

**UE 335 / PGE / 900**  
**Stathis – Dillin**

**BEFORE THE PUBLIC UTILITY COMMISSION**  
**OF THE STATE OF OREGON**

**UE 335**

**Customer Service & CET**

**PORTLAND GENERAL ELECTRIC COMPANY**

**Direct Testimony and Exhibits of**

*Kristin Stathis*  
*Carol Dillin*

February 15, 2018

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## I. Introduction and Overview

1 **Q. Please state your names and positions with Portland General Electric Company (PGE).**

2 A. My name is Kristin Stathis. I am Vice President of Customer Service Operations.

3 My name is Carol Dillin. I am Vice President of Customer Strategies and Business  
4 Development.

5 Our qualifications appear at the end of this testimony.

6 **Q. Please summarize your testimony.**

7 A. In our testimony, we explain PGE's forecast of Customer Service operations and  
8 maintenance (O&M) costs<sup>1</sup> for the 2019 test year and compare them to 2017, which  
9 represents PGE's most recent actual results. We also discuss the conclusion of PGE's  
10 Customer Engagement Transformation program (CET), which has been a comprehensive  
11 multi-year program (i.e., 2014 to 2018) comprised of 24 projects focused on operational  
12 efficiencies, process improvements, employee development, business strategies, customer  
13 strategies, and the replacement of two large customer systems:

- 14 • The Customer Information System; and
- 15 • The Meter Data Management System.

16 **Q. What is your primary goal for the Customer Service organization?**

17 A. Our primary goal is to deliver exceptional customer experiences at a reasonable cost.

18 **Q. How do you know if you are delivering exceptional customer experiences?**

19 A. We gather customer feedback from residential and small/medium business and large  
20 business customers, which tells us whether we are delivering on our goal. Customer

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<sup>1</sup> PGE's Customer Service costs are consistent with Federal Energy Regulatory Commission (FERC) Chart of Accounts categories: Customer Accounts Expenses and Customer Service and Informational Expenses (i.e., FERC accounts 902-908).

1 feedback is gathered in a variety of ways including quarterly, semi-annual, and annual  
2 customer satisfaction surveys; on-going surveys after specific customer transactions with  
3 PGE; and occasional customer focus groups or surveys on specific topics. In addition, we  
4 gather “voice of the customer” open-ended feedback through comments directed to  
5 customer service, to or about PGE on social media, on surveys, Public Utility Commission  
6 of Oregon (OPUC or Commission) complaints, and other sources. All feedback is used to  
7 identify areas of strength and areas of opportunity to improve PGE’s service and to identify  
8 customer interest in new programs and service options.

9 **Q. Have you seen changes in customer feedback over the years?**

10 A. Yes. In general, PGE’s customer satisfaction ratings have improved over the years. At the  
11 same time, industry satisfaction rates have also increased, raising the bar for average as well  
12 as exceptional performance. Our customers increasingly expect PGE to understand their  
13 needs and preferences. They expect us to offer services based on their needs. Compared to  
14 the past, they use media differently, moving from paper, landline phones and desktop  
15 computers, to mobile communications. Increasingly, we see many of our customers looking  
16 for green (clean energy) options and programs that support a decarbonized future.

17 **Q. Please describe the functions of PGE’s Customer Service organization.**

18 A. Customer Service operations perform metering, billing, payment processing, collections, and  
19 responding to customers. The last category entails responding in a timely, courteous, and  
20 professional manner to customer requests received through various channels<sup>2</sup> such as the  
21 contact center, community offices, mail (postal or e-mail), mobile platform, Interactive

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<sup>2</sup> “Customer channel” refers to a method of customer interaction chosen by customers based on what services are available through that channel. Internet, Interactive Voice Response, mobile platform, and community offices are examples of distinct customer channels for payment.

1 Voice Response (IVR),<sup>3</sup> and by working directly with customers in their homes and/or  
2 places of business. Within Customer Service, we perform strategic activities including: 1)  
3 researching and collecting direct feedback from customers regarding their experiences and  
4 expectations; 2) monitoring customer feedback and satisfaction levels; and 3) developing  
5 and delivering new products and services that best meet customer needs.

6 **Q. How do you perform these functions?**

7 A. We perform these functions by providing timely and accurate customer usage data plus  
8 effective metering, billing, collection, and response services to all customers. We also focus  
9 on the implementation of other programs and service options such as demand response,  
10 paperless billing, on-line outage notification and text alert outage updates, and “one click”  
11 bill payment via email. In addition, we continue to research and evaluate the potential for  
12 other pilots and/or programs to enhance customer options and experience. Ultimately, we  
13 deliver value to our customers by providing exceptional customer service at a reasonable  
14 cost.

15 **Q. How is your testimony organized?**

16 A. In Section II, we explain PGE’s request for forecasted 2019 O&M costs in comparison to  
17 2017 actual costs. In Section III, we provide an update to the CET program, focusing on the  
18 Customer Touchpoints project, which is the largest component of CET (expected to be  
19 completed during the second quarter of 2018) and represents the replacement of PGE’s  
20 Customer Information System and Meter Data Management System. In that section, we also  
21 discuss Customer Touchpoints in detail including its costs and benefits, and how the cost

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<sup>3</sup> IVR refers to a call center technology that allows customers to use touch-tone telephones to interact with computer systems and complete self-service customer transactions.

1 estimate for the project has evolved over time. We provide concluding remarks in  
2 Section IV, and our qualifications are summarized in Section V.

## II. Operations and Maintenance Costs

1 **Q. What is PGE’s forecast of Customer Service O&M costs for the 2019 test year?**

2 A. PGE forecasts approximately \$78.7 million in total Customer Service O&M for 2019,  
 3 excluding uncollectible expense, which is a revenue sensitive cost. This represents a  
 4 \$10.0 million increase relative to PGE’s 2017 actual costs. The overall increase to  
 5 Customer Service is attributed primarily to cost escalation,<sup>4</sup> new or expanded programs, and  
 6 charges/allocations for Information Technology (IT). Table 1 summarizes these costs,  
 7 which are discussed in more detail below.

