

REFERENCE:

Atrium Report, Appendix 1, Section 2.0, page 3, Section 2.2, Items C & D, Section 2.3, Item E, Section 2.3, page 4, Section 9.0, page 30

PREAMBLE TO IR (IF ANY):

Atrium states:

“and to ensure that the Company’s costing methodology continues to adequately support its pricing of utility services” **Atrium Report, page 3**

QUESTION:

- a) Please explain if it is Atrium’s perspective that Centra’s current PUB approved costing methodology adequately supports Centra’s pricing of utility services.

RESPONSE:

Atrium’s perspective is that a costing methodology grounded purely on cost causation would provide a better foundation to support Centra’s pricing of its services. Cost causation is a defining principle, and all cost allocation is an effort to objectively apply the principle of “user pays,” based on, “*theoretical principles of cost causation*”.

Atrium used foundational underlying principles applicable to every utility Cost of Service Study (COSS); that is, the concept of cost causation for purposes of allocating costs to customer groups. Centra’s COSS should stand on its own objective merits and costs are most appropriately allocated to the classes of service based on the design and operational considerations of the utility’s system.

As stated in the referenced page of our report, Atrium was asked to provide Centra “*with recommendations that are appropriate to Centra given its particular circumstances that will ensure the COSS methodology continues to reflect cost causation principles and provides an appropriate basis for determining rates.*”

REFERENCE:

Atrium Report, Appendix 1, Section 2.0, page 3, Section 2.2, Items C & D, Section 2.3, Item E, Section 2.3, page 4, Section 9.0, page 30

PREAMBLE TO IR (IF ANY):

Atrium states: “Compare Centra’s current methodology to the best practices for similar natural gas distribution utilities, based on Atrium’s view of the industry,” **Atrium Report, page 3**

QUESTION:

- b) Please explain what Atrium means by “based on Atrium’s view of the industry” in terms of comparing Centra’s current PUB approved methodology to best practices for natural gas utilities.

RESPONSE:

In the referenced section, Atrium is listing the objectives of the report as requested by the RFP issued by Centra which required, among other things, that the various analyses performed by the consultants dictated that they utilize their industry expertise, knowledge of industry practices and results of analysis of data provided by Centra. As is the commonly accepted practice, Atrium used their extensive experience, knowledge of cost of service methodologies and various outcomes in litigated rate proceedings, to develop our perspective or “view” of industry practices.

REFERENCE:

Atrium Report, Appendix 1, Section 2.0, page 3, Section 2.2, Items C & D, Section 2.3, Item E, Section 2.3, page 4, Section 9.0, page 30

PREAMBLE TO IR (IF ANY):

Atrium states:

“Atrium had discussions with engineering staff at Centra to gain a general understanding of its gas distribution system operations, and of the engineering practices and standards it utilizes when new customers are connected to its gas system.” **Atrium Report, page 4**

QUESTION:

- c) Please explain if Atrium had discussions with Cost of Service Personal and Executive Members of Centra responsible for ratemaking policy to understand the current PUB approved methodology and gain their perspectives with respect to policy and technical ratemaking issues? If yes, please explain the outcome of those discussions. If not, please explain why not.

RESPONSE:

Atrium was charged with evaluating and reporting on Centra’s existing Cost of Service Study and not ratemaking policy. Atrium did engage in discussions with Centra’s Cost of Service personnel to understand the technical mechanics and underpinnings of their cost of service model and the current methodology used in their functionalization, classification, and allocation process. As we have acknowledged in our report, Atrium discussed the operations of various areas of the system with operating and engineering staff. Atrium did not have discussions with Executive Members of Centra. As Atrium was not charged with reviewing ratemaking policy matters, there was not a need to schedule meetings regarding the topic.

REFERENCE:

Atrium Report, Appendix 1, Section 2.0, page 3, Section 2.2, Items C & D, Section 2.3, Item E, Section 2.3, page 4, Section 9.0, page 30

PREAMBLE TO IR (IF ANY):**QUESTION:**

- d) Please explain if Atrium engaged with Centra's customer groups, external stakeholders or intervenors to understand their issues and perspectives regarding Centra's cost allocation methodology and practice? If yes, please explain which parties Atrium engaged with and the outcome of those discussions. If not, please explain why not.

RESPONSE:

No. Engaging with Centra's customer groups, external stakeholders or intervenors during the course of our Cost of Service Study Review was not within Atrium's agreed upon scope of work for Centra. Nevertheless, Centra supplied Atrium with background information from Centra's 2019/20 General Rate Application, including evidence prepared by the participating parties. These documents provided Atrium with the issues, perspectives, and viewpoints of the participating parties with respect to Centra's cost allocation methodology and practice. Atrium found this material, from a very recent rate application proceeding, to be pertinent and informative for the purpose of our review and evaluation of Centra's cost of service process and cost allocation methodology.

REFERENCE:

Atrium Report, Appendix 1, Section 2.0, page 3, Section 2.2, Items C & D, Section 2.3, Item E, Section 2.3, page 4, Section 9.0, page 30

PREAMBLE TO IR (IF ANY):

QUESTION:

- e) Please explain if it is Atrium's or its principal consultant's experience that customer/stakeholder consultation and engagement is normally a component of the regulatory review of cost of service in other jurisdictions, in advance of the finalization of its recommendations and filing with the regulator.

RESPONSE:

Members of Atrium's senior consultants have participated in stakeholder engagement during regulatory reviews of cost of service principles and methodologies. The regulatory proceedings were predominantly generic collaborative investigations or rulemaking dockets where all the regulated utilities in the jurisdiction are participants in the review or investigative process.

REFERENCE:

Atrium Report, Appendix 1, Section 2.0, page 3, Section 2.2, Items C & D, Section 2.3, Item E, Section 2.3, page 4, Section 9.0, page 30

PREAMBLE TO IR (IF ANY):

Atrium states:

“A key consideration is the ability to establish operating relationships between customer service requirements and the costs incurred by the utility in meeting those requirements (e.g., satisfying a customer’s peak demand requirements through the incurrence of capacity-related costs to provide the required level of gas delivery service)” **Atrium Report, page 4**

QUESTION:

f) Please explain if Atrium considered “operating relationships” other than a customer’s peak demand requirements in forming its Centra’s cost of service methodology recommendations. If not, please explain why not.

RESPONSE:

Yes. Atrium considered operating relationships between customer service requirements and the costs incurred by Centra to meet those service requirements in all aspects of the review of Centra’s Cost of Service. The process included evaluating the underlying cost support for all direct assignments of costs to customers, the type and size of service line and metering facilities required by customers, and the special studies conducted by Centra to identify the costs related to the various customer centric elements of gas utility service; examples include customer information and contact channels, billing and payment services, and safety inspection services in the field.

REFERENCE:

Atrium Report, Appendix 1, Section 2.0, page 3, Section 2.2, Items C & D, Section 2.3, Item E, Section 2.3, page 4, Section 9.0, page 30

PREAMBLE TO IR (IF ANY):

Atrium states:

“A utility’s COSS should stand on its own objective merits. The costs should be assigned to the classes of service based on the design and operational considerations of the utility’s system rather than on achieving results that support a desired outcome for the allocation of revenues to classes and/or rate design” **Atrium Report, page 30**

QUESTION:

g) Please elaborate on what Atrium means by “rather than on achieving results that support a desired outcome” in reference to Centra’s current PUB approved cost of service methodology.

RESPONSE:

Atrium believes that the phrase “rather than on achieving results that support a desired outcome” is self-explanatory. Atrium discussed this issue at page 10 of our report:

“...the FERC has based its cost classification and allocation decisions, at various points in time, with less regard to cost causation principles and with primary emphasis on addressing the implications of a set of facts and conditions in energy markets on gas pipeline rate design. Rate design methods at FERC have changed and evolved over the years to achieve various policy objectives, while satisfying the fundamental tenants of rate design theory.”

Atrium will reiterate a key point that we made in our report, “... rates must avoid undue discrimination and must reflect the principle of “user pays,” also known as “cost causation,”

which is another way of saying that those who cause the costs should pay the costs.” Through the consistent application of cost allocation principles and theory, Atrium made specific recommendations that produced an outcome that was fully dependent on those principles. In short, the allocation principles produced the outcome rather than the outcome deriving the principles.

