

**EXH. JJJ-1T
DOCKETS UE-19 ___/UG-19 ___
2019 PSE GENERAL RATE CASE
WITNESS: JOSHUA J. JACOBS**

**BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

PUGET SOUND ENERGY,

Respondent.

**Docket UE-19 ___
Docket UG-19 ___**

PREFILED DIRECT TESTIMONY (NONCONFIDENTIAL) OF

JOSHUA J. JACOBS

ON BEHALF OF PUGET SOUND ENERGY

JUNE 20, 2019

PUGET SOUND ENERGY

**PREFILED DIRECT TESTIMONY (NONCONFIDENTIAL) OF
JOSHUA J. JACOBS**

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PUGET SOUND ENERGY

**PREFILED DIRECT TESTIMONY (NONCONFIDENTIAL) OF
JOSHUA J. JACOBS**

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1 **PUGET SOUND ENERGY**

2 **PREFILED DIRECT TESTIMONY (NONCONFIDENTIAL) OF**
3 **JOSHUA J. JACOBS**

4 **I. INTRODUCTION**

5 **Q. Please state your name, business address, and position with Puget Sound**
6 **Energy.**

7 A. My name is Joshua J. Jacobs. My business address is 20111 120th Ave. NE,
8 Bothell, WA, 98011. I am Director, Business Integration for Puget Sound Energy
9 (“PSE”).

10 **Q. Have you prepared an exhibit describing your education, relevant**
11 **employment experience, and other professional qualifications?**

12 A. Yes. Please see the First Exhibit to the Prefiled Direct Testimony of Joshua J.
13 Roberts, Exh. JJJ-2, for an exhibit describing my education, relevant employment
14 experience, and other professional qualifications.

15 **Q. What are your duties as Director, Business Integration for PSE?**

16 A. As Director, Business Integration for PSE, I am responsible for leading PSE’s
17 customer transformation initiative called Get to Zero (“GTZ”). GTZ is a multi-
18 year initiative focused on improving PSE’s customer experience and improving
19 PSE’s ability to meet customer needs and ever changing and increasing
20 expectations. The initiative focuses on replacing and updating aging technologies
21 that impact PSE’s customer service. The initiative focuses on four main subject

1 areas including customer facing channels, billing and payment, work management
2 and data. In this capacity, I am responsible for the development of projects
3 necessary to improve PSE's customer experience and for the execution of work
4 within the initiative.

5 **Q. Please summarize the purpose of this prefiled direct testimony.**

6 A. The purpose of this testimony is to describe PSE's investment in the GTZ
7 initiative since the 2017 general rate case. PSE remains committed to providing
8 seamless and efficient ways for customers to do business with us. My testimony
9 discusses the overall mission of GTZ, the benefits of GTZ, the projects that have
10 and will be implemented and the costs associated with each project from
11 October 1, 2016 through December 31, 2018, plus any costs PSE intends to pro
12 form in this case through June 30, 2019.

13 II. GET TO ZERO OVERVIEW

14 **Q. Please describe the GTZ initiative generally.**

15 A. GTZ is a six year (2016-2021) corporate initiative that focuses on improving the
16 customer experience in many different ways and includes multiple projects
17 throughout PSE that tie together to ultimately make doing business with PSE
18 easier for PSE's customers. The GTZ initiative is a focused effort on all digital
19 channels to eliminate problems that drive customers to call us, including
20 addressing technologies that are near end of life, are at risk of no longer being
21 supported by PSE's partners, or no longer meet the cyber security requirements
22 established by PSE. The initiative implements improvements to billing and

1 payment capabilities for customers. The initiative includes new field force
2 automation within many of PSE's operational teams to further integrate systems
3 to improve transparency to PSE's customers and to enable new self-service
4 capabilities for scheduling field work or booking appointments. Finally, the
5 initiative focuses on improving PSE's approach to governing customer and asset
6 data and leveraging that data to glean further insights into how to better serve
7 customers through the use of enhanced data analytics tools and methods.
8 Ultimately, the goal of the initiative is to provide customers with better overall
9 service through improvements to technology and business processes.

10 **Q. What is PSE's goal in implementing GTZ?**

11 A. PSE's goal with GTZ is to provide customers with accurate, real-time and
12 proactive information that they need to help them manage their service more
13 effectively. With the GTZ initiative, PSE seeks to provide customers with a range
14 of digital and operational improvements that will continue to increase customer
15 satisfaction and allow PSE to keep pace with the digital transformation that is
16 happening all around us.

17 **Q. What was the origin of the GTZ concept?**

18 A. The concept of the GTZ initiative was originally contemplated in 2015 after a
19 summertime wind storm left hundreds of thousands of PSE's customers without
20 service, and in many cases, lacking the information to help them manage the
21 storm. From late 2015 through most of 2016, PSE used this event as a catalyst to
22 review internal applications or technologies which were not meeting customers'

1 needs or were in need of being upgraded. PSE engaged with utility leaders to
2 develop benchmarks, engaged with an array of consultants to help define best
3 practices, and engaged with customers to hear their voice on areas to improve.
4 In 2016, PSE presented the roadmap of projects established through this
5 development period to the PSE Board of Directors who approved proceeding with
6 the GTZ initiative. The Second Exhibit to the Prefiled Direct Testimony of
7 Joshua J. Jacobs, Exh. JJJ-3, contains the Board of Directors presentation, and the
8 Third Exhibit to the Prefiled Direct Testimony of Joshua J. Jacobs, Exh. JJJ-4,
9 contains a roadmap setting forth the GTZ implementation schedule during the
10 initiation phase of GTZ.

11 **Q. How is GTZ focused on meeting customer needs and expectations?**

12 A. Customers' expectations for service have changed dramatically in recent years,
13 and businesses in all industries are responding by transforming the digital
14 experience for their customers. The utility industry is no exception. Through
15 PSE's analysis, it was clear that its technology and business processes needed
16 updating to fully serve customers. Many of PSE's customer-related applications
17 required upgrades to maintain supportability and to ensure continued and proper
18 cyber security protections. In addition, PSE also determined that customers
19 needed simple and easier ways to manage their service, more convenient ways to
20 engage with PSE regarding new products and services, improved communication
21 mechanisms, easier billing and payment options, and greater accuracy and

1 transparency for customers to manage their service. GTZ addresses all of these
2 areas to improve PSE's approach at serving customers.

3 **Q. Will GTZ provide any financial benefits?**

4 A. Yes. GTZ will provide some financial benefits including 1) efficiencies tied to
5 driving operational improvements through automation or call reduction;
6 2) reductions to paper and postage given digitization and e-bill adoption; and
7 3) reductions to bad debt write offs through more effective account management
8 practices and the implementation of remote disconnect and reconnect features in
9 the future years of the initiative.

10 However, financial benefits are not the main driver behind GTZ. GTZ is driven
11 by the need to make it easier for customers to do business with PSE through an
12 aligned approach to updating, upgrading and replacing technologies that are
13 necessary to support PSE customers and their growing expectations. The GTZ
14 initiative is also needed to fix gaps within PSE's business processes which lead to
15 a cumbersome, confusing and sometimes frustrating experience for customers.

16 As described in the Prefiled Direct Testimony of Margaret F. Hopkins,
17 Exh. MFH-1T, technology solutions generally have a short life expectancy and
18 require ongoing investments to stay current. This is true for many of the
19 technologies impacted through the GTZ initiative. The GTZ roadmap (Exh. JJJ-4)
20 was developed to deliver a coordinated update to these customer-impacting
21 applications and to augment capabilities important in improving the end-to-end
22 customer experience.

