

**BEFORE THE  
WASHINGTON UTILITIES & TRANSPORTATION COMMISSION**

In the Matter of the Petition of:

PUGET SOUND ENERGY

For An Order Excluding 2015 August and  
November Extraordinary Storm Events from  
SQI No. 3 SAIDI Performance Calculation

Docket Nos. UE-

PETITION FOR EXCLUSION OF  
EXTRAORDINARY STORM EVENTS  
FROM SQI-3 SAIDI PERFORMANCE  
CALCULATION

**I. INTRODUCTION**

1. In accordance with WAC 480-07-370(b), Puget Sound Energy (“PSE” or the “Company”) respectfully petitions the Commission for an order authorizing PSE to exclude the customer outage minutes associated with two extraordinary storm events that occurred in August and November 2015 from the performance calculation of PSE’s Service Quality Index (“SQI”) No. 3, System Average Interruption Duration Index (“SAIDI”),<sup>1</sup> for SQI reporting year 2015 and subsequent years. These two storm events are unusual and exceptional, and PSE’s level of preparedness and response was reasonable as described in this (“Petition”).

2. PSE’s overall 2015 SQI SAIDI performance with the two extensive August and November storm events is 361 minutes. PSE’s overall 2015 SQI SAIDI performance excluding these two storm events is 272 minutes.<sup>2</sup> The benchmark for this SQI is 320 minutes. The

---

<sup>1</sup> SAIDI measures the average outage duration for each customer served. SAIDI is the reliability index commonly used by electric utilities. It is calculated as the total customer minute interruptions (outage duration [in minutes] multiplied by number of customers impacted by the outage) divided by the average number of electric customers served typically over the course of a calendar year.

<sup>2</sup> SQI SAIDI = Rolling five-year average of current year total SAIDI and prior four years annual total SAIDI results. PSE’s total annual 2015 SAIDI result with the two exceptional storm events is 760 minutes, and without the two events is 313 minutes.  $313 = 760 - 241$  for August event - 206 for November event. The total annual SAIDI results for 2011-2014 are 163, 134, 209, and 540 minutes, respectively. Thus, the rolling SQI SAIDI in 2015, including the two 2015 storm events is 361, which is the average of (163, 134, 209, 540, 760). The rolling SQI SAIDI in 2015, excluding the two 2015 storm events is 272, which is the average of (163, 134, 209, 540, 313).

calculated penalty amount for the 361 minutes would be \$432,422<sup>3</sup>. There would be no associated penalty for the SQI SAIDI performance of 272 minutes, if the two extraordinary storms are excluded.

3. The SQI SAIDI calculation is a five-year rolling average of annual SAIDI results. The August storm event contributed 241 SAIDI minutes and the November storm event contributed 206 SAIDI minutes to the actual 2015 annual SAIDI result of 760 SAIDI minutes. With the 447 minutes associated with these two events excluded from the SQI SAIDI calculation, the adjusted 2015 annual SAIDI result is 313 SAIDI minutes.

4. In addition to detailing PSE's preparedness prior to the two storm events and PSE's response and restoration efforts, this Petition demonstrates the impact of the two harsh storm events, how they compared to the two prior exceptions that have been excluded in the SQI SAIDI performance calculation as provided in the Service Quality Program Mechanics<sup>4</sup> and as approved by the Commission. Those two prior exceptions are:

- a. Replacement of 2006 annual total SAIDI of 2,636 SAIDI minutes 2006<sup>5</sup> in the benchmark calculation and the 2010 SQI SAIDI performance calculation; and
- b. Removal of 1,269 SAIDI minutes from 2012 annual total SAIDI<sup>6</sup> for the performance calculation for 2012 and years after.

---

<sup>3</sup> Penalty = ((SQI SAIDI - benchmark) / benchmark) \* 10 \* penalty per point  
\$432,422 = ((361 - 320) / 320) \* 10 \* \$337,500. PSE reserves the right to seek mitigation of penalties if the Commission denies this Petition.

<sup>4</sup> Updating Appendix 2 to Exhibit J in the Twelfth Supplemental Order in Dockets UE-011570 and UG- 011571 (consolidated) that reflected SQI reporting and mechanics changes approved in Orders 1 and 2 of Docket UE-031946; and in Orders 12, 14, 16-20 and 25 in Dockets UE-072300 and UG-072301 (consolidated). (January 8, 2015) (Appendix at 7:3a).

<sup>5</sup> *WUTC v. PSE*, Docket Nos. UE-072300 and UG-072301 (consolidated), Order 17, Granting PSE's Petition for Approval of Modifications to Its Service Quality Index Program, (November 29, 2010) (Order at 10:27).

<sup>6</sup> *Id.*, Order 20, Granting Puget Sound Energy, Inc.'s Petition for Exclusion of January 2012 Storm Event from SQI-3 Performance Calculation. (October 15, 2012) (Order at 4-5:12).

5. PSE is engaged in the business of providing electric and natural gas service within the State of Washington as a public service company, and is subject to the regulatory authority of the Commission as to its retail rates, service, facilities and practices. Its full name and mailing address are:

Puget Sound Energy  
Attn: Ken Johnson  
Director, State Regulatory Affairs  
P.O. Box 97034  
Bellevue, Washington 98009-9734

6. Rules and statutes that may be brought at issue in this Petition include RCW 80.01.040 and WAC 480-07-370(b).

## II. BACKGROUND

### A. Service Quality Dockets Prior to Current Effective SQI SAIDI Measurement

7. PSE first implemented its Service Quality Program (“SQ Program”) pursuant to a settlement stipulation in the dockets approving the merger between Washington Natural Gas Company and Puget Sound Power & Light Company per its 1995-1996 Merger Dockets<sup>7</sup> (1995-1996 Merger Stipulation). The stated purpose of the SQ Program was to “provide a specific mechanism to assure customers that they will not experience deterioration in quality of service”<sup>8</sup> and to “protect customers of PSE from poorly-targeted cost cutting”<sup>9</sup> as a result of the merger. The SQ Program was initially set to be effective for five years but was extended in PSE’s 2001 general rate case dockets (“GRC”)<sup>10</sup>, the 2007 GRC dockets<sup>11</sup>, and the Puget

---

<sup>7</sup> *In re Application of PSP&L and WNG for an Order Authorizing Merger*, Docket Nos UE-951270 and UE-960195.

