



# ENVIRONMENTAL REMEDIATION

## ANNUAL REPORT

12/31/2017

# WRITE-UP FOR ENVIRONMENTAL REMEDICATION SITES

The following 7 pages contain a write-up for environmental remediation sites.

## **FORMER WNG SITES**

### **A. Tacoma Gas Company Site (Upland Source Control)**

An MGP operated at 22<sup>nd</sup> & A Street in Tacoma and after the plant was closed the site was used to store various products including gasoline, oil and creosote. Contamination at the site was identified during the late 1980s and various limited cleanup action have been taken since then. PSE continues to work with the Washington Department of Ecology (WDOE) on developing a comprehensive Remedial Investigation/Feasibility Study (RI/FS). A field well inventory was completed in January 2016 and a groundwater sampling and analysis plan was approved by Ecology in July 2016. Groundwater samples were obtained in July, December 2016, April and August 2017. The 2016 and 2017 results (through April) have been submitted to Ecology. The August 2017 results will be submitted in October 2017. It is anticipated that an additional sampling round will be completed in November or December of 2017. The purpose of the sampling is to update the conditions at the site for incorporation into the RI/FS.

A meeting was held with Ecology in November 2016 to discuss the results and path forward to achieve regulatory closure for the site. Participants at the meeting included Ecology, PSE, PacifiCorp, City of Tacoma and WSDOT. Ecology and the other participants are working on preparing a new Agreed Order (AO). The goal of the AO is to gain approval from Ecology of the RI/FS so that a final Cleanup Action Plan can be prepared to close out the site. Ecology has prepared the draft AO and it's being circulated for participant review. Once consensus has been reached, the draft AO will be submitted for public review. It is anticipated the new AO will become effective early 2018.

### **B. Thea Foss Waterway**

The Thea Foss Waterway is part of the Commencement Bay Superfund site which is an EPA regulated cleanup site. PSE was involved as Potentially Responsible Party (PRP) due to its past ownership of a portion of the 22<sup>nd</sup> & A Street MGP, and is part of a Utilities PRP subgroup. The majority of cleanup activities have been completed. PSE received proceeds from the Settlement with WSDOT for their contribution to cleanup of the contamination of the Thea Foss.

PSE, as part of the Utilities group, is currently complying with an EPA approved Operation and Monitoring Plan (OMMP) to monitor the effectiveness of the cleanup remedy. In April and May 2014 (Year 10 OMMP) the Utilities completed required site inspections and sediment sampling near the head of the waterway. Visual surveys were completed in 2015, 2016, and recently in May 2017. During the recent visual survey, the Utilities met with the new EPA project manager to review the project history, remedy components and the primary recontamination source. The visual surveys and available analytical data continued to show that the Utilities' remedy is functioning as intended and that the recontamination source remains storm water. Based on 10 years of sampling, the project team submitted a proposed work program and sampling schedule for future monitoring to EPA. The Utilities are waiting for EPA to respond to the monitoring proposal.

The City of Tacoma is responsible for remediation of the most of the waterway. The City completed its Year 10 OMMP sampling in 2016. EPA has expressed a desire to coordinate the OMMP sampling activities of PSE and the City of Tacoma with the Superfund required 5-year periodic reviews. The next periodic review is scheduled for 2019. It is anticipated the next OMMP sampling round will be completed in the spring of 2018.

### **C. Everett, Washington**

PSE's predecessors operated an MGP at 3630 Railway Avenue east of downtown Everett and PSE currently uses the property for an operating base. Contamination was identified in the 1990s and removal

actions, an RI/FS and remediation were completed. PSE implemented an interim remedy consisting of soil excavation, installation of a containment wall along with groundwater monitoring at both ends and at the centerline of the containment wall. PSE continues annual monitoring of the results of the remediation already performed. Annual groundwater sampling performed continues to show the remedy is containing contaminated groundwater. PSE has received partial reimbursement from an agreement entered into with another PRP for past costs relating to interim remedy completion.

#### **D. Chehalis, Washington**

PSE's predecessor operated an MGP in Chehalis, WA. The property is still owned by PSE and currently vacant. PSE identified contamination in the 1990s, completed removal activities, an RI/FS and a final cleanup. On April 30<sup>th</sup>, 2015 PSE received from Ecology a No Further Action (NFA) letter confirming that PSE's remedy completed in October 2010 was successful. PSE continues to perform monitoring to show that the remedy is functioning as designed.

#### **E. Gas Works Park Site**

Gas Works Park is the site of a former MGP (operated by PSE's predecessor), a tar refinery and other industrial activities and is currently a City of Seattle park. On November 1, 2012, the *Settlement, Release and Cost Allocation Agreement* between the City of Seattle and PSE for the remediation of the combined Gas Works Park uplands as well as the Lake Union sediments became effective. As part of this agreement, PSE took the lead for completing the investigation and remediation of the combined uplands and sediment sites. Costs associated with the RI/FS as well as construction and long-term maintenance of the remedy will be shared between PSE and the City.

Work is being performed under an Agreed Order. WDOE approved modification of the Agreed Order on March 15, 2013 to expand the Site boundaries to include Gas Works Park, Seattle Harbor Patrol and the near shore sediments surrounding the Park and Harbor Patrol. This modification ensures that the impacts from uplands to the lake and near shore sediments are addressed. PSE submitted a complete agency review draft RI/FS report to WDOE in March 2016. PSE is engaging with WDOE to address their comments on the draft RI/FS report.

PSE completed installation of an injection system to reduce arsenic concentrations in groundwater in June 2017 prior to a Seattle Parks and Recreation renovation project. PSE performed the first injection in November of 2017.