1 **Q. Have PSE customers demonstrated an interest in digital interactions with**
2 **PSE?**

3 A. Yes. PSE has seen more and more customers each year signing up for digital
4 accounts to help them manage their service either through PSE's mobile
5 application or via PSE.com. In January 2017, PSE had a total digital customer
6 account base of 784,540 customers, which has grown by nine percent to
7 854,932 customers in January 2019. This growth helps to underscore the appetite
8 customers have to manage their accounts through various digital channels.
9 PSE is also seeing more interaction from customers via their mobile devices.
10 Approximately 54 percent of the visits to PSE's website in the first quarter of
11 2019 came through a mobile device. PSE anticipates this number will continue to
12 increase, and it demonstrates the need for PSE to build out the ability to serve
13 customers via channels that align with customer behavior and industry trends.

14 **Q. Is PSE effective in communicating digitally with its customers?**

15 A. Yes, through the GTZ initiative, PSE is becoming much more effective in
16 communicating digitally with customers. Historically though, this is an area
17 where PSE has lagged its peers. JD Power, a nationally-recognized leader in
18 measuring and understanding customer satisfaction, has evaluated customer
19 satisfaction for PSE over the past several years. These studies by JD Power show
20 that utility customers experience higher satisfaction with their utility when they
21 are provided with mobile, web, email and interactive voice response ("IVR")
22 channels, as compared to only a phone call with a customer service representative

1 (“CSR”). The results of these studies are discussed in the Prefiled Direct
2 Testimony of Andrew Wappler, Exh. AW-1T.

3 **Q. What are the relevant customer satisfaction attributes upon which the**
4 **JD Power survey measures utilities that apply to the work being**
5 **accomplished within the GTZ initiative?**

6 A. There are seven factors and approximately nineteen attributes in the JD Power
7 survey that demonstrate customer satisfaction relating to investments made within
8 GTZ. I have outlined these factors, attributes and 2016 scores in the Fourth
9 Exhibit to the Prefiled Direct Testimony of Joshua J. Jacobs, Exh. JJJ-5.

10 **Q. When the GTZ initiative launched in 2016, how did PSE rank amongst the**
11 **JD Power peer group for both gas and electric utilities?**

12 A. For the 2016 JD Power West Large Utility Residential Electric survey, PSE
13 ranked 11 out of 13 utilities for overall customer satisfaction, placing PSE firmly
14 in the fourth quartile. At the specific attribute level, PSE generally ranked
15 between 11 and 13 out of 13 peer electric utilities, again, firmly in the fourth
16 quartile for virtually each survey attribute with the exception of the “promptness
17 in speaking with a person,” where PSE ranked fifth out of 13 peer utilities or
18 within the second quartile.

19 For the 2016 JD Power West Large Utility Residential Gas survey, PSE ranked
20 fifth out of nine peer utilities placing PSE in the third quartile for overall customer
21 satisfaction. PSE’s overall residential gas survey results were mostly mixed across
22 the board when evaluating results at the specific attribute level.

1 The JD Power survey results represent an important signal from customers on
2 how PSE is performing as an electric and gas utility in specific touch points that
3 matter to them. The JD Power survey helped PSE shape its customer service
4 related investments and drive management activities to better meet the needs of
5 PSE's customers and maximize value to them as well.

6 As noted above, please see the Fourth Exhibit to the Prefiled Direct Testimony of
7 Joshua J. Jacobs, Exh. JJJ-5, for attribute level detail for PSE's 2016 JD Power
8 survey results for gas and electric residential customers.

9 **Q. How is GTZ improving the customer experience?**

10 A. GTZ is improving the customer experience through a variety of separate but
11 aligned technological and process improvement projects over a multi-year
12 timeframe. PSE has developed a roadmap of improvements (i) to customer-facing
13 digital channels, (ii) to billing and payment experiences, (iii) to automate and
14 integrate customer related field work and (iv) to establish new analytical
15 platforms to harness valuable data driven insights to proactively assist customers.

16 **Q. How is the GTZ initiative organized?**

17 A. PSE identified the top issues that cause customers to call PSE. They are:

- 18 1) Customers need help understanding their bill;
- 19 2) Customers want to pay their bill;
- 20 3) Customers need financial assistance;
- 21 4) Customers experience a service outage; and

- 1 5) Customer have a planned service event (starting/stopping
2 service, etc.).

3 Based on this information, PSE initiated four programs as part of the GTZ
4 initiative to help drive improvements and deliver transformation in specific areas
5 to meet customer needs. The four programs are:

- 6 1) Customer Interface – This program focuses on upgrading
7 and enhancing PSE’s digital core technologies such as the
8 web, mobile and IVR applications. These upgrades allow
9 customers 24/7 access to their account information
10 allowing them to transact with PSE when it is convenient
11 for them.
- 12 2) Billing, Payment, Credit & Collections – This program
13 focuses on enhancing the customer experience for all
14 billing and payment-related matters.
- 15 3) Integrated Work Management – This program focuses on
16 implementing field force automation to further integrate
17 PSE systems which increases transparency to customers
18 and improves PSE’s ability to plan, schedule and track
19 work.
- 20 4) Data Management – This program focuses on improving
21 capabilities surrounding the governance of customer and
22 asset data and includes implementing new capabilities
23 surrounding data analytics.

24 **Q. How is GTZ benefiting customers?**

25 A. The GTZ initiative implements new solutions that integrate PSE’s people,
26 processes, and technologies in Customer Service, Operations, Supply Chain,
27 Energy Efficiency and other customer-facing organizations throughout PSE.
28 These solutions address risks to aging technology applications, improve PSE’s
29 ability to meet customers’ needs and provide enhanced options for servicing
30 customers.

1 Ultimately, GTZ will benefit customers through the elimination of the pain points
2 that typically drive a customer to call PSE and through the build out of robust
3 self-service options will aid customers in managing their service when and how it
4 is convenient for them. This approach includes providing customers with an easy-
5 to-use, self-service platform; proactively pushing real-time information to
6 customers; improved cyber security measures; higher first call resolution;
7 improved billing and payment experiences; integrating customer self-service
8 capabilities with PSE's work management systems; and creating a dynamic and
9 productive work environment that fosters innovation and continuous
10 improvement.

11 Furthermore, GTZ will provide additional societal, environmental and
12 transactional improvements that will benefit customers and PSE. Customers can
13 expect easier access to payment assistance, payment arrangements, Warm Home
14 fund contributions, energy efficiency rebates and information about reducing their
15 carbon footprint through one of PSE's Renewable Energy programs. The GTZ
16 initiative will also increase PSE's operational efficiency for field work performed
17 as PSE shifts from paper processes to a consistent work management platform
18 leveraging automation in areas where it did not exist previously. This improved
19 efficiency will lead to more work being accomplished for customers.

20 **Q. Please describe other metrics PSE is using to determine the success of GTZ.**

21 A. PSE measures the success of the projects implemented by GTZ through several
22 different internal and external metrics. Based on the success of these metrics, PSE

1 can determine what is working and what improvements can be made in order to
2 create the best possible customer experience. These metrics include, but are not
3 limited to:

- 4 • Call Reduction: The primary goal of GTZ is to provide customers with an
5 improved customer experience and reduce problems that prompt
6 customers to call PSE. Tracking call volumes is an effective measure of
7 progress. Since GTZ launched, there has been a customer call reduction of
8 approximately 25.5 percent through May 2019, when compared to the
9 initiative baseline which is the average of 2014-2015 calls. All calls
10 related to collections, Start/Stop/Transfer, Explain My Bill, Manage
11 Payment Arrangement and Make Payment are all below their 2014/2015
12 baseline. Furthermore, since GTZ launched, the calls per customer rate has
13 decreased by 29 percent over baseline (.109 to .077 calls per year),
14 through May 2019. This can be largely attributed to enhancing self-service
15 capabilities and improving billing processes.
- 16 • Usage of Self-Serve Options: PSE's goal is to provide customers with
17 reliable, efficient and easy-to-use digital tools and self-serve technology
18 that meets their preferred method of transaction and reduces their need to
19 call. By the end of 2018, there had been a 23.7 percent total increase in
20 self-service transactions, compared to the 2014-2015 baseline.
- 21 • Third Party Surveys: PSE obtains information from independent, third-
22 party entities such as JD Power to determine not just how customers rank

1 PSE in different customer experience sectors, but how PSE ranks in those
2 sectors against peer utilities. For example, as discussed in the Prefiled
3 Direct Testimony of Andrew Wappler, Exh. AW-1T, JD Power’s 2018
4 survey results show that PSE’s customer experience scores have improved
5 in comparison to 2016, with many of the specific attribute level scores
6 increasing from fourth quartile in 2016 to second quartile in 2018. PSE
7 believes that its commitment to customer service and the implementation
8 of GTZ has contributed to this improvement.

