Decision No. C24-0092

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF COLORADO

PROCEEDING NO. 23M-0234G

IN THE MATTER OF THE GAS INFRASTRUCTURE PLAN OF PUBLIC SERVICE COMPANY OF COLORADO FILED PURSUANT TO 4 CODE OF COLORADO REGULATIONS 723-4-4552 OF THE COMMISSION'S RULES REGULATING GAS UTILITIES.

COMMISSION DECISION ADDRESSING ADEQUACY OF GAS INFRASTRUCTURE PLAN AND PROVIDING GUIDANCE FOR FUTURE GAS INFRASTRUCTURE PLAN FILINGS

Mailed Date: February 23, 2024
Adopted Date: January 10, 2024 and January 17, 2024

TABLE OF CONTENTS

I. BY THE COMMISSION

A. Statement

1. On May 18, 2023, Public Service Company of Colorado (Public Service or Company) filed its Initial 2023-2028 Gas Infrastructure Plan (Initial GIP). Public Service made the filing consistent with provisions in the Commission's Rules Regulating Gas Utilities, 4 *Code of Colorado Regulations* (CCR) 723-4-4550 to 4555 (Gas Infrastructure Planning Rules), that require the filing of gas infrastructure plans (GIPs) as part of the Commission's updated regulatory framework for gas utilities, adopted through Proceeding No. 21R-0449G (the Gas Rulemaking).

2. By this Decision, pursuant to Rule 723-4-4552(b)(V), we address the adequacy of Public Service's Initial GIP and the methods and processes used to formulate the Initial GIP and

provide guidance for the preparation of Public Service's future GIP filings, including Public Service's next GIP which must be filed in 2025 (2025 GIP).

B. Procedural Background

3. Under Rule 4552(c), utilities may file initial GIPs in miscellaneous proceedings, in accordance with the procedures set forth in Rule 4552(b). Public Service filed its Initial GIP on May 18, 2023, in a miscellaneous proceeding. Future Public Service GIP filings must be submitted as an application, and the proceedings will be adjudicatory proceedings.

4. Through Decision No. C23-0378, issued June 8, 2023, the Commission opened this Proceeding to examine the Initial GIP and provide guidance for the filing of future GIPs required by Rule 723-4-4552. Decision No. C23-0378 required that intervention filings be submitted by June 23, 2023, set a deadline of August 9, 2023, for initial comments, and set a deadline of September 1, 2023 for reply comments. Through Decision No. C23-0497-I, the deadline for initial comments was extended to August 10, 2023, and through Decision No. C23-0657-I, the deadline for reply comments was extended to October 6, 2023.

5. Through Decision No. C23-0452-I, issued July 10, 2023, the Commission established the parties to this Proceeding as follows: Public Service, Staff of the Public Utilities Commission (Staff), the Office of the Utility Consumer Advocate (UCA), the Colorado Energy Office (CEO), Atmos Energy Corporation (Atmos Energy), the International Brotherhood of Electrical Workers, Local 111 (Local 111), the City and County of Denver (Denver), Tiger Natural Gas (Tiger), Advanced Energy United (United), the Natural Resources Defense Council, Sierra Club, Southwest Energy Efficiency Project, and Western Resource Advocates (together, the Conservation Advocates), Black Hills Colorado Gas, Inc. (Black Hills), and the City of Boulder (Boulder).

6. In Decision No. C23-0531-I, issued August 9, 2023, the Commission granted, in part, and denied, in part, Public Service's Opposed First Motion for Extraordinary Protection. As relevant to discussion in this Decision, the Commission granted extraordinary protection for the full, executable cost-benefit analysis tool for the projects subject to non-pipeline alternatives analysis (NPA analysis), which Public Service claimed was proprietary, non-public, and developed in conjunction with a third-party consultant.

7. Initial Comments were received on or before August 10, 2023, from the following Parties: Denver, Boulder, United, UCA, CEO, the Conservation Advocates, and Staff. Initial comments were also received from Laborers Local 720 and Dandelion Energy.

8. On August 14, 2023, the Commission held a technical conference, at which the Commissioners asked questions of Public Service on the following topics: levels of planned safety-related investment; projects included in the Initial GIP; assumptions underlying the Company's NPA analysis; how the Company determines questions surrounding disposal of existing infrastructure; the Existing Infrastructure Assessment Section of Public Service's Initial GIP; the Stage Gate process; the Hydrogen Blending Demonstration Project.

9. Through Decision No. C23-0566-I, issued August 22, 2023, the Commission requested additional information from Public Service in accordance with Rule 4552(b)(IV). Public Service filed its response to Decision No. C23-0566-I on September 11, 2023, and through a supplemental response filed on September 22, 2023.

10. Reply comments were received on or before October 6, 2023, from the following Parties: Denver, UCA, CEO, the Conservation Advocates, United, and Public Service.

11. On October 19, 2023, the Commission held a public comment hearing in this Proceeding. Topics discussed included forecasting issues, Company investment subject to GIP review, NPA analysis, mapping requirements, and the Company's budgeting process.

12. Through Decision No. C23-0735-I, issued October 31, 2023, the Commission reiterated its direction given at the October 19, 2023 public comment hearing that any final comments be filed by November 3, 2023. Final comments were filed on November 3, 2023, by the Conservation Advocates, United, CEO, UCA, and Public Service.

C. Discussion, Findings, and Conclusions

13. This Proceeding is the Commission's inaugural experience with applying the Gas Infrastructure Planning Rules, adopted through Decision No. C22-0760 in the recent Gas Rulemaking. The Gas Rulemaking was undertaken to implement two statutes passed in 2021: Senate Bill (SB) 21-264, which requires certain Colorado gas utilities to develop comprehensive clean heat plans designed to achieve greenhouse gas (GHG) emissions reductions, and House Bill (HB) 21-1238, which modifies statutory provisions governing gas utility demand side management. In the Gas Rulemaking we stated that the Gas Infrastructure Planning Rules are intended to work in conjunction with the Clean Heat Plan Rules to achieve the substantial reductions in statewide GHG emissions required by §25-7-102(2)(g), C.R.S., and we determined that GIPs are a necessary component of the Commission's regulatory structure to ensure appropriate oversight of long-term and costly investments in gas system infrastructure.[1] The Commission expected that the Gas Infrastructure Planning Rules and associated filings will: "(1) facilitate the Commission's understanding of the current gas system; (2) serve as a place to approve specific projects on a prospective basis, as well as a place develop both better and more

[1] Decision No. C22-0760 at ¶ 27.

specific project alternative analysis processes; and (3) examine the future use of the system and the economics of the retail service provided over the long term, culminating in the 2050 statewide reductions in emissions as set forth in § 25-7-102(2)(g), C.R.S."[2]

14. In the Gas Rulemaking, we recognized that gas infrastructure planning is a new process for the Commission, utilities, and stakeholders. Therefore, the Commission determined that the initial GIP filings, such as this informational Initial GIP proceeding, would refine the process for future, adjudicated GIP proceedings. Under Rule 4552(c), this Proceeding was not fully adjudicatory in accordance with the procedures set forth in Rule 4552(b). However, there was an allowed discovery period, various rounds of comments, and a technical workshop and public comment hearing held at which the Commissioners were able to ask Public Service many questions about the Company's Initial GIP and its forecasting, planning, and budgeting methods and processes. The participation and filings of Public Service, the other Parties, and the commenters have provided significant and meaningful experience for the Commission to refine our understanding of what information and planning methods will assist us, and Public Service, in reaching the goals of the Gas Infrastructure Planning Rules.

15. Pursuant to Rule 723-4-4552(b)(V), we address the adequacy of Public Service's Initial GIP and the methods and processes used to formulate the Initial GIP. The Company states that certain enhancements and interim processes are appropriate, but it contends that the general scope of gas infrastructure planning should not be changed or broadened at this juncture. It states that the Commission should allow the Company and stakeholders time to grow into this new regulatory construct.[3]

[2] Decision No. C22-0760 at ¶ 167.

[3] Public Service Final Comments at p. 3.

16. As a general observation, the Commission recognizes this is a new and iterative process, and we acknowledge that Public Service's Initial GIP was filed on May 18, 2023, just three days after the updated Gas Rules became effective. Public Service provided an initial GIP filing which improved transparency into its budgeting and planning process. We also appreciate the Company's willingness to explore enhancements and participate in interim processes and filings.

17. However, the Commission finds Public Service's Initial GIP, and the Company's responses to our inquiries on its forecasting, planning, and budgeting processes, overly reliant on its legacy planning processes and a business-as-usual approach that is no longer acceptable nor in the best interest of ratepayers. The Company has made limited attempts to comply with certain portions of the Gas Infrastructure Planning Rules and has not been clear about when appropriate changes can and will be made to forecasting, budgeting, and planning processes. As demonstrated by SB 21-264 and HB 21-1238, the gas utility industry is undergoing a significant evolution in how it must do business, with a significant potential for future economic challenges. We therefore reiterate our contentions expressed in the Gas Rulemaking. The Gas Infrastructure Planning Rules are intended to significantly change and modernize utilities' infrastructure and capital planning processes, including analysis of alternatives to capital investment, so that the Commission has assurance the utilities make only strategic, reasonable and sound infrastructure investment decisions on behalf of ratepayers. Given the quickly changing landscape facing gas utilities, meaningful oversight of utilities' planned expenditures is required to avoid affordability challenges in the coming years and the possibility of new capital investments either being unused or severely underused. With no meaningful sharing of risk of the potential of new investments being stranded and utility profit primarily based off of the size of the utility's rate base, the Company lacks a

meaningful incentive to restrain investment to only those which are the most necessary and strategic or to identify and pursue more cost-effective options to traditional infrastructure investment. Given this systemic challenge with regulation of this industry during a transitionary period, it is essential that additional, proactive and meaningful oversight be provided through this process. That includes significant changes to how the Company forecasts and plans for upcoming projects.

18. The Commission expects that the Company's future GIP filings will be substantially more transparent regarding planned investment, will fully comply with requirements of the Gas Rules, and will demonstrate a commitment to meeting the significant challenge of keeping the natural gas system affordable for customers while fulfilling reliability, safety, and GHG emission reduction requirements and goals. To the extent the Company's future GIP filings do not meet these expectations, the Commission may consider additional appropriate avenues to encourage prudent and strategic infrastructure investment decisions and to ensure ratepayers do not cover the costs of imprudent decisions. This would likely include identifying opportunities to share the risk of investments that may become stranded or underutilized if the Company proceeds with forecasting and planning methodologies that do not appropriately consider the complexities of this transition, as identified in Rules 4553(b) and 4731(a)(I).

19. We provide the following specific guidance for the preparation of Public Service's future GIP filings including direction applicable to the preparation of the Company's 2025 GIP.

a. Forecasting

20. Rule 4553(b) states that the utility shall present reference, low, and high forecasts of design peak demand, customer count, sales and capacity requirements, gas content including expected mixtures by volume of hydrogen and recovered methane, and system-wide greenhouse

gas emissions, consistent with the utility's approved portfolio of clean heat resources and in accordance with Rule 4731(a)(I),[4] or any appropriate interim-year update to such forecasts in accordance with Rule 4733(a)(VI). The Commission adopted this approach, in which a filed GIP depends on an approved forecast from a prior clean heat plan (CHP) proceeding, in recognition of the fact that the CHP process would require longer-term projections and would generally be a more appropriate venue for thorough review of a utility's forecasting efforts. However, due to the cadence of required GIP and CHP filings, Public Service does not have an approved forecast to submit as part of its Initial GIP. Its first CHP proceeding is ongoing in Proceeding No. 23A-0392EG.

21. Public Service requests that the Commission allow any forecasting issues to be fully developed and explored in Proceeding No. 23A-0392EG, and that the Commission decline to give specific direction regarding forecasting for future GIP filings.[5]

22. In their comments, the Conservation Advocates contend that the Commission should give clear direction that forecasts in future GIPs must comply with relevant Commission rules, and that failure to do so may impact approval decisions for projects with need shown by these forecasts.[6] The Conservation Advocates and CEO propose that the Commission hold technical conference(s) prior to Public Service's next GIP filing to explore challenges to updating the Company's forecasting and to identify lessons from other utilities and other system planning and modelling experts that can help overcome these challenges.[7]

[4] Rule 4553(b) incorrectly cross-references Rule 4731(b)(I).

[5] Public Service Reply Comments at pp. 24-26.

[6] Conservation Advocates Final Comments at p. 6.

[7] Conservation Advocates Final Comments at p. 6; CEO Final Comments at p. 7.

