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Ontario

BY E-MAIL

September 23, 2016

Attention: Ms. Kirsten Walli, Board Secretary

Dear Ms. Walli:

Re: Canadian Niagara Power Inc.
Application for Rates
Board File Number EB-2016-0061

In accordance with Procedural Order No. 1 issued on September 16, 2016, please find attached the Ontario Energy Board staff interrogatories on the referenced application filed by Canadian Niagara Power Inc.

Original Signed By

Martin Davies
Project Advisor, Rates
Major Applications

Attachment

cc: Parties to EB-2015-0061

Ontario Energy Board Staff Interrogatories
2017 Electricity Distribution Rate Application
Canadian Niagara Power Inc. ("CNPI")
EB-2016-0061
September 23, 2016

1-Staff-1

Upon completing all interrogatories from OEB staff and intervenors, please provide an updated RRWF in working Microsoft Excel format with any corrections or adjustments that CNPI wishes to make to the amounts in the previous version of the RRWF included in the middle column. Entries for changes and adjustments should be included in the middle column on sheet 3 Data_Input_Sheet. Please include documentation of the corrections and adjustments in the final sheet of the model, such as a reference to an interrogatory response or an explanatory note.

1-Staff-2

Ref: Appendix 2-W, Bill Impacts

Upon completing all interrogatories from OEB staff and intervenors, please provide updated bill impacts for all classes at the typical consumption / demand levels (e.g. 750 kWh for residential, 2,000 kWh for GS<50, etc.), reflecting any changes made during the interrogatory process.

1-Staff-3

Ref: Responses to Letters of Comment

Following publication of the Notice of Application, the OEB received a number of letters of comment. Sections 2.1.9 of the Filing Requirements states that distributors will be expected to file with the OEB their response to the matters raised within any letters of comment sent to the OEB related to the distributor's application. If the applicant has not received a copy of the letters, they may be accessed from the public record for this proceeding.

Please file a response to any matters raised in the letters of comment referenced above. Going forward, please ensure that responses are filed to any subsequent matters that may be raised in any further letters filed in this proceeding. All responses must be filed before the argument (submission) phase of this proceeding.

1-Staff-4

Ref: Conditions of Service and E1/T6/S13

a) Please identify any rates and charges that are included in the Applicant's Conditions of Service, but do not appear on the OEB-approved tariff sheet, and provide an explanation for the nature of the costs being recovered through these rates and charges.

b) Please provide a schedule outlining the revenues recovered from these rates and charges from 2012 to 2014 inclusive, and the revenues forecasted for the 2015 bridge and 2016 test years.
c) Please explain whether, in the Applicant's view, these rates and charges should be included on the Applicant's tariff sheet of approved rates and charges.
d) Please state whether or not the update of CNPI's conditions of service that was stated as expected to be completed by July 31, 2016 has been completed and if so whether or not the updates were as described in the application or if not what they were. If the update has not been completed, please explain.

1-Staff-5
Ref: E1/T1/S2, pp. 18-19

At this reference, CNPI's reliability indices are discussed and it is noted that in 2013, both SAIDI and SAIFI exceeded the five year historical average and in 2015, SAIFI again exceeded the historical average.

CNPI explains that "these anomalies are due in large part to severe weather events causing widespread outages across much of its Niagara service area."

Please discuss whether there are any issues of this kind related to service interruptions in CNPI's Eastern Ontario Power service area and, if so, what CNPI is doing to deal with such problems.

1-Staff-6
Ref: E1/T10/S1, App. A

The above reference is CNPI's Scorecard dated September 28, 2015. The Scorecard shows that CNPI had one serious electrical incident in 2014, as compared to the target of zero. Please provide details on the nature of this incident.

1-Staff-7
Ref: E1/T10/S1, App. A, p.5

The above reference is CNPI's Scorecard dated September 28, 2015. In the Scorecard MD&A – General Overview," CNPI discusses its efficiency assessment and while noting that it is in the OEB Group 4, states that:

> However, CNPI uses industry-standard budgeting and accounting practices to predict and track its costs. The actual costs incurred each year by CNPI to deliver all of its programs generally compare favorably to the costs predicted by these practices. For 2014, these actual costs were within 5% of predicted (budgeted) costs. CNPI believes that this variance is minimal and indicative of sound performance from its distribution system planning process. CNPI's forward looking goal is that this efficiency performance will not decline in future years.

a) Please provide the above referenced study indicating that actual costs were within 5% of predicted costs.
b) Please explain the basis for CNPI's belief that this variance is minimal and indicative of sound performance from its distribution system planning process.
c) Please state why CNPI's forward looking goal is not to increase efficiency performance in future years.

1-Staff-8

Ref: E1/T10/S1, App. A, p.6

The above reference is CNPI's Scorecard dated September 28, 2015. In the Scorecard MD&A – General Overview," CNPI discusses its Total Cost per Customer and notes that:

> Historical cost measures are reflective of the fact that 80% of CNPI's service territory is located in rural areas, subject to more severe weather due to its location on the shore of Lake Erie (Lake Ontario for Eastern Ontario Power's service territory) with its prevailing winds and lake effect precipitation, and the operation and maintenance of several distribution substations.

a) Please elaborate on how severe weather in CNPI's service territory impacts on its costs on both a historic and forward-looking basis and provide any quantification CNPI may have of the impacts of such costs. If CNPI does not have any quantification, please explain the basis for its conclusion as to the impact of severe weather.
b) Please state whether or not CNPI has undertaken any comparisons of the impact of severe weather on its costs as compared to other Ontario distributors with service territories located on the shores of lakes and if so what those comparisons showed.

1-Staff-9

Ref: E1/T10/S1, App. A, pp.6-7

The above reference is CNPI's Scorecard dated September 28, 2015. In the Scorecard MD&A – General Overview," CNPI discusses Conservation and Demand Management, an area where it failed to meet its target and stated that:

> On the basis of the IESO's "2011 – 2014 Final Results Report" issued on September 1, 2015, CNPI achieved 54.6% of its Net Annual Peak Demand Savings. CNPI fully leveraged the suite of Independent Electricity System Operator ("IESO") province-wide demand management programs and placed emphasis on supporting the conservation efforts of large commercial, industrial and institutional customers.
>
> CNPI had been challenged in its efforts to meet the assigned target due to a significant reduction in customer demand and energy consumption, in 2011, which has continued into 2014 with a decline in customer demand coupled with customer closures. This resulted in

significant adverse economic impacts affecting the entire service territory. Due to these negative economic impacts, a lack of growth and decline in the larger customer base, the CNPI service territories have seen a dramatic overall decline in energy throughput and system demand since 2008; the year that was used as the base year to set the mandated targets.

Please state whether or not CNPI anticipates it will be able to meet its CDM targets in the next five years and why or why not this would be the case.

1-Staff-10

Ref: E1/T3/S1/p. 11

At the above reference, CNPI discusses its customer engagement strategy with respect to initiatives specific to this Application.

a) Please state whether or not CNPI as part of its customer engagement efforts for this application provided customers with information on specific programs and the costs of such programs and asked whether customers would be prepared to pay the cost that was involved in undertaking the program.
b) If CNPI did use such an approach, please provide details
c) If CNPI did not use this type of approach, please explain why not and discuss whether or not and why CNPI believes that it would be practical for it to undertake such an approach in preparing its next application.

1-Staff-11

Ref: E1/T3/S1 and p. 15

In this section, CNPI discusses its customer engagement strategy in three categories which are: (i) customer communications, (ii) initiatives specific to this Application and (iii) future initiatives.

The future initiatives section discusses how CNPI will meet presently identified customer needs identified from the current engagement processes in the future.

a) Please discuss whether and how CNPI would expect its approach to customer engagement to evolve from what is described in the current application over the period leading up the filing of its next cost of service application, presumably in five years. If CNPI would not expect its approach to evolve, please explain why not.
b) Please explain what CNPI means by “customer communications”.

1-Staff-12
Ref: E1/T3/S1/p. 15

At the above reference, CNPI states that:

> Survey results indicate that 73 per cent of customers feel that CNPI provides a good value for their money. This well exceeds the Ontario benchmark of 66 per cent and the national benchmark of 67 per cent. However, CNPI strives to continually improve the customer experience.

a) Please state whether or not customers responding to this question were provided with any definition of the term "a good value for their money" and, if so, what it was.
b) Please specify what the Ontario and national benchmarks referenced above were.
c) Please state whether the results of this survey can be divided between CNPI's service areas and, if so, whether or not there was any variability between them. If any results of the responses to this question by service area are available, please provide them.

1-Staff-13
Ref: E1/T3/S1/App. 4-B, p.23 and p. 4

At the above reference, a bar chart is presented which compares CNPI's reliability to Ontario LDCs and shows that overall CNPI has a standard of reliability that meets the expectations of 89% of its customers as compared to 88% for Ontario LDCs. Below the bar chart is a statement "Base: An aggregate of respondents from the 2015 participating LDCs/total respondents from the local utility."

The second reference notes that the UtilityPULSE report contains data comparisons to: (i) an Ontario-wide LDC benchmark, (ii) a national LDC benchmark, (iii) Ontario LDCs participating in the 17th annual customer satisfaction survey and (iv) UtilityPULSE database.

a) Please explain the meaning of the statement quoted above with respect to the base. Please state whether the aggregate of responders from the 2015 participating LDCs was all LDCs that participated, or a subgroup and if a subgroup how this group was determined.
b) Please provide the comparative results of this survey question using each of the four benchmarks in the second reference.
c) Please state whether or not there was any variability detected in responses to this question from CNPI's two service areas and, if so, what it was.

1-Staff-14
Ref: E1/T3/S1/App. 4-B, p.53

At the above reference, a bar chart is presented which is titled “Billing Problems in the last 12 months” and compares CNPI’s performance to both a national and Ontario comparator. The results show CNPI at zero percent in 2013 and 2014, but increasing to 14% in 2015.

Please provide the reason for this increase.

1-Staff-15
Ref: E1/T3/S1/App. 4-B, p.55

At the above reference, a bar chart is presented which is titled “Problems other than Outages and Billing” and compares CNPI’s performance to both a national and Ontario comparator. The results show CNPI at nine percent, while the national and Ontario samples are at six percent.

a) Please state what types of problems are represented by those other than outages and billing.
b) Please provide an explanation as to why CNPI’s performance is worse than the comparators if one is available.

1-Staff-16
Ref: OEB Cost Benchmarking Model: Summary of Cost Benchmarking Results

On August 25, 2016, CNPI filed a completed version of the OEB’s Benchmarking Spreadsheet Forecast Model.

