MEMORANDUM

EUGENE WATER & ELECTRIC BOARD

Rely on us.

TO: Commissioners Mital, Simpson, Helgeson, Manning and Brown

FROM: Erin Erben, Power & Strategic Planning Manager

DATE: September 25, 2015

SUBJECT: 2015 Strategic Plan Update & Board Policy SD1 Policy Revision

OBJECTIVE: Approval by Board Resolution No. 1527

Issue & Background

Board Policy GP3 requires that the board review and approve the strategic direction of the organization on an annual basis. The last Board review of the Strategic Plan was approved on March 4, 2015. In this annual update on progress toward the plan, Management reflects on what has since been accomplished, what's next and reaffirms the strategic direction of the plan.

Management at this time requests action to provide revisions to Board Policy Strategic Direction (SD) 1 retitled: Mission, Vision, Values & Legacy to be consistent with the 2014 Plan changes.

Requested Board Action

Approval of Resolution No. 1527: Revisions to Board Policy Strategic Direction (SD) 1, Mission, Vision, Values & Legacy.

Policy Number: **SD1**
Policy Type: **Strategic Direction**
Policy Title: **Mission, Vision, Values & Legacy**
Effective Date: **October 6, 2015**

EWEB's core mission is to enhance the Eugene community's vitality by providing water and electric products and services consistent with the values of our customer-owners.

EWEB's vision is to be the best community-owned water and electric utility in the nation.

The purpose of our Legacy is to develop a creative tension between where we are and where we want to be. These goals guide us in our choice of paths and our desired destination.

We Value:

- Providing affordable products and services
- Caring about our community and the environment
- Being flexible, innovative and adaptable to community needs
- Defining value through the customer's eyes
- Creating a quality work environment

We meet our customers' needs by:

- Providing reliable and high quality utility products
- Providing services in a responsive manner
- Providing rates and fees that are reasonable and stable

The organization:

- Uses an integrated planning process based on vision, strategic direction, critical success factors and results management
- Uses innovation and creativity to develop solutions to complex and challenging issues
- Is flexible, adaptive, and learns from prior experiences
- Is financially stable
- Supports excellence in the workforce by providing competitive wages, benefits and development opportunities

We meet the community's needs by:

- Dealing effectively with tensions between social, economic and environmental factors
- Demonstrating concern and responsiveness to social issues involving the provision of energy and water services
- Supporting a sound economy through fiscally prudent rates
- Demonstrating sensitivity and responsiveness to environmental concerns; recognizing the importance of a healthy ecosystem to its operations

The Board of Commissioners:

