, scoping, and design of the project. Relevant existing scope and design documents were gathered and a site walk-down was typically scheduled with relevant internal stakeholders. A working session with the internal stakeholders was held to gather additional design basis information. A scope of work and an initial estimate was then created and reviewed with other PFES employees and internal stakeholders. This general cycle of collecting data, estimating, and reviewing was repeated until a final formal review was completed after internal stakeholders felt comfortable that the potential costs had been considered. The final estimate was then accepted by NIPSCO.

Q35. Did NIPSCO include contingency in the project estimates.

A35. Yes. NIPSCO included contingency consistent with the AACE International ("AACE") recommended practice for cost estimate classification. The AACE recommended practice is based on project maturity or progress of project engineering or project development. The preliminary engineering would support a Class 4 estimate for most projects in Gas Plan 2. NIPSCO believes the Gas Plan 2 estimates reflect a Class 3 to Class 4 maturity based on the application of recent construction experience, added efforts to inspect and understand site conditions, identify real estate and environmental requirements, and characterize the project risks, especially on the larger transmission projects. A contingency amount can be found in the project estimates summaries included in Confidential Appendix 3.

Q36. Please describe how NIPSCO determined the contingency for projects included in Gas Plan 2.

A36. The contingency for large, complex projects was included at 30% for most projects with the exception of two large projects that carry lower contingency. The contingency for smaller or more routine projects was included at 15% to 20%. These contingency factors are within the AACE recommended practice levels of uncertainty for projects with Class 3 – Class 4 estimates.

Q37. What is the purpose for the contingency included in the cost estimates?

A37. The contingency covers both potential changes in scope as additional engineering or design work is completed, and risks encountered during execution. Risks encountered during construction include known risks that may be encountered, but not with a level of certainty that would warrant inclusion in the cost estimate. For example, dewatering costs can follow a predictable pattern (included in the cost estimates) or can increase significantly due to weather or other site conditions (not part of the estimate). The contingency is also intended to cover unknown risks that cannot be reliably predicted.

Q38. Please describe the Engineering and Preconstruction projects [Project IDs IM27, SD14, DSD11, DM2, and S41] included in Gas Plan 2.

A38. As with Gas Plan 1, Engineering and Preconstruction projects are utilized to perform necessary engineering, land, environmental, and potential long lead material acquisition activities in order to support specific projects.

Q39. Has NIPSCO modified its development of Engineering and Preconstruction projects generally from Gas Plan 1 to Gas Plan 2

A39. Yes. For Gas Plan 2, NIPSCO has attempted to capture Engineering and

Preconstruction costs within specific project estimates wherever possible. For example, Highland Junction Station Replacement (IM36) and Shipshewana to Howe (SD15) show smaller amounts of spend in the years that lead up to primary construction within the Plan. The remaining Engineering and Preconstruction projects (IM27, SD14, DSD11, DIM2,and S41) reflect estimated costs in Gas Plan 2 that are generally for projects that occur further into the future or are contingent upon completion of other projects, and as a result are more difficult to estimate accurately well in advance.

Q40. How was the estimate developed for the Engineering and Preconstruction projects [Project IDs IM27, SD14, DSD11, DIM2, and S41]?

A40. The estimates for these projects are based on NIPSCO's experience with engineering and preconstruction activities from Gas Plan 1 and are generally based on unit costs in this filing with the exception of projects scheduled for completion in 2019. These five Engineering and Preconstruction projects represent less than 1% of the total plan direct cost ($8,887,537 of the $1,057,576,748). Unit costs are used initially and estimated based on previous projects of similar complexity. As execution of the plan progresses, NIPSCO expects to update the estimates to reflect an increase or a decrease based on the specific engineering and preconstruction needs of each project. Estimates for 2019 projects are based on a combination unit costs and expected costs associated with the development of Gas Plan 2. Expenditures captured in engineering projects are captured by work order, and those work orders are re-categorized to the specific improvement project when construction begins. For this reason, engineering can be specifically tracked to a specific project for capitalization when the asset goes in service. Preliminary engineering for Gas Plan 2 projects and Gas Plan 2 development costs were incurred in 2017 and 2018 and are included for recovery in Gas Plan 2.

VIII. GAS SYSTEM DELIVERABILITY INVESTMENTS

Q41. Please describe NIPSCO's Gas System Deliverability investments included in Gas Plan 2.

A41. The System Deliverability investments typically include new gas mains, regulator stations, and other necessary systems upgrades to improve NIPSCO's ability to meet customer deliverability demands. NIPSCO has several reliability planning criteria and assessment practices that are used to assure the gas system is capable of meeting the customer demand under expected peak load conditions, when the transmission and distribution systems are operated at or near capacity. NIPSCO Engineering and Operations conducts seasonal reviews to evaluate the performance of the system during periods of high demand to identify areas that require more detailed analysis. The Gas Systems Planning Department further analyzes and models the data to predict the ability of the system to meet demand during periods of peak demand. Through these criteria and practices, various transmission and distribution projects are identified and evaluated to accommodate customer demands and delivery requirements. The Gas Transmission and Distribution Planning process utilizes natural gas systems modeling and analysis software to perform system performance assessments and investigate alternate operating scenarios. The gas system models are built locally utilizing data from NIPSCO's Geographic Information System ("GIS") and Work Management system for facility data, NIPSCO's Customer Information System to analyze and predict customer demand, and customer supplied demand forecast and pressure delivery requirements. Field monitoring data is used to validate and adjust the model results. The models are used to simulate scenarios that look at current and future projected conditions including load growth assumptions and alternative operating conditions. Changes in gas demand associated with current and future customer growth, changes in supply and accommodating operational adjustments can require new investments in the form of expanded, upgraded or additional facilities. These investments are implemented to ensure sufficient system capacity is available for NIPSCO's customers under peak load conditions, when the system is operating at or near its maximum capacity. NIPSCO follows planning criteria used to identify areas of needed improvements under these peak conditions.

Q42. How did NIPSCO determine the Gas System Deliverability investments for each year of the Plan?

A42. NIPSCO specifically identified and planned projects which are the result of recommendations from the seasonal operations reviews and Gas System Planning analysis. NIPSCO has identified specific deliverability projects with planned years as part of Gas Plan 2, and an asset list of these projects is provided in Confidential Appendix 3. See, for example, Confidential Appendix 3 (Pages 40-43).

Q43. Please describe the Gas System Deliverability projects included in Gas

Plan 2.

A43. Table 4 shows the Gas System Deliverability projects included in Gas Plan 2.

Table 4 – Gas Plan 2 Gas System Deliverability Projects

Transmission	
Project ID	**Project Name**
SD13	System Deliverability Projects - Transmission
SD14	Engineering and Preconstruction - System Deliverability Transmission
SD15	Shipshewana to Howe
SD16	GSIT Churubusco HP System Improvement
Distribution	
Project ID	**Project Name**
DSD10	System Deliverability Projects – Distribution
DSD11	Engineering and Preconstruction - System Deliverability Distribution
DSD13	Shipshewana Distribution Headers

Q44. Please describe the System Deliverability Projects – Transmission [Project ID SD13] included in Gas Plan 2.

A44. Project SD13 involves the construction of one Transmission Deliverability project in 2025 (GSIT ANR Orland to Crooked Lake, Ph2), that will involve the installation of new gas main, regulator stations, or other required system improvements to improve reliability and capacity. This project has been specifically identified and included in the asset list in

Confidential Appendix 3 (Page 118).

Q45. How was the estimate developed for the System Deliverability Projects – Transmission [Project ID SD13]?

A45. The estimate for Project SD13 was developed as a unit cost derived from actual costs on two transmission deliverability projects executed under Gas Plan 1. The two projects upon which the estimate was based are representative of system deliverability projects because they represent a range of potential scopes that may be required. One project from Gas Plan 1 (Project ID SD5) was a relatively small project that involved the rebuilding of a regulator station, and the other project (Project ID S12) was more representative of a larger scale deliverability project involving the installation of a significant amount of high pressure main. NIPSCO expects the current unit cost based estimate to progress to a high level, site specific estimate in the first Gas Plan 2 update filing, and then to a detailed site specific estimate 18 to 24 months before construction takes place.

Q46. Please describe the Transmission – Shipshewana to Howe project [Project ID SD15] included in Gas Plan 2.

A46. Project SD15 involves the installation of an interstate transmission pipeline supply interconnection, approximately twelve miles of 12" pipeline, and associated regulator station work. NIPSCO Engineering and Gas Systems Planning evaluated several alternative projects to add gas capacity to the Shipshewana and Howe systems. The proposed project was determined to be the most cost effective and technically feasible project to increase capacity and improve reliability to both the Shipshewana and Howe systems which have seen considerable growth and new requests for service.

Q47. How was the estimate developed for the Transmission – Shipshewana to Howe project [Project ID SD15]?

A47. The estimate for Project SD15 was developed by PFES using a preliminary scope and route provided by NIPSCO Engineering and other internal stakeholders. NIPSCO Engineering, NCSC Real Estate, Environmental, and PFES conducted a route review and a site visit to identify potential construction complexities. The pipeline estimate was developed using prices for similar projects, adjusted for the construction conditions along the preliminary route. The interstate pipeline connection and regulator station(s) estimates were prepared by developing analogous estimates from other similar systems.

Q48. Please describe the Transmission – GSIT Churubusco HP System Improvement project [Project ID SD16] included in Gas Plan 2.

A48. Project SD16 generally involves the installation of approximately seven miles of 16″ pipeline and associated work involving two regulator stations. Its purpose is to extend a high pressure feed to increase both system capacity and reliability to the Churubusco system. It also provides a backbone of supply for potential future deliverability projects to help support the northwest side of Fort Wayne.

Q49. How was the estimate developed for the Transmission – GSIT Churubusco HP System Improvement project [Project ID SD16]?

A49. The estimate for Project SD16 is a parametric cost estimate developed internally by a NIPSCO Project Manager utilizing cost data from a project currently being constructed in 2018 which has similar elements and design conditions. The cost data was then applied to elements of the proposed project. The Project Manager reviewed the route and conducted a site visit to identify potential construction complexities in preparing the estimate. The Project Manager also consulted with NIPSCO Engineering, NCSC Real Estate, and Environmental regarding the proposed project.

Q50. Please describe the Distribution – System Deliverability Projects – Distribution project [Project ID DSD10] included in Gas Plan 2.

A50. Project DSD10 involves the construction of distribution deliverability projects that typically involve the installation of new gas main, regulator stations, or other required system improvements to improve reliability and capacity. Ten projects have been specifically identified with a planned year of construction and an asset list of these projects is provided in Confidential Appendix 3 (Page 121).

Q51. How was the estimate developed for the Distribution – System Deliverability Projects – Distribution project [Project ID DSD10]?

A51. The estimate for Project DSD10 was developed as a unit cost derived from actual costs incurred on two distribution deliverability projects executed under Gas Plan 1. The two projects upon which the estimate was based are representative of system deliverability projects because they represent a range of potential scopes that may be required. One project (Project ID DSD9 from Gas Plan 1), was a relatively small project involving the rebuilding of a regulator station, and the other project (Project ID DSD4 from Gas Plan 1) is more representative of a larger scale deliverability project involving the upgrade of a station and distribution main. NIPSCO expects the current unit cost based estimate to progress to a high level, site specific estimate in the first Gas Plan 2 update filing, and then to a detailed site specific estimate 18 to 24 months before construction takes place.

Q52. Please describe the Distribution – Shipshewana Distribution Headers project [Project ID DSD13] included in Gas Plan 2.

A52. Project DSD13 involves the installation of approximately five miles of 12" high density plastic pipe and associated regulator station work within the Shipshewana distribution system. The installation of this pipe will help redistribute load within the system, add capacity, and increase system reliability.

Q53. How was the estimate developed for the Distribution – Shipshewana Distribution Headers project [Project ID DSD13]?

A53. The estimate for DSD13 was developed internally utilizing NIPSCO's experience of installing a similar type of pipeline on a project executed in 2017. The Engineer prepared a parametric estimate, applying recent cost data to the elements of the proposed project. The Engineer reviewed the potential routes and conducted a site visit to identify potential construction complexities. The route follows existing right of way to the extent possible to minimize cost.

IX. GAS SYSTEM INTEGRITY INVESTMENTS

Q54. Please describe NIPSCO's Gas System Integrity investments included in Gas Plan 2.

A54. Table 5 shows the Gas System Integrity projects included in Gas Plan 2.

Table 5 – Gas Plan 2 System Integrity Projects

Transmission
Pipeline Replacement
Shallow Pipe Replacement
Inspect & Mitigate
Distribution
Kokomo Low Pressure System
Bare Steel Replacement
Master Meter System Upgrades
Inspect & Mitigate
Storage
Liquefied Natural Gas Plant (LNG)
Royal Center Underground Gas Storage (RCUGS)

Q55. What is the purpose of NIPSCO's system integrity projects?

A55. Safe operation of NIPSCO's gas system is NIPSCO's top priority to ensure that it operates safely for its customers and employees. As such, Pipeline

Safety is more than a compliance program; it is NIPSCO's safety commitment. NIPSCO takes proactive steps to fully understand the risks inherent to its gas system including obtaining detailed knowledge of system characteristics, periodic inspections and assessments of infrastructure conditions, rigid operating parameters, detailed operations and maintenance and emergency response plans, damage prevention plans, and programs to ensure those that operate our gas system are competent to do so.

The System Integrity investment category includes projects to replace or install new segments of NIPSCO's gas transmission, distribution and storage facilities to ensure public safety. The assets have been identified through risk analysis and internal subject matter expert input, using both industry and NIPSCO specific data. Also included in this project category are asset replacements identified to be a risk of continued operability through routine and special inspection and assessment cycles.

System integrity investments in the Plan target required physical improvements identified through (1) a comprehensive risk assessment of NIPSCO's system, (2) system knowledge and periodic inspections, and (3) those additional investments required to advance NIPSCO's knowledge of its gas system, therefore enabling future risk assessments and decision models. To assist NIPSCO in this risk assessment, EN Engineering was engaged prior to the development of Gas Plan 1 to review the elements of NIPSCO's gas transmission and distribution system, and to assist NIPSCO's technical team in making the appropriate risk decisions and related mitigating actions on these systems. NIPSCO believes this study continues to provide valuable information relevant to the development of Gas Plan 2, but the cost estimates included in the document are largely informational as NIPSCO has improved its own estimating capabilities. The projects contained in Gas Plan 2 have seen some scope adjustment caused by additional information becoming available or the continuously evolving operational demands and characteristics of our gas systems. See Confidential Appendix 1.

For the transmission system, projects were identified based on a thorough risk based analysis of the Department of Transportation ("DOT") categorized transmission pipe segments in the NIPSCO system. This analysis identified characteristics of NIPSCO's pipelines and threats that a specific pipeline is exposed to. The analysis also considered actions that will be required to fill in voids in system knowledge associated with older sections of the gas transmission system that were largely built in an era that did not require the same testing and record keeping processes that exist today. Appropriate actions to address these shortcomings could include additional testing, repairs, pressure reduction, or replacement of pipe segments.

For the distribution system, projects were targeted at higher risk pipe segments. While NIPSCO enjoys a high quality distribution system with less than 1% priority pipe,[6] there remain areas of needed investment. All known cast iron pipe – a known high risk – has been fully retired at NIPSCO and is not included in Gas Plan 2. Other pipe that is typically high risk, bare steel and low pressure systems, are included in Gas Plan 2 for removal. Also included are projects to rebuild systems owned and operated by master meter operators to bring those systems up to NIPSCO's standards and for NIPSCO to subsequently assume ownership. These types of small gas distribution systems are typically in poor condition and, subject to agreement between NIPSCO and current owners,

[6] "Priority pipe" refers to pipe with characteristics that make it most prone to leaks, degradation and corrosion and generally includes pipe of bare steel and/or cast iron construction.

these systems will be rebuilt, owned, and operated by NIPSCO. As was the case in Gas Plan 1, NIPSCO maintained the same projects within Gas Plan 2 that was a result of consultation with the Commission's Pipeline Safety Division.

Lastly, the Plan includes smaller projects across NIPSCO's transmission, distribution, and storage systems that are identified through annual infrastructure inspection cycles. Through these inspections, smaller system elements are identified for additional maintenance or replacement. When replacement is required, the replacements are included in the Plan. Pipeline assets in this group include aerial crossings and attachments, regulator stations, and other identified specific or systematic threats to NIPSCO's system. Gas storage assets included in this category of the Plan include replacing system elements at NIPSCO's LNG and RCUGS facilities.

