

Seattle Public Utilities Customer Review Panel

Tuesday, December 17, 2019

9 am - noon

Seattle Municipal Tower, 4901 (49th Floor)

Panel Members			
Suzie Burke	x	Noel Miller	x
Bobby Coleman	x	Thy Pham	
Dave Layton		Rodney Schauf	x
Laura Lippman	x	Puja Shaw	
Maria McDaniel	x		
Staff and Others Presenting or Participating			
Keri Burchard-Juarez	x	Andrew Lee	x
Kathleen Baca	x	Natasha Papsoueva	X
Aaron Blumenthal		Ellen Pepin-Cato	x
Alex Chen	x	Dani Purnell	x
Alex Clardy		Karen Reed	x
Jeff Fowler	x	Rick Scott	x
Brian Goodnight	x	Sheryl Shapiro	
Mami Hara	x	Karen Sherry	x
John Holmes	x	Jonathan Swift	X
Paula Laschober	x		

Underlined text indicates action items. ***Bold Italicized text*** indicates follow up items.

Meeting Summary

Welcome: Mami Hara, General Manager/CEO of Seattle Public Utilities (SPU), welcomed those in attendance and thanked them for their time.

Standing Items: Karen Reed, Facilitator, reviewed the meeting agenda. The meeting summary for November 5, 2019 was approved with no changes. Jonathan Swift presented the Panel with a roadmap for the 2021-2026 Strategic Business Plan (SBP) process. Proposed topics for upcoming meetings are listed on the timeline. These topics will likely change and others will be added as the year goes on. This document will be updated frequently and can be found in the pink tab of the binders labeled "Roadmap." The Roadmap tab contains two other documents: (1) the Meeting Dates and Agenda document lists proposed meeting topics and the staff member who will be presenting; (2) list of Panel issues presented to SPU staff on October 14, 2019 and November 13, 2019. The issues on these lists are numbered and color coded so that Panel members can see when they will be addressed by referring to the Roadmap or Meeting Dates and Agenda document.

Karen reviewed the updated question tracker with the Panel. It is now color coded to show which issues have been addressed and when. Please let Karen Reed or Karen Sherry know if

you have asked a question that does not appear on the tracker or if you feel any questions have not been sufficiently addressed.

SPU in the News. Mami discussed a recent New York Times article about food waste management. Several SPU staff were interviewed for the article, although Seattle was not the focus. Mami encouraged the Panel to read the article, which can be found [here](#).

2018-2023 Action Plan Updates: SPU staff worked with Panel leadership and Karen Reed to develop a standard template that will be used to report back to the Panel the status of the SBP Action Plans.

Alex Chen, Water Planning and Program Management Division Director, provided a status update on three water Action Plans.

- *Action Plan #2 – Fund Opportunity Infrastructure Work that Supports Transportation Projects.* This Action Plan adds funding to the Water capital programs so that SPU can take advantage of additional transportation project driven impact-based and opportunity replacements. It does not include water system projects that were required as part of an SDOT project as those projects were consider part of the SBP baseline.

Spending was low in 2018 because two projects that has big dollars associated with them were delayed by SDOT. Most of these CIP projects are bond funded. We have not had to sell bonds yet for these projects.

Q: Is there a point where you have enough money available to bond? Would that decrease the water rate? A: Yes – if we don't need the money, we don't sell bonds and don't increase the rates.

- *Action Plan #3 – Expand Maintenance of the Water Distribution System.* This Action Plan adds two crews (4 positions) to perform essential maintenance to the water system. SPU has not hired the 4 FTEs as it has been difficult to attract qualified water pipe workers. To address this situation SPU plans to broaden the recruitment process. In addition, we plan to hire an apprentice class in 2020 in order to develop more qualified candidates. In the meantime, SPU will consider the use of private contractors to help catch up on deferred maintenance.

Q: Since the money wasn't spent, will rates be lower? A: The plan is not to change the projections but to continue to work toward hiring these 4 positions.

Q: If we are going to train candidates through the apprentice program, that's 4 more years of deferral. What's the plan for getting the work done? A: SPU will focus on major maintenance. Minor maintenance (such as hydrant painting) might not happen. SPU just received permission from the unions to contract some of the lower level work out, which will help with the backlog.

