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1.0 In 2004 PRRD Information Request 1.19.0 asked for the number of replacement distribution transformers held at headquarters in the Peace River district in 1994 and the present time (i.e., 2004). BC Hydro's response dated March 29, 2004 indicated the numbers were not available for 1994, but provided the information that 148 transformers were in stock in 1996 and 156 in 2004. PRRD IR 1.9.1 in 2006 asked for an update of this information for 2006. BC Hydro's response dated July 26, 2006 was as follows:

"There were 322 replacement distribution transformers held at headquarters in the Peace River district at June 30, 2006. At March 31, 2004 the number was 300."

Note: the Peace River Regional District (PRRD) includes the communities of Chetwynd, Tumbler Ridge, Hudson's Hope, Dawson Creek, Pouce Coupe, Taylor, Fort St John and surrounding rural areas. This generally describes the area concerned where a question refers to "Peace River District".

3.1.1 Please explain what appears to be a large discrepancy between the response given on March 29, 2004 and the numbers indicated in the response given on July 26, 2006.

RESPONSE:

BC Hydro's response to PRRD IR 1.9.1 on July 26, 2006 inadvertently included distribution transformers held at Fort Nelson. It also incorrectly described the 2004 quantities as being as of March 31, 2004.

The corrected numbers are:

June 30, 2006	304
June 2004	208

BC Hydro is unable to locate the documents used to support the current inventory quantities reported in the March 29, 2004 response to PRRD IR 1.19.0. and presumes that they were extracted from the inventory records at a date in either January or February 2004. The 2004 quantities reported above were verified by the physical inventory count records from June 2004.

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2.0 Responses to PRRD IRs 1.4.1, 1.5.1, 1.6.1, together with responses to PRRD IRs 1.10.0, 1.11.0, in the 2004 Application, indicate concerning trends in actual emergency response time, outage duration and frequency, and the ASAI and CAIDI indices for customers in the Peace River Region, as follows:

Emergency Response Times: BC Hydro sets a target for responding to outage situations (one hour in urban areas, two hours in rural areas, 80% of the time.) This table reflects the trends in emergency response times in the Peace Region:

Year	Actual Average Response Times
1995	44 "
1996	46 "
1997	47 "
1998	45 "
1999	40 "
2000	43 "
2001	56 "
2002	50 "
2003	51 "
2004	1 hour 23 minutes
2005	1 hour 9 minutes
2006	1 hour 16 minutes

Comments: The data shows a definite trend toward longer response times. The average time in 1995 to 2000 was 44.2 minutes. This rose to 52.3 minutes in 2001 to 2003 and then increased significantly to an average of 76 minutes in 2004 to 2006. This amounts to a 72% increase in average response time since 2000.

Reliability of Electrical Service in the Peace Region:

Year ending March of:	ASAI	CAIDI
1994	99.973%	1.94
1995	99.976%	1.34
1996	99.970%	0.33
1997	99.983%	1.41
1998	99.954%	1.85
1999	99.978%	2.27
2000	99.974%	1.30
2001	99.974%	2.37
2002	99.965%	1.59
2003	99.974%	1.71

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Year ending March of:	ASAI	CAIDI
2004	99.936%	2.47
2005	99.927%	2.36
Apr to Dec 2005	99.961%	1.78

Comments: BC Hydro's targets are an ASAI of 99.970% and CAIDI of 2.15. For the Peace Region the ASAI target has not been met in the last three years, and the CAIDI target has not been met in two of the last three years. While CAIDI target appears to have been met in the first nine months of fiscal 2006, the remaining months may have eroded this figure. In any case, fiscal 2004 and 2005 recorded the highest average outage duration in more than a decade. While the actual changes in these reliability indices may be small, the trend is not in a positive direction.

In fiscal 2006 BC Hydro introduced a further two measurements of reliability. These are CEMI-4 which measures the percentage of customers experiencing more than four interruptions per year; and CELID-6 which measures the percentage of customers experiencing outages longer than 6 hours duration.

While there are no comparisons available for previous years, it is of interest to compare the data for the Peace Region with the BC Hydro system overall. The period of record is April to December 2005:

Year	BC Hydro System	Peace Region
Part of fiscal 2006	CEMI-4 = 12% CELID-6 = 18%	CEMI-4 = 19% CELID-6 = 22%

Comments: The data shows that for the period on record that Peace Region customers experienced more lengthy outages and more frequent outages than the average BC Hydro customer. In both these categories, BC Hydro excludes "major events" a term used to refer to large storms that cause significant damage over a wide area.