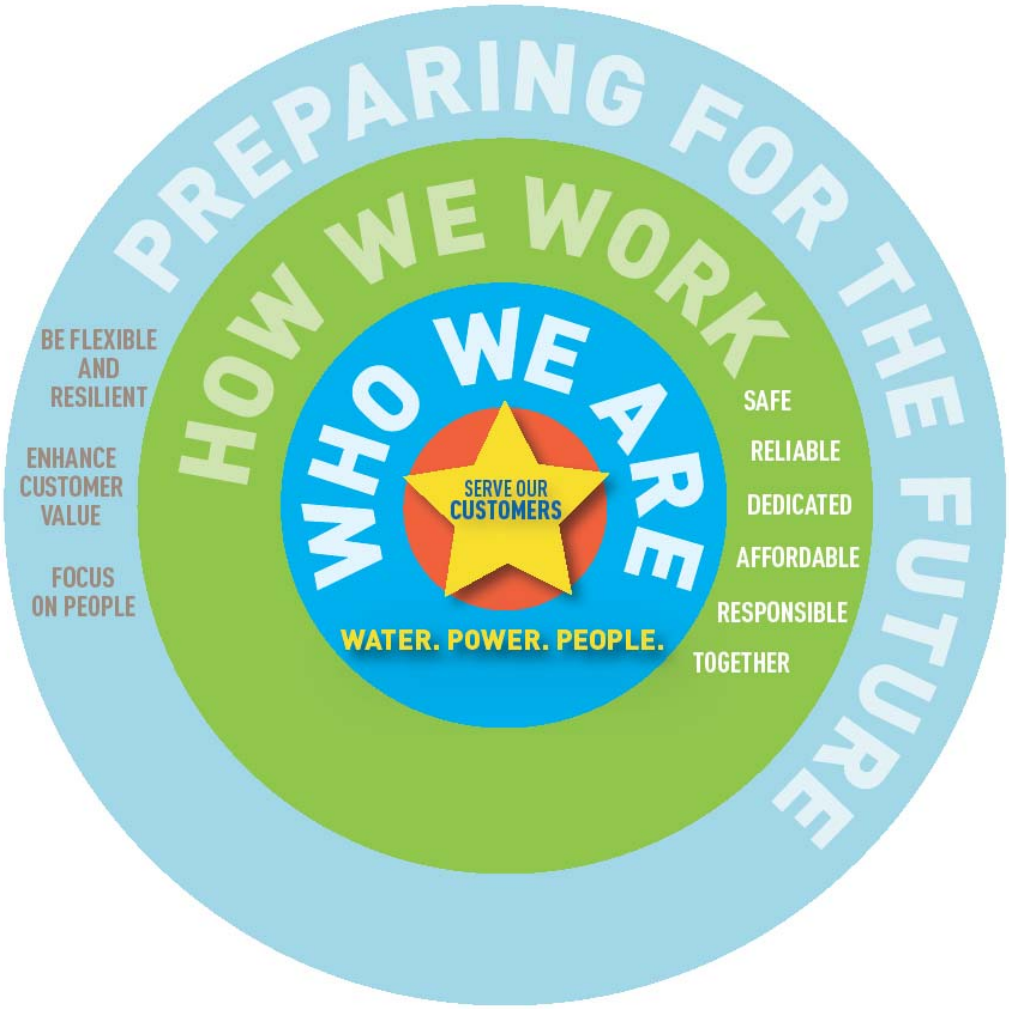
- Effectively governs, resulting in clear leadership at a policy level
- Provides direction and makes decisions anchored in a sound assessment of priorities and strategic risks
- Maintains a strong connection to customers and the community

Source: Board Approved 05/04/2004, Ratified 04/19/2005, Revised 10/6/2015, Resolution No. 1527.

2015 EWEB Strategic Plan

Board Update

October 2015



CURRENT PLAN: 2014-2019

VISION

Our Vision is to be the best community-owned water and electric utility in the nation.

VALUES

- Providing affordable products and services
- Caring about our community and the environment
- Being flexible, innovative and adaptable to community needs
- Defining value through the customer's eyes
- Creating a quality work environment

MISSION

EWEB's core mission is to enhance the Eugene community's vitality by providing water and electric products and services consistent with the values of our customer-owners.

BUSINESS STRATEGIES

1. Leverage the power of our people to create and implement **flexible and resilient** business plans over the course of this strategic plan to allow EWEB to better adapt and thrive as the future changes.

2. **Redefine and price the products and services** that today's customers value over the next three years, in order to help prepare EWEB and the community for the utility of the future.

3. **Refine our focus** over the course of this strategic plan to clearly reflect the vision and values of EWEB employees and the community we serve in the work that we do each day, while we transform vital aspects of our business.

4. **Increase customer value** within the next five years for both utilities by targeting a competitive and comparator position around the middle of the pack as compared to industry peers.

5. **Increase organizational efficiency** by using technology, business process improvements and other mechanisms to manage costs, improve service and increase customer value.

Background

In 2013, EWEB began revamping its strategic plan in response to a potentially changing business environment. Just two years later, many aspects of this change have begun to materialize and, in fact, change is progressing faster than anticipated. In this annual update on progress toward the Strategic Plan objectives, Management reflects on what has been accomplished over the past year and one-half and reaffirms the general direction of the Plan as the right path to help prepare EWEB to become the Utility of the Future.

This Plan update relies on three cornerstone concepts to prepare EWEB for the future:

1. **Be Flexible and Resilient** - Create and implement flexible and resilient business plans that help EWEB to adapt and thrive as the future changes

2. **Enhance Customer Value** - Define, price and deliver products and services that enhance customer value

3. **Focus on People -** Both Customers and Employees

A key theme of the Strategic Plan is the importance of *partnership*, both with our customers and with other key stakeholders in the community. Another, due to the uncertainty the future holds, is to leverage *small bets*, with respect to major changes or investment strategies, as opposed to the traditional 'big bet' philosophy utilities have historically relied upon. Focusing on what is critical is a discipline we are working to instill into the culture, as is preparing the workforce to be more resilient and flexible.