Q56. How did NIPSCO determine the Gas System Integrity investments for each year of the Plan?

A56. NIPSCO solicited input from a wide range of internal stakeholders including Gas Operations, Gas System Planning, Engineering, and Gas

Control. Through many internal discussions, projects that increased safety, reliability, and infrastructure modernization were selected through a combination of risk model results, commitments made in Gas Plan 1, and input from internal subject matter experts. The Gas System Integrity projects can be divided into eight categories,

1. Transmission Pipeline Replacement Projects,
2. Shallow Pipeline Replacement Projects,
3. Transmission Inspect & Mitigate Projects,
4. Kokomo Low Pressure,
5. Bare Steel Replacement - Distribution Project,
6. Master Meter System Upgrades – Distribution,
7. Distribution Inspect & Mitigate Projects, and
8. Storage Projects.

Each of these categories are separately discussed below.

<u>Transmission Pipeline Replacement Projects</u>

Q57. Please describe the Transmission Pipeline Replacement projects included in Gas Plan 2.

A57. Table 6 shows the System Integrity projects included in Gas Plan 2.

Table 6 – Gas Plan 2 Transmission Replacement Projects

Project ID	Project Name
TP7	10"-12" Hessen Cassel to Hanna St
TP8	36/22 Highland Junction to Grant St.
TP11	24" Aetna to Tassinong
TP12	Aetna to 483 lb. Industrial Loop
TP13	Aenta to LaPorte Pressure Reduction
TP14	Aetna to Tassinong Pressure Reduction
TP15	Colfax and Cline Station Rebuilds

Q58. Please explain the purpose of the transmission replacement projects.

A58. The Plan allows NIPSCO to improve the integrity of NIPSCO's gas transmission assets by reducing risk associated with pipeline integrity issues, and by increasing the overall reliability of the system. NIPSCO currently operates approximately 665 miles of gas transmission main. The Plan includes construction of a total of approximately 38.9 miles of new transmission pipeline, the retirement or significant pressure reduction of 59.6 miles of transmission main. These 59.6 miles of transmission pipe are amongst the highest rated risk areas of the transmission system. In addition, these pipe segments typically lack traceable, verifiable and complete documentation related to maximum allowable operating pressure ("MAOP"). In identifying the optimum approach to mitigate pipeline risk, NIPSCO considered the need for integrity verification of these pipeline segments, and the various manners available to each pipeline segment.

Overall design considerations for the new transmission pipelines include typically installing with a 720 pounds per square inch gauge ("PSIG") design pressure to improve deliverability and reduce operational risk in the northwest region of the NIPSCO system, which has the largest demand for gas. An additional 6.6 mile transmission line is included in the Plan that will mitigate the operational risk inherent in the radial based 483 PSIG system, as described by Mr. Halcarz. This is accomplished by providing a second feed from the 600 PSIG system to the 483 PSIG system, reducing the overall dependence of the Highland Junction hub as the sole source of gas to the 483 PSIG system.

Decisions around pipeline replacement, pressure testing, pressure reduction, or retirement through system reconfiguration were driven by knowledge of technical constraints as well as the cost effectiveness of the available options. The remaining line segments in the NIPSCO transmission system will be monitored for the stability of existing manufacturing and construction threats through NIPSCO's existing Transmission Integrity Management Program processes and procedures.

Table 7 shows the transmission pipe installation projects included in the Plan.

Table 7 - Gas Plan 2 –Transmission Pipeline Installation Projects

Project ID	Project Name	Replace With	Length (Miles)
TP7	10"-12" Hessen Cassel to Hanna St	16″	3.8
TP8	36″/22″ Highland Junction to Grant St.	16″	2.5
TP11	24" Aetna to Tassinong	24″	26
TP12	Aetna to 483 lb. Industrial Loop	30″	6.6
	TOTALS		**38.9**

Q59. Please describe the 10"-12" Hessen Cassel to Hanna Street project [Project ID TP7] included in Gas Plan 2.

A59. Project TP7 is a project to install approximately 3.8 miles of a new 16″ pipeline from Hessen Cassel to Hanna Street Station in order to retire an existing 10″ pipeline and reduce the pressure on the existing 12″ pipeline. It also involves regulator station work at both the Hanna Street station and Hessen Cassel station. The purpose of the project is to mitigate risk on two of the oldest lines in the NIPSCO transmission pipeline system due to lack of pressure test data and vintage oxyacetylene girth welds.

Q60. How was the estimate developed for the 10"-12" Hessen Cassel to Hanna Street project [Project ID TP7]?

A60. The estimate for Project TP7 was developed by a collaboration of multiple internal stakeholders and PFES. A detailed scope and risk matrix has been created through preliminary engineering plans and a visit to the site. PFES utilized this information and experience from recent projects similar in size and scope to develop an estimate for the project.

Q61. Please describe the 36/22 Highland Junction to Grant Street project [Project ID TP8] included in Gas Plan 2.

A61. Project TP8 is the second and final phase of a project that started in Gas Plan 1. It involves the installation of approximately 2.5 miles of 16" pipeline and associated station work. This will allow for the eventual retirement of two line sections of transmission pipeline that lack pressure test records and contain girth welds that were not performed to the modern API 1104 criteria.

Q62. How was the estimate developed for the 36/22 Highland Junction to Grant Street project [Project ID TP8]?

A62. The estimate for Project TP8 was developed by a collaboration of multiple internal stakeholders and PFES. A detailed scope and risk matrix has been created through near final engineering plans and a visit to the site. PFES then utilized this information and experience from projects similar in size and scope to develop an estimate for the project.

Q63. Please describe the 24" Aetna to Tassinong project [Project ID TP11] included in Gas Plan 2.

A63. Project TP11 is a project to install approximately 26 miles of 24" pipeline from the Aetna Station to the Tassinong Station and the addition of an interstate transmission pipeline supply point and station. This project also involves work at multiple existing regulator stations along the route to enable them to operate at the increased line pressure and keep customers in service. The project will reduce risk by eventually permitting a portion of the existing line to be retired, and the remainder operated at a reduced pressure. The pipeline contains girth welds not performed to the modern API 1104 standards, contains pipe that was manufactured using vintage low frequency electric resistance weld processes, and is not accessible for assessment with ILI tools. Once this project is completed together with other projects in Gas Plan 2, a redundant feed of gas to the 483 PSIG system will be available to a number of large industrial customers served by that system.

Q64. How has the Aetna – Tassinong project changed since it was originally proposed in Gas Plan 1?

A64. In addition to replacing the original line to address the pipeline integrity risk associated with its design, NIPSCO also conducted a comprehensive review of the Aetna – Tassinong project and the interconnected pipeline systems. The NIPSCO Gas Systems Planning group developed a hydraulic model for the project that considered its integration into interconnected systems and the deliverability capability or capacity of the integrated system. The proposed design was developed to provide a redundant feed or loop into the 483 PSIG system. NIPSCO evaluated alternative projects through the process of updating the Aetna – Tassinong pipeline replacement. The evaluation concluded that a larger pipeline than the existing 16 inch line would be required. The evaluation also concluded that a new interstate pipeline interconnection to provide increased natural gas delivery capability into the NIPSCO system would be the most effective method to provide a substantial redundant feed to the 483 PSIG system. The proposed project increases the pipeline size from 16 to 24 inches and adds an interstate pipeline point of delivery interconnection.

Q65. How was the estimate developed for the 24" Aetna to Tassinong project [Project ID TP11]?

A65. The estimate for Project TP11 was developed by a collaboration of internal stakeholders and PFES. The Aetna to Tassinong 600 PSIG pipeline replacement project will be a relatively complex project due in part to the congested environmentally sensitive areas near the north end of the pipeline. The project also adds a new interstate pipeline point of delivery interconnection near Wheeler, Indiana and provides for extensive modification to regulator stations along the route to allow for increased operating pressure. NCSC Real Estate performed preliminary studies for the route and NCSC Environmental conducted desk-top reviews of sensitive properties along the proposed route, and the results were utilized by PFES to develop a detailed cost estimate for each segment of the pipeline and the interconnected stations. Once the design was completed, multiple site visits were conducted by NIPSCO Engineering, EN Engineering, the environmental and real estate teams, and PFES to identify potential construction complexities along the route and PFES conducted a detailed risk analysis of the project. NIPSCO and EN

Engineering developed a detailed bill of materials outlining material and equipment required for the project and PFES consulted with NIPSCO material suppliers to update pricing and lead times for critical materials and equipment. PFES then utilized this information and experience from projects similar in size and scope to develop an estimate for the project.

Q66. Please describe the Aetna to 483 lb. system Industrial Loop project [Project ID TP12] included in Gas Plan 2.

A66. Project TP12 involves the installation of approximately 6.6 miles of 30" pipeline from the existing Aetna regulator station to a new regulator station east of the existing 20/30 station near the west end of a large industrial facility. The project includes a second feed to the 483 PSIG system via a bi-directional connection to the 20/30 station at Clark Road in Gary, Indiana. It also adds interconnections to several industrial and local distribution systems. In combination with Project TP11, this new pipeline will allow for a redundant feed into the critical 483 PSIG system.

Q67. How was the estimate developed for the Aetna to 483 lb. Industrial Loop project [Project ID TP12]?

A67. The Aetna to 483 lb. Industrial Loop project will be an extremely complex project due to the congested and environmentally sensitive areas along any of the potential routes and due to extensive dewatering that will be required. The preliminary planning included a coordinated effort utilizing many resources. Preliminary engineering was completed to identify basic design conditions and establish potential route options. The Gas Systems Planning group developed a hydraulic model for the project that considered its integration into interconnected systems and the deliverability capability or capacity of the system. TRC Solutions, an engineering, environmental consulting and construction management firm, was retained to conduct a completely independent route study, and was not provided any of the original route alternatives to ensure a fresh look at the project. The route recommended by TRC was substantially the same route previously identified for the pipeline. As with Project TP11, the NCSC Real Estate team performed preliminary studies for the route and the NCSC Environmental team conducted desk-top reviews of sensitive properties along the proposed route, and those results were utilized by PFES to develop a detailed cost estimate for each segment of the pipeline and the interconnected stations. Once the design was completed, multiple site visits were conducted by NIPSCO Engineering, EN Engineering, the NCSC Environmental and Real Estate teams, and PFES to identify potential construction complexities along the route and PFES conducted a detailed risk analysis of the project. NIPSCO and EN Engineering developed a detailed bill of materials outlining material and equipment required for the project and PFES consulted with NIPSCO material suppliers to update pricing and lead times for critical materials and equipment. PFES then utilized this information and experience from projects similar in size and scope to develop an estimate for the project.

Q68. Are there other related transmission integrity projects in Gas Plan 2?

A68. Yes. In addition to the new pipe being installed, a transmission pipeline segment with increased integrity risk requires work. Three other projects have been identified to reduce integrity and operational risk. Table 8 shows the Additional Integrity Projects included in Gas Plan 2.

Table 8 - Gas Plan 2 – Additional Integrity Projects

Project ID	Project Name	Description
TP13	Aenta to LaPorte Pressure Reduction	Work required to reduce pressure on existing line to mitigate integrity risk
TP14	Aetna to Tassinong Pressure Reduction	Work required to reduce pressure on existing line to mitigate integrity risk
TP15	Colfax and Cline Station Rebuilds	Work required on stations to reduce integrity and operational risks

Q69. Please describe the Aenta to LaPorte Pressure Reduction project [Project ID TP13] included in Gas Plan 2.

A69. Project TP13 involves work to reduce the pressure of the existing Aetna to LaPorte 24" pipeline so that it operates at less than 20% of Specified Minimum Yield Strength ("SMYS"), and will therefore be reclassified as a high pressure distribution line. Reclassifying the line to a high pressure distribution main will not only increase operational flexibility, the lower pressure increases safety and reduces overall system risk associated with approximately 28 miles of main by reducing the likelihood of failure. Moreover, reducing the operational pressure also means that in the event of a leak the pipe would be more likely to leak rather than rupture. The project entails adding regulator stations, modifying or replacing existing regulator stations along the existing pipeline, replacing some sections of the pipeline that may be shallow, installing required pipeline ties, and performing verification and possible replacement of unknown pipe and fitting materials where they are encountered.

Q70. How was the estimate developed for the Aenta to LaPorte Pressure Reduction project [Project ID TP13]?

A70. The estimate for Project TP13 was developed by a collaboration of multiple internal stakeholders and PFES. A scope and risk matrix has been created utilizing information provided from internal engineers, a detailed site walk down, and an internal review of the impacted stations. PFES utilized this information and experience from projects similar in size and scope to develop an estimate for the project.

Q71. Please describe the Aetna to Tassinong Pressure Reduction project [Project ID TP14] included in Gas Plan 2.

A71. Much like Project TP13, Project TP14 involves work to reduce the pressure on roughly the northern two thirds of the existing Aetna to Tassinong 16" pipeline and the retirement of the southern third. This pressure reduction causes the pipeline to operate at less than 20% SMYS and will therefore be reclassified as a high pressure distribution line. As with Project TP13, reclassifying the line to a high pressure distribution main will not only increase operational flexibility, the lower pressure increases safety and reduces overall system risk associated with approximately 7 miles of main by reducing the likelihood of failure. Moreover, reducing the operational pressure also means that in the event of a leak the pipe would be more likely to leak rather than rupture. The project entails adding regulator stations, modifying or replacing existing regulator stations along the existing pipeline, replacing some sections of the pipeline that may be shallow, installing required pipeline ties, and performing verification and possible replacement of unknown pipe and fitting materials where they are encountered.

Q72. How was the estimate developed for the Aetna to Tassinong Pressure Reduction project [Project ID TP14]?

A72. The estimate for Project TP14 was developed by a collaboration of multiple internal stakeholders and PFES. A scope and risk matrix was created using information provided by internal engineers, a partial site walk down, an internal review of the impacted stations, and the preliminary plans for Project TP11 - 24" Aetna to Tassinong which included relevant information about the existing pipeline and stations involved in this project. PFES then utilized this information and experience from projects similar in size and scope to develop an estimate for the project.

Q73. Please describe the Colfax and Cline Station Rebuilds project [Project ID TP15] included in Gas Plan 2.

A73. Project TP15 involves the rebuilding of the Colfax and Cline stations and associated pipeline work in order to increase system reliability and facilitate the retirement of approximately 7.7 miles of existing pipeline involved with Project TP8 and the retirement of the Grant Street station. Overall system risk will be reduced through the retirement of the pipeline, which is composed of two sections of main that lack pressure test records and that contain girth welds that were not performed to the modern API 1104 workmanship acceptance criteria.

Q74. How was the estimate developed for the Colfax and Cline Station Rebuilds [Project ID TP15]?

A74. The estimate for TP15 was developed by a collaboration of multiple internal stakeholders and PFES. A scope and risk matrix was created utilizing information provided by internal engineers, a site walk down, and an internal review of the impacted stations. PFES firm then used this information to develop an estimate for the project based on experience from projects similar in size and scope.

__Shallow Pipe Replacement Projects__

Q75. Please describe the Shallow Pipe Replacement project [Project ID SP5] included in Gas Plan 2.

A75. Project SP5 included in Gas Plan 2 is the CR 225E Star City project that was also included in Gas Plan 1 that involves the replacement of approximately 3,000 feet of 16" pipeline to reduce risk by mitigating the risk of accidental excavation damage.

Q76. How was the estimate developed for the Shallow Pipe Replacement project [Project ID SP5]?

A76. The estimate for Project SP5 was developed internally using preliminary engineering designs and a site visit during Gas Plan 1. The project was carried over into Gas Plan 2 with no change in scope.

__Transmission Inspect and Mitigate Projects__

Q77. Please describe the Transmission Inspect and Mitigate projects included

in Gas Plan 2.

A77. Table 9 shows the Transmission Inspect and Mitigate projects included in Gas Plan 2.