- 9 • Financial Benefits: As described above, there are several financial benefit
10 streams that are being tracked with the GTZ projects. This includes
11 evaluating benefits tied to driving operational efficiencies throughout
12 various impacted business units, reductions to paper, postage and delivery,
13 and reductions to bad debt write offs. Within the test year, the GTZ
14 initiative tracked gross financial benefits totaling \$4.9 million in the areas
15 of operational efficiencies and bad debt reduction.

16 **Q. How is PSE managing the GTZ initiative and its costs?**

17 A. The GTZ governance structure includes an Executive Steering Committee, a
18 Program Steering Committee, and leadership teams as well as formal
19 Program/Project Management practices that govern the GTZ projects. The System
20 Development Life Cycle includes phase gates, where required deliverables are
21 audited for compliance with Information Technology (“IT”) Project Management
22 Organization (“PMO”) practices. Each component and program under the GTZ

1 initiative has complied with these practices and successfully passed its phase gate
2 audits. Financials are strictly controlled in accordance with IT PMO practices and
3 are updated and reviewed monthly. A comprehensive list of all GTZ programs,
4 projects and associated costs is contained in the Fifth Exhibit to the Prefiled
5 Direct Testimony of Joshua J. Jacobs, Exh. JJJ-6.

6 **Q. Were there any material changes that affected the GTZ scope, schedule or**
7 **budget?**

8 A. Yes, there were some materials changes that affected the GTZ scope, schedule,
9 and budget for the projects put in service since the last general rate case. In some
10 instances, projects saw changes to scope that increased costs and in other
11 instances, complexities in execution were encountered that impacted the timeline
12 to deliver projects. Within some projects, costs were impacted by labor resources
13 which needed to either be increased to manage delivery timelines or resources that
14 needed to be contracted out to third parties as opposed to leveraging internal staff
15 to execute work. And finally, in some instances, project schedules were impacted
16 by the need to complete additional system or application testing to ensure the
17 appropriate remediation of application defects discovered through various phases
18 of testing. Any change to a project's schedule, scope or budget was managed
19 through the project governance framework.

20 **Q. How is PSE keeping management informed during the course of GTZ?**

21 A. The governance teams described above participate in regular meetings to monitor
22 status, key decisions, risk mitigations, and review and approve program costs and

1 changes. In addition, the GTZ initiative presented periodic updates to the PSE
2 Board of Directors on initiative progress.

3 **III. GTZ INITIATIVE PROJECTS WITH EXPENDITURES**
4 **THROUGH DECEMBER 31, 2018**

5 **Q. Are there portions of GTZ in service that are already benefitting customers?**

6 A. Yes, as of December 31, 2018, there have been several projects that have been put
7 into service that are now benefitting customers. I will describe those projects
8 below as they relate to each one of the four GTZ programs discussed above.

9 **A. Customer Interface**

10 **Q. What is the Customer Interface program?**

11 A. The Customer Interface (“CI”) program represents a collection of separate but
12 related projects that are focused on all customer-facing digital channels, including
13 but not limited to web, mobile, IVR, email, text and social media platforms. The
14 goal of these projects is to address changing customer behaviors relative to digital
15 customer engagement in areas where PSE’s current approach had become
16 outdated, resulting in lower customer satisfaction. These customer-facing
17 channels represent PSE’s “digital core” technologies and are critical to
18 engagement with customers. Through the CI program, PSE is focused on
19 removing barriers for customers to interact with PSE through enhanced digital
20 experiences that are easy to use and conveniently available to customers 24 hours
21 a day. This integrated, seamless experience was not possible under PSE’s legacy
22 systems.

1 Within the CI program are several major projects, which I define as projects with
2 a total cost to date of greater than \$10 million. In addition, the CI program is
3 comprised of a series of smaller projects each with a total cost to date of less than
4 \$10 million. I explain these projects in further detail below. Altogether, the
5 investment in the CI projects represents roughly \$90 million in capital expense
6 since the test year in the 2017 general rate case through December 31, 2018.

7 **1. Projects greater than \$10 million**

8 **Q. Please describe the projects with capital costs greater than \$10 million.**

9 A. There are three projects within the CI program with capital costs greater than
10 \$10 million: (i) Web Platform Redesign; (ii) Communication Gateway; and
11 (iii) Microservices. I describe each of these in greater detail below:

12 **a. Web Platform Redesign project**

13 **Q. What is the Web Platform Redesign project?**

14 A. The Web Platform Redesign project began in late 2016 and went in service on
15 September 30, 2018. The Web Platform Redesign project replaced PSE's aging
16 website that required an upgrade in order to maintain vendor support and to align
17 with PSE's efforts to bolster cyber security and customer data protections. The
18 project leveraged the knowledge and experience of employees throughout PSE to
19 assist in the plan, design and build for a new PSE.com website. PSE started pre-
20 project planning throughout 2016 and ended the year by conducting a Request for
21 Proposal ("RFP") to select an experienced system integrator to partner with PSE

1 in executing the project objectives. Through that process, Accenture Consulting
2 was selected as the business partner to support the effort and stayed on the project
3 through the final delivery of the new PSE.com website. Various workshops were
4 held throughout 2017 to develop requirements from a cross functional team of
5 internal stakeholders, and multiple technologies were evaluated through a
6 competitive bidding process.

7 The execution phase Corporate Spending Authorization (“CSA”) documentation
8 for this project is contained in the Sixth Exhibit to the Prefiled Direct Testimony
9 of Joshua J. Jacobs, Exh. JJJ-7.

10 **Q. What technology did PSE use in the Web Platform Redesign?**

11 A. Through a competitive RFP process, PSE selected the Sitecore Experience
12 Platform running on cloud-based Amazon Web Services for its website solution.
13 This platform is supported by a middle-layer technology called Microservices,
14 which allows for a more modular approach to developing software and creates
15 flexibility in serving customers by allowing PSE to scale and make targeted
16 enhancements quickly and efficiently without overbuilding prematurely.