#### **F. Quendall Terminals**

EPA listed Quendall Terminals as a cleanup site on the National Priorities List (NPL) (i.e., a Superfund Site) on April 19, 2006 and has been leading an RI/FS effort since then. On March 6, 2014 PSE received a Notice of Potential Liability and Supplemental Request for Information from the EPA indicating that they believe PSE may be a PRP under CERCLA for costs associated with the cleanup of the site and requesting additional information pursuant to CERCLA Section 104(e). PSE reportedly sold tar from the MGP formerly located at Gas Work Park to the Quendall facility as a useful product, but did not transport the byproduct to the Quendall facility.

In a letter dated October 7, 2015, EPA invited PSE, along with the current PRPs and other potential PRPs, to perform a pre-remediation design study pursuant to a negotiated administrative settlement agreement and order on consent (ASAOC). On December 4, 2015 PSE counsel sent a letter to EPA declining to submit an offer to negotiate an ASAOC for the proposed pre-remedial design study. EPA has indicated that it is moving forward with finalizing the RI/FS and selecting a remedy without the pre-remedial design study. PSE has reviewed the draft RI/FS and provided comments to EPA in April 2016.

On May 31, 2016, Vertellus Specialties, Inc., successor in interest to Reilly Chemical Company, who operated at the site for decades, filed for bankruptcy for the purpose of facilitating a sale of all assets. The sale will be free and clear – no liabilities will follow the acquirer.

EPA is in the process of finalizing the FS.

### **G. Tacoma Tar Pits**

Tacoma Tar Pits is a site in Tacoma where an MGP was operated and coal tar wastes were deposited. The site was named to the federal Superfund list in 1980 and investigation and cleanup was completed by 1994. PSE continues to operate and monitor the groundwater pump and treat system at the Tacoma Tar Pits site. Maintenance of site facilities and monitoring of ground water quality continues.

EPA completed its most recent Superfund mandated five year review in December 2014 and concluded that the remedy is still protective and performing as designed. As part of this review, EPA recommended follow-up actions including optimizing the groundwater containment and monitoring system, evaluating whether groundwater restoration at this site is feasible, requiring the current property owner to comply with site institutional controls (primarily maintenance/protection of the site cap) and updating the existing Inspection and Maintenance Manual and groundwater monitoring program. The next five year review is to be completed in 2019.

In 2016, in consideration of EPA's recommendations, as well as, the age of the system, PSE decided to replace the existing groundwater treatment system. PSE subsequently prepared cost estimate and provided notice to EPA and City of Tacoma and met with EPA. A treatment plant design Engineering Report has been approved by the City of Tacoma and EPA. The new treatment system was installed in November 2017 with full operation beginning in December 2017.

### **H. Swarr Station**

The SWARR Station is a liquefied propane storage facility designed to help meet customer needs during periods of peak demands. In 2003 a release was identified of ethylene glycol and lubricating oil. Lead and petroleum-contaminated soil was removed in 2003; however, arsenic-contaminated groundwater remains beneath the site. Groundwater was sampled in July 2016 to evaluate whether plume conditions substantially changed since 2011. The July 2016 analytical results look generally similar to the previous data and PSE is considering whether future actions are warranted.

### **I. Bay Station (Elliott Ave)**

PSE's predecessors owned and operated the Bay Station MGP in Seattle along the waterfront now known as Elliott Ave. In 2009, PSE was contacted by the then property owners regarding contamination in the subsurface at this location that appears to be associated with the former MGP.

On June 23, 2010 PSE purchased the property and is using the site as a material storage yard in support of PSE operations while PSE remediates the site. A preliminary site investigation was performed in August, 2010 and results of soil sampling confirmed the presence of soil contamination consistent with MGP releases.

The demolition of the structures was completed in July of 2017 to provide access to fully investigate the site in anticipation of developing a remedy.

In September 2016, PSE received a letter alleging that contamination encountered on adjacent properties is associated with the historical operation of a manufactured gas plant on PSE's property. PSE is working with the owner of that property to develop a remedy.

## **J. Olympia (Columbia Street MGP)**

PSE's predecessors operated an MGP on Columbia Street in Olympia. In late 2006, PSE received a letter from a firm representing the owners at that time stating that contamination found in soil and groundwater was attributable to PSE's predecessors' ownership and operation on this site. In 2008, PSE conducted an initial investigation of environmental conditions beneath the property. Subsequent on- and off-property investigations were conducted between 2009 and 2011 under WDOE's Voluntary Cleanup Program. These studies identified the presence of MGP-related contamination beneath the property and extending onto adjacent properties. The full lateral extent of off-property impacts was not identified in these studies.

PSE designed and implemented a remedial action for the property and the construction work was completed in October 2012. In September 2015, PSE received a Property-specific No Further Action letter (NFA) from WDOE. Institutional controls and ongoing groundwater monitoring are required because some inaccessible contamination remains. Contamination that extends off the property will be addressed as a separate phase of the project in the future.

The property owner recently notified PSE of plans to construct a multi-story condominium structure on the Property. PSE is working with the owner to ensure that the NFA status of the site is not impacted and to help control construction costs associated with the contamination that remains onsite.

## **K. Verbeek Autowrecking**

PSE was notified that fill from the Gas Works Park MGP site was deposited on the Verbeek Autowrecking site and contamination was present. Remediation of the Verbeek property was completed in 2010 and WDOE issued a property specific No Further Action letter. A small amount of GWP contaminated fill remains in place on an adjacent property that could not be removed due to a building constructed over the top of the fill.

## **L. Downtowner Property**

On April 7, 2014, PSE received a notice letter under the Model Toxics Control Act (MTCA) Washington State's cleanup law similar to the federal cleanup law, CERCLA or Superfund, from a law firm representing a property owner alleging contamination discovered at a property in downtown Seattle during excavation for underground parking. The property owner claimed the contamination was connected to a MGP that was operated by PSE's predecessors. PSE researched the merit of this claim and monitored the remedial excavation at the site being led by the property owner.