REFERENCE:

Atrium Report, Appendix 1, Section 2.0, page 3, Section 2.2, Items C & D, Section 2.3, Item E, Section 2.3, page 4, Section 9.0, page 30

PREAMBLE TO IR (IF ANY):

QUESTION:

Atrium states:

“Atrium reviewed the overall structure, conceptual underpinnings, operational basis, computational consistency, and input data sources of the Company’s COSS methodology utilized in its current cost of service studies against the: (1) cost causative factors identified for each plant and expense element of Centra’s total cost of service (i.e., total revenue requirement); and (2) current range of regulatory practices observed in the North American gas utility market, with a focus on the trends of Canadian gas distribution utilities” **Atrium Report, page 4**

h) Please elaborate on what Atrium means by “a focus on the trends of Canadian gas distribution utilities” in reference to its review of Centra’s cost of service methodology.

RESPONSE:

Atrium considered the cost of service methods adopted by other Canadian Gas Utilities to be of particular interest to Centra. The information relating to the cost of service methodologies utilized by other Canadian natural gas utilities supplemented the knowledge and experience relied upon by Atrium in the preparation of the Report. Please refer to Appendix C: Canadian Gas LDC Cost of Service Methods. See also response to CAC/TRIUM I-6a.

REFERENCE:

Atrium Report, Appendix 1, Section 2.0, page 3, Section 2.2, Items C & D, Section 2.3, Item E, Section 2.3, page 4, Section 9.0, page 30

PREAMBLE TO IR (IF ANY):

Atrium states:

“As part of this task, we supplemented our existing knowledge of gas utility trends in these areas through the review of any existing information already gathered by Centra’s staff and our additional research efforts to better understand the costing frameworks, specific costing techniques, and cost study results used by gas distribution utilities in Canada.”

Atrium, page 4

QUESTION:

- i) Please explain what Atrium means by “cost study results used by gas distribution utilities in Canada” in reference to its review of Centra’s cost of service methodology.

RESPONSE:

Please see response to CAC/ATRIUM I-1h.

REFERENCE:

Atrium Report, Sections 3.1 – 3.3, pages 6-8, NARUC Cost Distribution Rate Design Manual, 1989, page 27

PREAMBLE TO IR (IF ANY):

Atrium states:

“Cost studies are a basic tool of ratemaking. Just and reasonable rates must avoid undue discrimination and must reflect the principle of “user pays,” also known as “cost causation,” which is another way of saying that those who cause the costs should pay the costs.”

Atrium Report, page 6

QUESTION:

- a) Please confirm that Atrium’s view of cost causation includes considerations of “user pays” and “usage patterns”. If not confirmed, please explain what is meant by these terms as reflected in the above noted preamble.

RESPONSE:

Atrium explains cost causation at various points in the Report. For example:

- *“Cost causation (or cost causality) addresses the question – Which customer or groups of customers cause the utility to incur particular types of costs?” (See Report 2.2, B, page 2)*
- *Establishes “...operating relationships between customer service requirements and the costs incurred by the utility in meeting those requirements (e.g., satisfying a customer’s peak demand requirements through the incurrence of capacity-related costs to provide the required level of gas delivery service)”. (See Report 2.2, B, page 2)*

- A properly developed cost of service study represents an attempt to analyze which customer or group of customers cause the utility to incur the costs to provide service. (See Report 3.1, page 7)
- *“...cost causation requires an in-depth understanding of the planning, engineering, and operations of the utility system”*. (See Report 3.1, page 7)

Clearly, Atrium considers user pays to be the fundamental goal of an appropriate cost allocation. If direct assignment of costs is not possible, allocation factors must be developed and usage patterns may be one input to the development of those factors, but only to the extent that a usage pattern (e.g., peak demand) produces a legitimate causal linkage with the cost.

REFERENCE:

Atrium Report, Sections 3.1 – 3.3, pages 6-8, NARUC Cost Distribution Rate Design Manual, 1989, page 27

PREAMBLE TO IR (IF ANY):

Atrium states: The distribution assets of a gas utility do not vary with the level of throughput in the short run. In the long run, distribution main costs vary with either growing design day demand or a growing number of customers” **Atrium Report, page 7**

QUESTION:

b) Please explain if it is Atrium’s view that system planning, and rate setting should be based on short run or long run cost considerations.

RESPONSE:

As Atrium explained in the Report, “...cost causation requires an in-depth understanding of the planning, engineering, and operations of the utility system”. (See Report 3.1, page 7). Thus, the allocation of those costs is dependent on the nature of the costs and which customer(s) is(are) responsible for the costs. This question is specific to distribution mains costs, as is the response. System planning costs are primarily capital intensive and by their nature have long-term investment and cost recovery horizons and these characteristics should be reflected in the allocation and the recovery of these costs.

REFERENCE:

Atrium Report, Sections 3.1 – 3.3, pages 6-8, NARUC Cost Distribution Rate Design Manual, 1989, page 27

PREAMBLE TO IR (IF ANY):

QUESTION:

- c) Please clarify whether Atrium's perspective is that volumes (level of throughput) do vary in the long run, and as such, cost causation should include level of throughput in addition to design day demand.

RESPONSE:

Utilities do not make long-run capital (investment) decisions based on variable throughput, but rather on fixed or relatively fixed capacity requirements. Consequently, while throughput may vary over the long run, it is not a primary factor in the evaluation of capital investment. The use of design day demand captures the relationship between the cost to provide pipeline capacity with the demands on that capacity.

REFERENCE:

Atrium Report, Sections 3.1 – 3.3, pages 6-8, NARUC Cost Distribution Rate Design Manual, 1989, page 27

PREAMBLE TO IR (IF ANY):

QUESTION:

- d) Please elaborate on what basis Atrium concludes that 1) “the A&E method is very rarely used in gas embedded cost of service studies” and 2) “the NCP method is rarely used for gas distribution utilities”.

RESPONSE:

This conclusion is based on Atrium’s experience. Please see response to PUB/ATRIUM I-1.

REFERENCE:

Atrium Report, Sections 3.1 – 3.3, pages 6-8, NARUC Cost Distribution Rate Design Manual, 1989, page 27

PREAMBLE TO IR (IF ANY):

Atrium states:

“the most commonly used demand allocation for natural gas distribution utilities are the coincident peak, demand method, the non-coincident demand method, the average and peak method, or some modification or combination of the three.” **NARUC, page 27**

QUESTION:

e) Please provide a summary of Atrium’s views with respect to both the pros and the cons of; i) CP ii) NCP and iii) Average and Excess and Peak and Average methodologies.

RESPONSE:

Please see the Atrium Report at Section 3.3 Allocation of Demand Related Capacity Costs & Section which provides a summary overview including comparisons of the various methods. Also see the Atrium Report at Section 4.0 Review of Capacity Cost Allocation which presents Atriums views (recommendation) regarding these methods.

REFERENCE:

Atrium Report, Sections 3.1 – 3.3, pages 6-8, NARUC Cost Distribution Rate Design Manual, 1989, page 27

PREAMBLE TO IR (IF ANY):

QUESTION:

- f) Please explain if Atrium and its principal Consultants on the Centra engagement have ever recommended the use of an Average and Excess or Peak and Average methodology for purposes of utility cost allocation. If yes, please provide a summary of Atrium's recommendations and the circumstances that resulted in such a recommendation (s).

RESPONSE:

Atrium has recommended the use of Peak and Average for Northern Indiana Public Service Company (NIPSCO), in Cause No. 45621. Please see Attachment 1 to this response for the Petitioners Exhibit No. 17 (page 35, line 5 through page 40, line 8) for a summary of the cost related considerations particular to NIPSCO's transmission system that influenced Mr. Amen's choice of the Peak and Average method.

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Northern Indiana Public Service Company
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1 distribution mains is a distinct and separate cost category that has much
2 support from an engineering and operating standpoint.