17 **Q. Please describe the reasons or drivers for this project.**

18 A. PSE’s previous website technology, implemented in 2011, was significantly
19 outdated, nearing the end of its asset life and vendor support. This older
20 technology was unable to meet increasing and changing customer needs, which
21 led to underperforming customer satisfaction scores as discussed earlier in my
22 testimony and increased risk associated with serving customers. As a result,

1 customers who would otherwise prefer to self-serve in a digital channel were
2 driven to call PSE to resolve issues. Some of the significant issues faced by
3 customers were:

- 4 • Inconsistent cross channel experiences: Customers experienced
5 inconsistencies and often received different information when performing
6 the same task using different channels, whether through the website, IVR
7 or a CSR. This was largely due to technical lag, which is the time it takes
8 for disparate systems to update each other with the most recent
9 information. For example, due to technical lag, a customer looking for
10 outage information on PSE.com may receive different information than
11 what is displayed on the mobile app. Additionally, certain transactions
12 were not historically available through digital channels, and required a
13 direct call to a CSR.
- 14 • Payment issues: PSE allows its customers to pay through various methods
15 and through multiple channels. “Payment notices” or “payment received”
16 information may be displayed or be sent to customers at different intervals
17 due to technical lag differences between the various channels. For
18 example, payments through third-party services such as Fiserv could take
19 multiple days to post, while payments via PSE’s web and mobile app post
20 within minutes. These delays and inconsistencies between channels caused
21 confusion and undue stress for customers. Also, under the previous

1 platform, there was not a simple online guest payment option, which led to
2 fewer customers adopting that channel for payment.¹

- 3 • Billing confusion: After receiving their bills, customers may contact PSE
4 with billing questions. Historically, there had been a lack of proactive or
5 real-time billing information available for customers. Obtaining
6 information on billing components and historical usage was not a smooth
7 and efficient process when using PSE’s previous website.
- 8 • Outdated Technology: PSE’s previous web platform was built on the
9 Microsoft SharePoint 2010 platform, which lost mainstream support from
10 Microsoft in October 2015, limiting PSE’s ability to receive product
11 updates, security patches and support for complex issues. PSE transitioned
12 to Extended Support to keep the system running and supported, but the
13 pending “end of life” of the product necessitated an upgrade or
14 replacement to ensure the availability and security of PSE.com in the
15 future. In addition, the older technology platform was insufficient to meet
16 the modern digital needs of PSE’s customers as detailed above.
17 Customers’ inability to navigate PSE.com on their mobile devices through
18 a responsive web experience was a glaring gap in PSE’s capabilities.
19 Likewise, the previous web platform required upgrading to meet more
20 stringent cyber security requirements given the recent changes in the cyber

¹ Online guest payment allows a customer to make a payment without signing into a PSE account.

1 threat landscape. Lastly, PSE's previous platform was not capable of fully
2 supporting the products and services customers are requesting, such as
3 support for electric vehicles, new customer construction services, and
4 service scheduling or appointment booking for field related work.

5 These factors demonstrated that an investment in PSE's website was necessary.

6 **Q. What benefits does this project provide for customers?**

7 A. The Web Platform Redesign project provides PSE customers a secure and reliable
8 web platform with a clean and easy to navigate self-service and mobile web
9 experience. The streamlined content within the web makes it easier for customers
10 to conduct business with PSE on desktop, tablet or mobile devices. In addition,
11 the customer experience for all transactions is enhanced and consistently applied
12 across all channels. Furthermore, PSE now has a robust and scalable platform that
13 can be further enhanced to provide incremental benefits to customers.

14 **Q. What was the estimated cost of this project?**

15 A. The estimated cost for this project was \$29.4 million.

16 **Q. What was the actual cost of this project?**

17 A. The actual cost for this project through December 31, 2018, was \$36.5 million.

18 **Q. What was the reason for the difference?**

19 A. There were some material changes that affected the project scope, schedule and
20 budget. There was an increase in cost from the original estimate to expand the
21 team to ensure a successful design, development, and testing approach in support

1 of the application deployment. There were additional costs associated with
2 schedule delays due to design development, Microservices schedule
3 dependencies, and Sitecore development work. The project schedule was also
4 impacted by the need to complete additional system and application testing to
5 ensure the appropriate remediation of application defects discovered through
6 various phases of testing.

7 **Q. Describe the alternatives evaluated and how this project was chosen.**

8 A. Four alternatives, including the selected alternative, were evaluated for the Web
9 Platform project and are discussed below. In evaluating the alternatives, PSE
10 prioritized the following key decision components: (i) core capabilities that
11 addressed PSE's digital requirements, (ii) system integration considerations, and
12 (iii) support of standardizing processes and centralizing content and data.
13 PSE established a review team comprised of various internal business
14 stakeholders, IT and the GTZ team. Through this evaluation process, PSE selected
15 the Sitecore platform:

- 16 1) Sitecore Platform – The selected alternative showed alignment with
17 several GTZ requirements such as being .NET based and built on a single
18 platform with the ability to separate data, content and presentation.
19 Sitecore also provided intuitive interfaces and powerful business tools
20 with a strong portal and integration abilities.

1 2) Adobe Platform – This alternative was not selected for several reasons
2 such as its highly structured data-driven applications, its lack of SAP²
3 product knowledge and integration, and because its page-based tree model
4 platforms create challenges with content reuse heavy sites and the overall
5 technology stack being complex with a steep learning curve. Additionally,
6 Adobe’s complex technology stack forced a steep learning curve, driving
7 cost and schedule risk.

8 3) SAP Platform – This alternative was not selected due to weak web content
9 management capabilities and a slow user experience and interface that was
10 not user friendly.

11 4) Existing SharePoint Platform – As previously mentioned, the SharePoint
12 application was being transitioned to extended support through
13 October 2020, which signaled the end of the product lifecycle. Based on
14 this and the technology being unable to meet the growing digital demands
15 of PSE’s customers, this alternative was not selected.

16 **Q. Did management approve this project following the GTZ project approval**
17 **process described above?**

18 A. Yes. This project was reviewed and approved by management following the
19 System Development Life Cycle phase gate process described above for all GTZ
20 initiative projects.

² SAP is PSE’s underlying billing system.

1 **Q. Have benefits from this project been realized?**

2 A. Yes, since the launch of the new web platform, the following benefits have been
3 realized:

- 4 1) Increase in self-service outage reporting and tracking, up
5 13.4 percent in first quarter 2019 when compared to first
6 quarter 2018;
- 7 2) Increase in self-service start, stop, and transfer, up 25.8
8 percent in first quarter 2019 when compared to first quarter
9 2018;
- 10 3) From January 1, 2019 through April 30, 2019,
11 approximately 65 percent of enrollments (3,757 total) in
12 PSE's Green Power & Solar Choice program have come
13 through the web or online Start/Transfer service channel.
14 Enrollments via the web has steadily increased year over
15 year from 2017 (9 percent) and 2018 (19 percent) and can
16 largely be attributed to adding the enrollment option to the
17 Start/Transfer service process in October 2018;
- 18 4) Increase in self-service payment transactions, up
19 3.1 percent in first quarter 2019 when compared to first
20 quarter 2018;
- 21 5) Budget billing as a self-service transaction is now available
22 for customers as a new transaction, and customers are
23 electing to sign up for budget billing roughly 77 percent of
24 the time through a digital channel;
- 25 6) Operational efficiencies are being realized within the
26 customer service organization. As more customers choose
27 to manage their service via a digital channel, fewer calls are
28 coming to the Customer Care Center;
- 29 7) Customer data is more secure and protected given increased
30 cyber security measures; and
- 31 8) While not fully assessed within the JD Power annual
32 survey given survey timing, known customer satisfaction
33 concerns are largely addressed with the new website

1 design, enhanced capabilities and responsive web design
2 for mobile and tablet users.

3 **b. Communication Gateway project**

4 **Q. Please describe the Communication Gateway project.**

5 A. The Communication Gateway project began in late 2016 and went into service in
6 late 2018. It provides a standard means to plan, send and trigger pro-active,
7 flexible and on-demand communications through the various communication
8 channels (email, SMS, notifications, phone calls) to parties outside of PSE. The
9 Communication Gateway project establishes a communication hub to centrally
10 manage customer preferences for communicating with PSE. The hub consists of a
11 suite of integrated technologies (hardware and software) that provide a standard
12 approach to plan, send and trigger pro-active, flexible and on-demand
13 communications to customers through the various communication channels.