23. In the forecasting process, there are four critical elements: design day; customer count; relevant codes and policies; and geographical segmentation. We take on customer count and relevant codes and policies in a single section.

24. It is essential to the GIP process to have an accurate forecast that fully complies with the requirements set out in the Gas Rules. The Commission recognizes that a utility's forecast is primarily completed, under the rules, in the context of CHP proceedings. However, analysis in GIP proceedings of planned infrastructure investment and alternatives to such investment necessarily relies on detailed and granular forecasting of peak loads so that a utility, parties to GIP proceedings, and the Commission can accurately identify areas that will experience system constraints and to analyze reasonable alternatives to traditional infrastructure investment to mitigate those constraints, understanding the potential size and timeline of those constraints. The Company was unable, even when questioned by the Commission, to identify a timeline or method that they will use to comply with the requirements set forth in the gas rules. It is unclear how, if the Company is not taking appropriate factors into account, the Company can substantiate the need for specific projects. Therefore, subject to any specific direction on forecasting methods and filings that the Commission may give in Proceeding No. 23A-0392EG, Public Service shall file a forecast that fully complies with Rules 4553(b) and 4731(a)(I) with or prior to its next GIP.

25. Additionally, as further discussed through this Decision, we find that many of the inadequacies in Public Service's Initial GIP would benefit from continued stakeholder development prior to Public Service filing its next GIP. We intend to open a miscellaneous proceeding to facilitate a series of stakeholder workshops, technical conferences, and Commissioner Information Meetings, as necessary, to enable continued discussions on how Public Service should model and prepare certain gas infrastructure planning items. This miscellaneous

proceeding should include forecasting issues. We will handle Design Day separately in the ongoing miscellaneous proceeding, Proceeding No. 23M-0092G, as discussed below.

i. Design Day

26. Public Service explains that it has nine unique weather zones, and for each it applies a 1-in-30-year probability methodology to establish Design Day temperature. The Company explains that the approach is designed to ensure reliable service can be provided to firm gas customers under Design Day conditions, which is based on a 1-in-30-year cold weather event.

27. The Company's Design Day temperatures range from -18° Fahrenheit (F) in Grand Junction to -42° F in the San Luis Valley. Denver is assigned a Design Day temperature of -25° F. In response to Commission questions, the Company indicated the last year the Design Day temperature was reached, the coldest temperature experienced in the last 15 years, and trends in the set Design Day temperature for each weather zone.

28. UCA argues that accurate Design Day or Peak Design modeling is critical for "optimizing capacity, efficiency, and reliability of the distribution gas system… while minimizing environmental and economic impacts." They also suggest there is no specific industry standard or state regulation to provide guidance for a Design Day methodology leading to a flawed system and potentially conservative Design Day model outcomes that lead to over-investment in gas infrastructure.[8]

29. The Conservation Advocates contend the probabilistic method used by Public Service is not transparent as the Company relies on an internal methodology to update the design day each year, making it difficult for the Commission and stakeholders to reproduce and confirm the Company's calculations. The design day has not been experienced in any weather zone since

[8] UCA Final Comments at p. 4.

1996, with only one of nine weather zones reaching the design day in the last thirty years. In addition, by relying on over 70 years of data rather than a more recent dataset, the Conservation Advocates state the Company's design day methodology may be overly reliant on historical weather patterns that may be changing as a result of climate change.[9]

30. According to the Conservation Advocates, for each one degree increase in temperature, peak demand is forecast to decrease by 1.3percent in the Denver weather zone, and thus Degree Day could have a significant impact on the peak throughput necessary to plan toward. The Conservation Advocates recommend the Commission require the Company to include the specific calculations and methodology it uses to calculate the design day in its next GIP filing, while also providing all historical weather data the Company relies on for these calculations, and to expressly account for climate change.[10]

31. Public Service argues that increasing the Design Day temperature will subsequently increase the probability of the Design Day temperature occurring during a heating season, and the likelihood of outages. The Company notes the calculation is updated each year, based on observed weather over the last year across each of its nine weather zones, and using 70 years of historic weather data collected.[11] Public Service contends use of historic data is an appropriate methodology and it is not prudent to adjust for "expected" future climate change, as suggested by CA.[12]

32. Public Service suggests it "is open to considering appropriate adjustments to our methodology, but only after careful and thorough Company analyses." The Company also

[9] Conservation Advocates Initial Comments at p. 24.

[10] Conservation Advocates Initial Comments at pp. 25-26.

[11] Proceeding No. 23M-0092G, Public Service Response to Commission Questions, filed May 1, 2023, Attachment A, at p. 1, the Company's response to question c.

[12] Public Service Reply Comments at p. 22.

contends that in the end, setting of Design Day must be a decision of the Company, as the obligation to serve safe and reliable service lies with the Company.[13]

33. Public Service indicates it is committed to holding one or more stakeholder workshops on Design Day methodologies prior to the 2025 GIP. The Company also offers to provide further supporting documentation regarding Design Day temperatures in the 2025 GIP, such as specific calculations and methodologies used to calculate Design Day temperature, as well as relied-upon historical weather data as requested by the Conservation Advocates.[14]

34. The Commission agrees with arguments made that Design Day is a critical input into capacity expansion assessment and investment. We also agree with arguments that ensuring reliability is of paramount importance and recognize that a loss of pressure could lead to significant gas service outages in the dead of winter. This appears to be a major and underappreciated risk for those customers relying upon the gas system for their space heating, as an outage on the gas system is likely to be more catastrophic and long-lasting than an outage on the electric system, given that individual customer pilot lights must be turned back on, often through utility visits home-by-home, in ways that may take weeks or months. . As reported by Federal authorities, such a scenario nearly happened to New York City during winter storm Elliot in December 2022.[15] While these events are uncommon, they drive massive investments in the gas system and will persist in areas where customers continue to utilize gas, even as a backup heating fuel, leading to additional concerns about how to maintain the affordability of the gas system, especially if throughput decreases. However, according to the Company, it plans for a condition that in some

[13] Public Service Final Comments at pp. 7-8.

[14] Public Service Final Comments at p. 8.

[15] *See Inquiry into Bulk-Power System Operations During December 2022 Winter Storm Elliott*, FERC, NERC and Regional Entity Staff Report, https://www.ferc.gov/media/winter-storm-elliott-report-inquiry-bulk-power-system-operations-during-december-2022, accessed February 9, 2024.

cases has not occurred since half-way through the last century. We believe planning for this very extreme condition, combined with a customer base that increasingly uses gas only as a backup fuel could pose extraordinary costs on the system and a challenge in setting rates .

35. The Commission also notes that we are currently evaluating Design Day methodologies and assumptions in an investigatory docket, Proceeding No. 23M-0092G. We believe that proceeding is well suited to make additional progress in improving the Commission's comprehension of individual utility approach, stakeholder perspectives, and industry best practices in this important topic area. That proceeding also allows for an evaluation across each of the state's retail gas utilities, which provides helpful comparison and contrast in the methodologies and planning. Accordingly, the Commission will not require separate Design Day workshops as suggested by several parties, but rather, leverage the open miscellaneous proceeding to further these goals.

36. Further, the Company should include in its 2025 GIP its proposal for the Design Day calculation as well as models, testimony and data supporting such calculations and associated reliability-related concerns. The Commission will also weigh the merits of the Design Day calculation in that proceeding.

ii. Customer Count and Local Codes and Policies

37. Rule 4731(a)(I)(e) requires forecasts to include a range of factors including:

- The effect of current and enacted state and local building codes;
- Changes in line extension policies and the associated potential impact on gas customer growth;
- Building electrification programs or incentives offered by the local electric utility or local or federal entities that overlap with a utility's gas service territory;
- The price elasticity of demand; and

- Other known factors affecting sales and capacity needs

38. Public Service explains that due to timing of the Gas Infrastructure Planning Rules and the GIP filing deadline, the Company by necessity based the Initial GIP on previously planned capital investment, relying primarily on the November 2022 five-year forecasted and budgeted investments for the 2023-2027. The Company also indicates that it anticipates subsequent GIP reports will evolve over time as system planning refinements are made and more closely align with the gas budgeting process. However, the Company, when asked, was not able to project when the Company planned to reach full compliance with the rules, indicating that additional focus on compliance is required here to ensure this effort significantly advances to full compliance with the rule requirements by the filing of the Company's next GIP.

39. The Company projects, via its reference case, total growth in customer count of 0.9 percent per year through the GIP. This value comprises roughly 0.95 percent per year growth in the residential sector and 0.25 percent in small commercial sector (large commercial customers manage their own gas procurement). Low and high forecasts produced modest spread around the reference case, but always suggested positive growth. The Company identified its growth forecasts are primarily based off of growth in the previous ten-year period, taking into account Department of Local Affairs statistics about expected apportionment of growth between counties. The forecast also appears to hinge primarily off of customer count, rather than usage per customer, which may change dramatically with electrification of some uses for new customers.

40. UCA argues that despite Commission guidance that the GIP "work in conjunction" with its CHP and that gas utilities must consider changes in business models due to emission reduction goals, Public Service only offers forecasts that contemplate growth. According to UCA, the Commission should require not just low and high forecasts of design peak demand, customer

count, sales and capacity requirements, but also forecasts that reflect "decreases in customer count and capacity requirements."[16]

41. The Conservation Advocates note the Company's forecasts as provided in this GIP proceeding and the Company's CHP proceeding are quite different, even though they were filed only months apart. Specifically, the Company's CHP forecast suggests lower growth in customer count, particularly for scenarios with high electrification of end-use.

42. The Conservation Advocates contend the GIP's demand and customer count forecast highlights a weakness in the Company's GIP filing by not meaningfully considering the Company's GHG obligations under SB 21-264 (the "clean heat standard") or state and local policies and market forces that are likely to reduce gas customer and load growth relative to historic trends.[17] The Conservation Advocates suggest the Company's Customer Management Module (CMM) "only reflects historical demand reductions from the Company's DSM programs; it does not project future demand reductions from DSM measures" and thus ignores the reality of current policy.[18] The Conservation Advocates suggest that the greatest need regarding Public Service's forecasting effort is for the Company to overhaul its process to reflect large and rapid shifts due to climate policies at the state and local level, as required by the Gas Infrastructure Planning rules.[19]

43. The Conservation Advocates note that residential use per customer has remained virtually flat at roughly 76 Dth per customer since 2015. They suggest that if this historical trend were to continue, retail gas sales will be 17 percent above 2015 levels by 2029, leaving the Company far from its statutory target of reducing emissions 22 percent below 2015 levels by 2030.

[16] UCA Final Comments at pp. 5-6.
[17] Conservation Advocates Initial Comments at pp. 13-14.
[18] *Id.* at p. 15.
[19] Conservation Advocates Final Comments at p. 3.

The Conservation Advocates argue that its necessary to uncouple gas customer count from population growth, and that a key approach to breaking the relationship of those two factors is to encourage building developers to build all-electric. They suggest that with current federal and state incentives factored and avoided gas connection charges considered, an all-electric home saves home builders an average of $5,600 relative to a mixed-fuel home. Also, the Conservation Advocates note, Senate Bill 23-291 requires gas utilities to eliminate gas line extension allowances by the end of 2023, which should further improve the economics of all-electric construction.[20]

44. CEO notes that the Company has never maintained the information required in Rule 4731 at the scale that is required. CEO also suggests the Company simply does not have the tools to satisfy Rule 4731 but is currently developing tools to do so. CEO recognizes that Rule 4731 is complex and places new obligations on the Company.

45. CEO argues now is an excellent time to have Commission Staff lead a technical group to address topics such as these. It would be prudent for the Commission, Company, and other interested stakeholders to develop a tool that meets the needs of the Commission in evaluating gas system planning. CEO suggests the Commission direct Commission Advisory Staff to conduct a technical conference or series of technical workshops, perhaps next summer, to address this.

46. Public Service responds to the Conservation Advocates that issues raised regarding the need to uncouple customer count from population growth and uncouple retail sales and demand from customer count are not central to this GIP. Instead, that should be evaluated as part of the Company's CHP application, as the rules contemplate. Public Service also contends that this GIP proceeding is not a litigation of the Clean Heat Plan, and that proceeding needs to be concluded in

[20] Conservation Advocates Initial Comments at p. 16.

order to inform future GIPs. However, Public Service admits it is reasonable to expect that the Company will uncouple customer count growth from population growth in the future. Public Service claims there was limited information available at the time the customer count forecast for the Initial GIP was developed and contends that the Company does not include speculative or proposed policies that might develop in the future in its base forecast as that would not be a prudent planning practice.