On April, 2015, the property owner, GRE 4<sup>th</sup> Avenue South, LLC filed suit against PSE, seeking a declaratory judgment that PSE is liable for remedial action costs under MTCA and contribution for remedial action costs the property owner has expended and will incur. PSE settled this suit in September 2015. MGP-related contamination remains at depth beneath the building. PSE is responsible for future costs associated with the removal of DNAPL and soil vapor sampling.

## **FORMER PUGET POWER SITES**

### **A. White River/Buckley Phase II Burn Pile and Wood Debris**

White River Hydroelectric project was formerly owned and operated by PSE. During a flume maintenance project in 1988, construction debris was stockpiled on-site. An investigation of this stockpile discovered that wood treatment chemicals that were originally used to treat the timbers

had migrated from the debris into the underlying soil and groundwater. Removal of the debris and impacted soil was completed in 2006, however, arsenic concentrations in groundwater continues to be above MTCA. Monitoring of the groundwater shows that the lateral extent of the groundwater plume does not appear to be expanding or approaching the White River

#### **B. Lower Duwamish Waterway**

In December, 2005, PSE received a demand letter regarding the Malarkey Asphalt plant at Terminal 117 on the Duwamish waterway. Used transformer oil, containing PCBs, was burned by the operators as a boiler fuel. PSE has denied involvement at the site, and to date, no evidence linking PSE to the site has been discovered. Litigation involving other parties was resolved without PSE's involvement.

On November, 2012 PSE received a General Notice letter from EPA indicating that they believe PSE may be responsible under CERCLA for costs associated with the cleanup of the Lower Duwamish Waterway.

In August of 2014, PSE received notice from a neutral allocator inviting PSE to join an alternative dispute resolution (ADR) process to allocate liability for environmental remedial action at the site. PSE agreed on August 25, 2014 to participate in the ADR process, and since that time has been conducting research and preparing submittals about historical operations, including submitting questionnaire responses to the neutral allocator. PSE is currently preparing an expert report to submit to the allocator.

In February 2016, counsel for PSE received a Notice of Intent letter from the Elliott Bay Trustee Council indicating that PSE is a potentially liable party that has contributed to the release of hazardous substances that have injured natural resources. In March 2016, counsel for PSE submitted a letter to counsel for the Trustees denying liability for natural resource damages and declining to participate in the injury assessment.

#### **C. Lower Baker Power Plant**

In 1965 a landslide destroyed PSE's Lower Baker Hydroelectric project powerhouse facility. A number of oil-containing devices are assumed to be buried beneath the slide. A petroleum-like sheen was discovered in water discharging from a metal pipe extending from the concrete wall of the former powerhouse that remains in place. PSE installed a water treatment system which eliminated the sheen. The specific source(s) and extent of contamination in the landslide area has not been identified.

#### **D. Snoqualmie Hydro Generation (Power Plant)**

PSE began construction activities associated with the redevelopment of the Snoqualmie Falls Hydroelectric project in the fall of 2009. Upgrades to electrical generating facilities at both power plants required the excavation of a significant quantity of soil and rock. During this process, contaminated soil was identified (likely from historic maintenance and storage practices) and removed from the Plant 1 construction footprint between 2010 and 2013. Residual contaminated soil remains at some locations outside of the Plant 1 construction footprint, in areas where access would have been difficult. The cleanup completion report was finalized and no further actions are planned.

#### **E. Bellingham South State Street (Boulevard Park MGP)**

PSE's predecessors owned and operated a MGP on Bellingham Bay. PSE sold the property to Cascade Natural Gas which dismantled the MGP and later sold the property to the City of Bellingham who developed the site as part of Boulevard Park. PSE was notified by the City of Bellingham of potential liability for contamination at the site. PSE entered into a cost-sharing agreement with the City of Bellingham to complete a RI/FS for the former MGP site under an Agreed Order with the City and WDOE. The Agreed Order was issued on April 30, 2010 by WDOE.

PSE and the City of Bellingham performed an upland and sediment investigation under the Agreed Order. The draft remedial investigation (RI) was led by the City. WDOE provided comments on the draft RI report and requested supplemental investigation. All supplemental investigations have been completed and the City submitted a revised RI report to WDOE in May 2017. PSE is leading the feasibility study (FS) and evaluating potential remedial alternatives for the site. The agency review draft of the FS is scheduled to be completed in early 2018.

To address beach erosion, the City is completing an interim remedial action concurrent with the FS process. The scope of the interim action is limited and is focused on repairing and protecting the beach face from erosion.

#### **F. Electron Flume**

PSE formerly owned the Electron Hydroelectric project which includes a wooden flume is used to convey water from the diversion dam to the Electron Powerhouse. The flume is approximately 10 miles long and is located on the southwest slope of the Puyallup River valley. PSE historically replaced portions of the flume during routine maintenance and repair activities. The removed wood was typically placed on the ground surface at the location of the repair. This produced piles of wood debris that remained along the flume alignment. Based on historical information, some of this wood was treated with chemical preservatives.

In response to WDOE inquiries, PSE sent a letter in late 2006 committing to begin a project to remove the large debris immediately adjacent to the flume. Characterization has shown this debris to be a mix of both treated and untreated wood of similar properties to the debris piles formerly located at the Buckley Headwork's and qualifies for the arsenical-treated wood exclusion. At the direction of WDOE, all large piles of treated wood debris that could be addressed safely have been removed and sent off-site for proper disposal. The future cost estimate assumes that some previously unrecoverable treated wood will become assessable in the future as part of construction activities.