Q: Are you getting HR support? A: Yes, we are working on strategies to get more qualified candidates. We have dropped the Commercial Drivers License requirement in order to attract more candidates.

Q: Is the distribution of valves/hydrants consistent across the system? A: Yes. **Staff will provide a map to show this.**

- *Action Plan #4 – Expand Water Modeling.* This Action Plan adds one position for water system hydraulic network modeling. This position was filled in late 2018 and the employee has exceeded expectations.

Corinne DeLeon, Drainage and Wastewater Asset Management,] presented Action Plan Updates for Drainage and Wastewater (DWW).

- *Action Plan #7 – Sewer Rehabilitation.* This Action Plan increased investment in the repair, rehabilitation and replacement of Seattle’s aging sewer pipes to help prevent overflows and meet regulatory requirements. 2018 was a high accomplishment year while 2019 focused on design for 2020 projects.

Q: Do you think you’ll spend more in 2020? A: Yes, we anticipate spending \$31M. One thing being reviewed is how project reserves are held. Another is how money is held for emergencies. These changes are an effort to make the process more visible so we can understand how much we are holding overall. We many consider holding less.

- *Action Plan #5 – Sewer Repairs.* This Action Plan increases investment in a sewer repair by addition an additional repair crew of six positions and associated equipment focused on spot repair. This reduces SPU’s reliance on contractors. The six-person crew was hired in 2018 and has focused on training with the new equipment. DWW sees this Action Plan continuing through 2023 and then becoming part of the baseline as it is part of everyday work.
- *Action Plan #9 – Side Sewer Enforcement.* This Action Plan added one position to improve SPU’s enforcement of the side sewer code. This investment allows SPU to more quickly resolve side sewer issues on private property. SPU has added new metrics for this Action Plan which better reflect the work being done. This work involves a lot of customer service and requires a lot of time be spent with our customers. DWW does not anticipate this being an Action Plan after 2023 as it is part of our regular work.

Q: What type of assistance are customer needing? A: Financial, such as a loan program. This is part of the Accountability and Affordability work. **Staff will bring this back to the Panel.**

Q: How long does a side-sewer fix last? A: About 80 years but there is a lot of variability.

Q: Can property taxes pay for this work for low-income homeowners? A: Currently the City does not have any assistance available. We direct customers to the Department of Housing to see if they qualify for any of their programs.

Risk & Resiliency – SBP Implications.

- *Enterprise Risk Management.* Denise Leung, SPU Risk Advisor, began this presentation. The purpose of the presentation was to build on the Risk and Resiliency (R/R) report and previous risk work presented to the Panel. SPU is working to make sure R/R is embedded into all our work, including the SBP.

Risk is defined as the impact of uncertainty on an outcome. The Risk Management framework describes three types of risk management:

1. Traditional – reactive to events, focused on hazards/operations, siloed approach
2. Advanced – more proactive about reducing risk, integrates claims, audits, loss control and risk transfer techniques, more collaboration
3. Comprehensive – Aligned with mission and values, integrate with resilience, forward-looking, includes “upside risks” or opportunities

On this spectrum, SPU is currently between traditional and advanced risk management.

When a risk is identified, multiple staff review and give the risk a score to determine the risk level. There are six steps to addressing risk:

1. Identify risks/opportunities
2. Assess likelihood and impact of risks
3. Develop options to manage risks/opportunities
4. Implement chosen option
5. Monitor program manages risks/opportunities
6. Learn from each step and improve process and outcomes using data

After a risk is has been identified there are seven response options.

1. Pursue opportunities: deliberately take risks to maximize benefits.
2. Transfer: Risks can be transferred/shared (i.e. buying insurance, contracting, partnering)
3. Avoid: decide not to take path because costs outweigh benefits
4. Remove: this is often not possible
5. Reduce: reducing a risk will significantly lower impacts and improve outcomes
6. Accept: this option is used after other risk options have been used
7. Ignore: poor strategy

Group Exercise: The room was divided into three groups and given 10 minutes to brainstorm possible solutions to three risks scenarios.