**Table 1**  
**Customer Service O&M Expenses (\$Millions) and FTEs**

Category	2017 Actuals	2019 Forecast	(2019-2017) Delta*
Labor (excluding CET)	\$29.7	\$32.8	\$3.1
Non-Labor (excluding CET)	\$16.3	\$19.4	\$3.1
<b>Subtotal*</b>	<b>\$46.0</b>	<b>\$52.3</b>	<b>\$6.3</b>
CET Program Costs (Net)	\$4.6	\$0.0	(\$4.6)
IT Costs	\$18.2	\$26.5	\$8.3
<b>Subtotal*</b>	<b>\$68.7</b>	<b>\$78.7</b>	<b>\$10.0</b>
Uncollectibles	\$5.5	\$6.5	\$1.0
<b>Total Base Business Costs*</b>	<b>\$74.2</b>	<b>\$85.2</b>	<b>\$11.0</b>
<b>FTEs</b>	<b>464.5</b>	<b>455.1</b>	<b>(9.4)</b>

\* May not sum due to rounding

8 **Q. What accounts for the increase in labor costs from 2017 to 2019?**

9 A. The primary driver is wage and salary escalation, which is discussed in detail in PGE  
 10 Exhibit 400. An additional reason for the O&M labor increase from 2017 to 2019 is that as  
 11 the Customer Touchpoints project will be completed in 2018, approximately \$0.5 million  
 12 represents labor that shifts from capital to O&M as certain full time equivalent employees

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<sup>4</sup> PGE Exhibit 200, Section I, provides the cost escalation factors that PGE used in developing its 2019 test year forecast. PGE Exhibit 400, provides additional detail regarding labor escalation.

1 (FTEs) move from building the new systems to running (i.e., operating and maintaining)  
2 them. As a matter of fact, Customer Service Operation’s FTEs have declined by over 15  
3 based on: 1) a 5.5 FTE reduction due to efficiency benefits that we expect to achieve as a  
4 result of Customer Touchpoints implementation; and 2) a 5.7 FTE reduction due to the  
5 conclusion of the program management office. We discuss the benefits in Section III,  
6 below.

7 **Q. Please explain the forecasted increase in non-labor costs from 2017 to 2019.**

8 A. In addition to cost escalation, the primary increase in Customer Service non-labor costs from  
9 2017 to 2019 is a function of outside services to support the following:

- 10 • Approximately \$2.4 million for the Flex Pricing pilot to be a fully scalable,  
11 demand response program in 2019. PGE initiated the Flex Pricing pilot in 2015  
12 in accordance with Commission Order No. 15-203 (Docket No. UM 1708). The  
13 pilot constitutes a significant effort to meet the expectations for informational  
14 benefits<sup>5</sup> from PGE’s advanced metering infrastructure system (AMI), which can  
15 now be achieved in conjunction with the implementation of PGE’s Customer  
16 Touchpoints project. Consequently, we are using the information and lessons  
17 learned from the pilot and its evaluations to determine the appropriate time-of-use  
18 prices, peak time rebate, and applicable time periods for the opt-in, fully scalable  
19 demand response program.
- 20 • Approximately \$0.7 million for the following projects/activities:

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<sup>5</sup> Informational benefits are distinguished from operational benefits, which PGE established in Docket No. UE 189 (estimated operational benefits) and confirmed in subsequent reports to the Commission in 2012 (actual operational benefits).



- 1           ○ Funding a study to research and forecast the load impact of residential  
2           appliance saturation. This study is performed periodically, with the most  
3           recent performed in 2013. The study estimates the saturation of residential  
4           technologies related to heating, cooling, water heating, electric vehicles, etc.  
5           The uses of the study are varied and include: load forecasting for summer  
6           peaking and winter peaking, Integrated Resource Plan enabling studies to  
7           determine the potential for demand side management, and estimating market  
8           size for new program development (e.g., direct load control demand  
9           response).
- 10          ○ Evaluating the integration on our system of the growing number of  
11          distributed energy resources (e.g., smart solar inverters, advanced thermal  
12          storage technologies, and smart charging of electric vehicles).
- 13          ○ Facilitating commercial, industrial, municipal, and non-profit customer  
14          adoption, procurement, and installation of electric vehicles and electric  
15          vehicle charging infrastructure for fleets and workplace. This activity will  
16          support non-residential customers in evaluating opportunities for electrifying  
17          fleet vehicles, make recommendations for charging infrastructure sizing and  
18          siting, and estimate total cost of ownership. Technical specialty areas include  
19          but are not limited to the following energy systems: electric vehicles (cars,  
20          buses, light and heavy duty vehicles, bikes, and other electric devices used for  
21          mobility), charging stations, charging standards, AC and DC power, power  
22          electronics, and smart charging.

23       **Q. What are the CET program costs and why do they decline from \$4.6 million in 2017 to**  
24       **zero in 2019?**

1 A. The CET program costs represent program development O&M that was incurred from 2014  
2 through 2018 and has been subject to deferred accounting treatment. In accordance with  
3 Commission Order No. 17-511, these costs have been moved from PGE's 2018 base rates to  
4 Supplemental Schedule 112 and are not included in our 2019 test year forecast.

5 **Q. Do you address IT costs in this testimony?**

6 A. No. Because IT costs are charged or allocated to all operating areas of the company, they  
7 are discussed in detail in PGE Exhibit 600.