#### **G. Puyallup Garage**

During the early 90's, remediation was performed to remove the majority of accessible contaminated soil at PSE's Puyallup Service Center. Contaminated soil remains beneath the former garage building. PSE expects to perform remediation at this site in the future when the soil becomes accessible.

#### **H. Crystal Mountain Generator Station**

PSE operates a remote electric generating facility near Crystal Mountain Ski Resort at which a release of thousands of gallons of diesel fuel occurred in 2006. PSE conducted an emergency response and cleanup overseen by EPA and the Washington Department of Ecology. PSE has now settled all civil penalty claims of the United States and WDOE as well as the natural resource damage claims of the Natural Resource Trustees originating from a diesel spill in 2006.

Final site restoration will be required after removing the trench and treatment system. Following the final restoration, groundwater monitoring will likely be necessary for a number of years to verify the success of the remediation.

#### **I. City of Olympia vs. PSE (Plum Street Substation)**

On March 7, 2012, the City of Olympia filed a lawsuit against PSE asserting that a predecessor of PSE owned and operated an MGP at an adjacent site and that PSE also is responsible as the current owner of the adjacent Plum Street Substation. During construction of the new City Hall, the City alleged that it



had encountered contamination from past MGP operations. PSE participated in a mediation with the City of Olympia and negotiated a settlement for this matter. The City Council approved the agreement in early December and dismissed the suit.

#### **J. Buckley Headworks**

PSE's past operation of a wood treatment facility located at the Buckley Headworks was found to have contaminated soil and groundwater. Remediation of this site was completed in 2002 in accordance with MTCA. WDOE provided a No Further Action Letter in 2003. Future costs shown are associated with monitoring and maintenance of the remedy necessary to ensure its effectiveness.

### **Electric Operations Remediation**

#### **K. Talbot Hill Substation and Switchyard**

During the investigation and remediation of a minor mineral oil release discovered in June 2009, contamination related to historic spills from electrical equipment was encountered at the site. Subsurface explorations identified contamination exceeding state cleanup levels beneath a portion of the site, including structural foundations supporting towers and electrical equipment. PSE completed an interim cleanup action that removed accessible contaminated soil from the site. Some contaminated soil remains beneath facility structures and will be addressed at a later date.

#### **L. Sammamish Substation**

On June 16, 2011, a failure of a large transformer at PSE's Sammamish Substation occurred causing a fire and release of non-PCB mineral oil. PSE has completed remediation of the majority of contaminated soil, but there is some limited contamination adjacent to energized control cables that will need to be addressed sometime in the future when it becomes accessible. On May 28, 2014, PSE received a letter from WDOE informing PSE that the site would now be listed as a known and confirmed contaminated site.

#### **M. Shuffleton Facility**

During PSE's environmental assessment of the Shuffleton property, vinyl chloride was detected in groundwater at concentrations greater than the cleanup level near the northwestern property boundary. Additional investigations are being completed to evaluate the source and extent of the vinyl chloride, and cleanup options are being evaluated.

#### **N. Central Waterfront**

On August 15, 2017 PSE received a notice from WDOE indicating that they believed PSE is a Potentially Responsible Party for the Central Waterfront Site located in Bellingham. The Central Waterfront site includes a former landfill on the property currently owned by PSE. Ecology has suggested that the landfill operation caused contamination of the area. PSE has a small substation located onsite. PSE's initial evaluation of the available data suggests that the substation site is not a contributor to the Central Waterfront Site.

#### **O. Underground Storage Tanks Status**

Please see the attached spreadsheet. This provides a summary of our ongoing efforts associated with the investigation, remediation, and/or removal of underground storage tanks (UST).

## SUMMARY OF ENVIRONMENTAL ACCOUNTS INCLUDED IN UE -170033 AND UG-170034

The following 3 pages provide a summary of the amounts that were approved for amortization in the most recent GRC, UE-170033/UG-170034.

**Annual Environmental Report**  
**Filed Pursuant to UE-170033/UG-170034**  
**Summary of Amounts Approved for Recovery in UE-170033/UG-170034**  
**One-Time Submission for April 2018 Report Only**

Line	Description	Electric	Gas
1	<b>Amounts per Settlement in UE-170033/UG-170034:</b>		
2	Actual Costs through September 30, 2016	\$ 9,689,352	\$ 77,757,936
3	Less Site Specific Recoveries		(5,565,453)
4	Subtotal Net Deferred Costs	<u>9,689,352</u>	<u>72,192,483</u>
5			
6	Total Unassigned Recoveries	(5,437,149)	(50,477,888)
7	Portion of Actual to Total Expected Costs	47%	58%
8	Unassigned Recoveries to Include	<u>(2,570,427)</u>	<u>(29,176,116)</u>
9	Total Net Deferral Requested	<u>7,118,925</u>	<u>43,016,368</u>
10	Amortization Over a Five Year Period	<u>1,423,785</u>	<u>8,603,274</u>
11	NOI impact at 65%	<u><u>(925,460)</u></u>	<u><u>(5,592,128)</u></u>
12			
13			
14	<b>Amounts Transferred in December 2017 Business (Note 1):</b>		
15	Costs:		
16	From GRC work papers	\$ 9,689,352	\$ 72,192,483
17	Site Specific Recoveries included in same account as Costs	(826,665)	N/A
18	Amount Transferred	<u>\$ 8,862,687</u>	<u>\$ 72,192,483</u>
19			
20	Recoveries:		
21	From GRC work papers	\$ (2,570,427)	\$ (29,176,116)
22	Remove Site Specific Recoveries from Costs	826,665	N/A
23	Amount Transferred	<u>\$ (1,743,762)</u>	<u>\$ (29,176,116)</u>
24			
25	<b>Line 11 = Line 25 - Same Overall Result <math>((18 + 23) \div 5) \times -65\%</math></b>	<u><u>\$ (925,460)</u></u>	<u><u>\$ (5,592,128)</u></u>
26			
27			
28	18232271 Env Rem - Lower Duwamish Waterway	\$ (71,171)	N/A
29	18608041 Env Rem - Bellingham South State Street MGP (former Blvd Park)	(662,554)	N/A
30	18608231 Env Rem - City of Olympia v PSE Plum Street Station	(92,940)	N/A
31	Site Specific Recoveries included in allocation percentage	<u>\$ (826,665)</u>	<u>\$ -</u>
32			
33	Approved Annual Amortization from Line 10	\$ 1,423,785	\$ 8,603,274
34	Convert to Monthly	12	12
35	Approved Monthly Amortization	\$ 118,649	\$ 716,939
36	13 days of amortization from GRC effective date of 12/19/2017 - 12/31/2017	13/31	13/31
37	Approved Amortization for December 2017	\$ 49,755.93	\$ 300,652
38	Amount booked in December 2017	49,756	300,652
39	Verification of correct amortization booked	<u>\$ -</u>	<u>\$ -</u>

