

1 Q. **Reference: Supply Cost Deferrals 2015, 2016 and 2017 Application Evidence, Page**
2 **2, lines 18-22.**

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4 *“This adjustment in operations ensures that generation is already online and*
5 *synchronized to the grid in the event of a system contingency, thereby mitigating*
6 *the impact on customers. While this approach minimizes both the magnitude of the*
7 *disruption as well as the number of customers impacted, this greater customer*
8 *reliability focus carries with it greater costs associated with the increased use of gas*
9 *turbines.”*

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11 For each of 2015, 2016 and 2017, please list all specific instances of contingencies
12 that were either mitigated or avoided by having the Avalon Peninsula gas turbines
13 already online and synchronized to the grid.

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16 A. Table 1 lists the contingencies to Holyrood generating units and 230 kV
17 transmission lines serving the Avalon Peninsula in the three-year period, 2015 -
18 2017, all of which impacted the supply capability to the Avalon region. As noted, for
19 some of these events Avalon standby generation had been placed online in advance
20 as it had been determined that they were required to support contingency reserves,
21 either for the Island or Avalon systems, or both. This would have assisted in
22 mitigating the contingency and/or provided for an expedited restoration of
23 customers following these events, especially events resulting in underfrequency
24 load shedding. For the events where Avalon standby generation was not placed
25 online in advance, it had been determined that these units were not required
26 during these periods to support contingency reserves. The reserves were

1 maintained using conventional (primary) online generation and/or reactive
2 resources during these periods.

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4 As it is difficult to predict with certainty when contingencies will occur and what
5 equipment may be impacted, contingency reserves are maintained to mitigate the
6 potential of cascading outages and sustained customer impact. This is aligned with
7 standard reliability practices. Hydro operates the power system to withstand (1) any
8 single transmission contingency without violating any operating limit and impacting
9 customer service¹ and (2) the loss of the largest generating unit contingency
10 without violating the reserve criterion. At times this will require that standby
11 generation be placed online when sources of conventional (primary) generation
12 and/or reactive resources have been exhausted.

¹ Not applicable for radially supplied systems.

Table 1

Date	Affected Avalon Asset	Avalon Standby Online (yes/no)	Comments
Jan 27, 2015 16:51	TL203	yes	Harwoods GT online. Holyrood GT not available.
Jan 22, 2015 0:00	Holyrood Unit 1	yes	Harwoods GT online. Holyrood GT not available.
Jan 02, 2016 4:41	TL201	no	
Mar 11, 2015 0:00	Holyrood Unit 1	no	Holyrood GT shut down just prior to this event as it was no longer required to maintain reserves.
May 10, 2015 0:00	Holyrood Unit 1	no	
Aug 11, 2016 23:34	TL203	no	
Aug 27, 2016 3:48	TL202	no	
Oct 01, 2015 0:00	Holyrood Unit 3	no	
Nov 15, 2015 0:00	Holyrood Unit 1	no	
Nov 21, 2016 21:06	TL202	no	
Nov 27, 2015 0:00	Holyrood Unit 1	no	Holyrood GT shut down just prior to this event as it was no longer required to maintain reserves.
Aug 14, 2016 0:00	Holyrood Unit 3	no	
Dec 08, 2016 0:00	Holyrood Unit 3	yes	Harwoods GT and Holyrood GT online.
Dec 23, 2016 0:00	Holyrood Unit 1	no	
Mar 11, 2017 12:16	TL201	yes	Holyrood GT online. (Extreme wind event)
Mar 11, 2017 12:34	TL201	yes	Holyrood GT online. (Extreme wind event)
Mar 11, 2017 12:41	TL201	yes	Holyrood GT online. (Extreme wind event)
Mar 11, 2017 12:43	TL201	yes	Holyrood GT online. (Extreme wind event)
Mar 11, 2017 13:34	TL203	yes	Holyrood GT online. (Extreme wind event)
Mar 11, 2017 13:35	TL208	yes	Holyrood GT online. (Extreme wind event)
Mar 11, 2017 15:54	TL218	yes	Holyrood GT online. (Extreme wind event)
Mar 14, 2017 12:07	TL237	no	
May 01, 2017 0:00	Holyrood Unit 2	yes	Hardwoods GT online.
May 21, 2017 11:14	TL201	yes	Hardwoods GT online.
Jun 03, 2017 0:00	Holyrood Unit 2	no	
Jul 08, 2017 19:18	TL201	no	
Jul 22, 2017 17:16	TL206	no	
Jul 22, 2017 17:41	TL202	no	
Aug 29, 2017 18:00	TL203	no	
Sep 18, 2017 0:00	Holyrood Unit 1	no	
Oct 05, 2017 0:00	Holyrood Unit 2	no	
Oct 05, 2017 20:00	TL206	no	