



Puget Sound Energy

Meter Upgrade Project and Schedules 171 Implementation Status Report

Reporting Period:

January 1, 2018 – June 30, 2021

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Introduction

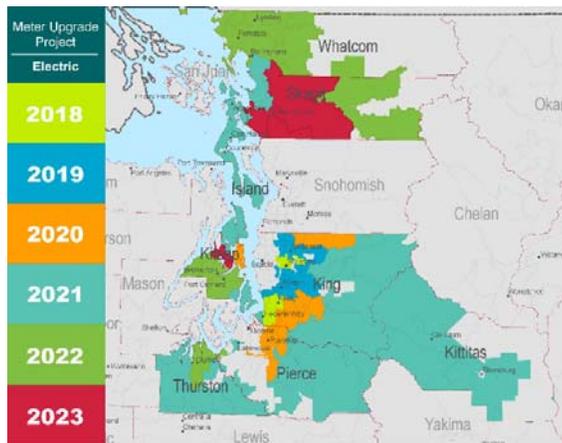
Pursuant to paragraph 32 in Order 01 of Dockets UE-180860 and UG-180861¹, Puget Sound Energy (“PSE”) provides its fourth report of the status of PSE’s Meter Upgrade Project² and of the results and costs associated with the implementation of PSE’s electric and natural gas Schedules 171 Optional Non-Communicating Meter (“NCM”) Service. This report reflects the meter exchange results and the Schedules 171 transactions and accounting records as of June 30, 2021, for the years of 2018-2021.

The data presented in this reporting includes preliminary and transactional data that will be supplemented and updated as data becoming available and new NCM events occurred. The costs associated with the implementation of the NCM service outlined in this report are not final and not comprehensive as this optional service requires on-going customer care, operations management, and information technology support. Additionally, some of the implementation and operation costs of electric and natural gas NCM service are recorded in the Advanced Metering Infrastructure (“AMI”) implementation and operation costs, which are not included in this report.

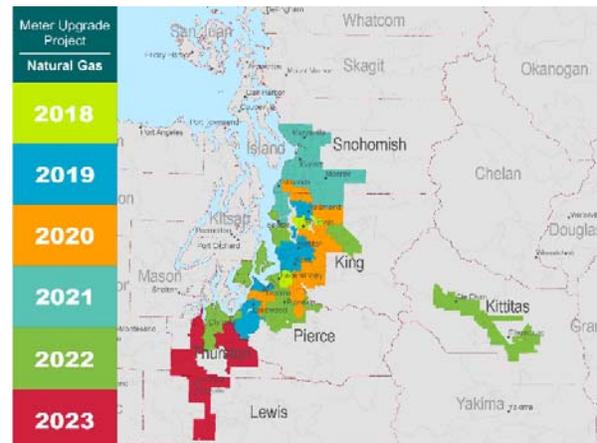
Although the new electric and natural gas Schedules 171 Optional NCM Service are available to customers in the AMI deployment area beginning on July 1, 2019, PSE’s preparation and customer inquiries about the NCM service began in 2018 when PSE initiated its Meter Upgrade Project, prior to approval of the new optional service on July 1, 2019.

The two Meter Upgrade Project maps below are the areas where exchanges are anticipated by year. These maps are updated frequently and available at pse.com/meterupgrade.

Electric Meter Upgrade Project Map



Natural Gas Meter Upgrade Project Map



¹ Order 01, Order Allowing Tariff Revisions to Go Into Effect Subject to Condition, dated 1/11/2019. In Order 01 paragraph 32, the Commission orders that “Puget Sound Energy must file a status report every 6 months beginning January 31, 2020, and a final report on the status and cost of its opt-out program no later than January 31, 2026.”

https://www.utc.wa.gov/_layouts/15/CasesPublicWebsite/GetDocument.aspx?docID=33&year=2018&docketNumber=180860

² <https://www.pse.com/pages/meter-upgrade>

In March 2019, all activities associated with PSE’s Meter Upgrade Project, including the optional NCM service, were paused in accordance with Washington Governor Inslee’s March 23, 2020 “Stay Home – Stay Healthy order”³. PSE then resumed all Meter Upgrade Project activities on May 5, 2020. At that time, PSE’s installers, Aclara and Tribus, ramped up their installation pace gradually, allowing PSE to closely monitor field conditions and customer sentiment, especially since so many were working from home. Within two months, both Aclara and Tribus were back to their pre-pandemic pace of installations.