47. The Company argues that planning processes used to determine capacity constraints rely on concepts of peak hour demand on the coldest days, rather than overall throughput, and thus there is not a direct relationship to emission reduction targets and infrastructure investment.[21]

48. The Company notes that the customer count forecast used in the Initial GIP is nearly a year old, and predates the forecast used in the CHP; that it does include a decreasing energy intensity in its sales forecast (although this is not a direct input into its capacity planning processes and it is not related to any specific codes, policies, or standards); and, that the Company's growth forecasts are beginning to include impacts of market and beneficial electrification on customer counts and those assumptions will become more robust over time.

49. The Company argues that the Conservation Advocates' reference to use Dth per customer information from testimony in the Company's last gas rate case is stale and not relevant to the planning processes underlying the GIP. They also contend expectations as to when and how the Company's historical capacity planning and customer count forecast methodologies need to

[21] Public Service Reply Comments at p. 24.

evolve are unrealistic. Instead, Public Service suggests change needs to be accomplished in a manner that continues to ensure the safe and reliable operation of the gas system.[22]

50. The Commission recognizes that the Company, in this Initial GIP filing, was under an extraordinary circumstance by having to complete its analyses just days after the Gas Rules were finalized, as suggested by Public Service. That being said, we note that draft rules were available over a year before the Company filed its Initial GIP, including reference to fundamental components such as local building codes and Federal and state incentives.

51. The Commission also recognizes that the forecasting process is primarily a responsibility under the CHP process, and while the Company may fulfill its forecast obligations via its CHP, as the rules allow, the Commission expects to receive a fully compliant forecast no later than the next GIP. We also note that in its CHP application, the Company requests that it be allowed to delay full compliance with forecasting requirements until its subsequent CHP in 2027.[23] If that request were to be granted, and that process had to conclude before incorporation into a GIP application, the GIP process would not incorporate a compliant forecast until 2029. We find such a delay to be wholly unsatisfactory. The Commission intended to recognize the need for forecasting in both processes, with the CHP as the process more likely to lead to significant changes in forecasting, making updated forecasts coming out of a CHP a very useful tool in the GIP process. However, forecasting within the GIP has the potential to drive significant capital investment and a delay, as suggested by the Company, would lead to an unreasonable delay in utilizing appropriate factors and a localized level of forecasting that are essential to ensure future investments are appropriately supported. Accordingly, we require the Company to include in its

[22] Id. at p. 26.

[23] *See* Proceeding No. 23A-0392EG, HE 113, Goodenough Supplemental Direct Testimony, at p. 9.

next GIP application a fully compliant forecast subject to any guidance provided in Proceeding No. 23A-0392EG. This must include full consideration of the factors listed, as well as localized forecasting, which appropriately considers the impact of those factors within the specific areas of the system such that they can be matched up with planned projects appropriately. An inability or unwillingness to account for these factors locally could lead to significant overinvestment in portions of the system.

52. The Commission also notes there are a few important distinctions between the CHP and GIP processes, even if certain measures and programs mitigate both emissions (the focus of the CHP) and infrastructure investment (the focus of the GIP); thus, we expect the Company to make specific refinements to produce a GIP-relevant forecast even if the ongoing CHP produces a fully compliant forecast relevant to that proceeding.

53. With respect to UCA's suggestion that the Commission should require the Company to incorporate a scenario of negative customer growth in its next forecast, the Commission denies this request. The reference and alternate forecasts should be evidence-based and include appropriate ranges of electrification for both non-construction and equipment replacement upon failure based on an aggressive but realistic span of customer adoption rates.

54. The Commission notes that numerous past and current Public Service proceedings incorporate a range of DSM and BE programs and measures. To properly evaluate the value of these various initiatives, we must improve our comprehension of how such efforts overlap, complement, or compete with one another. Notably, the Commission directs the Company to analyze, develop and support a "supply curve" for DSM and BE measures in future GIP filings. Such a supply curve should indicate how much incentive – in both dollars and percentage of total cost – is expected to induce a specific participation rate and how that is projected to change over

time. The supply curve analysis should be designed to evaluate the impact of cumulative incentives (utility and non-utility) on DSM and BE measure adoption and associated gas throughput and peak usage such that the Commission may have reasonable insight into the costs and benefits of multiple utility activities. It should also identify how the incentive needed to induce specific participation rates is impacted by projected rate differentials between gas and electric service.

55. Further, such a study should be logically consistent with the new or updated potential study required by Decision No. C23-0413 in Proceeding No. 22A-0309EG.[24] The Commission notes that the potential study is due in the next Strategic Issues proceeding, expected sometime in 2025. Because these matters have significant overlap, the Commission finds that the Strategic Issues proceeding should be filed simultaneously with the GIP, or that both the supply curve and potential studies be submitted with whatever application is submitted first, such that consistent information is filed in both proceedings.

56. With respect to CEO's suggestion that the Commission should order Staff to conduct a technical conference or series of workshops to address the forecast parameters in Rule 4731(a)(I)(e), we generally agree but believe the process could be improved if conducted via a Commission-led miscellaneous proceeding. It is critical that significant progress be made in the area of forecasting, which is likely best achieved with Commission involvement, so the Commission is aware of the discussions, proposals and progress, or lack thereof, to ensure that Company and stakeholder involvement is tailored to achieve compliance by the filing of the Company's next GIP. Accordingly, as mentioned above, we intend to open new miscellaneous proceeding in order to facilitate a meaningful sharing of information regarding the Company's

[24] Decision No. C23-0413 at ¶¶ 70-71.

forecasting methodology and to discuss the parameters, logic, and other relevant facets of a gas system planning tool relevant to Public Service's service territory and customer base.

iii. Geographical Segmentation

57. Rule 4731(a)(I)(A) requires forecast elements to be provided by the total utility and customer class. Rule 4731(a)(I)(B) states: Forecasts should be disaggregated by pressure district, unique planning zones requiring a distinct design day, or other geographical segmentation, as appropriate.

58. CEO suggests the Commission should clarify how many forecasts are required under the rule and what information is required in which forecast. CEO explains that it is not clear whether a utility is required to present two forecasts: one that presents the required information at the system level by pressure district and a second, separate forecast that presents the required information disaggregated by customer class and by pressure districts. Additionally, according to CEO, Rule 4731 could be read to require a utility to present four distinct forecasts: system level, system level by district, customer class level, and customer class level by district.

59. The Commission notes that the rules gave the utilities a fair amount of leeway to conduct geographic-specific forecasts, and that leeway seems to be causing confusion. At this juncture, we clarify that forecasting should be conducted by reasonably small geographic areas in order to comprehend the specific needs of that area for infrastructure expansion. Hence, the Commission envisioned the concept of a pressure district or a geographically segregated and operated portion of the system between the level of regulator station and city gate as an ideal level of granularity. As such, the county-wide forecasting used by the Company was inappropriately broad, lumping together many different jurisdictions or areas with the potential for different factors which would influence load and capacity within those areas. The pressure district concept was

introduced to comprehend system constraints and the need for investment to mitigate such constraints even if that comprised multiple, non-contiguous projects. We reiterate that distinct forecasts should include customer count and peak demand by customer class for each designated pressure district or other geographic area as appropriately proposed by the Company. Given the potential for non-coincident peaks across customer classes and geographic zones, system total peak may not equal the sum of the parts, but nonetheless may be useful for general reference purposes with appropriate caveats and should be provided. The Commission further clarifies that we expect the Company's forecasting capabilities to improve significantly over time as models and methodologies are refined, consistent with statements made by Public Service and others. As these processes progress, the level of local granularity may need to further increase, especially if the Commission perceives challenges in planning and cost-benefit evaluation which warrant improved decision tools. As the rules stand now, areas with unique local incentives or building codes that favor electrification should be modeled distinctly and overlaid with regions of system constraint and other factors relevant to system planning. We note that forecasts specific to municipalities or other geographic segmentation may be increasingly important to evaluate projects that are intended to solve capacity constraints, projects to address Maximum Allowable Operation Pressure (MAOP)-relevant issues, and other potential infrastructure investments. Forecasts in the future that do not properly account for the unique factors in an area that are likely to influence growth, or lack thereof, in the needs of the gas system will likely not be adequate to substantiate future investments.

b. Investment Included in GIP Filings

60. Rule 4551(f) defines planned projects a utility is to present in its GIP filings. For utilities with 50,000 or more full-service customers, including Public Service, a planned project represents any planned facility that exceeds $3 million in 2020 dollars.

61. In its Initial GIP filing, the Company reported 15 projects: six System Safety and Integrity, eight Capacity Expansion, one Mandatory Relocation, and no New Business projects. Overall, these projects represented $69.2 million through the total GIP period (2023-2028) with almost half the spending occurring in 2023, the application year.

62. In response to a request for additional information, the Company provided an analysis of projects if the GIP threshold value was reduced to $2 million or $1 million. That analysis indicated 56 projects representing $151.0 million of investment through the GIP period would be presented if the project cost threshold was set at $1 million, and 26 projects representing $112.4 million of investment if the project cost threshold was set at $2 million.

63. Public Service conducted another projection, per Commission request, of total spending in each of the categories above. In total, the Company plans to invest between $446 and $494 million per year, about two thirds of which the Company represents as System Safety and Integrity. Public Service notes that most System Safety and Integrity investment is generally considered "programmatic" or "routine," suggesting the expenditure is ongoing, impromptu, and small in dollar amount.[25] Public Service also provided information that indicated their projected investment for 2023 is approximately ten percent, or $45 million, higher than what was projected

[25] Public Service Response to Commission Decision No. C23-0566-I, Rev. 1 at p. 6.

in the Company's last gas rate case, Proceeding No. 22AL-0049G, filed slightly over one year earlier.[26]

64. Another Public Service response to Commission request for analysis indicated the Company is not able to forecast investment assuming load growth is held to zero percent. The Company explains that, at a minimum, this exercise would require a thorough review of all budgeted investments associated with natural growth as well as discrete new business service requests, and that some capacity expansion projects would still be required in order to maintain minimum system design pressures at the time of zero percent growth occurring.[27]

65. Numerous parties argued that the fifteen projects presented in the GIP represent a tiny fraction (less than four percent) of the Company's planned capital expenditures, given that the Company projects total expenditure of roughly $2.38 billion over the five-year period 2023 - 2027.

66. UCA suggests that the current $3 million planned project threshold does not allow the Commission to properly examine the future plans of any gas utility for its distribution system. UCA notes that eight Capacity Expansion projects amounted to only $39.2 million. Another ten additional Capacity Expansion projects between $1-3 million are expected to cost another $16.6 million. "Their absence in this plan creates an accountability problem for this Commission to have a meaningful understanding of what capital investment will be required."[28] UCA suggests lowering the dollar amount established in Rule 4551(f) to a $1 million threshold via a new rulemaking proceeding.

67. The Conservation Advocates generally agree and suggest for the GIP process to provide a meaningful opportunity to examine utility projects, and potentially reduce future

[26] Id. at p. 11.
[27] Id. at pp. 12-13.
[28] UCA Final Comments at p. 8.

spending through NPAs, future GIPs will need to include additional projects or groups of projects within the NPA analysis beyond those included in the inaugural GIP filing.[29]

68. Staff notes that the Company's GIP does not reference the Mountain system capacity expansion project (Mountain System Project) even though it informed the Commission of the project back in December 2022.[30] They suggest the Commission needs to better comprehend this project including (1) how the Mountain System Project fits into the overall Initial GIP framework; and (2) the development timeline for the project.

69. United suggests the Commission should require the Company to extend the GIP planning horizon to ten years, claiming "a five-year horizon will often not be sufficient to plan and implement many NPAs, nor to accommodate a solicitation and community engagement that would yield the most cost-effective and customer-supported projects."[31]

70. Public Service argues that the Commission carefully weighed, via the Rulemaking process, the desire for information with the need to ensure that the GIP process remained "manageable, actionable, and efficient" for the LDCs. The Company contends it was never the intent, particularly for litigated GIPs that require Commission approval, to require reporting for (and approval of) all, or even a significant portion, of the Company's gas capital expenditures outside of a rate case. Instead, the focus of the GIP was intended to be on the larger planned projects, providing a form of "pre-approval" for such projects prior to the filing of a base rate case.

71. The Company argues that its neither practical nor appropriate to change or broaden the scope of the GIP at this juncture and the Commission should let the Company's next litigated

[29] Conservation Advocates Initial Comments at p. 6.
[30] Staff Initial Comments at p. 2.
[31] United Initial Comments at p. 27.