14 The execution phase CSA for this project is contained in the Seventh Exhibit to
15 the Prefiled Direct Testimony of Joshua J. Jacobs, Exh. JJJ-8.

16 **Q. Please describe the reasons or the drivers for this project.**

17 A. PSE's previous capabilities in this space were limited, not well coordinated across
18 PSE, and led to breakdowns in PSE's ability to effectively manage not only the
19 technology that supported communicating with customers, but the
20 communications via email, text and automatic outbound dialer that were going to
21 customers themselves.

1 **Q. Please describe why this work is needed.**

2 A. The ability to push information to customers when they need or want it is critical
3 to helping them solve problems and manage their service with ease and
4 efficiency. More specifically, this work is necessary to:

- 5 1) Standardize and eliminate the overlapping technologies that
6 drive an inconsistent customer experience across PSE;
- 7 2) Track and manage all communications sent to a particular
8 customer to ensure quality control and consistency across
9 all channels;
- 10 3) Allow customers to establish their preferred
11 communication channels and set parameters for when and
12 how to communicate to them;
- 13 4) Allow for the archiving of communications for a period of
14 six years consistent with PSE Corporate Retention Policy
15 and allow PSE the capability to control and monitor black
16 listed (fake or blocked) emails to avoid violations; and
- 17 5) Provide a 360-degree view of customer communication
18 behaviors and preferences (e.g. communication types, time-
19 stamp, content, etc.) to help PSE better serve its customers
20 under other projects within the GTZ initiative.

21 **Q. What benefits does this project provide for customers?**

22 A. First, customers are benefitting from the ability to control how PSE communicates
23 with them via implementation of a central preference center which governs
24 various communication channels (email, SMS, notifications, phone calls).
25 Second, customers are benefitting from the receipt of real-time communications
26 to help them manage various aspects of their account such as billing, payment and
27 outage notifications. Finally, customers are benefitting from the ability to

1 communicate to PSE via various channels to inform PSE about their account
2 status. For example, customers can now communicate with PSE via text during
3 planned or unplanned outage events to report outage information directly to PSE.

4 **Q. What was the estimated cost of this project?**

5 A. The estimated cost for this project was \$17.8 million.

6 **Q. What was the actual cost of this project?**

7 A. The actual cost for this project through December 31, 2018, was \$20.9 million.

8 **Q. What was the reason for the difference?**

9 A. The variance was directly related to regulations tied to the Telephone
10 Communication Protection Act, which impacted project scope. The scope change
11 drove increased costs related to enhanced functionality, consumer
12 communications preference conversions, and consumer privacy compliance that
13 impacted PSE's schedule and, therefore, the budget.

14 **Q. Describe the alternatives evaluated and how this project was chosen.**

15 A. Four alternatives, including the selected alternative, were evaluated for the
16 Communication Gateway project and are discussed below. In evaluating the
17 alternatives, PSE prioritized the following key decision components: (i) business
18 capabilities and scenarios, (ii) strategic fit, and (iii) technical capabilities.

1 PSE established a review team comprised of various internal business
2 stakeholders, IT and the GTZ team. Through this evaluation process, PSE selected
3 the Message Broadcast platform.

- 4 1) Sitecore/SAP/Adobe Platform – These alternatives were not selected
5 because it was determined that none of these vendors provided an
6 adequate Communication Gateway solution that met all of PSE’s needed
7 core capabilities.
- 8 2) PSE Designed Platform – This alternative was not selected because the
9 costs and risks associated with the development of PSE’s own platform
10 were too great. Based on this, PSE continued the search for a vendor that
11 could meet all core capability requirements.
- 12 3) OpenText Platform – Similar to the other alternatives, the OpenText
13 platform did not provide the functionality that met PSE’s needed core
14 capabilities for a Communication Gateway platform.
- 15 4) Message Broadcast Platform – This selected platform demonstrated a
16 wealth of utility-industry experience, had deep subject matter expertise,
17 and provided a substantial amount of capacity for end point
18 communications that met all of PSE’s core capabilities.

19 **Q. Have benefits from this project been realized?**

20 A. Yes, customers are now able to control their own preferences for proactive
21 communications (via PSE.com or the mobile app), and they can easily and

1 quickly respond to proactive notifications sent to them to manage multiple
2 transactions. PSE is proactively communicating with customers in six primary
3 categories (parenthesis represent year statistics were calculated):

- 4 1) Outage Notifications (2018): 2,148,000 emails; 1,291,000
5 texts;
- 6 2) Bill Due Reminder (2018): 1,783,879 emails; 44,254 texts;
- 7 3) Promotional Notifications³ (2018): 12,179,097 emails;
- 8 4) Payment Confirmation (2018): 3,528,016 emails; 211,505
9 texts;
- 10 5) Guest Payment Confirmation (2018): 1,804,596 emails;
11 826,656 texts; and
- 12 6) Account Notifications (11/2018 – 3/2019): 3,491,334
13 emails; 76,419 texts.

14 **c. Microservices project**

15 **Q. Please describe the Microservices project.**

16 A. The Microservices project began in September 2017 and went into service with
17 the PSE Web Platform Redesign project on September 30, 2018. Historically,
18 PSE’s web and mobile applications communicated to other PSE back-end
19 systems, such as SAP, through a series of Application Programming Interfaces
20 (“API”). As PSE’s digital technologies grew from simple informational
21 applications to robust transactional digital channels for customers, this API
22 architecture became burdensome, outdated and inefficient. Maintenance became

³ Customers can opt-in to receive information about energy efficiency, rebate notices and other marketing information.

1 problematic and negatively affected the availability of PSE’s customer-facing
2 systems. The API architecture was not modular; therefore, if one service was
3 down, all services were down. In other words, if the “payment” service was down
4 for maintenance, then the “outage” service was taken offline as well. Through the
5 GTZ initiative, PSE evaluated multiple technologies to streamline the exchange of
6 data between customer-facing digital channels and PSE’s back-end systems and to
7 further enhance the capability to deliver consistent, real-time information to
8 customers across multiple channels. Through this evaluation, PSE opted to
9 transition away from the legacy API architecture to a more modular, scalable and
10 robust Microservices solution.

11 The execution phase CSA for this project is contained in the Eighth Exhibit to the
12 Prefiled Direct Testimony of Joshua J. Jacobs, Exh. JJJ-9.

13 **Q. Please describe the reasons or drivers for this project.**

14 A. This project was needed to build a foundational component of the system
15 architecture that provides information exchange to all customer-facing channels.
16 It was also required to improve the performance and availability of PSE’s
17 customer-facing systems, and to improve PSE’s ability to quickly scale up during
18 periods of high customer demand (e.g. storm events). PSE’s API service layer
19 architecture was originally constructed in 1998 to support the implementation of
20 PSE’s previous customer database software, CLX, and was modified to support
21 the flow of data necessary under the 2013 implementation of the customer
22 database software, CIS. The implementation of new digital channels for PSE,

1 including both the website and mobile application, would have required a
2 complete rewrite of those legacy API connectors to support the technology. This
3 option was cost prohibitive and did not integrate well with the recent advances in
4 digital platforms.

5 **Q. What benefits does this project provide for customers?**

6 A. Microservices allows PSE the ability to provide real-time information and self-
7 service transactions customers are requesting such as: Outage Notifications,
8 Payment Arrangements, Budget Billing, Make Payment, Maintain Account,
9 Preference Center, Billing, Start Service, Stop Service, Transfer Service, Energy
10 Efficiency Rebates, Late Payments, Campaign Management, Credit Returns, Log
11 Complaint, Communications Gateway and Account History. Customers will also
12 see improvements in the availability of their services, as planned maintenance
13 events can be targeted and will no longer impact all their services.