Table 9 – Gas Plan 2 Transmission Inspect and Mitigate Projects

Project ID	Project Name
IM1	Company-Wide Gas Transmission Crossing Replacement
IM24	Corrosion Rectifiers Install/Replace
IM25	Corrosion Moisture Monitoring
IM26	Transmission Regulator Station Upgrades/Replacements
IM27	Engineering and Preconstruction - Inspect and Mitigate Transmission
IM33	Station Equipment Upgrades/Replacements
IM35	Transmission Communications Instrumentation Replacement
IM36	Highland Junction Station Replacement
IM37	Electronic Flow Corrector Replacement

Q78. Please describe the replacement of gas system assets identified for replacement through NIPSCO's inspection and assessment processes that are included in the 7-Year Gas Plan.

A78. NIPSCO's overall management of pipeline safety risk includes the use of periodic inspections of critical assets. These inspections routinely identify certain assets for remedial maintenance or replacement. Gas Plan 2 includes the replacement of assets identified through inspections and system assessments, to pose risk to pipeline safety and system reliability. The nature of the specific projects will vary depending upon the results of ongoing inspections and reviews, but these investments will include items such as replacement of aerial crossings and supports to mitigate the threats of third-party and outside force damage; replacement of regulator stations where ongoing maintenance is not feasible or effective; and replacement of other outdated or obsolete equipment.

Q79. Please describe the Company-Wide Gas Transmission Crossing Replacement project [Project ID IM1] included in Gas Plan 2.

A79. Project IM1 involves the replacement or rewrapping of existing gas transmission crossings. Replacement or rewrapping increases safety and reduces system risk in one of two ways. The replacement of an above ground crossing with an underground, directionally bored crossing significantly reduces risk of third-party, outside force damage, and corrosion threats. The rewrapping of a crossing mitigates a corrosion risk to the pipe. The decision to replace or rewrap typically comes down to the geographic circumstances in which the crossing exists, or the cost effectiveness in reducing risk. Although replacements are generally preferred as a more optimal solution, the cost savings of a $50,000 rewrap rather than a much more expensive replacement dictates that each crossing be evaluated carefully to determine whether the more expensive solution is required.

Q80. How was the estimate developed for the Company-Wide Gas Transmission Crossing Replacement project [Project ID IM1]?

A80. The estimates developed for Project IM1 are generally high level, site specific estimates that were primarily generated by PFES utilizing data from a variety of internal stakeholders and site visits. NIPSCO is providing an asset list for Project IM1, but in Gas Plan 2 specific crossings are identified along with site specific high level estimates for the year the work is currently scheduled to be completed.

Q81. Please describe the Corrosion Rectifiers Install / Replace project [Project ID IM24] included in Gas Plan 2.

A81. Project IM24 is utilized to replace 21 specifically identified existing rectifiers and ground beds that have failed or install new rectifiers and ground beds where inspections deem it necessary. The installation of these rectifiers and ground beds reduce the corrosion risk to a pipeline through the introduction of an electric current.

Q82. How was the estimate developed for the Corrosion Rectifiers Install / Replace project [Project ID IM24]?

A82. The estimate for Project IM24 was developed internally by NIPSCO's Corrosion department who is primarily responsible for this type of work and is based on performing similar work in the past consistent with the way estimates for similar projects were developed in Gas Plan 1.

Q83. Please describe the Corrosion Moisture Monitoring project [Project ID IM25] included in Gas Plan 2.

A83. Project IM25 involves the installation of monitors on six specifically identified existing regulator stations that, at a minimum, read H_2O (water), H_2S (hydrogen sulfide) and CO_2 (carbon dioxide) levels. The presence and level of these substances is an indicator of increased risk to the gas system for internal corrosion risks. This may include work to protect the sensitive monitoring equipment, modification of the regulator station in order to be compatible with the monitors, and excavation work to ensure proper installation of the probe.

Q84. How was the estimate developed for the Corrosion Moisture Monitoring project [Project ID IM25]?

A84. The estimate for Project IM25 was developed internally by NIPSCO's Corrosion department that is primarily responsible for this type of work, and is based on the cost of performing similar work in the past in Gas Plan 1. Work is currently planned to take place in 2024 and 2025 and NIPSCO expects to update the estimates from a unit cost basis to a site specific basis 18 to 24 months before construction takes place.

Q85. Please describe the Transmission Regulatory Station Upgrades / Replacements project [Project ID IM26] included in Gas Plan 2.

A85. Project IM26 involves either the upgrade or replacement of 9 specifically identified existing transmission regulator stations. Depending on the site, work for this project could include without limitation main and valve work, remote control valve installation and commissioning, metering, launcher/receiver installation, fitting buildings with electric service or backup power, installation of heaters, filters or odorizers, land or easement acquisition, security measures, grounding, instrument and control equipment and commissioning. This work is generally prioritized by NIPSCO Gas Operations to replace stations due to age and condition, the replacement of obsolete equipment, or to address operational issues that may exist at a station due to changes in the characteristics of the associated gas system over time such as flow conditions or overall system capacity.

Q86. How was the estimate developed for the Transmission Regulator Station Upgrades / Replacements project [Project ID IM26]?

A86. For Project IM26, the estimates for the subprojects planned for 2019 include four site specific project estimates developed by internal engineering and PFES, and one project estimate developed on a unit cost basis. The estimates for subprojects planned for 2020-2025 are currently based on a unit costs. The unit cost estimates are based on past experience with similar projects and is consistent with estimates provided in Gas Plan 1. NIPSCO expects the current unit cost based estimates to progress to a high level, site specific estimate in the first Gas Plan 2 update filing, and then to a detailed site specific estimate 18 to 24 months before construction takes place.

Q87. Please describe the Station Equipment Upgrades / Replacements project [Project ID IM33] included in Gas Plan 2.

A87. Project IM33 primarily increases system reliability by replacing equipment at seven specifically identified regulator stations in instances where a full station upgrade or replacement is not required. An example of this could be the replacement of a small heater or odorizer regulator at a station.

Q88. How was the estimate developed for the Station Equipment Upgrades / Replacements project [Project ID IM33]?

A88. The estimate for Project IM33 was developed internally by NIPSCO and is based on experience performing similar work in the past, and was prepared on a similar estimate basis as was used in support of projects in Gas Plan 1. NIPSCO expects the current unit cost based estimate to progress to a high level, site specific estimate in the first Gas Plan 2 update filing, and then to a detailed site specific estimate 18 to 24 months before construction takes place.

Q89. Please describe the Transmission Communications Instrumentation Replacement project [Project ID IM35] included in Gas Plan 2.

A89. Project IM35 is focused on increasing system reliability and knowledge by upgrading or replacing instrumentation at Company transmission stations, transmission supply interconnects, and large customer meter stations to make them consistent with industry and Company standards. The equipment to be upgraded or replaced may include remote terminal unit hardware/software, pressure/temperature transmitters, flow/pressure controllers, heater controls, the upgrade of telecommunications to current and appropriate technology to meet telemetering needs, upgrade station grounding to current standards, installation of backup power, and performance of electrical upgrades to meet current National Electrical Code requirements.

Q90. How was the estimate developed for the Transmission Communications Instrumentation Replacement project [Project ID IM35]?

A90. The estimate for IM35 was developed internally by NIPSCO's Instrumentation & Controls group that has primary responsibility for both maintaining the equipment described above and for completion of the described work, and is composed of high level, site specific estimates with a targeted year of installation for every subproject throughout the life of the plan.

Q91. Please describe the Highland Junction Station Replacement project [Project ID IM36] included in Gas Plan 2.

A91. Project IM36 will increase system reliability by rebuilding the existing Highland Junction regulator station. The Highland Junction station is one of the oldest and most critical stations in NIPSCO from a gas operational control perspective. It currently is the primary feed of gas to some of the largest customers within NIPSCO's territory.

Q92. How was the estimate developed for the Highland Junction Station Replacement project [Project ID IM36]?

A92. The estimate for Project IM36 was created based on input from internal stakeholders and PFES using the existing station design layout and information from other station rebuilds of similar scope.

Q93. Please describe the Electronic Flow Corrector Replacement project [Project ID IM37] included in Gas Plan 2.

A93. Project IM37 will be used to replace 1,009 specifically identified obsolete Electronic Flow Correctors ("EFCs") and associated tubing, hardware, grounding, and telemetering with current industry standard devices. The replacement of the EFCs and upgrade of the associated equipment will maintain the reliability of the field measurement system and are generally prioritized by either failure or the size of the customer potentially impacted.

Q94. How was the estimate developed for the Electronic Flow Corrector

Replacement project [Project ID IM37]?

A94. The estimate for Project IM37 was developed internally by NIPSCO's Instrumentation & Controls group, who have primary responsibility for maintaining the equipment and will be responsible for performing the work. The estimate is based on previous work of a similar nature and scope.

<u>**Kokomo Low Pressure System – Distribution**</u>

Q95. Please describe the Kokomo Low Pressure Replacement – Distribution project [Project ID K1] included in Gas Plan 2.

A95. The purpose of Project K1 is to begin the replacement of the last low pressure systems within NIPSCO with a medium pressure system. Older, low-pressure distribution systems such as that present in portions of NIPSCO's Kokomo facilities, often present operational issues. Low pressure systems were typical of older installations, and present the possibility of water infiltration in areas that may be prone to flooding and preclude the use of excess flow valves (EFV) and pressure regulation at the customer site. These latter two items are important safety layers of protection for customers in the event the gas system would be over-pressurized or if service lines were damaged. The use of outdated material such as wrought iron, and the use of large bore pipe to accommodate the needed flows at low pressure result in costly replacements when needed. The Kokomo system contains the last of the low pressure installations still in service at NIPSCO. NIPSCO will begin the replacement of this low pressure system in 2024 within Gas Plan 2, but does not plan to complete the replacement of the low pressure system within Gas Plan 2.

Q96. Why is the replacement of the Kokomo low pressure system important?

A96. The combination of older iron pipes with water infiltration increases the risk of system deterioration, and the absence of EFVs and customer site regulation increases the likelihood for uncontrolled release of gas in the event the system is compromised. Replacement with a medium pressure system incorporating modern EFVs, regulation and smaller bore plastic pipe will mitigate the risks associated with this old low pressure system.

Q97. How was the estimate developed for the Kokomo Low Pressure Replacement – Distribution project [Project ID K1]?

A97. To develop the estimate for Project K1, NIPSCO identified existing lines, routes, and customer locations from data in the GIS. NIPSCO Engineering and Gas Systems Planning developed a preliminary piping arrangement based on the existing system, with efforts to consolidate lines wherever possible. PFES used the preliminary lay-out to develop estimate quantities. PFES met with the Kokomo City Engineering Department to understand right of way and restoration requirements. NIPSCO Engineering worked with PFES to move proposed gas lines to off-street right of way locations wherever possible to minimize restoration cost. PFES and NIPSCO applied quantities and construction experience from the Gary Bare Steel and Balance of Company project (Project ID BSR11 in Gas Plan 1), which was composed of similar type of work and NIPSCO expects to manage the scope of work each year in a similar manner. PFES developed the final estimates based on unit rates provided by qualified contractors for gas distribution contracts NIPSCO maintains through a competitive bidding process. NIPSCO will follow the typical engineering and estimation process and plans on updating the estimate to one based on detailed engineering 18 to 24 months before construction takes place.

__**Bare Steel Replacement – Distribution**__

Q98. Please describe the Bare Steel – Gary and Balance of System Project [Project ID BSR11] included in Gas Plan 2.

A98. Bare steel pipelines typically have a higher relative integrity risk as compared to other types of distribution pipelines due to age and the lack of protective coating. Prior to 1971, when federal regulations mandated coating systems be installed on new pipelines, pipelines were often installed without a protective coating system, which makes segments more susceptible to the threat of external corrosion and makes monitoring and confirming the integrity of the system more difficult. Replacement programs related to bare steel pipe are common in the industry and are an effective way to reduce system risk and modernize the system. As shown below, the leak rates for the NIPSCO bare steel main in comparison to the system-wide distribution leak rates show that leak rates on bare steel are 67.4 times higher than those on plastic (Bare 2.94853 / Plastic 0.04374).

Pipeline Safety Compliance - Leak Rate Metric Report

Rolling Report for Past 365 Days

GAS TRANSMISSION & GATHERING SYSTEMS

Intrastate Pipelines/pipeline facilities in the State of INDIANA

Material	MAIN	SERVICE	Total Minus Exavation
Bare Steel	1.98305	6.54095	2.94853
Steel Treated/Coated	0.08269	0.40589	0.18917
Plastic	0.03776	0.12253	0.04374
OTHER	0.00000	0.00000	0.00000
Plastic Inserted Into Steel	0.00000	0.00000	0.00000
Overall - Total	**0.06603431**	**0.20582898**	**0.10501908**
Leak Rate Metric Report			
Mar 15, 2018			5:37:05 AM

Of the 17,511 miles of distribution class pipeline in the NIPSCO system, 32.85 miles are listed as bare steel. NIPSCO plans to replace these remaining miles of known bare steel pipe with modern plastic material during Gas Plan 2.

Q99. How was the estimate developed for the Bare Steel – Gary and Balance of System Project [Project ID BSR11]?

A99. The estimate for Project BSR11 is a continuation of the approved estimate for 2019 and 2020 within Gas Plan 1. 2021-2022 is a unit cost estimate based on the 2020 Gas Plan 1 estimate with a 3% escalator each year. NIPSCO expects to update these estimates as detailed engineering is completed for these out years.

<u>Master Meter System Upgrades – Distribution</u>

Q100. Please describe the Master Meter Upgrades project [Project ID MM2] included in Gas Plan 2.

A100. Project MM2 is to rebuild two systems previously owned and operated by master meter operators and to subsequently assume ownership of these systems. The two subprojects targeted for 2020 include a seminary in Fort Wayne, and a condominium community in South Bend. These types of small gas distribution systems are typically in poor condition. Subject to agreement by NIPSCO and the master meter system current owner, these systems will be rebuilt, owned, and operated by NIPSCO.

Q101. How was the estimate developed for the Master Meter Upgrades project [Project ID MM2]?

A101. The estimate for Project MM2 was developed internally using unit costs based on previously performed work of a similar nature. This is also the same unit costs approved in Gas Plan 1 for these projects. NIPSCO expects that these projects will proceed through the typical engineering process and site specific estimates will be provided in a future Gas Plan 2 update filing with a goal of 18 to 24 months before construction takes place.

<u>**Distribution Inspect and Mitigate Projects**</u>

Q102. Please describe the distribution Inspect and Mitigate projects included in Gas Plan 2.

A102. Table 10 shows the Distribution Inspect and Mitigate projects included in Gas Plan 2.

Table 10 – Gas Plan 2 Distribution Inspect and Mitigate Projects

Project ID	Project Name
DIM2	Engineering and Preconstruction - Inspect and Mitigate Distribution
DIM31	Company-Wide Gas Distribution Crossing Replacement
DIM46	Distribution Regulator Station Upgrades/Replacement

Q103. Please describe the Company-Wide Gas Distribution Crossing Replacement project [Project ID DIM31] included in Gas Plan 2.

A103. Project DIM31 involves the replacement or rewrapping of existing gas distribution crossings. The replacement or rewrapping of these crossings increases safety and reduces system risk through one of two ways. The elimination of a crossing significantly reducing its risk to third-party, outside force damage, and corrosion threats. The rewrapping of a crossing mitigates a corrosion risk to the pipe. The decision to replace or rewrap typically comes down to geographic circumstances in which the crossing exists, or the cost effectiveness in reducing risk. Although replacements are generally preferred, there are times when a $50,000 rewrap is a better decision compared to a replacement that could be exponentially more costly for the Company and ultimately NIPSCO's customers.

Q104. How was the estimate developed for the Company-Wide Gas Distribution Crossing Replacement project [Project ID DIM31]?

A104. The estimates developed for Project DIM31 for 2020 are site specific estimates based on completed engineering. The estimates for the rest of the plan are generally high level, site specific estimates that were primarily generated by PFES utilizing data from a variety of internal stakeholders and site visits. NIPSCO is providing an asset list for DIM31, but for Gas Plan 2 the asset list identifies specific crossings, with site specific estimates for each along with identification of the year the work is currently scheduled to be completed.

Q105. Please describe the Distribution Regulatory Station Upgrades / Replacement project [Project ID DIM46] included in Gas Plan 2.

A105. Project DIM46 involves the upgrade or replacement of two specifically identified existing distribution regulator stations. This work at individual sites could include work on the inlet and outlet pipe, valve work, or metering, building(s) with electric service, backup power, heater, filter, or odorizer replacement, land and easement acquisition, required security measures, site electrical grounding, or instrument and control equipment and commissioning. This work is generally prioritized by NIPSCO Gas

Operations to replace stations due to age and condition, replacement of obsolete equipment, or to address operational issues that may exist at a station due to changes in the gas system characteristics over time such as changes in flow conditions or overall system capacity.