GIP in 2025 "play out," gaining experience with other utilities' GIPs in the interim.[32] Public Service also suggests that, in addition to relitigating topics from the Rulemaking, the practical impact of adjusting the planned project cost threshold would increase the number of planned projects, but would not meaningfully change the amount of capital expenditures as a share of total gas system capital investments.[33] For example, the Company explains, if the threshold was lowered to $1 million, the number of planned projects would increase to more than 50 but total capital expenditure captured would still represent a fraction of total, due to the nature of ongoing work.

72. With respect to the Mountain System Project, the Company contends this project was too early in the Company's planning process to be included in the GIP even though the Company has identified an existing and forecasted capacity shortfall in several load centers in the Mountain System and is in the process of considering NPA portfolios as potential long-term solutions.[34]

73. The Company also notes it has a new Integrated System Planning (ISP) division which evaluates Company-wide electric and gas infrastructure requirements. Public Service explains that the ISP is expected to result in reporting of more projects greater than $3 million.

74. With respect to arguments that the Commission should extend the analysis period, Public Service notes if a capacity constraint exists in the modeled five-year period, then the proposed project to address the constraint is reviewed to see if it is adequate to meet at least ten years of forecasted firm growth from the in-service date of the project.[35]

[32] Public Service Final Comments at p. 3.
[33] Public Service Reply Comments at p. 14.
[34] Public Service Response to Decision No. C23-0566-I, Rev. at p. 7.
[35] Public Service Reply Comments at p. 18.

75. Public Service also contends the Company's modeling process evaluates, on an annual basis, whether there will be capacity constraints on the high-pressure gas system beyond the five-year horizon (and up to ten years), but such projects are very speculative in nature. Accordingly, Public Service contends, it continues to evaluate them on an annual basis, and NPAs are not the most appropriate mitigation tool in those outer years. The Company suggests that mitigation of such projects would be better addressed through the Company's DSM planning effort, which may allow for a "refined targeted demand area program."[36]

76. The Commission generally agrees with Public Service that the intent of the threshold value was not to review all new projects. Rather, it was designed to allow analysis of a broad range, but still-manageable number, of projects representing major upcoming investments that will be undertaken by the utility. However, the Commission was expecting the Company's GIP to include a significantly better representation of upcoming investment, both in number and range of projects represented. For example, the representation in the GIP that $0 in capital expenditures of planned projects is planned for safety and integrity projects from 2025 through the duration of the GIP planning period stands in complete contrast to current capital expenditures where upwards of 60percent of annual capital expenditures are spent on safety and integrity projects and puzzling in the context of the intent of safety and integrity work requiring that the utility know their assets, rank risks and plan projects according to risk appropriately. It is difficult to conceive that the Company is not aware of upcoming safety and integrity work meeting the planned project threshold more than a year in advance and, if so, how that short-term planning regime is appropriate. During the rulemaking process, the Company submitted data indicating that it invested in 29 projects above the $3 million threshold value over the preceding three-year period

[36] Id.

(2019-2021), including projects from all category types.[37] The Company's provision of 15 projects in the instant proceeding represents roughly half the number of projects indicated over twice the investment duration (six years vs. three year), and was not in line with our expectations based on the information provided by the Company in the rulemaking.

77. While the dollar value threshold is important, as suggested by several parties, the Commission is also concerned with how the Company categorizes the readiness of its projects in its budgeting and scoping processes, and the likelihood that these internal categorizations result in many likely upcoming projects being left out of GIP review regardless of project size. The Commission believes that the Mountain System Project is a prime example of a project that should have been evaluated in this GIP and for which an NPA analysis should have been conducted. Instead, this project - which was anticipated more than a year ago - was not identified as a project in the Initial GIP apparently because it is not sufficiently scoped, despite what the Company has described as an existing capacity shortfall which it has known of for over a year. We find the absence from this process of the Mountain System Project, and potentially others like it, effectively negates the purpose of gas infrastructure planning as a proactive planning regime. We are encouraged that the company intends to conduct an NPA evaluation for this project, but also concerned that valuable time was lost in which the Company did not appear to be talking to the impacted communities and stakeholders or being transparent about their plans for the project, which jeopardizes the opportunity to investigate cost effective alternatives. We note that numerous mountain municipalities have climate goals and likely represent willing partners in the electrification of new construction, appliance replacement, and building retrofit opportunities.

[37] Public Service's Notice of Filing Data Responsive to Paragraph 97 of Decision No. C22-0427-I, in Proceeding No. 21R-0449G, submitted August 19, 2022.

78. Further, the rules clearly state that a project, particularly in the latter half of the GIP (referred to as the *information period*), does not have to have all details be specifically known to report it. Rule 4553(a)(VIII) states: The utility shall provide project-level information consistent with the requirements in paragraph 4553(c) for all projects with an expected construction start date during the gas infrastructure plan action period and the gas infrastructure plan informational period, where available. For planned projects in the gas infrastructure plan informational period where project-level information is not available, *category-level specificity* consistent with subparagraph 4553(a)(III) is acceptable (emphasis added).

79. Accordingly, we find it necessary to clarify that GIP "projects" should include not just specifically identified and planned infrastructure improvements but also the identification of any meaningful system constraint and the *likely* capacity expansion investments necessary to mitigate such through the GIP analysis period. Again, this was the reason forecasting was intended to be done on a localized level – to comprehend regional system constraint so that a range of traditional and non-traditional investment options to mitigate a future system constraint can be evaluated and selected based on the lowest total cost. The Commission recognizes that this clarification may lead to a less-than-fully scoped budget estimate upon which to conduct cost-benefit analyses and NPA option evaluation. In such cases, the Company should make a reasonable initial estimate of costs based on the likely infrastructure improvements necessary and the cost of similar project components in the recent past.

80. We also remind Public Service that the $3 million threshold applies to the portfolio of infrastructure projects identified to alleviate a forecasted constraint under the GIP Rules. Rule 4553(a)(III)(C) defines "Capacity expansion projects" as both individual projects *and sets of inter-related facilities* needed to maintain system reliability and meet a specified capacity expansion

need (emphasis added). In this initial GIP, no projects were presented that represented a set of interrelated facilities. It is difficult to determine at this time if their exclusion was because none exist in the studied time period or because the Company did not follow this portion of the rules. We expect that, when investment is evaluated as a set of inter-related facilities necessary to mitigate system constraint and maintain system reliability, more of Public Service's projects will meet the $3 million planned project threshold.

81. With respect to the Company's claim that much of its overall planned investment is programmatic or routine, Rule 4551(b) defines a "defined programmatic expense" as any programmatic expense that, in the aggregate, falls within the oversight of application for approval of a GIP. The rules also refer to two examples of such – relocation or replacement of meters and replacement of customer-owned yard lines – but leave open the potential for other programmatic or routine expenses to be included. We believe routine or programmatic expenses under the Company's Safety and Integrity investment type may legitimately be categorized as Defined programmatic expenses. Accordingly, we require Public Service to increase in its next GIP the transparency of these investments, including any defined programmatic expense where the total programmatic investment over the GIP periods exceeds the planned project threshold of $3 million, so that the Commission may meaningfully improve its comprehension of these investment practices and any viable alternatives.

82. With regard to New Business projects, the Company argues that these are brought forward by the development community without significant lead time, and that they generally do not exceed $3 million. The Commission is concerned that the Company's cost evaluation of New Business projects potentially excludes additional investment needs upstream that are triggered by the associated new loads. We find it necessary to clarify that New Business projects should be

evaluated against the dollar value threshold based on the total costs on the system including reasonably expected upstream capacity expansions, assuming the full capacity impact of any New Business.

83. We recognize that a New Business project was presented in the Company's CHP proceeding as a Market Transformation Initiative. This is consistent with suggestions made during the rulemaking by CEO and the Company. The Commission notes that there are potential tradeoffs of which venue to review New Business projects or programs: the CHP is designed to be implemented every four years, the GIP every two years; however, the CHP process may be a more appropriate venue to review program design for an ongoing effort such as engaging developers for all-electric or nearly all-electric construction. The Commission will assess that opportunity in the CHP proceeding, and appreciates future comment to that effect.

84. With respect to United's request for a 10-year GIP horizon, and Public Service's response that it conducts a five-year forecast, the Commission denies the request to modify the required GIP horizon at this time. While we agree that a longer planning horizon could improve the success of NPA opportunities, we believe such a change is unrealistic at this time, and the instant proceeding is the not correct forum to consider such a modification. However, we remind Public Service that the rules require six years of GIP forecast including the current application year and five years of forecasted values. While we recognize the Company may currently develop a five year forecast, the Company may have to modify internal methods and processes to accommodate the planning expectations under the GIP rules. We again reiterate that the GIP rules were not designed to tuck neatly inside of the Company's legacy planning processes, but rather to move to significantly more transparent and proactive planning, which likely necessitates internal changes to match the expectations.

85. We also find it necessary to clarify that projects not reviewed via a GIP or CPCN process, or brought to the Commission with insufficient time for reasonable GIP or CPCN review, will be assessed without the presumption of prudence available in the GIP and CPCN processes when the Company seeks cost recovery of such projects. The Commission intends to investigate if similar information as would be required in a GIP or CPCN should be provided for projects identified in future rate case proceedings which have not undergone a GIP or CPCN review process. It is our intention that those projects still receive meaningful review of alternatives, even if such review must be done retroactively. In the case that the Company moves forward with projects without GIP or CPCN review, it is likely doing so at its own risk. This is not intended to serve as a deterrent for emergency repairs or other time sensitive work for which NPAs would be unreasonable, as those projects would likely not be subject to NPA review even in a GIP process.

c. Non-Pipeline Alternatives Analysis

86. Under Rules 4552(b) and 4553(c)(I)(P), Public Service was required to conduct alternatives analyses for at least five planned new business or capacity expansion projects in its Initial GIP. The alternatives analysis includes NPAs, costs for the alternatives, and criteria to rank or eliminate the alternatives. For the selected planned projects, the alternatives analysis must consider: one or more applicable clean heat resources consistent with the utility's most recently approved Clean Heat Plan, Demand Side Management plan, or beneficial electrification plan, as applicable; a cost-benefit analysis (CBA) including the costs of direct investment and the social costs of methane for emissions due to or avoided by the alternative; and available best value employment metrics (BVEM) for each alternative. The alternatives analysis must also include, at a minimum, the technologies or approaches proposed and evaluated, the projected timeline and annual implementation rate for the technology or approaches evaluated, the technical feasibility of

the alternative assuming full adoption, Public Service's strategy to facilitate the alternatives, and an explanation of the methodology used to select the projects presented with an alternatives analysis.

87. The Company created and applied an NPA Suitability Screening Criteria to the capacity expansion planned projects within the GIP Plan Period.[38] Through this screening, the Company asked the following questions for each project: (1) is the planned project a new business or capacity expansion project; (2) do underlying conditions preclude an NPA from mitigating the need for the proposed project; and (3) can an NPA be implemented with sufficient time to delay, reduce, or avoid the proposed project. For a project to be further considered for an NPA analysis, the answer to each of these questions had to indicate NPA analysis suitability. Following the Suitability Criteria screening, Public Service conducted NPA analyses for the following five projects: (1) Mead to East Longmont Reinforcement; (2) Harmony High Pressure Pipeline Reinforcement; (3) Fort Lupton Compressor Station; (4) Pearl Street Mall; and (5) F-3 Reinforcement.

