EXH. PRM-1T
DOCKET UE-220216
PSE'S PENALTY MITIGATION
WITNESS: PATRICK R. MURPHY

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

In the Matter of the Petition of **PUGET SOUND ENERGY** **For Penalty Mitigation Associated with Service Quality Index No. 11-Electric Safety Response Time Annual Performance for Period Ending December 31, 2021**	**Docket UE-220216**

PREFILED DIRECT TESTIMONY (NONCONFIDENTIAL) OF

PATRICK R. MURPHY

ON BEHALF OF PUGET SOUND ENERGY

AUGUST 19, 2022

PUGET SOUND ENERGY

PREFILED DIRECT TESTIMONY (NONCONFIDENTIAL) OF PATRICK R. MURPHY

CONTENTS

PUGET SOUND ENERGY

PREFILED DIRECT TESTIMONY (NONCONFIDENTIAL) OF PATRICK R. MURPHY

LIST OF EXHIBITS

PUGET SOUND ENERGY

PREFILED DIRECT TESTIMONY (NONCONFIDENTIAL) OF PATRICK R. MURPHY

Q. Please state your name and business address.

A. My name is Patrick R. ("Ryan") Murphy. My business address is 355 110th Ave. NE, Bellevue, Washington, 98004.

Q. By whom are you employed and in what capacity?

A. I am employed by Puget Sound Energy ("PSE" or "the Company") as Director, Electric Operations.

Q. What are your duties as Director, Electric Operations for PSE?

A. As Director of Electric Operations for PSE, I am responsible for real-time electric operations and field response activities across PSE's entire service territory, including: Meter Operations, Substation & Relay Operations, Distribution System Operations and Electric First Response. I lead teams in support of first response and safe restoration of emergency incidents, and I am responsible for the execution of planned and unplanned projects in support of reliability, resiliency, and PSE's clean energy initiatives.

Q. Have you prepared an exhibit describing your professional qualifications?

A. Yes. My professional qualifications are provided as Exh. PRM-2.

Q. What is the purpose of your prefiled direct testimony?

A. My testimony discusses PSE's Service Quality Index ("SQI") No. 11-Electric Safety Response Time ("SQI-11"), PSE's performance during the 2021 SQI program year, and the circumstances that led to PSE missing the SQI-11 annual performance benchmark for the first time since its inception in 2003. I further describe new electric operations measures that PSE is exploring to mitigate these events should they occur in the future.

I. BACKGROUND

Q. Briefly describe PSE's Service Quality Index No. 11.

A. PSE first implemented its Service Quality Index Program ("SQI Program") in 1997 pursuant to Dockets UE-951270 and UE-960195, the dockets approving the merger of Washington Natural Gas Company and Puget Sound Power & Light Company ("Merger"). The purpose of the SQI Program is to "provide a specific mechanism to assure customers that they will not experience deterioration in quality of service"[1] and to "protect customers of PSE from poorly-targeted cost

[1] *See* Appendix A to the Fourteenth Supplemental Order Accepting Stipulation; Approving Merger at page 11 in Dockets UE-951270 and UE-960195 (Feb. 5, 1997).

cutting"[2] as a result of that Merger. A copy of the Merger order and related stipulation are provided as Exh. PRM-3.

PSE's SQI Program has evolved over the years, and it currently includes electric and natural gas Customer Service Guarantees, two electric Restoration Service Guarantees, and a set of nine Service Quality Indices that require PSE to meet benchmarks in customer satisfaction, customer services, and operations services. The performance benchmark at issue in this proceeding, SQI-11, measures the average number of minutes from a customer call to the arrival of an electric first responder. This benchmark was proposed by the parties of PSE's 2001 general rate case in a multi-party settlement stipulation following a series of SQI collaborative meetings. The Commission approved the addition of SQI-11 in its Twelfth Supplemental Order in that general rate case.[3] A copy of the Service Quality Program Mechanics as approved in PSE's 2001 general rate case is provided as Exh. PRM-4.

The Commission approved the current SQI-11 mechanics in Order 01 of Docket UE-031946.[4] In that docket, PSE submitted a proposed amendment to SQI-11

[2] *See* Fourteenth Supplemental Order Accepting Stipulation; Approving Merger at p. 32 in Dockets UE-951270 and UE-960195 (Feb. 5, 1997). The Merger order and Stipulation are also provided as Exh. PRM-3.
[3] *See* Dockets UE-011570 and UG-011571 (consolidated), Twelfth Supplemental Order; Rejecting Tariff Filing; Approving and Adopting Settlement Stipulation Subject to Modifications, Clarifications, and Conditions; Authorizing and Requiring Compliance Filing, and Notice of Intent to Supplement Service of the Commission's Twelfth Supplemental Order. https://apiproxy.utc.wa.gov/cases/GetDocument?docID=1160&year=2001&docketNumber=011570
[4] *See* Docket UE-031946 Order 01 - Order Granting Application; Approving Agreement Regarding SQI-11 Amendment with Modifications. https://apiproxy.utc.wa.gov/cases/GetDocument?docID=40&year=2003&docketNumber=031946

after realizing that the reporting and tracking requirements for SQI-11 for a localized emergency event, in which less than five percent of all PSE's electric customers are out of electric service, would have the same impact on PSE's ability to track and report response times as is experienced by PSE in the course of a major event in which five percent or more customers lose electric service. Subsequently, PSE and the other executing parties to the Settlement Stipulation agreed to amend SQI-11, and the Commission approved the amendment. A copy of the order approving the amendment is provided as Exh. PRM-5. In 2010 the Commission approved a small housekeeping change to the first condition of days that are subject to the suspension of SQI-11 from a predefined term of "Major Event" day to the generic definition of the "5% or more of electric customers are experiencing an electric outage."[5]

Q. How does PSE measure its SQI-11 performance??

A. Annual performance is calculated as the average number of minutes from customer call to arrival of electric first responder. In other words:

Annual electric safety response time =

Sum of all electric safety response times / Annual number of electric safety incidents

[5] *See WUTC v. PSE,* Dockets UE-072300 and UG-072301*(consolidated)*, Order 17 Granting PSE's Petition for Approval of Modification to its service Quality Index Program at ¶ 10 (Nov. 29, 2010).