Our commitment to the Board at the time the new Plan was adopted in February of 2014, was not only to begin to implement the Plan, but also to work to socialize the Plan – both inside and outside of EWEB. The details of our efforts to date are outlined in this backgrounder.

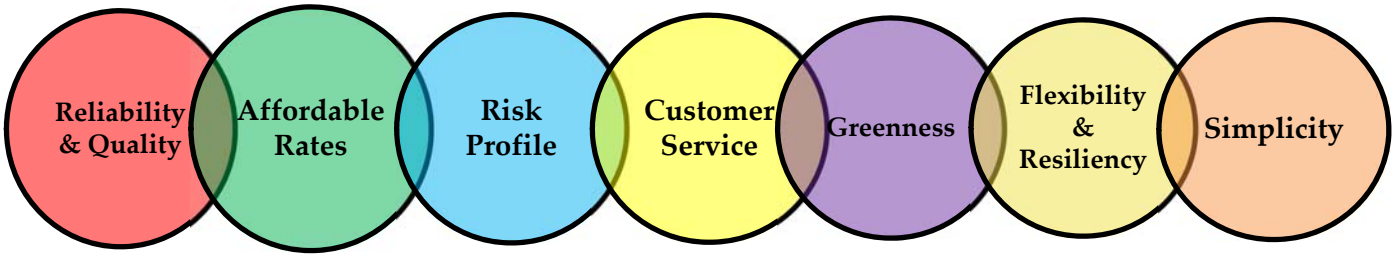
Board Direction Received to Date on EWEB's Strategic Plan

2014 Board Workshops

Management shared the proposed 2014-19 Strategic Plan with the Board over a series of two four-hour workshops where a number of far-reaching concepts were covered. The Board provided feedback and perspective and was able to reach agreement on key areas that were used to help shape the plan, but also agreed that there is more work to do and expressed an interest in maintaining an ongoing dialogue in subsequent sessions. Board feedback from the endeavor is summarized below.

The Big Dials

The following is a representation of what the Board can change through their Governance decisions. It provides a working construct to think about how we can create change in the utilities and, importantly, that modifying any one element will inevitably impact another. Most of the decisions we face boil down to a series of trade-offs. The art of good leadership is in finding the right balance for success.



2014 EWEB Self-Assessment

10= Excellent, 1=Poor

Electric Utility	Current	Target	**Water Utility**	Current	Target
Reliability and Quality	10	8	Reliability and Quality	10	10
Rates/Competitiveness	2	6	Rates/Competitiveness	9	6
Risk Assessment	6	6	Risk Assessment	2	6
Customer Service	6	7	Customer Service	6	7
Greenness	9	8	Greenness	9	8
Adaptability / Flexibility	5	8	Adaptability / Flexibility	3	6
Simplicity	2	6	Simplicity	4	6

- ***It would be worth assessing over the coming months whether the Board believes EWEB has moved closer to the targets on these dials.***

Areas of General Agreement by Board Members, 2013-14 Workshops

- Management assessment of state of the utility is largely in line with Board's perception
- Need to decrease costs and increase revenue, where possible
- Support for scenario planning as a construct to manage uncertainty
- Leverage technology
- Assess strategies that reflect future utility realities.
- Load resource balance is a pivotal decision (and source of our value)
- The business could benefit from the pursuit of simplicity
- Focus on areas that make sense across scenarios until the future becomes more clear (Implementing "No brainers and no regrets")
- Unwilling to compromise water quality
- Desire to be in the middle of the pack on electric pricing relative to peers
- General willingness to re-examine appropriate level of reliability on the electric side
- Perception of need to better communicate the value of what we provide to customers
- Willingness to move to the middle of the pack to mitigate the water supply risk issues
- Recognition that many of our financial troubles come from taking a $50m hit in wholesale markets

Areas Where Differing Views Prevailed, 2013-14 Workshops

- Debate around the role and value of public power
- Debate about the urgency of the proclaimed competitive threats (how real and how soon)
- Views upon the speed in which we should endeavor to move our ranking in our electric pricing comparisons (but agreement on desire to do so). Most believed sooner is better
- Debate about best indices to assess competitiveness: competing fuels, utility peers, utility IOUs, or utility bills as a percentage of disposable income[1]
- Different views on what the Board believes customers want from their utility providers now and in the future. Discussion ranged from "access to new technology" and "changing service expectations" to "nothing much different than they have today"