Q106. How was the estimate developed for the Distribution Regulatory Station Upgrades / Replacement project [Project ID DIM46]?

A106. The estimates for the Project DIM46 subprojects currently planned for 2024 and 2025 are unit cost estimates based on past experience with similar projects, and was prepared on the same basis as the estimates provided in Gas Plan 1. A unit cost basis was chosen for these projects because they are distant in time because of the likelihood that costs may fluctuate widely before construction. NIPSCO expects the current unit cost based estimate to progress to a high level, site specific estimate in the first Gas Plan 2 update filing, and then to a detailed site specific estimate 18 to 24 months before construction takes place.

<u>**Storage Projects**</u>

Q107. Please describe the Storage projects included in Gas Plan 2.

A107. NIPSCO's Storage projects fall into three categories (1) Engineering and Preconstruction, (2) NIPSCO's Liquefied Natural Gas ("LNG") Facility, and (3) NIPSCO's Royal Center Underground Storage ("RCUGS") facility.

Q108. Please describe the Storage projects at NIPSCO's LNG Facility included in Gas Plan 2.

A108. Table 11 shows the Storage projects at NIPSCO's LNG Facility included in Gas Plan 2.

Table 11 – Gas Plan 2 Storage Projects at NIPSCO's LNG Facility

Project ID	Project Name
SLNG1	LNG - Replace Plant Process Safety Valves
SLNG3	LNG - Replace MyCom Boil-Off Compressor Coolers
SLNG5	LNG - Install Travel Limit Switches on Purification System Valves
SLNG6	LNG - Replace Air Actuated Control Valves
SLNG7	LNG - Replace Unit #2 Purification Sys. Regen. Gas Heater
SLNG8	LNG - Replace Unit #2 Vaporizer Control Panel
SLNG10	LNG - Replace Unit #2 Tank Foundation Heating System
SLNG11	LNG - Replace Unit #2 Vaporizer Control Panels
SLNG12	LNG - Unit #1 Upgrade PLC Vaporizer Controls
SLNG14	LNG - Replace C-411 4kV Mtr. Starter; Install Electronic Controls
SLNG15	LNG - New Building Heaters for Unit #2 Compressor Building

Project ID	Project Name
SLNG16	LNG - Replace Cardox Fire Protection System
SLNG17	LNG - Replace Det-tronics Fire & Gas Detection System
SLNG18	LNG - Replace E102 B/O Gas Heater (Unit 1 C102A/B)
SLNG19	LNG - Replace E103 B/O Gas Intercooler (Unit 1 C102A/B)
SLNG20	LNG - Water Mist Fire Protection System for Purification Building
SLNG21	LNG - Replace Unit #1 IR Boil-Off Compressors
SLNG23	LNG - Replace Sullair Boil-Off Compressor

The LNG storage projects include a variety of projects that replace or upgrade equipment to increase safety, reliability, and improve operations at NIPSCO's LNG facility. The equipment to be upgraded or replaced is typically replaced due to existing age and condition and the inability to secure replacement parts due to obsolescence or unavailability.

Q109. How were the cost estimates developed for the LNG storage projects?

A109. For equipment replacements within the LNG facility, PFES reviewed existing drawings, consulted local subject matter experts, worked with the local subject matter experts to document the project scope, then performed a detailed bottom-up estimate for each project. PFES and the local subject matter expert reviewed the proposed project with potential equipment suppliers and a construction contractor with experience in prior projects at the LNG plant to validate and refine estimates.

Q110. Please describe the Storage projects at NIPSCO's RCUGS Facility included in Gas Plan 2.

A110. Table 12 shows the Storage Projects at NIPSCO's RCUGS facility included in Gas Plan 2. These projects generally fall into one of two categories (1) Field Valve Projects and (2) Plant Equipment Projects.

Table 12 – Gas Plan 2 Storage Projects at RCUGS

Project ID	Project Name	Field Valve or Equipment Project
SRC2	RCUGS - S-11-T Meter Run	Field Valve
SRC3	RCUGS – S-19-T Meter Run	Field Valve
SRC4	RCUGS - Dehydration Building MCC	Equipment
SRC6	RCUGS - Replace Withdrawal Flow Control Valve	Equipment
SRC7	RCUGS - S-15-T Meter Run	Field Valve
SRC8	RCUGS - Dehydrator #4 Reboiler	Equipment
SRC11	RCUGS - Replace Injection Flow Control Valve	Equipment
SRC12	RCUGS - Valve FV-3	Field Valve
SRC13	RCUGS - Valve V-239	Field Valve
SRC14	RCUGS - Replace Compr. Building Power Feed 480V Panels	Equipment
SRC15	RCUGS - Replace Compressor Loading System TLA #3 & #4	Equipment

Project ID	Project Name	Field Valve or Equipment Project
SRC16	RCUGS - Replace Dehyrator #3 Contact Tower	Equipment
SRC17	RCUGS - Replace Dehydrator #3 Reboiler with Process Panel	Equipment
SRC20	RCUGS - Valve V-234	Field Valve
SRC21	RCUGS - Valve V-240	Field Valve
SRC22	RCUGS - Replace Dehydrator #4 Contact Tower	Equipment
SRC23	RCUGS - TLA #3 & #4 Oil Heater	Equipment
SRC24	RCUGS - Replace Drip 19	Equipment
SRC25	RCUGS - Valve V-121	Field Valve
SRC26	RCUGS – Valve V-131	Field Valve
SRC27	RCUGS - Replace Dehydrator #5 Absorber Tower	Equipment
SRC28	RCUGS - Replace Desulf #1 Absorber Towers	Equipment
SRC29	RCUGS - S-22-T Master and Meter	Field Valve
SRC30	RCUGS - S-67-T Master and Meter	Field Valve
SRC31	RCUGS - S-214 Isolation Valve	Field Valve
SRC32	RCUGS - Isolation Valve V-232	Field Valve
SRC33	RCUGS - New Building Heaters for Compressor Building	Equipment
SRC34	RCUGS - Replace Desulf #1 Regeneration System	Equipment
SRC35	RCUGS - S-66-T Master and Meter	Field Valve
SRC36	RCUGS - S-77-T Master and Meter	Field Valve
SRC37	RCUGS – Replace Desulf #2 Absorber Towers	Equipment
SRC38	RCUGS – Mt. Simon WD-156 Well Conversion	Equipment
SRC39	RCUGS – RCUGS – S-15-T Field Meter Run	Field Valve
SRC40	RCUGS – S-19-T Master	Field Valve
SRC41	RCUGS – S-31-T Master	Field Valve

Project ID	Project Name	Field Valve or Equipment Project
SRC42	RCUGS – S-138-T Master	Field Valve

The field valve projects at RCUGS are to increase safety, and reliability though the replacement of critical natural gas storage field valves that have become less effective due to corrosion or worn seals and parts that reduce their efficiency and adversely impact the ability to isolate the wells.

The equipment projects at RCUGS are to replace or upgrade mechanical and engineering equipment to increase safety, reliability, and improve operations at NIPSCO's RCUGS facility. The equipment to be upgraded or replaced is typically replaced due to existing age and condition and the inability to secure replacement parts due to obsolescence or unavailability.

Q111. How were the cost estimates developed for the RCUGS Field Valve projects?

A111. For the field valve projects, NIPSCO has data for prior valve replacement costs. PFES updated the cost to reflect the specific valves to be replaced, considering the size of the individual valves, the location within the gas storage fields, and the site conditions that could impact construction. PFES also evaluated material and equipment costs from several potential suppliers.

Q112. How were the cost estimates developed for the RCUGS Equipment projects?

A112. For the equipment projects , PFES reviewed existing drawings, consulted local subject matter experts, worked with the local subject matter experts to document the project scope, then performed a detailed bottom-up estimate for each project. PFES and the local subject matter expert reviewed the proposed project with potential equipment suppliers and a construction contractor with experience in prior projects at RCUGS to validate and refine estimates.

X. <u>RURAL GAS EXTENSION INVESTMENTS</u>

Q113. Please describe the investments included in Gas Plan 2 to extend gas into rural areas.

A113. Gas Plan 2 includes approximately $150.8 Million (direct dollars) over seven years for the extension of natural gas service into currently unserved areas.[7] The estimate for 2019 and 2020 is consistent with the forecasted amount from Gas Plan 1 and was determined from an analysis

[7] Includes $16.6 million of rural gas extensions included in Gas Plan 1 for 2018 that were not in service as of February 1, 2018 and incorporated into Gas Plan 2.

of historical rural customer demand, considering the economics of utilizing a 20 year margin test for project viability. *See* 44403 TDSIC-8, Confidential Attachment 3-B. The estimates for 2021-2025 are based on the forecast for 2020 with a 3% escalator for inflation each year. NIPSCO plans to update the forecast once each year consistent with Gas Plan 1. The dollars forecasted in the Plan are the costs associated with designing and installing gas main and service projects to reach rural areas that are currently relying predominantly upon higher cost propane for heat.

Q114. How does NIPSCO intend to administer the rural gas extension process?

A114. The extension of NIPSCO's system must be undertaken thoughtfully and take into consideration both short term and longer term operational considerations. For that reason, NIPSCO has developed an internal process to ensure that rural extensions are approached with an eye to both the needs of potential new customers and the logical operational needs of the system. Projects will be prioritized based on cost effectiveness and number of potential customers to be connected and will be built as soon as possible within the approved budget period taking into account weather and seasonal constraints.

For example, if NIPSCO's Gas System Planning group recommends the installation of pipeline of greater capacity than what would be necessary to serve the specific customers requesting service to make sure that future growth can be supported, the larger pipe size will be installed. It is more cost effective to install a larger distribution main during the initial installation than it would be to install the minimum size and return later and upsize the pipe to accommodate future growth. With that said, if NIPSCO elects to upsize the pipe in anticipation of future growth, individual customers will be evaluated based on a minimum cost to serve their location. NIPSCO intends to analyze customer requests as they are received while accounting for future growth and system reliability to create cost effective projects, as specified in the TDSIC Statute.

Q115. Is that consistent with the way NIPSCO approaches the design and execution of other, non-TDSIC extension projects?

A115. Yes. Extensions into new areas are generally sized with anticipation of future growth. To do otherwise would be short-sighted and inefficient.

Q116. How was the estimate developed for the Rural Extensions Project [Project ID RE1]?

A116. The estimate for Project RE1 was based on NIPSCO's analysis of historical customer interest in natural gas extensions that would have passed the 20 year margin test authorized under the TDSIC Statute. If customer interest driven projects within a given calendar year exceed the ability to complete projects in that year for rural extensions, the least advantageous projects will be deferred to the following calendar year for re-evaluation when possible.

Q117. Why is it important to bundle service requests into projects?

A117. It is imperative that extensions be undertaken with an eye toward system planning and operational stability. Those considerations generally indicate that "one-off" extensions for individual customers or isolated areas be incorporated into bigger planned projects to ensure efficiency from both an operational and a construction perspective. Installing services at the same time as the extension allows for additional efficiencies to be leveraged and is fiscally responsible while maximizing customer value.

Q118. How will rural extensions be treated when Gas Plan 2 is updated?

A118. Consistent with the practice in Gas Plan 1, unit costs associated with rural extensions will be updated once per year along with the assumptions underlying the forecasted connection rate.

XI. PLAN RISKS

Q119. Are there any substantial risks that could impact the accuracy of the estimates or execution of projects included in Gas Plan 2?

A119. Yes. There has been considerable speculation in the utility and pipeline industries relative to the potential cost impacts of steel tariffs which will include pipeline materials recently announced through a Presidential Proclamation related to section 232 of the Trade Expansion Act of 1962, as amended (19 U.S.C. 1862). NIPSCO expects to address specific impacts of the tariffs, positive or negative, in future Gas Plan 2 tracker filings.

There is also an industry wide concern that proposed PHMSA regulations will drive an unprecedented increase in the demand for pipeline construction, beyond the current capabilities of engineering, material, equipment, and construction providers. While NIPSCO views both of these as credible risks, there is no way to assess the potential impacts with any level of certainty, and therefore NIPSCO has not added any costs to the Gas Plan 2 related to these risks.

Q120. Has NIPSCO included any costs to account for potential increases in the Gas Plan 2?

A120. The estimates included in Gas Plan 2 were completed in 2017 and early 2018, and reflect costs as of that time. An adjustment for normal inflation as it relates to pipeline construction was applied to the year the projects are included in the Plan. In most cases, a 3% per year allowance for inflation was included in the cost estimates. There is no allowance in the Plan for extraordinary cost increases.

Q121. Has NIPSCO taken any steps to mitigate the potential risks?

A121. Yes. NIPSCO has initiated discussions between its Supply Chain Department and the Company's primary pipeline material supplier to explore opportunities to structure bidding around the scope of the Gas Plan 2 as opposed to around the individual projects in an effort to leverage the scope of the work to achieve both favorable pricing and long term delivery commitments by reserving slots in suppliers' manufacturing schedules. NIPSCO has also had very preliminary discussions with its Supply Chain Department and qualified construction contractors relative to pricing and performance commitments tied to longer term multi-project bids.

Q122. Please describe any particular risks or concerns with respect to the execution of Gas Plan 2.

A122. While any plan has a degree of execution risk, steps have been taken and plans have been put in place to address risk. Effective project management processes and skills are important for efficient Plan execution. NIPSCO will continue to utilize the Major Projects team at NIPSCO that managed Gas Plan 1.

There are other risks that NIPSCO can and will take steps to mitigate, but which are largely outside of its direct control. Lead times for items such as valves have been steadily trending longer and are necessitating the need to engineer and order material for projects even earlier in the plan compared to Gas Plan 1. NIPSCO has also generally experienced longer times needed to acquire land, easements, and railroad permits. Although NIPSCO is starting these processes earlier before a project is executed, the lead times can be unpredictable.

XII. ELIGIBLE IMPROVEMENTS

Q123. Are all of the projects included in NIPSCO's proposed Gas Plan 2 undertaken for purposes of safety, reliability, system modernization, or economic development, including the extension of gas service to rural

areas?

A123. Yes.

Q124. Are any of the projects included in Gas Plan 2 included in NIPSCO's current base rates or base rates proposed in its currently pending gas rate case?

A124. No. Any project that goes in service by December 31, 2018 would at that time be included in base rates proposed in NIPSCO's currently pending gas rate case.

Q125. Does Gas Plan 2 provide the best estimate of the cost of the eligible improvements?

A125. Yes. The cost estimates provided in Gas Plan 2 represent NIPSCO's best estimate of the cost of the eligible transmission, distribution, and storage system improvements. PFES performed detailed cost estimates for all projects that are not typically performed by NIPSCO, including all large transmission pipe segment replacements and storage projects. Due to the level of detail and independent nature of these estimates, NIPSCO did not develop an internal cost estimate for these projects.

For those projects that NIPSCO performs on a more routine basis, the estimates include a combination of estimates prepared by NIPSCO and PFES. For the reasons set forth above, NIPSCO believes the estimates of the costs of the eligible transmission, distribution, and storage system improvements included in its proposed Gas Plan 2 are best estimates.

Q126. Does the public convenience and necessity require or will require the eligible improvements included in Gas Plan 2?

A126. Yes. The eligible improvements included in Gas Plan 2 are required or will be required to maintain the safety, integrity and reliability of NIPSCO's transmission, distribution and storage systems consistent with the public convenience and necessity. Rural extensions have been determined by the General Assembly to be in the public interest as reflected in the statutory advantages the TDSIC Statute provides for them in comparison to other extension projects.

Q127. Are the estimated costs of the eligible transmission, distribution, and storage system improvements included in Gas Plan 2 justified by incremental benefits attributable to the Plan?

A127. Yes. Gas Plan 2 provides incremental benefit for NIPSCO's customers by significantly decreasing the potential risk associated with older or less than optimal facilities, by investing in upgrades to the deliverability on the system to ensure continued and improved system reliability, and by extending the benefit of natural gas service to rural areas that are currently without that option.

XIII. CONCLUSION

Q128. Does this conclude your prepared direct testimony?

A128. Yes.