PSE's goal is to respond to electric safety incidents within 55 minutes of a customer call. In the event PSE's annual SQI-11 response time exceeds 55 minutes, PSE is subject to a potential penalty.

Today PSE applies the same SQI-11 mechanic adopted in Order 01 and as subsequently revised in 2010, as described above.

Q. Are the performance measurements ever suspended?

A. Yes, they are. When a performance measurement is suspended, this means the data related to the suspended event is excluded from the SQI-11 reporting requirements. The SQI-11 performance measurement is suspended on: 1) days that five percent or more of electric customers are experiencing an electric outage and subsequent days when the service to those customers is being restored (i.e., "Major Event Day"); and 2) days that the Company determines to be "Localized Emergency Event Day" as defined by the dispatch and utilization of all available electric first responders in the affected Local Area to respond to service outages. Local Areas are defined as one of five electric first-responder operating bases throughout the PSE service territory. The Local Areas are defined in Table 1, as follows:

Table 1: Local Areas

Local Area	County(s)
North	Skagit, Whatcom, Island
West	Kitsap
South	Thurston, Pierce
North Central	King – North of Cedar River
South Central	King – South of Cedar River

Q. Did PSE report any suspension days in 2021?

A. Yes, it did. PSE reported a total of 55 suspension days out of 365 days in 2021 due to the unusual and exceptional circumstances it experienced throughout year 2021, as described in more detail below.

Q. Are there penalties for failing to meet the annual performance standard?

A. Yes. In the event PSE's annual SQI-11 performance is more than 55 minutes, the potential penalty would be calculated as follows:

*Potential Penalty = ((Average Response Time – benchmark) / benchmark) * 10 * penalty per point*

Benchmark = 55 minutes from customer call to arrival of field technician

Penalty per point = $337,500
Maximum penalty is $1,500,000

Any penalty imposed is credited to electric customers. Based on the above-referenced formula, PSE faces a potential penalty of $613,636 due to missing its

2021 SQI-11 benchmark. For the reasons set forth below, PSE requests that the Commission waive the potential penalty for 2021.

II. PSE'S ELECTRIC RESPONSE PROCESS AND 2021 PERFORMANCE CHALLENGES

Q. Briefly describe PSE's Electric First Response workforce.

A. PSE's Electric First Response organization is a team of trained and qualified high voltage electric line workers located in each region of PSE's service territory, and they are responsible for the safe and reliable operation of PSE's transmission and distribution electrical infrastructure. The Electric First Response team provides first response support around the clock for all emergency incidents involving PSE's transmission and distribution electrical infrastructure, as well as the essential support of planned customer work that requires a qualified electrical line worker.

Q. What other electrical emergency events do the electric first responder workforce support?

A. The Electric First Response employees are responsible for all Major Events and significant outage events, as well as the "blue sky" electric outage events (events not caused by weather). Electric First Response employees respond to all reported power outages, 911 calls reported to involve PSE infrastructure, as well as non-outage emergency calls.

Q. What electric emergency incidents are measured in SQI-11?

A. SQI-11 measures PSE's average response time to all customer calls related to electric emergency and safety incidents with exception of the incidents that occurred on a Major Event Day or a Localized Emergency Event Day, when SQI-11 performance measurement is suspended, as described earlier.

Q. Briefly describe PSE's electric first responder response time and process.

A. Electric emergency response time is comprised of two components: dispatch time and on-site time. The time to dispatch an emergency is based on the required time to identify and secure a qualified electrical employee. On-site times are a measure of the drive time needed to get a qualified resource to the location of the electric emergency. The primary factors that affect this measure are starting location of the first responder, traffic levels, and traffic profiles. Electric First Response drive times are also affected by the weather itself, including flooding, snow, fallen trees, which can reduce access or require rerouting to sites.

Safety is a core value and top priority for PSE's employees and its communities. Safety must never be compromised, even as fatigue begins to affect Electric First Response employees in a given region. Therefore, longer response times may result as resources for emergency response are secured from adjacent regions.

Q. What was PSE's average annual response time for SQI-11 emergency events in 2021?

A. PSE's average annual response time for SQI-11 emergency incidents was 65 minutes in 2021.

Q. What was PSE's average annual response time for SQI-11 emergency events prior to 2021?

A. As shown in Table 2 below, prior to 2021**,** PSE's average annual response time remained under or at the 55 minutes benchmark every year since the metric was established in 2003.

Table 2: SQI-11 Annual Performance

SQI Year	SQI-11	SQI Year	SQI-11
2003	44	2012	51
2004	51	2013	53
2005	49	2014	53
2006	49	2015	54
2007	52	2016	55
2008	55	2017	55
2009	51	2018	52
2010	52	2019	54
2011	51	2020	51
		2021	65

A. 2021 Unusual and Exceptional Weather

Q. Please describe the circumstances that led to PSE missing the SQI-11 benchmark in 2021.

A. There were several unusual and unexpected events, including significant outage events, that affected PSE's ability to meet the 2021 SQI-11 benchmark. Washington State experienced many unusual weather events in 2021, including record- breaking heat in summer and a streak of record-breaking snowfall near the end of the year. In its December 31, 2021, article, *"From record high temperatures to bittercold days, Western Washington's year of extreme weather,"* the Seattle Times identified the following five significant weather events in 2021:

- Significant wind and rainstorm in January
- Heavy snow in February
- Record-breaking June heat
- Wettest fall on record
- November-December atmospheric rivers

A copy of this article is provided as Exh. PRM-6, and the following weather events are described therein:

After days of rains at the beginning of January 2021, starting from January 12, 2021, strong winds with gusts from around 50 mph in the lowlands and around 80 mph in the mountains visited the state. These winds toppled trees and resulted in almost 50 percent of PSE customers being without electric service.