Please comment on these results which show a growing differential between CNPI’s Actual and Predicted Total Cost, rising from 13.0% in 2015 to a forecast 16.4% in the 2017 Test year.

1-Staff-17
Ref: E1/T4/S1/Audited Financial Statements 2015, pp. 15-16

At the above reference, it is stated that:

> To mitigate any liquidity risk, the Corporation is a party to a committed revolving credit facility and letters of credit facilities totalling $30,000, of which $15,700 is unused. This credit agreement is shared among the subsidiaries of FortisOntario Inc. and is renewed on an annual basis.

a) Please state the amount of this facility that was used by CNPI in 2014 and 2015 and the interest paid to do so.
b) Please provide the forecast equivalent amounts for the 2017 Test year.

2-Staff-18
Ref: E2/T1/S1, p. 3

At this reference, the allocation of shared assets is discussed and it is stated that:

> In CNPI's previous Cost of Service Application (EB-2012-0112), the removal of the portion of shared capital costs allocated to related companies outside of CNPI Distribution, was accounted for by removing the cost and accumulated depreciation within the Fixed Asset Continuity schedules ("FAC")… However, in accordance with Board staff's preference in API's previous Cost of Service Application (EB- 2014-0055), a different approach was taken such that the amounts have not been removed for 2016 and 2017. In lieu of this, CNPI has included shared IT and equipment charges as revenue offsets within the RRWF for 2017…. The exclusion of the removal of shared cost and accumulated depreciation has contributed to the variances reported in the "Variance from 2015 Actual" and "Variance from 2016 Bridge" columns in Table 2.1.1.1 above.

a) Please place on the record of this proceeding the documentation from EB-2014-0055 referenced above in which OEB staff expressed the stated preference.
b) Please state whether or not there is any impact on the 2017 revenue requirement of this change and, if so, what the impact is.

2-Staff-19
Ref. E2/T1/S2, p. 4

Please provide a table that reconciles the total amortization expense and distribution assets per the 2015 fixed asset continuity schedule to the distribution amortization expense and asset balances presented in Note 14a) and 14b) (Segmented Information note) of the December 31, 2015, audited financial statements.

(a) Please explain why the balances would differ between the sources referenced above.
(b) If required, please update the asset continuity schedules as needed.

2-Staff-20
Ref. E2/T1/S2

The NBV balances shown in the fixed asset continuity schedules are adjusted in T2.1.1.1. However, no explanation is provided as to what these adjustments relate to and why they are appropriate.

(a) Please provide explanations as to what these adjustments relate to and why they are appropriate.
(b) Please state whether or not the 2015 audited financial statement balances include these adjustments. If not, please explain why.

2-Staff-21

Ref. Chapter 2 Appendices - Appendix 2-BB

In completing Appendix 2-BB, CNPI has identified 3 asset categories for which the current depreciation rate is not consistent with the associated min / max TUL range identified in the Kinectrics Report. Please provide a supporting explanation as to why the rates being used by CNPI are appropriate.

2-Staff-22

Ref: E2/Appendix A – 2016 Distribution System Plan (DSP) – Section 5.0.2: Executive Summary, pg. 9 of 163

At the above reference, it is stated that:

The main challenges facing CNPI today can be summarized as:

1) Managing our asset life cycles to ensure timely replacement of critical assets as they reach or near the end of their useful lives. CNPI has significant distribution assets that are aged.
2) Elimination of legacy three-wire Delta systems that represent safety and operational concerns. CNPI has been engaged in voltage conversion programs for some time, and this challenge represents a focus for CNPI in its capital program over the entire forecast period of 2016-2021, and beyond.

Assuming that all the legacy Delta to Wye conversion projects identified in the DSP are implemented over the forecast period, what will be the total remaining circuit length of legacy Delta systems in each of CNPI's service areas (i.e. Fort Erie, Port Colborne and Gananoque) at the end of 2021?

2-Staff-23

Ref: E2/Appendix A – 2016 Distribution System Plan (DSP) – Section 5.0.2: Executive Summary, Figure 5.0.2.4-1: Capital Expenditure Summary, pg. 12 of 163

At the above reference, the table below is shown:

Appendix 2-AB
Table 2 - Capital Expenditure Summary from Chapter 5 Consolidated

First year of Forecast Period: *2017*

CATEGORY	Historical Period (previous plan[1] & actual)								Bridge Year	Test Year	Forecast Period (planned)			
	2012		2013		2014		2015		2016	2017	2018	2019	2020	2021
	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual						
	$ '000		*$ '000*		*$ '000*		*$ '000*		*$ '000*					
System Access	(1)	699,501	(1)	664,857	(1)	332,934	(1)	984,532	352,898	908,897	536,611	547,343	559,940	571,139
System Renewal	(1)	2,997,112	(1)	8,847,242	(1)	4,033,193	(1)	4,920,766	6,036,707	4,990,817	5,939,120	5,496,072	5,460,618	7,043,601
System Service	(1)	635,926	(1)	554,267	(1)	863,147	(1)	884,275	722,488	1,841,678	1,064,435	1,504,806	1,179,108	835,558
General Plant	(1)	5,779,708	(1)	3,248,525	(1)	1,655,157	(1)	1,239,874	2,518,132	2,015,766	1,825,260	1,621,293	2,477,611	2,073,684
TOTAL EXPENDITURE		10,112,247		13,314,890		6,884,432	-	8,029,447	9,630,225	9,757,158	9,365,426	9,169,514	9,677,278	10,523,982
System O&M		$ 3,341,251		$ 3,472,966		$ 3,620,493		$ 3,615,556	$ 3,861,773	$ 4,106,946	$ 4,189,085	$ 4,272,867	$ 4,358,324	$ 4,445,490

Notes to the Table:
(1) This is Canadian Niagara Power's first Distribution System Plan and as such planned expenditures were not allocated to Chapter 5 Investment Categories.

Figure 5.0.2.4-1: Capital Expenditure Summary

{Also referred to as Appendix 2AB in CNPI 2017 Cost of Service Application (EB-2016-0061)}

a) Based on the historical and forecast System O&M expenditures shown in Figure 5.0.2.4-1 above, OEB staff has calculated the resulting annual percentage expenditure increases as follows:

	4 - Year Historic Actual Expenditures ($)				Bridge Year	5 - Year Forecast Expenditures ($)				
	2012 ($,000)	2013 ($,000)	2014 ($,000)	2015 ($,000)	2016 ($,000)	2017 ($,000)	2018 ($,000)	2019 ($,000)	2020 ($,000)	2021 ($,000)
System O&M	3,341	3,473	3,620	3,616	3,862	4,107	4,189	4,273	4,358	4,445
Annual Growth %	**-**	**3.94%**	**4.25%**	**-0.14%**	**6.81%**	**6.35%**	**2.00%**	**2.00%**	**2.00%**	**2.00%**

i. Please confirm that the above calculations are correct, or if not, please make any necessary changes.
ii. Please explain why the System O&M expenditures dropped in 2015 relative to the previous year.
iii. Please explain the reason for the large step increases in System O&M expenditures in 2016 and 2017.
iv. Please confirm that CNPI's O&M expenditures are forecast to compound at an average annual rate of 3.2% from 2012 to 2021, or if CNPI does not agree with this calculation, please state why and provide the rate that CNPI considers to be correct.
v. Please state why despite low customer growth and ongoing capital investments to address CNPI's aging asset fleet (which will presumably reduce the need for emergency response to unplanned outages and the resulting labour costs), System O&M expenditures are expected to grow continuously over the forecast period.

vi. Please state how the productivity gains ascribed to capital investments in aging assets and IT systems, for example, are being reflected in CNPI's O&M expenditure forecasts. Please provide details.

2-Staff-24

Ref: E2/Appendix A – 2016 Distribution System Plan (DSP) – Section 5.2.1.2: Sources of Cost Savings Expected – Targeted Asset Replacement Programs, pg. 28 of 163

At the above reference, it is stated that:

> These proactive programs are more cost-effective when compared to a traditional reactive approach, where individual poles are changed as the need arises. CNPI is currently conducting a multi-year pole testing program (see section 6.3.2 of DAMP) to determine the present condition of all poles. This is expected to identify those poles that might require replacement, and is further assessing these results to determine their probable remaining useful lives. CNPI has incorporated these results in its capital program planning to ensure that as many problematic poles are addressed at CNPI carries out its various programs.

a) Please elaborate on the statement that "*proactive programs are more cost-effective when compared to a traditional reactive approach, where individual poles are changed as the need arises*" (i.e. under what circumstances is it cheaper to replace a pole before it fails)?

    i. Historically, how many poles has CNPI replaced each year due to failures?

b) Does CNPI consider its Targeted Asset Replacement Programs approach to be more cost effective in comparison with its most recent past practice because it reduces the replacement cost per pole?

    i. Please provide CNPI's calculation of the average cost of replacing a pole under its Targeted Asset Replacement Program and under its most recent past practice.

c) Does CNPI consider its Targeted Asset Replacement Programs approach to be more cost effective in comparison with its most recent past practice because it reduces total annual capital costs targeting pole replacement?

    i. For the forecast period, what is CNPI's calculation of the average capital expenditure per pole-year (i.e. the total number of poles times the average life of the fleet of poles) under its Targeted Asset Replacement Program and under its most recent past practice?

d) Will the Targeted Asset Replacement Programs approach increase the total number of poles that CNPI expects to replace each year?

i. Please compare forecast annual pole replacement numbers against historical annual pole replacement numbers.

ii. Please explain how CNPI will reconcile actual spending on pole replacement resulting from the on-going multi-year pole testing program with the forecast spending in the DSP, in the event that the pole testing program produces results that are different than those CNPI anticipated and employed in preparing its DSP.

2-Staff-25

Ref: E2/Appendix A – 2016 Distribution System Plan (DSP) – Section 5.2.1.2: Sources of Cost Savings Expected, pg. 28-29 of 163

At the above reference, it is stated that:

> Over the previous cycle, CNPI has undertaken many procedural and policy improvements to improve efficiency in the operation of the system that are expected to show positive results with respect to cost savings and efficiencies.
>
> CNPI has identified the following sources of cost savings and efficiencies expected to be achieved over the forecast period:
>
> - Targeted Asset Replacement Programs
> - Distribution Automation (DA)
> - Standardized Designs
> - Mobile Computing
> - Distribution System Line-Loss Reduction

a) Please quantify the expected annual operational savings that will result from implementation of the following cost saving sources:

   a. Targeted Replacement Programs
   b. Distribution Automation Programs
   c. Standardized Design Programs
   d. Mobile Computing Programs
   e. Distribution System Line-Loss Reduction

b) Are the trends in capital and O&M spending related to these cost savings being tracked?
   a. If yes, please provide this data.
   b. If no, please describe the steps being taken by CNPI going forward to ensure adequate tracking of O&M spending trends and cost savings trends.