**(Note 1)** In the 2017 GRC settlement, the 3 site specific recoveries for electric were included in the unassigned recoveries and as a result only 47% of these amounts were included in the approved amortization. When preparing the journal entries to transfer the environmental deferrals for amortization, the entire balance in those accounts was transferred which contained all of the site specific recoveries shown on lines 28 through 30 as well as all of the deferred costs for those sites. And that amount of the site specific recoveries (\$826,665) was used to change the amount of unassigned recoveries that were transferred so that the overall result from the GRC was maintained (see line 25). PSE posted the correct amount of amortization based on the GRC settlement (see lines 33 - 39) and so this deviation does not have an income statement impact, it has a balance sheet only impact. PSE has posted a correcting entry in the 1st quarter of 2018 to transfer the 53% of these site specific recoveries that were not included in the approved amortization back to their originating accounts as follows:

Dr. 22841001 - Accum Misc Oper Provi - Unallocated Def Elec Env Rem Recoveries	\$ 435,857	
Cr. 18232271 Env Rem - Lower Duwamish Waterway		\$ (37,525)
Cr. 18608041 Env Rem - Bellingham South State Street MGP (former Blvd Park)		\$ (349,330)
Cr. 18608231 Env Rem - City of Olympia v PSE Plum Street Station		\$ (49,002)
Dr. 18239171 - Env Rem Costs - Elec UE - 170033	\$ 826,665	
Cr. 18230431 - Env Rem Recovery - Elec UE 170033		\$ (826,665)

SAP Order	SAP Account	Site Description	Actual Costs thru Sept 2016	Recoveries from Insurance or Third Parties Through Sept 2016
18230010	18231251	Env Rem - White River/Buckley Phase I Headworks (Remediation Cost)	5,906	
18230009	18232251	Env Rem - White River/Buckley Phase II Burn Pile and Wood Debris	2,147,559	
18230021	18232271	Env Rem - Lower Duwamish Waterway	465,046	(71,171)
18230041	18233091	Env Rem - Tenino Service Center UST	198,092	
18601120	18608001	Env Rem - Lower Baker Power Plant	440,997	
18601121	18608021	Env Rem - Snoqualmie Hydro Generation (Power Plant)	2,254,508	
18601122	18608041	Env Rem - Bellingham South State Street MGP (former Blvd Park)	2,242,411	(662,554)
18601125	18608081	Env Rem - Electron Flume	659,655	
18601128	18608141	Env Rem - Talbot Hill Substation and Switchyard	224,880	
18601130	18608191	Env Rem - Sammamish Substation	400,495	
18601161	18608231	Env Rem - City of Olympia v PSE Plum Street Station	324,638	(92,940)
18601171	18608251	Env Rem - Whitehorn UST Remediation	696	
18601129	18608171	Env Rem - Everett Asarco	212,589	
18601151	18608211	Env Rem - Pt. Robinson Cable Station	111,880	
	22841001	Accum Misc Oper Provi – Unallocated Def Elec Env Rem Recoveries	-	(4,610,484)

<b>TOTAL ELECTRIC SITES</b>	<b>9,689,352</b>	<b>(5,437,149)</b>
Future Costs	<u>10,806,250</u>	
Total Actual and Future Costs	20,495,602	
Percent of Costs Spent	47%	

(2,570,427.24)

SAP Order	SAP Account	Site Description	Recoveries from Insurance	
			Actual Costs thru Sept 2016	or Third Parties Through Sept 2016
18606102	18608612	Tacoma Gas Company (Upload Source Control) (Remediation Costs)	785,957	
18607102	18608712	Thea Foss Waterway (Remediation Costs)	5,361,208	
	18608772	Thea Foss Waterway (WADOT Settlement)	(3,488,999)	
18607103	18608722	Thea Foss Recovery	8,781	
18602102	18608212	Everett Washington (Remediation Costs)	1,470,852	
	18608782	Everett Washington (WADOT Settlement)	(801,551)	
18603102	18608312	Chehalis Washington (Remediation Costs)	3,961,262	
18606302	18609432	Post - Nov 2012 Gas Works Park (Remediation Costs)*	6,872,374	
18604102	18608412	Pre-Nov 2012 Gas Works Park (Remediation Costs)	2,651,382	
18614102	18609312	Pre-Nov 2012 Lake Union Sediments (Remediation Costs)	12,405,155	
18612102	18609512	Quendall Terminal (Remediation Costs)	227,819	
18601102	18608112	Post-June 1999 Tacoma Tar Pits (Remediation Costs)	4,147,809	
18601102	18608112	Pre June 1999 Tacoma Tar Pits (Remediation Costs)**	34,881,722	
18603202	18609532	Bay Station (Remediation Costs)	436,859	
18614402	18609542	Olympia Columbia Street MGP (Remediation Costs)	1,263,974	
	18608792	Olympia Columbia Street MGP (WADOT Settlement)	(160,310)	
18608302	18608752	Verbeek Autowrecking (Remediation Costs)	2,050,123	
18608304	18608752	Verbeek Autowrecking (Reimbursement of Remed Cost from 3rd Party)	(1,114,593)	
18607104	18608002	Downtowner Property (Remediation Costs)	518,202	
		<u>Gas Underground Storage Tanks and Other Sites</u>		
18230212	18237112	SWARR STATION	289,121	
	18237122	SOUTH SEATTLE GATE STATION	169,602	
	18237132	NORTH TACOMA GATE STATION	133,750	
	18237142	NORTH SEATTLE GATE STATION	53,996	
	18237152	COVINGTON GATE STATION	67,987	
	18608062	Unallocated Insurance and Third Party Recoveries***		(50,267,725)
		<b>ADJUSTMENT</b>		
		18608152 Env Rem Tacoma Tar Pits - Internal Cost		(209,797)
		18608452 Env Rem Gas Work Part - Internal Cost		(367)