On February 13, 2021, 8.9 inches of snow was recorded at the Sea-Tac airport, which marked the snowiest single day recorded in the month of February at the airport.

The heat wave during the period of June 24 through June 28 set many records for the Seattle area, including three straight days at 100 degrees or hotter. In addition, on June 28, 2021, Seattle reached an all-time hottest temperature on record of 108 degrees.

In the fall, a series of wet storms brought heavy rain and strong winds to the region, and Governor Jay Inslee declared a severe weather emergency because of landslides and severe flooding. The National Weather Service announced that the 19.04 inches of rain that fell in Seattle between September 1 and November 30, 2021 broke a record set in 2006. Bellingham also broke its wettest fall record, set in 1990, with 23.55 inches of rain for the same period. Two weeks of rain, beginning on November 18, brought heavy rainfall that caused near-record flooding at the Skagit and Nooksack rivers in PSE's service territory of Whatcom County. The flooding also blocked portions of Interstate 5 south of Bellingham and many roads on the Olympic Peninsula.

The year ended with a cold snap. On December 26, 2021, the 20-degree low temperature at the Sea-Tac Airport broke the lowest temperature record of 22 degrees for that date in 1948. December 27 represented another day of record-breaking lows for the date. The three-day period of December 26 through

December 28, 2021, is the longest stretch of subfreezing weather recorded since 1998.

Q. How did these unusual weather events affect PSE's operations?

A. These unusual weather events resulted in significant outage events that had a considerable impact on PSE resources and customers, even though they were excluded from PSE's SQI-11 performance calculation because they were Major Events.

Q. Why do these weather events affect the SQI-11 metric if they are excluded from the performance measure as Major Events?

A. The same Electrical First Response employees respond both to the Major Events and significant outage events, as well as the "blue sky" electric outage events, which *are* measured in SQI-11. The magnitude of these significant outage events, both in terms of scope and number, reduces the availability of the responders and increases the fatigue of the workforce day-in and day-out. As illustrated in Figure 4 later in this testimony, the accumulating fatigue to the Electric First Response workforce had a clear and significant impact on the 2021 SQI-11 response time.

Overall, 55 days out of the 365 days in 2021 were excluded from this SQI-11 performance measure, and the PSE Electric First Response workforce had been fully deployed during these 55 suspension days. That means there were 16 more

days with severe weather outage events than the annual average of 39 suspension days for the period of 2016 through 2020, over a 40 percent increase.

Table 3 below summarizes, by month and by weather cause, the significant outage events and the affected number of customers that PSE's electric first responders answered in 2021, including outages caused by the five extraordinary weather events listed above ("Significant Outage Events"). Table 3 is based upon the supplemental reporting for SQI-11, Attachment A of Appendix A to the 2021 annual SQI report, in which PSE is required to account for electric first responders and the status of crews' deployment during any Significant Outage Events by days. PSE's 2021 annual SQI report for 2021 is provided as Exh. PRM-7.

Table 3: SQI-11 Suspension Days - Significant Outage Events

Month	Type of Weather Event	No. of Event Days	No. of SQI #11 Significant Outage Events	No. of Customers Affected
Jan	Wind	4	163	31,479
	Wind/Rain	6	1,952	447,144
Feb	Heavy Snow	2	263	39,622
	Wind/Snow	4	128	19,240
Mar	Wind/Snow	1	82	10,020
May	Wind	2	102	18,884
Jun	Extreme Heat	4	531	78,063
	Wind	1	14	4,990
Aug	Wind	2	29	5,281
Sep	Wind	2	30	2,922
	Wind/Rain	3	652	166,773
Oct	Wind/Rain	5	921	260,856
Nov	Wind/Rain	11	320	301,048
Dec	Snow/Ice	5	312	51,129
	Wind	3	236	54,268
Total		55	5,735	1,491,719

B. Continuing Challenges Related to COVID-19

Q. Can you describe any other exceptional circumstances that occurred in 2021?

A. Yes. In addition to the unusual weather in 2021, PSE encountered evolving challenges related to the ongoing COVID-19 pandemic that affected PSE's employees and PSE's ability to respond to customer calls. PSE's workforce spent an increased amount of time away from work due to illness, COVID-19 exposures, the implementation of new COVID-19 prevention policies, and new field safety procedures and protocols. PSE's Electric First Response employees billed 796 hours in 2021 to the COVID-19 work order, which indicates the number of hours where an employee missed their regular shift due to COVID-related impacts. See Exh. PRM-8. PSE also experienced difficulties in attracting and retaining a sufficiently large workforce.

Q. Please describe PSE's challenges related to hiring and retention?

A. PSE has operated in this COVID-19 pandemic environment since early-2020, and the length of time operating in this challenging environment compounds the effect on personnel as time goes by. The evolving COVID-19 pandemic and government policies in 2021, including the surge of the Omicron variant, federal and state mandates, and changing vaccine requirements, add more layers of emotional and mental strain to the Electric First Response workforce, which is customer-facing on a day-to-day basis. PSE's safety and business continuity practice have helped keep this important workforce extraordinarily healthy, but over the course of

2021, PSE experienced many absences from the electric first responders due to illness, exposures, and caring for family.

C. Hiring and Retention Challenges

Q. Did PSE experience other professional staffing challenges in 2021?

A. Yes. Inflation in 2021 also significantly affected PSE's operations.

Q. How so?

A. According to the Washington State Office of Financial Management, Seattle-area consumer price inflation outpaced the national average in the year ending in December 2021.[6] From December 2020 to December 2021, the seasonally adjusted Seattle consumer price index rose 7.6 percent compared to the 7.1 percent increase in the U.S. City Average index. Washington's population growth steadily increasedby 61,600 people in 2021.[7] As of April 1, 2021, Washington now tops 7,766,925 residents, with most of the growth concentrated in larger cities across the state. The pressure from this growth has led to a higher cost of living, especially in King County, and many people are finding it financially challenging to settle in these areas.