<sup>8</sup> *Id.*, Fourteenth Supplemental Order Accepting Stipulation (Feb. 5, 1997) (Stipulation at 11:11-15).

<sup>9</sup> *Id.*, Fourteenth Supplemental Order at 32.

<sup>10</sup> *WUTC v. PSE*, Docket Nos UE-011570 and UG-011571 (consolidated), Twelfth Supplemental Order, Appendix A: Settlement Stipulation, Exhibit J.

<sup>11</sup> *WUTC v. PSE*, Dockets UE-072300 & UG-072301 (consolidated), Appendix D to Order 12: Partial Settlement Stipulation Re: Service Quality, Meter and Billing Performance, and Low-Income Bill Assistance (“Partial Settlement”).

Holdings/PSE Merger Docket No. U-072375<sup>12</sup>. The subsequent orders in the PSE's 2007 GRC dockets further modified the SQ program mechanics<sup>13</sup>.

### **B. 2010 SQI SAIDI Petition<sup>14</sup>**

8. In 2010, PSE proposed a change to the SQI No. 3 SAIDI benchmark and associated performance calculation that would be effective for four annual reporting periods, 2010 through 2013, but could be extended annually with the Commission's approval. With Commission Staff's support, the Commission approved the proposed temporary SQI No. 3 SAIDI mechanics<sup>15</sup>, which included an annual total SQI No. 3 SAIDI benchmark of 320 minutes and a corresponding annual performance calculation based on the five-year rolling average of annual all-inclusive SAIDI results.<sup>16</sup> There was no provision for excluding any outage events in this temporary SQI SAIDI mechanics except exclusions approved by the Commission.

9. The key consideration of the SQI No. 3 SAIDI mechanics change is PSE's implementation of a new Outage Management System ("OMS") and the availability of analysis-ready data from the new system. Following the temporary SQI SAIDI mechanics period, PSE would establish permanent SQI SAIDI mechanics based on the industry accepted benchmark similar to IEEE Standard 1366<sup>17</sup>.

---

<sup>12</sup>*In re Joint Application of Puget Holdings LLC and Puget Sound Energy, Inc., For an Order Authorizing Proposed Transaction*, Docket U-072375, Order 08 Approving and Adopting Settlement Stipulation; Authorizing Transaction Subject to Conditions, (Appendix A to Attachment A at 1).

<sup>13</sup> *WUTC v. PSE*, Dockets UE-072300 & UG-072301 (consolidated), Order Nos. 14, 16, 17, 18, 19, 20, and 25.

<sup>14</sup> *Id.*, Petition for Approval of Modifications to Service Quality Index Program (Oct. 21, 2010).

<sup>15</sup> *Id.*, Order 17, Granting PSE's Petition for Approval of Modifications to Its Service Quality Index Program, (November 29, 2010).

<sup>16</sup> The actual annual results used in the SQI No. 3 evaluation excluded 2006 annual results due to several storms, including the catastrophic impact of the 2006 Hanukkah Eve windstorm. The exclusion was petitioned by PSE and approved by the Commission in Order 17.

<sup>17</sup> See *WUTC v. PSE*, Docket Nos. UE-072300 and UG-072301 (consolidated), Order 17 at ¶ 18. The IEEE Standard 1366 refers to The Institute of Electrical and Electronics Engineers, Inc. (IEEE) Standard 1366-2012 - IEEE Guide for Electric Power Distribution Reliability Indices.

10. The temporary SQI No. 3 SAIDI mechanics have been extended twice, to the 2014 and 2015 reporting years, due to the implementation of the OMS and the deployment of PSE's Geospatial Information System ("GIS").

### **C. Permanent Modification of SQI SAIDI mechanics**

11. On November 30, 2015, PSE filed its proposed permanent modification of SQI SAIDI mechanics in its 2015 SQI SAIDI petition<sup>18</sup>. The proposal includes the following key changes to the SQI SAIDI mechanics:

- An annual SQI SAIDI performance determination that is consistent with the IEEE standards.
- A benchmark design that incorporates the IEEE standards and the effect of the new OMS.
- A catastrophic event definition and threshold calculation that ensure consistent and reasonable measurement of SQI SAIDI performance and benchmark going forward.

The 2015 SQI SAIDI petition is currently in the settlement phase of the adjudicated process that was initiated per Commission Order 26 on December 31, 2015.

### **III. STANDARD OF REVIEW**

12. The current Service Quality Program Mechanics allow exclusion for the calculation of overall SQI No. 3 SAIDI performance for a reporting year as follows:

- a. Performance Calculation<sup>19</sup>  
SQI SAIDI = Rolling five-year average of current year Annual Total SAIDI and prior four years Annual Total SAIDI results, excluding Annual Total SAIDI for 2006, the 1,269 SAIDI minutes from 2012 Annual Total SAIDI, and any subsequent exclusion approved by the

---

<sup>18</sup> *Id.*, Petition Seeking Modification of SQI SAIDI Benchmark and Performance Evaluation Mechanics (November 30, 2015).

<sup>19</sup> Updating Appendix 2 to Exhibit J in the Twelfth Supplemental Order in Dockets UE-011570 and UG-011571 (consolidated) that reflected SQI reporting and mechanics changes approved in Orders 1 and 2 of Docket UE-031946; and in Orders 12, 14, 16-20 and 25 in Dockets UE-072300 and UG-072301 (consolidated). (January 8, 2015) (Appendix at 7:3a).