<b>TOTAL GAS SITES</b>	<b>72,192,483</b>	<b>(50,477,888)</b>
Future Costs	52,708,450	
Total Actual and Future Costs	124,900,933	
Percent of Costs Spent	58%	
		<b>(29,176,116)</b>

## ENVIRONMENTAL REMEDIATION FUTURE COST ESTIMATE

	2016 Low Future Costs	2016 High Future Costs	2016 Mid Range Future Costs
	<i>(a)</i>	<i>(b)</i>	<i>Average (a) - (b) = (c)</i>
<b>GAS</b>	38,018,200	67,398,700	<b>52,708,450</b>
<b>ELECTRIC</b>	<u>4,876,000</u>	<u>16,736,500</u>	<u><b>10,806,250</b></u>
Total 2015 ELEC and GAS Future Cost Estimate	42,894,200	84,135,200	<b>63,514,700</b>

## **DEFERRED BALANCE**

The following 2 pages reflect the balances in each of the deferred Environmental Remediation Accounts for the period September 2016 through December 31, 2017 consistent with reporting requirements outlined in the Settlement (paragraph 55 subpart D--Monthly & Year end deferred balance for the reporting year)

The 2017 Report filed in April 2018 will be the only year that includes a 15 month period. Future reports will be calendar year only.

The 15 month period is used in the initial report so as to agree to amounts that were included in the 2017 GRC UE-170033 and UG-170034, the rate case in which the new reporting requirements were adopted by settlement.







## **DEFERRED ACTIVITY**

The following 4 pages represent the deferral activity by month in each Environmental Remediation Account for the September 2016 through December 31, 2017.

The pages 16 through 20 provide overviews of activity within each Electric/Gas subaccount and the 'Activity' tabs reflect the monthly entries to each account as well as include the amount of 3rd party and insurance recoveries received during the reporting period by month and are associated with the project for which they were received.

The 2017 Report filed in April 2018 will be the only year that includes a 15 month period.

Future reports will be calendar year only.

The 15 month period is used in the initial report so as to agree to amounts that were included in the 2017 GRC UE-170033 and UG-170034, the rate case in which the new reporting requirements were adopted by settlement.

**PUGET SOUND ENERGY**  
**DEFERRED ACTUAL ENVIRONMENTAL REMEDIATION COST SUMMARY FOR ELECTRIC**  
**SEPTEMBER 2016 - DECEMBER 2017**

SAP Account	Order in Docket # (a)	Type Category (b)	Site Description	Cummulative Ending Bal. Sept-16	Sept 2016 - Dec 2017 ACTUAL COST			
					Sept 2016 - Dec 2017 Activity	Insurance/3rd Party Recoveries	Bal. authorized to transfer for amortization	Ending Bal. Dec-17
18231241, 18231251	UE-991796, UE-170033	Type A	White River/Buckley Phase I Headworks Site	5,906	61,260	-	(5,906)	61,260
18232221, 18232251	UE-991796, UE-170033	Type A	White River/Buckley Phase II Burn Pile and Wood Debris	2,147,559	23,165	-	(2,147,559)	23,165
18232261, 18232271	UE-021537, UE-170033	Type A	Lower Duwamish Waterway	465,046	392,529	(213,650)	(393,875)	250,051
18230321, 18233091	UE-911476, UE-170033	Type A	Tenino Service Center UST	198,092	-	-	(198,092)	-
18608011, 18608001	UE-070724, UE-170033	Type A	Lower Baker Power Plant	440,997	19,063	-	(440,997)	19,063
18608031, 18608021	UE-072060, UE-170033	Type A	Snoqualmie Hydro Generation	2,254,508	-	-	(2,254,508)	0
18608051, 18608041	UE-081016, UE-170033	Type A	Bellingham South State Street MGP	2,242,411	820,462	(671,886)	(1,579,857)	811,130
18608111, 18608081	UE-070724, UE-170033	Type A	Electron Flume	659,655	10,000	-	(659,655)	10,000
18608151, 18608141	UE-070724, UE-072060, UE-081016, UE-170033	Type A	Talbot Hill Substation and Switchyard	224,880	1,544	-	(224,880)	1,543
18608181, 18608191	UE-070724, UE-072060, UE-081016, UE-170033	Type A	Sammamish Substation	400,495	-	-	(400,495)	0
18608221, 18608231	UE-070724, UE-072060, UE-081016, UE-170033	Type A	City of Olympia v PSE Plum Street Station	231,698	1,767,542	(105,008)	(231,698)	1,662,534
18608241, 18608251	UE-911476, UE-170033	Type A	Whitehorn UST	696	-	-	(696)	-
18608171	UE-070724, UE-072060, UE-081016, UE-170033	Type A	Everett Asarco	212,589	-	-	(212,589)	(0)
18608211	UE-070724, UE-072060, UE-081016, UE-170033	Type A	Pt. Robinson Cable Station	111,880	-	-	(111,880)	0
18608291, 18608281	UE-070724, UE-072060, UE-081016	Type B	Shuffleton (NEW)	-	95,467	-	-	95,467
18608451, 18608441	UE-070724, UE-072060, UE-081016	Type C	Central Waterfront (NEW)	-	-	-	-	-
22841001	Multiple Dockets	Type A	Unallocated Def Elec Env Rem Recoveries	(4,610,484)	-	-	1,743,762	(2,866,722)
			<b>Grand Total</b>	<b>4,985,928</b>	<b>3,191,032</b>	<b>(990,544)</b>	<b>(7,118,925)</b>	<b>67,492</b>