VERIFICATION

I, Donald L. Bull, Director of Gas TDSIC Projects of NiSource Corporate Services Company, affirm under penalties of perjury that the foregoing representations are true and correct to the best of my knowledge, information and belief.

Donald L. Bull

Donald L. Bull

Date: April 2, 2018

NORTHERN INDIANA PUBLIC SERVICE COMPANY
7-YEAR GAS PLAN BY PROJECT CATEGORY

	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)
Line No.	**Project Category**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**7-Year Total**
	Direct Capital								
	Transmission Project Category								
1	Transmission Pipeline Replacement	[redacted]							
2	Prepare Lines for In-Line Inspection - Transmission								
3	Shallow Pipe Replacement - Transmission								
4	Inspect & Mitigate - Transmission								
5	System Deliverability - Transmission								
6	Total Transmission	$251,291,475	$73,205,470	$85,677,198	$96,766,922	$97,103,564	$81,776,856	$67,558,029	$753,379,514
	Distribution Project Category								
7	Kokomo Low Pressure System - Distribution	[redacted]							
8	Bare Steel Replacement - Distribution								
9	System Deliverability - Distribution								
10	Master Meter System Upgrades - Distribution								
11	Inspect & Mitigate - Distribution								
12	Rural Extensions - Distribution								
13	Total Distribution	$59,056,077	$38,348,076	$29,150,626	$30,525,145	$25,708,407	$35,653,177	$41,588,932	$260,030,440
	Storage Project Category								
14	Storage Projects	$9,003,654	$1,297,582	$3,025,421	$4,404,999	$6,493,523	$12,105,375	$7,836,240	$44,166,794
15	Total Storage	$9,003,654	$1,297,582	$3,025,421	$4,404,999	$6,493,523	$12,105,375	$7,836,240	$44,166,794
16	**Total Direct Capital**	**$319,351,206**	**$112,851,128**	**$117,853,245**	**$131,697,066**	**$129,305,494**	**$129,535,408**	**$116,983,201**	**$1,057,576,748**
17	**Indirect Capital - Other**	**$51,629,510**	**$16,937,829**	**$17,677,986**	**$19,754,561**	**$19,395,824**	**$19,430,312**	**$17,547,479**	**$162,373,501**
18	**AFUDC**	**$9,330,169**	**$3,893,669**	**$4,065,936**	**$4,543,548**	**$4,461,041**	**$4,468,976**	**$4,035,920**	**$34,799,259**
19	**Total Capital**	**$380,310,885**	**$133,682,626**	**$139,597,167**	**$155,995,175**	**$153,162,359**	**$153,434,696**	**$138,566,600**	**$1,254,749,508**

NORTHERN INDIANA PUBLIC SERVICE COMPANY
7-YEAR GAS PLAN BY FERC ACCOUNT

	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)
Line No.	**Gas FERC Account**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**7-Year Total**
	Direct Capital								
	Transmission								
1	367 Mains - Transmission	$232,874,807	$69,757,659	$82,978,708	$92,672,296	$88,785,564	$56,812,919	$55,288,751	$679,170,704
2	369 Meas. & Reg Station Equipment - Transmission	$17,559,784	$2,536,768	$1,647,775	$2,960,888	$7,196,009	$24,617,120	$11,567,114	$68,085,458
3	370 Communication Equipment - Transmission	$662,996	$690,781	$823,845	$900,062	$881,305	$98,910	$446,820	$4,504,719
4	Total Transmission	$251,097,587	$72,985,208	$85,450,328	$96,533,246	$96,862,878	$81,528,949	$67,302,685	$751,760,881
	Distribution								
5	376 Mains - Distribution	$36,278,370	$26,991,149	$17,655,175	$18,484,831	$17,609,923	$21,324,735	$26,830,639	$165,174,822
6	378 Meas. & Reg Station Equipment - Distribution	$1,203,266	$220,262	$226,870	$233,676	$240,686	$1,976,777	$2,036,080	$6,137,617
7	380 Services - Distribution	$16,632,552	$8,517,695	$8,621,588	$9,030,235	$6,073,863	$9,449,679	$9,733,168	$68,058,780
8	383 House Regulators - Distribution	$5,135,777	$2,839,232	$2,873,863	$3,010,079	$2,024,621	$3,149,893	$3,244,389	$22,277,854
9	Total Distribution	$59,249,965	$38,568,338	$29,377,496	$30,758,821	$25,949,093	$35,901,084	$41,844,276	$261,649,073
	Storage								
10	353 Lines - Storage	$323,000	$0	$223,976	$862,501	$247,168	$570,662	$319,226	$2,546,533
11	354 Compressor Station Equipment - Storage	$4,805,374	$1,158,133	$2,465,839	$2,192,513	$5,720,566	$7,749,824	$4,737,720	$28,829,969
12	356 Purification Equipment - Storage	$274,104	$70,765	$170,307	$392,100	$266,819	$118,246	$0	$1,292,341
13	361 Structures and Improvement - Storage	$266,041	$68,684	$165,299	$380,567	$258,970	$114,768	$0	$1,254,329
14	363 Equipment - Storage	$3,335,135	$0	$0	$577,318	$0	$3,551,875	$2,779,294	$10,243,622
15	Total Storage	$9,003,654	$1,297,582	$3,025,421	$4,404,999	$6,493,523	$12,105,375	$7,836,240	$44,166,794
16	**Total Direct Capital**	**$319,351,206**	**$112,851,128**	**$117,853,245**	**$131,697,066**	**$129,305,494**	**$129,535,408**	**$116,983,201**	**$1,057,576,748**
17	**Indirect Capital - Other**	**$51,629,510**	**$16,937,829**	**$17,677,986**	**$19,754,561**	**$19,395,824**	**$19,430,312**	**$17,547,479**	**$162,373,501**
18	**AFUDC**	**$9,330,169**	**$3,893,669**	**$4,065,936**	**$4,543,548**	**$4,461,041**	**$4,468,976**	**$4,035,920**	**$34,799,259**
19	**Total Capital**	**$380,310,885**	**$133,682,626**	**$139,597,167**	**$155,995,175**	**$153,162,359**	**$153,434,696**	**$138,566,600**	**$1,254,749,508**

NORTHERN INDIANA PUBLIC SERVICE COMPANY
GAS 2019 PROJECT DETAIL - DIRECT CAPITAL DOLLARS ONLY

Line No.	Project ID	Project Category	Project Driver	Project Title	(A) Plan Project Cost (direct dollars)	(B) No Of Units
		TRANSMISSION SYSTEM INVESTMENTS			[redacted]	
		Transmission Pipeline Replacement				
1	TP2		Safety & Reliability	22" From Aetna to US 35 - LaPorte - 1.0 Plan		
2	TP7		Safety & Reliability	10"-12" Hessen Cassel to Hanna St		
3	TP8		Safety & Reliability	36/22 Highland Junction to Grant St.		
4	TP11		Safety & Reliability	24" Aetna to Tassinong		
5	TP12		Safety & Reliability	Aetna to 483# Industrial Loop		
6				**Total Transmission Pipeline Replacement**		
		Prepare Lines for In-Line Inspection - Transmission				
7	ILI6		Safety & Reliability	ILI System Modification 30" Tassinong to LaPorte - 1.0 Plan		
8				**Total Prepare Lines for In-Line Inspection - Transmission**		
		Shallow Pipe Replacement - Transmission				
9	SP5		Safety & Reliability	Shallow Pipe Replacement		
10				**Total Shallow Pipe Replacement - Transmission**		
		Inspect & Mitigate - Transmission				
11	IM1		Safety & Reliability	Company-Wide Gas Transmission Crossing Replacement		1
12	IM6		Safety & Reliability	GSO RTU Upgrade - Age & Condition - 1.0 Plan		
13	IM7		Safety & Reliability	GSO RTU Communications Upgrade - Age & Condition - 1.0 Plan		
14	IM8		Safety & Reliability	Mitigation Required from Field Inspections Transmission - 1.0 Plan		
15	IM20		Safety & Reliability	Odorant System Replacement - 1.0 Plan		
16	IM24		Safety & Reliability	Corrosion Rectifiers Install/Replace		3
17	IM25		Safety & Reliability	Corrosion Moisture Monitoring		
18	IM26		Safety & Reliability	Transmission Regulator Station Upgrades/Replacements		5
19	IM27		Safety & Reliability	Engineering and Preconstruction - Inspect and Mitigate Transmission		
20	IM33		Safety & Reliability	Station Equipment Upgrades/Replacements		1
21	IM35		Safety & Reliability	Transmission Communications Instrumentation Replacement		12
22				**Total Inspect & Mitigate - Transmission**		
		System Deliverability - Transmission				
23	SD10		Safety & Reliability	GSIT - Wheatfield Inlet System Improvement - 1.0 Plan		
24	SD12		Safety & Reliability	GSIT ANR Orland to Crooked Lake System Improvement - 1.0 Plan		
25				**Total System Deliverability - Transmission**		
26		**Total Transmission Investment**			**$251,291,475**	

NORTHERN INDIANA PUBLIC SERVICE COMPANY
GAS 2019 PROJECT DETAIL - DIRECT CAPITAL DOLLARS ONLY

Line No.	Project ID	Project Category	Project Driver	Project Title	(A) Plan Project Cost (direct dollars)	(B) No Of Units
		DISTRIBUTION SYSTEM INVESTMENTS			[redacted]	
		Bare Steel Replacement - Distribution			[redacted]	
27	BSR11		Safety & Reliability	Bare Steel - Gary and Balance of System Project	[redacted]	66,688 ft.
28				**Total Bare Steel Replacement - Distribution**	[redacted]	
		System Deliverability - Distribution			[redacted]	
29	DSD10		Safety & Reliability	System Deliverability Projects - Distribution	[redacted]	1
30	DSD11		Safety & Reliability	Engineering and Preconstruction - System Deliverability Distribution	[redacted]	
31				**Total System Deliverability - Distribution**	[redacted]	
		Master Meter System Upgrades - Distribution			[redacted]	
32	MM2		Safety & Reliability	Master Meter Upgrades	[redacted]	
33				**Total Master Meter System Upgrades - Distribution**	[redacted]	
		Inspect & Mitigate - Distribution			[redacted]	
34	DIM1		Safety & Reliability	Corrosion - Company Wide Gas Isolated Service Replacement - 1.0 Plan	[redacted]	
35	DIM2		Safety & Reliability	Engineering and Preconstruction - Inspect and Mitigate Distribution	[redacted]	
36	DIM4		Safety & Reliability	DIMP Install Emergency Valves - Company-Wide - 1.0 Plan	[redacted]	
37	DIM15		Safety & Reliability	Buried Regulator Station or Single Regulator Multi-customer - 1.0 Plan	[redacted]	
38	DIM31		Safety & Reliability	Company-Wide Gas Distribution Crossing Replacement	[redacted]	
39	DIM36		Safety & Reliability	Integrity Management - Corrosion Casing Replacement/Removal - 1.0 Plan	[redacted]	
40	DIM37		Safety & Reliability	Mitigation Required from Field Inspections Distribution - 1.0 Plan	[redacted]	
41	DIM46		Safety & Reliability	Distribution Regulator Station Upgrades/Replacement	[redacted]	
42				**Total Inspect & Mitigate - Distribution**	[redacted]	
		Rural Extensions - Distribution			[redacted]	
43	RE1		Safety & Reliability	Rural Extensions	[redacted]	
44				**Total Rural Extensions - Distribution**	[redacted]	
45		**Total Distribution Investment**			**$59,056,077**	

NORTHERN INDIANA PUBLIC SERVICE COMPANY
GAS 2019 PROJECT DETAIL - DIRECT CAPITAL DOLLARS ONLY

Line No.	Project ID	Project Category	Project Driver	Project Title	(A) Plan Project Cost (direct dollars)	(B) No Of Units
		STORAGE SYSTEM INVESTMENTS			[redacted]	
		Storage Projects				
46	S15		Safety & Reliability	RCUGS - Trenton Field Isolation Valves - 1.0 Plan		
47	S35		Safety & Reliability	LNG - Mechanical / Electrical System Upgrade		
48	S36		Safety & Reliability	LNG - Compressor / Vaporizer Upgrade		
49	S37		Safety & Reliability	RCUGS - Mechanical / Electrical System Upgrade		
50	S41		Safety & Reliability	Engineering and Preconstruction - Storage		
51	SLNG1		Safety & Reliability	LNG - Replace Plant Process Safety Valves		
52	SLNG3		Safety & Reliability	LNG - Replace MyCom Boil-Off Compressor Coolers		
53	SLNG6		Safety & Reliability	LNG - Replace Air Actuated Control Valves		
54	SLNG12		Safety & Reliability	LNG - Unit #1 Upgrade PLC Vaporizer Controls		
55	SRC2		Safety & Reliability	RCUGS - S-11-T Meter Run		
56	SRC3		Safety & Reliability	RCUGS - S-19-T Well Meter Run		
57	SRC4		Safety & Reliability	RCUGS - Dehydration Building MCC		
58	SRC6		Safety & Reliability	RCUGS - Replace Withdrawal Flow Control Valve		
59	SRC7		Safety & Reliability	RCUGS - S-15-T Well Meter Run		
60	SRC15		Safety & Reliability	RCUGS - Replace Compressor Loading System TLA #3 & #4		
61	SRC38		Safety & Reliability	RCUGS - Mt. Simon WD-156 Well Conversion		
62	SRC42		Safety & Reliability	RCUGS - S-138-T Master		
63				**Total Storage Projects**		
64		**Total Storage Investment**			**$9,003,654**	
65		**Total Direct Capital Investment**			**$319,351,206**	

NORTHERN INDIANA PUBLIC SERVICE COMPANY
GAS 2020 PROJECT DETAIL - DIRECT CAPITAL DOLLARS ONLY

Line No.	Project ID	Project Category	Project Driver	Project Title	(A) Plan Project Cost (direct dollars)	(B) No Of Units
		TRANSMISSION SYSTEM INVESTMENTS			[redacted]	
		Transmission Pipeline Replacement				
1	TP11		Safety & Reliability	24" Aetna to Tassinong		
2	TP12		Safety & Reliability	Aetna to 483# Industrial Loop		
3				**Total Transmission Pipeline Replacement**		
		Inspect & Mitigate - Transmission				
4	IM24		Safety & Reliability	Corrosion Rectifiers Install/Replace		3
5	IM26		Safety & Reliability	Transmission Regulator Station Upgrades/Replacements		1
6	IM27		Safety & Reliability	Engineering and Preconstruction - Inspect and Mitigate Transmission		
7	IM33		Safety & Reliability	Station Equipment Upgrades/Replacements		1
8	IM35		Safety & Reliability	Transmission Communications Instrumentation Replacement		11
9	IM37		Safety & Reliability	Electronic Flow Corrector Replacement		168
10				**Total Inspect & Mitigate - Transmission**		
11		**Total Transmission Investment**			**$73,205,470**	

NORTHERN INDIANA PUBLIC SERVICE COMPANY
GAS 2020 PROJECT DETAIL - DIRECT CAPITAL DOLLARS ONLY

Line No.	Project ID	Project Category	Project Driver	Project Title	(A) Plan Project Cost (direct dollars)	(B) No Of Units
		DISTRIBUTION SYSTEM INVESTMENTS				
		Bare Steel Replacement - Distribution			[redacted]	
12	BSR11		Safety & Reliability	Bare Steel - Gary and Balance of System Project		65,213 ft.
13				**Total Bare Steel Replacement - Distribution**		
		System Deliverability - Distribution				
14	DSD10		Safety & Reliability	System Deliverability Projects - Distribution		1
15	DSD13		Safety & Reliability	Shipshewana Distribution Headers		
16				**Total System Deliverability - Distribution**		
		Master Meter System Upgrades - Distribution				
17	MM2		Safety & Reliability	Master Meter Upgrades		2
18				**Total Master Meter System Upgrades - Distribution**		
		Inspect & Mitigate - Distribution				
19	DIM2		Safety & Reliability	Engineering and Preconstruction - Inspect and Mitigate Distribution		
20	DIM31		Safety & Reliability	Company-Wide Gas Distribution Crossing Replacement		11
21				**Total Inspect & Mitigate - Distribution**		
		Rural Extensions - Distribution				
22	RE1		Safety & Reliability	Rural Extensions		
23				**Total Rural Extensions - Distribution**		
24		**Total Distribution Investment**			**$38,348,076**	