### III. Customer Engagement Transformation

#### A. Overview

1 **Q. Please provide a brief summary of the CET program.**

2 A. The CET program is a set of initiatives targeted specifically at the Customer Service  
3 functional areas. The CET program includes both large and small initiatives that focus on  
4 process improvements, business strategies, operational efficiencies, employee development,  
5 and replacement of PGE's Customer Information System (CIS) and Meter Data  
6 Management System (MDMS). Modern customer systems support the capabilities that are  
7 desired by our customers plus the products and services enabled by the smart grid, and they  
8 provide more opportunity for automation. As noted in Section I above, we refer to the effort  
9 to replace the CIS and MDMS as the Customer Touchpoints project.

10 **Q. Why are you replacing these systems?**

11 A. PGE's current CIS and MDMS have been prudent investments for our customers, but have  
12 been in use since 2002 and 2000, respectively. Consequently, they are over 15 years old  
13 and are so outdated that they are no longer supported by the product vendors. This means  
14 that they are not technically or functionally suited for existing programs, such as billing for  
15 net metering, emerging smart grid requirements, or new pricing options. Further  
16 enhancements and changes to existing systems would be costly and slow, leading to even  
17 more manual processes as the systems become more aged and obsolete. Replacement is  
18 critical to continuing operations because the cost to maintain the old systems and the risk  
19 associated with them increase the longer we wait.

20 In conjunction with replacing these systems, we are taking advantage of opportunities to  
21 make improvements such as implementing more efficient billing through automation and  
22 improving key business processes that have an impact on the customer experience. The

1 additional functionality that comes with the new systems will provide PGE with  
2 opportunities to improve the way we engage and serve our customers.

3 **Q. What alternatives did PGE evaluate for the Customer Touchpoints project and on**  
4 **what basis did PGE make its selection?**

5 A. PGE selected Oracle’s Customer Care and Billing solution (CC&B) to meet our CIS needs  
6 based on a fit-gap analysis to determine the best system for PGE. This analysis is provided  
7 as confidential PGE Exhibit 901C. PGE made this selection between two CIS market  
8 leaders, SAP and Oracle, both of which have enough market share and financial capacity to  
9 continuously improve their products and adapt to new utility technology trends.

10 We evaluated both solutions for alignment with PGE’s technology strategy and our  
11 ability to fulfill operational requirements. Only Oracle CC&B, however, also fulfills PGE’s  
12 stated IT goal of strategic sourcing where we will move towards having fewer, deeper  
13 vendor relationships.

14 To select the replacement MDMS, PGE conducted a request for proposals. As a result  
15 of that effort, PGE chose the Oracle solution based on the combination of cost and features,  
16 as well as meeting the strategic goal described above.

**B. Implementation**

17 **Q. What activities have you completed to implement CET?**

18 A. In addition to completing the Customer Touchpoints project, PGE has completed several  
19 operational efficiency projects under CET, including:

- 20 • Contact Center Improvements – Helped reduce average call handling time,  
21 improved the effectiveness of forecasting and scheduling processes, and freed up  
22 capacity that was redeployed toward improving service levels.

- 1 • Billing and Credit – Simplified reports used by the billing and credit departments  
2 that reduced nearly 12,000 monthly manual bill reviews.
- 3 • Paperless Bill – Focused effort on increasing paperless bill enrollment, increasing  
4 participation to over 36% of customers.
- 5 • Knowledge Management – Provides a standardized, searchable, single-source  
6 knowledge management system so customer service employees can quickly  
7 access information they need to serve customers.
- 8 • Quality Customer Interactions – Improves the quality of interactions between  
9 Customer Service Operations (CSO) employees and customers by improving the  
10 process for receiving customer feedback and standardizing CSO’s quality  
11 assurance and performance programs.
- 12 • Workforce Management – Improves the effectiveness of workload forecasting  
13 and optimizing employee schedules throughout CSO, freeing up capacity that can  
14 be applied toward improving service levels or reducing costs.
- 15 • People Development for CSO – Identifies and develops new skills to build  
16 workforce capabilities for the future, enable CSO to adopt new systems and  
17 processes, and continue to improve customer service and operational efficiencies.

18 **Q. What have you completed with respect to the Customer Touchpoints project?**

19 A. As noted above, the Customer Touchpoints project refers to the replacement of PGE’s CIS  
20 and MDMS. To accomplish this, we achieved several milestones under building, testing,  
21 and training activities, including:

22 *Building*

- 23 • PGE has finalized the build-out of the new CIS and MDMS and completed  
24 embedded and end-to-end testing to ensure that all business processes work as

1 designed, and that bills can be produced accurately and timely. To accomplish  
2 this build-out, we have:

- 3 ○ Licensed Oracle’s CC&B and meter data management solutions, along with  
4 seven other Oracle modules for the meter-to-cash and customer service and  
5 support functions of the business.
- 6 ○ Implemented iterative design and build cycles. The technology is continuously  
7 delivered across three cycles of building new functionality and testing future-  
8 state processes in the system.
- 9 ○ Conducted data cleansing.
- 10 ○ Completed system-design requirements, with hardware and software installed.
- 11 ○ Ensured that data and process-integrity remain intact through rigorous system  
12 build-out and testing.

13 Testing

- 14 • Continued testing the new systems by performing “dry-runs” or practice “go-  
15 lives” to validate system stability and performance.
- 16 • Performed mock data conversions and data migration so the new systems can  
17 perform dry runs in parallel to the existing systems. This included bringing  
18 hardware memory and capacity up to production levels.
- 19 • Completed operational readiness testing to verify bill accuracy, compare  
20 operations against the legacy systems, and simulate real-life business scenarios.
- 21 • Tested all meter-to-cash system components.

22 Training

- 23 • Supporting employee adoption of new processes and systems by designing and  
24 delivering various pre-training activities, providing employees an overview of the

1 new systems, and supporting leadership as they guide the workforce through these  
2 significant changes.