3 D. Allocation of NIPSCO's Transmission and High-Pressure
4 Distribution Mains

5 Q56. Please describe the method used to allocate NIPSCO's investment in its
6 transmission plant.

7 A56. NIPSCO's transmission system is a large diameter, high pressure pipeline
8 system that moves large volumes of gas between dispersed interstate pipeline
9 interconnecting points and its downstream distribution systems throughout
10 the year. This transmission pipeline configuration permits the sourcing of gas
11 supplies from multiple trading points and supply basins to the benefit of both
12 sales and transportation customers. Therefore, a Peak and Average ("P&A")
13 demand allocation method reflecting the NIPSCO system load factor,
14 excluding the Large Transportation Class 128, of 20.50 percent was used to
15 ratably allocate transmission plant. Design Day demand was used to allocate
16 the Peak portion of transmission plant or 79.50 percent. Annual Throughput
17 was used to allocate the remaining 20.50 percent of transmission plant.

18 Q57. Why was the Large Transportation Class 128 excluded from the calculation
19 of the system load factor?

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Northern Indiana Public Service Company
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1 A57. The annual load factor of the Large Transportation Class 128 HP exceeds 100
2 percent; that is, the class' contribution to the system coincident peak is lower
3 than the average daily use of the class. Including this class in the system load
4 factor calculation would heavily skew the result and thereby under-allocate the
5 cost of transmission mains based on the remaining classes' contribution to the
6 system peak. By doing so, the over-allocation of transmission mains costs on
7 the basis of class throughput would penalize the high load factor customers in
8 the Large Transportation Class 128 HP for their highly efficient use of the
9 transmission system.

10 **Q58. Are there other cost-related considerations particular to NIPSCO's**
11 **transmission system that influenced your choice of the P&A methodology?**

12 A58. Yes. From my discussions with NIPSCO pipeline operations personnel familiar
13 with improvements to the transmission system over the last several years as
14 well as the Transmission, Distribution and Storage System Improvement
15 Charge ("TDSIC") investments in the transmission system, I have categorized
16 the following cost-related considerations as a) Increased Transmission System
17 Reliability, and b) Supply Diversity and Flexibility.

18 Increased Transmission System Reliability

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1 As daily "sendout" (i.e., total gas demand) has grown on the NIPSCO
2 system, daily nomination caps have become commonplace. With increased
3 frequency, NIPSCO has had to issue nomination cap directives to its large
4 transportation customers when maintenance or emergency repair work is
5 necessary on the transmission system to insure continuous system operations.
6 Due to the extensive NIPSCO transmission system network, the Company has
7 been able to manage around these events with only supply directives or
8 nomination caps and not with periodic curtailments or supplying insufficient
9 delivery pressures to its large transportation customers. In addition,
10 investments under the TDSIC program include:

- 11 • Replacement of "at risk" pipeline, in other words, finding problems
12 before they become emergencies;
- 13 • Investments to allow live pipeline pigging, which eliminates out-of-
14 service down-time for pressure testing purposes;
- 15 • Investment in a major transmission segment in northwestern Indiana,
16 referred to by NIPSCO as the "483 lb." system, allowing for a secondary
17 feed for redundancy, LNG support, additional physical paths for
18 supply, and to maintain higher operating pressures.

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1 The investments in TDSIC I and II create an additional high-pressure
2 feed to customers served from the 483 lb. system while replacing at risk
3 pipeline segments, and the need for nomination caps is expected to be relaxed.

4 Supply Diversity and Flexibility

5 Most of the Large Transportation class customers' loads are located in
6 Zone A on the NIPSCO transmission system.² This zone is supplied by five of
7 the seven interstate pipelines that are connected to the NIPSCO transmission
8 system.³ Currently, only three of these interstate pipelines provide physical
9 supply to the 483 lb. system mentioned earlier. Under most conditions, the
10 majority of the 483 lb. demand can be served by any of the three points of
11 delivery ("POD"). Had the POD facilities been sized only for peak day, it
12 would have required all three POD facilities at near capacity to serve the
13 demand on this system. However, the three POD facilities have been
14 configured in such a way to allow for supply diversity, redundancy, and
15 operational flexibility. Under most conditions, this benefits the transportation

² Under peak weather conditions, large transportation customers served from the high pressure system comprise approximately 35% of load (January 2020 3-day peak). Across all twelve months of the year this same group of customers comprise 66% of annual system throughput.

³ These interstate pipelines are: Natural Gas Pipeline ("NGPL"), Northern Border Pipeline ("NBPL"), ANR Pipeline, Trunkline Pipeline, and Vector Pipeline.

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1 customers by allowing them to move large quantities of supply to any one or
2 more of the POD facilities to minimize their supply costs. Although two of the
3 Zone A pipelines currently have no physical interconnection to some Large
4 Transportation class customers, NIPSCO allows them to source significant
5 amounts of supply from these points, while managing deliveries by
6 displacement behind the scenes. The alternative would be to create additional
7 Transportation Zones or islands where certain customers would be further
8 restricted from a supply perspective.

9 To summarize, the NIPSCO transmission system provides increased
10 supply diversity, and price options, for transportation customers as well as
11 core GCA sales customers. It facilitates the transfer of supply from five of the
12 seven pipeline interconnection points, even when NIPSCO might not be
13 receiving gas from all interconnection points. It allows transportation
14 customers to receive supply at various points of interstate pipeline delivery,
15 whether near or far from their location on the system. It has consolidated
16 multiple transportation zones across the NIPSCO system under a single
17 balancing contract. The significant investment by NIPSCO in the transmission
18 system since 2010 has resulted in increased redundancy through additional

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1 looping of the transmission system to provide secondary feeds and maintain
2 higher allowed operating pressure and additional physical paths for less
3 supply source restrictions. The culmination of improvements under TDSIC II
4 projects provide further enhanced services, with fewer restrictions.

5 The operational improvements, cost-saving supply sourcing flexibility
6 and associated pricing options described above were understandably
7 influential in the choice of the P&A allocation method for the NIPSCO
8 transmission system mains.

9 **Q59. Please describe the method used to allocate NIPSCO's investment in its**
10 **high-pressure distribution plant.**

11 A59. NIPSCO's high pressure distribution mains are commonly referred to by
12 NIPSCO as "Pseudo-Transmission" due to similarities in operating
13 characteristics. These pipelines typically operate at pressures above 200 PSIG
14 and serve as an intermediate pipeline system between the transmission system
15 and the downstream distribution systems but don't meet the Federal
16 Department of Transportation's SMYS (Specified Minimum Yield Strength)
17 criteria for transmission pipelines. Design Day demand was used to allocate
18 the high-pressure distribution mains.

REFERENCE:

Atrium Report, Sections 3.1 – 3.3, pages 6-8, NARUC Cost Distribution Rate Design Manual, 1989, page 27

PREAMBLE TO IR (IF ANY):**QUESTION:**

g) Please explain under what circumstances Atrium would recommend the use of an Average and Excess or Peak and Average methodology for purposes of utility cost allocation.

RESPONSE:

Atrium would recommend the Peak and Average method under the circumstances described in response to CAC/ATRIUM I-2f.

REFERENCE:

Atrium Report, Sections 4.1- 4.3 pages 10-13, Centra MFR 8, Attachment 1, page 32, Attachment 2, page 14

PREAMBLE TO IR (IF ANY):

Atrium states:

“As discussed earlier, the process of cost allocation is predicated on theoretical principles of cost causation. However, the process is not an exact science. Negotiations among utilities, customer groups, and other stakeholders, as well as regulatory agency directives may supersede the fundamental outcome of the underlying allocation process to further the public interest. For example, the U.S. Federal Energy Regulatory Commission (“FERC”) has historically wrestled with which factor or factors to consider as dispositive. Among them, the FERC has evaluated such probative considerations such as demand and diversity, economic factors, firm versus interruptible requirements for service, and various other factors.” **Atrium Report, page 10**

QUESTION:

- a) Please explain if the conclusion from this passage in Atrium’s Report is that best practices are such that cost causation is not the only principle used in cost allocation practice

RESPONSE:

In the section referenced above, Atrium is describing the process where through negotiation and settlement or by regulatory fiat, the theoretical principals of cost allocation are subjugated to the practical and parochial interests of the individual parties engaged in the proceeding. Cost causation is a defining principle, and all cost allocation is an effort to objectively apply the principle of “*user pays,*” based on, “*theoretical principles of cost causation*”. The subsequent modification through negotiation or regulatory fiat of an

appropriately allocated cost of service does not make the allocation a best practice, it only makes it a negotiated, settled and/ or ordered outcome.