[6] Washington State Economic and Revenue Forecast Council January 19, 2022 revenue review conference call meeting minutes: https://erfc.wa.gov/sites/default/files/public/documents/meetings/ec20220203.pdf. This document is provided as Exh. PRM-9.

[7] State population steadily increases, tops 7.7 million residents in 2021 | Office of Financial Management (wa.gov): https://ofm.wa.gov/about/news/2021/06/state-population-steadily-increases-tops-77-million-residents-2021). This document is provided as Exh. PRM-10.

PSE's electric first responders are required to be local, in order to respond to emergency incidents quickly. Because of the significantly increasing cost of living in the Seattle area, PSE is experiencing a growing challenge to attract and retain this qualified workforce, particularly in King County. This growing challenge to attract electric first responders into King County is caused not only by the increasing cost of living, but also the demanding workload. As position vacancies open in counties outside of King County, it is common for the existing electric first responders in King County to relocate to outside of King County, where the cost of living is lower. These relocations out of King County lead to reoccurring and elevated vacancies within King County, and they require constant hiring and training of new employees. Of the new electricity first response employees hired in 2021, over 45 percent were hired to fill a vacancy in King County.

Overall, in 2021, PSE experienced longer electric safety response times in King County. The electric safety response time without the Significate Outage Events for King County was 73 minutes, whereas, the average electric safety response time for the other counties was 60 minutes. See Exh. PRM-11 for a spreadsheet containing the response time for King County incidents.

As vacancies occur, including those caused by relocations or retirements, PSE must begin the process of hiring and training new electric first responders. Attraction of new first responders has become increasingly challenging due to the significant infrastructure growth occurring across the electric utility industry,

which drives demand for these highly trained and skilled workers. The qualifications and skillsets of this workforce are being sought by many utilities across the state and country.

D. Electric First Responder Workload Strains

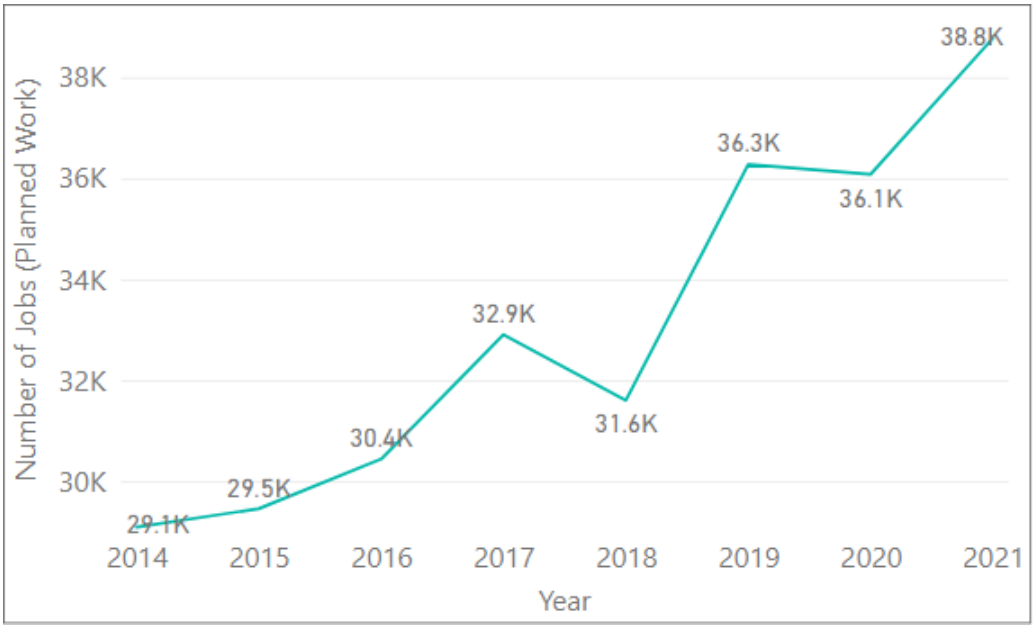
Q. Are there other difficulties that occurred in 2021 that affected PSE's SQI-11 performance?

A. Yes. The challenging and complex work itself posed a unique challenge in 2021. Figure 1 below displays the total number of customer-facing scheduled work projects that PSE's electric first responders perform. A major component of this work requires PSE's electrical first responders to disconnect and subsequently re-connect electric service at the customer's request so that the customer(s) can work on their side of the meter. Also included in this data are more complex electrical switching activities required to support various reliability investments or complicated repairs, municipality-driven projects and public improvement projects. These system projects are not part of the SQI-11 performance measurement, which is limited to electric safety response time; however, the complex switching activities are part of an electric first responder's regular responsibilities and contribute to overall workload and fatigue.

As the figure illustrates, PSE saw a seven percent increase in these customer-requested projects in 2021 over 2020, and a 23 percent increase in 2021 over the pre-COVID-19 pandemic year of 2018. This large increase in customer-requested