- 3 • Set the baseline metrics and service levels for all groups that will be using the  
4 new CIS and MDMS so that we can determine how these metrics will adjust with  
5 the new processes and systems. Ultimately, these metrics will help us determine  
6 that the systems have been stabilized and we are back to “normal” business.
- 7 • Completed business readiness activities including:
  - 8 ○ Communicated role profiles with employees, which define their job  
9 responsibilities after “go-live” and determine what training they will receive.
  - 10 ○ Established a support model for planning and reporting to assist PGE in  
11 managing staffing levels through system stabilization.
- 12 • Launched formal training for approximately 450 employees and contractors. This  
13 includes practice sessions on previously trained material to improve retention and  
14 increase proficiency.
- 15 • Established responsibilities, organizational structure, and resource requirements  
16 for system support up to “go-live” and system stabilization after “go-live”.

17 **Q. What activities are you currently performing to complete Customer Touchpoints and**  
18 **ensure the systems will be operational during the second quarter of 2018?**

19 A. We are performing our final mock data conversions and dress rehearsals of the new systems  
20 in parallel with the existing systems to evaluate system performance, identify variances, and  
21 implement fixes as necessary. In addition, the system users are continuing in-depth training  
22 so they are prepared to operate the systems at “go-live”.

1 **Q. Has PGE managed the scope of the project to achieve necessary functionality while**  
2 **limiting the overall cost?**

3 A. Yes. PGE’s Customer Touchpoints project uses an integrated Change Control process for  
4 managing changes in a controlled manner. This process consists of the following key tools:

- 5 • Change Request – All changes to scope, schedule, and cost are documented using  
6 the Program’s Change Request template.
- 7 • Change Request Log – This is essential for tracking proposed Change Requests  
8 and managing the Integrated Change Control process. PGE’s Customer  
9 Touchpoints project maintains this log in an enterprise-wide program  
10 management application.
- 11 • Decision-making Authority – The Program’s Decision RACI definition document  
12 (Responsible, Accountable, Consulted, Informed), authorizes the designated  
13 committee and project leaders to be responsible for approving and rejecting  
14 requested changes.

15 **Q. When do you expect the new CIS and MDMS to be operational?**

16 A. We currently estimate that the two systems will “go-live” during the second quarter of 2018.  
17 Consequently, as noted in PGE Exhibit 200, the Customer Touchpoints assets will be  
18 included in PGE’s test year rate base, which is determined by year-end 2018 balances.

19 **Q. Had PGE included the Customer Touchpoints project in its previous general rate case?**

20 A. No. Although Docket No. UE 319 (UE 319) was based on a 2018 test year forecast, rate  
21 base in that proceeding was established as of year-end 2017. This means that capital costs  
22 and on-going O&M associated with Customer Touchpoints were not included in UE 319 or  
23 in prices approved by Commission Order No. 17-511. As noted in Section II, above, PGE  
24 did incur program development O&M costs associated with the CET program from 2014



1 through 2018, but these costs have been deferred separately and the remaining balance will  
2 be amortized over five years through a supplemental schedule that began January 1, 2018.

3 **Q. How does PGE plan to achieve cost recovery for Customer Touchpoints for the period**  
4 **from “go-live” through year-end 2018?**

5 A. Because PGE will otherwise not recover its post-“go-live” costs for Customer Touchpoints  
6 until prices for this general rate case go into effect on January 1, 2019, PGE plans to file a  
7 request for deferred accounting treatment for all costs related to Customer Touchpoints from  
8 “go-live” through year-end 2018. This deferral will be subject to ORS 757.259<sup>6</sup> and will, if  
9 approved, allow PGE to recover prudent costs associated with used and useful assets that are  
10 providing benefit to customers.

**C. Benefits**

11 **Q. Please describe the benefits that the Customer Touchpoints project will provide.**

12 A. In addition to replacing obsolete systems, the Customer Touchpoints project provides  
13 numerous benefits based on “out-of-the-box” functionality, which is more responsive to  
14 customer needs and will allow customers to:

- 15 • Make one-time check payments over the phone; currently customers are  
16 redirected to the IVR system or the PGE website to make a payment.
- 17 • Enroll in Auto Pay or update bank account information over the phone.
- 18 • Choose the specific date their bill will be due, instead of the bill cycle (date  
19 range), helping customers better plan and manage their cash flow.
- 20 • Enroll in the Preferred Due Date program with fewer restrictions, making it more  
21 accessible to customers who could benefit the most.

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<sup>6</sup> At this time, the potential to defer “return on” investment is subject to investigation in Docket No. UM 1909.

- 1 • Keep their new account number permanently (when new systems are  
2 implemented), even when they move to a different address within PGE's service  
3 area.

4 Finally, the new CIS will support more varied pricing options compared to what is available  
5 with our current system.

6 **Q. Has CET provided, or will it provide, cost savings for PGE customers?**

7 A. Yes. Although the decision to implement CET was based on the obsolescence of PGE's  
8 legacy systems and the availability of mature utility customer systems with established  
9 functionality, PGE estimates that we will achieve annual O&M savings of \$3 million to \$5  
10 million on an incurred basis once the program is complete. These savings can be  
11 summarized as follows:

- 12 • A reduction of 33 FTEs between 2013 and 2016 and an additional 5.5 FTE  
13 reduction that is projected in 2019 after the systems are stable and operating.  
14 These reductions have allowed the CSO to reduce its FTE count from 407 in 2012  
15 to a projected 380 in 2019 with some offsetting increases due to other factors such  
16 as customer growth.
- 17 • Approximately \$1.0 million in non-labor cost reductions due to the paperless  
18 billing program. This savings will continue to grow as customer participation in  
19 the program increases.