REFERENCE:

Atrium Report, Sections 4.1- 4.3 pages 10-13, Centra MFR 8, Attachment 1, page 32, Attachment 2, page 14

PREAMBLE TO IR (IF ANY):

Atrium states:

“Atrium recognizes that Centra’s view of the P&A allocation methodology was approved by the PUB in Order 107/96 dated October 17, 1996 and has been used consistently by Centra since that time.” **Atrium Report, page 10**

Order 107/96: “The Board also agrees that the cost of service methodology best suited for a natural gas distribution company should be determined based upon the circumstances of the utility. Those circumstances must reflect the manner in which the system is designed as well as the manner in which the system is operated. Giving some weight to the manner of system operation better reflects the cost responsibility than does a methodology which considers only the design parameters” **PUB Order 107/96, pages 26-27**

Order 164/16: “Cost causation as defined by the Board takes into consideration both how an asset is planned and how that asset is used. This takes into account how an asset fits into Manitoba Hydro’s current system planning, as well as the current use. This methodology is to apply to assets currently in service, as well as future assets, such as Keeyask and Bipole III.

The Board also finds that cost causation requires consideration of all the uses and benefits of an asset, to recognize that both primary and secondary benefits influence the planning and justification of assets. These considerations should be assessed over a range of years (as opposed to a single forecasted year) and over a range of conditions in order to capture all of the uses and benefits of an asset in determining cost causation.” **PUB Order 164/16, page 27**

QUESTION:

- b) Please explain if Atrium disagrees with the PUB's definition of cost causation as reflected in the findings in Orders 107/96 and 164/16 as noted in the preamble above. If so, explain why Atrium disagrees.

RESPONSE:

Settlements in proceedings before the Board are negotiated in consideration of specific customer, operational, commercial, and financial interests that are effective at that time and may not be entirely consistent with cost allocation theory. Similarly, Orders by the Board reflect findings that are based on specific facts reflected in the record that existed in the proceeding in question. Atrium was not engaged in the referenced proceedings and has no way to test these selected excerpts or evaluate them in the context of all the information provided in the proceedings. With that caveat, Atrium offers the following response.

Order 107/96: Atrium agrees that the Board should not adopt a “*cookie-cutter*” approach to cost allocation but rather should follow appropriate cost causation principles to allow each utility to derive a fundamentally sound allocated cost of service. Cost allocation should follow cost causation and the relationship between these costs can be an indicator.

Order 164/16: See discussion for Order 107/96 above. See also the responses to CAC/ATRIUM I-2b and CAC/ATRIUM I-2c, related to “*cost causation*”.

REFERENCE:

Atrium Report, Sections 4.1- 4.3 pages 10-13, Centra MFR 8, Attachment 1, page 32, Attachment 2, page 14

PREAMBLE TO IR (IF ANY):**QUESTION:**

- c) Please explain if Atrium's cost allocation recommendations regarding the Centra cost of service are consistent with the PUB's findings related to the definition of cost causation as noted in the preamble above. If not, please explain why not.

RESPONSE:

No. Atrium's cost allocation recommendations regarding the Centra cost of service are not consistent with the PUB's findings. Atrium's reason for our disagreement with the PUB's findings is that portion of the PUB's findings in Order 164/16 whereby the Board opined that "cost causation requires consideration of all the uses and benefits of an asset, to recognize that both primary and secondary benefits influence the planning and justification of assets." Atrium maintains that the considerations enumerated in the Board's opinion are more properly beyond the scope of cost causation. As we have previously stated, cost causation should stand on its own evidentiary basis.

REFERENCE:

Atrium Report, Sections 4.1- 4.3 pages 10-13, Centra MFR 8, Attachment 1, page 32, Attachment 2, page 14

PREAMBLE TO IR (IF ANY):

Atrium states:

“Atrium’s disagreement with this point of view is grounded in the fact that high load factor customers use the pipeline system more consistently than low load factor customers, which directly translates into using the system more efficiently (i.e., less unused capacity throughout the year).” **Atrium Report, page 11**

QUESTION:

d) Please confirm whether Atrium is aware that the Mainline Class was created in concert with Centra’s 1996 Cost Allocation review, approved by the PUB in Order 107/96 to moderate the cost allocation impacts that would have otherwise occurred for Centra’s highest load factor customers. If yes, please discuss whether such a class continues to be appropriate given Atrium’s recommendation to move to a design day CP methodology which shifts cost responsibility to lower load factor and away from high load factor customers in the allocation of transmission and distribution demand-related plant.

RESPONSE:

Yes, Atrium is aware of the creation of the Mainline Class and the purpose for doing so. However, for purposes of Atrium’s current review of cost allocation, the issues raised in the question are irrelevant as they have to do with matters of rate impact mitigation / rate design for an historical point in time, rather than the proper allocation of costs for the utility as it exists today. Rather, Atrium’s current review of Centra’s transmission system and the Mainline customers attached to it support the continued existence of the Mainline Class.

REFERENCE:

Atrium Report, Sections 4.1- 4.3 pages 10-13, Centra MFR 8, Attachment 1, page 32, Attachment 2, page 14

PREAMBLE TO IR (IF ANY):

Christensen Associates states:

“Centra’s application of the peak-average allocation methodology rests on solid institutional precedent. One well-known method is the Atlantic Seaboard formula, where facility costs are allocated according to peak day and energy throughput, each weighted by 50%. Another method is the United formulation (United Gas Pipeline, 1973), in which the weights are 25% and 75% for peak day and energy, respectively. For pipelines, the Federal Energy Regulatory Commission adopted the so-called Modified Fixed Variable approach during the 1980s. All three cost allocation methods are variations of peak day-average throughput combination allocators. Moreover, the Gas Distribution Rate Design Manual of the NARUC describes the average and peak method (i.e., peak-average) as one of the most commonly used approaches for allocation of demand-related (fixed) costs (at page 27).

However, discussions with planners and general intuition suggest that transport costs are driven largely by peak demand and transport distance (line length), and secondarily by the type of terrain and factors associated with infrastructure density. Peak day demand (maximum daily throughput) is an observable causal factor for cost allocation. However, length of transmission and distribution mains attributable to customers is less observable and it is also difficult to associate distance measures with customers or customer classes because of practical and institutional limitations. As a consequence, to the degree that transport distances are accounted for in cost allocation, it is necessary to utilize surrogate allocation metrics.

One potential surrogate metric for length of mains is number of customers. MH could evaluate this idea by estimating the shares of total costs of mains attributable to: 1) peak capacity (“max day”) and 2) line distances. The share attributable to max day would be allocated according to peak day responsibility, and the cost share attributable to transport

distances (line length) would be allocated according to class number of customers. Another potential surrogate is energy sales, a metric currently in use. Energy use makes sense as a proxy if the average energy per customer, for customers taking service from Centra's distribution system, does not vary much (i.e., there is fairly homogenous consumption per customer.) If this is true, energy would capture the average/typical distance of mains (that is, the expected value of distance per customer) about as well as number of customers served. Under such a condition, even under strict cost causality, Centra would have good reason to retain its peak-average allocation metric.

Recommendation. For the reason of institutional precedent and recognizing the difficulty of incorporating transport-related metrics by rate class, we support Centra's peak-average demand allocator for transmission and distribution. However, it may be useful to investigate a peak-customer allocation metric for future consideration, as peak day and transport distance are likely the key cost drivers of transport services. Proxies for distance metrics may be investigated for both transmission and distribution services. Detailed recommendations are as follows:

- Transmission and Distribution.** If cost causation is the paramount criterion for selection of an allocator, then Centra may wish to explore the development of a combination allocation metric that includes maximum day and number of customers.

- Combination allocator weights.** Under certain conditions, energy can serve as a useful surrogate to capture the underlying cost factors that drive the costs of distribution facilities. We recommend that Centra explore whether load factor conforms adequately to the impacts of the underlying two main cost drivers (peak day, distance) on facility costs. As a consequence, we recommend that Centra consider conducting a cross-sectional statistical analysis of costs and cost drivers, reflected in historical work order records. **MFR 8, Attachment 1, pages 32-33**

Centra states:

Recommendation 27: With respect to the Peak and Average demand allocator, CA supports the continuance of this demand allocator for Transmission and Distribution. CA goes on to state that Centra consider the investigation of a peak-customer allocator alternative (page 30).

