REFERENCE: Centra Cost of Service Methodology Review
Bowman Evidence, Section 2.1, page 3
PUB Orders 107/96, pages 26-27, 164/16, page 27
Topic: Cost Causation

PREAMBLE:

In Orders 107/96 and 164/16, the PUB found:

"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 to 27**

"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:

a) Please explain if Mr. Bowman disagrees with the PUB's definition of cost causation as reflected in its findings in Orders 107/96 and 164/16 as noted in the preamble above.

b) Please explain if Mr. Bowman's cost allocation recommendations are consistent with the PUB's findings related to the definition of cost causation.

c) Please explain if Mr. Bowman is of the view that cost of service should only consider cost causation and that other ratemaking making objectives should only to be considered in the rate design phase.

ANSWER:

a) Generally, no.

Both design and operation can be relevant to cost causation.

Cost causation can take different forms. One form is the fact that an asset was planned (and the cost incurred) for a particular purpose. A second form is the fact that an asset may be used (and ongoing costs incurred) for a different purpose.

Consider, for example, the Manitoba Hydro Brandon combustion turbines and their role in the electrical system. The assets were planned, and the cost incurred, to provide both energy (drought backup) and, to a lesser extent, capacity benefits. As the Manitoba Hydro system evolves, with major new northern hydro generation, and major new import capabilities, the Brandon combustion turbines may play a different role – one linked solely to capacity (e.g., Brandon area support, or supply at peak times when other units are out of service). In future, the only reason for maintaining (and continuing to incur the costs) of the Brandon turbines may therefore be for capacity reasons, and it may be reasonable to re-classify their costs to 100% capacity based on “use”.

This is still a cost causation rationale – the use that causes their costs to continue to be incurred is capacity. That may not have been the original reason they were planned or built, but their use has changed.

This is entirely different than a loose principle to just charge everyone who uses something simply because they use it or was originally intended to use it when it was planned. That is the antithesis of a cost causation framework.

b) Mr. Bowman believes that the recommendations are consistent with the principle of cost causation.

c) Generally, yes.

Some principles may exist in both cost of service and ratemaking, such as simplicity and materiality. Cost of service should not be made excessively complicated for immaterial benefit; for example, consider Mr. Bowman’s recommendation #5 regarding adopting a simpler method if it is reasonably as accurate as the more precise but more complicated method.

REFERENCE: Centra Cost of Service Methodology Review
Bowman Evidence, Section 2.1, page 4
Topic: Policy and Operational Changes

PREAMBLE:

Mr. Bowman states:

"COS methods are also intended to be applied consistently over a period of time, until a change in method is justified." **Bowman Evidence, page 4**

QUESTION:

a) Please confirm, that if adopted by the PUB, Mr. Bowman's recommendations would constitute significant changes to Centra's COS methodology that was approved by the PUB in Order 107/96.

b) Please explain the specific changes in Centra's circumstances that would justify each of Mr. Bowman's nine recommendations to change Centra's COS methods.

ANSWER:

a) The changes recommended by Mr. Bowman (largely supporting the changes recommended by Atrium) are material and important improvements to the Centra COS methodology.

Periodic updates to Cost of Service methods, preferably more frequent than every 25 years, would be recommended, in part to minimize the degree of changes required when the updates do occur.

b) Mr. Bowman was not present for the 1996 Centra COS review. The justifications for the proposed recommendations are as follows:

- Improved reflection of cost causation: Recommendations 1, 2, 3, 5, 6, 7, 8,
- Update system parameters to reflect change since 1996: Recommendations 4, 9.

REFERENCE: Centra Cost of Service Methodology Review
Bowman Evidence, Section 2.2.1, pages 5, 6
Topic: Allocation of Demand-Related Costs

PREAMBLE:

Mr. Bowman states:

"In respect of the first item, the use of a peak-related allocation method rather than the existing Peak and Average approach, this is a sound and well-reasoned approach reflecting cost causation."; **Bowman Evidence, page 5**

"The project description is consistent with the primary project driver for cost causation purposes being the capacity and reliability of the system focused on times of peak usage."; **Bowman Evidence, page 6**

"It is also important to note that the existing Peak and Average approach is, on occasion, used in the allocation of gas utility costs, where facts differ from CGM's."; **Bowman Evidence, page 6**

"CGM has also previously suggested that the Peak and Average approach is necessary due to the interruptible class, which would not necessarily be allocated any costs under a peak day approach based on usage. However, this is no longer an issue, as described by CGM at page 30 of the Application and is particularly not an issue under the peak design day approach." **Bowman Evidence, page 6**