Group 1: Jeff Fowler, Noel Miller, Andrew Lee, Rick Scott

Risk Scenario:	Possible Solutions:
Population growth (increased service demand, more revenue, etc.)	<ul style="list-style-type: none">• Conservation• Demand management<ul style="list-style-type: none">○ Waste reductions○ Rate structure

Climate impacts (possibilities: more sudden downpours, less snow, increased wildfire and heat, sea level rise, climate refugees, etc.)	<ul style="list-style-type: none"> • Wildfire response plan (for Cedar River Watershed) • Model impacts (rainfall, snowpack) • Additional capacity at facilities (Morse Lake) • Drought resilient species • Collaborating with other institutions
Earthquake	<ul style="list-style-type: none"> • Incorporate new standards (seismic resilient pipe) • Seismic valves • Decentralization • Reclaimed water • Emergency water at Roosevelt and Volunteer • Mobilize customers to have water • Facilities & warehousing

Group 2: Brian Goodnight, Laura Lippman, Rodney Schauf, Paula Laschober

Risk Scenario:	Possible Solutions:
Labor supply and aging workforce	<ul style="list-style-type: none"> • Labor negotiations • Seattle public schools & other school partnerships • Promotion of field work as viable, alternative career path (construction/pipe fitting)
Increasing customer expectations (especially regarding service and affordability)	<ul style="list-style-type: none"> • Education – increase awareness that field work/blue collar work is not as subject to automation • Self-help/DIY education so customers are their own best help and our partner in our work
Increased density/building heights/more apartment buildings	<ul style="list-style-type: none"> • Look at opportunities – realizing the advantage of the smaller footprint of renters in such buildings <ul style="list-style-type: none"> ○ SW education ○ Developer partnerships

Group 3: Suzie Burke, Bobby Coleman, Maria McDaniel, Mami Hara

Risk Scenario:	Possible Solutions:
Aging Infrastructure	<ul style="list-style-type: none"> • Projects of opportunity • Train workers • Spend money

	<ul style="list-style-type: none"> • Assessment of infrastructure • Exchange of info between SPU and homeowners
Cyber Security	<ul style="list-style-type: none"> • City problem – what are they doing? Do they still have someone working it? • Physical security funding
Changes in Leadership	<ul style="list-style-type: none"> • Training for new City Councilmembers • Internal succession planning

Dan Ward continued the presentation by introducing the SPU Risk Table for major risks. Interviews with employees were conducted and used to identify top risks to SPU. The table describes three kinds of risk and events associated with that risk.

1. Natural and Human caused hazards: earthquakes, climate change, cyberattack and extreme weather.
2. Financial risks: infrastructure, economy/markets
3. Operations: workforce, technology

Dan went into additional detail about Cyber security. Recently a company had to spend \$18-\$20M to undo damage done by a ransomware attack. SPU is a steward of customer and employee data and the stakes are high to keep this information safe. SPU partnered with Seattle’s Information Technology Department (Seattle IT) to have a leading expert try to break into our system. We did well in some areas and found other areas to fix. SPU now undergoes annual testing to identify and fix issues. The City has also purchased cyber security insurance of about \$75M. The cost is spread across all City departments so it’s not a big financial hit to SPU.

There have been recent technological changes that have helped decrease risk to SPU. These include trenchless slurry removal and UAS drones used to survey the watershed.

SPU has a claims investigation team that recovered \$1.3 million for the utility in 2019. We are confident we are paying the claims we should and denying the claims we should.

Q: Are costs being recovered on slurry removal? A: Yes. SPU is the only City department that has a group that recovers costs from contractors. We recover a large portion of our costs.

Dan also discussed in more detail a major risk in the Operations category – workforce. The risk level is described as high. SPU has made progress in this area by succession planning, a skills and knowledge transfer program, apprenticeship programs and new recruitment strategies such as youth engagement.