Centra's Position and Rationale: Centra is supportive of the continuance of a peak and average approach for the allocation of demand related costs as endorsed by the CA. Centra is of the view that the peak and average methodology has served the utility well, is recognized in industry as a well-founded allocation approach that gives a balanced weight to the objectives of economic efficiency and fairness in that it gives recognition to the use of the system, is simple, and provides an objective basis for the determination of rates. Centra accepts CA's perspective that peak demand and length of pipe are likely key drivers of cost. However, Centra is of the view that:

1. Given the distribution of customers in Manitoba, it is not apparent that customer count is a reasonable proxy for distance; and
2. With respect to Distribution Plant, Customer numbers are considered at the Classification Phase (through its diameter-length study).

For these reasons as well as that this approach not employed elsewhere, Centra does not intend to pursue further study of the use of customer as a proxy for distance." **MFR 8, Attachment 2, page 13**

QUESTION:

- e) Please explain if Atrium has reviewed the recommendations of Christensen Associates with respect to the allocation of transmission and distribution demand-related costs as part of its engagement with Centra. If not, please explain why not.

RESPONSE:

Yes, Atrium has reviewed the referenced recommendations of Christensen Associates.

REFERENCE:

Atrium Report, Sections 4.1- 4.3 pages 10-13, Centra MFR 8, Attachment 1, page 32, Attachment 2, page 14

PREAMBLE TO IR (IF ANY):

QUESTION:

- f) Please provide Atrium's views regarding Christensen Associates recommendation that cost causation of transmission and distribution demand extends beyond only the cost incurred in serving customer usage at the coincident peak day.

RESPONSE:

Atrium was not engaged by Centra to critique the Christensen Associates report. However, Atrium disagrees with the Christensen Associates recommendation. Now ten years later, we can only speculate as to whether Christensen Associates would make the same recommendation today.

REFERENCE:

Atrium Report, Sections 4.1- 4.3 pages 10-13, Centra MFR 8, Attachment 1, page 32, Attachment 2, page 14

PREAMBLE TO IR (IF ANY):

Atrium states:

“Economies of scale are always recognized when a gas utility sizes its distribution mains to satisfy peak capacity requirements of its customers. The concept of economies of scale drives overall costs incurred by a gas utility for its gas distribution mains and these economies of scale are reflected in Centra’s embedded costs of distribution mains. However, economies of scale affect the sizing of distribution mains – but not the allocation of their resulting costs. The economies of scale enjoyed by a gas utility are created by the interaction of the capacity requirements of all its customers. Centra does not plan for the changing needs of its distribution system by examining the capacity requirements of any one customer class or by conducting capacity planning by first disaggregating its capacity needs into “average demand requirements” and “peak demand requirements.” **Atrium Report, page 11**

QUESTION:

g) Atrium’s discussion of economies of scale in gas utilities is focused on distribution mains as noted in the above preamble. Please explain whether Atrium’s view also applies to transmission plant and mains

RESPONSE:

Yes, as it applies to transmission pipeline capacity.

REFERENCE:

Atrium Report, Sections 4.1- 4.3 pages 10-13, Centra MFR 8, Attachment 1, page 32, Attachment 2, page 14

PREAMBLE TO IR (IF ANY):**QUESTION:**

- h) Please explain how Atrium has factored the following characteristics of Centra's system as part of its capacity allocation methodology proposal including 1) the predominance of small volume users with relatively few large industrial customers and 2) the low density of customers

RESPONSE:

Predominant numbers of small volume users may exhibit low load factors, particularly if they use natural gas only for space heating, unlike large industrial customers with high load factor process loads. These varying load characteristics will impact the allocation of pipeline system capacity costs for these classes of customers. Low density of customers will be reflected in the kilometers of mains required to serve them and will be reflected in the minimum system analysis, which will determine the customer component of the distribution system costs.

REFERENCE:

Atrium Report, Sections 4.1- 4.3 pages 10-13, Centra MFR 8, Attachment 1, page 32, Attachment 2, page 14

PREAMBLE TO IR (IF ANY):**QUESTION:**

- i) Of the number of Canadian LDC's surveyed by Atrium (Section 8.0 of the Atrium Report), please identify how many LDC's use a design day CP exclusively in the allocation of the demand-related Transmission and Distribution costs

RESPONSE:

Please refer to the response to CAC/TRIUM I-6a.

REFERENCE:

Atrium Report, Sections 4.1- 4.3 pages 10-13, Centra MFR 8, Attachment 1, page 32, Attachment 2, page 14

PREAMBLE TO IR (IF ANY):

QUESTION:

- j) Please explain the advantages and disadvantages of deriving a demand allocation factor based on a historical average of multiple peak days over time, and actual peak demand.

RESPONSE:

An historical average of multiple system coincident peaks days over time is assumed to be actual peak demand. If the question relates to a comparison of a single test year coincident peak demand to an historical average of multiple coincident peak days, the historical average will tend to provide a more stable peak day for cost allocation purposes due to potential for wide fluctuations of peak weather conditions from year-to-year. This is also true for the system design day peak, which is the most stable representation of a coincident peak day. The disadvantage of using an average of multiple system peaks is the potential for a series of warmer than normal winter periods that produce a low average peak day, which won't properly represent the design weather conditions under which the pipeline system capacity was built to serve.

REFERENCE:

Atrium Report, Sections 4.1- 4.3 pages 10-13, Centra MFR 8, Attachment 1, page 32, Attachment 2, page 14

PREAMBLE TO IR (IF ANY):

Atrium states:

“...the fixed costs of transmission and distribution plant investment, and not dependent on the vagaries of changing weather patterns, design day demand provides more stable cost allocation results over time than the P&A allocation method.” **Atrium Report, page 13**

QUESTION:

k) Please provide a summary and description of Atrium’s analysis (without disclosing CSI) that support in its two conclusions per Atrium’s Report, top of page 13

RESPONSE:

Use of a utility’s design day demand is superior to using its actual peak day demand or a historical average of multiple peak day demands over time for purposes of deriving demand allocation factors for a number of reasons. These reasons include:

1. A utility’s gas system is designed, and consequently costs are incurred, to meet design day demand. In contrast, costs are not incurred on the basis of an average of peak demands;
2. Design day demand is more consistent with the level of change in customer demands for gas during peak periods and is more closely related to the change in fixed plant investment over time; and
3. Design day demand provides more stable cost allocation results over time.

The utility must consistently rely upon design day demand in the design of its own distribution facilities required to service its firm service customers. More importantly,

design day demand directly measures the gas demand requirements of the utility's firm service customers which create the need for the utility to acquire resources, build facilities and incur millions of dollars in fixed costs on an ongoing basis.

By definition, a utility's design day demand is as stable a determinant of planned capacity utilization as you can derive. If it were not a stable demand determinant, the design of a utility's gas system and supply portfolio would tend to vary and make the installation of facilities and acquisition of supply resources and capacity a much more difficult task. Therefore, use of design day demands provides a more stable basis than any of the other demand allocation factors available based on either actual peak day demand or the averaging of multiple peak days. In Atrium's experience, there is no better way to capture the true cost causative factors of a gas utility's operations than to utilize its design day peak requirements within its cost of service studies.

REFERENCE:

Atrium Report, Sections 4.1- 4.3 pages 10-13, Centra MFR 8, Attachment 1, page 32, Attachment 2, page 14

PREAMBLE TO IR (IF ANY):

QUESTION:

- l) Please elaborate on how a design day is calculated and compare and contrast that to how Centra's peak design hour approach is calculated

RESPONSE:

A design day is defined by weather conditions corresponding to a certain level heating degree days (HDD), which can be an historical maximum level of experienced HDD or the result of a statistical probability of occurrence. Atrium is aware that Centra examines its capacity needs in the aggregate based on the peak hour demands on its design day for all of its customers or for the group of customers added to the existing distribution system at any point in time. This peak hour analysis is currently performed for engineering purposes and not specifically for establishing customer class contributions to the system design day peak for use in Centra's cost of service study.

REFERENCE:

Atrium Report, Sections 4.1- 4.3 pages 10-13, Centra MFR 8, Attachment 1, page 32, Attachment 2, page 14

PREAMBLE TO IR (IF ANY):

QUESTION:

m) Please explain how a design peak day approach as recommended by Atrium allows for flexibility for changing customer load to be reflected in the allocation of costs.