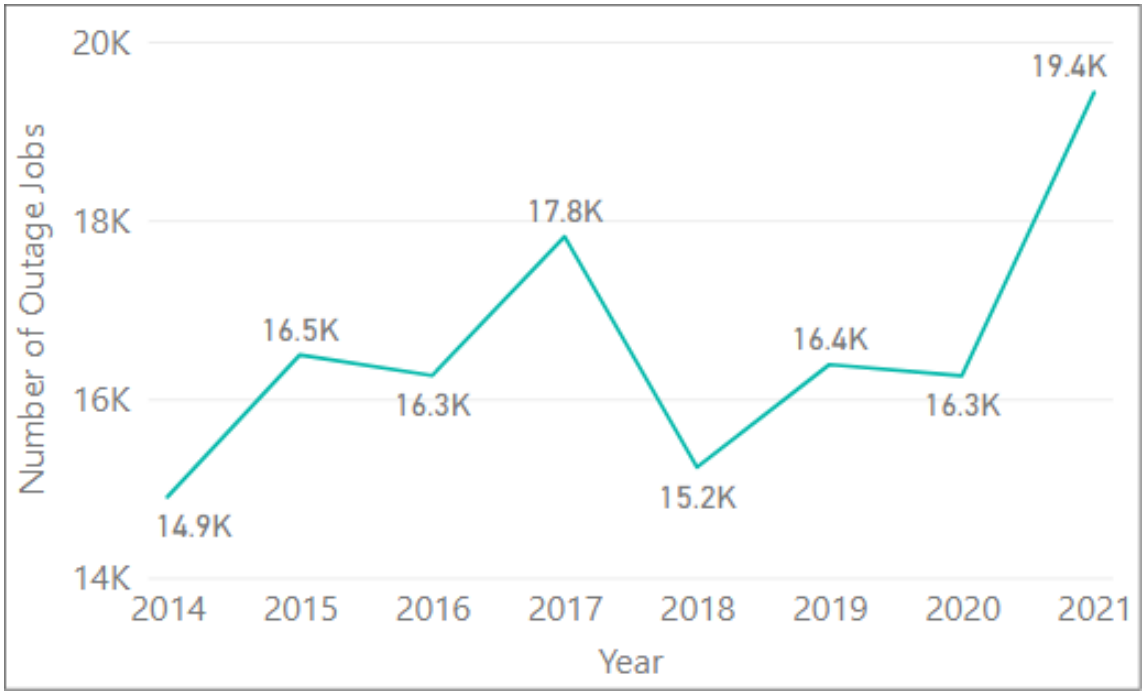
scheduled work is heavily impacted by a growing number of customer home renovation investments. These activities require an electric first responder to be present at the customer's home to physically disconnect the power routing to the customer's home and, as such, PSE must coordinate with the customer about when the electrical services need to be disconnected and re-connected for each project. As an additional challenge and impact to the burden of this work, this customer-requested workload does not spread evenly through the day, but rather it typically centers around the hour(s) of the day when Electricians are starting work (approximately 07:00hrs-08:00hrs) and completing work (approximately 16:00hrs-17:00hrs). In a time when many people are working from home, PSE's responsiveness to customer-requested scheduled remained a high priority.

Figure 1: Planned Work Performed



As shown in Figure 2, below, PSE experienced a record number of total unplanned outages. The total outages exceeded 19,400, a 19 percent increase over 2020. These unplanned outages require response throughout all hours of the day and night, and this dramatic increase in outage workload significantly impacted the fatigue of the electric first responder employees in a year in which their workload was already constrained by many factors, as described in my testimony.

Figure 2: All Electric Outages



As explained above, SQI-11 allows PSE to exclude Significant Outage Events in the performance calculation when resources are fully deployed. However, the magnitude of the number of outages has an impact on the fatigue of the electric first responder, day-in and day-out. Of the total 19,400 outages that occurred in 2021, 5,735 outages were excluded from this SQI-11 performance calculation or

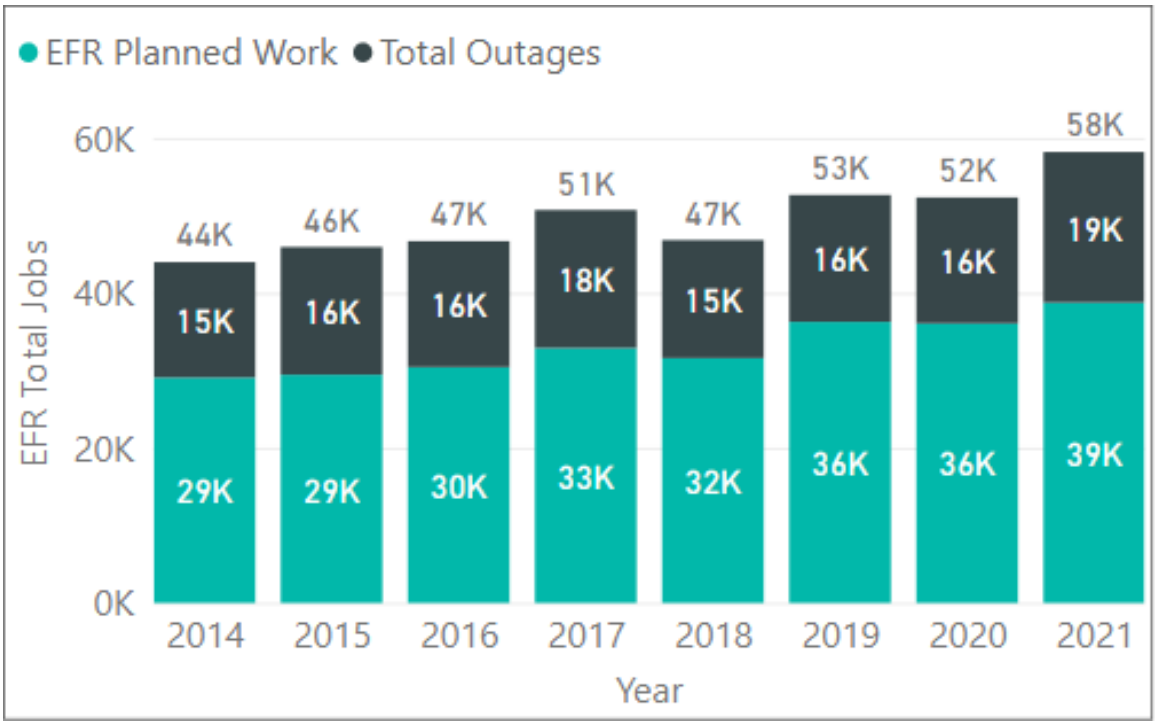
55 suspension days out of 365 days in 2021. PSE's service territory experienced 18 days of Major-Event Days and 37 Localized Emergency Event Days in 2021. In addition to the 37 Localized Emergency Event Days, an additional 15 high-volume activity days missed the exclusion criteria by only a small margin. The high level of Significant Outage Event exclusions is indicative of the extremely busy and active days driven by inclement weather in 2021. This is on top of the marked increase in the quantity of scheduled electrical first responders' work for the year.