SPU has done the following work on R/R:

- Identified top risks (risk register)
- Reported to Council in June
- Created risk tools to help teams assess risks and develop solutions
- Integrate risk into planning
- Staying ahead of regulatory requirements and finding innovation opportunities

- Increased communication inside and outside SPU

Some areas of resiliency in action include:

- Drainage and Wastewater Integrated Plan
- Solid Waste Comprehensive Plan
- Water Seismic Planning
- Emergency Management Planning
- Facilities Master Plan
- Security Master Plan

Water Seismic Study – Bill Heubach, Water Line of Business, gave a presentation on SPU's Water Seismic Study. In addition to a comprehensive assessment completed in 1990, there have been several SPU water seismic studies. Since that time several things have happened:

- The Puget Sound regional surface faults were determined to be active
- Local seismic codes have changed significantly
- Several major earthquakes have occurred around the world and added to our understanding of water system response
- Earthquake resistant ductile iron pipe became available in the US. This pipe has a very low failure rate.

The Seismic Vulnerability Assessment Project has 5 goals:

1. Conduct preliminary seismic vulnerability assessments for all critical water transmission and distribution system facilities.
2. Produce hydraulic modeling of post-earthquake water system performance.
3. Establish post-earthquake water transmission and distribution system performance goals.
4. Develop planning level mitigation measures, cost estimates and timeframe to meet service level goals.
5. Define seismic design standards for water transmission and distribution pipelines.

Bill reviewed the earthquake source zones and types of earthquakes. In Seattle, there is a 15 – 20% chance of a catastrophic earthquake (similar to 2011 Christchurch or 2011 Tohoku, Japan Earthquakes) in the next 50 years. There is an 85% chance of at least one earthquake similar to the 2001 Nisqually earthquake in the next 50 years. SPU used 3 different scenarios to conduct a seismic hazard analysis:

1. M7.0 Seattle Fault quake
2. M9.0 Cascadia Subduction Zone quake
3. 0.02 Probability of Exceedance in 50 Years Ground Motions

The hazards evaluated were ground shaking intensity and permanent ground displacements (PGA).

Q: How much vertical displacement might happen during an earthquake? A: One to three meters of discrete offset and up to 6-7 meters of uplift distributed over 100 meters or more (during a Seattle Fault event). Earthquake resistant ductile iron pipe would be much more reliable than pipe that has been traditionally used by U.S. water utilities.

Q: What type of pipes do gas companies use? A: They used to use cast iron pipe, which was not good. Now they use high density polyethylene, which performs much better. Not all cast iron pipe has been replaced.

Results of how SPU assets fared after seismic hazard analysis:

- *Watersheds*: In good shape. Dams meet Federal Energy Regulatory Commission (FERC) requirements. There would be minor impacts involving landslides in the watersheds for the M7.0 and M9.0 study scenario events. There could be moderate or more severe landslide impacts for building code ground motions (ground motions stipulated by the building codes that are based on the ground shaking intensity that has a 2% chance of being exceeded in 50 years at the location of concern).
- *Treatment Plants*: Also in good shape. Structural performance was generally good. Clearwells (large tanks used to store water that has been recently treated) at the treatment plants may experience some damage but expected to remain functional.
- *Regional Reservoirs and Water Tanks*. Damage is possible to a few reservoirs (Riverton and Eastside specifically) but most are expected to remain functional. Many elevated tanks and standpipe were found to be vulnerable to code level ground motions.
- *Regional Pump Stations*. Several pump stations are vulnerable but most of the vulnerable pump stations are not critical.
- *Transmission Pipelines*. Several highly vulnerable locations were identified along the transmission pipeline alignments. Areas susceptible to large ground displacements from liquefaction and landslide are particularly vulnerable. Some of SPU's transmission pipelines are welded steel pipelines (such as Tolt Pipeline 2) that are somewhat inherently seismically resistant, some (such as most of the Eastside Supply Line) are constructed of brittle, highly vulnerable materials such as concrete and other transmission pipelines are constructed from materials with variable seismic resistance.