2-Staff-26

Ref: E2/Appendix A – 2016 Distribution System Plan (DSP) – Section 5.2.1.6: Aspects Contingent Upon the Outcome of Ongoing Activities, pg. 31 of 163

At the above reference, it is stated that:

> While the overall DSP spending program itself is contingent upon the OEB approval of the rates as applied for, a select few investments described in the DSP are contingent upon the outcome of ongoing activities or future events.
>
> Specifically, the level of actual investments within the System Access category may be altered slightly year-to-year from the proposed investment levels, depending upon the number of customer requests for new services connections, the ongoing needs of our Joint Use (JU) partners, and line relocation requests by municipal and provincial land owners.

Is CNPI able to adjust expenditures in other categories (i.e. System Renewal, System Service or General Plant) to smooth the rate impacts of annual variability in System Access requests?

2-Staff-27

Ref: E2/Appendix A – 2016 Distribution System Plan (DSP) – Section 5.4.1.7: Expected System Development over the Planning Horizon – Load and Customer Growth, pg. 54 of 163

At the above reference, it is stated that:

> CNPI does not expect any significant load growth in the forecast period, although that is subject to change if and when a new proponent commits to locating in our service territory. Although there have been several discussions with such proponents, nothing has approached the level of commitment required for formal inclusion in this DSP.
>
> For example, there is a well-known proposal in Fort Erie, the Canadian Motor Speedway (CMS), which has been well-publicized and has a high probability of proceeding in 2017 or 2018. If this project were to proceed, the campus of new facilities would add about 5 to 8MW of new load, and would require a significant net capital investment by CNPI and a subsequent re-structuring of CNPI's capital development plan to accommodate the needs of this group of external stakeholders.
>
> As a result of projected low organic load growth in the forecast period, the CNPI capital plan has focused on dealing with its two most critical internal needs:
>
> 1) The need to eliminate its extensive three wire delta systems
> 2) The need to replace or refurbish the portion of its distribution system that has reached or is nearing the end of its useful life.

a) Has CNPI included system investments or made allowance for future expansion in any of the projects included in the current filing?

b) Are there potential cost savings or synergies that would arise in the event that load growth occurred in the areas where the delta systems are being replaced? For example if residential densification projects were identified, would synergies be achieved by replacing or upgrading adjacent delta systems in conjunction with the associated System Access investments?

2-Staff-28

Ref: E2/Appendix A – 2016 Distribution System Plan (DSP) – Section 5.4.1.7: Expected System Development over the Planning Horizon – Smart Grid Developments, pg. 54-55 of 163

At the above reference, it is stated that:

> CNPI will continue to invest in the following technology-driven Smart Grid programs that are already underway at CNPI:
>
> 1) Distribution automation through the targeted installation of reclosers, automated switches and fault indicators. CNPI intends to continue with its efforts to integrate such facilities with its SCADA and Outage Management System (OMS) applications
> 2) Substation Protection Upgrades – CNPI will continue with its program to replace legacy fuse protection with relay-controlled reclosers to improve reliability and protection, and improve SCADA controllability of its feeders.
> 3) GIS / OMS – CNPI will continue to make select investments in its GIS and OMS systems to meet the needs of its external and internal stakeholders. The focus will be on improved operational efficiencies and improved customer communications.

Do new Information Technologies and Smart Grid developments improve CNPI's labour productivity and/or system reliability?

i. If yes, how does CNPI measure and track these impacts? Please provide detailed examples.

ii. If no, what are the key benefits of new Information Technologies and Smart Grid developments?

2-Staff-29

Ref: E2/Appendix A – 2016 Distribution System Plan (DSP) – Section 5.4.2.3: Project Prioritization Tools and Methods – Prioritization, pg. 61 of 163

At the above reference, it is stated that:

> Investments with primary drivers related to the system service category are typically discretionary. The discretionary nature of these types of investments tends to rank associated projects and programs with lower priority compared to system access and system renewal based investments. The selection criteria for discretionary projects are based on incremental analysis. CNPI's historical and forecast investment profile indicates that system service based projects tend to account for a small component of annual expenditure.

Please provide additional details regarding CNPI's "incremental analysis" that is used as the basis for selecting discretionary projects.

2-Staff-30

Ref: E2/Appendix A – 2016 Distribution System Plan (DSP) – Section 5.4.2.3: Project Prioritization Tools and Methods – Investment Plan, pg. 61 of 163

At the above reference, it is stated that "CNPI produces a five year investment plan based on the prioritized registry of projects and programs."

Please state whether or not CNPI has provided its prioritized project registry in this filing. If yes, please provide the reference, if not, please provide the prioritized project registry.

2-Staff-31

Ref: E2/Appendix A – 2016 Distribution System Plan (DSP) – Section 5.4.4.2: Selected Forecast Period Variances, by Category, 2017 Test Year vs. 2018 Forecast, pg. 82 of 163

At the above reference, it is stated that:

> **System Service (SS) – Variance – 2018 Forecast $777,243 less than 2017 Forecast**
> In 2017, projected investments include $ 750,000 in System Service expenditures to support delta to Wye conversion efforts in the Gananoque service territory. In 2018, no such investment is planned, reducing net SS investments by $750,000.

Please explain why no expenditures are forecast for 2018 to support the Delta to Wye conversion efforts in the Gananoque service territory, i.e. is this because the entire Gananoque delta system will have been replaced by 2018, or because the remaining legacy system is not considered critical to replace?

2-Staff-32

Ref: E2/Appendix A – 2016 Distribution System Plan (DSP) – Section 5.4.6.1: FE – Construct New Gilmore DS - Alternative Analysis, pg. 99 of 163

At the above reference, it is stated that:

> **Alternative B – Construct Gilmore DS, Convert 4.8 Delta to 8.3 kV Wye**
> Once all identified conversions for this option are performed (by 2020), the expected reduction in peak line-losses would be about 256kW. After applying appropriate values for Load Factor (LF) and Line-Loss Factor (LLF), this would be an annual reduction in wasted energy of 763MWh, worth about $106,800 in annual savings in 2016.

a) Please provide the detailed calculations used to derive the projected savings identified in the above statement.

b) When are the annual reductions in wasted energy first manifested?

c) Are the anticipated savings resulting from the annual reductions in wasted energy reflected in CNPI's filed operating expenditure forecast? If yes, please provide details.

2-Staff-33

Ref: E2/Appendix A – 2016 Distribution System Plan (DSP) – Section 5.4.6.1: FE – Construct New Gilmore DS, Figure 5.4.6.1-6: Cost Estimate Breakdown for Gilmore DS, pg. 105-107 of 163

At the above reference, it is stated that:

The station will consist of:

- Two 7.5MVA 34.5:8.3kV (Y-Gnd) power transformers

Item	Description	Quantity	Unit Cost	Total Cost
1	Power Transformer	1	$ 200,000.00	$ 200,000.00
4	Pole Work	10	$ 12,000.00	$ 120,000.00
5	Low Side Viper-S / Breaker	7	$ 30,000.00	$ 210,000.00
6	High Side Viper-S / Breaker	2	$ 30,000.00	$ 60,000.00
7	1000 kcmil 33% CN 15kV Cable	1200	$ 50.00	$ 60,000.00
8	Terminations	54	$ 100.00	$ 5,400.00
9	Relay Panels	1	$ 140,000.00	$ 140,000.00
10	Civil	1	$ 448,400.00	$ 448,400.00
11	Feeder Exits (separate OEB acct)	1	$ 490,000.00	$ 490,000.00
12	Internal Labour	1600	$ 73.00	$ 116,800.00
13	Engineering	1	$ 80,000.00	$ 80,000.00
Total Estimate				$ 1,930,600.00
Total Estimate w/ Contingency				**$ 2,123,660.00**

Figure 5.4.6.1-6 Cost Estimate Breakdown for Gilmore DS

a) Please reconcile the referenced statement that the Gilmore station will consist of two power transformers with the Cost Estimate Breakdown for Gilmore DS shown in Figure 5.4.6.1-6.

b) If the referenced cost estimate breakdown is incorrect, please provide a revised breakdown and identify if the incorrect information has been used as an input in any other part of the DSP.

2-Staff-34

Ref: E2/Appendix A – 2016 Distribution System Plan (DSP) – Section 5.4.6.2: FE – QEW North 4.8Δ to 8.3Y Voltage Conversion SS; & Section 5.4.6.3: FE – QEW North 4.8Δ to 8.3Y Rebuild & Conversion SR, pg. 108-111 of 163

With respect to the above references:

a) Will both the "FE – QEW North 4.8Δ to 8.3Y Rebuild & Conversion SR" project and the "FE – QEW North 4.8Δ to 8.3Y Voltage Conversion SS" project be executed as a single rebuild initiative?

    i. If yes, please explain why CNPI hasn't listed this initiative as a single project under one category, i.e. why has CNPI broken out the "FE – QEW North 4.8Δ to 8.3Y Rebuild & Conversion SR" project separately from the "FE – QEW North 4.8Δ to 8.3Y Voltage Conversion SS" project)?

b) Does the FE – QEW North 4.8Δ to 8.3Y Voltage Conversion SS Project simply involve the replacement of hardware components such as arresters, switches, etc., or does it also involve structure replacements?

    i. If structure replacements are involved, please explain why they are necessary, and why they aren't included in the FE – QEW North 4.8Δ to 8.3Y Rebuild & Conversion SR project.
    ii. If structure replacements are involved, please reconcile the explanation in i. with the following statement on page 113 of the DSP:

    "Line conversion is simply the replacement of minor components (such as arresters, switches, etc.), in order to connect the section to a wye source."

2-Staff-35

Ref: E2/Appendix A – 2016 Distribution System Plan (DSP) – Section 5.4.6.4: FE - Ridgeway - 4.8Δ to 8.3Y Voltage Conversion SS – Project Description, pg. 112 of 163

At the above reference, it is stated that:

> The ratio bank transformers have contributed to a decline in reliability during lightning events. The transformers are susceptible to impulse related failures due to their high impedance characteristic.

Have the ratio bank transformers caused a material overall reduction in CNPI system reliability, or are the referenced impulse related failures infrequent problems that are occasionally encountered during lightning events?