Q. What other workload constraints has PSE experienced?

A. The on-going COVID-19 pandemic has also constrained PSE's ability to pursue the electric service reliability investments required to meet customer expectations. These impacts are multi-faceted, including limited jurisdictional support for construction permits, inspections and consultation; supply chain delays; workforce limitations, and customer safety concerns. These negative impacts occurred initially in March 2020, when the state implemented its first pandemic shutdown. The follow-on worker safety restrictions affected PSE's ability to deliver and complete both planned and unplanned work for 2020 and into 2021 and 2022.

The total workload that the electric first responder must respond to, including combining customer-requested scheduled work and outages is displayed below in Figure 3.

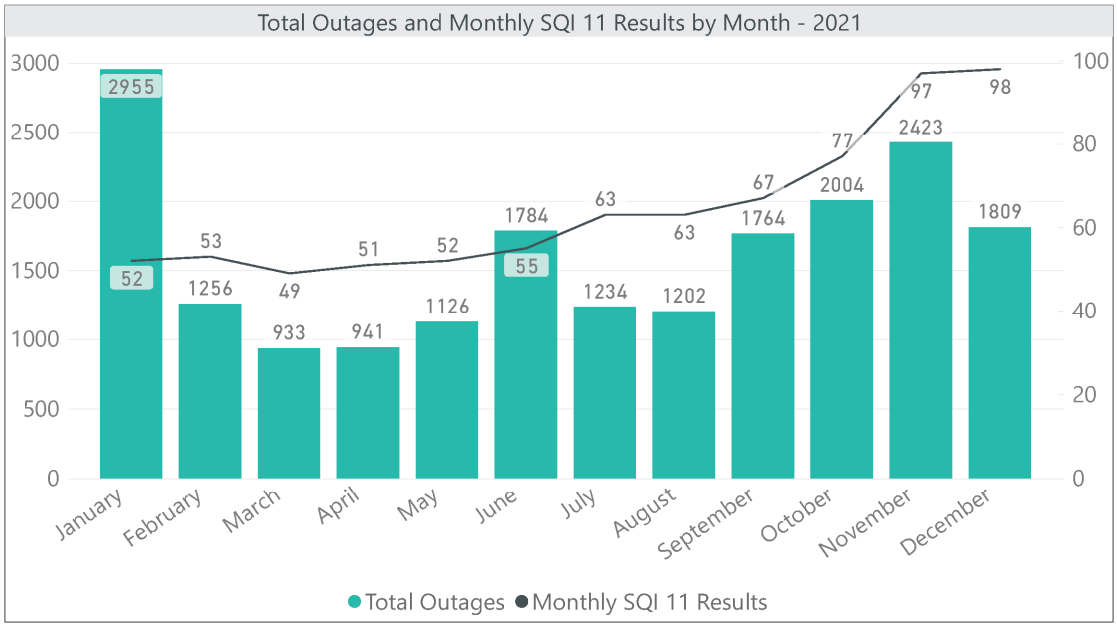
Figure 3: Electric First Responder Total Workload



Q. How do you know the issues you describe above are actually impacting the work of the emergency first responders?

A. Below, Figure 4 illustrates the effect that mounting fatigue is having on PSE's emergency first responders and the corresponding ability to meet emergency response times. Figure 4 demonstrates the correlation between the total outages experienced in PSE's service territory and the progressively declining SQI-11 trend line. Further, as previously shown in Figure 2, the annual workload of total outages was at an all-time high in 2021.

Figure 4: Outage Response Over Time



III. PSE'S 2021 LEVEL OF PREPAREDNESS AND RESPONSE WAS REASONABLE

Q. What measures, if any, has PSE implemented to address the unusual events described above?

A. PSE's level of preparedness and response to the unusual and exceptional circumstances it faced in 2021 was reasonable. Notwithstanding this, PSE has taken, and continues to take, several steps to improve the response time of the electric first responder team. These steps are discussed in more detail below.

PSE's Electric First Response workforce is a team of trained and qualified high voltage electricline workers located in each region of PSE's service territory, and

they are responsible for the safe and reliable operation of PSE's electrical infrastructure. The electric first responder team provides first response support around the clock for all emergency incidents involving PSE's electrical infrastructure, as well as the essential support of planned customer work that requires a qualified electrical line worker.

Heading into 2021, PSE's electrical first responder workforce had an organization count of 77 full-time employee positions, which is a number consistent with prior years. PSE experienced early retirements and out-of-state relocations in 2021 similar to what is being experienced elsewhere in these times across various industries, including six electric first responders separating for unplanned or early retirements over the course of the year. PSE estimates that Electric First Response had an ongoing vacancy rate of five employees throughout 2021.

PSE responded to this attrition by analyzing the compensation market in the Pacific Northwest for these highly-skilled positions in order to attract and retain this critical workforce to allow PSE to continue to provide safe and reliable service. PSE hired new Electric First Response employees throughout the year, with a goal of increasing the organization count of electric first responder positions to 89. Due to high levels of attrition, PSE was not able to reach full staffing of 89 electric first responder employees. PSE hired and on-boarded 11 new Electric First Response employees in 2021, along with two more Electric First Response employees who officially on-boarded in early January 2022. Additionally, PSE took steps to increase Electric First Response staffing in remote

areas like Kittitas County, in order to improve electric service safety responsiveness.