20 **Q. Are there any other benefits associated with the new systems?**

21 A. Yes. As noted in UE 319 (PGE Exhibit 2100), PGE had analyzed the cost to continue  
22 operating the existing legacy systems and estimated that we would incur approximately  
23 \$63 million in additional O&M costs over ten years if we did not implement the CIS and  
24 MDMS replacement project. We based this analysis on a presumed expansion of customer-

1 based technology adoption that would impact the legacy systems (e.g., electric vehicles and  
2 distributed customer generation). This represents an avoided cost benefit of implementing  
3 Customer Touchpoints.

#### D. Costs

4 **Q. What is the total cost of the CET program?**

5 A. The total cost of the CET program is currently estimated to be \$150.0 million in capital and  
6 \$27.5 million in program development O&M costs. Of the total capital cost, the Customer  
7 Touchpoints project, representing approximately \$147.5 million, is the final (and largest)  
8 component to be completed. We expect Customer Touchpoints will become operational in  
9 the second quarter of 2018. PGE Exhibit 902 provides the amounts of capital that become  
10 operational by year.

11 **Q. Over what period of time will the capital costs be depreciated or amortized?**

12 A. The software capital costs will be amortized over ten years, which as noted in PGE Exhibit  
13 200, is typical for larger software projects. The hardware costs will be depreciated over five  
14 years as specified by PGE's approved depreciation study (Docket No. UM 1809).

15 **Q. Are the Customer Touchpoints capital costs included in PGE's proposed prices  
16 effective January 1, 2019?**

17 A. Yes. Because PGE has set rate base in this filing as of December 31, 2018, and Customer  
18 Touchpoints goes live in 2018, they are part of the prices that would go into effect on  
19 January 1, 2019.

20 **Q. Has the estimated capital cost of Customer Touchpoints changed over time?**

21 A. Yes. The change, however, was based on a logical progression of research, in-depth inquiry,  
22 consultation with third-party experts, and experience acquired over time as we advanced  
23 through stages of implementation. In short, cost estimates for large, complex IT systems

1 typically evolve over time as preliminary estimates become more refined and additional  
2 information and experience is acquired.

3 **Q. Please describe the process you used to develop your capital cost estimates for**  
4 **Customer Touchpoints.**

5 A. Three years prior to substantially beginning to implement the Customer Touchpoints project,  
6 our first cost estimate was \$57-\$66 million. This estimate, however, was very preliminary  
7 because it was based on:

- 8 • Initial research that needed to be followed by much more in-depth inquiry; and
- 9 • Incurred capital costs only, but not including loadings, allocations, or allowance  
10 for funds used during construction (AFUDC), which at the time were estimated to  
11 be approximately \$13-\$14 million.

12 **Q. How did your estimate evolve from there?**

13 A. To develop a more in-depth and accurate estimate, PGE performed the following activities:

- 14 • Identified the software systems necessary to enable specified business capabilities  
15 and replace obsolete technology.
- 16 • Engaged third-party TMG Consulting (TMG) to support our contract negotiations  
17 for System Integration. This effort involved TMG providing analyses and cost  
18 targets for the software to replace PGE's existing CIS and MDMS.
- 19 • Engaged third-party Emtec Consulting (Emtec) to evaluate the CIS/MDMS scope  
20 and cost comparisons in order to benchmark PGE's costs to implement the  
21 proposed system against other utilities with comparable implementations.
- 22 • Substantially negotiated a contract with Oracle Utilities for their suite of software  
23 products.

- 1 • Substantially negotiated a contract with Accenture for System Implementation  
2 services.
- 3 • Conducted a bottom-up re-estimate of the effort to integrate the new CIS and  
4 MDMS to existing PGE applications using technical staff assigned to the project.

5 **Q. Did PGE expand the scope of the Customer Touchpoints project by adding significant**  
6 **functionality?**

7 A. No. We identified other functionality and/or activities that had not been captured in the  
8 initial estimates, but were needed to meet scope and maintain current functionality  
9 including:

- 10 • Web functionality – costs to convert PGE’s website to utilize the new CIS’s data  
11 structure and retain existing self-service functionality.
- 12 • IVR – costs to convert the IVR to utilize the new CIS data structure and retain  
13 existing functionality.
- 14 • Knowledge Management – provides a tool to serve as the single source of  
15 reference for the CSO’s policies, processes, and working procedures, and replaces  
16 PGE’s current knowledge management system, which is obsolete. This will be  
17 the primary source for instructions on how to use the system, which will be  
18 leveraged to train customer service representatives on the new system and support  
19 their day-to-day interaction with customers after training.
- 20 • Bill Presentment – costs to convert the equipment that produces bills, notices and  
21 letters to utilize the new CIS’s data structure and retain existing functionality.

22 In summary, PGE started with a very preliminary estimate of incurred costs based on  
23 limited information. We then updated the program for additional activities to retain current,  
24 necessary functionality and identified suitable software systems. After a detailed bottom-up

1 analysis, we engaged two third-party consultants to: 1) provide analyses and cost targets for  
2 the replacement systems; 2) support contract negotiations for system integration; and  
3 3) benchmark PGE’s projected costs to other utilities with comparable implementations.  
4 With this support and information, we negotiated contracts for software products and system  
5 integration. With each step, we had more refined information with which to estimate our  
6 costs, which were also updated for loadings, allocations, and AFUDC.