Since resuming their work, installers have continued to wear additional personal protective equipment (“PPE”), including face coverings, practice physical distancing at all times, and post signs at all installation sites asking passersby to maintain appropriate distance. Likewise, all customer communications (e.g., letters, emails, robocalls, etc.) continue to include reminders about the need for physical distancing, and information about PSE’s COVID-19 safety measures. Talking points related to the pandemic, and added safety precautions, are available for all customer-facing staff. PSE will continue to follow the state’s recommendations related to COVID-19 and adapt to any changes as needed to carry out its Meter Upgrade Project.

PSE’s natural gas AMI module vendor, Tribus, ended its contract with PSE after being purchased by another company this year. Tribus finished its final installations and exited the field in March 2021. The new vendor, Scope, came on board on March 31, 2021. During the month of April 2021, Scope was working on transition activities, such as integration of system communications, to prepare for the field work to begin. Scope completed the first few installations on May 14, 2021, and has been ramping up natural gas AMI module installation since then. They are expecting to be at full deployment scale this August.

³ Governor’s Proclamation 20-25, Stay Home – Stay Healthy

<https://www.governor.wa.gov/sites/default/files/proclamations/20-25%20Coronavirus%20Stay%20Safe-Stay%20Healthy%20%28tmp%29%20%28002%29.pdf>

Reporting Elements

1. Status of the Meter Upgrade Project, including geographic areas where AMI meters have been installed and the number of meters installed.

Numbers of AMI meters and modules installed as of June 30, 2021, by quarter:

AMI meters/modules installation Count				
		Electric	Natural Gas	Total
2017	Q4	36	30	66
2018	Q1	385	0	385
2018	Q2	32,505	184	32,689
2018	Q3	67,838	14,423	82,261
2018	Q4	73,114	30,321	103,435
2019	Q1	58,353	43,707	102,060
2019	Q2	52,349	28,362	80,711
2019	Q3	53,934	42,834	96,768
2019	Q4	54,566	40,145	94,711
2020	Q1	46,800	32,453	79,253
2020	Q2	20,158	17,194	37,352
2020	Q3	61,310	51,035	112,345
2020	Q4	65,843	56,217	122,060
2021	Q1	60,169	43,788	103,957
2021	Q2	54,484	4,404	58,888
Total		701,844	405,097	1,106,941

Numbers of AMI meters and modules installation as of June 30, 2021, by county:

County	AMI meters/modules installation Count			Metered Customer Schedule Count ⁴		
	Electric	Natural Gas	Total	Electric	Natural Gas	Total
ISLAND				38,119		38,119
KING	520,308	300,557	820,865	580,414	481,094	1,061,508
KITSAP	36,341		36,341	125,651		125,651
KITTITAS	1,750		1,750	15,156	2,078	17,234
LEWIS				2	4,267	4,269
PIERCE	143,421	69,837	213,258	129,057	167,187	296,244
SKAGIT				62,917		62,917
SNOHOMISH		34,703	34,703	49	150,244	150,293
THURSTON				137,223	55,229	192,452
WHATCOM	24		24	109,395		109,395
Total	701,844	405,097	1,106,941	1,197,983	860,099	2,058,082

⁴ Including counts of metered rate schedules such as residential energy use electric Schedule 7 and natural gas Schedule 23; excluding counts of rate schedules that do not require a meter such as electric lighting schedules and natural gas water heater rental schedules

2. Information on customer communication results, including the number of customers who have informed PSE of their Initial Request for service under electric and natural gas Schedules 171

All customers are sent a letter notification 3-5 weeks ahead of the exchange to an AMI meter. The letter contains information about electric and natural gas Schedules 171 NCM service. Interested customers can contact PSE via phone, email or US mail to learn about the NCM service or to request the optional service. As of June 30, 2021, PSE received a total of 8,769 electric and natural gas Schedules 171 NCM service requests associated with 5,196 electric and 3,573 natural gas meters. Of these 8,769 NCM service requests, 1,848 have been completed, 1,227 are in progress, 2,795 were rejected, and 2,899 were cancelled.

The table below provides further details about the completed 1,848 NCM service requests. As shown, 340 (the difference between 1,848 requests and 1,508 Schedule 171 accounts) NCM service requests have been approved but were pending billing configuration in PSE's billing system as of June 30, 2021.