2-Staff-36

Ref: E2/Appendix A – 2016 Distribution System Plan (DSP) – Section 5.4.6.8: CNPI – Distribution Automation & Reliability Improvements, pg. 122 of 163

At the above reference, it is stated that:

> Although CNPI's SAIDI and SAIFI trending is positive over the historical period, feeder level analysis still indicates that there is room for improvement on specific line sections. Investments in the forecast period target poorly performing feeders with the automation improvements at a rate of three to four units per year. Locations are prioritized based on the impact of the anticipated reduction in feeder exposure to downstream faults.

a) Please reconcile the statement made above that CNPI's SAIDI and SAIFI trending is positive over the historical period, with the statements referenced in 1-Staff-5 which noted that in 2013 both SAIDI and SAIFI exceeded the five year historical average and in 2015, SAIFI again exceeded the historical average.

b) Please provide details of the three of four units per year being targeted, and confirm whether the planned investments are expected to improve performance on CNPIs presently worst-performing feeders.

c) Please explain if and how CNPI uses the SAIDI and SAIFI data (presented in Section 9 of the DAMP) to decide upon such investments.

d) Please confirm if the SAIDI and SAIFI data indicate that the legacy delta systems perform less reliably than the non-delta systems, and explain if the relative performance is more affected by the condition of the legacy assets or the delta configuration.

e) Does CNPI target investments to address reliability concerns differently in its three different operating service areas? For example, if CNPI were prioritizing three worst performing feeder issues to address, would the list consist of the worst performing feeder in each service area, or the overall three worst performing feeders as per CNPIs F-SAIDI / F-SAIFI statistics?

f) Do all of CNPI's forecast automation investments consist of new SCADA controlled reclosers?
   i. If not, please provide details of any alternative automation investments.

2-Staff-37

Ref: E2/Appendix A – 2016 Distribution System Plan (DSP) – Section 5.4.6.9: FE - 4.8Δ to 8.3Y Voltage Conversion Program – Project Description, pg. 124 of 163

At the above reference, it is stated that:

> This area consists of ancillary delta load supplied by ratio banks connected to the CNPI 34.5kV distribution system. These are structure mounted ratio bank transformers that have delta connected secondary. The ratio transformers are susceptible to impulse related failures due to their high impedance characteristic.

a) Please describe in detail what is meant by "ancillary delta load".

b) Were ratio banks introduced as an interim measure to enable the continued servicing of unconverted delta load pockets while wye voltages were gradually introduced into the CNPI systems? Can ratio banks be considered as viable longer-term solutions in specific situations?

2-Staff-38

Ref: E2/Appendix A – 2016 Distribution System Plan (DSP) – Section 5.4.6.10: PC – Distribution System Upgrade Program SR – Program Description, pg. 125 of 163

At the above reference, it is stated that:

The annual spending profile during the forecast period is as follows:

DSP ID	Area	Project	Main Category	Annual Material Investment ($ 000's)						
				2016	2017	2018	2019	2020	2021	Total
10	PC	Distribution System Upgrade Program	SR	120	231	226	553	525	584	2,239

Please provide project lists and corresponding cost details associated with the budgeted spending for the forecast years identified above.

2-Staff-39

Ref: E2/Appendix A – 2016 Distribution System Plan (DSP) – Section 5.4.6.11: FE – Distribution System Upgrade Program SR – Program Description, pg. 126 of 163

At the above reference, it is stated that:

The annual spending profile during the forecast period is as follows:

DSP ID	Area	Project	Main Category	Annual Material Investment ($ 000's)						
				2016	2017	2018	2019	2020	2021	Total
11	FE	Distribution System Upgrade Program	SR	225	442	677	1,209	1,126	2,497	**6,176**

Please provide project lists and corresponding cost details associated with the budgeted spending for the forecast years identified above.

2-Staff-40

Ref: E2/Appendix A – 2016 Distribution System Plan (DSP) – Section 5.4.6.12: EOP – Distribution System Upgrade Program – Alternative Analysis of Downtown Rebuild, pg. 129 of 163

At the above reference, it is stated that:

> **Alternative B: Voltage Conversion of Downtown Distribution**
> The new lines could then be converted to 27.6kV. There would be little added cost to these conversions compared to rebuilding them on the 4.16kV distribution system as the only real incremental cost is a small premium for 28kV insulators and distribution transformers.
>
> There are two major economic returns supporting this conversion. One is in loss savings of reduced primary conductor line-losses. The other major contributor to the savings is the avoided cost of having to upgrade/replace major pieces of equipment (transformers, breakers, relaying) within Herbert Street DS and Gananoque DS.
>
> By transferring load over to the 27.6kV distribution system, EOP could gradually retire these distributions stations.

a) Does EOP use the same cross arm size for both 27.6 kV and 4.16 kV circuits?

b) How soon would EOP be able to retire these distribution stations under the rate of load transfer proposed in this DSP?

2-Staff-41

Ref: E2/Appendix A – 2016 Distribution System Plan (DSP) – Section 5.4.6.13: FE – Station 19 DS Protection Upgrade & Arc Flash Hardening (Project 13 in Figure 5.4.5.2-1), pg. 132 of 163

At the above reference, it is stated that:

> At this time, it is possible that a single worst-case arc flash event could disrupt the ability of this switchgear to deliver any supply to the 8.3kV customers in its supply area. As outlined in section 3.3.1.3 of the DAMP, this is the only such source available. Some failure modes could disrupt delivery of power for several months.
>
> For this reason, CNPI has always been careful to ensure that a high quality maintenance and inspection program is employed. Although the probability of such an arc-flash event is extremely low, this probability is not zero.

a) Are the projects shown in Figure 5.4.5.2-1 listed in order of priority?
b) If yes, please explain why CNPI has ranked this project in the thirteenth place (for example, does the consequence of failure times the probability of failure produce a ranking that is the thirteenth highest on CNPI's project list)?

2-Staff-42

Ref: E2/Appendix A – 2016 Distribution System Plan (DSP) – Section 5.4.6.14: PC – Port Colborne South DS – Construct New Substation – Issues with Existing Distribution System and Substations, pg. 135 of 163

At the above reference, it is stated that:

> **Catherine DS**
> As described in the CNPI DAMP (sections 3.4.2, 3.4.2.2, and 6.15), there are concerns with this station:
>
> - It was constructed in 1975 and much of the major equipment is now 46 years old, including the power transformer and 4.16kV switchgear. This equipment is beginning to reach its originally forecasted end-of-life.
> - There is no provision for oil collection in the event of a major power transformer oil leak.

a) Is the major equipment older than the distribution station?
b) Please describe CNPI's contingency plans to address a transformer oil leak at Catherine DS.

2-Staff-43

Ref: E2/Appendix A – 2016 Distribution System Plan (DSP) – Section 5.4.6.15: EOP – North Line – Rebuild 9.8km Project – Summary and Recommendations, pg. 142 of 163

At the above reference, it is stated that:

Alternative C will see gradual investments to rebuild the line over a longer period of time which will result in improvement in reliability to the customers.

Alternative C is recommended.

Please quantify the long-term impact on CNPI's OM&A costs and customer rates of continuing to operate the identified long line with very few connected customers.

a. If long-term operation of this line will produce higher OM&A costs and customer rates, does Alternative C remain the preferred alternative?

2-Staff-44

Ref: E2/Appendix A – 2016 Distribution System Plan (DSP) – Section 5.4.5.2: Summary of Material Investments, Figure 5.4.5.2-1: CNPI Material Projects in the Forecast Period, pg. 95 of 163

At the above reference, the following table is shown:

CNPI Major Projects (Investments exceeding $100,000) - 2016-2021

DSP ID	Area	Project	Main Category	Annual Material Investment ($ 000's)						
				2016	2017	2018	2019	2020	2021	Total
1	FE	Construct New Gilmore DS	SR	2,124	-	-	-	-	-	**2,124**
2	FE	QEW North 4.8Δ to 8.3Y Voltage Conversion SS	SS	-	209	209	209	209	-	**836**
3	FE	QEW North 4.8Δ to 8.3Y Rebuild & Conversion SR	SR	751	832	832	832	832	-	**4,079**
4	FE	Ridgeway - 4.8Δ to 8.3Y Voltage Conversion SS	SS	330	410	295	241	396	-	**1,672**
5	FE	Ridgeway - 4.8Δ to 8.3Y Rebuild & Conversion SR	SR	620	95	450	368	506	-	**2,039**
6	FE	5/8 Line 34.5kV Distribution Line Rebuild	SR	250	250	-	-	-	-	**500**
7	EOP	Construct Herbert DS to Gananoque DS 4.16kV Intertie	SR	380	-	-	-	-	-	**380**
8	CNPI	Distribution Automation & Reliability Improvements Program	SS	308	311	260	265	271	276	**1,691**
9	FE	4.8kV Delta to 8.3 Wye Voltage Conversion Program	SS	-	104	163	169	171	542	**1,149**
10	PC	Distribution System Upgrade Program	SR	120	231	226	553	525	584	**2,239**
11	FE	Distribution System Upgrade Program	SR	225	442	677	1,209	1,126	2,497	**6,176**
12	EOP	Distribution System Upgrade Program	SR	132	512	545	553	561	569	**2,872**
13	FE	Station 19 DS Protection Upgrade & Arc Flash Hardening	SS	-	348	-	-	-	-	**348**
14	PC	Construct new substation - Port Colborne South DS	SR		409	1,250				**1,659**
15	EOP	North Line - Rebuild 9.8km	SR	-	257	280	240	180	160	**1,117**
16	EOP	Main Substation - Delta to Wye Conversion	SS	-	750	-	-	-	-	**750**
17	CNPI	Targeted Pole Replacement Program	SR	870	981	997	1,014	1,031	1,048	**5,941**
18	PC	Killaly DS - Upgrade Protection and Redundant Source	SS	-	-	-	410	-	-	**410**
19	FE	New South DS - Acquire Land	GP	-	-	-	-	250	-	**250**
20	FE	New South DS - Construct new substation	SR	-	-	-	-	-	1,700	**1,700**
21	CNPI	Fleet Management Program GP	GP	327	175	385	75	775	418	**2,155**
22	CNPI	Information Technology - Hardware GP	GP	600	354	250	200	200	400	**2,004**
23	CNPI	Information Technology - Software GP	GP	1,491	1,274	1,004	1,000	1,000	1,000	**6,769**

Figure 5.4.5.2-1: CNPI Material Projects in the Forecast Period

Please state whether or not the list of projects in Figure 5.4.5.2-1 above is ordered according to project prioritization.

i. If not, please explain the selected ordering or provide a prioritized version of this list.