(a) The deferred accounting would include only those amounts paid to outside vendors, contractors, or to reimburse others for such costs and would not include legal costs or the costs related to Company personnel. Any recovery of insurance proceeds, net of outside legal costs incurred in pursuing such recovery.  
 UE-170033 - PSE's 2017 general rate case filed under UE-170033 did not authorize deferral of specific sites but allowed for amortization of the September 2016 balances over five years for the sites noted.

(b) Type A: Additional costs associated with projects previously reviewed and approved for amortization in Dockets UE-170033 and UG-170034.  
 Type B: New projects whose costs would be covered by the recoveries that existed and reviewed in Dockets UE-170033 and UG-170034.  
 Type C: New projects that cannot be tied to prior recoveries that may or may not have new recoveries specific to the project.



**PUGET SOUND ENERGY**  
**DEFERRED ACTUAL ENVIRONMENTAL REMEDIATION COST SUMMARY FOR GAS**  
**SEPTEMBER 2016 - DECEMBER 2017**

SAP Account	Type Category			Cummulative Ending Bal. Sept- 16	Sept 2016 - Dec 2017 ACTUAL COST			
	Order in Docket # (a)	(b)	Site Description		Sept 2016 - Dec 2017 Activity	Insurance/3rd Party Recoveries	Bal. authorized to transfer for amortization	Ending Bal. Dec-17
18609572, 18608612	UG-920840, UG-170034	Type A	Tacoma Gas Company	785,957	30,497	-	(785,957)	30,497
18609582, 18608712, 18608772	UG-920840, UG-170034	Type A	Thea Foss Waterway	5,369,990	7,779	(3,488,999)	(1,880,991)	7,779
18609592, 18608212, 18608782	UG-920781, UG-170034	Type A	Everett MGP	1,470,852	14,784	(801,551)	(669,302)	14,784
18609602, 18608312	UG-920840, UG-170034	Type A	Chehalis MGP	3,961,262	9,706	-	(3,961,262)	9,706
18609422, 18609432, 18608412, 18609312, 18609402	UG-920840, UG-170034	Type A	Gas Works Park	21,928,910	2,666,214	(499,236)	(21,928,910)	2,166,978
18609622, 18609512	UG-920840, UG-170034	Type A	Quendall Terminal	227,819	66,429	-	(227,819)	66,429
18609642, 18608112	UG-920781, UG-170034	Type A	Tacoma Tar Pits	39,029,531	467,715	-	(39,029,531)	467,715
18609652, 18609532	UG-920840, UG-170034	Type A	Bay Station	436,859	644,675	-	(436,859)	644,675
18609662, 18609542, 18608792	UG-920840, UG-170034	Type A	Olympia Columbia Street MGP	1,263,974	10,171	(160,310)	(1,103,663)	10,171
18609672, 18608752	UG-920840, UG-170034	Type A	Verbeek Autowrecking	2,050,123	-	(1,114,593)	(935,530)	-
18608012, 18608002	UG-920840, UG-170034	Type A	Downtowner Property	518,202	252,676	-	(518,202)	252,676
18609682, 18237112	UG-920840, UG-170034	Type A	Swarr Station	289,121	5,108	-	(289,121)	5,108
18237122	UG-920840, UG-170034	Type A	South Seattle Gate Station	169,602	-	-	(169,602)	-
18237132	UG-920840, UG-170034	Type A	North Tacoma Gate Station	133,750	-	-	(133,750)	-
18237142	UG-920840, UG-170034	Type A	North Seattle Gate Station	53,996	-	-	(53,996)	-
18237152	UG-920840, UG-170034	Type A	Covington Gate Station	67,987	-	-	(67,987)	-
18608062	Multiple Dockets	Type A	Unallocated Insurance and Third Parties Recoveries	(50,267,725)	(210,163)	-	29,176,116	(21,301,772)
			<b>Grand Total</b>	<b>27,490,211</b>	<b>3,965,591</b>	<b>(6,064,688)</b>	<b>(43,016,368)</b>	<b>(17,625,253)</b>

(a) The deferred accounting would include only those amounts paid to outside vendors, contractors, or to reimburse others for such costs and would not include legal costs or the costs related to Company personnel. Any recovery of insurance proceeds, net of outside legal costs incurred in pursuing such recovery.  
 UG-170034 - PSE's 2017 general rate case filed under UG-170034 did not authorize deferral of specific sites but allowed for amortization of the September 2016 balances over five years for the sites noted.

(b) Type A: Additional costs associated with projects previously reviewed and approved for amortization in Dockets UE-170033 and UG-170034.  
 Type B: New projects whose costs would be covered by the recoveries that existed and reviewed in Dockets UE-170033 and UG-170034.  
 Type C: New projects that cannot be tied to prior recoveries that may or may not have new recoveries specific to the project.