	NCM Service Request Form Completed and Approved	Schedule 171 Billing Initiated and NCM Meter Installed/Natural Gas Module Removed
Electric	1,110	926
Natural Gas	738	585
Total	1,848	1,508

3. The number of customers on electric and natural gas schedules 171, including a) the non-payment disconnection count, b) the bill payment assistance status, and c) status of their Schedule 171 One-Time Charge Payment

	Electric	Natural Gas
Schedule 171 billed accounts as of 6/30/2021	926	582
Number of Schedule 171 accounts with non-payment disconnection during 1/1/2017-6/30/2021 ⁵	16	4
Number of Schedule 171 accounts with bill payment assistance during 1/1/2017-6/30/2021, including pledges from the federal government, PSE or organizations that provide assistance through PSE	23	15
Count of Schedule 171 One-Time Charge ⁶ 7/2019-6/2021	113	30

⁵ All non-payment disconnections occurred prior to March 2020.

⁶ Schedule 171 One-Time Charge is applicable to the NCM service request made by a customer at a point of delivery where an AMI meter has already been installed.

4. PSE costs associated with the implementation of electric and natural gas schedules 171, including capital costs and maintenance costs for information systems, meter networks, meter exchange, meter reading, and other related costs associated with providing service under electric and natural gas Schedules 171

The following table summarizes some of the capital costs and maintenance costs associated the implementation of electric and natural gas schedules 171. The NCM service related costs that are recorded within the Meter Upgrade Project costs during 2018, 2019, and 2020 are not included in the table below.

As PSE moves forward in its AMI meter/module exchange, PSE will gather information that allows PSE to understand how much the rest of rate payers are subsidizing NCM customers.

	2018 ^{Note 1}	2019 ^{Note 1}	2020 ^{Note 1}	2021 ^{Note 1}	1/2018-6/2021 ^{Note 1}
Electric NCM Installation Costs	\$0	\$15,277	\$40,559	\$18,500	\$74,337
Gas NCM Installations	\$0	\$23,003	\$22,893	\$8,098	\$53,993
Electric NCM Reading Set-up Costs	\$0	\$0	\$61,848	\$0	\$61,848
Gas NCM Reading Set-up Costs	\$0	\$0	\$28,325	\$0	\$28,325
Electric NCM Reading Costs ^{Note 2}	\$0	\$0	\$0	\$26,399	\$26,399
Gas NCM Reading Costs ^{Note 2}	\$0	\$0	\$0	\$7,820	\$7,820
Electric NCM Customer Service and Project Management Related Costs ^{Note 3}	\$0	\$0	\$14,042	\$308,418	\$322,459
Gas NCM Customer Service and Project Management Related Costs ^{Note 3}	\$0	\$0	\$10,341	\$232,901	\$243,242
NCM Information System Capital Costs ^{Note 4}	\$1,521,425	\$2,280,046	\$12,291	\$0	\$3,813,761

Note 1: The NCM service related costs that are recorded within the Meter Upgrade Project costs during 2018, 2019, and 2020 are not included in the amount.

Note 2: Amount reflects the manual metering reading costs that have been invoiced by the contractor by June 30, 2021.

Note 3: Amount reflects June 2021 results of the labor costs associated with customer care staff and the project team working on the management of NCM service operations.

Note 4: The NCM information system capital costs are the costs associated with SAP work management and interface configuration and programming changes to support the NCM

service. The works include adding new rate schedules and charges, enabling NCM service request tracking, expanding bi-monthly meter reading and billing functionality, automating customer NCM communication, and integrating and testing systems.

5. Revenues associated with electric and natural gas Schedules 171

Schedule 171 For the period of 7/2019-6/2021	Additional Bi-Monthly Service Charge		One-Time Charge	
	Per Meter	Total Billed	Per Meter	Total Billed
Electric	\$15	\$92,460	\$90	\$10,170
Natural Gas	\$15	\$54,705	\$50	\$1,500

6. Number of Initial Requests that did not result in a submitted and completed Service Request

As of June 30, 2021, PSE has received 8,769 NCM service requests. 2,899 requests have been cancelled by customers and 2,795 NCM service requests have been rejected by PSE per the terms and conditions of Schedule 171. As outlined in electric and natural gas Schedules 171, this optional non-communicating meter service is available only to residential customers residing in a single-family dwelling (or a multi-plex residence of up to four units) that are in the area where PSE has started the deployment of AMI meter upgrade. In addition, customers have to complete a NCM service request and meet the requirements and responsibilities for service outlined in the tariff schedules.

7. Number of electric and natural gas Schedules 171 customers who discontinue service on Schedule 171

As of June 30, 2021, the NCM optional service with 105 electric or natural gas accounts have been discontinued, 18 at customer request and 84 because of that the initial NCM customers have moved out. Three NCM service was discontinued by PSE because PSE personnel had not been able to read the meter for four consecutive months as provided for in PSE's electric and natural Schedules 171⁷ section 8:

8. The Company may refuse or revoke the Installation of a non-communicating meter at the Customer's premises for reasons including but not limited to the following conditions:
 - a. no meter reading for four consecutive calendar months when safe access is not available for the Company's personnel and standard equipment;
 - b. current or past incidents of Customer meter tampering;
 - c. current or past incidents of Customer impeding the Company's access to meter to obtain meter reads, perform maintenance or to disconnect meter for non-payment of Gas Service; or
 - d. incidents of service disconnection for non-payment (of Customer's electric and/or natural gas accounts for communicating and/or non-communicating meters) twice within the prior 12-month period.