2-Staff-45

Ref: E2/Appendix A – 2016 Distribution System Plan (DSP) – Section 5.4.6.16: EOP – Main Substation – Delta to Wye Conversion – Summary and Recommendations, pg. 145 of 163

Alternative C involves the installation of a grounding transformer in the Main substation allowing TB1 to remain in service until its end of useful life. The cost and feasibility of a grounding transformer is unknown at this time however, given the drawback of not being able to operate TB1 and TB2 in parallel with this arrangement, the PV of this alternative would have to be significantly less than alternative B to be justified.

Alternative B is recommended.

a) Is Alternative C considered as being a technically sound solution?

b) Were grounding transformer solutions considered from other delta conversion/replacements that CNPI is considering for their systems?

    i. If yes, please provide details.

c) Please explain why CNPI has recommended Alternative B without fully evaluating the cost and feasibility of Alternative C.

2-Staff-46

Ref: E2/Appendix E – CNPI 2014 OEB Performance Scorecard – System Reliability: Average Number of Hours that Power to a Customer is Interrupted, pg. 4 of 8

At the above reference, it is stated that:

CNPI's customers experienced a decrease in the average duration of electrical service disruptions in 2014 over the previous year. CNPI continues to invest in grid modernization in order to gain visibility on the state of the distribution system and improve overall response and restoration times. Grid modernization initiatives include the deployment of automated devices and implementation of an outage management system. CNPI understands that reliability of electrical service is a high priority for its customers and continues to invest in replacement of end-of-life assets as well as vegetation management.

On August 26, 2016, an article titled "*Town Seeks Answers on Outages*" appeared in the Brockville Recorder & Times discussing how the Town of Gananoque wants explanations as to why there have been so many power blackouts this year. The article states that:

"This year alone, there have been at least eight major power outages in Gananoque, the latest a few weeks ago and lasting all day."

i. Please confirm the accuracy of the above statement.

ii. Please describe the factors or events that caused the referenced outages.

iii. Please identify any specific actions being taken by CNPI to address the factors that caused the referenced outages. Please include a discussion as to whether or not CNPI has considered a second supply point as a way of dealing with these outages, or other potential solutions. If yes, please state what approaches are being considered, the feasibility of each, including the status of any related discussions with Hydro One Networks or other utilities and any other relevant information. If CNPI has not undertaken any such actions, please explain why not.

iv. Please discuss whether or not CNPI has engaged its customers on the cost/benefit aspects of such alternatives and, if so, what the results of these discussions were. If not, please explain why not and state whether or not CNPI has any plans to undertake such engagement in the future providing any available details as to what is envisaged. If not, please explain.

v. Please discuss whether or not CNPI has any mutual aid agreements with neighbouring utilities to assist in responding to these outages. If yes, please state with which utilities CNPI has such agreements and why they were chosen and comment on the adequacy of these arrangements to deal with the present circumstances. If there are neighbouring utilities with which CNPI does not have such arrangements, please explain why not.

2-Staff-47

Ref: E2/Appendix E – CNPI 2014 OEB Performance Scorecard – Cost Control: Total Cost per Customer, pg. 5 of 8

At the above reference, it is stated that:

> Total cost is calculated as the sum of CNPI's OM&A costs, including depreciation and financing costs. This amount is then divided by the total number of customers that CNPI serves to determine Total Cost per Customer. The cost performance result for 2014 is $749 /customer which is a 3.2% increase over 2013. However, CNPI's Total Cost per Customer has increased on average by only 1.3% per annum over the period 2010 through 2014. This compares favorably with the Consumers Price Index (CPI) over the same period.

Please provide calculations showing how the forecast operating expenditure increases of over 6% per annum in 2016 and 2017 will impact the reported Scorecard results on an overall and per customer basis.

2-Staff-48

Ref: E2/Appendix M – CNPI Distribution Asset Management Plan (DAMP) – Section 3.3.2: Delta Distribution System, pg. 28 of 113

At the above reference, it is stated that:

> In 2015, CNPI had an independent review of samples of this 350 kcMIL, XLPE cable completed by Kinectrics. The report determined that the cables could have an approximate remaining in service life of no more than 10 years under normal conditions.

Please reconcile the above statement with the conclusion on page 11 of the Kinectrics report stating that:

> "Overall performance is expected to be good at this voltage level and continued use is recommended. Expected life of the cable should be more than 10 years, provided ground faults are cleared in a timely fashion."

2-Staff-49

Ref: E2/Appendix M – CNPI Distribution Asset Management Plan (DAMP) – Section 3.5.2: Distribution Substations (DS) and Step Down Ratio Banks, Table 6: Summary of Gananoque Stations and Ratio Banks, pg. 47 of 113

At the above reference, the table below is shown:

Substation	Year Installed	# of TX's	TX Protection	# of Feeders	Feeder Protection
Main	2007	2	Breaker	3	Reclosers
Gananoque DS	1945	2	Fuses	6	Breakers
Herbert Street DS	1992	1	Fuses	3	Breakers
Kingston Mills DS*	1956	1	Fuses	2	Fuses
Leaky Creek RB	2013	3 x 1 phase	Fuses	2	Fuses
RB1	2013	3 x 1 phase	Fuses	2	Fuses
RB2	2013	3 x 1 phase	Fuses	2	Fuses

Table 6: Summary of Gananoque Stations and Ratio Banks

*To be retired and replaced with new Ratio Bank in early 2016

a) A note from Table 6 above states that the Kingston Mills DS is to be retired and replaced with a new Ratio Bank in early 2016. Please show the cost/benefit analysis for replacing substations with Ratio Banks versus a substation solution or other alternative solutions.

b) CNPI has stated on page 124 of its DSP and again on pages 88-89 of its DAMP that "*…ratio transformers are susceptible to impulse related failures due to their high impedance characteristic."* Does this statement only apply to ratio banks with delta secondaries, or is the statement generally applicable to all ratio banks?

2-Staff-50

Ref: E2/Appendix M – CNPI Distribution Asset Management Plan (DAMP) – Section 6.3.2: Measuring Asset Condition, pg. 93 of 113

At the above reference, it is stated that:

> In 2011, CNPI performed an evaluation of the overall asset condition of poles. These were evaluated through a methodology of random sampling of the entire installed pole population. Approximately 11 percent of CNPI's pole population was evaluated. Poles were visually evaluated for a variety of factors which impact on pole condition. Maps of the pole test areas and sample inspection form are shown in Appendix F. In addition, the remaining wood fibre strength of the pole was measured.
>
> The results of this testing was analyzed and the Probably Remaining Life (PRL), or the number of years until replacement is projected to be required, was calculated for each pole in the sample test group. The pole test results were then extrapolated to predict the asset condition for all of CNPI's poles.

a) Please provide a concrete example of how the Probably Remaining Life (PRL) is calculated for the asset class.

b) Please show how the pole test results are extrapolated to predict the asset condition for all of CNPI's poles.

c) Does CNPI confirm post-replacement whether or not poles that are deemed by condition assessment results to require replacement actually did need replacing? In other words, does CNPI adjust or otherwise improve upon its forecast methodology based upon post factum data analysis?

2-Staff-51

Ref: E2/Appendix M – CNPI Distribution Asset Management Plan (DAMP) – Section 6.5: Other Distribution Assets, pg. 96 of 113

At the above reference, it is stated that:

> For other types of distribution assets, CNPI uses probabilistic techniques to anticipate when they are nearing the end of their useful lives and plans to replace them before that time.
>
> In the event of a premature or other failure of an asset or asset component, CNPI uses well established and industry-typical emergency response plans to replace them in a timely and cost effective manner.

a) Please describe the probabilistic techniques used by CNPI to anticipate when other types of distribution assets are nearing their end of life and when to replace them.

b) Please state whether CNPI is replacing assets based upon actual age rather than an adjusted age or adjusted remaining life based on a condition assessment?
   i. If yes, what analysis has CNPI performed to demonstrate that it is more cost effective to replace assets based upon the actual age, rather than an adjusted age or adjusted remaining life?

c) Does CNPI apply a "run to fail" methodology for any asset classes? Please provide details.

2-Staff-52

Ref: E2/Appendix M – CNPI Distribution Asset Management Plan (DAMP) – Section 9.2.1: Distribution System Level Analysis, pg. 106 of 113

At the above reference, it is stated that:

> 2013 SAIDI and SAIFI
>
> In 2013, CNPI experienced a higher than average SAIDI of 3.23 compared to the balance of the five year period ranging from 1.89 to 2.41. In the same year, SAIFI was also above the five year historical average. This was primarily due to a significant weather event on November 1st during which sustained wind speeds in excess of 80 km/h were experienced. There were 53 separate outage events that impacted thousands of customers over a 14 hour period in the areas of Fort Erie and Port Colborne.
>
> 2015 SAIFI
>
> […]
>
> The second significant event occurred on October 29th which consisted of a wind storm with sustained wind speeds in excess of 80 km/h. Gusts in excess of 105 km/h where experienced throughout the event. There were 36 separate outage events that impacted thousands of customers in Fort Erie and Port Colborne over a 12 hour period.
>
> The third significant even occurred on November 12th. Again, sustained wind speeds in excess of 80 km/h were experienced with gusts in excess of 105 km/h. There were 49 separate outage events that impacted customers in the Fort Erie and Port Colborne areas over a period of 12 hours.

a) Did any wind storms occur in CNPI's service area during 2011, 2012, or 2014? If yes, did these wind storms cause any outages or reliability issues?

b) Do outages typically occur with every wind storm?