Despite these Electric First Response staffing increases and ongoing hiring efforts, the workforce retention at the required staffing level of 89 positions was not reached due to the reasons described above. Although the Electric First Response organization employee count was increased to 89, near the end of 2021 PSE's actual number of Electric First Response employees was 77. In 2021, PSE's Electric First Response workforce performed extraordinarily by safely working an average of 1,100 hours of overtime, per employee, to meet all planned and unplanned work. However, the amount of work PSE's electrical first responders could safely take on had reached its peak. Although the electric first responder workforce was able to provide extra capacity through overtime, the level of work resulted in workforce fatigue and other issues discussed previously.

IV. THE CUMULATIVE IMPACT OF THE CIRCUMSTANCES IN 2021 COULD NOT BE PREVENTED

Q. What is your recommendation to the Commission in this proceeding?

A. PSE was not able to meet the SQI-11 benchmark due to unusual and exceptional circumstances that were outside of PSE's control and could not be prevented. PSE believes that the $613,636 penalty associated with PSE's overall 2021 SQI-11 performance should be waived. PSE's level of preparedness and response has been reasonable, especially in light of the circumstances encountered in 2021.

Q. When is it appropriate to mitigate an SQI penalty?

A. When initially developing the service quality indices, the parties to the Merger contemplated circumstances where partial or full mitigation of potential SQI penalties would be warranted. The Commission agreed and approved a standard for determining when mitigation of penalties is appropriate.

The Merger Stipulation provides the following mitigation standard:

> The standard to be applied for such a petition is that the penalty is due to unusual or exceptional circumstances for which PSE's level of preparedness and response was reasonable. PSE will not file a mitigation petition unless it believes, in good faith, that it meets this mitigation standard. The parties contemplate that, following a procedure to be established by the Commission, a Commission order will be issued assessing any penalties and resolving any mitigation petition.[8]

On page 21 of Exh. PRM-4, PSE's SQI program mechanics provides,

> In the annual report, the Company may include a mitigation petition for relief from penalty, if it believes, in good faith, that it meets the mitigation standard. The standard to be applied for such a petition is that the penalty is due to unusual or exceptional circumstances for which PSE's level of preparedness and response was reasonable. PSE will not file a mitigation petition unless it believes, in good faith, that it meets this mitigation standard. The parties contemplate that, following a procedure to be established by the Commission, a Commission order will be issued assessing any penalties and resolving any mitigation petition.

The circumstances that PSE experienced in 2021 represent the exact sort of conditions anticipated by the parties when they established the mitigation standard

[8] *See* Exh. PRM-3 at 64:10-15.

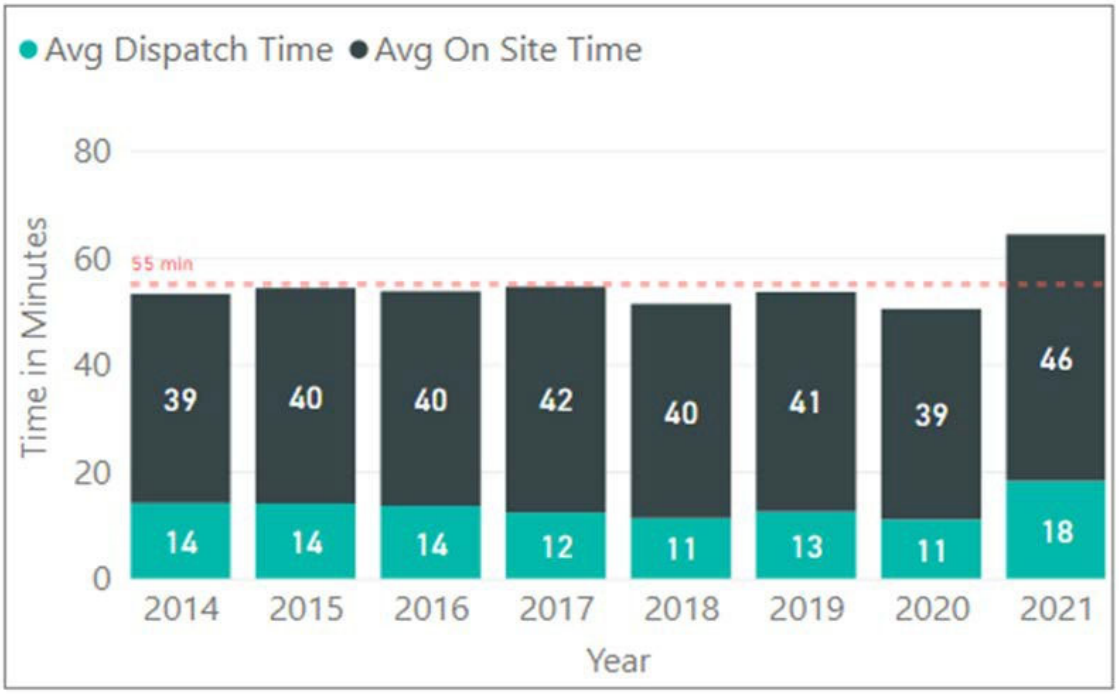
and, therefore, they warrant mitigation. The events of 2021 were unusual and exceptional and, as described in more detail below, PSE's preparedness and response was reasonable in the face of such circumstances.

Q. Why do the circumstances PSE experienced in 2021 justify mitigation of the penalty?

A. PSE's average annual response time for SQI-11 emergency incidents in 2021 was 65 minutes, and this exceeded the benchmark for SQI-11 by ten minutes. This is the first time that PSE has not met the SQI-11 benchmark since its inception in 2003. Despite the unpreventable circumstances described above, PSE served our communities well by responding to every emergency incident throughout a unique and challenging time.

Response time is comprised of two components: the time it takes to identify and secure an electrical first responder ("Dispatch Time"), and the subsequent time it takes for that electric first responder to travel to the location of the emergency incident, or outage ("On-site Time"). Figure 5, below, shows the average Dispatch Time and On-site Time for 2014 through 2021. PSE's Dispatch Time in 2021 was an average of 18 minutes, an increase of greater than five minutes over the 7-year average going back to 2014. While PSE's electrical first responders worked record overtime, it took longer to secure an electric first responder because of staffing shortages for the reasons discussed above. Meanwhile, the workload was at a record high in 2021.