RESPONSE:

As customers' peak demands change, the changes will be reflected in the results of the class peak day responsibility wherein the customers reside. An overall trend in total system demand can be evaluated by the utility for purposes of determining a need to change the design day criteria. Utilities are known to periodically conduct statistical probability analysis to determine the capacity cost per HDD in the evaluation of a potential change to their design day criteria.

REFERENCE:

Atrium Report, Sections 4.1- 4.3 pages 10-13, Centra MFR 8, Attachment 1, page 32, Attachment 2, page 14

PREAMBLE TO IR (IF ANY):

Atrium states:

“The use of design day demand provides more stable cost allocation results over time.”
Atrium Report, page 13

QUESTION:

n) Atrium asserts that the use of a design day demand provides more stable cost allocation results over time. Please clarify to which methodology Atrium’s assertion of greater stability relates. For instance, is Atrium’s view that a design day CP is more stable than the PAVG methodology to Centra’s current determination of peak as reflected in PAVG, or something else?

RESPONSE:

Please refer to the response to CAC/TRIUM I-3k.

REFERENCE:

Atrium Report, Sections 4.1- 4.3 pages 10-13, Centra MFR 8, Attachment 1, page 32, Attachment 2, page 14

PREAMBLE TO IR (IF ANY):**QUESTION:**

- o) Please provide a description and summary of Atrium's analysis supporting its conclusion that the use of a design day demand is more stable (without disclosing CSI).

RESPONSE:

Please refer to the response to CAC/TRIUM I-3k.

REFERENCE:

Atrium Report, Section 5.0, page 15, Table 1, Section 5.2.1, pages 16-17, Section 5.2.1, Schematic, page 18

PREAMBLE TO IR (IF ANY):

QUESTION:

- a) Please explain the results of Atrium's review of the functionalization of Centra's costs and provide a summary of Atrium's conclusions and recommendations, if any.

RESPONSE:

In Section 5 of the Report Atrium concluded and recommended:

- a) Transmission Mains:
 - i) Centra relies upon design day demand in the acquisition of its upstream gas supply-related capacity resources and in the design of its own transmission and distribution facilities required to service its customers in its 26 service areas connected to TCPL. Importantly, design day demand directly measures the gas demand requirements of the Company's customers which create the need for the Company to acquire resources, build facilities and incur millions of dollars in fixed costs on an ongoing basis. Atrium recommends the use of a coincident peak allocation of transmission plant to the rate classes based on the proportion to their design day peak load requirements.
 - ii) Cost causation principles dictate that a customer or groups of customers that cause the utility to incur particular costs should be responsible for those costs. If a direct linkage between a utility's customers and the particular costs incurred by the utility in serving those customers is established, that cost is deemed a directly assignable cost. Atrium recommends that the Special Contact customer receive a direct assignment of the transmission mains that serve its industrial facility.

- iii) Mainline customers are dispersed throughout the Centra transmission system and are located on transmission pipelines that serve both upstream and downstream load centers, ranging from transmission pressures of 600 PSIG to the upper range of what is currently classified as distribution pressure. It is Atrium's view that it is appropriate for the Mainline Class to receive a full allocation of the transmission system plant. Notably, the characteristics applicable to the Special Contract customer do not apply to individual Mainline customers; and therefore, these customers are not candidates for a direct assignment of specific transmission pipeline related plant.
- iv) Based on Atrium's review of Centra's transmission and distribution pipeline systems, including the 27 primary stations connected to either TCPL or TransGas, and the 119 Gate Stations, we find no apparent support for a departure from postage stamp ratemaking policy followed by Centra.

b) Distribution Mains:

- i) There are two cost factors that influence the level of distribution mains facilities installed by a gas LDC in expanding its gas distribution system. First, the size of the distribution main (i.e., the diameter of the main) is directly influenced by the sum of the peak period gas demands placed on the LDC's gas system by its customers. Second, the total installed footage of distribution mains is influenced by the need to expand the distribution system grid to connect new customers to the system or to reach existing customers when a particular distribution pipeline segment needs to be replaced. To ensure that the customer classes that cause Centra to incur the costs of this plant investment and the related operating and maintenance expenses are charged with these costs, distribution mains should be allocated to the rate classes in proportion to their design day peak load requirements and number of customers.
- ii) The two most commonly used methods for determining the customer cost component of distribution mains facilities consist of the following: (1) the zero-intercept approach and 2) the most commonly installed, minimum-sized unit of plant investment. The utilization of one or the other of these two methods to determine a customer component of distribution facilities, specifically for

distribution mains, is a fully supportable and widely used approach in the gas industry.

c) Other Distribution Plant:

- i) Centra determines the cost per customer for service lines by compiling vintage year installed costs and number of services by pipe size. Centra maintains this service line installation data beginning in 1966. Atrium recommends that Centra update the services study from the current 2004 study with data up to the most currently available. Atrium further recommends that Centra index the vintage year installation cost data to current year costs in future service line studies.
- ii) Centra determines the cost per customer for meters by compiling the number of installed meters by size and/or type. The detailed process followed by Centra is one of the closest approaches to specific identification of the actual cost of each meter and service line by customer in each of the customer classes. However, for future service line studies, we recommend indexing the vintage year data to current year costs for a more equivalent comparison.

Please see Section 5 of the Atrium Report for a full explanation of the conclusions and recommendations.

REFERENCE:

Atrium Report, Section 5.0, page 15, Table 1, Section 5.2.1, pages 16-17, Section 5.2.1, Schematic, page 18

PREAMBLE TO IR (IF ANY):

Figure 1 (Atrium Evidence, page 18), represents an excerpt of the Brandon Pipeline Schematic as provided in Appendix A, page A-9 of Atrium's Evidence

QUESTION:

- b) Please provide a full copy of the Brandon Pipeline Schematic as part of the response to this information request.

RESPONSE:

Please see the Atrium Report, Appendix A, Page A-9 which was included with Centra's 2021 Cost of Service Methodology Review filed on June 15, 2021, and which is in the public record.

REFERENCE:

Atrium Report, Section 5.0, page 15, Table 1, Section 5.2.1, pages 16-17, Section 5.2.1, Schematic, page 18

PREAMBLE TO IR (IF ANY):

QUESTION:

- c) Please elaborate on Atrium's view that the transmission mains serving the Special Contract (SC) and the Power Stations (PS) customers are dedicated considering that the referenced transmission mains are all part of an integrated system serving not only Brandon, other large customers (such as Maple Leaf, Canada Oxy, Assiniboine Community College, Husky), and the Southwest Manitoba (Malita, Hartney, Souris, Deloraine, Boissevain and Killarney).

RESPONSE:

Atrium does not agree that the transmission mains in question are operationally or contractually integrated on a normal day. With that caveat, Atrium provides the following response.

Operations are a result and driver of capital and expenses, respectively, and contracts are an indicator of cost responsibility. As explained in Section 5.2.1 of the Atrium report:

- a. The transmission pipeline segments are exclusively used to provide service to the Special Contract customer.
- b. Under normal operating conditions, the transmission lines providing service operate in isolation from the remainder of the transmission system.
- c. A direct interconnect with TCPL via Centra's Brandon primary gate station serves the entire load requirements of the Special Contract customer's industrial facilities.
- d. The transmission pipeline segments operate at a higher pressure than most of the rest of the Centra system; the Special Contract customer requires higher pressures to

maintain plant operations, having entered into a minimum delivery pressure agreement with the upstream transmission pipeline, TCPL, to promote operational stability.

- e. The Special Contract customer requires non-odorized gas, which necessitates isolation of the parallel transmission pipelines from which the Special Contract customer receives service and inhibits the active interconnection of these pipeline segments with the broader transmission system.
- f. The remainder of the Centra transmission system is fully odorized, physically separated by valve stations which remain closed under normal operating conditions and receives only one-way pressure and capacity support in an emergency situation from the transmission pipelines that serve the Special Contract customer.

In addition, Atrium also explains that cost causation principles dictate that a customer or groups of customers that cause the utility to incur particular costs should be responsible for those costs. If a direct linkage between a utility's customers and the particular costs incurred by the utility in serving those customers is established, that cost is deemed a directly assignable cost.