2-Staff-53

Ref: E2/Appendix M – CNPI Distribution Asset Management Plan (DAMP) – Section 9.2.1: Distribution System Level Analysis, Table 26: CNPI-Reliability Indices for years 2011-2015; Figure 36: CNPI Historical SAIDI; Figure 37: CNPI Historical SAIFI, pg. 105-106 of 113

The tables and figures below are shown at the above references:

Year	2011	2012	2013	2014	2015	Average
SAIDI (hours)	2.41	1.89	3.23	1.95	2.36	**2.37**
SAIFI	**1.80**	**2.21**	**2.72**	**2.07**	**2.78**	**2.32**

Table 26: CNPI-Reliability Indices for years 2011-2015

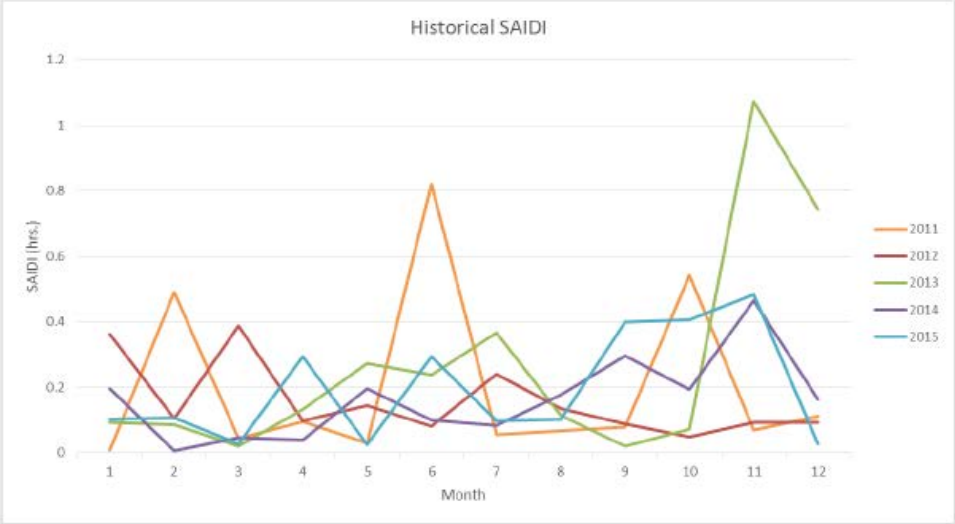

Figure 36: CNPI Historical SAIDI

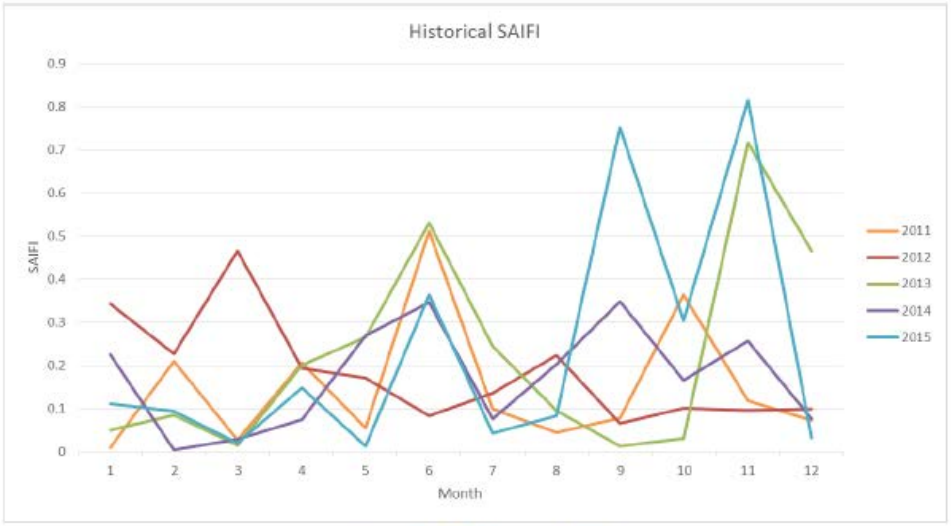

Figure 37: CNPI Historical SAIFI

Table 26, Figures 36, and Figure 37 above display historical SAIDI and SAIFI data for the 5-year time period 2011-2015 for all outages that occurred on CNPI's distribution system. Please provide revised tables and figures displaying historical SAIDI and SAIFI separately for Fort Erie, Port Colborne and Gananoque.

2-Staff-54

Ref: E2/Appendix M – CNPI Distribution Asset Management Plan (DAMP) – Section 9.2.2: Feeder Level Analysis – Fort Erie, Figure 40: Fort Erie SAIDI for 2015 by Feeder (F-SAIDI); and Figure 41: Fort Erie SAIFI for 2015 by Feeder (F-SAIFI), pg. 110 of 113

At the above references, the figures below are shown:

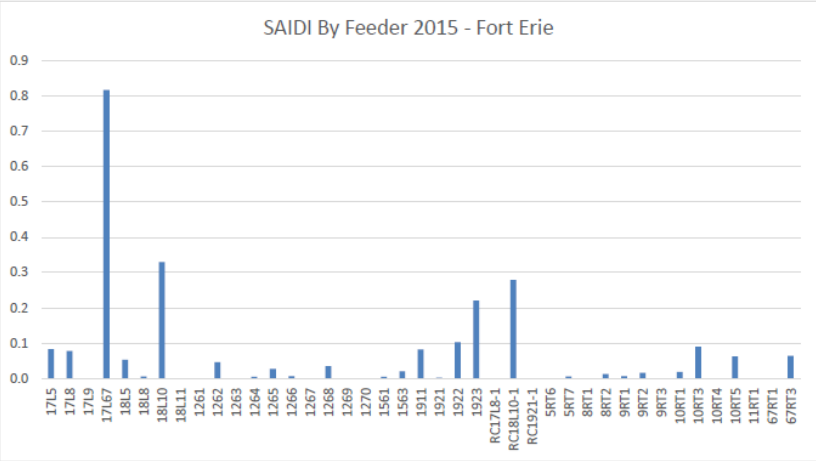

Figure 40: Fort Erie SAIDI for 2015 by Feeder (F-SAIDI)

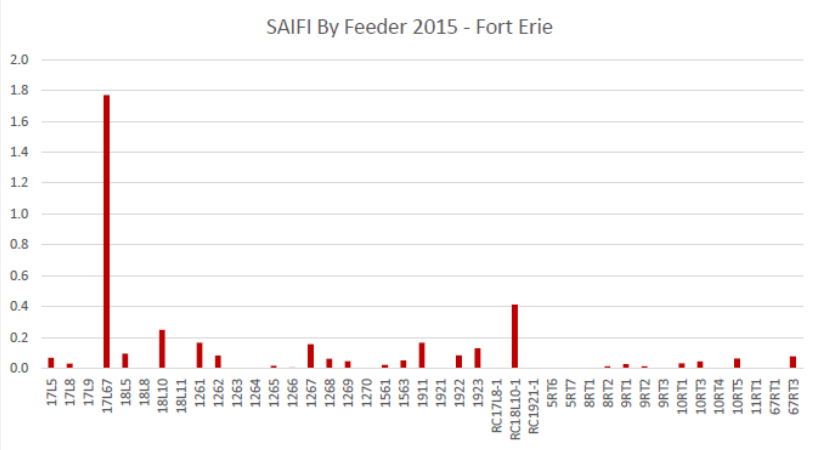

Figure 41: Fort Erie SAIFI for 2015 by Feeder (F-SAIFI)

a) Please state which of the Fort Erie feeders listed above are delta system feeders.

b) Please explain the reasons for the comparatively high SAIDI and SAIFI indexes for feeder 17L67.

c) Please identify specific actions being taken to improve performance of this feeder.

2-Staff-55

Ref: E2/Appendix M – CNPI Distribution Asset Management Plan (DAMP) – Section 9.2.2: Feeder Level Analysis – Port Colborne, Figure 42: Port Colborne SAIDI for 2015 by Feeder (F-SAIDI); and Figure 43: Port Colborne SAIFI for 2015 by Feeder (F-SAIFI), pg. 111 of 113

At the above references, the figures below are shown:

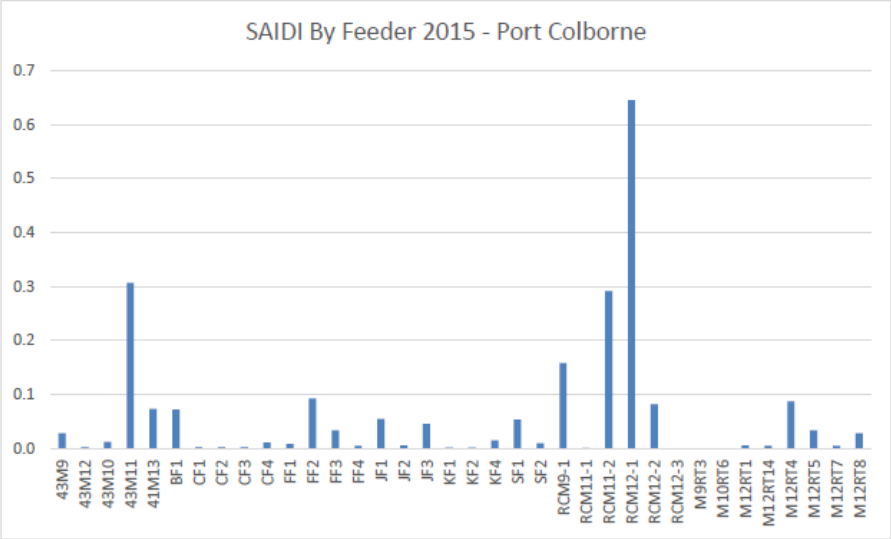

Figure 42: Port Colborne SAIDI for 2015 by Feeder (F-SAIDI)

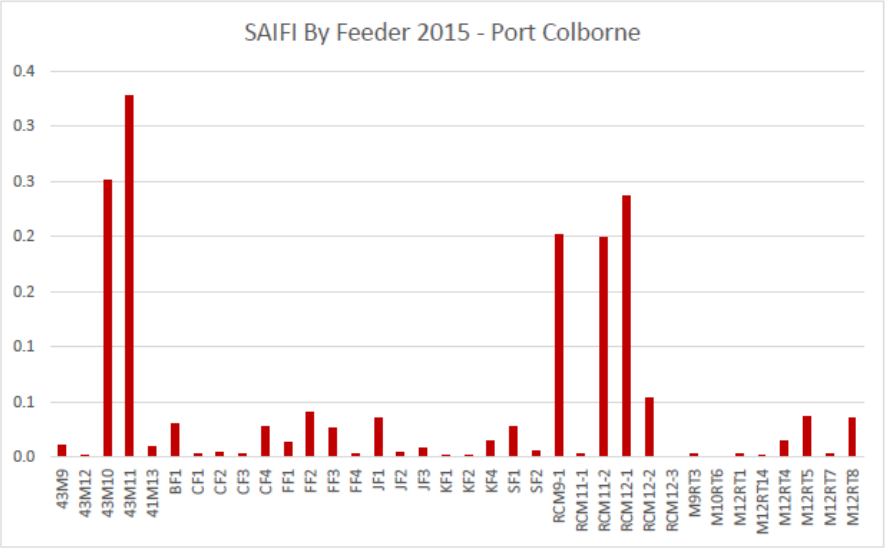

Figure 43: Port Colborne SAIFI for 2015 by Feeder (F-SAIFI)

a) Please state which of the Port Colborne feeders listed above are delta system feeders.

b) Please explain the reasons for the comparatively high SAIDI and SAIFI indexes for the following feeders:
   - 43M10
   - 43M11
   - RCM9-1

- RCM11-2
- RMC12-1

c) Please identify specific actions being taken to improve performance of these feeders.