NORTHERN INDIANA PUBLIC SERVICE COMPANY
GAS 2020 PROJECT DETAIL - DIRECT CAPITAL DOLLARS ONLY

Line No.	Project ID	Project Category	Project Driver	Project Title	(A) Plan Project Cost (direct dollars)	(B) No Of Units
		STORAGE SYSTEM INVESTMENTS			[redacted]	
		Storage Projects				
25	S41		Safety & Reliability	Engineering and Preconstruction - Storage		
26	SLNG5		Safety & Reliability	LNG - Install Travel Limit Switches on Purification System Valves		
27	SRC8		Safety & Reliability	RCUGS - Dehydrator #4 Reboiler		
28	SRC11		Safety & Reliability	RCUGS - Replace Injection Flow Control Valve		
29	SRC39		Safety & Reliability	RCUGS - S-15-T Field Meter Run		
30	SRC40		Safety & Reliability	RCUGS - S-19-T Master		
31	SRC41		Safety & Reliability	RCUGS - S-31-T Master		
32				**Total Storage Projects**		
33		**Total Storage Investment**			**$1,297,582**	
34		**Total Direct Capital Investment**			**$112,851,128**	

NORTHERN INDIANA PUBLIC SERVICE COMPANY
GAS 2021 PROJECT DETAIL - DIRECT CAPITAL DOLLARS ONLY

Line No.	Project ID	Project Category	Project Driver	Project Title	(A) Plan Project Cost (direct dollars)	(B) No Of Units
		TRANSMISSION SYSTEM INVESTMENTS				
		Transmission Pipeline Replacement			[redacted]	
1	TP11		Safety & Reliability	24" Aetna to Tassinong	[redacted]	
2	TP12		Safety & Reliability	Aetna to 483# Industrial Loop	[redacted]	
3	TP13		Safety & Reliability	Aenta to LaPorte Pressure Reduction	[redacted]	
4	TP14		Safety & Reliability	Aetna to Tassinong Pressure Reduction	[redacted]	
5				**Total Transmission Pipeline Replacement**	[redacted]	
		Inspect & Mitigate - Transmission			[redacted]	
6	IM24		Safety & Reliability	Corrosion Rectifiers Install/Replace	[redacted]	3
7	IM27		Safety & Reliability	Engineering and Preconstruction - Inspect and Mitigate Transmission	[redacted]	
8	IM33		Safety & Reliability	Station Equipment Upgrades/Replacements	[redacted]	1
9	IM35		Safety & Reliability	Transmission Communications Instrumentation Replacement	[redacted]	9
10	IM37		Safety & Reliability	Electronic Flow Corrector Replacement	[redacted]	168
11				**Total Inspect & Mitigate - Transmission**	[redacted]	
		System Deliverability - Transmission			[redacted]	
12	SD15		Safety & Reliability	Shipshewana to Howe	[redacted]	
13				**Total System Deliverability - Transmission**	[redacted]	
14		**Total Transmission Investment**			**$85,677,198**	

NORTHERN INDIANA PUBLIC SERVICE COMPANY
GAS 2021 PROJECT DETAIL - DIRECT CAPITAL DOLLARS ONLY

					(A)	(B)
Line No.	**Project ID**	**Project Category**	**Project Driver**	**Project Title**	**Plan Project Cost (direct dollars)**	**No Of Units**
		DISTRIBUTION SYSTEM INVESTMENTS			[redacted]	
		Bare Steel Replacement - Distribution				
15	BSR11		Safety & Reliability	Bare Steel - Gary and Balance of System Project		54,491 ft.
16				**Total Bare Steel Replacement - Distribution**		
		System Deliverability - Distribution				
17	DSD11		Safety & Reliability	Engineering and Preconstruction - System Deliverability Distribution		
18				**Total System Deliverability - Distribution**		
		Inspect & Mitigate - Distribution				
19	DIM2		Safety & Reliability	Engineering and Preconstruction - Inspect and Mitigate Distribution		
20				**Total Inspect & Mitigate - Distribution**		
		Rural Extensions - Distribution				
21	RE1		Safety & Reliability	Rural Extensions		
22				**Total Rural Extensions - Distribution**		
23		**Total Distribution Investment**			**$29,150,626**	

NORTHERN INDIANA PUBLIC SERVICE COMPANY
GAS 2021 PROJECT DETAIL - DIRECT CAPITAL DOLLARS ONLY

Line No.	Project ID	Project Category	Project Driver	Project Title	(A) Plan Project Cost (direct dollars)	(B) No Of Units
		STORAGE SYSTEM INVESTMENTS			[redacted]	
		Storage Projects				
24	S41		Safety & Reliability	Engineering and Preconstruction - Storage		
25	SLNG8		Safety & Reliability	LNG - Replace Unit #2 Vaporizer Control Panel		
26	SRC12		Safety & Reliability	RCUGS - Valve FV-3		
27	SRC13		Safety & Reliability	RCUGS - Valve V-239		
28	SRC14		Safety & Reliability	RCUGS - Replace Compr. Building Power Feed 480V Panels		
29	SRC16		Safety & Reliability	RCUGS - Replace Dehyrator #3 Contact Tower		
30	SRC17		Safety & Reliability	RCUGS - Replace Dehydrator #3 Reboiler with Process Panel		
31				**Total Storage Projects**		
32		**Total Storage Investment**			**$3,025,421**	
33		**Total Direct Capital Investment**			**$117,853,245**	

NORTHERN INDIANA PUBLIC SERVICE COMPANY
GAS 2022 PROJECT DETAIL - DIRECT CAPITAL DOLLARS ONLY

Line No.	Project ID	Project Category	Project Driver	Project Title	(A) Plan Project Cost (direct dollars)	(B) No Of Units
		TRANSMISSION SYSTEM INVESTMENTS			[redacted]	
		Transmission Pipeline Replacement				
1	TP11		Safety & Reliability	24" Aetna to Tassinong		
2	TP12		Safety & Reliability	Aetna to 483# Industrial Loop		
3	TP13		Safety & Reliability	Aenta to LaPorte Pressure Reduction		
4	TP14		Safety & Reliability	Aetna to Tassinong Pressure Reduction		
5				**Total Transmission Pipeline Replacement**		
		Inspect & Mitigate - Transmission				
6	IM24		Safety & Reliability	Corrosion Rectifiers Install/Replace		3
7	IM27		Safety & Reliability	Engineering and Preconstruction - Inspect and Mitigate Transmission		
8	IM33		Safety & Reliability	Station Equipment Upgrades/Replacements		1
9	IM35		Safety & Reliability	Transmission Communications Instrumentation Replacement		10
10	IM36		Safety & Reliability	Highland Junction Station Replacement		
11	IM37		Safety & Reliability	Electronic Flow Corrector Replacement		168
12				**Total Inspect & Mitigate - Transmission**		
		System Deliverability - Transmission				
13	SD15		Safety & Reliability	Shipshewana to Howe		
14				**Total System Deliverability - Transmission**		
15		**Total Transmission Investment**			**$96,766,922**	

NORTHERN INDIANA PUBLIC SERVICE COMPANY
GAS 2022 PROJECT DETAIL - DIRECT CAPITAL DOLLARS ONLY

Line No.	Project ID	Project Category	Project Driver	Project Title	(A) Plan Project Cost (direct dollars)	(B) No Of Units
		DISTRIBUTION SYSTEM INVESTMENTS			[redacted]	
		Kokomo Low Pressure System - Distribution				
16	K1		Safety & Reliability	Kokomo Low Pressure Replacement		
17				**Total Kokomo Low Pressure System - Distribution**		
		Bare Steel Replacement - Distribution				
18	BSR11		Safety & Reliability	Bare Steel - Gary and Balance of System Project		19,306 ft.
19				**Total Bare Steel Replacement - Distribution**		
		System Deliverability - Distribution				
20	DSD11		Safety & Reliability	Engineering and Preconstruction - System Deliverability Distribution		
21				**Total System Deliverability - Distribution**		
		Inspect & Mitigate - Distribution				
22	DIM2		Safety & Reliability	Engineering and Preconstruction - Inspect and Mitigate Distribution		
23				**Total Inspect & Mitigate - Distribution**		
		Rural Extensions - Distribution				
24	RE1		Safety & Reliability	Rural Extensions		
25				**Total Rural Extensions - Distribution**		
26		**Total Distribution Investment**			**$30,525,145**	

NORTHERN INDIANA PUBLIC SERVICE COMPANY
GAS 2022 PROJECT DETAIL - DIRECT CAPITAL DOLLARS ONLY

					(A)	(B)
Line No.	Project ID	Project Category	Project Driver	Project Title	Plan Project Cost (direct dollars)	No Of Units
		STORAGE SYSTEM INVESTMENTS			[redacted]	
		Storage Projects				
27	S41		Safety & Reliability	Engineering and Preconstruction - Storage		
28	SLNG10		Safety & Reliability	LNG - Replace Unit #2 Tank Foundation Heating System		
29	SLNG11		Safety & Reliability	LNG - Replace Unit #2 Vaporizer Control Panels		
30	SRC20		Safety & Reliability	RCUGS - Valve V-234		
31	SRC21		Safety & Reliability	RCUGS - Valve V-240		
32	SRC22		Safety & Reliability	RCUGS - Replace Dehydrator #4 Contact Tower		
33	SRC23		Safety & Reliability	RCUGS - TLA #3 & #4 Oil Heater		
34	SRC24		Safety & Reliability	RCUGS - Replace Drip 19		
35				**Total Storage Projects**		
36		**Total Storage Investment**			**$4,404,999**	
37		**Total Direct Capital Investment**			**$131,697,066**	

NORTHERN INDIANA PUBLIC SERVICE COMPANY
GAS 2023 PROJECT DETAIL - DIRECT CAPITAL DOLLARS ONLY

Line No.	Project ID	Project Category	Project Driver	Project Title	(A) Plan Project Cost (direct dollars)	(B) No Of Units
		TRANSMISSION SYSTEM INVESTMENTS			[redacted]	
		Transmission Pipeline Replacement				
1	TP7		Safety & Reliability	10"-12" Hessen Cassel to Hanna St		
2	TP11		Safety & Reliability	24" Aetna to Tassinong		
3	TP13		Safety & Reliability	Aenta to LaPorte Pressure Reduction		
4	TP14		Safety & Reliability	Aetna to Tassinong Pressure Reduction		
5	TP15		Safety & Reliability	Colfax and Cline Station Rebuilds		
6				**Total Transmission Pipeline Replacement**		
		Inspect & Mitigate - Transmission				
7	IM24		Safety & Reliability	Corrosion Rectifiers Install/Replace		3
8	IM26		Safety & Reliability	Transmission Regulator Station Upgrades/Replacements		1
9	IM27		Safety & Reliability	Engineering and Preconstruction - Inspect and Mitigate Transmission		
10	IM33		Safety & Reliability	Station Equipment Upgrades/Replacements		1
11	IM35		Safety & Reliability	Transmission Communications Instrumentation Replacement		10
12	IM36		Safety & Reliability	Highland Junction Station Replacement		
13	IM37		Safety & Reliability	Electronic Flow Corrector Replacement		168
14				**Total Inspect & Mitigate - Transmission**		
		System Deliverability - Transmission				
15	SD14		Safety & Reliability	Engineering and Preconstruction - System Deliverability Transmission		
16	SD15		Safety & Reliability	Shipshewana to Howe		
17				**Total System Deliverability - Transmission**		
18		**Total Transmission Investment**			**$97,103,564**	

NORTHERN INDIANA PUBLIC SERVICE COMPANY
GAS 2023 PROJECT DETAIL - DIRECT CAPITAL DOLLARS ONLY

Line No.	Project ID	Project Category	Project Driver	Project Title	(A) Plan Project Cost (direct dollars)	(B) No Of Units
		DISTRIBUTION SYSTEM INVESTMENTS			[redacted]	
		Kokomo Low Pressure System - Distribution			[redacted]	
19	K1		Safety & Reliability	Kokomo Low Pressure Replacement	[redacted]	
20				**Total Kokomo Low Pressure System - Distribution**	[redacted]	
		System Deliverability - Distribution			[redacted]	
21	DSD10		Safety & Reliability	System Deliverability Projects - Distribution	[redacted]	4
22	DSD11		Safety & Reliability	Engineering and Preconstruction - System Deliverability Distribution	[redacted]	
23				**Total System Deliverability - Distribution**	[redacted]	
		Inspect & Mitigate - Distribution			[redacted]	
24	DIM2		Safety & Reliability	Engineering and Preconstruction - Inspect and Mitigate Distribution	[redacted]	
25				**Total Inspect & Mitigate - Distribution**	[redacted]	
		Rural Extensions - Distribution			[redacted]	
26	RE1		Safety & Reliability	Rural Extensions	[redacted]	
27				**Total Rural Extensions - Distribution**	[redacted]	
28		**Total Distribution Investment**			**$25,708,407**	

NORTHERN INDIANA PUBLIC SERVICE COMPANY
GAS 2023 PROJECT DETAIL - DIRECT CAPITAL DOLLARS ONLY

Line No.	Project ID	Project Category	Project Driver	Project Title	(A) Plan Project Cost (direct dollars)	(B) No Of Units
		STORAGE SYSTEM INVESTMENTS			[redacted]	
		Storage Projects			[redacted]	
29	S41		Safety & Reliability	Engineering and Preconstruction - Storage	[redacted]	
30	SRC25		Safety & Reliability	RCUGS - Valve V-121	[redacted]	
31	SRC26		Safety & Reliability	RCUGS - Valve V-131	[redacted]	
32	SRC27		Safety & Reliability	RCUGS - Replace Dehydrator #5 Absorber Tower	[redacted]	
33	SRC28		Safety & Reliability	RCUGS - Replace Desulf #1 Absorber Towers	[redacted]	
34				**Total Storage Projects**	[redacted]	
35		**Total Storage Investment**			**$6,493,523**	
36		**Total Direct Capital Investment**			**$129,305,494**	

NORTHERN INDIANA PUBLIC SERVICE COMPANY
GAS 2024 PROJECT DETAIL - DIRECT CAPITAL DOLLARS ONLY

Line No.	Project ID	Project Category	Project Driver	Project Title	(A) Plan Project Cost (direct dollars)	(B) No Of Units
		TRANSMISSION SYSTEM INVESTMENTS				
		Transmission Pipeline Replacement			[redacted]	
1	TP7		Safety & Reliability	10"-12" Hessen Cassel to Hanna St	[redacted]	
2	TP13		Safety & Reliability	Aenta to LaPorte Pressure Reduction	[redacted]	
3	TP14		Safety & Reliability	Aetna to Tassinong Pressure Reduction	[redacted]	
4	TP15		Safety & Reliability	Colfax and Cline Station Rebuilds	[redacted]	
5				**Total Transmission Pipeline Replacement**	[redacted]	
		Shallow Pipe Replacement - Transmission			[redacted]	
6	SP5		Safety & Reliability	Shallow Pipe Replacement	[redacted]	1
7				**Total Shallow Pipe Replacement - Transmission**	[redacted]	
		Inspect & Mitigate - Transmission			[redacted]	
8	IM1		Safety & Reliability	Company-Wide Gas Transmission Crossing Replacement	[redacted]	11
9	IM24		Safety & Reliability	Corrosion Rectifiers Install/Replace	[redacted]	3
10	IM25		Safety & Reliability	Corrosion Moisture Monitoring	[redacted]	3
11	IM26		Safety & Reliability	Transmission Regulator Station Upgrades/Replacements	[redacted]	1
12	IM27		Safety & Reliability	Engineering and Preconstruction - Inspect and Mitigate Transmission	[redacted]	
13	IM33		Safety & Reliability	Station Equipment Upgrades/Replacements	[redacted]	1
14	IM35		Safety & Reliability	Transmission Communications Instrumentation Replacement	[redacted]	8
15	IM36		Safety & Reliability	Highland Junction Station Replacement	[redacted]	
16	IM37		Safety & Reliability	Electronic Flow Corrector Replacement	[redacted]	168
17				**Total Inspect & Mitigate - Transmission**	[redacted]	
		System Deliverability - Transmission			[redacted]	
18	SD15		Safety & Reliability	Shipshewana to Howe	[redacted]	
19	SD16		Safety & Reliability	GSIT Churubusco HP System Improvement	[redacted]	
20				**Total System Deliverability - Transmission**	[redacted]	
21		**Total Transmission Investment**			**$81,776,856**	