⁷ Electric Schedule 171: https://www.pse.com/-/media/Project/PSE/Portal/Rate-documents/Electric/elec_sch_171.pdf
Natural gas Schedule 171: https://www.pse.com/-/media/Project/PSE/Portal/Rate-documents/Gas/gas_sch_171.pdf

8. PSE discussion of other issues associated with providing service under electric and natural gas Schedules 171

A. Challenges with Manual Meter Reading

For two decades, PSE has not had to manually read meters to gather the usage information for billing for almost 100% of its meters. All of PSE's systems have been designed to collect meter reads wirelessly since the installation of AMR technology in the late 1990s. The reintroduction of manual reading has required the creation of entirely new internal and external processes, and company and IT structure changes.

Aside from the PSE structures and processes needed, customer expectations and behaviors have changed; customers have naturally adapted to no longer having to provide regular access to the meter for reading. Residences have been altered to include fences, locked gates, planted vegetation, siding, and decoration around the meter face. This can make a manual meter read difficult, if not impossible. In addition to the physical impediments to reading the meter, the necessity of having someone on customers' property is a change for the customers. Even customers who are requesting NCM are needing time to discuss and understand that PSE will now need access to their property on a regular basis.

The set up and execution of efficient internal and external processes that support the manual meter reading system for the electric and natural gas Schedules 171 NCM service in an era of wireless reading was more difficult than originally anticipated. With PSE's wireless AMR metering, PSE did not previously have a group that focused on manually reading meters, so the optional NCM service has necessitated the acquisition of additional resources. Additionally, since meters have not needed to be read manually, customers who participate in the NCM service are not accustomed to making their yard accessible for PSE's meter reader. There have had more than 60 instances of NCM meters being unable to be read due to some sort of access impediment since the beginning of the Schedules 171 NCM service.

Additionally, the spread out nature of the participants of the optional non-communicating meters service and their different billing schedules can make it difficult to reach all the customers in the short timeframe to collect the meter read necessary to bill.

B. New Customer Communication and Education Needs

PSE is respectful of its customers' preferences regarding the optional NCM service. PSE's goal is to exchange all meters in a timely and reasonable manner, regardless of whether it is an AMI or NCM meter. As such, PSE has implemented a robust communications and education process to provide customers with the opportunity to discuss and ask questions about the NCM service and the Meter Upgrade project. This approach requires in-depth and time intensive conversations with customers; PSE's customer communication team has consistently found that customers have both incorrect information and numerous questions on a variety of topics that may be tangentially connected to the meter. This has required shifting priorities and dedicating resources to meet the new customer needs has led to a large variance in how long customer care and communication processing takes. Currently, PSE has a dedicated team of two (2) customer service representatives (i.e., the "back office team") assigned to communicate with customers regarding their questions related to meter exchange and the NCM service. The back office team is also supported by a group of additional non-dedicated but specially-trained customer service representatives.

PSE customers have never had a metering choice; this customer choice has created a need for enhanced communication and education around meters that was previously not necessary. The meter and its technology is not something that customers had to think much about and the general understanding of metering technology is low. PSE has been diligently working to ensure that customer's questions are answered in a timely fashion and they are given the information needed to make an informed choice on their metering. These questions have included such topics as RF⁸ v. EMF⁹, how the different metering types work, what to expect for installation, "dirty electricity", as well as 5G¹⁰ and if it is related to AMI, who owns the meter, just to name a few. Between January 1, 2021, and June 30, 2021, PSE's back office team has taken more than 6,000 calls with an average call handle time of 8.45 minutes.

The simplest request to participate in the NCM service can take a little less than an hour from initial request to have arrangement on an NCM installation of employee time, but other cases have taken over 50 hours of employee time from initial request to NCM installation arrangement. PSE communicates with customers through a variety of mediums and also may need to engage multiple departments including the call center (which has the specialized back office team - staffed every business day to meet the communication needs of customers interested in NCM service), communications outreach, escalated complaints, legal, and the Meter Upgrade Project teams. This depth of resources is required to educate and answer customer questions so that they understand their decision of whether or not to choose this optional NCM service.