QUESTION:

a) Please confirm that NARUC identifies three fundamental and acceptable methods for the allocation of demand-related costs, CP, NCP and Average and Excess (of which Peak and Average is a variant) which are discussed in the NARUC Manual (June 1989), pages 26-28.

b) Please explain if Mr. Bowman agrees with NARUC's endorsement that the NCP and Average and Excess methods are sound and well-reasoned approaches for the allocation of demand-related costs.

c) Please explain if Mr. Bowman reviewed the response to PUB/Atrium 1a, which identifies seven US jurisdictions that use Peak and Average (or one similar to the

Average and Excess method)? Does Mr. Bowman believe that the circumstances regarding each of these seven US jurisdictions differ from that of Centra?

d) Please explain what Mr. Bowman means by reliability in the above noted quote related to the Winnipeg Northwest project.

e) Please explain if reliability has a broader consideration than only meeting capacity requirements at the time of system peak.

f) Please explain whether Mr. Bowman has reviewed the response to CAC/Centra 10a, which provides Centra's rationale for having adopted the Peak and Average methodology (utilization of the system as an explicit factor in determining cost responsibility, it is considered to be cost causal in many jurisdictions, it is widely accepted and its simple and straight forward). Please explain if there are factors other than considers associated with the Interruptible Class led Centra to adopt the Peak and Average methodology for the allocation of demand-related costs.

ANSWER:

a) The NARUC manual identifies the three noted methods as the "the most commonly used" as of 1989. It does not appear that the NARUC manual endorses any method or combination of method and does not appear to use the terms "acceptable" or "unacceptable"

b) The NARUC manual does not use those terms (sound and well-reasoned), nor offer any endorsement. In practice, Mr. Bowman understands that NARUC (like its counterpart in Canada, CAMPUT) offers educational materials or seminars that set out the state of the industry, not manuals that prescribe practice.

c) Mr. Bowman reviewed the response.

Mr. Bowman considers that it is highly possible that a reasonable proportion of the seven utilities noted differ from that of Centra. Atrium even gives such an example at CAC/Atrium I-2(f)

To similarly illustrate, Mr. Bowman collected information on the first example – Enstar from Alaska.

This utility decision (by the Regulatory Commission of Alaska is available online at http://rca.alaska.gov/RCAWeb/ViewFile.aspx?id=6472a4a7-c344-4449-936b-ed28d05a8029 . The pages highlighted by Atrium are pages 99 to 105.

On these pages, the following are noted. First, the Commission quotes one of its earlier Orders in noting:

> "As a foundation for certain conclusions which follow in this Order, the Commission hereby finds that ENSTAR's production, gathering, transmission and distribution plant is most appropriately categorized for COS [cost-of-service] and rate design purposes as a fully integrated natural gas delivery system."

In short, Enstar is a utility which has gas production and/or connects directly to a diverse range of gas production (it is also noted that this provides diversity and reliability of supply throughout the year elsewhere in the Order). The allocator in question – a peak and average form of allocator known as "Seaboard" was proposed for assets "which are primarily related to ENSTAR's transmission activities" (page 105). In the context of Enstar versus Centra, Enstar transmission would appear to be more akin to Centra's combined Pipeline and Transmission functions.

The Alaska Attorney General intervened in the case noting "that the transmission system provides a commodity function by providing access to gas supplies around the Cook Inlet" (page 103) and recommended a mixed (Seaboard) formula as it "recognizes ENSTAR's dual functions of accessing gas supplies and meeting peak demand" (page 103).

In short, the facts surrounding the Enstar case are materially different than Centra. Rather than an allocator for Transmission and Distribution, the case appears to be allocating Pipeline and Transmission functions, and in doing so determines that it is appropriate that a portion of costs should follow a consumption or commodity allocation.

Functionally, this RCA decision from Alaska is actually conceptually similar to the recommendations for Centra. It applies effectively the same reasoning that Atrium has used to recommend its stack-based allocation (See PUB/Atrium I-10(a)) in that some of the pipeline or gathering function does play a distinct role year-round, and costs can be driven by that year-round use.