Commission. Exclusions of an Annual Total SAIDI will be replaced by preceding Annual Total SAIDI performance results until there are five years included in the calculation of current year SQI SAIDI.

Annual Total SAIDI = (Total Customer Outage Minutes) / (Average Annual Electric Customer Count)

13. As indicated above, there are no specific criteria for determining when a storm event should be excluded from the SQI SAIDI performance calculation. However, the storm events PSE seeks to exclude in this Petition are similar to the storms events that the Commission has excluded in the past. The following table summarizes the storm events that the Commission previously excluded and their outage impact.

**Table 1: Summary of Commission Approved SQI SAIDI Exclusions**

Storm Event	Storm Event Duration	SQI SAIDI Performance Exclusion	Total Storm Event SAIDI Minutes
All 2006 events	All 2006 events, including 12/13/2006-12/28/2006	Replacement of 2006 annual total SAIDI of 2,636 SAIDI minutes with preceding Annual Total SAIDI performance in setting of SQI SAIDI benchmark and in calculation of SQI SAIDI performance results for 2010	2,636 for 1/1/2006-12/31/2006, including 2,055 for 12/13/2006-12/28/2006
January 2012	1/18/2012-1/28/2012	Exclusion of 1,269 SAIDI minutes from 2012 annual Total SAIDI and for the performance calculation for 2012 and years after	1,269

**IV. IMPACT OF THE TWO 2015 EXTRAORDINARY STORM EVENTS**

14. To demonstrate the severity of the August and November 2015 storm events, the table below lists the top 10 SQI Major Events<sup>20</sup> since 2006 for PSE. The top four most damaging storm events since 2006, in terms of both customer minutes of interruption (“CMI”) and customer interruption (“CI”), are the December 2006 event, the January 2012 event, the August

<sup>20</sup> Major Event is a predetermined SQ Program exclusion for the current performance calculation of SQI No. 4, SAIFI (System Average Interruption Frequency Index) and SQI No. 11, Electric Safety Response Time, and the performance calculation for reporting years 1997-2009 for SQI SAIDI. Major Event = Days when more than 5% of PSE’s customers are out and associated carry-forward days. Carry-forward days end when those customers have service restored.

2015 event and the November 2015 event. The “SQI SAIDI Exclusion” column indicates if the Major Event was excluded from the SQI SAIDI calculation per the Commission approval, i.e., all events in 2006 and the January 2012 Major Events.

**Table 2: Ranking of 2006-2015 SQI Major Events by Customer Minutes of interruption (CMI) and Customer Interruption (CI)**

Rank	SQI SAIDI Exclusion	SQI Major Events	Storm Name	CMI	CI	# of outages	% customers out during event
1	Yes	12/13/2006 - 12/28/2006	December 2006 Storm Event	2,124,494,710	711,895	2,990	68.2%
2	Yes	1/18/2012 - 1/28/2012	January 2012 Storm Event	1,385,545,922	763,690	2,459	69.9%
3	Requested	8/29/2015 - 9/4/2015	August 2015 Storm Event	268,810,338	407,392	1,887	36.6%
4	Requested	11/17/2015 - 11/21/2015	November 2015 Storm Event #1	229,200,885	381,182	1,198	34.1%
5	Yes	2/3/2006 - 2/8/2006	February 2006 Storm #1	185,311,175	264,898	1,148	25.8%
6		11/22/2010 - 11/27/2010	November 2010 Storm Event #2	178,562,327	201,602	676	18.6%
7	Yes	11/15/2006 - 11/19/2006	November 2006 Storm Event	119,347,305	185,634	1,003	17.8%
8		10/25/2014 - 10/29/2014	October 2014 Storm Event	113,345,514	177,612	835	16.1%
9		11/15/2010 - 11/18/2010	November 2010 Storm Event #1	111,894,849	203,275	735	18.7%
10		11/11/2014 - 11/15/2014	November 2014 Storm Event	109,325,558	231,791	715	15.4%

15. Another method to compare the severity of storms utilizes the IEEE 4.5 Beta Method<sup>21</sup>. While this methodology has not yet been adopted as a formal IEEE standard<sup>22</sup>, utilities have recognized that days that exceed 4.5 times (i.e., 4.5 Beta) the average daily SAIDI (i.e.,  $T_{MED}$ ) are catastrophic major event days<sup>23</sup>. In the past 10 years, PSE has had 12 days that exceed

<sup>21</sup> The 4.5 Beta Method has been studied by the IEEE Distribution Reliability Working Group as a potential methodology to set the definition and calculation for a catastrophic event to improve the consistency of IEEE SAIDI measurement. PSE proposed the IEEE 4.5 Beta method as its catastrophic event definition and threshold calculation in its November 30, 2015 petition that seeks permanent modification of SQI SAIDI mechanics.

<sup>22</sup> IEEE Standard 1366<sup>TM</sup>-2012, Section 5.3.(Standard at 19). <https://standards.ieee.org/findstds/standard/1366-2012.html>.

<sup>23</sup> McDaniel, J. “Uses of IEEE 1366 and Catastrophic Days.” IEEE presentation (April 2012).

the 4.5 Beta  $T_{MED}$ , which are presented in the table below. Again, the impact of the August and November 2015 storm events are consistent with events that the Commission has recognized as extraordinary events for the purpose of SQI SAIDI benchmark and performance calculation, i.e., all 2006 events and the January 2012 event.