7 **Q. Does this type of process typically involve significant changes to cost estimates for large**  
8 **software projects over time?**

9 A. Yes. Estimates for the cost of large, enterprise-wide computer applications can vary  
10 significantly depending on the implementation stage of the project. The Avista Corporation  
11 correctly summarized this concept in OPUC Docket No. UG 284 (Avista/501, page 37) by  
12 stating:

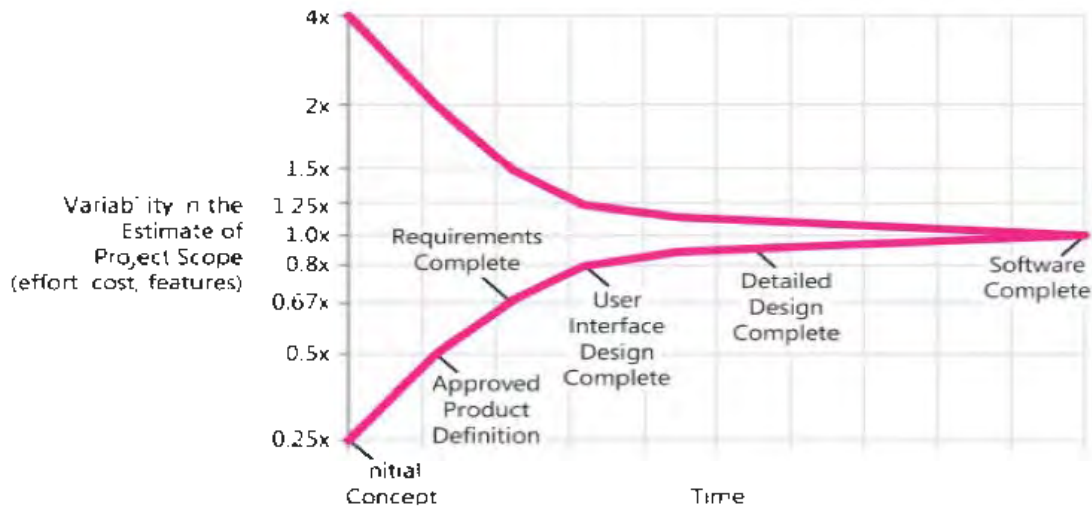
13 Early in the scoping of a software project, particular details of the application being  
14 designed/installed, a detailed knowledge of the Company’s specific business  
15 requirements, details of the solution sets, the management plan, identified staffing  
16 needs, and many other variables are simply unclear. Accordingly, estimates of the  
17 potential cost of the project are highly variable. As these sources of variability  
18 continue to be investigated and reduced, the project uncertainty decreases; likewise,  
19 so does the variability in estimates of the project cost. This phenomenon, widely  
20 discussed in the literature, and often associated with author Steve McConnell,<sup>7</sup> is  
21 known as the “Cone of Uncertainty”.

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<sup>7</sup> Software Estimation: Demystifying the Black Art. Steve McConnell, Microsoft Press, 2006.

Figure 1, Cone of Uncertainty<sup>8</sup>

The 'Cone of Uncertainty' describing the relationship between the variability in the estimates of a software projects' costs and the stage of the project at which the estimates are developed.



1 In short, there is significant uncertainty in the early stages of developing estimates of the  
2 cost and time necessary to complete major software projects.

3 **Q. At what phase of the project did PGE provide the initial Customer Touchpoints**  
4 **estimates?**

5 A. PGE provided the initial estimates in Docket No. UE 262 (filed in February 2013) during the  
6 initial concept stage: before software and system integrators were selected, and before all  
7 requirements were finalized.

8 **Q. What phase of the project is Customer Touchpoints in now?**

9 A. As shown in PGE Exhibit 903, we have completed the detailed design and testing phases of  
10 the Customer Touchpoints project and currently are in the final completion phase so as to go  
11 live in the second quarter of 2018.

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<sup>8</sup> Ibid. Figure No. 4-2, page 37.

1 **Q. Based on the process you described above, how did your estimates of Customer**  
2 **Touchpoints capital costs evolve?**

3 A. PGE Exhibit 903 summarizes the estimates that PGE created by date and identifies where in  
4 the process these occurred. We describe these further as follows:

5 • \$57 to \$66 million total capital cost at initial concept. PGE had developed this  
6 estimate in 2012, but submitted it in February 2013 as part of our 2014 general  
7 rate case (Docket No. UE 262, Confidential PGE Exhibit 904C).

8 • \$99.3 million total capital cost at approved product definition in October 2014.  
9 The increase from the original \$57-\$66 million reflects the following items  
10 (specific dollar amounts were not attributed to the individual changes at that  
11 time):

12 ○ Increased costs to reflect loadings, allocations, and AFUDC.

13 ○ Increased software costs for additional modules to meet project scope.

14 ○ Reduced hardware costs due to revised engineering estimates.

15 ○ Better understanding of additional work necessary to integrate existing  
16 applications, as performed by PGE and not supported by the system  
17 implementation contract.

18 ○ Includes consolidate bill print technology, and enables web, IVR, and mobile  
19 technology.

20 • \$137.0 million total capital cost after completing requirements in October 2015.

21 This increase from the \$99.3 million is due to the following:

22 ○ \$7 million increase due to additional software modules to meet project scope.

23 ○ \$4 million decrease due to revised estimates for hardware.



- 1           ○ \$5 million decrease based on results of negotiating the system implementation
- 2           contract.
- 3           ○ \$15 million increase due to better understanding of the work necessary to
- 4           integrate existing applications not supported by the system implementation
- 5           contract.
- 6           ○ \$9 million increase based on a re-categorization of costs from O&M to capital
- 7           to comply with generally accepted accounting principles.
- 8           ○ \$6 million to increase the program contingency to 20% of incurred costs to
- 9           reflect industry standard.
- 10          ○ \$6 million to reflect increased loadings as a function of increased internal
- 11          labor.
- 12          ○ \$3 million to reflect an increase in AFUDC based on a change in estimated
- 13          closing assumptions and increases in other cost estimates.
- 14          • \$137.5 million total capital cost in April 2016.
- 15          • \$137.5 million total capital cost as estimated in February 2017. PGE prepared
- 16          this estimate before completion of the detailed design.
- 17          • \$147.5 million current estimate as of February 2018. This cost increase reflects
- 18          the potential for: 1) mitigation of below-average data conversion accuracy and
- 19          greater than estimated time to complete the “go-live” conversion process; and 2) a
- 20          larger than expected volume or severity of defects. In spite of this increase, the
- 21          total cost estimate for the program has been fairly stable since October 2015 (at
- 22          commencement of the Customer Touchpoints project).