This last item was noted as a critical point and represents a potential disconnect with other elements of EWEB's overall strategy. For example, our electric resource plan relies 100 percent on working with customers to implement energy efficiency and demand response programs to meet future load growth requirements. In addition, part of our Alternative Water Resource strategy will depend on customer demand reduction in a water emergency situation. If we don't think customers are willing to engage with us differently than they have in the past, we will need to reassess these strategies**.**

- ***This remains a core item for further discussion before we engage in the next Integrated Resource Planning process, currently scheduled for 2017.***

2015 Strategic Retreat

The Board held a retreat in April 2015 from which a list of priorities was provided to EWEB Management. Management is working to ensure these items are all covered in ongoing updates to the Board.

AREAS OF INTEREST	VOTES
AMI rollout & consumer/Board interactions/Cost effectiveness	4
Alternative water source	2
Rate design objectives & Rate competitiveness strategies	2
Improve/Maintain high customer service & loyalty	2
Emergency water program	1
Comprehensive policy review	1
L-T Strategic Plan; defined milestones	1
L-T Strategic Plan; identified deliverables	1
Carmen Smith & capital Investments	1
Integrating new technology (e.g. DG)	1
Risk tolerance (i.e. guiding trading floor activities)	1

[1] Customer focus groups and surveys indicate the last measure, i.e. percentage of disposable income, is the most relevant to them.

Progress on the Plan: What We've Accomplished

Significant progress has been made toward the Plan objectives, as outlined in the sections below. One of the primary activities Management anticipated reporting out on in 2015 was its community outreach efforts about the aspects of the new Plan.

Communications

EWEB has conducted a number of outreach efforts over the past year to inform customers and employees about EWEB's strategic priorities and to solicit feedback on various aspects of the Plan. Initially, the primary focus of these efforts was the Plan itself. However, based on initial feedback from the Customer Research Panel, Public Affairs shifted its communications strategy to focus on specific initiatives, projects, and actions EWEB is taking - or plans to take - that connect strongly with the Plan.

Through presentations, articles, surveys, social media and other communications channels, EWEB's goal is to look for ways to connect our specific actions/initiatives to the Strategic Plan when appropriate. Below are some external and internal efforts that have helped to increase knowledge of our overall strategy.

External

- Presentations:
  1. City Club discussion on "EWEB – The Next 100 Years," June 16, 2015, by Roger Gray.
  2. Strategic Plan presented to the GreenLane Sustainable Business Forum, Summer 2014.
  3. The Strategic Plan was added as a potential community presentation topic on the Speaker's Bureau online request form.

- Publications:
  1. Current Connections article in the April 2015 edition about former Commissioner John Reynolds and EWEB sponsorship of a newly created sustainability symposium in his honor. The University of Oregon also published a similar article in advance of the May 16-17 symposium. The theme was focused on the value of a public utility.
  2. The Current Connections electronic newsletter linked to the State of the Utility speech by EWEB Board of Commissioners President Steve Mital, February 17, 2015.

- Other Engagements:
  1. Three Customer Research Panels regarding reliability, affordability, and rate design/ structure were conducted.
  2. The 2014 Customer Survey included questions related to reliability, affordability and support for development of an alternate water source. The 2015 survey provided opportunities for additional questions with links to our business strategies or other initiatives.
  3. Social Media posts focused on the value of public power (with cleanhydro.com website and video links), involvement in TBL economic development with Eugene Chamber of Commerce, and cross-promotion of above-mentioned events and publication content.

Internal

- Presentations:
  1. The new all-employee meeting in February 2015 provided an excellent forum for information about our strategic direction and gaining employee feedback. Thirty minutes was devoted to our strategic vision, financial outlook and 2015 initiatives.

- Publications:
  1. Daily News has provided yet another forum for raising awareness about our overall direction. Three articles of note specific to the Strategic Plan include: results of employee survey, availability of Mission/Vision/Values and Business Strategies posters, City Club discussion with link to full recording via KLCC online.
  2. The Current Connections electronic newsletter linked to the State of the Utility speech by EWEB Board of Commissioners President Steve Mital, February 17, 2015.