It is not clear if the remaining five cases would similarly have facts that make them different than Centra, leading to a different conclusion.

d) The North Winnipeg project is referenced as being linked to increasing capacity, which is typically understood as a reliability-linked concept. Being able to supply the most extreme system conditions reliably requires not just a bare minimum

infrastructure that can meet the need when everything is working correctly, but also meet the need in a manner that is reliable even when aspects of the system are not working as intended.

e) Reliability is most notably linked to having a sufficient system installed that there is surplus, even at peak time, so that if unexpected conditions arise (like load excursion from extreme temperatures or failures of one part of the system), the loads can continue to be served.

A system can be unreliable in non-extreme conditions, but such a system is almost certainly even further unreliable at peak times, and it is this peak condition that is normally the driver for the scale and timing of further system investment.

f) Mr. Bowman has reviewed the response.

Mr. Bowman notes that the study prepared for Centra in 1996 noted[1]:

> RJRA's recommendation with regard to demand allocators is that the Peak Day methodology is the most clearly cost-based approach, since it conforms to the planning processes of an LDC. However, in recognition of the alternative view that utilization (annual consumption) also has an influence on costs (in some undefined manner), we also recognize Peak and Average as a reasonable allocator for demand-related costs.

In Mr. Bowman's view, the reference to "in some undefined manner" is a clear departure from the cost causation principle that the Manitoba PUB has explicitly espoused. The study further describes Peak-and-Average as "non cost causal"[2] and is "not based on any engineering basis"[3].

In CAC/Centra I-10a, Centra also notes its departure from cost causation, by recognizing that one of the reasons it adopted the Peak and Average approach was as follows:

> "Peak and Average produced results that were close to the PUB's approved class revenue requirements at the time."

This admission reflects a result-based analysis in support of the approach.

[1] PUB MFR 7 Attachment, pdf page 36 of 102.
[2] PUB MFR 7 Attachment, pdf page 35 of 102.
[3] PUB MFR 7 Attachment, pdf page 34 of 102.

REFERENCE: Centra Cost of Service Methodology Review
Bowman Evidence, Section 2.2.3, page 8
Topic: Direct Assignment of Transmission Plant

PREAMBLE:

Mr. Bowman states:

> "In the case of the Special Contract customer, direct assignment is not only possible, but also clearly rational as a means to allocate costs, as described in Atrium's report section 5.2.1. Indeed, the example represents **a near-perfect case** of direct cost incurrence, to the exclusion of other costs on the system." (Emphasis Added) **Bowman Evidence, page 8**

QUESTION:

Please confirm if Mr. Bowman has reviewed the responses to CAC/Centra 11a (which provides the history of the Brandon/Southwest Area system going back to 1956 and the series of changes that have occurred to that system since then) and to CAC/Centra 11d (which confirms that the Special Contract load growth for the past at least 25 years has been met through available transmission capacity and system modifications that have been rolled into rates and funded by all customer classes). Please explain if a review of the actual historic circumstances and funding associated with the Brandon/Southwest Area suggests that direct assignment to the Special Contract is such that it does not represent a near perfect case.

ANSWER:

Yes, Mr. Bowman has reviewed the response.

No, the contents of that response did not change the view that the example of the Special Contract and Power Station customers still represent a textbook case for direct allocation.

These customers cause the need for infrastructure that can deliver high pressure non-odourized gas. They cause no need for infrastructure that delivers gas at a lower pressure (e.g., 4140 kPa or below) as the Special Contract customer cannot receive gas at this pressure (according to Centra, as the "Special Contract Class customer has an inlet pressure requirement that exceeds the maximum operation pressure of the 1956 pipeline",

which is stated to be 4140 kPa in CAC/Centra I-11a). They also do not cause or make use of pipelines carrying odorized gas.

In the event that a customer previously used other infrastructure, they have no more ongoing cost causation responsibility for any previously used infrastructure than any resident who previously resided in Brandon but has since moved away. This is why the concept of cost causation includes both “design” and “use”. (See CACM/IGU(Bowman) I-1).

It is also worth noting that this approach is not about avoid cost responsibility for expensive or new assets that the customers in question drove but then abandoned (i.e., a concept of stranding the assets). In fact, the assets that are directly assigned are the largest diameter and some of newest assets on the Brandon system, which likely means their installed costs are higher than average, on an equivalency basis[1]. Also, there is no contention Mr. Bowman has seen that the non-directly assigned assets (those used for service to Brandon area generally) are now oversized or in any form of surplus condition.

For all of the above reasons, the direct assignment remains an appropriate approach.

[1] Mr. Bowman is not privy to information about whether the Special Contract and Power Station customers may have made customer contributions towards any of these facilities, a fact which may further support the direct allocation.