23 **Q. How does PGE’s cost estimate compare with other similar systems?**

24 A. PGE conducted extensive research for selecting the appropriate systems to implement and,

1 as noted above, employed Emtec, a third-party consultant, to evaluate and benchmark PGE’s  
2 alternatives. Emtec’s study concludes that PGE’s cost is within their benchmark range (see  
3 PGE Exhibit 904C for the Emtec study, in particular slide 13, the row titled “Total  
4 w/Contingency” under the “Total” columns and slide 18). This conclusion is still valid  
5 based on PGE’s current estimate of incurred cost for Customer Touchpoints, which we  
6 summarize in PGE Exhibit 905C.

7 **Q. Are any CET program development O&M costs included in PGE’s proposed prices**  
8 **effective January 1, 2019?**

9 A. No. As noted in Section II, above, in accordance with Commission Order No. 17-511, CET  
10 program development O&M costs have been moved from PGE’s base prices to  
11 Supplemental Schedule 112 and are not included in PGE’s 2019 test year forecast.

12 **Q. Are there any incremental on-going O&M costs included in your 2019 forecast?**

13 A. Yes. PGE’s 2019 test year forecast includes amounts for software license fees associated  
14 with the new CIS and MDMS, plus approximately \$2.1 million for applicable property  
15 taxes. In addition, as noted in Section II, above, approximately \$0.5 million in labor  
16 represents a shift from capital to O&M as certain Customer Service FTEs move from  
17 building the systems to running them. Additional IT-specific O&M costs also relate to  
18 running the new systems but these are discussed in PGE Exhibit 600.

#### IV. Conclusion

1 **Q. Please summarize your proposal with regard to Customer Service costs in this**  
2 **proceeding.**

3 A. PGE requests that the Commission approve PGE’s forecasted increase in Customer Service  
4 O&M costs as described in Section II above, to be effective January 1, 2019. These costs  
5 are necessary for PGE to provide timely and accurate customer usage data plus effective  
6 metering, billing, collection, and response services to all customers, as well as develop and  
7 implement new programs and service options that provide benefits to customers.

8 We also request that the Commission approve the costs associated with the completion  
9 of the Customer Touchpoints project, which reflects \$147.5 million in capital for the CIS  
10 and MDMS replacements, as described in Section III, above. The new systems are  
11 scheduled to be operational in the second quarter of 2018. To provide cost recovery for the  
12 new systems in 2018, PGE plans to file a request for deferred accounting treatment for all  
13 costs related to Customer Touchpoints from “go-live” through year-end 2018. Granting cost  
14 recovery for Customer Touchpoints in 2018 (through approval of the deferral and  
15 subsequent amortization) and in base prices (effective January 1, 2019), will allow PGE to  
16 recover reasonable and prudent costs associated with used and useful assets that are  
17 providing benefit to customers.

## V. Qualifications

1 **Q. Ms. Stathis, please describe your educational background and qualifications.**

2 A. I received a Bachelor of Science Degree in Political Science from Willamette University and  
3 a post-baccalaureate certificate in accounting from Portland State University. I previously  
4 qualified as a certified public accountant in the State of Oregon. I am on the boards of  
5 Marylhurst University; the Oregon Alliance of Independent Colleges and Universities; the  
6 Western Energy Institute, and the PGE Foundation. I serve as Vice President, Customer  
7 Service Operations, at PGE and have been in this role since June 2011. In this position, I am  
8 responsible for operational functions including metering, billing, credit and collections,  
9 community offices and the contact center. I began my career with PGE twenty-four years  
10 ago as a financial analyst. Since then, I have served in a number of roles including Assistant  
11 Treasurer and Manager of Corporate Finance, General Manager of Power Supply Risk  
12 Management, and General Manager of Revenue Operations.

13 **Q. Ms. Dillin, please describe your qualifications.**

14 A. I received a Bachelor of Arts in Journalism and Spanish from the University of Oregon. I  
15 have taken post-graduate business courses at Marylhurst University, and am a graduate of  
16 the American Leadership Forum class of 2005. I am on the boards of The Center for  
17 Women’s Leadership, PGE Foundation, BEST, and the Business Advisory Council for  
18 Portland State University. I serve as Vice President, Customer Strategies and Business  
19 Development at PGE and have been in this role since June 2011. In this position, I am  
20 responsible for the Retail Customer Strategies for PGE. This includes Customer Research  
21 and Analysis, Customer Program Development and Management, Retail Technical  
22 Strategies, Business Customer Group, Smart Grid, R&D, and Economic Development.  
23 Since beginning my career at PGE twenty-nine years ago, I have served in a number of roles

1 including Public Information Specialist; Director, Corporate Communications and  
2 Community Affairs; Vice President, Public Policy; and President of the PGE Foundation.