**Table 3: Ranking of 2006-2015 Catastrophic Events Based on IEEE 4.5 Beta Method by Daily SAIDI**

Rank	SQI SAIDI Exclusion	Year	Catastrophic Days	Daily SAIDI	4.5 Beta $T_{MED}$
1	Yes	2006	12/14/2006	1,505.95	79.27
2	Yes	2012	1/19/2012	898.70	77.59
3	Yes	2006	12/15/2006	285.34	79.27
<b>4</b>	Requested	<b>2015</b>	<b>8/29/2015</b>	<b>217.96</b>	<b>96.58</b>
<b>5</b>	Requested	<b>2015</b>	<b>11/17/2015</b>	<b>187.12</b>	<b>96.58</b>
6	Yes	2006	2/4/2006	162.48	79.27
7	Yes	2012	1/18/2012	148.39	77.59
8		2010	11/22/2010	124.14	120.21
9	Yes	2006	11/15/2006	107.64	79.27
10	Yes	2012	1/20/2012	106.96	77.59
11	Yes	2006	12/16/2006	105.88	79.27
12		2014	10/25/2014	93.38	87.44

16. The two tables above rank outage events based upon the determination of SQI Major Event and the IEEE's 4.5 Beta Method. As shown above, the impact of the August and November 2015 storm events were similar to the storm events that the Commission has excluded from the SQI SAIDI performance calculation.

17. Exhibit A to this Petition includes the media coverage, the National Weather Service severe weather alerts and bulletins, and the other documents referenced in this Petition about the August and November 2015 storm events.



## **V. IMPROVEMENT IN EMERGENCY RESPONSE APPROACH**

18. Since the January 2012 storm, PSE has made significant improvement in its emergency response approach, and has modeled the incident command structure that many companies and public agencies use to help manage emergencies. Clear roles and responsibilities are consistent from location to location, from event to event, and PSE can quickly scale up or down as needed. Annually, PSE conducts training for all storm roles and practices using a mock storm event. As emergency events are anticipated, PSE forecasts likely scenarios based on best information available and prepares for what is likely to be needed, for logistics, equipment, people, and advanced communication. During the event, PSE's dedicated employees and contractors work around the clock in the field, on the phones, communicating with customers and our Emergency Coordination Center ("ECC").

19. In addition, PSE conducts a post-incident analysis after each storm and quickly identifies areas needing improvement. Further, PSE's OMS and online and mobile outage maps have helped PSE communicate with customers about outages, while also delivering more outage and restoration progress information to PSE. As a result, the impact of these two 2015 storms on SAIDI was further minimized by these improvements to emergency response. SAIDI likely would have been higher had the 2015 storms occurred before all of these process and system improvements were implemented.

20. As a reflection of PSE's improvements in emergency storm response, the table below summarizes the number of customers restored for the top two extraordinary events in the previous 10 years compared to the two storms for which PSE is requesting exclusions for SQI SAIDI performance calculation. The 2006 and 2012 extraordinary events had a much lower

restoration rate than the 2015 events which ultimately drove a higher SAIDI, CMI, and event duration for the 2006 and 2012 events.

**Table 4: Storm Restoration Impacts for selected 2006, 2012 and 2015 storms**

Event Date	Storm Name	Event Duration (Hours: Minutes)	% of Customers Restored		
			25% into Storm	50% into Storm	75% into Storm
12/13/2006 - 12/28/2006	December 2006 Storm Event	374:30	56%	84%	97%
1/18/2012 - 1/28/2012	January 2012 Storm Event	261:58	42%	82%	98%
8/29/2015 - 9/4/2015	August 2015 Storm Event	151:00	86%	95%	98%
11/17/2015 - 11/21/2015	November 2015 Storm Event #1	106:00	80%	97%	99%

21. The following sections provide details about the two unusual 2015 storm events and PSE’s preparedness and response to the two extraordinary storm events. Timelines for key activities occurring during the August and November events are provided in Exhibits B and C, respectively.

## VI. AUGUST STORM EVENT

22. The August 2015 storm event was the strongest summer storm in Northwest history<sup>24</sup> and was exacerbated by drier than normal weather in 2015. More than 400,000 of PSE’s electric customers were without power during the event. Other utilities in the region were also significantly impacted. Seattle City Light reported that the utility had not been hit with such a destructive storm since the 2006 Hanukkah Eve storm<sup>25</sup>. Throughout most of 2015, western Washington experienced abnormal to severe drought conditions due to record low snow pack

<sup>24</sup> Cliff Mass Weather Blog, “The Strongest Summer Storm In Northwest History”, (August 31, 2015). <http://cliffmass.blogspot.com/2015/08/the-strongest-summer-storm-in-northwest.html>.

<sup>25</sup> Seattle Times, “Crews Scramble as Thousands Still Dark from Storm”, (September 1, 2015). <http://www.seattletimes.com/seattle-news/weather/crews-working-to-restore-power-throughout-western-washington/>

and precipitation levels<sup>26</sup>. As a result of those adverse conditions, trees were stressed and dying in very dry soil conditions. Many trees are shallow rooted with the roots spreading wide rather than deep. When soil conditions are too dry to be a counterbalancing weight, strong winds can easily topple trees and quickly send branches sailing<sup>27</sup>, especially when branches have leaves. During the August storm, trees were very vulnerable to wind damage due to the combination of being fully leafed and stressed due to drought conditions<sup>28</sup>. With the wind gusts higher than the region had ever experienced in the summer, trees were uprooted and fell on power lines, causing widespread outages.

23. On Saturday, August 29, 2015 around 10 a.m., the wind started to impact the PSE system. Throughout the morning of Saturday, August 29, 2015, all PSE regional operating bases were opened and crews were mobilized to restore power. The regional storm bases were demobilized between August 30, 2015 and September 3, 2015 and more than 93% of customers affected had been restored by August 31, 2015. The customer minutes of interruption from the event were 268,810,338 minutes, adding 241 minutes to the 2015 annual SAIDI result and 48 minutes to the 2015 SQI SAIDI result. The restoration costs associated with the August storm event are detailed in the Exhibit D to this Petition.