2-Staff-56

Ref: E2/Appendix M – CNPI Distribution Asset Management Plan (DAMP) – Section 9.2.2: Feeder Level Analysis – Gananoque, Figure 44: Gananoque SAIDI for 2015 by Feeder (F-SAIDI); and Figure 43: Gananoque SAIFI for 2015 by Feeder (F-SAIFI), pg. 112 of 113

At the above references, the figures below are shown:

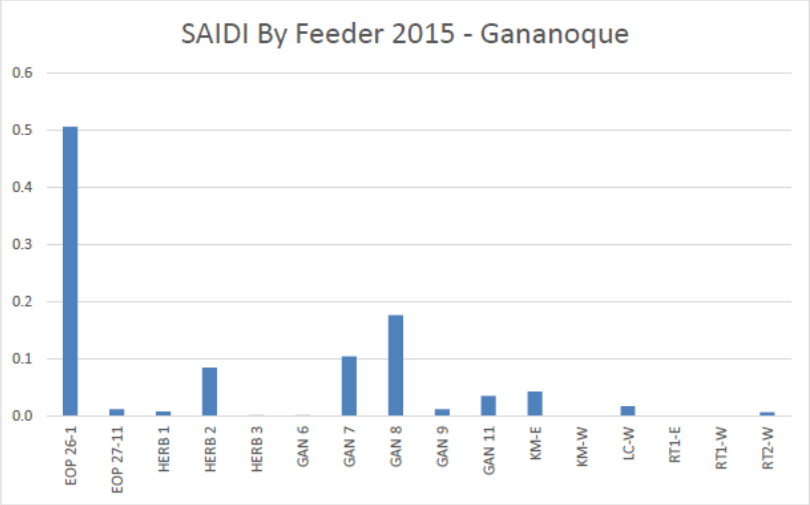

Figure 44: Gananoque SAIDI for 2015 by Feeder (F-SAIDI)

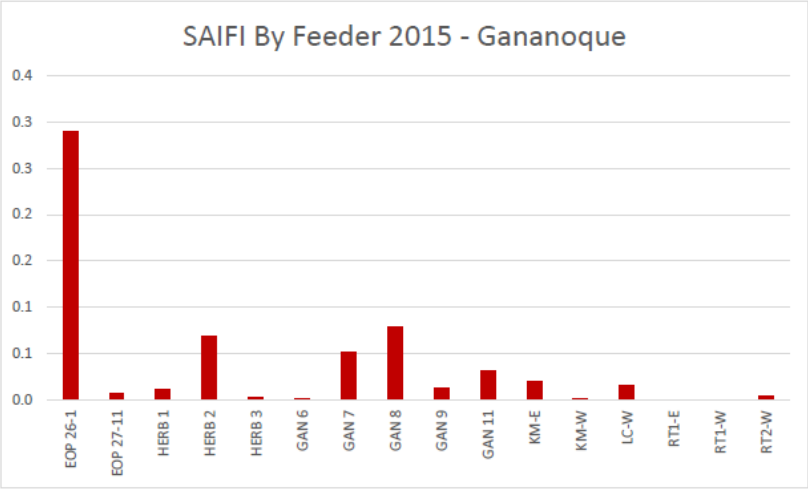

Figure 45: Gananoque SAIFI for 2015 by Feeder (F-SAIFI)

a) Please state which of the Gananoque feeders listed above are delta system feeders.
b) Please explain the reasons for the comparatively high SAIDI and SAIFI indexes for feeder EOP 26-1.
c) Please identify specific actions being taken to improve performance of these feeders.

3-Staff-57

Ref: E3/T4/S1, p. 1

At this reference, CNPI's revenue offsets are discussed including specific service charges for which an amount of $158,264 is shown for the 2017 Test year.

a) Please confirm that CNPI's specific service charges are those that were contained in the OEB's 2006 Electricity Distribution Handbook, or if there have been any revisions since that time please state what those revisions would be.
b) Please comment as to what extent CNPI believes the proposed level of these charges reflects current costs of providing these services.

4-Staff-58

Ref: E4/T2/S2/p. 5

At the above reference, when discussing shared services allocation, it is stated that:

> For 2014 Actuals, 2016 Bridge, and 2017 Test CNPI identified costs within its shared service allocation that were deemed to be costs specific to the Fort Erie service territory. Examples of these costs include Health and Safety specific training costs and union contract negotiation costs. These costs were therefore removed from the shared service allocation calculation; hence the increase in operating expenses to CNPI.

Please provide a further explanation as to how and why the costs referenced above were determined to be specific to the Fort Erie service territory, specifically discussing why costs such as those for union contract negotiations would be determined to be specific to one service territory.

4-Staff-59

Ref: E4/T2/S2/p. 8

At the above reference, it is stated that a $100,000 increase to operating expenses is anticipated in 2017 as a result of the Emerald Ash Borer (EAB) Program. Please explain how the $100,000 increase was determined.

4-Staff-60

Ref: E4/T3/S1/p. 2

At the above reference, it is stated that CNPI is anticipating an increase in customer disconnections in 2017 over 2013 and in response has refined its credit, collection and customer disconnection processes.

a) Please state the magnitude of the increase in customer disconnections CNPI is anticipating in 2017.
b) Please discuss any efforts CNPI has undertaken to reduce the level of customer disconnections.
c) Please elaborate on how CNPI has refined its credit, collection and customer disconnection processes. Please explain CNPI's disconnection policy, specifically discussing when a customer with unpaid bills would be disconnected.

4-Staff-61
Ref: E4/T3/S1/p. 4

At the above reference, it is noted that CNPI's detailed wood pole inspection and testing program which started in 2016 will have an annual cost of approximately $75,000.

Please explain how this cost was determined.

4-Staff-62
Ref: E4/T3/S1/p. 5

At the above reference, CNPI discusses the variance in the category "Administrative: Salaries and Related Expenses" which are shown as increasing by over 30% in the 2017 Test year from the 2013 OEB approved level, or $352,214. This increase was attributed to two factors: (1) $166,000 to general salaries and related expense increases year-over-year and (2) $186,000 due to the creation of a Niagara operating centre arising from the merger of the Fort Erie and Port Colborne operating centres.

An explanation of the $186,000 factor is provided which stated that the tracking of operating costs specific to each of Fort Erie and Port Colborne service territories was discontinued and went on as follows:

> The impact that this had on Salaries and Related Expenses is that formerly the intercompany shared service allocations to Port Colborne (from Fort Erie) were credited out of Salaries and Related Expenses, and then with offsetting debits were recorded partially within this same category, and remaining debits recorded in Rent and Maintenance of Property, and Regulatory Expenses. The impact of this accounting change in 2014 (as compared to 2013 Board Approved) was a net debit (increase in Salaries and Related Expenses) of $186,000, a credit of $133,000 in Rent and Maintenance of Property, and a credit of $53,000 in Regulatory Expenses.

Please provide a clearer explanation of the reasons for this change including why salaries would increase as a result and why it would result in an increase in regulatory expenses since the creation of a consolidated operating centre would not seem to be an action that would be expected to impact these expenses.

4-Staff-63
Ref: E4/T3/S1/Appendix A

At the above reference, which is Appendix 2-JC OM&A Programs Table, the item "Overhead" under Operations shows a Test Year versus 2013 Board Approved variance of $112,224. The same item under Maintenance shows a variance of $443,870.

Please state what is encompassed by the Overhead category for these two items and provide an explanation for these variances.

4-Staff-64
Ref: E4/T4/S1

At the above reference, CNPI discusses employee compensation, incentive plan expenses and other benefits.

a) Please state whether or not CNPI has a compensation strategy document and if so please file it. If not, please state whether or not the information contained at the above reference is the extent of CNPI's compensation strategy or, if this is not the case please provide additional information on it.
b) If not discussed in the response to part a, please state how compensation has been aligned to performance expectations for management and other employees.

4-Staff-65
Ref: E4/T4/S1/Appendix A

At the above reference, which is Appendix 2-K Employee Costs, Footnote 1 states that:

> The 2013 Board Approved numbers in EB-2012-0112 as presented was based on all CNPI employees (i.e. headcount) whose time is allocated to CNPI Tx as well as other business units within FortisOntario. In this application, beginning with the Board Approved Restated, CNPI included FTEs allocated to CNPI Dx.

Appendix 2-K provides the 2013 Approved Restated FTEs, but does not provide restated numbers for the remaining categories of "Total Salary and Wages," "Total Benefits" and "Total Compensation."

Please complete the 2013 Approved Restated column in Appendix 2-K and file a revised version, or provide an explanation as to why this cannot be done.

4-Staff-66
Ref. E4/T4/S2

Please confirm that the table below is an accurate and complete summary of the test year revenue requirement for CNPI's estimated pension and OPEB costs. If CNPI does not consider this table to be the aforementioned accurate and complete summary, please make any necessary changes and provide explanations of any changes made.

Plan	**Test Year Revenue Requirement**
Employees' Retirement Plan	$430,524

Supplementary Retirement Plan	$255,132
OMERS Plan	$169.848
OPEBs	$563,004
TOTAL	$1,418,508

Please also explain how these balances are adjusted to factor in amounts already capitalized and included in rate base.

4-Staff-67
Ref. E4/T4/S 2

Please complete the table below to provide information as to whether Pension and OPEBs were recovered on a cash or accrual accounting basis for each year since the distributor started to recover Pensions and OPEBs in distribution rates from customers.

If the basis of recovery is other than cash or accrual accounting, please provide the relevant details explaining the alternative methodology and why it is appropriate.

Plan	Basis of Recovery
Employees' Retirement Plan	
Supplementary Retirement Plan	
OMERS Plan	
OPEBs	

4-Staff-68
Ref. E4/T4/S 2

Please complete the following table: (note that a separate table should be completed for both pensions and OPEBs, respectively)

Pensions and OPEBs	First Year of recovery to 2011	2012	2013	2014	2015	2016	2017
Amounts included in Rates							
OM&A							
Capital							
Total	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Paid contribution / benefit amounts (Cash)							
Net excess amount included in rates relative to amounts actually paid.	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Please describe what the distributor has done with recoveries in excess of cash payments, if any.

4-Staff-69
Ref. E4/T4/S2/ p.2

For the defined benefit component of the Employees' Pension Plan, please explain why there is a significant increase in the related pension expense from 2016 to the 2017 test year. Why do the reductions experienced between 2015 and 2016 not carry forward beyond 2016?

4-Staff-70
Ref. E4/T4/S2/p.2

CNPI has indicated that in February 2016, Mercers provided updated estimates of the 2016 and 2017 pension expense amounts (Employees Retirement Plan) as well as for the 2016 and 2017 post retirement benefit expense (OPEBs) amounts.