88. The Company explains that it evaluated NPA alternatives including increased participation in energy efficiency, electrification programs, and customer conversion from firm to interruptible service.[39] It also considered interim mitigation options to temporarily address a capacity shortfall until the NPA technologies and approaches become fully implemented, including bypassing a regulator station and supplemental supply in the form of compressed natural gas or liquified natural gas.[40] To evaluate the feasibility of an NPA portfolio, Public Service states that it considered: technical potential, or the theoretical maximum achievable amount of peak demand

[38] Initial GIP Report at pp. 56-57.
[39] Initial GIP Report at p. 57.
[40] Initial GIP Report at pp. 58-60.

that could be deferred or avoided by NPAs assuming full technology adoption; achievable potential, or the realistic amount of peak demand reduction considering factors including customer financial incentives and customer willingness to adopt alternative technologies; cost benefit analysis to compare the net present value (NPV) economic benefits between the proposed gas infrastructure project and the achievable NPA portfolio; and best value employment metrics to provide a quantitative comparison of the potential impacts to the workforce if a NPA portfolio was pursued in lieu of the planned project.[41]

89. The Commission appreciates Public Service's efforts in creating and implementing its NPA analysis process and CBA methodology for this Initial GIP, as well as the Company's commitment to continued refinement and evolution of its NPA measures. We are encouraged by the results of this first attempt, and we are eager to see how this process may provide benefits to ratepayers on a larger scale. At the time of the Gas Rulemaking, we recognized that alternatives analysis was a nascent concept and that establishing a detailed methodology for planned project selection for alternatives analysis was difficult due to the Commission's limited insight into utility planning processes. Therefore, the Gas Rules intended that the open review process of the initial informational GIP filings would support future direction on which planned projects should be subject to alternatives analysis.[42] Decision No. C22-0760 stated our expectation that initial GIP filings would improve our ability to specify the criteria and/or number of planned projects to be subjected to an alternatives analysis in an adjudicated GIP proceeding.[43] This Proceeding has fulfilled that expectation. We address specific NPA issues below and give guidance and directives

[41] Initial GIP Report at pp. 64-72.
[42] Decision No. C22-0760 at ¶ 189.
[43] Decision No. C22-0760 at ¶ 249.

for Public Service's future adjudicated GIP filings and interim processes. This includes some direction applicable only to the Company's 2025 GIP.

i. Projects Subject to NPA Evaluation

90. The Gas Infrastructure Planning rules do not specify the criteria or number of planned projects to be subjected to an alternatives analysis in an adjudicated GIP proceeding. For this initial, informational GIP, the Commission established that the Company should conduct five NPA evaluations of Capacity Expansion and New Business projects above the $3 million threshold.

91. Throughout the Proceeding, various parties proposed that the applicability of NPA analysis be expanded for future GIP proceedings beyond the requirements for initial GIP filings. For example, United argues that as many projects as possible, including projects of all categories and sizes, should be subject to NPA screening and analysis.[44] CEO contends safety and integrity projects should be eligible for NPA analysis, given that the Pearl Street Mall project includes some PHMSA requirements and future projects may have similar characteristics.[45] The Conservation Advocates argue that all categories of projects should be considered for NPA analysis, especially where zonal electrification projects could eliminate the need for categories like safety and integrity projects by decommissioning the affected assets.[46] The Conservation Advocates contend some safety and integrity projects appear to be related to capacity expansion or driven by operating pressures that could be reduced by NPAs that reduce the throughput or number of customers served by certain segments of the system.[47] The Conservation Advocates also contend that a

[44] United Final Comments at p. 2.
[45] CEO Initial Comments at pp. 21-22.
[46] Conservation Advocates Initial Comments at p. 35.
[47] Conservation Advocates Initial Comments at p. 36.

comprehensive but tailored NPA analysis for all projects is supported by NPA frameworks prepared in 2023 by Strategen and the Lawrence Berkeley National Laboratory.[48]

92. In response, Public Service requests that the Commission continue to limit NPA considerations to capacity expansion and new business projects, and that for the 2025 GIP, no more than five NPA analyses be required. Public Service states identifying five suitable projects in the context of this Initial GIP proceeding was challenging, and it contends additional time is needed to grow into and refine the NPA processes before expanding its applicability.[49] Addressing contentions that all categories of projects should be subject to NPA analysis, the Company explains that if a planned project is both a safety and integrity project and a capacity expansion project, the project will be screened for NPA suitability.[50] The Company also states that while it appreciates opportunities for zonal electrification may arise, an achievable NPA portfolio based on zonal electrification would require electrification of all heating and non-heating gas loads by all customers connected the specific portion of the system. Public Service states this means that if even one customer or one appliance remains on the gas system, safe pipeline service would need to be provided.[51]

93. The Commission is encouraged by the progress made in the process for alternatives analysis for this Initial GIP, and we see significant potential benefits and cost savings for the system, the state, and ratepayers from the use of alternatives analysis. Our concerns expressed in the Gas Rulemaking that extensive applicability of NPA analysis may be overly burdensome on

[48] Conservation Advocates Final Comments, (citing Strategen, *Non-Pipeline Alternatives: A Regulatory Framework and Case Study of Colorado* (Oct. 2023) and Strategen, *Non-Pipeline Alternatives to Natural Gas Infrastructure: An Examination of Existing Regulatory Approaches* (Aug. 2023)).

[49] Public Service Final Comments at pp. 9-10.

[50] Public Service Reply Comments at p. 30.

[51] Public Service Reply Comments at p. 33.

utilities, leading to burdens on ratepayer funds, is largely overcome by these potential benefits and cost savings and the process Public Service set forth for NPA suitability screening. This understanding underlies Parties' proposals to expand NPA analysis applicability, as well as the suggestions in NPA frameworks prepared in 2023 by Strategen and the Lawrence Berkely National Laboratory.[52]

94. In their NPA frameworks, Strategen and Lawrence Berkeley National Laboratories point to maximum allowable operating pressure programs as a specific example of a safety issue in which one of the PHMSA-defined ways to solve the problem is reducing the capacity, thereby reducing the pressure to ensure the pipe stays below its max operating pressure. This stands in contrast to the Company's frequent characterization of solutions to the safety issues as a choice between replacing an entire pipe or electrifying 100 percent of the end-uses downstream. Further, we take note of the fact that in Proceeding No. 23A-0392EG, the Company indicated as part of its 2050 rate forecasting model a dramatic slow down in capacity expansion and new business projects, and that safety system and integrity projects will make up an increasingly large proportion of investments.[53] We also observe that the boundaries between project types is somewhat amorphous as presented in this Initial GIP proceeding.

95. The Commission denies Public Service's request to limit required NPA evaluations to only five projects in total. We believe NPA evaluation, if done properly, may result in numerous opportunities to avoid expensive infrastructure investment and further develop NPA applications.

[52] *E.g.*, Conservation Advocates Final Comments at p. 3 & n.1 (citing Strategen, *Non-Pipeline Alternatives: A Regulatory Framework and Case Study of Colorado* (Oct. 2023) and stating the framework and case study recommends "'full-scale' NPA analysis for large infrastructure projects and a 'streamlined' NPA assessment for small projects.").

[53] Proceeding No. 23A-0392E, Hearing Exhibit 110, Supplemental Testimony of Jack Ihle at pp. 22-23; *see also* Confidential Attachment JWI-4 in Proceeding No. 23A-0392EG.

We find that at this critical point in the transition decarbonizing heating, with significant outside incentives and wide availability of highly efficient electric heating options, it is imperative that we evaluate feasible options to save money for ratepayers and reduce the potential for stranded assets, rather than continuing in a business-as-usual fashion with infrastructure investments.

96. We are also concerned that limiting NPA analysis applicability to new business and capacity expansion planned projects would preclude the evaluation of system safety and integrity projects that are potentially suitable for alternatives analysis. The Commission finds that limiting NPA applicability would prevent the development of alternatives analysis in a way that meets future system realities, and, in the end, prevent sweeping benefits and significant ratepayer savings. Therefore, we direct that for Public Service's 2025 GIP, all new business planned projects, all capacity expansion planned projects, and all system safety and integrity planned projects be subject to Public Service's alternatives analysis process.

97. As part of this direction to include system safety and integrity projects in the NPA analysis process, we include that Public Service will likely need to modify its NPA Suitability Screening Criteria. The Company has an obligation, including under PHMSA requirements, to provide safe natural gas service. The Commission does not intend to prevent the Company from investing in infrastructure projects for emergency or immediate safety needs, or safety needs that could not possibly be served by a non-pipeline alternative. We anticipate that the Company will be able to ensure it meets its obligations through the design of its suitability criteria.

ii. NPA Technologies

98. In its Initial GIP Public Service provides a list of efficiency, electrification, and interruptible services that it considered as NPA technologies and approaches. These include high-efficiency gas furnaces, attic and wall insulation, air sealing measures, new commercial

boilers, and a range of BE options. Public Service also states that in Decision No. C23-0413, issued in Proceeding No. 22A-0309EG after the filing of the Initial GIP, the Commission ordered a phase-out of rebates for many natural gas consuming appliances, but that the Company continues to support the replacement of inefficient natural gas appliances with highly efficient natural gas appliances as an NPA measure.[54] Additionally, it explains that it evaluated community ground-source heat pump technologies as NPA measures, but they are not an effective strategy at this time, and that the Company has proposed a Market Transformation Initiative as part of its CHP.[55]

99. Many of the Parties comment that Public Service failed to fully assess potential technologies. The Conservation Advocates contend that all-electric new construction represents one of the most cost-effective ways to meet clean heat emissions goals, and that alternatives analysis should consider intensifying market development and outreach to builders of new homes.[56] The Conservation Advocates also assert that Public Service did not meaningfully assess the use of gas demand response.[57] Additionally, the Conservation Advocates and Boulder argue that electrification should be offered to customers who do not also receive electric service from the Company, asserting that offering only incremental incentives for electrification in project areas in which the Company is the electric service provider may limit a prudent shift towards electrification.[58]

100. In response to arguments about its consideration of gas demand response, Public Service explains that it evaluated thermostat based control of both residential and commercial

[54] Public Service Reply Comments at p. 33.
[55] Public Service Reply Comments at pp. 35-36.
[56] Conservation Advocates Initial Comments at p. 18.
[57] Conservation Advocates Reply Comments at p. 19.
[58] Conservation Advocates Final Comments at p. 4; Boulder Initial Comments at p. 2.

heating equipment as well as control of gas water heating equipment as demand response options per the NPA process; however, they were not ultimately selected as a strategy because there is insufficient evidence that these approaches can provide a meaningful reduction in peak gas demand at this time.[59] The Company states that as part of its 2023 DSM and BE plan, approved in Proceeding No. 22A-0315EG, the Company has issued a Request for Information for gas and electric DR technologies, and that it is reviewing the responses and is hopeful to move forward with an RFI to pilot at least one new gas DR technology. Public Service states it will continue to evaluate gas demand response offerings and will update assumptions in future NPAs related to gas demand response as conditions change.[60]

101. In response to arguments about all-electric construction, Public Service states that trends and projects are being monitored closely, although very few recent and current construction projects have chosen this path. The Company claims only 0.1 percent of efficient new homes were all-electric in 2022.[61] The Company states it will update assumptions related to all electric new construction in future litigated GIP filings as conditions change, and that prior builds are "naturally embedded" into its gas system models.[62]

102. Addressing customer eligibility of the beneficial electrification proposed in the Initial GIP, Public Service states its approach is consistent with that approved in Proceeding No. 22A-0315EG, and that this would apply for any incremental incentive. It explains that details of customer requirements, including whether customers will be required to receive both electric and

[59] Public Service Reply Comments at p. 35.
[60] *Id.*
[61] Public Service Reply Comments at p. 37.
[62] Public Service Reply Comments at p. 36.

gas service from the Company to qualify for electrification rebates, will be included in the Company's forthcoming 2024-2026 DSM/BE plan, and are premature to address here.[63]

103. The Commission finds that the gas infrastructure planning process should require a strategic role for gas demand side management and beneficial electrification for the purpose of infrastructure mitigation through the alternatives analysis process. We also find that alternatives analysis for the 2025 GIP should include all-electric new construction, which has been shown to be cost competitive and will likely be increasing as state and local initiatives are implemented, and represents one of the best opportunities to actually implement NPAs. All-electric new construction and gas demand response should be looked at through the alternatives analysis process as full programs, not just as pilots proposed by the Company.

104. Additionally, the Commission believes the Company should give more consideration to incentives for ground source heat pumps. Across proceedings, the potential changes to customer heating systems are openly being weighed, with the Company expressing concern about the infrastructure and costs to back up highly efficient electric heating with electric resistance. Within the GIP process, it is clear that capacity needs are a major driver of increased costs for the gas system and these costs would remain unchanged, and in fact continue to grow if the majority of customers continue to use gas as a backup fuel. With these very real challenges associated with the two obvious backup options, ground source heat pumps present an increasingly compelling option to avoid the peaking concerns by eliminating the need for either type of backup. Fossil fuel equipment should be included only when and NPA is not feasible without it. With regard to supply-side resources, we agree with Public Service that temporary solutions such as CNG and LNG may be appropriate as temporary solutions as a chosen NPA technology or

[63] *Id.* at p. 38.

approach is implemented in place of an infrastructure project, if short-term use of such strategies is necessary in order to make an NPA a feasible alternative.