#### **A. Preparation**

24. A National Weather Service forecast bulletin was issued on Friday, August 28, 2015 at 11:54 in the morning<sup>29</sup>. While the forecast indicated the potential for strong winds, the impact to the Puget Sound area was uncertain in the forecast. At the time of the initial weather

---

<sup>26</sup> Office of the Washington State Climatologist August Report, (September 4, 2015), *see* Exhibit A to this Petition.

<sup>27</sup> Seattle Times, "Crews Scramble as Thousands Still Dark from Storm", (September 1, 2015), <http://www.seattletimes.com/seattle-news/weather/crews-working-to-restore-power-throughout-western-washington/>

<sup>28</sup> National Weather Service, (August 28-29, 2015), *see* Exhibit A to this Petition.

<sup>29</sup> *Id.*

forecast, no wind advisory or high wind warning had been issued; the forecast called for sustained winds in the 20 to 35 mph range with possible gusts up to 40 to 50 mph. Given that forecast, PSE's Electric System Operations and Emergency Management departments were on alert for additional information. Based on the forecasts to that point, and given the circumstances of a dry summer and the possible effect of wind on trees that had not yet lost any leaves, Electric System Operations proactively scheduled an extra system operator for the upcoming Saturday day shift.

25. At 2:29 p.m. on Friday, August 28, a wind advisory was issued by the National Weather Service noting possible gusts up to 45 mph starting the following morning<sup>30</sup>. At 3:57 a.m. on Saturday, August 29, the advisory was upgraded to a high wind warning<sup>31</sup>. Both the advisory and warning indicated the wind impacts would affect north and central coast, northern and north interior and southwest Puget Sound. In reality, on Saturday around 10:00 a.m. the winds first impacted PSE's most southern service territory, Thurston County, and then proceeded to move north with gusts between 60 to 70 mph.

26. In preparation for the storm, PSE posted on its Facebook<sup>32</sup> page and Twitter<sup>33</sup> account that stormy weather was forecasted for PSE's service territory and encouraged followers to prepare for potential power outages by downloading the myPSE<sup>34</sup> app.

27. At the Customer Care Center ("CCC"), additional CCC employees were scheduled to work the overnight shift on August 28 and during the day on August 29 in

---

<sup>30</sup> *Id.*

<sup>31</sup> *Id.*

<sup>32</sup> Facebook: Facebook is a social networking website that allows registered users to create profiles, upload photos and video, send messages and post comments. <https://www.facebook.com/>

<sup>33</sup> Twitter: Twitter is an online social networking service that enables users to send and read short 140-character messages called "tweets". <https://twitter.com/?lang=en>

<sup>34</sup> myPSE: PSE's on-line application for power outage tracking and reporting for smartphone and other mobile devices. <https://pse.com/accountsandservices/contact-us/Pages/Get-the-myPSE-app.aspx>

anticipation of the storm. As the storm approached, PSE continued posting messages about the expected high winds and encouraged customers to use the outage map<sup>35</sup> on pse.com for information.

28. At the onset of the storm, PSE mobilized its full complement of first responders and crews and deployed additional personnel who were pre-assigned to emergency response roles. As the storm progressed, PSE mobilized additional contract electric line crews and tree crews to assist with the restoration.

## **B. Operational Response**

29. As previously noted, a high wind warning was issued at approximately 4 a.m. Saturday, August 29, for an effective period of 8 a.m. to 6 p.m. Over the course of the morning and afternoon of that Saturday, all regional operating bases and the ECC were mobilized.

30. By 6 p.m. on Saturday, August 29, damage assessment of transmission and distribution lines was occurring, including helicopter assessment of PSEs transmission line damage. Restoration of power had been underway for several hours.

31. By 10 p.m. on Saturday, August 29, approximately 60 percent of the affected customers had been restored, leaving about 160,000 customers without power.

32. By 6 a.m. on Sunday, August 30 – just 16 hours after the peak of the event – 75% of affected customers had been restored and approximately 100,000 customers remained without power. The restoration workforce, who had been working around the clock, had scaled to include 60 line crews and 17 tree crews in addition to PSE first responders, damage assessors, and logistics, communications, call center, and ECC personnel. Additional helicopter damage assessment patrols were also arranged.

---

<sup>35</sup> <https://www.pse.com/accountsandservices/ServiceAlert/Pages/outage-map.aspx>

33. By noon on Sunday, August 30 – approximately 21 hours after the outage peak – PSE continued to scale up its power restoration efforts and associated workforce – including scaling up to 78 electric line crews. Ninety-three percent of affected customers had been restored and approximately 27,000 customers were still without power.

34. Most regional storm bases demobilized between August 30 and September 1, with the one exception being the northern base, which closed on September 3 at 3:00 p.m. As other regional storm bases were demobilized, many of the available resources were reallocated to assist in the northern restoration effort.

35. All restoration activities were completed without injury to any PSE or contracted personnel.

### **C. Communication**

36. From August 28 through September 2, PSE posted 88 general messages on Facebook and 243 tweets on Twitter that provided information about overall storm restoration efforts. To address individual customer questions and concerns during that same timeframe, PSE social media crew members responded directly to 241 posts by customers on Facebook and replied to 360 mentions on Twitter.

37. Photographers were deployed to hard-hit areas of northern Kitsap County, Whidbey Island, and the cities of Bellingham, Olympia, Kirkland and Kenmore. Over the six days of the event, PSE posted 104 photos to its Flickr <sup>36</sup> page, which received 2,292,381 views. Local media outlets incorporated PSE's photos in their news coverage to help spread information about the extent of the damage and restoration efforts. PSE posted six videos to its YouTube

---

<sup>36</sup> Flickr is an online photo management and sharing application. <https://www.flickr.com/>  
PSE's Flickr account: <https://www.flickr.com/photos/pugetsoundenergy/>

channel<sup>37</sup> to show customers how this early season storm impacted PSE's electric system and the Company's response and restoration efforts. These videos were viewed 439 times.