NORTHERN INDIANA PUBLIC SERVICE COMPANY
GAS 2024 PROJECT DETAIL - DIRECT CAPITAL DOLLARS ONLY

Line No.	Project ID	Project Category	Project Driver	Project Title	(A) Plan Project Cost (direct dollars)	(B) No Of Units
		DISTRIBUTION SYSTEM INVESTMENTS			[redacted]	
		Kokomo Low Pressure System - Distribution				
22	K1		Safety & Reliability	Kokomo Low Pressure Replacement		1
23				**Total Kokomo Low Pressure System - Distribution**		
		System Deliverability - Distribution				
24	DSD11		Safety & Reliability	Engineering and Preconstruction - System Deliverability Distribution		
25				**Total System Deliverability - Distribution**		
		Inspect & Mitigate - Distribution				
26	DIM2		Safety & Reliability	Engineering and Preconstruction - Inspect and Mitigate Distribution		
27	DIM31		Safety & Reliability	Company-Wide Gas Distribution Crossing Replacement		9
28	DIM46		Safety & Reliability	Distribution Regulator Station Upgrades/Replacement		2
29				**Total Inspect & Mitigate - Distribution**		
		Rural Extensions - Distribution				
30	RE1		Safety & Reliability	Rural Extensions		
31				**Total Rural Extensions - Distribution**		
32		**Total Distribution Investment**			**$35,653,177**	

NORTHERN INDIANA PUBLIC SERVICE COMPANY
GAS 2024 PROJECT DETAIL - DIRECT CAPITAL DOLLARS ONLY

Line No.	Project ID	Project Category	Project Driver	Project Title	(A) Plan Project Cost (direct dollars)	(B) No Of Units
		STORAGE SYSTEM INVESTMENTS				
		Storage Projects			[redacted]	
33	S41		Safety & Reliability	Engineering and Preconstruction - Storage		
34	SLNG7		Safety & Reliability	LNG - Replace Unit #2 Purification Sys. Regen. Gas Heater		
35	SLNG14		Safety & Reliability	LNG - Replace C-411 4kV Mtr. Starter; Install Electronic Controls		
36	SLNG15		Safety & Reliability	LNG - New Building Heaters for Unit #2 Compressor Building		
37	SLNG16		Safety & Reliability	LNG - Replace Cardox Fire Protection System		
38	SLNG17		Safety & Reliability	LNG - Replace Det-tronics Fire & Gas Detection System		
39	SLNG18		Safety & Reliability	LNG - Replace E102 B/O Gas Heater (Unit 1 C102A/B)		
40	SLNG19		Safety & Reliability	LNG - Replace E103 B/O Gas Intercooler (Unit 1 C102A/B)		
41	SLNG20		Safety & Reliability	LNG - Water Mist Fire Protection System for Purification Building		
42	SLNG21		Safety & Reliability	LNG - Replace Unit #1 IR Boil-Off Compressors		
43	SRC29		Safety & Reliability	RCUGS - S-22-T Master and Meter		
44	SRC30		Safety & Reliability	RCUGS - S-67-T Master and Meter		
45	SRC31		Safety & Reliability	RCUGS - V-214 Isolation Valve		
46	SRC32		Safety & Reliability	RCUGS - Isolation Valve V-232		
47	SRC33		Safety & Reliability	RCUGS - New Building Heaters for Compressor Building		
48	SRC34		Safety & Reliability	RCUGS - Replace Desulf #1 Regeneration System		
49				**Total Storage Projects**		
50		**Total Storage Investment**			**$12,105,375**	
51		**Total Direct Capital Investment**			**$129,535,408**	

NORTHERN INDIANA PUBLIC SERVICE COMPANY
GAS 2025 PROJECT DETAIL - DIRECT CAPITAL DOLLARS ONLY

					(A)	(B)
Line No.	**Project ID**	**Project Category**	**Project Driver**	**Project Title**	**Plan Project Cost (direct dollars)**	**No Of Units**
		TRANSMISSION SYSTEM INVESTMENTS			[redacted]	
		Transmission Pipeline Replacement			[redacted]	
1	TP7		Safety & Reliability	10"-12" Hessen Cassel to Hanna St	[redacted]	
2	TP13		Safety & Reliability	Aenta to LaPorte Pressure Reduction	[redacted]	
3	TP14		Safety & Reliability	Aetna to Tassinong Pressure Reduction	[redacted]	
4	TP15		Safety & Reliability	Colfax and Cline Station Rebuilds	[redacted]	
5				**Total Transmission Pipeline Replacement**	[redacted]	
		Inspect & Mitigate - Transmission			[redacted]	
6	IM1		Safety & Reliability	Company-Wide Gas Transmission Crossing Replacement	[redacted]	7
7	IM24		Safety & Reliability	Corrosion Rectifiers Install/Replace	[redacted]	3
8	IM25		Safety & Reliability	Corrosion Moisture Monitoring	[redacted]	3
9	IM26		Safety & Reliability	Transmission Regulator Station Upgrades/Replacements	[redacted]	1
10	IM33		Safety & Reliability	Station Equipment Upgrades/Replacements	[redacted]	1
11	IM35		Safety & Reliability	Transmission Communications Instrumentation Replacement	[redacted]	16
12	IM37		Safety & Reliability	Electronic Flow Corrector Replacement	[redacted]	169
13				**Total Inspect & Mitigate - Transmission**	[redacted]	
		System Deliverability - Transmission			[redacted]	
14	SD13		Safety & Reliability	System Deliverability Projects - Transmission	[redacted]	1
15	SD15		Safety & Reliability	Shipshewana to Howe	[redacted]	
16				**Total System Deliverability - Transmission**	[redacted]	
17		**Total Transmission Investment**			**$67,558,029**	

NORTHERN INDIANA PUBLIC SERVICE COMPANY
GAS 2025 PROJECT DETAIL - DIRECT CAPITAL DOLLARS ONLY

Line No.	Project ID	Project Category	Project Driver	Project Title	(A) Plan Project Cost (direct dollars)	(B) No Of Units
		DISTRIBUTION SYSTEM INVESTMENTS			[redacted]	
		Kokomo Low Pressure System - Distribution				
18	K1		Safety & Reliability	Kokomo Low Pressure Replacement		1
19				**Total Kokomo Low Pressure System - Distribution**		
		System Deliverability - Distribution				
20	DSD10		Safety & Reliability	System Deliverability Projects - Distribution		4
21				**Total System Deliverability - Distribution**		
		Inspect & Mitigate - Distribution				
22	DIM31		Safety & Reliability	Company-Wide Gas Distribution Crossing Replacement		6
23	DIM46		Safety & Reliability	Distribution Regulator Station Upgrades/Replacement		2
24				**Total Inspect & Mitigate - Distribution**		
		Rural Extensions - Distribution				
25	RE1		Safety & Reliability	Rural Extensions		
26				**Total Rural Extensions - Distribution**		
27		**Total Distribution Investment**			**$41,588,932**	

NORTHERN INDIANA PUBLIC SERVICE COMPANY
GAS 2025 PROJECT DETAIL - DIRECT CAPITAL DOLLARS ONLY

Line No.	Project ID	Project Category	Project Driver	Project Title	(A) Plan Project Cost (direct dollars)	(B) No Of Units
		STORAGE SYSTEM INVESTMENTS			[redacted]	
		Storage Projects				
28	SLNG23		Safety & Reliability	LNG - Replace Sullair Boil-Off Compressor		
29	SRC35		Safety & Reliability	RCUGS - S-66-T Master and Meter		
30	SRC36		Safety & Reliability	RCUGS - S-77-T Master and Meter		
31	SRC37		Safety & Reliability	RCUGS - Replace Desulf #2 Absorber Towers		
32				**Total Storage Projects**		
33		**Total Storage Investment**			**$7,836,240**	
34		**Total Direct Capital Investment**			**$116,983,201**	

NORTHERN INDIANA PUBLIC SERVICE COMPANY

Gas Filing Projects Yearly Plan and Spends

Line No.	Project ID	Project Category	Project Title	2019	2020	2021	2022	2023	2024	2025	Total
1	TP2	Transmission Pipeline Replacement	22" From Aetna to US 35 - LaPorte - 1.0 Plan	[redacted]							
2	TP7	Transmission Pipeline Replacement	10"-12" Hessen Cassel to Hanna St	[redacted]							
3	TP8	Transmission Pipeline Replacement	36/22 Highland Junction to Grant St.	[redacted]							
4	TP11	Transmission Pipeline Replacement	24" Aetna to Tassinong	[redacted]							
5	TP12	Transmission Pipeline Replacement	Aetna to 483# Industrial Loop	[redacted]							
6	TP13	Transmission Pipeline Replacement	Aenta to LaPorte Pressure Reduction	[redacted]							
7	TP14	Transmission Pipeline Replacement	Aetna to Tassinong Pressure Reduction	[redacted]							
8	TP15	Transmission Pipeline Replacement	Colfax and Cline Station Rebuilds	[redacted]							
9	ILI6	Prepare Lines for In-Line Inspection - Transmission	ILI System Modification 30" Tassinong to LaPorte - 1.0 Plan	[redacted]							
10	SP5	Shallow Pipe Replacement - Transmission	Shallow Pipe Replacement	[redacted]							
11	IM1	Inspect & Mitigate - Transmission	Company-Wide Gas Transmission Crossing Replacement	[redacted]							
12	IM6	Inspect & Mitigate - Transmission	GSO RTU Upgrade - Age & Condition - 1.0 Plan	[redacted]							
13	IM7	Inspect & Mitigate - Transmission	GSO RTU Communications Upgrade - Age & Condition - 1.0 Plan	[redacted]							
14	IM8	Inspect & Mitigate - Transmission	Mitigation Required from Field Inspections Transmission - 1.0 Plan	[redacted]							
15	IM20	Inspect & Mitigate - Transmission	Odorant System Replacement - 1.0 Plan	[redacted]							
16	IM24	Inspect & Mitigate - Transmission	Corrosion Rectifiers Install/Replace	[redacted]							
17	IM25	Inspect & Mitigate - Transmission	Corrosion Moisture Monitoring	[redacted]							
18	IM26	Inspect & Mitigate - Transmission	Transmission Regulator Station Upgrades/Replacements	[redacted]							
19	IM27	Inspect & Mitigate - Transmission	Engineering and Preconstruction - Inspect and Mitigate Transmission	[redacted]							
20	IM33	Inspect & Mitigate - Transmission	Station Equipment Upgrades/Replacements	[redacted]							
21	IM35	Inspect & Mitigate - Transmission	Transmission Communications Instrumentation Replacement	[redacted]							
22	IM36	Inspect & Mitigate - Transmission	Highland Junction Station Replacement	[redacted]							
23	IM37	Inspect & Mitigate - Transmission	Electronic Flow Corrector Replacement	[redacted]							
24	SD10	System Deliverability - Transmission	GSIT - Wheatfield Inlet System Improvement - 1.0 Plan	[redacted]							
25	SD12	System Deliverability - Transmission	GSIT ANR Orland to Crooked Lake System Improvement - 1.0 Plan	[redacted]							
26	SD13	System Deliverability - Transmission	System Deliverability Projects - Transmission	[redacted]							
27	SD14	System Deliverability - Transmission	Engineering and Preconstruction - System Deliverability Transmission	[redacted]							
28	SD15	System Deliverability - Transmission	Shipshewana to Howe	[redacted]							
29	SD16	System Deliverability - Transmission	GSIT Churubusco HP System Improvement	[redacted]							
30	K1	Kokomo Low Pressure System - Distribution	Kokomo Low Pressure Replacement	[redacted]							
31	BSR11	Bare Steel Replacement - Distribution	Bare Steel - Gary and Balance of System Project	[redacted]							
32	DSD10	System Deliverability - Distribution	System Deliverability Projects - Distribution	[redacted]							
33	DSD11	System Deliverability - Distribution	Engineering and Preconstruction - System Deliverability Distribution	[redacted]							
34	DSD13	System Deliverability - Distribution	Shipshewana Distribution Headers	[redacted]							
35	MM2	Master Meter System Upgrades - Distribution	Master Meter Upgrades	[redacted]							
36	DIM1	Inspect & Mitigate - Distribution	Corrosion - Company Wide Gas Isolated Service Replacement - 1.0 Plan	[redacted]							
37	DIM2	Inspect & Mitigate - Distribution	Engineering and Preconstruction - Inspect and Mitigate Distribution	[redacted]							
38	DIM4	Inspect & Mitigate - Distribution	DIMP Install Emergency Valves - Company-Wide - 1.0 Plan	[redacted]							
39	DIM15	Inspect & Mitigate - Distribution	Buried Regulator Station or Single Regulator Multi-customer - 1.0 Plan	[redacted]							
40	DIM31	Inspect & Mitigate - Distribution	Company-Wide Gas Distribution Crossing Replacement	[redacted]							
41	DIM36	Inspect & Mitigate - Distribution	Integrity Management - Corrosion Casing Replacement/Removal - 1.0 Plan	[redacted]							
42	DIM37	Inspect & Mitigate - Distribution	Mitigation Required from Field Inspections Distribution - 1.0 Plan	[redacted]							
43	DIM46	Inspect & Mitigate - Distribution	Distribution Regulator Station Upgrades/Replacement	[redacted]							
44	RE1	Rural Extensions - Distribution	Rural Extensions	[redacted]							
45	S15	Storage Projects	RCUGS - Trenton Field Isolation Valves - 1.0 Plan	[redacted]							
46	S35	Storage Projects	LNG - Mechanical / Electrical System Upgrade	[redacted]							
47	S36	Storage Projects	LNG - Compressor / Vaporizer Upgrade	[redacted]							
48	S37	Storage Projects	RCUGS - Mechanical / Electrical System Upgrade	[redacted]							
49	S41	Storage Projects	Engineering and Preconstruction - Storage	[redacted]							
50	SLNG1	Storage Projects	LNG - Replace Plant Process Safety Valves	[redacted]							
51	SLNG3	Storage Projects	LNG - Replace MyCom Boil-Off Compressor Coolers	[redacted]							
52	SLNG5	Storage Projects	LNG - Install Travel Limit Switches on Purification System Valves	[redacted]							
53	SLNG6	Storage Projects	LNG - Replace Air Actuated Control Valves	[redacted]							
54	SLNG7	Storage Projects	LNG - Replace Unit #2 Purification Sys. Regen. Gas Heater	[redacted]							
55	SLNG8	Storage Projects	LNG - Replace Unit #2 Vaporizer Control Panel	[redacted]							
56	SLNG10	Storage Projects	LNG - Replace Unit #2 Tank Foundation Heating System	[redacted]							
57	SLNG11	Storage Projects	LNG - Replace Unit #2 Vaporizer Control Panels	[redacted]							
58	SLNG12	Storage Projects	LNG - Unit #1 Upgrade PLC Vaporizer Controls	[redacted]							
59	SLNG14	Storage Projects	LNG - Replace C-411 4kV Mtr. Starter; Install Electronic Controls	[redacted]							
60	SLNG15	Storage Projects	LNG - New Building Heaters for Unit #2 Compressor Building	[redacted]							
61	SLNG16	Storage Projects	LNG - Replace Cardox Fire Protection System	[redacted]							
62	SLNG17	Storage Projects	LNG - Replace Det-tronics Fire & Gas Detection System	[redacted]							

NORTHERN INDIANA PUBLIC SERVICE COMPANY
Gas Filing Projects Yearly Plan and Spends