Finally, Atrium notes that it is commonly accepted that costs are most appropriately allocated and recovered assuming normal operating conditions on the utility.

REFERENCE:

Atrium Report, Section 5.0, page 15, Table 1, Section 5.2.1, pages 16-17, Section 5.2.1, Schematic, page 18

PREAMBLE TO IR (IF ANY):**QUESTION:**

- d) Given the integrated nature of the Brandon and Southwest Pipeline system, please explain whether Atrium evaluated the pros and cons of any alternative treatment to direct assignment to the SC and PS classes. If yes, please provide the alternatives evaluated and the pros and cons of each alternative evaluated. If not, please explain why not, given the integrated nature of this system.

RESPONSE:

Atrium does not agree that the transmission mains in question are operationally or contractually integrated on a normal day. With that caveat, Atrium provides the following response.

No. Please see the response to CAC/ATRIUM I-4c explaining the rationale for the cost treatment.

REFERENCE:

Atrium Report, Section 5.0, page 15, Table 1, Section 5.2.1, pages 16-17, Section 5.2.1, Schematic, page 18

PREAMBLE TO IR (IF ANY):

QUESTION:

- e) Please explain Atrium's views and rationale as to whether the selection of an appropriate cost allocation methodology should be based on i) normal operating conditions only ii) "emergency situations" or iii) a combination of both.

RESPONSE:

Atrium assumes that this clarification refers to the use of the referenced language in the excerpt below:

"The remainder of the Centra transmission system is fully odorized, physically separated by valve stations which remain closed under normal operating conditions and receives only one-way pressure and capacity support in an emergency situation from the transmission pipelines that serve the Special Contract customer."

As explained in the response to CAC/ATRIUM I-4c, Atrium believes that an appropriate cost allocation methodology should be based on normal operations.

REFERENCE:

Atrium Report, Section 5.0, page 15, Table 1, Section 5.2.1, pages 16-17, Section 5.2.1, Schematic, page 18

PREAMBLE TO IR (IF ANY):

QUESTION:

- f) Please compare and contrast this view as reflected in IR 4.5 above, with Atrium's recommendation to implement a CP allocation based on design day conditions representing the most severe of recorded temperature and weather conditions.

RESPONSE:

Atrium assumes that this view as reflected in CAC/ATRIUM I-4e refers to Atrium's allocation of costs for the normal daily operations of the utility, as this is the theoretical foundation for the allocation of all costs. This IR conflates "*normal operating conditions*" with the design of pipeline capacity. A design day occurs when capacity utilization is at its peak. Such an event is planned for by the utility in building the distribution system. The remainder of the year the utility experiences normal operations. Unless there is an unforeseen incident, such as system outages, the utility operations are expected to be normal.

REFERENCE:

Atrium Report, Section 5.0, page 15, Table 1, Section 5.2.1, pages 16-17, Section 5.2.1, Schematic, page 18

PREAMBLE TO IR (IF ANY):**QUESTION:**

g) Please provide Atrium's view on specifically which "transmission" costs it is recommending be directly assigned and those specific costs it recommends no longer to be allocated to the SC customer.

RESPONSE:

As explained in Section 5.2 (pages 16-18) of the Report, (Appendix 1 to Centra's 2021 Cost of Service methodology Review), Atrium recommends that the Special Contact customer receive a direct assignment of the transmission mains that serve its industrial facility.

REFERENCE:

Atrium Report, Section 5.0, page 15, Table 1, Section 5.2.1, pages 16-17, Section 5.2.1, Schematic, page 18

PREAMBLE TO IR (IF ANY):

QUESTION:

h) Please provide Atrium's view on specifically which "transmission" costs it is recommending be directly assigned and those specific costs it recommends no longer to be allocated to the PS customer.

RESPONSE:

Atrium's recommendation for the PS customer is consistent with that for the SC customer explained in response to CAC/TRIUM I-4g.

REFERENCE:

Atrium Report, Section 5.0, page 15, Table 1, Section 5.2.1, pages 16-17, Section 5.2.1, Schematic, page 18

PREAMBLE TO IR (IF ANY):

QUESTION:

- i) Please explain whether Atrium considered any other methodologies to allocate Transmission plant. If yes, please provide a summary of the pros and cons of each methodology evaluated. If not, please explain why not.

RESPONSE:

Please see Section 3.0 of the Atrium Report to Centra's 2021 Cost of Service Methodology Review filed on June 15, 2021, and which is in the public record.

Atrium explains In Section 3.0, entitled, "*Theoretical Principals of Cost Allocation*" that,

"Cost studies are a basic tool of ratemaking. Just and reasonable rates must avoid undue discrimination and must reflect the principle of "user pays", also known as "cost causation," which is another way of saying that those who cause the costs should pay the costs."

In Section 3.3 Atrium summarizes the three basic methodologies that form the foundation for the allocation process which are the Coincident Peak methods, Non-Coincident Peak methods, and Average and Excess Demand methods.

Section 4 (entitled "Review of Capacity Cost Allocation") is a discussion of the current and Atrium recommended methodology for the allocation of Transmission Plant, where the benefits and concerns of the various methods are reviewed.

REFERENCE:

Atrium Report, Section 5.0, page 15, Table 1, Section 5.2.1, pages 16-17, Section 5.2.1, Schematic, page 18

PREAMBLE TO IR (IF ANY):**QUESTION:**

- j) Please explain whether Atrium considered any other methodologies to allocate the demand-related component of Distribution plant. If yes, please provide a summary of the pros and cons of each methodology evaluated. If not, please explain why not.

RESPONSE:

As explained in Section 5.3 of the Report (“Allocation of Distribution Mains”), “Atrium considered both the Peak & Average Method and the Design Day Method. In its recommendation of the Design Day Peak Atrium noted that the, ...” review of the use of the P&A allocation method for transmission plant discussed in Section 4.1 applies equally to Centras’ distribution mains. Within Section 4.1 is a detailed review of the use of the Peak and Average method.

In support of its recommendation of the Design Day Peak Method Atrium notes in Section 5.2 that,

“It is widely accepted that distribution mains are installed to meet both system peak period load requirements and to connect customers to the LDC’s gas system. Therefore, to ensure that the customer classes that cause Centra to incur the costs of this plant investment and the related operating and maintenance expenses are charged with these costs, distribution mains should be allocated to the rate classes in proportion to their design day peak load requirements and number of customers.”

The recommendations in Section 5.2 are based upon Atrium's experience in costing and ratemaking and the analysis set forth in Section 4.3 of the Report.

REFERENCE:

Atrium Report, Section 5.0, page 15, Table 1, Section 5.2.1, pages 16-17, Section 5.2.1, Schematic, page 18

PREAMBLE TO IR (IF ANY):

QUESTION:

- k) Please explain whether Atrium assessed the results of the allocation of embedded cost to the SC and PS classes against the marginal cost of serving these customers to ensure these customers are at least covering their minimum cost to serve. If yes, please provide a summary of the analysis undertaken along with Atrium's conclusions. If not, please explain how Atrium, Centra, the PUB, and stakeholders can be assured that the proposed allocation treatment does not result in a cross-subsidization from the SGS class (and other classes) to the SC and PS classes.

RESPONSE:

No embedded or marginal cost studies were performed by Atrium. Subsidies occur when one or more customer classes inappropriately bears responsibility for the costs associated with the service for another customer class. Subsidies cannot be the result of a correctly assigned direct cost. When costs are directly assigned, a direct relationship has been determined between cost causation and responsibility for the customer to pay for those costs. In contrast, subsidies can occur when direct assignments of cost are not possible, as the determination of appropriate allocation factors is only a best effort to approximate the relationship between cost causation and the allocated result of the cost of service study.

REFERENCE:

Atrium Report, Section 6.4, page 23, Section 6.4.1, page 24

PREAMBLE TO IR (IF ANY):**QUESTION:**

- a) Please explain whether Atrium's recommended Seasonal Resource Stack-Based Analysis is a conceptually similar methodology to an Average and Excess methodology in that both recognize cost is incurred to serve both peak requirements and average demand (volumes). If yes, then why does Atrium view volume as a legitimate driver of the cost incurred in providing upstream pipeline capacity service but not for downstream transmission and distribution capacity cost? If not, please explain why not, including whether the Seasonal Resource Stack-Based Analysis considers only peak in maximum conditions or multiple peaks throughout the year.