14 **Q. What was the estimated cost of this project?**

15 A. The estimated cost for this project was \$7.5 million.

16 **Q. What was the actual cost of this project?**

17 A. The actual cost for this project through December 31, 2018, was \$10.7 million.

18 **Q. What was the reason for the difference?**

19 A. There were some material changes that affected the project schedule and budget.
20 There was an increase from the original initiation estimate related to the number
21 of resources and total number of hours needed to complete all required

1 development work. These additional resources were assigned deliverables related
2 to tracking and coordinating solutions to identified risks, to participate in design
3 planning sessions, to engage in architecture planning to ensure application
4 development best practices, to improve the quality of the testing of the final
5 product, and to facilitate the knowledge transfer from the System Integrator to
6 PSE resources.

7 **Q. Describe the alternatives evaluated and how this project was chosen.**

8 A. The project team completed an analysis to determine the integration approach
9 during the CI program planning phase. The purpose of this architectural review
10 was to evaluate PSE's current system integration approach and to recommend a
11 path forward for integrating various digital channels through a common system
12 architecture. The team evaluated continuing with the traditional web service
13 approach, which was the current state architecture, versus the benefits of shifting
14 to a Microservices-based architecture thereby separating the business and
15 technical dependencies. The final recommendation from the team was to
16 transition to a Microservices-based architecture to more adequately support the
17 growth of PSE's customer-facing digital channels. The Microservices
18 recommendation was presented and accepted by the IT Architecture Review
19 Board.⁴

⁴ The IT Architectural Board is comprised of PSE IT architects who review and approve of the introduction of any new technology to ensure it meets our standards and aligns with PSE's long-term IT strategy.

1 **Q. Have benefits from this project been realized?**

2 A. Yes, the benefit of transitioning to a new system architecture is being realized
3 throughout PSE's customer-facing digital channels and PSE's ability to support
4 various dependent applications. While this project alone does not represent
5 quantifiable cash benefits, this technical architecture supports the web,
6 Communication Gateway, and mobile app digital channels. Various benefits have
7 been achieved in those projects and are reflected in this testimony under those
8 projects.

9 **2. Additional CI projects**

10 **Q. What additional CI projects has PSE undertaken?**

11 A. As described above, CI projects with a total individual of cost of less than \$10
12 million include the IVR Enhancements, IVR Improvements, SAP Multichannel
13 Foundation, Mobile App, Cross Channel Design, and Social Media Core Projects.
14 Please see the Fifth Exhibit to the Prefiled Direct Testimony of Joshua J. Jacobs,
15 Exh. JJJ-6, for a more detailed description of these projects.

16 **B. Billing, Payment, Credit & Collections**

17 **Q. What is the Billing, Payment, Credit & Collections program?**

18 A. The Billing, Payment, Credit & Collections ("BPCC") program represents a group
19 of projects that are focused on reviewing and improving many aspects of the
20 customer experience associated with the entire billing and payment lifecycle. The
21 program is focused on improving internal processes associated with delivering

1 quality, accurate and timely bills to customers, improving and expanding payment
2 options for customers, assisting low-income customers with new ways of seeking
3 payment assistance, and improving PSE's collections processes to provide a
4 consistent and timely approach to handling delinquent accounts.

5 **Q. What were the reasons or drivers for the BPCC program?**

6 A. As mentioned previously, the main driver behind the creation of the BPCC
7 program was to improve all aspects of the billing and payment experience. When
8 looking across all call drivers, billing and payment-related issues represent the
9 single largest driver for customers to contact PSE for assistance. There are several
10 separate and distinct billing or payment-related issues that can be confusing for
11 customers. The intent was to evaluate PSE business processes and technology
12 applications that are impacting customers negatively and to find solutions to help
13 make doing business with PSE easier, more convenient, and more accurate across
14 the various working groups that have a part in improving the customer experience
15 related to these types of interactions. To this end, PSE focused on simplifying the
16 payment process, improving the security deposit and refund process,
17 standardizing the payment arrangements experience, setting up new ways to
18 remind customers of billing due dates, improving bill code clarity, removing
19 credit card fees, simplifying billing information and accessibility, enhancing the
20 credit and collections process, and streamlining systems that enable CSRs to
21 resolve customer issues more quickly.

1 **Q. What was the estimated program cost?**

2 A. The estimated cost for this program was \$21.9 million.

3 **Q. What was the actual program cost?**

4 A. The actual cost for this program through December 31, 2018, was \$21.7 million.

5 **Q. Did management approve this program and its projects following the GTZ**
6 **project approval process described above?**

7 A. Yes, the BPCC related projects followed the same project management oversight,
8 governance and approval process as described above.

9 **Q. Please describe the BPCC projects.**

10 A. The BPCC program has several projects, including Collection Cycle
11 Improvement, Security Deposits and Refunds, “3-Click,” Non-Consumption
12 Billing, Fiserv Upgrade, Billing Performance Improvement, and Bill Code
13 Enhancements. Some of the notable benefits from these projects include:

- 14 • Improved collection processes;
- 15 • Improved functionality and automation regarding customer
16 payment of security deposits;
- 17 • Faster and more efficient calls with CSRs through the “3-
18 Click” project by reducing the number of screens CSRs
19 must navigate for high volume and complex issues
20 associated with billing related calls and for customer calls
21 associated with the start, stop or move transactions;
- 22 • Standardized non-consumption billing processes; and
- 23 • Upgrade of PSE’s payment processing platform to the
24 Fiserv Next platform, which improves PSE’s payment

1 processing capabilities and provides faster payment posting
2 for customers through this Fiserv-hosted payment channel.

3 A complete list of the BPCC projects is provided in the Fifth Exhibit to the
4 Prefiled Direct Testimony of Joshua J. Jacobs, Exh. JJJ-6.

5 **C. Integrated Work Management**

6 **Q. Please describe the Integrated Work Management program.**

7 A. The Integrated Work Management (“IWM”) program provides new technologies,
8 processes and solutions to assist PSE employees in making and meeting customer
9 commitments. Customer-initiated requests drive over 200,000 service requests for
10 PSE’s field employees each year. In addition, PSE-initiated work that requires
11 onsite customer interaction accounts for an additional 700,000 jobs annually.

12 PSE’s customer experience is highly connected to field operations processes and
13 personnel, and IWM improves these processes. IWM is an enterprise approach to
14 managing field work on behalf of customers and PSE’s core physical assets
15 through the work lifecycle: Initiation, Planning, Scheduling, Execution and Close.

16 The execution phase CSA for this project is contained in the Ninth Exhibit to the
17 Prefiled Direct Testimony of Joshua J. Jacobs, Exh. JJJ-10.

18 **Q. What are the core elements of the IWM project?**

19 A. The core IWM solution consists of four elements:

- 20 1) Improvements to cost management of field work – Changes to modules in
21 PSE’s enterprise resource planning system, SAP, to enable full lifecycle

1 financial tracking of work order/operation pairs for all IWM-targeted
2 work.

3 2) SAP Work Management System – Changes to the plant maintenance
4 (“PM”) module in SAP to enable better planning and tracking of a work
5 order/operation for all IWM-targeted field work.

6 3) Workforce Scheduling – Implementation of scheduling and dispatch
7 processes and Click Schedule technology for IWM field work. This
8 includes the scheduling, dispatch and optimization of work
9 order/operation work to crews or individuals; resource loaded schedules
10 with specific dates and times; the ability to match job requirements to
11 available crew skills; and use of priorities to ensure most important work
12 takes precedence.

13 4) Workforce Mobility – Implementation of SAP Work Manager electronic
14 mobile capabilities for PSE field employees to receive, provide status
15 updates, and report on work activities. This also includes the ability to
16 perform timesheet functionality.