105. With regard to the proposal that alternatives analysis include electrification of gas-only customers of Public Service, we a direct Public Service to include in the 2025 GIP a proposal for how this could be done. We recognize that the issue is complicated, and an entity such as CEO may be best positioned to convene electric utilities across the state to discuss coordination and concerns such as the state's policy objectives and affordability. However, additional evaluation of this NPA approach would allow for further understanding on this issue, including how customers could be provided with consistent options and how the Commission may ensure Public Service's investment decisions consider available lower-priced options.

106. Finally, we agree with Public Service that currently, community ground-source heat pump systems are best analyzed in Proceeding No. 23A-0392EG.

iii. NPA Cost Benefit Analysis

107. For its cost benefit analysis, Public Service evaluated projects and replacement NPAs separately. The Company states while it is true that having symmetrical costs and benefits would be necessary if the Company utilized a benefit-cost ratio methodology in which costs and benefits are compared to the as-is existing solution, the CBA methodology calculates NPV and therefore symmetrical costs and benefits are not appropriate. According to the Company, GIP projects and associated NPA have unique streams of costs and benefits, such that NPA options offer avoided gas commodity as a benefit, which do not show up in a GIP project; and methane is emitted

under the GIP but not also avoided under the NPA benefits because otherwise it would be double counted.[64]

108. Parties had many comments on the CBA. The Conservation Advocates argue the NPA analyses should be "revamped" to err on the side of pursuing potentially cost-effective NPAs, given their unquantified benefits, role in reducing stranded asset risks, and alignment with state policies that frequently make them no-regrets options. They also suggest the cost-benefit analysis should include infrastructure's negative salvage value, noting that Company witness Dane Watson testified in Proceeding No. 22AL-0046G that the composite net salvage for all gas distribution capital additions was -73.5 percent.[65] In contrast, the Conservation Advocates note, NPAs like electrification and efficiency measures have no negative salvage value.

109. The Conservation Advocates find faults with the Company's assumption that it will need to add winter peak capacity even though summer peak is roughly 7,000 MW and winter peak is 5,500 MW, according to the 2021 ERP, and the Company's system does not become winter-peaking until 2041, thus overstating the cost of electrification[66] At the same time, for measures that will also reduce electric demand in the summer, such as insulation, the Company did not include the benefit of avoided generation capacity within the NPA analysis. The Conservation Advocates also contend the Public Service's cost benefit calculation excludes avoided methane leakage upstream of the Company's system and behind customer meters, which the Commission required the Company to include in the Company's 2022 DSM SI proceeding based on "comparatively conservative" assumption of 2.2 percent leakage.[67]

[64] Conservation Advocates Reply Comments at pp. 45, 48.
[65] Conservation Advocates Final Comments at p. 8.
[66] Conservation Advocates Initial Comments at p. 31.
[67] Conservation Advocates Initial Comments at p. 32.

110. In its comments, Public Service proposes to provide a CBA handbook as part of our 2025 GIP filing "and in advance of that filing, the Company will host one or more workshops to receive stakeholder input regarding this handbook."[68] The proposal is supported by many parties, including Denver and the Conservation Advocates.

111. The Commission believes that Public Service's first CBA methodology is a good first step as experience with alternatives analysis grows. Based on all of the comments received and our review of the CBA materials, we generally find that Public Service's CBA appears to take a reasonable first step at accounting for costs and benefits. However, we agree with many commenting Parties that certain aspects should be further developed and refined in order to be more accurate, and we agree with the suggestion of Public Service and other parties that additional stakeholder work would be beneficial. To that end, the Company and stakeholders should move forward with the development of a CBA Handbook. We direct that the contemplated CBA Handbook be developed through the miscellaneous proceeding discussed previously in this Decision. This process should include evaluation of ways to better involve DI communities, such as analysis of actual costs and benefits to the DI community associated with the NPA analysis or an adder for benefits intended for the community and community members. For use in that miscellaneous proceeding, we make the following observations based on this Initial GIP Proceeding.

112. The way in which the Company chose not to directly compare the infrastructure option to the NPA option caused confusion and concern among stakeholders, and we generally agree with these concerns. It appears to be more appropriate to compare the costs and benefits directly, rather than comparison to a no-action scenario, to see which is more advantageous.

[68] Public Service Reply Comments at p. 10.

113. Additionally, a CBA already accounts for an array of direct and indirect benefits, so we do not agree with the Conservation Advocates that NPA analyses should be revamped to err on the side of pursuing potentially cost-effective NPAs. We agree with the Conservation Advocates that methane emissions associated with natural gas leakage should be a part of the CBA. The Company should pursue use of long-run marginal emission rates, rather than short-run emission rates, which likely overstate emissions associated with electrification in NPAs, as identified by the Conservation Advocates. We also agree with the Conservation Advocates that a CBA should include infrastructure's negative salvage value, which represents real money collected from ratepayers from the onset of that asset going into service. Further, this may fundamentally change the math for many NPAs, because as originally done, the actual cost of the infrastructure project was vastly understated compared to what ratepayers would actually pay for an infrastructure project. We decline to take a position on the Conservation Advocates' argument regarding administrative fees, but the Company should account for administrative costs accurately and endeavor to minimize them appropriately.

114. While Public Service states that it did not consider incentives from the Inflation Reduction Act and state tax credits due to uncertainty around the scope and timing of the programs, an updated CBA and more developed alternatives analysis should consider these incentives as they have the potential to heavily influence the incentives needed and likely adoption rates for incentivized technologies and measures.

115. Regarding the participant cost of electrification, the Commission has directed the Company to assess its DSM programs using the Utility test for informational purposes and asked

for feedback on its use.[69] We reiterate that we seek a solution that recognizes the significant non-utility resources available in cost-effectiveness evaluation.

116. Regarding electric system infrastructure needs resulting from an NPA, we find that this concept appears premature until sufficient local and system-wide electricity forecasting can be completed, and critical inputs such as the peak loads due to heat pumps, can be carefully weighed. It is not immediately clear that the five-year capital projections utilized for the business-as-usual investments outside of NPAs have fully evaluated current growth rates and ambient electrification activities, which could cause the upgrades directly identified as related specifically to NPAs to be overstated. We invite the Company to present additional information in the 2025 GIP related to this factor and will consider the matter then.

iv. Filed NPA Portfolios

117. The Company states that of the five NPA analyses conducted, the F-3 Reinforcement and the Pearl Street Mall alternatives are cost-effective projects. The Company plans to move forward with the Harmony High Pressure Reinforcement infrastructure project, and to provide an updated NPA analysis for the Fort Lupton Compressor Station and Mead to East Longmont Reinforcement projects in its upcoming Interim GIP filings in 2024.[70] Public Service also contends that to the extent the Commission determines a particular NPA should be pursued, the Company should require some form of authorized cost recovery. It states the Commission could direct compliance filings, including cost recovery proposals, to promote the near-term implementation and success of the NPA. The Company proposes early implementation of the

[69] Decision No. C23-0413 in Proceeding No. 22A-0309G at ¶ 126.

[70] Public Service Final Comments at p. 10.

Clean Heat support mechanisms and that these could be adjusted after a Commission decision in Proceeding No. 32A-0392EG.[71]

118. The F-3 Reinforcement project[72] is expected to be developed starting in February 2025 and to be completed in September of that year. The traditional reinforcement project would replace 2,300 feet of 6" pipe with 8" pipe and extend another 6,100-foot section of 6" pipe in order to maintain system pressures and meet design day conditions. It would cost just under $4 million and Public Service has indicated its lowest cost-estimate classification (Class 5) with a +/- of 50 percent around the provided estimate. The project serves about 26,400 customers, and most of these are residential, as well as 1,263 projected new connections over the next ten years. The alternatives approach would increase participation in energy efficiency programs including 325 gas furnace replacements and 320 attic insulation implementations. The alternatives approach would increase beneficial electrification, including 169 air source heat pumps and 185 heat pump water heaters, and would convert certain customers from firm to interruptible service.

119. The Pearl Street Mall project[73] requires replacement of pipe along approximately four blocks of downtown Boulder. Without the NPA, the project would require development to start in April 2024 and continue through October 2026, and cost about $6.7 million. Public Service categorizes that cost estimate as a Class 5 with a 50 percent +/- range around the projected value. The project is categorized as both capacity expansion and reliability and includes the replacement of about 1550 feet of 4" pipe with approximately 2,000 feet of pipe of various sizes. The NPA to replace the project would require the full electrification of all 66 customers, and the pipe infrastructure would be retired in place. The Company explains that if even a single customer

[71] Public Service Final Comments at p. 11.

[72] Initial GIP Attachment B-6, F-3 Reinforcement.

[73] Initial GIP Attachment B-8, Rev. 1, Pearl Street Mall.

remains on the gas system, it will have to implement the infrastructure project due to federal safety standards.

120. Party comments on the NPA portfolios support the alternatives projects but take issue with certain aspects of the analyses. For example, the Conservation Advocates support the Pearl Street Mall NPA portfolio, and suggests that the Company could tailor incentives to ensure 100 percent customer participation. The Conservation Advocates also support the F-3 Reinforcement NPA portfolio but take issue with the proposed number of replacements of gas furnaces with higher-efficiency gas furnaces.[74]

121. Regarding the Mead to East Longmont Reinforcement project, the Conservation Advocates argue that Public Service's alternatives analysis is cost effective even with an overstated cost of beneficial electrification embedded in the CBA. The Conservation Advocates contend that the Company should be directed to move forward with the NPA instead of waiting to determine whether the alternative is cost-effective in a future GIP filing.

122. CEO states that the Fort Lupton Compressor Station and Mead to East Longmont Reinforcement NPA portfolios are "no regrets approaches," and should be pursued. Additionally, UCA notes that both NPA portfolios exceed the $12 million threshold associated with a CPCN for Public Service, yet the Company describes them as not needing CPCNs.[75]

123. Regarding the Harmony High Pressure project, the Conservation Advocates contend the project need is based on modeling using a design day temperature of -29°F, a value that hasn't been reached since 1984 and has not come within 13°F of the design day in the past 15 years. According to the Conservation Advocates, the Company only evaluated retrofits and not

[74] Conservation Advocates Initial Comments at p. 44.

[75] UCE Initial Comments at p. 16.

new home electrification, and includes $12 million of distribution upgrades that the Conservation Advocates assert will be needed anyway.[76]

124. The Commission is encouraged by how cost effective many of the presented NPA portfolios appear, especially given that they have several assumptions, as discussed above, which may make actual cost effectiveness of alternatives more favorable than the calculations presented. We find Public Service's presentation of these portfolios clear and thoughtful. One additional item we encourage for future adjudicated GIP filings is information on where customers are located that are being served by the project. This is critical to tie together the forecasting with actual need for the project and to allow impacted communities to be able to engage in a more informed manner.

125. We agree with Public Service that it should move forward with the Pearl Street Mall and F-3 Reinforcement NPA portfolios. We recognize that the Pearl Street Mall project is ambitious, but we hope the Company will gather the support of the City of Boulder and local business owners to make this a successful example of gas infrastructure avoidance. For the F-3 Reinforcement portfolio, we encourage the Company to limit deployment of new natural gas furnaces to the extent practicable, and perhaps include measures like all electric new construction, especially considering this project is described to be needed based on forecasted growth. Despite its shortcomings, which may be able to be modified slightly, the F-3 Reinforcement NPA results in a significantly lower cost to customers than the alternative and should be pursued. We direct Public Service to file a proposal for cost recovery and reporting requirements, including what data the Company is committing to provide and at what intervals, for these NPA portfolios, within 30 days of the issuance of this Decision, as discussed further below. We decline to find

[76] Conservation Advocates, Initial Comments at p. 39.

here that such cost recovery will be implemented through Clean Heat support mechanisms, and direct Public Service to propose appropriate cost recovery.

126. With regard to the Fort Lupton Compressor Station and Mead to East Longmont Reinforcement projects, we are encouraged by the Company's analysis thus far. We agree that the Company can provide an update in its upcoming Interim GIP filings in 2024, but we share the concern of the Conservation Advocates that waiting to implement the NPAs may render them infeasible. The Company should continue to move forward with more robust analysis and cost estimating to ensure that cost effective NPA opportunities can be pursued in time to avoid the need for the project.

v. Competitive Requests for Proposals

127. Various Parties raised that competitive procurement of alternatives would be well-suited to the NPA process. United contends that when the market can provide innovative, scalable, or otherwise especially cost-competitive projects, customers will be better off, as Public Service is unlikely to always be aware of cutting-edge products and services.[77] United states that competitive solicitations would be especially useful for projects with long lead-times such as the final year of the Action Period or the Informational Period or beyond, and that competitive solicitations for NPAs have been held in New York. United suggests competitive solicitations should be: technology-neutral; designed around specific system needs (*e.g.* location, load size, and duration of energy service); require bidders to include detailed assessment of factors like community and environmental impacts, challenges, and non-energy benefits; set verification milestones including possible fees for underperformance; and give preference for documented DI

[77] United Final Comments at p. 2.

community engagement for bids located within DI communities.[78] At the public comment hearing held on October 19, 2023, Southwest Energy Efficiency Project suggested the Company should be looking for portfolios of projects potentially from different bidders.