38. PSE's media relations team sent emails with restoration information to local media outlets. Between August 28 and September 2, 2015, PSE's media relations team took approximately 44 media inquiries, which included a series of live and taped phone interviews for radio stations.

39. Over the duration of the storm, there were 19,752 downloads of the myPSE app totaling 58,163 customers using the app and 719,454 page views of the outage map on pse.com. Notifications were posted as an alert to customers on the home page and power outage section of pse.com. The updates included equipment damage reports; areas impacted by the storm; number of customers affected; and – when available – estimated restoration times.

40. PSE's Customer Care Center was fully staffed to answer calls about the power outages. On August 29, CCC received more than 25,000 calls from 1-888-CALL-PSE. This is four times the volume of calls that PSE received on August 28. About 15,000 of the 25,000 calls received were outages calls.

41. After the storm event, PSE received from customers 27 quality of service complaints related to the August 2015 storm. Additionally, PSE received four UTC quality of service complaints related to the August 2015 storm. The UTC closed all of the quality of service complaints related to the August 2015 storm and found PSE's restoration response and resolution of complaints satisfactory.

---

<sup>37</sup> YouTube is a video-sharing website. [https://www.youtube.com/PSE's YouTube Channel:](https://www.youtube.com/PSE's%20YouTube%20Channel)  
<https://www.youtube.com/user/PugetSoundEnergy>://[www.flickr.com/photos/pugetsoundenergy/](https://www.flickr.com/photos/pugetsoundenergy/)

## VII. NOVEMBER STORM EVENT

42. On November 15, the National Weather Service led a conference call indicating potential weather impacts could be significant. By 4:30 p.m. on November 15, the agency issued an email alerting of heavy mountain snow and strong winds on Monday, November 16 and damaging winds, 4-7 inches of intense rainfall, and threat of landslides for Tuesday, November 17<sup>38</sup>.

43. On Tuesday November 17, 2015 at approximately 10 a.m., another intense storm struck PSE service territory, just as precipitation levels were returning to normal<sup>39</sup>. The region had seen a record amount of rain on the weekend preceding the storm and on the day the storm hit<sup>40</sup>. When wind gusts approaching 70 mph battered the region, the saturated soil could not support the shallow root system of many trees, causing them to topple into power lines and trigger widespread outages<sup>41</sup>. A high number of trees remained stressed from the drought over the summer and were not strong enough to withstand the high winds. Throughout Tuesday, November 17, all regional storm bases were mobilized to restore power. The regional storm bases were demobilized between November 19, 2015 and November 20, 2015 and more than 95% of customers had been restored by November 19, 2015.

44. Overall, during the course of the November 2015 storm event, about a third of PSE's electric customers were without power during the event. The cumulative number of customer minutes of interruption from the event was 229,200,885 minutes which added 206 SAIDI minutes to the 2015 actual annual SAIDI result and contributed 41 SAIDI minutes to PSE's overall 2015 SQI SAIDI performance. Throughout Washington State, more than 522,000

---

<sup>38</sup> National Weather Service Report, (November 15, 2015), *see* Exhibit A to this Petition.

<sup>39</sup> Office of the Washington State Climatologist November Report, (December 4, 2015), *see* Exhibit A to this Petition.

<sup>40</sup> *Id.*

<sup>41</sup> National Weather Service Report, (November 15, 2015), *see* Exhibit A to this Petition.



utility customers lost power during the course of the November storm event<sup>42</sup>. PSE's restoration costs associated with the November storm event are detailed in the Exhibit E to this Petition.

#### **A. Preparation**

45. On the afternoon of Sunday, November 15, the National Weather Service issued a winter storm warning for Monday, November 16 and a high wind watch for Tuesday, November 17 noting possible damaging 30-45 mph winds on Tuesday with gusts 65-75 mph possible. The wind watch indicated the wind impacts would affect the western Washington lowlands. In anticipation of the storm, PSE held an operations preparation conference call with PSE's key electric operations personnel and a team from PSE's primary electric service provider, Potelco. PSE's regional operating bases notified local personnel to be on alert for possible storm duty mobilization. An additional System Operations operator was scheduled for that Monday night shift and for day and night shifts on Tuesday, November 17 in preparation to respond to the severe storm forecast. PSE also staged crews at its Kent and Skagit operating bases.

46. At the Customer Care Center, additional representatives were also scheduled to work the overnight shift on Tuesday, November 17 and day shifts on Wednesday, November 18 in anticipation of the powerful November storm. PSE posted alerts on the PSE Facebook page and Twitter account that the weather condition was being closely monitored and crews were standing by to restore power if the wind and rain caused any problems to PSE's electric system. As the storm approached, PSE posted information about its myPSE app and asked customers to download the app before the severe weather moved in.

---

<sup>42</sup> Letter from Washington Governor Jay Inslee to President Obama under the provisions of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, (January 8, 2016), (Letter at 4), *see* Exhibit A to this Petition. <http://www.governor.wa.gov/sites/default/files/documents/letters/PresidentialDisasterRequestNov2015WinterStorm.pdf>

## **B. Operational Response**

47. Winds started to affect PSE's service territory resulting in many outages around 10:00 a.m. on Tuesday, November 17. Outages occurred throughout the day and through much of Washington with many utilities in the state affected. PSE was able to maximize preparations due to early information available from the National Weather Service. At the onset of the storm, PSE mobilized its full complement of first responders and crews and deployed additional personnel who were pre-assigned to emergency response roles. As the storm progressed, PSE mobilized additional contract electric line crews and tree crews to assist with the restoration. Over the course of Tuesday, November 17, all regional operating bases and the ECC were mobilized.

48. More than 380,000 PSE electric customers lost power during the November storm. At the peak, around 5:30 p.m. on November 17, approximately, 220,000 PSE electric customers were without power. In addition to the distribution system outages, PSE saw an unusually large number of transmission line outages during this November storm event, which resulted in 32 substations being offline and accounted for a large number of PSE customers without power. There were more than 75 transmission line segments that were de-energized during the November storm event, requiring an enormous effort to prioritize, patrol and restore. PSE coordinated with the Washington Department of Transportation ("WSDOT") to remove debris on many roadways to allow access to repair the damaged areas.