17 **Q. Please describe the reasons or drivers for this project.**

18 A. Work management is an important capability of any utility. It is how a utility
19 integrates people, processes, systems and data throughout the identification,
20 planning, scheduling, execution and closeout of field work in an organized and
21 efficient manner. Strong utility work management practices lead to the on-time

1 completion of asset maintenance, customer work, compliance and emergency
2 work with understanding that the work is being performed for the right cost.

3 PSE's work management practices are currently spread across numerous systems,
4 organizations and manually driven, paper-based processes. There are three key
5 business drivers for implementing IWM, which I describe below:

6 1) Increasing Operational Efficiency – There are several areas where
7 improvements can be made to improve operational efficiency resulting in
8 a lower unit cost for work or more work completed for the same cost.

9 i. Financial Tracking of Work: Currently, operations and
10 maintenance work is executed using SAP notifications and
11 standing internal work orders. Notifications cannot collect
12 information for material usage, labor planning or actual cost.
13 Standing internal work orders serve as cost collection buckets for
14 various work types. This means that there is no way to connect the
15 actual job performed with its actual costs and specific duration.
16 Because of this, cost and work efficiency information is difficult to
17 derive and mainly done at a high level. Additionally, field workers
18 are expected to pick from long lists of work orders containing
19 FERC information to charge time to the right activity. This creates
20 confusion in the field and could result in inaccurate costing
21 information.

1 The IWM solution resolves these issues by changing SAP so that
2 work is performed off of SAP PM work orders and operations,
3 instead of notifications. Work orders contain planned material
4 information, planned labor duration and can collect the individual
5 costs of specific jobs. In collecting this information, business units
6 can perform plan-to-actuals analysis of work and derive unit costs
7 for work completion, enabling informed resourcing and
8 performance management decisions.

9 ii. Visibility to the work: Currently, information about what work is
10 available is housed in numerous systems including SAP,
11 spreadsheets and databases. This leads to missed opportunities to
12 perform work in proximate geographical locations, return visits,
13 and sub-optimization of field resources. IWM will resolve this by
14 putting all work into SAP and executing that work through work
15 orders. By doing this, all work will have due dates, statuses,
16 locations and resource requirements in the system allowing
17 schedules to be optimized for efficiency.

18 iii. Manual and Paper Based Processes: IWM eliminates paper-based
19 work by dispatching work to electronic devices in the field. Field
20 workers interface with the work order pushing relevant status,
21 asset, customer and inspection data back to SAP in real-time. This
22 eliminates the need to process paper on the back-end and perform
23 manual data entry during work closeout. Additionally, the work

1 status and data is available to anyone who needs the data in SAP in
2 real time as it is being performed.

3 iv. Improved Work Scheduling: Work is currently scheduled using
4 manual paper-based processes or manual scheduling with
5 electronic dispatch of work. This is a labor and time-intensive
6 process that may not result in optimized use of resources. IWM
7 will install a schedule optimization system called Click Schedule
8 which accounts for geography, work priority, work duration,
9 employee skill sets and availability to produce an optimized
10 schedule for employees. Work can be scheduled daily or through
11 “drip feed” where employees get their next job when the previous
12 one is finished. This allows the schedule to be optimized
13 throughout the day as emergencies or other priorities arise.

14 2) Improving Customer Experience – Improving customer experience with
15 PSE field work is an important driver of IWM. Through GTZ, PSE will
16 create the capability to proactively communicate information to
17 customers. Currently, CSRs in PSE’s customer care center have no
18 visibility into work occurring in the field. This means that when customers
19 call with questions related to service orders, CSRs have little information
20 to provide regarding the status of their work. Also, customer appointment
21 work is typically provided with an a.m. or p.m. window, with field
22 workers often having to coordinate times directly with customers. IWM

1 will enable more granular, two-hour appointment timeslots to be provided
2 to customers based on real-time field resource availability. Also, through
3 improved schedule optimization, customer appointments can be
4 reallocated to other resources if emergency work enters the schedule.

5 Through the CI program in GTZ, a customer communications platform
6 will be developed in future years to provide proactive updates to
7 customers regarding the status of their jobs. The IWM program will
8 implement changes to SAP to ensure consistent use of status updates on
9 work orders so that the information is available for customer notifications.

10 3) Addressing System Obsolescence Risk – Currently, both the Gas First
11 Response (“GFR”) and Electric First Response (“EFR”) organizations use
12 a system call PragmaCAD or PCAD to perform electronic dispatch and
13 execution of field work. This system handles over 100,000 jobs per year
14 for GFR and 45,000 jobs per year for EFR. The current PCAD system was
15 implemented in 2008 and has reached end-of-life and must be replaced.
16 IWM addresses this obsolescence issue by replacing PCAD with SAP
17 Work Manager Mobility and Click Schedule scheduling and dispatch
18 tools. Additionally, IWM will bring more work types into the system to
19 better optimize resources.

20 **Q. How will IWM benefit customers?**

21 A. The IWM programs benefit customers by providing increased transparency to
22 customer-driven field work through the integration of PSE’s work management

1 systems with PSE's customer facing systems. Additionally, there are several
2 operational benefits that will be realized through enhanced work management
3 tools and practices. Through IWM, PSE plans to realize:

- 4 • Proactive communication to the customer through their
5 preferred channels;
- 6 • Increased transparency for customers through tightly
7 integrated systems;
- 8 • Optimized schedules for field employees;
- 9 • Improved work management capabilities to effectively
10 prioritize field work;
- 11 • Increase in field worker productivity; and
- 12 • Ability for customers to schedule two-hour window
13 appointments and for PSE to consistently hit that
14 scheduling window.

15 **Q. What was the estimated cost for this project at the time of execution?**

16 A. The estimated cost for IWM was \$38.5 million.

17 **Q. What was the actual cost of this project?**

18 A. The actual cost for IWM through December 31, 2018, was \$37.1 million.

19 **Q. What was the reason for the difference?**

20 A. The estimated amount includes additional scope including the delivery of IWM to
21 the Meter Network Services organization and automated timekeeping
22 functionality which will be put in service in 2019. This additional scope is
23 discussed in Section IV of my testimony. Additionally, the actual costs include

1 approved initial 2016 spending of \$2.7 million for IWM program scoping and
2 software purchases, which are not reflected in the estimated costs.

3 **Q. Describe the alternatives evaluated and how these projects were chosen.**

4 A. Alternatives for this project were evaluated in three distinct phases of the
5 program. The first phase was the vendor selection of the technology solution for
6 scheduling and mobility tools. The second phase was a Request for Proposal
7 (“RFP”) for IWM core platform design and the development of a prototype
8 system that could be leveraged broadly across the business. The third phase was
9 an RFP for the implementation of IWM in the Meter Operations and Meter
10 Network Services business units. The timeline for this evaluation process is
11 described below:

- 12 • In September 2016, PSE performed a vendor selection process to select
13 scheduling and mobility tools for the IWM program. The selection of the
14 technology for scheduling and mobility tools included vendor
15 demonstrations, vendor analysis, requirements definition and vendor
16 selections. Eight vendors overall including CGI PragmaCAD, Clevest,
17 Click Scheduling, Power Engineers, Prometheus, SAP Work Manager,
18 Smart Utility Systems and Verisae performed system demonstrations,
19 which were attended by PSE’s internal subject matter experts from across
20 the business. Evaluation criteria and scoring were aligned to PSE’s
21 developed use cases. The final recommendation was to select Click