Summary:

- Average actual emergency response times have been increasing significantly over the past decade with the most dramatic increase in the last three years.
- BC Hydro's targets for outage duration and restoration time are not being consistently met in the Peace region in most recent years.
- BC Hydro customers in the Peace region are experiencing significantly more outages, and more long outages than the average BC Hydro customer.

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In 2004 PRRD IR 1.18.0 asked:

Page 7-37, line 8 and 9 indicates: “With a large portion of the infrastructure reaching or exceeding end of life, the need for increasing re-investment is growing and significant.” Page 7-36, line 17 and 18 indicates: “Notwithstanding the need for increased investment, BC Hydro intends to keep distribution asset management costs within the 1st Quartile.” Please explain how BC Hydro intends to address performance deficiencies for reliability, trouble response and service quality given the apparent contradiction in these two statements.

BC Hydro’s Response issued March 29, 2004 read:

“BC Hydro intends to meet the target levels of reliability, trouble response and service quality identified in the Application. To meet those targets, increased levels of investment are required in operations, maintenance and capital re-investment. The required funding levels are shown in the Application. Based on industry benchmarking, BC Hydro’s asset management costs are such that even with the increased investment, BC Hydro’s costs are still expected to be well within the 1st Quartile.”

The assurances given in this 2004 response now sound hollow in light of the apparent decline in reliability and trouble response over the last three years.

Note: the Peace River Regional District (PRRD) includes the communities of Chetwynd, Tumbler Ridge, Hudson’s Hope, Dawson Creek, Pouce Coupe, Taylor, Fort St John and surrounding rural areas. This generally describes the area concerned where a question refers to “Peace River District”.

3.2.1(a) Please explain what measures BC Hydro will take in the Peace River region to meet reliability targets and to correct the negative trend indicated by the reliability and response time statistics for this region.

RESPONSE:

BC Hydro uses ASAI, CAIDI, CEMI-4 and CELID-6 for system average reliability targets and reporting. As indicated in the responses to PRRD IR 1.4.1 and F05/F06 RRA PRRD IR 1.10.0, the CAIDI and ASAI performance for the Peace River district are typically better than the BC Hydro system average.

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As discussed in the responses to BCUC IR 1.181.1 and BCUC IR 1.181.3, BC Hydro uses the Customer Based Reliability (CBR) approach to manage the effective delivery of reliable service to customers. CBR assessments are primarily used at the feeder level to identify feeders that have performance gaps to customer expectations. CEMI-4 and CELID-6 for the specific feeders are also used to identify where improvements are needed. This process has identified four feeders from the Chetwynd, Dawson Creek, and Fort St. John Substations where the performance gap is two or more. The following improvements in these areas were recently completed, are presently underway, or are planned within the next two years:

- Chetwynd – Add reclosers and improve protection.
- Dawson Creek – Install field tie and improve protection.
- Fort St. John – Construct new substation and feeders to reduce exposure to outage causes, relocate feeders away from heavily treed or landslide areas, upgrade reclosers and improve protection.

The increase in the Actual Average Response Times (emergency response) in the Peace River district is mainly due to: (1) calls that were initially identified as non-emergent and then reclassified as emergent, resulting in delayed overall response time, and (2) improved recording accuracy as a result of outage management system upgrades in F2004.

BC Hydro is committed to meeting the emergency response targets (1 hour in urban areas, 2 hours in rural areas, 80% of the time) in the Peace River district.

2.0 Responses to PRRD IRs 1.4.1, 1.5.1, 1.6.1, together with responses to PRRD IRs 1.10.0, 1.11.0, in the 2004 Application, indicate concerning trends in actual emergency response time, outage duration and frequency, and the ASAI and CAIDI indices for customers in the Peace River Region, as follows:

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3.2.1(b) Please also explain the rationale for not including "major events" in the CELID-6 and CEMI-4 indices, given that the impacts on customers are significant regardless of the occurrence of "major events."

RESPONSE:

BC Hydro uses reliability measures, such as CEMI-4 and CELID-6 to gauge the level of reliable service from the system and to set targets. These reliability measures are a key factor in determining BC Hydro's maintenance and capital plans.

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Major events are historically not a normal occurrence at any given location, and are managed by mitigating the impact at the time of the occurrence. Because of this BC Hydro does not design the system to withstand such infrequent major events. To do so would require significant infrastructure investment, which would have large rate impacts. Therefore, BC Hydro plans to meet reliability performance targets excluding major events. That is, on a normalized basis. For this reason the major events impacts are excluded from the reliability measures.