(a) Please provide these updated valuations.
(b) Were updated 2016-17 estimates for the DC component of the Employees Retirement Plan also provided by Mercer? If not, are the bridge and test year amounts based on the original December 31, 2014 valuation?
(c) If required, please provide a table that reconciles the amounts being sought in the bridge and test period with the amounts per the updated valuation from Mercer.

4-Staff-71
Ref. E4/T4/S2, p.3

With respect to OMERS, please provide the support that underpins the bridge and test year amounts being sought.

(a) If required, please reconcile the support provided to the amounts being sought for the bridge and test years

4-Staff-72
Ref. E4/T4/S2, Appendix A

Page 16 of the December 31, 2014 Mercer valuation states that if the Defined Benefit component of the Plan is fully funded on both going concern and solvency bases, then subject to the Act, the Plan terms, and any collective or employment agreement, it may be possible for the Company to apply the Defined Benefit assets in satisfaction of its contribution requirements for the Defined Contribution component of the Plan.

(a) As per the valuation in Appendix A, the Plan is fully funded on both the going concern and solvency bases, therefore has CNPI been funding its defined contribution requirements using the surplus assets of the Defined Benefit component of the plan?
(b) If so, what portion of the bridge and test year defined contribution requirements will be funded using the Defined Benefit assets?
(c) If the option to fund the Defined Contribution requirements using Defined Benefit assets was not considered, please explain why it was appropriate to not do so.

4-Staff-73
Ref: E4/T4/S2/p. 2

At the above reference, the significant assumptions used to determine the 2017 Test year pension expense of $430,524 for CNPI's "Employees' Retirement Plan" are outlined.

Please discuss how each of these assumptions is determined and why they are reasonable.

4-Staff-74
Ref: E4/T4/S2/p. 3

At the above reference, the defined contribution pension expense of $255,132 for the 2017 Test year for CNPI's "Supplementary Retirement Plan" is shown.

Please describe the key assumptions by which this amount was determined.

4-Staff-75
Ref: E4/T4/S2/Appendix A/p. 3 and p. 8

The above reference is the Mercer Report "FortisOntario Inc. Employees' Retirement and Supplementary Pension Plan Report on the Actuarial Valuation for Funding Purposes as at December 31, 2014."

On page 3, it is stated that "As instructed by the Company, the going concern discount rate reflects a margin for adverse deviations of 0.60% per year."

On page 8, an item is shown "Employer's special payments, with interest" in the amount of $3,824,405."

a) Please state why the company rather than Mercer determined the going concern discount rate and how it did so.
b) Please provide further explanation of the employer's special payment and how it impacted CNPI.

4-Staff-76
Ref. E4/T12/S2

(a) Please provide the CNPI 2015 corporate tax return.

(b) Based on the actual 2015 return, is there any material change to the bridge and test year CCA or PILs calculations? If so, please update each of the respective tables to quantify the revenue requirement impact.

(c) Please explain the 2015 adjustment recorded to opening reserves. Please provide a table that reconciles the adjusted opening balances per the table to the balances presented in the December 31, 2015 audited financial statements.

4-Staff-77
Ref. Test Year Income Tax PILs Workform

Does CNPI capitalize interest for accounting purposes (i.e. to PP&E)?

(a) If yes, please provide a table that summarizes capitalized interest for the historical, bridge and test years.

(b) Please explain how CNPI accounts for its capitalized interest for tax reporting purposes (i.e. how does it get treated in the tax return).

4-Staff-78
Ref: E4/T5/S1

At page 2 of the above reference, it is stated that:

> Fortis Inc., FortisOntario's parent company, charges FortisOntario, and other Fortis-owned companies, for strategic planning, finance and administrative services such as costs incurred related to the listing of Fortis shares on the Toronto Stock Exchange and charges related to the administration of share purchase plans, and other costs. Consumers benefit from these services by providing CNPI with access to capital, which provides the required capital investment in the CNPI distribution system for a reliable and safe supply of electricity. The charges are allocated to FortisOntario. The charges allocated to FortisOntario are subsequently charged to the five business units within FortisOntario based on assets and share purchase plan participants. Cost-based pricing is used for the charges.

a) Please state whether there are any shared capital assets between the transmission and distribution systems and if so, what assets these would be and how the costs of such assets would be allocated between transmission and distribution.
b) Please state whether or not there are any allocations between the business units other than those described in the above paragraph and if so how they are undertaken.
c) Please elaborate on how charges would be allocated "based on assets and share purchase plan participants" as referenced in the above quotation.
d) Please elaborate on what is meant by "cost-based pricing" in the above paragraph and how it is determined.

4-Staff-79
Ref: E4/T5/S1/Appendix 2-N

With respect to Appendix 2-N:

a) please state why “building rent” is the only 2017 service provided to CNPI that is determined using a market based pricing methodology and how the market based methodology is determined,
b) Please state what, if any, differences there are between the “cost based” and the “cost based (Note 1)” pricing methodologies listed for 2017 in the Appendix other than those described in Note 1, and if so what they are and how it is determined which of the services are priced using the two different methodologies.

4-Staff-80
Ref: E4/T5/Appendix A

The above reference is the services agreement between CNPI and its affiliates dated September 15, 2015.

Please state whether or not there were any significant changes made in the current services agreement from the one that was in force at the time of CNPI’s last cost of service application and, if so, what they are.

4-Staff-81
Ref: E4/T5/Appendix B/p. 14

The above reference is the Appendix “Allocation of Full-Time Equivalent Staff to Business Units” of the “Study of Affiliate Service Costs and Cost Allocation” prepared for CNPI by BDR NorthAmerica Inc.

Please state what the headings “Cornwall Region,” “Algoma Region” and Gananoque” represent in the “Department/Section” column and why there is no heading for Fort Erie/Port Colborne.

4-Staff-82
Ref: E4/T6/S1

At this reference, the purchase of non-affiliate services is discussed.

On page 1, it is stated that CNPI outsources primarily through two means, which are competitive bidding and single source.

On pages 6 and 7, 2015 purchases of non-affiliate services are shown. A number of these are shown as having a selection process of “Annual Agreement” and for legal the selection process is described as “Legal Services”.

a) For the 2015 services that are selected through “Single Source” and “Competitive Bid”, please explain for each how the selection process was determined. For

instance, it is stated that ground aerial maintenance has been identified as a single source of supply. Please explain why this decision was made and similarly for the other services in these categories

b) For the 2015 services that were selected through "Annual Agreement," please explain what process was used and why this approach was considered appropriate for the services in question. For instance it is stated that competitive bidding often turns into annual agreements for regular recurring services such as janitorial and vac truck services. Please explain how this process works.
c) For tree trimming it is stated that CNPI decided to single source this service and extended its contract with Pineridge. Please state whether CNPI reviewed any pricing available from competitors before making this decision and if so what the results of this review were and how it impacted the decision. If not, please explain why not.
d) Please explain the selection process for legal services.

4-Staff-83

Ref: E4/T11/S1/p. 1 & CNPI July 13, 2016 *Response,* item 11 & Ontario Energy Board *Filing Requirements for Electricity Distribution Rate Applications – 2016 Edition for 2017 Rate Applications Chapter 2,* July 14, 2016, p.39.

The first reference above is a very high level one-page summary of CNPI's depreciation policy included in its original filing.

The second reference is CNPI's response to the OEB's incomplete letter of June 30, 2016 which had noted that one of the deficiencies of CNPI's application as filed was that only a "One page summary of depreciation policy is provided with no discussion of changes since CNPI's last cost of service application." CNPI's response to this deficiency was to refer the OEB back to the one-page depreciation summary that had been referenced in the OEB's deficiency letter and to state that it had not made any changes to the depreciation policy since the last cost of service application.

The third reference, which is the Filing Requirements, states that "The applicant must provide a copy of its depreciation/amortization policy. If not, the applicant must provide a written description of the depreciation practices followed and used in preparing the application."

Please state whether or not CNPI has a depreciation/amortization policy document of the kind referenced in the Filing Requirements. If yes, please provide this document or explain why it has not been provided. If no, please explain why not and state whether or not the one-page summary contained in the first reference is the extent of CNPI's depreciation practices followed and used in preparing the application. If not, and in the absence of a policy document, please provide a complete written description of the depreciation practices followed and used in preparing the application.

5-Staff-84

Ref: E5/T1/S1/p. 2 & Ontario Energy Board EB-2009-0084 *Report of the Board on the Cost of Capital for Ontario's Regulated Utilities* December 11, 2009, p. 53.

At the first reference above, the following statement is made:

> CNPI also utilizes affiliated debt to support its capital program spending requirements until the balance is sufficient to replace it with the issuance of third party long-term debt. In January 2013, CNPI issued a promissory note to FortisOntario in the amount $20 million, which bears interest at 4.03%. CNPI has used a deemed long-term debt rate of 4.54% for 2017 Test Year as established by the Board's Cost of Capital parameters letter dated October 15, 2015.

At the second reference above, which is the OEB's cost of capital policy document, the following statement is made:

> For affiliate debt (i.e. debt held by an affiliated party, as defined by the *Ontario Business Corporations Act, 1990)* with a fixed rate, the deemed long-term debt rate at the time of issuance will be used as a ceiling on the rate allowed for that debt.

Please state why CNPI believes that the OEB's current deemed long term debt rate of 4.54% is the appropriate one to use for this promissory note rather than the 4.03% rate which was in effect at the time of its issuance, given the statement from the OEB's cost of capital policy referenced above.

7-Staff-85

Ref: E7/T1/S1/p. 2.

Please provide three alternate versions of the table shown on this page, which is the proposed revenue to cost ratios with the 2013 approved revenue to cost ratios for each of CNPI's service territories substituted for the 2016 Approved column.

9-Staff-86

Ref. E9/T1/S2 – Deferral and Variance Workform

As outlined in section 2.9.5.1 of the Filing Requirements (updated July 14, 2016), effective in 2017, the billing determinant and all the rate riders for the GA is to be calculated on a KWh basis regardless of the billing determinant used for distribution rates--- for the particular class. Please update the GA rate rider calculation in tab 6 of the Deferral and Variance Workform as it is currently calculated using a combination of both KWh and KW.

9-Staff-87
Ref. E9/T3/S1 – Table 9.3.1.1

Please provide an equivalent version of the revenue requirement portion of this table providing 2015 and 2016 impacts for the meters being replaced.

9-Staff-88
Ref. E9/T6/S1 & Ontario Energy Board *Filing Requirements for Electricity Distribution Rate Applications – 2016 Edition for 2017 Rate Applications Chapter 2,* July 14, 2016, pp.42-43.

Please provide a completed LRAMVA workform as discussed in the July 2016 filing requirements at the second reference above.