128. Public Service opposes suggestions that the Company should be required to issue Requests for Information or Requests for Proposals to third parties as part of their NPA evaluations. Instead, the Company argues it should be given the opportunity to use competitive solicitations at its discretion.[79]

129. The Commission agrees with the general contention of certain parties that competitive solicitations in NPA analyses would be beneficial. We decline to require widespread use of competitive solicitations at this time, as we recognize that these processes are still new and this Decision provides significant clarifying directives, but we do direct that the Company complete at least one competitive solicitation process for an NPA in the preparation of the 2025 GIP. This will allow for the Company, stakeholders and the Commission to gain valuable experience with competitive solicitation for NPAs and potentially provide a path forward for more widespread use after the first adjudicated GIP. The solicitation should focus on the largest expenditure in the next GIP application that has sufficient lead time to implement an NPA. The Company should also provide a sample contract and RFP for competitive solicitation, as well as a proposed timeline and Independent Evaluator role to evaluate and implement the actions.

d. Cost Recovery

130. In its Initial GIP filing, the Company states that if the Commission rules NPAs should be pursued, deferred accounting with a full return "would be an important prerequisite" in

[78] *Id.*, at pp. 4-5.

[79] Public Service Final Comments at p. 9.

order to move forward with implementation. Public Service states that "[w]hile the Company recognizes that such authorization cannot be fully granted in this non-adjudicated proceeding, the Commission could require the Company to submit an appropriate compliance filing with an expedited schedule for Commission approval to promote near-term implementation and success of the NPA portfolio."[80]

131. The Company explains that pre-approved NPA cost recovery is appropriate given 1) the new nature of this type of work, focusing on targeted electrification and efficiency measures on particular geographies and customers, 2) the need to rapidly build and deploy new teams to conduct this type of work, and 3) the risk that the selected NPA portfolios may subsequently not prove to be effective enough to avoid the traditional gas infrastructure project. (RC at 65). Public Service states that CEO supports its request.

132. In its Final Comments, Public Service reiterates: "Should the Commission require the Company to pursue achievable NPA portfolios for the F-3 Reinforcement and Pearl Street Mall projects, both of which are presented as market transformation initiatives in the Company's pending Clean Heat Plan, authorization for a cost recovery mechanism needs to be in place in advance, otherwise the NPA would not be pursued."[81]

133. Public Service advocates for the early implementation of the Clean Heat support mechanisms (*i.e.*, the Clean Heat Support Electric Adjustment ("CHSEA") and the Clean Heat Support Gas Adjustment ("CHSGA")) detailed in the Company's filing in Proceeding No. 23A-0392EG. It explains that the Commission could direct the Company to file compliance advice

[80] Initial GIP Report at p. 77.

[81] Public Service Final Comments at p. 11.

letters to commence these mechanisms, with NPA portfolio costs recovered through them as appropriate, and they could be adjusted after the Commission decision in the CHP proceeding.

134. The Conservation Advocates argue that because an NPA is functionally equivalent to a gas infrastructure project, the costs should be recovered in a comparable way. They suggest that, for proposed NPAs in this instant proceeding, the Commission should direct the Company to file a proposal for cost recovery no later than 30 days following the conclusion of this proceeding.[82] They state that they recognize that implementation of some NPAs (*e.g.*, the Pearl Street Mall project) need to commence quickly, but that a standalone proceeding to propose cost recovery for NPAs could be as expeditious as reviewing projects through the current Clean Heat Plan proceeding. For future NPAs, the Conservation Advocates recommend the Commission direct the Company to propose cost recovery as part of future GIPs, rather than automatically including the NPA costs in its Clean Heat Plan.

135. The Conservation Advocates contend that the Company's Pearl Street Mall project provides an example of the potential for overlapping and confusing cost accounting. They note that, in this GIP, the Company estimates the costs of the Pearl Street Mall project at $6.7 million while the NPA project costs are $3.2 million. Thus, they calculate, that if the Company successfully implements the NPA, it will save its retail gas customers $3.5 million. However, the Company has also presented the Pearl Street Mall NPA as a "market transformation" project in its Clean Heat Plan and has included the project costs in its Clean Heat Plan budget. If NPAs are evaluated in the Clean Heat Plan proceeding, the Commission will need to ensure that, for each

[82] Conservation Advocates Initial Comments at p. 13.

NPA, the Company is accurately accounting for the avoided gas system costs, and that costs are attributed to the right set of customers.[83]

136. The Conservation Advocates support Commissioner Gilman's suggestion, made at hearing, to explore retrospective consideration of NPAs in rate cases, specifically prudency.[84] They suggest that if the NPA analysis (whether conducted in the GIP process or retrospectively) shows that the NPA would have been cost-effective, the Commission could disallow any project costs in excess of the estimated NPA cost, or even the full project cost if appropriate.

137. United suggests the Commission consider implementing a shared-savings mechanism that allows gas utilities to retain some of the savings associated with NPAs, or a performance incentive mechanism of some kind, in order to counteract some of the disincentive against losing traditional capital expenditure opportunities.

138. The Commission notes that we are hesitant to initiate new riders. We are also hesitant to initiate cost recovery of projects that we have modest comprehension of.

139. The Commission is not generally opposed to preferential recovery for NPAs, including potentially a share of the savings, but note that we only wish to do so when a traditional infrastructure project is truly avoided. At this juncture, we are not certain the traditional infrastructure investment will be avoided.

140. Since immediate NPA activity will be limited to the Pearl Street Mall and F-3 Reinforcement projects, the Commission directs the Company to file a cost recovery proposal to a compliance filing to this GIP, including all information to initiate the project and cost recovery of

[83] Conservation Advocates Initial Comments at p. 12.

[84] Conservation Advocates Final Comments at p. 9.

such. The Commission will have an opportunity to assess the proposed new riders and ratebase treatment of the investment at that time.

e. System Mapping

141. Under Rule 4553(a)(V), Public Service was required to provide one or more system maps to indicate the general locations of individual planned projects and whether planned projects are located within disproportionately impacted communities. As we stated in Decision No. C22-0760, the system level maps are intended to help convey a wide array of information regarding requirements and capabilities on a utility's gas system. Two forms of geographic segmentation are required: (1) pressure districts or geographic area served by the individual planned projects or that would otherwise lead to a foreseeable lack of system reliability; and (2) other distinct zones identified for planning purposes in the utility's most recently approved CHP with sufficient geographical detail for the Commission to fully evaluate and comprehend the extent and purpose of the overall gas infrastructure plan.

142. Following the adoption of the Gas Rules, SB 23-291 was enacted and codified at § 40-3.2.104.4(3), C.R.S. SB 23-291 requires an investor-owned gas utility to provide, as part of any gas infrastructure plan or as otherwise directed by the Commission, a map showing system-wide locations, ages, and materials or types of gas distribution system pipes consistent with 49 C.F.R. § 191 and § 40-2-115(1)(d), C.R.S. The utility is also required to provide information about pipes that may need to be upgraded or replaced within ten years, unless otherwise directed by the Commission.

143. CEO and the Conservation Advocates argue that the mapping provided with the Initial GIP is insufficient to allow parties or the Commission to fully assess planned infrastructure investment. They contend that stakeholders still lack insight into an inventory of the Company's

system as a whole, with information on the age and type of distribution pipe. CEO and the Conservation Advocates assert that based on experience with a mapping tool developed by Pacific Gas & Electric, a more detailed map can show opportunities for promising NPAs, such as smaller-scale alternatives that face fewer barriers to NPA implementation.[85]

144. To alleviate any security concerns, CEO and the Conservation Advocates contend that a confidential system map with the resolution down to individual pipeline segment and meter should be available to stakeholders and local governments that file an appropriate non-disclosure agreement. They state a confidential map should provide information about infrastructure risk including age, material, and hydraulic feasibility of pipeline removal; equity impacts such as mean customer income, and renter prevalence, and NPA cost factors including forecasted pipeline replacement cost, geographic risks, and electric capacity.[86] CEO and the Conservation Advocates propose that a confidential map be updated with each biennial GIP filing, and that the filing identify any significant updates of changes from the previously-filed map. They also assert that in the future, an interactive map may be more useful to the Company, stakeholders, and the Commission.

145. Separately, CEO suggests that the Commission consider requiring Public Service to present census tract level mapping in both CHP and GIP proceedings. CEO contends this mapping could then be combined with other data to identify locations well-suited for alternatives analysis.[87]

146. In response, Public Service states that it provided various distribution-level maps after reply comments were filed, and it is unclear whether those maps come closer to satisfying

[85] Joint Final Comments of CEO and Conservation Advocates on Gas Utility System Mapping at p. 5.
[86] Joint Final Comments of CEO and Conservation Advocates on Gas Utility System Mapping at p. 4.
[87] CEO Final Comments at pp. 8-9.

the requested mapping considerations made by other parties.[88] It argues that there are practical limitations as to what types of mapping can be done given the size and complexity of its system, and that there is a danger of detailed mapping jeopardizing the security of its gas system and public safety.[89] The Company requests that if the Commission is interested in exploring additional mapping issues, the Commission allow Public Service the opportunity to collaborate with interested stakeholders.[90]

147. The Commission agrees that additional guidance on system mapping is necessary prior to the preparation of the 2025 GIP. We also agree with Public Service that collaboration with interested stakeholders is appropriate to ensure that the expectations of stakeholders and the Commission align with the practical limitations of Public Service's system and mapping abilities, as well as with security and safety requirements.

148. We therefore direct that mapping issues and concerns be addressed in the miscellaneous proceeding referenced elsewhere in this Decision, which will follow this Initial GIP Proceeding. We encourage full consideration of CEO's proposal to include census tract level mapping and the potential for hydraulic models and other information, as we believe this would aid in the identification of areas of the system in which alternatives should be further evaluated in order to maintain system affordability. Participants in the miscellaneous proceeding should also collaborate on the development of a tool Public Service and others can use to potentially develop new scenarios or alternatives, possibly a tool similar to PG&E's tool discussed by CEO and the Conservation Advocates. Public Service and stakeholders should also work towards the inclusion of the location of customer-owned yard lines on system maps. It would be reasonable to tie the

[88] Public Service Final Comments at pp. 11-12.
[89] Public Service Final Comments at p. 12.
[90] *Id.* at p. 12.

locations of these into the larger picture associated with an NPA in an area that faces multiple safety or capacity related issues, making the cost per customer significant.

149. To give stakeholders additional context for that miscellaneous proceeding, we recognize that SB 23-291, and requirements to come out of the ongoing gas pipeline safety rulemaking in Proceeding No. 22R-0491GPS, will result in new and changed mapping efforts including information on pipe locations, materials, and age. This will be useful in visually identifying the most pressing safety concerns on the system and showing the relative location and relationship of those safety concerns. The information required by SB 23-291 represents a step forward in a common understanding of upcoming needs of the system.

150. Over the iterative GIP process, we are optimistic that the mapping provided in gas infrastructure plan proceedings will evolve to be interactive and contain the multiple different data sets that come together to show expected system expenditures and their locations. In addition to the pipe age and material, we also intend for interactive system maps to quickly evolve include the location of capacity constraints, customer-owned yard lines, failed meter lots and other upcoming expenditures such that a user can identify areas of the system that require significant capital investments that may be pancaking in certain locations or to serve small groups of customers. We agree with CEO and the Conservations Advocates that as mapping abilities evolve, system maps could be critical to quickly and efficiently identifying NPA opportunities. These maps could play a central role in identifying areas of the system in need of significant investment, which is a more strategic way to evaluate cost effective alternatives. We encourage participants addressing mapping issues in the miscellaneous proceeding to consider both short-term and long-term uses for system maps.

f. Additional Issues

i. Defined Programmatic Expenses

151. Under Rules 4553(a)(IIII)(E) and (c), Public Service was required to present planned project information including on "defined programmatic expenses," currently defined as relocation or replacement of meters, and replacement of customer-owned yard lines.