1 Schedule and SAP Work Manager because of its industry leading
2 functionality and straightforward integration to SAP.

- 3 • In the fourth quarter 2016, PSE performed an RFP for a system integrator
4 to perform IWM core platform design and prototype system
5 implementation. PSE received and evaluated proposals from Accenture,
6 Deloitte and Vesta Partners. The contributors to the RFP included
7 representatives from the various internal business stakeholders, IT and the
8 GTZ team. The contributors participated in a formal RFP response review,
9 on-site presentations by all three providers which led to scoring against
10 weighted criteria to make the final recommendation to the GTZ Steering
11 Committee of Directors. The final recommendation was to select Vesta
12 Partners to perform the core platform design and prototype system.
- 13 • In the fourth quarter 2017, PSE performed an RFP for the implementation
14 of IWM in the Meter Operations and Meter Network Services business
15 units. PSE received and evaluated proposals from Accenture, PA
16 Consulting and Vesta Partners. The contributors to the RFP included
17 representatives from the various internal business stakeholders, IT and the
18 GTZ team. The contributors participated in a formal RFP response review,
19 on-site presentations by all three providers which led to scoring against
20 weighted criteria to make the final recommendation to the GTZ Steering
21 Committee of Directors. The final recommendation was to select

1 Accenture to perform the work due to cost and strength of project delivery
2 experience.

3 **Q. Have benefits from these projects been realized?**

4 A. Yes. The IWM program has increased the number of in-field jobs completed per
5 person per day. Customers can now schedule two-hour window appointments and
6 PSE is consistently hitting that scheduling window. Also, enhanced work
7 management, work visibility and reporting is now available to management to
8 improve organizational performance.

9 **Q. Are there any IWM projects costing less than \$10 million to date?**

10 A. Yes. There are two IWM minor projects, the AMR-OMS Automated Outage
11 Communications project and the GIS CAD Design Manager project. These
12 projects are described in the Fifth Exhibit to the Prefiled Direct Testimony of
13 Joshua J. Jacobs, Exh. JJJ-6.

14 **Q. What is the schedule for IWM?**

15 A. IWM is currently in year four of a six-year program. The program was planned to
16 leverage a common design for multiple business units but includes individual
17 rollouts to receiving business units to further enhance and augment the common
18 design for specific needs or use cases within each business unit. The IWM
19 projects are broken into two initial releases. The first release occurred in the fall
20 2018 serving the Meter Operations business unit, which is now in service. Shortly
21 thereafter, a secondary release occurred in the spring 2019 to the Meter Network
22 Services business unit. The IWM project also delivered functionality related to

1 time keeping and field payment processing within the pro forma period in the
2 spring 2019. These projects are discussed further in Section IV.

3 **D. Data Management**

4 **Q. What is the Data Management program?**

5 A. The Data Management program is focused on improving data quality, integrity,
6 and usage guidelines, standardizing access across a unified platform, and
7 implementing easy to use tools for data analysis, evaluation, and repair. From
8 executives to analysts, employees will now have the data and tools to better
9 manage and monitor data and establish a foundation for data analytics to allow
10 them to anticipate customer needs and offer relevant options for seamless
11 interactions with PSE.

12 **Q. What were the reasons or drivers for the Data Management program?**

13 A. The Data Management program was initiated to improve PSE's approach to
14 governing data within various components of the utility and to leverage new
15 technologies to assist in developing value added insights from data to support
16 serving PSE's customers better and optimizing assets or resources more
17 effectively.

18 **Q. Please describe why this program is needed.**

19 A. This work is necessary to establish a tighter framework for how PSE
20 appropriately governs various types of data to ensure the ongoing security and

1 cleanliness⁵ of data. This is accomplished through the establishment of data
2 owners, data stewards and a new data governance framework. The goal of this
3 program is to provide customers and employees with consistent and trustworthy
4 data that will increase their ability to transact seamlessly with PSE and make
5 informed, fact-based decisions. This work is also necessary to establish a
6 foundational framework for how PSE can better utilize its data to enhance the
7 customer experience and improve the management of assets.

8 **Q. Please describe the Data Management projects.**

9 A. The Data Management program consisted of three projects totaling approximately
10 \$1.9 million: 1) Data Governance & Quality; 2) Data Lake Meter Upgrade; and
11 3) Data Platform & Quality Assessment. The Fifth Exhibit to the Prefiled Direct
12 Testimony of Joshua J. Jacobs, Exh. JJJ-6, contains a description of these
13 projects.

14 **Q. What benefits does this program provide for customers?**

15 A. This program benefits customers in a variety of ways. Customers will benefit
16 from this program through:

- 17 • Improvements to the safety and security of customer and
18 asset data stored by PSE on various applications or data
19 bases;
- 20 • Improvements to the accuracy of customer data within PSE
21 applications that support a customer's ability to self-serve
22 through multiple channels; and

⁵ "Cleanliness" refers to the consistency of data.

- Improvements to PSE’s data analytics capabilities to allow us to resolve customer issues more quickly.

IV. GTZ PROJECTS TO BE PLACED IN SERVICE THROUGH JUNE 30, 2019

Q. What additional projects or features are expected to be implemented through June 30, 2019 that PSE intends to pro form into the test year for this case?

A. PSE is deploying several projects in 2019 that are pro formed in this case. These projects are largely a continuation of projects invested in during the test year. The Fifth Exhibit to the Prefiled Direct Testimony of Joshua J. Jacobs, Exh. JJJ-6, provides a listing of all new or upgraded technology that is expected to go into service by June 30, 2019.

The following projects will be completed and placed in service by the second quarter 2019:

1) Visual IVR (CI) – Visual Integrated Voice Response or “VIVR”

functionality allows consumers with smartphones to type the call prompts on their phone screens instead of waiting to listen for them in the IVR.

Calls related to starting, stopping or moving services, as well as calls related to reporting outages, have the option to be handled by this

functionality. There is an option during this process for the customer to request to speak with an agent and be transferred back to the IVR. VIVR

functionality follows the overall web architectural mandates for PSE by using the same data services used in the PSE web application. This allows

1 for a similar customer journey experience while minimizing functionality
2 drift among the customer channels.

- 3 2) Additional Web/Mobile/IVR enhancements or functionality (CI) – This
4 includes improvements to the scalability of the website to handle large
5 outage events, enhanced website security, additional self-service
6 optimization, and energy usage analysis tools for customers.
- 7 3) Billing Performance Phase 3 (BPCC) – Building on the work done in
8 Phases one and two, phase three will reduce the number of automated
9 Enhanced Message Management cases that require manual processing by
10 back office billing agents.
- 11 4) IWM to Meter Network Services and Automated Time Entry (IWM) –
12 Delivery of IWM for the Meter Network Services Group, which performs
13 credit disconnects and electric reconnects, as well as field collections, and
14 delivery of automated time entry functionality for field workers using
15 IWM mobile tools.
- 16 5) Field Payment Strategy (IWM) – Providing PSE customer field
17 representatives with a mobile, streamlined and secure solution for
18 accepting customer credit/debit card payments in the field that will post in
19 real time to the customer’s account.
- 20 6) Data Governance (Data Management) – The focus of this project is to
21 evaluate PSE’s methods, standards and applications used to govern
22 various data domains within PSE. The project focuses primarily on

1 “customer” and “asset” domains to assist with the objectives of the
2 broader GTZ initiative. The project improves data quality and sets new
3 practices in place to ensure data integrity across PSE. This work is
4 foundational to PSE’s effort to deliver needed improvements in governing
5 data in PSE. The project establishes a passive data governance framework
6 and leverages new tools to further aid in the protection of PSE’s data and
7 to assist with delivering the goals of the GTZ initiative.

8 **Q. How much does PSE anticipate investing in the above projects from**
9 **January 1, 2019 through June 30, 2019?**

10 A. The estimated investment for these projects from January 1, 2019 through
11 June 30, 2019, is \$32.5 million.

12 **V. CONCLUSION**

13 **Q. Does this conclude your pre-filed direct testimony?**

14 A. Yes, it does.