49. By 10:00 p.m. on Tuesday, November 17—just 12 hours after the onset of the storm—approximately 58% of affected customers had been restored and customers without electric service had been reduced to 160,000. A separate PSE team was set up to manage transmission outages and coordinate damage assessment and system repairs, allowing the

regional operating bases to focus on distribution system restoration. The transmission team was able to centrally prioritize the work and coordinate closely with PSE's electric load office for repairs. At this time there were already 62 electric line crews and 32 tree crews working on restoration of PSE's electric transmission and distribution systems.

50. By early Wednesday morning, around 4 a.m., November 18, just 18 hours after the start of the event, 24 of the 32 substations had been re-energized. However, there were still 25 transmission line segments requiring repairs. Approximately 73% of affected customers had been restored and about 100,000 PSE customers remained without power. The restoration workforce, who had been working around the clock, had scaled to include 72 line crews and 32 tree crews in addition to PSE first responders, damage assessors, and logistics, communications, call center, and ECC personnel. Helicopter patrols occurred starting at 8:30 a.m. to ensure all the transmission line damage had been identified. In coordination with the regional operating bases, the ECC had identified the hardest hit areas – north King County and Whidbey Island – and allocated resources accordingly.

51. By 7 p.m. on Wednesday evening, there was more significant progress in restoration activities: the number of PSE customers without power had dropped to approximately 30,000 from the peak of 220,000 on Tuesday, November 17 at 5:30 p.m., roughly 29 hours earlier. Ninety-two percent of customers affected had been restored.

52. By early Thursday morning, around 2:30 a.m., there were approximately 16,000 customers still without electric service, and PSE had 77 electric line crews and 30 tree crews working on the restoration of the severely damaged electric system. Ninety-five percent of customers affected had been restored.

53. By Friday morning, November 20, PSE regional operating bases were beginning demobilization. Crews were released throughout the day as restoration work was completed or sent to the remaining open bases to support restoration. All regional operating bases were demobilized except for Kitsap County and the bases in the northern territory—Skagit, Whatcom, and Island Counties. Kitsap base closed later that morning. The bases in PSE’s northern territory remained open until 7 p.m. on November 20 as extensive repairs continued on the southern end of Whidbey Island. As PSE closed out its emergency response after 4 days, restoring power to just over 380,000 customers, it released crews to peer utilities that were still in the throes of restoration.

54. All restoration activities were completed without injury to PSE or contract personnel.

**C. Communication**

55. From November 16 through November 21, PSE posted 71 general messages on Facebook and 180 tweets on Twitter. To address individual customer questions and concerns during that same timeframe, PSE’s social media crew members responded directly to 166 messages by customers on Facebook and replied to 615 mentions on Twitter.

56. PSE’s photographers were deployed to hard hit parts of PSE service territory. Over these six days of the November storm event, PSE posted 211 photos to its Flickr page which received 122,000 views. Local media outlets included PSE’s photos with their news stories. PSE posted two videos to its YouTube channel to help explain the Company’s response and restoration efforts. These videos were viewed 347 times.

57. PSE's media relations team sent emails with restoration information to local media outlets. Between November 16 and November 21, PSE's media relations team fielded 52 media inquiries, which included a series of live and taped phone interviews for broadcast media.

58. The Customer Care Center received more than 36,000 calls from 1-888-CALL-PSE over the two-day period of November 17 and November 18. Nearly 15,000 of these calls were outage calls. By comparison, there were fewer than 7,000 calls on November 19.

59. Over the duration of the November storm event, there were 827,022 page views of the outage map on pse.com, and 13,094 downloads of myPSE, which increased the total number of the users of the application to 85,630.

60. PSE received 62 complaints related to the November 2015 storm through PSE's Customer Care Center. PSE provided a response to each of the 62 customers. No quality of service complaints about PSE electric service were reported to the UTC for the November storm event.

## **VIII. REQUEST FOR EXCLUSION OF THE EXTRAORDINARY EVENTS FROM SQI SAIDI PERFORMANCE CALCULATION**

61. Due to the circumstances caused by these two unusual and exceptional weather conditions described in the sections above, PSE requests the exclusion of the August and November storm events from the SQI No. 3 SAIDI Performance Calculation for 2015. PSE's storm preparedness and restoration response was appropriate for these events. Therefore, the 447 SAIDI minutes associated with the two storm events should be excluded.

## **IX. REQUESTED ACTION**

62. For the reasons set forth above, PSE respectfully requests that the Commission issue an order that approves the exclusion of 447 SAIDI minutes associated with the 2015 August and November storm events from the performance calculation for the 2015 SQI reporting

year and applicable years following. If the Commission does not exclude these events, PSE respectfully requests permission to file a petition for mitigation of any penalties associated with these storms.

DATED: March 29, 2016

PUGET SOUND ENERGY

By  \_\_\_\_\_  
Ken Johnson,  
Director, State Regulatory Affairs

VERIFICATION

STATE OF WASHINGTON )  
 )  
County of King )

Laura Feinstein, being first duly sworn on oath, deposes and says: That she is Manager, Smart Grid Technology Planning and Analysis, for PSE and makes this verification for and on behalf of said corporation, being thereto duly authorized;

That she has read the foregoing Petition, knows the contents thereof, and believes the same to be true.