Figure 5: Dispatch Time and Onsite Time for unplanned outages



As the year progressed, the compounding fatigue experienced by the electric first responder workforce was a factor contributing to how quickly an available resource could be identified and dispatched. As noted previously, safety of the Electric First Response employee must never be compromised, including safety concerns driven by fatigue; therefore, response times may be increased at times of high-volume workload while resources from adjacent regions are secured. Had PSE's Dispatch Time been in line with the average, PSE's SQI-11 would have been 60 minutes instead of 65 minutes at year-end. Considering the workload constraints already described and other unavoidable obstacles, the electrical first responders' response time was exceptional.

Q. What other unavoidable obstacles justify mitigation of the penalty?

A. In 2021, PSE experienced an average duration of 46 minutes for an electrical first responder to travel to the jobsite, which is a 15 percent increase over the 7-year average going back to 2014. This increase in travel time was not anticipated going into 2021. There are differing theories regarding traffic conditions and vehicle accidents during the unusual year of 2021, but, as described more fully below, traffic volumes have increased back to pre-COVID-19 pandemic levels, with students returning to schools in campus settings.

Pursuant to the Washington State Department of Transportation's quarterly performance reports (Gray Notebook – September 2021), the number of serious injuries in 2021 was higher than the 2016-2020 average. See page nine of Exh. PRM-12. The Seattle Times also reported that 2021 was the deadliest year on Washington roads in the last 15 years. See Exh. PRM-13. Experts cannot point to a single reason for the cause of these traffic impacts, and they cannot say with any confidence whether the trend will continue. These reports suggest that traffic patterns, volumes, and impacts were different in 2021, which contributed to the aforementioned increase in travel time.

From 2015-2020, PSE electric first responders experienced about 150 extreme travel time events, which is defined here as any incident requiring a travel time of greater than two hours. Nevertheless, in 2021, PSE's Electric First Response workforce experienced 257 extreme travel time events. That is an increase of

more than 100 extreme travel time events (or 71 percent more) per year than prior years. More than one-third of these extreme travel time events occurred between September 2021 and December 2021, when the region experienced the wettest fall on record and November-December atmospheric rivers.

Had these extreme travel events not occurred, PSE's SQI-11 would have been six minutes lower. To clarify, without the impact of these extreme travel events, which resulted in an increase of six minutes to the overall SQI-11 average response time, and the five minutes increase in Dispatch Time due to the impact of the uncontrollable and unusual circumstances on electric first responders workforce and workload, PSE's SQI-11 could have been 54 minutes, which would be under the benchmark of 55 minutes.

Q. What has PSE done in 2022 in response to the challenges of 2021?

A. PSE has taken several actions:

First, PSE completed implementation of an integrated work management system, including a new mobile work manager tool that integrates and streamlines all planned and unplanned work into a common platform. While this tool delivers benefits of integrated work planning and resource allocation, it has enabled greater accuracy in capturing the exact time when the electrical first responder has arrived on site. PSE believes this technology improvement may be contributing to

an increase in response time as compared to prior years and the technology tools in place at that time; however, this is difficult to prove with certainty.

Second, PSE will complete implementation of an automated field callout tool in the fourth quarter of 2022. The automated callout tool will streamline the callout process and decrease the dispatch time required to secure an electrical first responder. These callouts are currently performed manually from a System Operator or Dispatcher. PSE estimates this may reduce dispatch times by 25 percent, which is an estimate derived from actual benefit delivery by the vendor's past implementations.

Third, as noted above, PSE completed market-driven wage increases for electric first responders in late December 2021. With the staffing increases made in late 2021 and 2022, notwithstanding ongoing attrition, PSE has continued to hire new electrical first responders with a high level of success. Since the beginning of 2021 to August 1, 2022, PSE has successfully hired and on-boarded a staggering 26 new Electric First Response employees. PSE continues to see stronger attraction pools into these positions following the wage adjustments.

Fourth, PSE is evaluating grid automation impacts on outage safety. With the integration of reclosers and distribution automation that is monitored and controlled by System Operations, there is greater confidence that an emergency caused by an outage is safe within minutes of an event. While Electric First Response employees are still dispatched to begin assessing repair, the measure of

their arrival time as it pertains to SQI-11 is becoming less relevant in situations where grid automation technology is designed to detect and isolate the fault, thereby leaving the field site in an electrically safe condition.

Fifth, PSE is also preparing to integrate advanced metering infrastructure ("AMI") into its outage management tool, which will bring benefits to customers in the form of better outage detection, prediction, and assessment. However, this integration may impact PSE's emergency response practices, particularly during nighttime hours, as outage start times will now be initiated automatically from the AMI meter, rather than the current practice of a customer waking up and calling PSE. Technology such as AMI and grid automation will create challenges and opportunities for PSE relative to this established metric.

V. CONCLUSION

Q. Please summarize your testimony.

A. As explained above and supported through the exhibits provided with this testimony, PSE was not able to meet the SQI-11 benchmark for 2021 due to unusual and exceptional circumstances, which impacted PSE's Electric First Response operations. These unusual and exceptional circumstances, which included, but were not limited to extreme weather, pandemic-related impacts to resource health and availability, and an unprecedented workload, were outside of PSE's control and could not be prevented. PSE's level of preparedness and response was reasonable in light of the circumstances encountered in 2021, and

PSE's electric first responders performed exceptionally under challenging conditions. PSE remains dedicated to both safety and performance, and the Company has implemented several measures to address and respond to the challenges impacting its 2021 SQI-11 performance. Accordingly, the $613,636 potential penalty associated with PSE's overall 2021 SQ I-11 performance should be waived.

Q. Does that conclude your testimony?

A. Yes, it does.