C. Extended NCM Installation Timeline

PSE has found the installation time for a NCM to be extended mainly due to the following reasons:

⁸ radio frequency

⁹ radiofrequency electromagnetic fields

¹⁰ 5th generation of mobile networks (5G)

- First, some customers experience a longer timeline to have a NCM installed, which is based on whether PSE's Meter Upgrade Project has reached their area. As shown in section 1 above, the Meter Upgrade Project is a multi-year process. PSE has received requests for NCM service from customers in areas that is not scheduled to have the AMI upgrade yet, so these customers will need to wait until the AMI and the NCM service become available in an area. The call center's specialized back office team has been working through these requests as AMI and NCM services becomes available in different areas.
- Second, PSE's business process is designed to give customers adequate time to return the completed NCM service request form to finalize their optional metering choice. Customers have 67 days to return paperwork for acceptance into the optional service and PSE will allow customers to go through the process twice, meaning two 67 day periods, where PSE will wait to hear from the customer before moving forward. This process involves phone calls, emails, an initial letter, a reminder letter, and finally an acceptance or rejection letter. From initial request to installation of NCM for eligible customers who are accepted into the program can take weeks, if not months, depending on how quickly the customer returns paperwork.

To date, PSE is experiencing several weeks to months for customers to return the required NCM form, and sometimes customers do not return the NCM form at all. This can add significant handle time to each case.

- Third, with regard to natural gas NCM implementation, installation time has been extended due to limited crew availability. PSE's natural gas first response group has been designated to perform the task of removing the modules for natural gas meters that are going to be served with the optional NCM service. The natural gas first response group, however, is foremost responsible for any safety related work. The natural gas communicating module removal work for the NCM service is secondary to the safety related work, which can slow the removal of the modules to enable NCM service.

Finally, to date, the on-going COVID-19 pandemic has had the biggest impact of all. In accordance with Governor Inslee's "Stay Home – Stay Healthy order", NCM installations were paused on March 25, 2020, along with manual meter reads in the field. While all PSE's Meter Upgrade Project operation (including both AMI meters and non-communicating meters) was permitted to resume on May 5, 2020, the installation pace has increased gradually, allowing PSE to closely monitor field conditions and customer sentiment. Additional safety measures, including face coverings and physical distancing, were implemented, and external messaging was revised to communicate these measures – especially with so many customers now working from home.

D. Customer refusal of any metering type

PSE has found a subsection of customers who wish to refuse both meter type choices and attempt to halt exchange to either NCM or AMI. PSE has seen this manifest in a variety of ways:

- First, some customers will repeatedly refuse any new metering choice. Since the metering options consist of a non-communicating meter or an AMI communicating

meter, PSE continues to engage and educate the customer in conversation regarding the optional non-communicating meter service. As outlined in subsection C above, the process for the optional non-communicating meter service allows customers 67 days to return their completed and signed paperwork for acceptance into the program.

PSE has found that some in this group will not return paperwork to participate in the optional service and then will also refuse AMI meter installation again. This then begins another 67 day process in which PSE does not attempt exchange. PSE does this to allow customers time to think over their metering choices and avoid Schedule 171 One-Time Charge associated with installing a non-communicating meter after a standard AMI meter installation.

These NCM cases take at minimum 134 days, or four and a half months, for PSE to no longer delay standard AMI meter installation. However, once PSE moves forward towards installing a standard AMI meter, it can take weeks or even months to install the AMI meter. Customers who are eligible for the optional non-communicating meter service may decide to return their paperwork at any time to undo the AMI meter installation and to install a non-communicating meter instead. PSE has made every attempt to work directly with these customers who have been repeatedly refuse any new metering choice.

- Second, PSE has seen some customers refuse PSE personnel access to its metering equipment for either NCM or AMI installation. PSE has seen customers place bars across the metering base, build structures around meters, or refuse access to enclosed spaces where meters reside among other things.

There have had more than 60 instances of NCM meters being unable to be read due to some sort of access impediment since the beginning of the Schedules 171 NCM service. The NCM service has been revoked for three meters where PSE has had access denied to read a NCM for four consecutive months.

- Finally, PSE has dealt with several threats or acts of violence when attempting to complete exchanges for certain customers. On one occasion, a customer climbed on the hood of a vehicle after the AMI meter exchange was completed when they didn't return paperwork to participate in the optional non-communicating meter service. On another occasion, a customer who declined to return paperwork to receive a non-communicating meter threatened to retrieve their gun when the installer attempted to install a standard meter. For the overall Meter Upgrade program and the NCM service, PSE has had to contact police to attempt a meter installation or module exchange safely.