Laura Feinstein

SIGNED AND SWORN to before me on this 29th day of March 2016

Cynthia Main

NOTARY PUBLIC in and for the State of Washington, residing at Kingland

Commission Expires: 9-29-2019



*Puget Sound Energy*

PETITION FOR EXCLUSION OF EXTRAORDINARY EVENTS FROM SQI SAIDI  
PERFORMANCE CALCULATION

**Exhibit A: Media Coverage, NWS weather alerts and bulletins, and other Referencing  
Documents**



*Puget Sound Energy*

PETITION FOR EXCLUSION OF EXTRAORDINARY EVENTS FROM SQI SAIDI  
PERFORMANCE CALCULATION

**Exhibit B: August 2015 Storm Event Timeline**

<b>Date</b>	<b>Time</b>	<b>Activity</b>
Friday 28-Aug	10:09	PSE posted on Facebook and Twitter regarding a forecast of stormy weather
	11:54	NOAA sends a forecast bulletin indicating potential for gusts up to 40-50 mph
	12:57	Notifications and staffing plans initiated in anticipation of storm duty
	14:30	NOAA publishes a wind advisory for the service territory for gusts up to 45 mph starting Saturday morning
	15:57	NOAA upgrades advisory to a high wind warning effective Saturday 08:00-18:00
Saturday 29-Aug	8:00	Winds began hitting service territory and causing outages
	10:00	PSE contacts additional contract line crews to determine availability Thurston storm base activated
	11:00	Northern (Whatcom, Skagit, and Island) storm base activated Pierce storm base activated Emergency response roles in operations, logistics, communications, call center, and the ECC activated
	12:00	100,000 customer affected
	13:00	North King storm base activated South King storm base activated Western (Kitsap) storm base activated
	14:30	Customers affected peaks at approximately 250,000
	15:30	All available first responders, 35 line and 17 tree crews working in the field restoring power; 20 third party contract line crews in route
	17:30	Helicopter patrols begin
	17:45	224,000 customers affected, 26,000 customers restored from peak
	22:00	161,000 customers affected, 89,000 customers restored from peak
	Sunday 30-Aug	6:00
9:00		83,000 customers affected, 167,000 customers restored from peak
10:00		All available first responders, 60 line crews, 21 tree crews working in the field. Emergency response roles in operations, logistics, communications, call center, and the ECC working around the clock. Regional ETR's published (approximately 21 hours after outage peak)
19:00		South King storm base de-activated

Table continues on next page

*Puget Sound Energy*

PETITION FOR EXCLUSION OF EXTRAORDINARY EVENTS FROM SQI SAIDI  
PERFORMANCE CALCULATION

**Exhibit B: August 2015 Storm Event Timeline**

<b>Date</b>	<b>Time</b>	<b>Activity</b>
Monday 31-Aug	1:00	Thurston storm base de-activated
	11:30	27,000 customers affected, 223,000 customers restored since peak
	12:00	78 line crews working, 19 tree crews working
	16:30	Pierce storm base de-activated
Tuesday 1-Sept	1:30	North King storm base de-activated
	19:00	Western (Kitsap) storm base de-activated
Wednesday 2-Sept	7:00	ECC de-activated
Thursday 3-Sept	15:00	Northern (Whatcom, Skagit, and Island) storm base de-activated

*Puget Sound Energy*

PETITION FOR EXCLUSION OF EXTRAORDINARY EVENTS FROM SQI SAIDI  
PERFORMANCE CALCULATION

**Exhibit C: November 2015 Storm Event Timeline**

<b>Date</b>	<b>Time</b>	<b>Activity</b>
Sunday 15-Nov	16:01	NOAA reports potential winds with gusts up to 55mph in the North on Monday and 65-75 mph in the rest of the region Tuesday
Monday 16-Nov	10:30	Notifications and staffing plans initiated in anticipation of storm duty
	17:30	Alerts posted on PSE Facebook and Twitter regarding weather conditions and company preparations
	19:50	19 third party line crews secured and scheduled to arrive at 06:00 in Renton and Burlington
Tuesday 17-Nov	6:00	12 third party line crews mobilized and staged in Renton 7 third party line crews mobilized and staged in Burlington
	10:00	Winds began hitting service territory and causing outages: 48 outages affecting 7,876 customers North King storm base activated Western (Kitsap) storm base activated Emergency response roles in operations, logistics, communications, call center, and the ECC activated
	12:00	ECC activated
	14:30	Pierce and Thurston storm base activated
	15:00	South King storm base activated
	15:30	Approximately 150,000 customers affected 55 line crews working; 40 tree crews working
	16:00	Northern (Whatcom, Skagit, and Island) storm base activated
	17:30	Customers affected peak at approximately 220,000
	21:30	160,000 customers affected, 60,000 customers restored from peak PSE team set up to manage transmission outages separately 62 line crews working; 32 tree crews working
Wednesday 18-Nov	4:00	100,000 customers affected, 120,000 customers restored from peak 72 line crews working; 32 tree crews working
	8:30	Helicopter patrols of transmission lines begin
	19:00	30,000 customers affected, 190,000 customers restored from peak (25.5 hours after peak) Regional restoration times published
Thursday 19-Nov	0:00	South King storm base de-activated
	2:30	16,000 customers affected, 204,000 customers restored from peak All available first responders, 77 line crews, 30 tree crews working in the field. Emergency response roles in operations, logistics, communications, call center, and the ECC working around the clock.
	14:00	Pierce storm base de-activated
	18:00	Thurston storm base de-activated
	22:30	North King storm base de-activated
Friday 20-Nov	10:30	Western (Kitsap) storm base de-activated
	11:00	ECC de-activated
	19:00	Northern (Whatcom, Skagit, and Island) storm base de-activated

*Puget Sound Energy*

PETITION FOR EXCLUSION OF EXTRAORDINARY EVENTS FROM SQI SAIDI  
PERFORMANCE CALCULATION

**Exhibit D: PSE's August 2015 Storm Event Report**

*Puget Sound Energy*

PETITION FOR EXCLUSION OF EXTRAORDINARY EVENTS FROM SQI SAIDI  
PERFORMANCE CALCULATION

**Exhibit E: PSE's November 2015 Storm Event Report**