**ACCOUNT TRANSFERS AND AMORTIZATION**

The following two pages represent the amounts transferred to accounts for amortization consistent with Settlement Agreement paragraph 55 g

PUGET SOUND ENERGY  
 TRANSFERS AND AMORTIZATION FOR ELECTRIC  
 Sept 2016 - December 2017

SAP Account	Site Description	Amortization Period	Cummulative												Cummulative Bal. Dec-17					
			Bal. Sept-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17		Sep-17	Oct-17	Nov-17	Dec-17	
18239171	Env Rem Costs - Elec UE - 170033 (Transfer) (See Note 1)	12/19/2017 -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8,862,687	8,862,687
18239171	Env Rem Costs - Elec UE - 170033 (Amortization Dec 19 - 31, 2017)	12/18/2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(67,721)	(67,721)
<b>Subtotal Env Rem Costs - Elec</b>			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>8,794,966</b>	<b>8,794,966</b>
18230431	Env Rem Recovery - Elec UE 170033 (Transfer) (See Note 1)	12/19/2017 -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(1,743,762)	(1,743,762)
18230431	Env Rem Recovery - Elec UE 170033 (Amortization Dec 19 - 31, 2017)	12/18/2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17,965	17,965
<b>Subtotal Amortization Accounts</b>			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>(1,725,796)</b>	<b>(1,725,796)</b>
<b>Grand Total</b>			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>7,069,169</b>	<b>7,069,169</b>

(Note 1) See related note on the "2017 GRC Stmt" tab in the One Time Request section.



PUGET SOUND ENERGY  
TRANSFERS AND AMORTIZATION FOR GAS  
**Sept 2016 - December 2017**

SAP Account	Site Description	Cummulative														Cummulative Bal. Dec-17			
		Bal. Sept-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17		Nov-17	Dec-17	
18239042	Env Rem Costs - Gas UG - 170034 (Transfer)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72,192,483	72,192,483
18239042	Env Rem Costs - Gas UG - 170034 (Amortization Dec 19 - 31, 2017)																	(504,571)	(504,571)
	<b>Subtotal Env Rem Costs - Gas</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>71,687,912</b>	<b>71,687,912</b>
18230312	Env Rem Recovery - Gas UE 170034 (Transfer)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(29,176,116)	(29,176,116)
18230312	Env Rem Recovery - Gas UG - 170034 (Amortization Dec 19 - 31, 2017)																	203,919	203,919
	<b>Subtotal Env Rem Recovery - Gas</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>(28,972,197)</b>	<b>(28,972,197)</b>
	<b>Grand Total</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>42,715,716</b>	<b>42,715,716</b>

## **FUTURE COST ESTIMATE**

The following page represents the most current future cost estimates  
for PSE's Environmental Remediation Sites

**PUGET SOUND ENERGY UST REMEDIAL COST ESTIMATES**  
(Updated Dec 2017)

PSE Facility/Location	Site Status	Proposed Remedial Action	Estimated Cost of Proposed Remedial Action (\$)
Whidbey Service Center Oak Harbor, WA	USTs and majority of contaminated soil removed in 1999. Small volume of contaminated soil remains beneath building	VCP Program and GW Monitoring (New Wells) Soil excavation when building(s) is removed	30,000.00
Tenino Service Center Tenino, WA	USTs and majority of contaminated soil removed in 1991. Remaining small volume of contaminated soil removed Q4 2009.	Groundwater monitoring completed in 2012. Well abandonment to be completed in the future. Remedial excavation completed in Q4 2009.	-
Poulsbo Service Center Poulsbo, WA	6,000 gal. Gas & Diesel USTs	Natural Attenuation Soil excavation when building is removed.	20,000.00
Olympia Service Center (Post-EPRI Diesel Remediation) Olympia, WA	Diesel UST removed. Contaminated soil and ground water remains after EPRI air sparging program. Gas Spill Nov 99	Natural Attenuation and GW Monitoring (Existing Wells) Soil excavation when building(s) is removed	258,000.00
North Operating Base Seattle, WA	USTs removed in 1999. Diesel-contaminated soil remains beneath fuel island.	Site Characterization and GW Monitoring (New Wells) Soil excavation when fuel island is removed	100,000.00
Whitehorn Combustion Turbine	Leaking false start USTs discovered. Contaminated soil and groundwater is present.	Three false start tanks removed and one decommissioned in-place in 2012. Accessible contaminated soil was removed. Contaminated soil	96,000.00

PSE Facility/Location	Site Status	Proposed Remedial Action	Estimated Cost of Proposed Remedial Action (\$)
Green Mtn. Micro Wave Bremerton, WA	One UST	None	0
Rattlesnake Mtn. Micro Wave Issaquah, WA	One UST	None	0
Baker River Lower Concrete, WA	2,500 gal. Gas and Diesel USTs	None	0
Baker River Upper Concrete, WA	1,000 gal. Gas and Diesel USTs	None	0
Bellingham Service Center Bellingham, WA	10,000 gal. Gas and Diesel USTs removed Feb. 2016. No known USTs remain at site.	None	0
Factoria Service Center Bellevue, WA	10,000 gal. Gas and Diesel USTs	None	0
Kittitas Service Center Thorp, WA	5,000 gal. Gas and Diesel USTs	None	0
<b>Cost Estimate Totals:</b>			504,000.00

**Notes**

<sup>1</sup> Unless noted, remedial costs do not include demolition of facilities and buildings to access contaminated soil.

<sup>2</sup> Unless noted, groundwater monitoring estimate assumes three years of monitoring/sampling.

<sup>3</sup> All estimated costs should be considered conceptual. They are not based on a detailed scope of service or design.