3 **Q. Does this conclude your testimony?**

4 A. Yes.

## List of Exhibits

<b><u>PGE Exhibit</u></b>	<b><u>Description</u></b>
901C	CIS Fit-Gap Analysis
902	CET Capital Costs by Year
903	Customer Touchpoints Capital Costs within the “Cone of Uncertainty”
904C	Third-Party Review of Customer Touchpoints
905C	Updated Customer Touchpoints Costs versus Benchmark Range

Exhibit 901C

Protected Information Subject to Protective Order 18-047

<b>Asset Category</b>	<b>Account</b>	<b>2015 Actuals</b>	<b>2016 Actuals</b>	<b>2017 Actuals</b>	<b>2018 Forecast</b>	<b>Totals</b>
<b>Customer Touchpoints</b>						
software - 10 year amortization	303	\$ -	\$ 1,908,654	\$ -	\$ 139,798,094	\$ 141,706,748
computer	39102	\$ 352,970	\$ 512,173	\$ 5,699,127	\$ (1,184,200)	\$ 5,380,070
furniture	391	\$ 225,498	\$ 154,092	\$ 57,267	\$ -	\$ 436,857
		\$ 578,468	\$ 2,574,919	\$ 5,756,394	\$ 138,625,779	\$ 147,523,675
<b>Other CET</b>						
software - 10 year amortization	303	\$ 533,405	\$ 1,632,895	\$ -	\$ -	\$ 2,166,300
computer	39102	\$ 100,564	\$ 114,304	\$ 74,630	\$ 148	\$ 289,646
furniture	391	\$ -	\$ -	\$ 41,031	\$ -	\$ 41,031
		\$ 633,969	\$ 1,747,200	\$ 115,661	\$ 148	\$ 2,496,978
<b>Total CET</b>						
software - 10 year amortization	303	\$ 533,405	\$ 3,541,549	\$ -	\$ 139,798,094	\$ 143,873,048
computer	39102	\$ 453,534	\$ 626,477	\$ 5,773,757	\$ (1,184,052)	\$ 5,669,716
furniture	391	\$ 225,498	\$ 154,092	\$ 98,298	\$ -	\$ 477,888
		\$ 1,212,437	\$ 4,322,119	\$ 5,872,055	\$ 138,614,042	\$ 150,020,653



# Customer Touchpoints Capital Costs within the “Cone of Uncertainty”\*

\*Software Estimation: Demystifying the Black Art. Steve McConnell, Microsoft Press, 2006

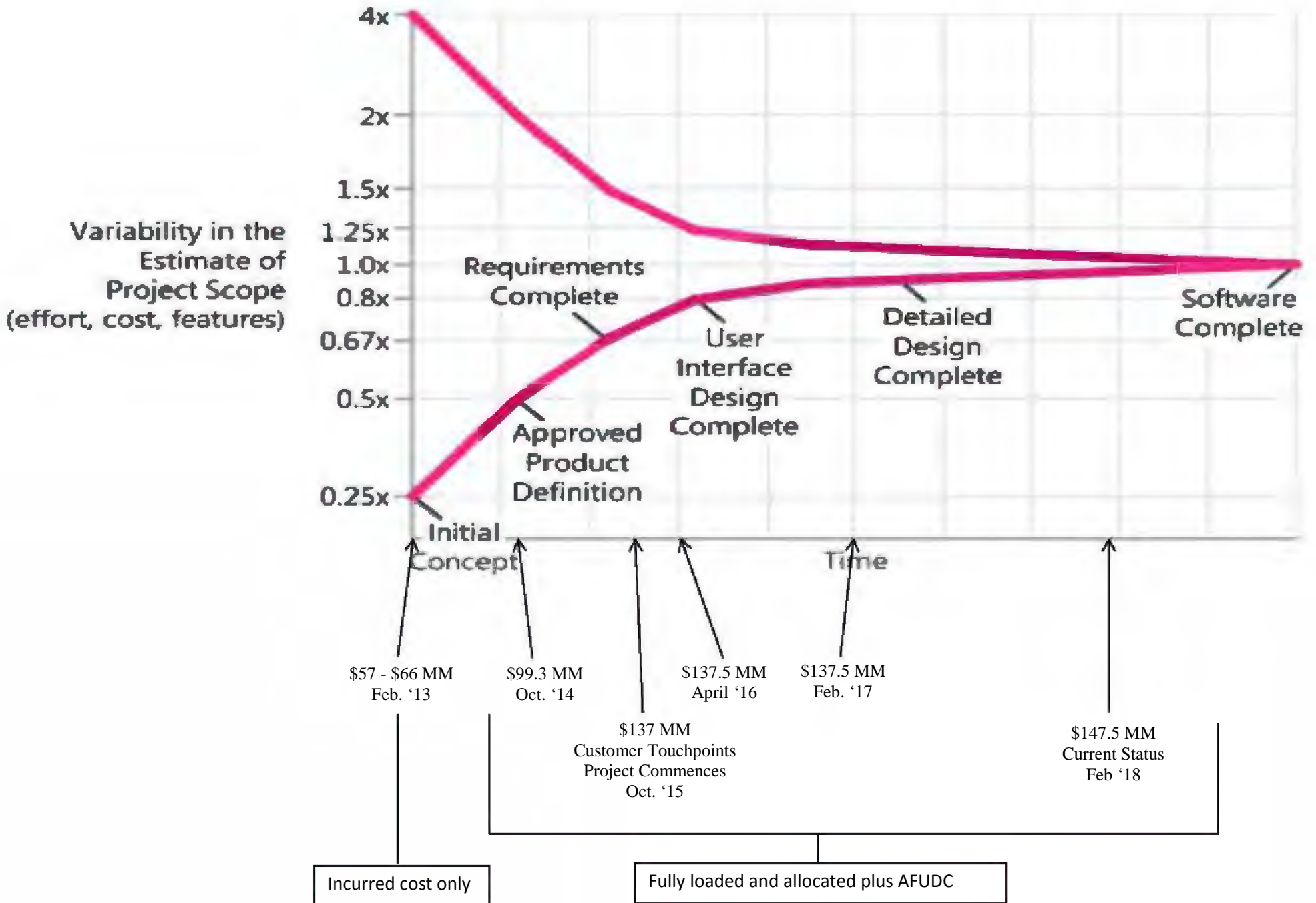


Exhibit 904C

Protected Information Subject to Protective Order 18-047

Exhibit 905C

Protected Information Subject to Protective Order 18-047