152. The Initial GIP includes information on customer-owned yard lines, stating that in 2021 the Company implemented a 3-year leak survey that also identifies and tracks customer-owned yard lines, pursuant to a settlement approved in Proceeding No. 20AL-0049G.[91] The Commission appreciates the information Public Service filed and finds it adequate to meet the reporting requirements.

153. However, limited information was presented on relocation or replacement of meters. As this is a defined programmatic expense, we expect full information regarding Public Service's meter replacement program in its 2025 GIP.

ii. Hydrogen Demonstration Project and Hydrogen Compatibility

154. In it is Initial GIP, Public Service presented the Hydrogen Demonstration Project as a capacity expansion planned project. In response to UCA's contention that the project should not have been included in the report because it is a research and development project, Public Service states the Hydrogen Demonstration Project is a larger planned project and the Company used its best judgment on how to include it.[92] In response to the Conservation Advocates' concerns addressing the merits of the project, Public Service states that the project has been included in the Company's Clean Heat Plan filing as a Market Transformation Initiative, and that the project

[91] Initial GIP at pp. 78-81.

[92] Public Service Final Comments at pp. 70-71.

should be fully litigated in that forum.[93] The Commission agrees with Public Service that the Hydrogen Demonstration Project is more appropriately considered in Proceeding No. 23A-0392EG, and that it should respond to concerns about the project in that fully litigated proceeding.

155. The Initial GIP was also intended to include information on hydrogen compatibility pursuant to Rule 4553(d)(II). The Company was required to include information, to the extent known, on the percentage of distribution system components known to be compatible with safely carrying varying concentrations of hydrogen and to identify any areas of the system with materials known to be not compatible with hydrogen mixtures up to 20 percent by volume. The Initial GIP includes very limited information on hydrogen compatibility and explained that the Company was continuing to study and evaluate the effects of hydrogen on its system and customer equipment.[94] It is difficult to understand the Company's inclusion of a project intended to blend hydrogen into a portion of the Company's infrastructure without doing the basic safety and compatibility screening described in Rule 4553(d)(II). The required information was intended to identify any problematic areas of the system so they could be evaluated alongside any future proposals for the introduction of hydrogen to the system. It is hard to comprehend how the Commission should evaluate any such proposals if the Company is not aware and has not completed a review of the safety and compatibility of such proposals beforehand. The assessment required in the GIP rules was intended to proactively identify problem areas so compatibility could be appropriately considered before the last minute with immediate proposals on the table and it is a disappointing missed opportunity that the Company did not provide meaningful information about compatibility

[93] *Id.*

[94] Initial GIP at pp. 81-82.

on its system. We expect more fulsome information on hydrogen compatibility in the Company's 2025 GIP.

iii. Line Extension

156. In their Final Comments, the Conservation Advocates state that it is critical to promote all-electric new construction. They propose that the Commission remove the electric line extension allowance for mixed fuel new construction and increase the electric line extension for existing buildings that are electrifying.[95] This Proceeding is not the correct forum for these issues. Gas utilities line extension analyses will be evaluated before the Commission later this year. Additionally, stakeholders may participate in Proceeding No. 23M-0464EG, which is exploring this and related issues.

iv. Best Value Employment Metrics

157. Laborers Local 720, which represents unionized construction laborers in Colorado, filed initial comments focused on Public Service's presentation of best value employment metrics (BVEM) in its NPA analysis. Laborers Local 720 contends that the Company did not include various BVEM metrics required by Commission Rule 4001(h), including length and type of training and apprenticeship programs available to the workforce, the percentage of workers who are Colorado residents, whether the workforce is covered by a labor agreement, and pension contribution rates, if any.[96] Laborers Local 720 recommends the Commission ensure the NPA analysis accurately reflect employment impacts and labor standards in effect, including that the Company should use verifiable wage and benefits data to determine the range of wages and should

[95] Conservation Advocates Final Comments at p. 6.

[96] Laborers Local 720 Initial Comments at p. 2.

work with its contractors and utilize historic project data to estimate the minimum or range of craft personnel needed to build a gas infrastructure project.[97]

158. The Commission agrees that BVEM requirements should be fully complied with in GIP proceedings, and we expect Public Service to fully comply with these requirements in its 2025 GIP and future adjudicated GIP filings.

v. Workpapers in 2025 GIP

159. Through Decision No. C23-0497-I in this Proceeding, the Commission directed that the Company's workpapers supporting the Initial GIP be filed and provided in executable formats. The availability of such workpapers at the outset of a proceeding would aid in stakeholders' and the Commission's timely review of assumptions, inputs, and calculations. We direct that such workpapers be filed and provided with the initial filing of the Company's 2025 GIP.

vi. Confidentiality of NPA Portfolio Documents and CBA Tool

160. In Decision No. C23-0531-I, the Commission granted extraordinary protection for the full and executable CBA tool used by Public Service to develop its NPA analyses. Public Service claimed the CBA tool is proprietary, non-public, and developed in conjunction with a third-party consultant. After review of the CBA tool, we are skeptical that the spreadsheet or its discrete components should be considered highly sensitive or proprietary, apart from gas commodity forecasts. As NPA analysis and the associated CBA review are novel and developing concepts, stakeholders may wish to fully consider and provide comments on all relevant inputs and calculations. To ensure stakeholders and parties to the 2025 GIP are able to do this, we expect that Public Service will file and provide NPA and CBA workpapers, information, maps and tools for the 2025 GIP in a manner that does not impede necessary stakeholder access and transparency.

[97] *Id.* at pp. 2-4.

Additionally, to the extent pieces of a larger and important workpaper or tool are appropriately deemed confidential by the Company, we encourage the Company to consider filing a version that uses more generic assumptions and explaining those generic assumptions in its filing.

161. To the extent a stakeholder wishes to but cannot gain access to the CBA tool used in this Proceeding, that stakeholder may make an appropriate filing with the Commission.

vii. Community Outreach Issues

162. In its Initial Comments, Denver argues that Public Service should be required to provide estimates of the proportion of peak load served by the proposed capital project, by municipality or county.[98] In response, Public Service states it is amendable to providing the information Denver requests in future GIPs so long as there is a common understanding the estimate will not be exact.[99]

163. The Commission generally agrees with Denver and Public Service. To the greatest extent possible, Public Service in future GIPs should provide information about where customers served by a project are located. This could be very helpful and is likely necessary to ensure forecasted need on that particular line is reasonable, given the significant impact that some building codes and local incentive programs could play in future system demand in certain areas.

164. Boulder argues the Company should work with local jurisdictions to better forecast relocation requirements, and to develop engagement plans to allow quantification of stakeholder and DI community outreach.[100] In response, Public Service states the Company's franchise agreements generally provide for annual meetings to coordinate and align on infrastructure projects for the coming year, and more proactive planning and accurate forecasting from the

[98] Denver Initial Comments at p. 14.

[99] Public Service Final Comments at p. 7.

[100] Boulder Initial Comments at p. 4.

Company's municipal partners could facilitate better planning opportunities.[101] It also states that it incorporates engagement plans such as those suggested by Boulder in its outreach programs.

165. The Commission agrees that the Company should put forth effort through its key accounts relationships with municipalities to better forecast and even avoid potential relocation projects. Many municipalities, as demonstrated in the Proceeding, share our interest in minimizing future costs of the system, in furthering the state's emission reduction goals, and on electrifying heating loads. These municipalities may be more active partners in optimizing or avoiding future investment, but must be brought into that discussion by the Company. This would increase the chances of them being active partners in minimizing new investment or identifying alternatives.

166. CEO argues that new business projects should be considered in Clean Heat Plans, where the utility could work directly with the customer to assess potential alternatives. Public Service agrees with new business projects being proposed in the CHP process.

167. We generally find CEO's and Public Service's suggestions on new business projects in the CHP process reasonable. Reporting on the results of discussions and movement in new construction towards electrification, including the number of new construction contacts, extent of the company's discussion with them about non-pipe alternatives and incentives, and end results, would be informative and appropriate in future CHP proceedings.

168. We also find that the Company should survey the home construction industry on a regular basis to gauge awareness and interest in electrification technologies generally, and the Company's BE and DSM programs specifically. This would provide additional and more concrete support for infrastructure planning and alternatives analysis. We therefore direct Public Service to conduct appropriate surveys periodically and include this information in its 2025 GIP.

[101] Public Service Reply Comments at p. 16.

viii. Additional Reporting

169. The Conservation Advocates propose earlier and more frequent reporting on NPA projects, including allowing stakeholders the opportunity to review customer and contractor-facing materials and regular progress updates on procurement and implementation. We decline to require additional interim reporting and outreach here. We expect that we will have additional insight into such reporting and stakeholder participation by the next GIP, and will give any necessary guidance in that future proceeding.

170. Boulder states the Commission should require historical budget forecast performance data in future GIPs so that there can be a better understanding of the effectiveness of the stage gate process and how this may impact NPA cost effectiveness.[102] The Commission agrees that additional analysis and outcomes of the budgeting process is necessary to ensure projects are appropriately being included in GIP filings and processes. We have discomfort with the high levels of budget uncertainty expressed for projects identified within this GIP, including for projects projected to start construction within months of the filing. We direct Public Service to include data on the comparison of actual project costs from original budget for projects meeting the planned project definition completed within the prior three years in its 2025 GIP.

171. In its Final Comments, Public Service recognizes that certain additional information may be helpful, including reporting relating to certain routine capital investment. It proposes to provide, by routine category: (a) a description of the investment category; (b) why the investment is needed; (c) why does the work need to be undertaken in the associated timeframe; (d) how the budget numbers were derived; and (e) risks associated with not investing in the projects

[102] Boulder Initial Comments at p. 7.

as proposed.[103] It also proposes to provide proposes that the Company provide, in addition to the required information on GIP planned projects greater than $3 million, information on the overall budgeted capital investment for each of the GIP categories for the first five years of the GIP and information on year six if available. The Commission appreciates Public Service's willingness to provide its proposed additional reporting, and we direct that Public Service include this additional reporting in its 2025 GIP filing.

ix. Miscellaneous Proceeding

172. As referenced throughout this Decision, the Commission intends to open a miscellaneous proceeding following the conclusion of this Proceeding. The miscellaneous proceeding will consider and facilitate stakeholder discussions concerning Public Service's forecasting methods and efforts, the development of the CBA handbook, Public Service's mapping practices, and the Company's forecasting methods and efforts except for design day issues to be discussed in Proceeding No. 23M-0092G.

II. ORDER

A. The Commission Orders That:

1. Consistent with the discussion above, Public Service Company of Colorado (Public Service) is encouraged to follow the guidance in this Decision when preparing its 2025 Gas Infrastructure Plan (2025 GIP).

2. Subject to any specific direction on forecasting methods and filings that the Commission may give in Proceeding No. 23A-0392EG, Public Service shall file a forecast that fully complies with Rules 4553(b) and 4731(a)(I) with or prior to its 2025 GIP.

[103] Public Service Final Comments at p. 6.

3. Public Service shall include all new business planned projects, all capacity expansion planned projects, and all system safety and integrity planned projects in its alternatives analysis for its 2025 GIP.

4. Public Service shall collaborate with stakeholders to develop a cost benefit analysis handbook, consistent with the discussion above.

5. Within 90 days of the issuance of this Decision, Public Service shall file proposals for cost recovery associated with the Pearl Street Mall and F-3 Reinforcement non-pipeline alternatives (NPA) portfolios, consistent with the discussion above.

6. In its preparation of the 2025 GIP, Public Service shall complete at least one competitive solicitation process for an NPA, consistent with the discussion above including an evaluator role to evaluate bids.

7. Public Service shall file and otherwise provide, as appropriate, workpapers supporting the 2025 GIP with its filing of the 2025 GIP and seek to do so in a way that maximizes transparency.

8. Public Service shall include surveys regarding construction industry interest in whole-home electrification in its 2025 GIP, consistent with the discussion above.

9. Public Service shall include a historical analysis of its budget forecast performance data in its 2025 GIP, consistent with the discussion above.

10. Public Service shall provide the proposed additional reporting in its 2025 GIP concerning routine capital investment and the overall budgeted capital investment for each of the GIP categories.

11. The 20-day period provided for in § 40-6-114, C.R.S., within which to file applications for rehearing, reargument, or reconsideration, begins on the first day following the effective date of this Decision.

12. This Decision is effective upon its Mailed Date.

A. ADOPTED IN COMMISSIONERS' WEEKLY MEETING January 10, 2024 and January 17, 2024.

(S E A L)

ATTEST: A TRUE COPY

Rebecca E. White,
Director

THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

ERIC BLANK

MEGAN M. GILMAN

TOM PLANT

Commissioners