Vulnerability Assessment Findings Summary for a catastrophic earthquake (15% to 20% chance in next 50 years):

- Loss of Cedar and Tolt Transmission Systems Likely
- Loss of Eastside Supply Line Likely
- Distribution Pipeline Failures
 - M7 SFZ Scenario: ± 2000 failures
 - M9 CSZ Scenario: ± 1400 failures
- Most Terminal Reservoirs Remain Functional
- Loss of Over One Dozen Critical Facilities
- Loss of Water Pressure Throughout Direct Service Area Within ± 24 Hours

SPUs mitigation approach is two pronged, looking at both short term (next 15-20 years) and long term (next 50+ years).

Short term mitigation approach:

- Enhance emergency preparedness and response planning
 - Earthquake-specific response plan
 - Significantly augment pipeline repair material stocks

- Assess adequacy/improve emergency drinking water
- Develop/implement isolation and control strategies
 - Reservoir isolation valves
 - Explore isolating areas of large amounts of pipe damage
 - Add valves to make isolation easier

Long term mitigation approach:

- Build It Right (Now Until Forever)
 - Use earthquake-resistant pipe when pipe is replaced
 - Design new facilities to remain functional
- Upgrade Vulnerable Critical Facilities (Next 50 Plus Years)
 - Most vulnerable transmission pipelines locations (Cedar system has top priority)
 - Critical facilities
 - Large volume reservoirs
 - Key pump stations and support facilities
 - Life-safety

Q: Does SPU have trucks that can get to places if the roads aren't passable? A: Crew chiefs have 4-wheel drive vehicles. However, bridges being down is our biggest concern. SPU will be purchasing more repair materials and strategically storing them where we expect they will be needed.

Seismic Resilience Recommendations:

- Spend \$15 to \$20 million per year – 50+ years (\$800M)
- Refer to Seismic Study Executive Summary for a list of proposed projects.
- Conduct options analysis for all projects
 - Proactive upgrade options
 - Operational response until replacement

SPU is working to fold seismic planning into all aspects of our work. SPU does not anticipate seismic work to be an action plan.

Q: Are wholesale customer sharing these costs? A: Yes, they pay for about half of the projects.

Customer Outreach Update: Dani Purnell, Corporate Policy Director, and Vanessa Lund, Cocker Fennessy, provided the Panel with an update on SBP Community Outreach. Vanessa reviewed 2 slides with the Panel showing the key outreach milestones as well as the timeline for presenting the SBP to the Mayor and City Council.

Vanessa reviewed key themes for the Voice of the Community research. A lot of research has already been done. SPU chose to look at this research rather than reinvent the wheel. Overall satisfaction with SPU services is high. The top three findings are the keystone elements for SPU:

1. Continued investment in high quality service and reliable infrastructure
2. Affordability of rates, rate predictability

3. Finding technologies to improve service, costs and safety

Some findings from information recently gathered by SPU and other relevant sources revealed the following:

- People don't know what SPU's role is in climate change.
- There is a need to educate people about what is good for the environment – the rules keep changing.
- We need to find the root causes of waste.
- The equity and inclusion we have in our region is not universal.
- Customers want more partnering and less policing (recycling in garbage)

Samantha (Sam) Keller, Community Partnerships Planner with SPU's Environmental Justice and Service Equity Division, reviewed the combination approach SPU will use in performing community outreach. SPU needs to be intentional about building relationships with communities that have been harmed in the past. The steps include:

- Conducting a wide-reaching community survey
- CAC survey outreach
- Community intercept surveys/focus groups
- Community leader interviews

Sam passed out a draft list of community advocates. This list is a starting point. If Panel members think of organizations that should be added just let Sam know.

Ingrid Goodwin, Community Affairs staff, review the outreach methods to be used for the marketing strategy:

- SPU Website
- Social Media (Twitter, Facebook/Instagram, Next Door)
- Bill insert link
- Intercepts/Outreach events

Vanessa then gave an update on the business interviews. An interview guide has been designed and 35 businesses have been identified. Nineteen interviews have been completed.

The take-aways so far:

- Customer want SPU to meet them where they are (in the communities, don't make customers come to a special meeting)
- Don't call needing information ASAP

We will provide a progress report in January.

Karen Reed reviewed the dates/time for the next few meetings. Meeting was adjourned just before noon.