RESPONSE:

No, Atrium's recommended Seasonal Resource Stack-Based Analysis is not a conceptually similar methodology to an Average and Excess methodology. Please see the response to PUB/ATRIUM I-10a.

REFERENCE:

Atrium Report, Section 6.4, page 23, Section 6.4.1, page 24

PREAMBLE TO IR (IF ANY):

QUESTION:

- b) Please provide a discussion on the conceptual consistency between Atrium's recommended Seasonal Resource Stack-Based Analysis and the CP methodology at the design day level for year-round pipeline capacity proposed as an alternative.

RESPONSE:

The Seasonal Resource Stack-Based Analysis incorporates the CP methodology at the design day level in its analysis. Please see the response to PUB/TRIUM I-10a which explains, among other things, that "*... it is the expected customer demand, and in particular the shape of that demand, that drives Centra to plan for and use upstream pipeline and storage capacity resources*". It is the shape of this demand that is captured by the Seasonal Resource Stack-Based Analysis.

REFERENCE:

Atrium Report, Section 6.4, page 23, Section 6.4.1, page 24

PREAMBLE TO IR (IF ANY):**QUESTION:**

- c) Please explain whether Atrium's alternate methodology of winter season demand in excess of summer season demand is a conceptually similar methodology to an Average and Excess methodology. If yes, then why does Atrium view volume as a legitimate driver of the cost incurred in providing upstream pipeline capacity service but not for downstream transmission and distribution capacity cost? If not, please explain why not.

RESPONSE:

No, winter season demand in excess of summer season demand is not a conceptually similar methodology to an Average and Excess methodology. As explained in Section 3.3, at page 8 of the Report,

"The Average and Excess (A&E) demand allocation methodology, also referred to as the "used and unused capacity" method, allocates demand related costs to the classes of service on the basis of system and class load factor characteristics. Specifically, the portion of utility facilities and related expenses required to service the average load is allocated on the basis of each class' average demand and is derived by multiplying the total demand related costs by the utility's system load factor. The remaining demand related costs are allocated to the classes based on each class' excess or unused demand, i.e., total class non-coincident demand minus average demand. The A&E method uses a weighted average of class average demands (weight = system load factor) and the "excess" demand (weight = one minus the system load factor). When the A&E method is used in combination with the system CP it has the mathematical result of double counting the class average

demands. This is the primary reason that the A&E method is very rarely used in gas embedded cost of service studies.”

Atrium recommended implementation of the Seasonal Resource Stack-Based Analysis but provided the alternate methodology of winter season demand in excess of summer season demand as an acceptable option. In describing the proposed alternative Atrium noted,

“...as an alternative approach for storage and related pipeline injection and redelivery capacity, Centra should use the winter season demand in excess of summer season demand. Winter season throughput would be an alternative allocation method for Supplemental Supply. An alternative allocation method for year-round pipeline capacity should be peak day demand, at the design day level. For interruptible customers, Centra should consider the use of a 100% load factor contribution to the peak day allocator. This will prevent these customers from escaping some peak day responsibility; that is, if Centra’s capacity resources can accommodate the cumulative design day peak demands of the interruptible customer group.”

The Winter Excess Demand allocation is calculated as each customer class’ contribution to the average monthly throughput for November through March (winter) minus the average monthly throughput for April through October (summer). Excess Winter Season Demand = Winter Monthly Avg – Summer Monthly Avg. Please also see the response to PUB/ATRIUM I-11.

REFERENCE:

Atrium Report, Section 6.4, page 23, Section 6.4.1, page 24

PREAMBLE TO IR (IF ANY):

Atrium states:

“For interruptible customers, Centra should consider the use of a 100% load factor contribution to the peak day allocator. This will prevent these customers from escaping some peak day responsibility; that is, if Centra’s capacity resources can accommodate the cumulative design day peak demands of the interruptible customer group.” Atrium Report, page 25

QUESTION:

d) Please clarify whether as part of Atrium’s alternate recommendation for Centra to consider the use of a 100% load factor contribution to the peak day allocator to prevent Interruptible customers from avoiding upstream capacity costs results in a methodology that considers fairness and equity as a dimension of cost causation.

RESPONSE:

No. Fairness and equity are not a dimension of cost causation. The use of a 100% load factor contribution to the peak day allocator to prevent Interruptible customers from avoiding upstream capacity costs produces appropriately allocated costs based on principals of cost causation.

REFERENCE:

Atrium Report, Section 6.4, page 23, Section 6.4.1, page 24

PREAMBLE TO IR (IF ANY):**QUESTION:**

- e) Please provide a summary of Atrium's review and the resultant recommendations, if any, related to Centra's cost allocation treatment (i.e functionalization, classification and allocation) of non-gas costs currently reflected in Centra's upstream services.

RESPONSE:

Please see the response to PUB/TRIUM I-10a.

REFERENCE:

Section 8.0, page 28, Appendix C

PREAMBLE TO IR (IF ANY):

QUESTION:

- a) Please provide a table that lists Atrium’s recommendations related to Centra’s COS in the first column and provide a column for each of the five Canadian LDC’s surveyed which lists the corresponding treatment in the form of the following table:

Issue	Atrium	Apex	Alto Gas	Enbridge	FortisBC	Liberty NB
Transmission – Demand	CP – design day demand					

RESPONSE:

Issue	Atrium	Apex	Atco Gas	Enbridge	FortisBC	Liberty NB
Direct Customer Assignment	Direct assignment of pipeline facilities that serve Special Contract customers.	None	None	None	Bypass and Special Contracts are revenue credited in CCOSS	None
Transmission - Demand	CP - design day demand	CP - design day demand	N/A. Rider for 3 rd party transmission service	Throughput, average storage withdrawals, and peak day excess over winter demand.	CP - Peak day demand based on forecast class load factors and test year throughput.	None.
Distribution Mains	Demand-Customer split. Zero-Intercept or Minimum System.	56.5% Demand, 43.5% Customer based on Settlement.	65% Demand, 35% Customer. based on Settlement.	70% Demand; 30% Customer based on Min System.	Demand and Customer related based on Minimum system with capacity carrying capability adjustment.	56% Demand, 44% Customer based on minimum system.

Issue	Atrium	Apex	Atco Gas	Enbridge	FortisBC	Liberty NB
Distribution - Demand	CP – design day demand	NCP demand	NCP demand	Subclassified into Trans. Pressure, HP, and LP. Peak throughput of each pressure system is used. Does not specify peak method.	CP - Peak day demand based on forecast class load factors and test year throughput.	CP – design day peak demand
Distribution - Customer	Customer count	Customer count	Customer count	Customer count	Customer count	Customer count
Distribution Meters	Special Study	Special Study	Special Study	Special Study	Special Study	Special Study
Distribution Services	Special Study	Special Study	Special Study	Special Study	Special Study	Special Study
Billing	Special Study	Number of Bills	Customer count	Customer count	Special Study	Special Study
Call Centre	Special Study	Number of Bills	Customer count	Customer count	Special Study	Special Study
Meter Reading	Special Study	Special Study	Customer count	Special Study	Special Study	Special Study
Customer Service	Special Study	Number of Bills	Customer count	Customer count	Special Study	Special Study

REFERENCE:

Section 8.0, page 28, Appendix C

PREAMBLE TO IR (IF ANY):**QUESTION:**

- b) Please provide Atrium's conclusions from its research regarding the five Canadian LDC's including 1) is there a range of acceptable methods for the allocation of costs 2) is the use of non-cost causal factors prevalent in cost allocation methods in Canadian LDC's and 3) is there precedent for direct assignment of transmission cost to large volume customers?

RESPONSE:

1. There is a range of acceptable methods for cost allocation among the five Canadian LDC's.
2. The use of non-cost causal factors is not prevalent in the cost allocation methods in Canadian LDC's.
3. Among the five Canadian LDC's researched, one utility (Fortis BC) credits the revenue from special contracts to the cost of service in lieu of including them in the cost of service as a class and directly assigning any mains costs that only serves the special contracts customers. The scope of our research of the five Canadian LDC's did not include an investigation into whether the utilities had any customers with dedicated plant.