Line No.	Project ID	Project Category	Project Title	2019	2020	2021	2022	2023	2024	2025	Total
63	SLNG18	Storage Projects	LNG - Replace E102 B/O Gas Heater (Unit 1 C102A/B)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
64	SLNG19	Storage Projects	LNG - Replace E103 B/O Gas Intercooler (Unit 1 C102A/B)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
65	SLNG20	Storage Projects	LNG - Water Mist Fire Protection System for Purification Building	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
66	SLNG21	Storage Projects	LNG - Replace Unit #1 IR Boil-Off Compressors	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
67	SLNG23	Storage Projects	LNG - Replace Sullair Boil-Off Compressor	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
68	SRC2	Storage Projects	RCUGS - S-11-T Meter Run	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
69	SRC3	Storage Projects	RCUGS - S-19-T Well Meter Run	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
70	SRC4	Storage Projects	RCUGS - Dehydration Building MCC	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
71	SRC6	Storage Projects	RCUGS - Replace Withdrawal Flow Control Valve	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
72	SRC7	Storage Projects	RCUGS - S-15-T Well Meter Run	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
73	SRC8	Storage Projects	RCUGS - Dehydrator #4 Reboiler	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
74	SRC11	Storage Projects	RCUGS - Replace Injection Flow Control Valve	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
75	SRC12	Storage Projects	RCUGS - Valve FV-3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
76	SRC13	Storage Projects	RCUGS - Valve V-239	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
77	SRC14	Storage Projects	RCUGS - Replace Compr. Building Power Feed 480V Panels	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
78	SRC15	Storage Projects	RCUGS - Replace Compressor Loading System TLA #3 & #4	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
79	SRC16	Storage Projects	RCUGS - Replace Dehyrator #3 Contact Tower	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
80	SRC17	Storage Projects	RCUGS - Replace Dehydrator #3 Reboiler with Process Panel	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
81	SRC20	Storage Projects	RCUGS - Valve V-234	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
82	SRC21	Storage Projects	RCUGS - Valve V-240	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
83	SRC22	Storage Projects	RCUGS - Replace Dehydrator #4 Contact Tower	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
84	SRC23	Storage Projects	RCUGS - TLA #3 & #4 Oil Heater	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
85	SRC24	Storage Projects	RCUGS - Replace Drip 19	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
86	SRC25	Storage Projects	RCUGS - Valve V-121	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
87	SRC26	Storage Projects	RCUGS - Valve V-131	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
88	SRC27	Storage Projects	RCUGS - Replace Dehydrator #5 Absorber Tower	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
89	SRC28	Storage Projects	RCUGS - Replace Desulf #1 Absorber Towers	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
90	SRC29	Storage Projects	RCUGS - S-22-T Master and Meter	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
91	SRC30	Storage Projects	RCUGS - S-67-T Master and Meter	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
92	SRC31	Storage Projects	RCUGS - V-214 Isolation Valve	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
93	SRC32	Storage Projects	RCUGS - Isolation Valve V-232	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
94	SRC33	Storage Projects	RCUGS - New Building Heaters for Compressor Building	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
95	SRC34	Storage Projects	RCUGS - Replace Desulf #1 Regeneration System	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
96	SRC35	Storage Projects	RCUGS - S-66-T Master and Meter	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
97	SRC36	Storage Projects	RCUGS - S-77-T Master and Meter	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
98	SRC37	Storage Projects	RCUGS - Replace Desulf #2 Absorber Towers	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
99	SRC38	Storage Projects	RCUGS - Mt. Simon WD-156 Well Conversion	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
100	SRC39	Storage Projects	RCUGS - S-15-T Field Meter Run	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
101	SRC40	Storage Projects	RCUGS - S-19-T Master	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
102	SRC41	Storage Projects	RCUGS - S-31-T Master	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
103	SRC42	Storage Projects	RCUGS - S-138-T Master	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
104		Total Direct Capital		$ 319,351,206	$ 112,851,128	$ 117,853,245	$ 131,697,066	$ 129,305,494	$ 129,535,408	$ 116,983,201	$ 1,057,576,748

Summary by Project Category

Line No.	Project ID	Project Category	Project Title	2019	2020	2021	2022	2023	2024	2025	Total
105		Inspect & Mitigate - Transmission		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
106		Prepare Lines for In-Line Inspection - Transmission		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
107		Shallow Pipe Replacement - Transmission		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
108		System Deliverability - Transmission		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
109		Transmission Pipeline Replacement		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
110		Bare Steel Replacement - Distribution		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
111		Inspect & Mitigate - Distribution		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
112		Kokomo Low Pressure System - Distribution		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
113		Master Meter System Upgrades - Distribution		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
114		Rural Extensions - Distribution		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
115		System Deliverability - Distribution		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
116		Storage Projects		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
117		Total Direct Capital		$ 319,351,206	$ 112,851,128	$ 117,853,245	$ 131,697,066	$ 129,305,494	$ 129,535,408	$ 116,983,201	$ 1,057,576,748
118		Transmission Total		$ 251,291,475	$ 73,205,470	$ 85,677,198	$ 96,766,922	$ 97,103,564	$ 81,776,856	$ 67,558,029	$ 753,379,514
119		Distribution Total		$ 59,056,077	$ 38,348,076	$ 29,150,626	$ 30,525,145	$ 25,708,407	$ 35,653,177	$ 41,588,932	$ 260,030,440
120		Storage Total		$ 9,003,654	$ 1,297,582	$ 3,025,421	$ 4,404,999	$ 6,493,523	$ 12,105,375	$ 7,836,240	$ 44,166,794
121		Total Direct Capital		$ 319,351,206	$ 112,851,128	$ 117,853,245	$ 131,697,066	$ 129,305,494	$ 129,535,408	$ 116,983,201	$ 1,057,576,748

NORTHERN INDIANA PUBLIC SERVICE COMPANY

Gas Plan 1 Transition Table

	(A)	(B)	(C)	(D)	(E)
Project ID	Project Title	In Service as of 2/1/2018	Scheduled In Service by 12/31/2018	Included in Gas Plan 2	Not Included in Gas Plan 2
TP1	State Line to Highland Transmission Project	X			
TP2	22" From Aetna to US 35 - LaPorte		X	X	
TP3	Engineering for Transmission Pipeline Replacements			X	
TP7	10"-12" Hessen Cassel to Hanna St			X	
TP8	36/22 Highland Junction to Grant St.			X	
TP9/TP11*	16" Aetna to Tassinong/24" Aetna to Tassinong*			X	
ILI1	In-Line Inspection System Modifications	X			
ILI2	Engineering for 2015 In Line Inspections			X	
ILI3	ILI Modifications - 24" Royal Center to Laketon	X			
ILI4	TIMP ILI System Modifications 30" North Hayden to Tassinong	X			
ILI5	ILI System Modification 30" Highland Junction to Inland Steel				X
ILI6	ILI System Modification 30" Tassinong to LaPorte		X	X	
ILI7	ILI System Modification 16" to Laketon to Warsaw				X
ILI8	Engineering for ILI Modifications	X			
SP2	Shallow Pipe - LS 22-113	X			
SP5	Shallow Pipe Replacement		X	X	
IM1	Company-Wide Gas Transmission Crossing Replacement		X	X	
IM2	Burns Ditch Bore	X			
IM3	Saint Mary's River Bores	X			
IM4	Crossing US Ship Canal 20 inch Bore - Engineering	X			
IM5	Pressure Monitoring	X			
IM6	GSO RTU Upgrade - Age & Condition		X	X	
IM7	GSO RTU Communications Upgrade - Age & Condition		X	X	
IM8	Mitigation Required from Field Inspections Transmission		X	X	
IM9	Tipton Regulator Station Upgrade and Enclosure	X			
IM10	FW ANR Supply Station Rebuild	X			
IM11	Mayflower Road Regulator Station Enclosure	X			
IM12	LaGrange SR9 Station - Replace Bypass Odorant System	X			

NORTHERN INDIANA PUBLIC SERVICE COMPANY
Gas Plan 1 Transition Table

	(A)	(B)	(C)	(D)	(E)
Project ID	Project Title	In Service as of 2/1/2018	Scheduled In Service by 12/31/2018	Included in Gas Plan 2	Not Included in Gas Plan 2
IM13	Panhandle Williams Supply Station Rebuild	X			
IM14	ANR Orland Odorant Tank Upgrade	X			
IM15	Fremont Odorant Tank Upgrade	X			
IM17	State Road 1 Regulator Station Rebuild	X			
IM18	ANR Mongo Station Enclosure	X			
IM19	ANR Monroe Station Enclosure	X			
IM20	Odorant System Replacement		X	X	
IM21	Regulator Station Enclosure	X			
IM22	Pipeline Heater Replace				X
IM23-DIM34	Corrosion AC Mitigation	X			
IM24-DIM3	Corrosion Rectifiers Install/Replace		X	X	
IM25-DIM35	Corrosion Moisture Monitoring		X	X	
IM26	Transmission Regulator Station Upgrades and Enclosure		X	X	
IM27	Engineering Capital Projects			X	
IM28-DIM38	North Hayden Odorant System Replacement	X			
IM29-DIM5	Denham Station 7179-1 Odorant System Rebuild	X			
IM31-TP5	North Saint Mary's River Bore	X			
IM32-TP6	South Saint Mary's River Bore	X			
IM33-DIM14	Station Equipment Upgrades		X	X	
IM34-DIM40	RMSGS Regulator Station Upgrade and Enclosure	X			
SD1	112th Street HP Connection with regulation	X			
SD2	LNG - Expand LNG Liquefaction Capacity	X			
SD3	Arcelor Mittal Run Changer	X			
SD4	Summit and Main 12" Regulator Improvements	X			
SD5	Goodland Trunkline Regulator Station #7176 Upgrade	X			
SD6	Shipshewana Main Extension and Regulator Station	X			
SD8	GSIT Crown Point 165psig System Improvement	X			
SD9	GSIT - Fort Wayne ISC R/W 140psig System Improvement	X			
SD10	GSIT - Wheatfield Inlet System Improvement		X	X	
SD11	GSIT - LaPorte - Fish Lake System Improvement	X			
SD12	GSIT ANR Orland to Crooked Lake System Improvement		X	X	
SD13	System Deliverability Projects			X	
SD14	Engineering for Capital Projects - System Deliverability Transmission			X	

NORTHERN INDIANA PUBLIC SERVICE COMPANY
Gas Plan 1 Transition Table

	(A)	(B)	(C)	(D)	(E)
Project ID	Project Title	In Service as of 2/1/2018	Scheduled In Service by 12/31/2018	Included in Gas Plan 2	Not Included in Gas Plan 2
K1	Kokomo Low Pressure Replacement			X	
BSR1	Replace South Bend 6 inch Op HQ to 31(Michigan) and Chippewa	X			
BSR3	Mishawaka Laterals Replacement	X			
BSR4	SB 10" Elkhart Line - Calvert St	X			
BSR6	Byrkit Ave. 5th Ave.	X			
BSR8	Bare Steel along US12/20 in Gary - 28,000 ft @ 8"	X			
BSR9	Engineering for 2016 and 2017 Bare Steel Projects	X			
BSR10	Bare Steel Replacement	X			
BSR11	Bare Steel - Gary and Balance of System Project		X	X	
DSD5-BSR	South Bend 6 inch Michigan St. (Century Center)	X			
DSD2	Moeller Road 1" Regulator Station	X			
DSD3	Therma Tru Butler, IN	X			
DSD4	Main & Summit Regulator Station Upgrade	X			
DSD5	South Bend 6 inch Michigan St (Century Center)	X			
DSD7	GSID - Kouts - Merit Steel System Improvement	X			
DSD8	GSID Lake of the Four Seasons Inlet System Improvement	X			
DSD9	GSID Masons Village, Auburn System Improvement	X			
DSD10	System Deliverability Projects			X	
DSD11	Engineering for Capital Projects - System Deliverability Distribution			X	
MM1	Master Meter System Upgrades	X			
MM2	Master Meter Upgrades		X	X	
DIM1	Corrosion - Company Wide Gas Isolated Service Replacement		X	X	
DIM2	Engineering for Capital Projects			X	
DIM4	DIMP Install Emergency Valves - Company-Wide		X	X	
DIM6	Inside Metering/Reg In High Occupancy Bldgs	X			
DIM7	Corr Rectifier Remote Monitoring 2011	X			
DIM11	By-Pass Odorizer Replacement	X			
DIM13	Angola Multiple Customer Regulator Replacements	X			
DIM14	Station Equipment Upgrades	X			
DIM15	Buried Regulator Station or Single Regulator Multi-customer		X	X	
DIM16	Replace Regulator 8856-6 Cleveland & Timberline Station	X			
DIM17	Bendix & Lathrop Station 7706-6	X			
DIM18	NW Hobart Reg Station	X			

NORTHERN INDIANA PUBLIC SERVICE COMPANY
Gas Plan 1 Transition Table

	(A)	(B)	(C)	(D)	(E)
Project ID	Project Title	In Service as of 2/1/2018	Scheduled In Service by 12/31/2018	Included in Gas Plan 2	Not Included in Gas Plan 2
DIM19	Rebuild 8633-6 Bittersweet & Larry's Lane	X			
DIM20	South Bend Regulator Pit Lid Replacement	X			
DIM21	Rebuild 8269-6 Marycrest & New Carlisle	X			
DIM22	Rebuild Ironwood & Roosevelt Reg Sta #8654-6	X			
DIM23	Rebuild 53305-6 Franklin & Western	X			
DIM25	Rebuild 7715-6 13th & Dodge StaRebuild 7716-6 16th & Union	X			
DIM26	Rebuild 7784-6 Bittersweet & Douglas Sta	X			
DIM27	Vistuala Station Regulator Building	X			
DIM31	Company-Wide Gas Distribution Crossing Replacement		X	X	
DIM36	Integrity Management - Corrosion Casing Replacement/Removal		X	X	
DIM37	Mitigation Required from Field Inspections Distribution		X	X	
DIM39	Replace Regulator 49937 - Flora	X			
DIM41	Replace/Relocate Aylesworth Regulator Station	X			
DIM42	Replace Regulator Station-Pulaski Co. 31460	X			
DIM43	Relocate Meter Station-St. Catherine Hospital	X			
DIM46	Distribution Regulator Station Upgrades and Enclosure		X	X	
RE1	Rural Extensions		X	X	
S1	RCUGS- Replace Dehydration Unit Controls	X			
S2	RCUGS-Replace South Trenton Drip #6 & #8	X			
S3	RCUGS-Replace North Trenton Drip 6" Piping	X			
S4	RCUGS-Replace Isolation Block Valves	X			
S5	RCUGS-Install Liner in Gathering Line Pipe Section ST-10-101	X			
S6	RCUGS - Replace Portable 100 Barrel Water Tanks	X			
S7	RCUGS - Replace Plant SCADA Network Wiring	X			
S7.1	RCUGS - Burner Control	X			
S8	Replace LNG UPS Unit	X			
S9	LNG- Replace Feed Gas Analyzer	X			
S10	LNG- Replace Station Air Compressors	X			
S11	LNG - Install Power Generator	X			
S12	LNG - Replace Compressor Building Lighting	X			
S13	LNG - Replace U-1 Fire Water Pump Controls	X			
S14	RCUGS - Replace #2 Desulfurizer Flare Stack and Flame Control	X			
S15	RCUGS - Trenton Field Isolation Valves		X	X	

NORTHERN INDIANA PUBLIC SERVICE COMPANY
Gas Plan 1 Transition Table

	(A)	(B)	(C)	(D)	(E)
Project ID	Project Title	In Service as of 2/1/2018	Scheduled In Service by 12/31/2018	Included in Gas Plan 2	Not Included in Gas Plan 2
S16	RCUGS - Purchase Methanol Pump	X			
S17	RCUGS - Replace Drip #47 and #77	X			
S18	RCUGS - Replace Piping at County Line Road Station	X			
S19	RCUGS - Replace TLS 4 Ignition	X			
S21	LNG - Install Feed Gas Piping	X			
S22	LNG - Install Insulation Unit 1 LNG Storage Tank	X			
S23	LNG - Replace C-102 A and B Control Systems	X			
S24	LNG - Replace C-411 Controls	X			
S25	LNG - Compressor Discharge Piping	X			
S26	LNG - Replace Unit 1 Control Valve Operators	X			
S27	LNG - Replace Vaporizer Flame Safeguard System	X			
S28	LNG - Replace Perimeter Fence Security System	X			
S29	LNG - Replace Unit 1 480 Volt Switchgear	X			
S30	LNG - Replace Unit 1 Compressor Building Space Heaters	X			
S31	RCUGS - Replace Desulf Inlet Separator	X			
S32	RCUGS - Replace Water Treatment Filter Feed Pumps	X			
S34	RCUGS - Replace TLA #4 Ignition	X			
S35	LNG - Mechanical / Electrical System Upgrade		X	X	
S36	LNG - Compressor / Vaporizer Upgrade		X	X	
S37	RCUGS - Mechanical / Electrical System Upgrade		X	X	
S38	RCUGS - Replace Drips / Gathering System Piping		X	X	
S41	Engineering for Capital Projects			X	

*This project was TP9 16" Aetna to Tassinong in 1.0 plan, is now TP11 24" Aetna to Tassinong in 2.0 plan.