- Other Engagements:
  1. The "Morning Buzz" monthly sessions – in which employees can learn about issues but also ask questions or express concerns to the General Manager and other senior managers – also has provided a forum for EWEB to connect our actions and projects to our strategic direction.
  2. The employee engagement survey indicates that about two thirds of employees "understand the connection between my work and EWEB's strategic direction." Efforts will continue to increase this awareness level.

General Conclusions

- Customers have a higher level of awareness and tend to be more interested in specific projects and initiatives, which provide an opportunity to connect those actions to our strategic direction.

- Customer feedback does not indicate a need to significantly change direction from the existing Strategic Plan.

- More opportunity for alignment between 10 year financial plan, capital improvement planning, and strategic planning via newly organized horizontal team effort.

Progress Toward Strategic Business Objectives

Update on the Business Strategies: Electric Utility

Strategy	Accomplishments	Lessons Learned	Looking Ahead
Increase Customer Value	Exploration into smart load growth opportunities with Business Growth and Retention (BG&R) Program and Electric Vehicle (EV) teams established. Two EWEB EVs purchased, customer loans offered for EV charging equipment, promotions scheduled.	Too early to tell on EV program. Other BG&R programs have proven that EWEB can compete with other energy suppliers like NWN. A good example is the newly constructed Northwest Community Credit Union building.	Continued pursuit of customer opportunities regarding community electrification and city's carbon mitigation plan.
Increase Customer Value	Foote Creek contract settlement.	There can be substantial value in obscure contract elements.	Expanded emphasis on long term contract optimization.
Redefine Prices/Products	Demand Response Pilots from 2008 IERP completed. Time-of-Use for Residential class available via pilot.	Customer acceptance was higher than expected. Technology is not cost effective at scale, yet. EWEB customers successfully shifted load from peak.	Electric Grid Edge Demonstration Project, Community Solar, and Commercial Time-of-Use in development.
Flexible & Resilient	Asset sale of Smith Falls almost complete.	Asset sales are time and labor intensive.	Once closed, we will look for addition opportunities.
Flexible & Resilient	Currently reassessing the economics of the Carmen Smith settlement agreement.	Importance of looking at multiple potential future states when analyzing large investments.	Meeting with stakeholders and counter parties to look for mutual purpose on possible future arrangements.
Redefine Prices/Products	Prioritized residential rate design. Made significant progress on fixed cost recovery and proposing an end state strategy to the Board for all electric utility customer classes.	The majority of EWEB costs are fixed, but for the residential customer class historically nearly 90% of the revenue recovery was being recovered through variable charges. Commercial classes faced similar pricing distortions. Customer acceptance has been higher than expected for changes implemented to date.	EWEB will continue to work to better reflect the cost basis of the pricing components for its services, while working to convey the value of these services in language that is more meaningful to our customers and employees.

Update on the Business Strategies: Water Utility

Strategy	Accomplishments	Lessons Learned	Looking Ahead
Flexible & Resilient	Emergency water supply promotion; 2,889 containers to date.	Partnering w/ Red Cross increased community engagement.	Goal of 9,000 containers distributed by end of 2016.
Flexible & Resilient	Emergency water distribution trailer put into service.	Include the public in water distribution exercises to learn how equipment will be used in an actual emergency.	Further enhancement to water distribution trailers.
Flexible & Resilient	Obtained water rights for Willamette River Filtration Plant.	Opinion research concludes that "filtration plant" is the preferred term for this new facility and is consistent with Hayden Bridge Filtration Plant.	Willamette River Filtration Plant completed by 2021.
Increase Customer Value	Asset transfers and strategic purchase.	Creative asset development provides best value to the customer.	Willamette River Filtration Plant & Intake site.
Increase Customer Value	The 10 year Financial Plan supports that rates remain near mid-point compared to other NW water utilities.	Incremental rate increases that prepare, replace and maintain EWEB water infrastructure.	Maintain commitment to prudent fiscal management.
Flexible & Resilient	Alternative Water Source (AWS) Reserve Fund established with a portion of the 2014 rate increase.	Positive customer feedback regarding a perception of strategic financing of AWS.	CIP for Water.

Update on the Business Strategies: Both Utilities

Strategy	Accomplishments	Lessons Learned	Looking Ahead
Flexible & Resilient	In cooperation between Electric Engineering and Operations, the Electric T&D capital planning process built in the concept of "dials" to year-on-year capital spending in categories such as transmission, metering, rehabilitation, substations, etc.	By understanding compulsory levels of spending, we were able to prioritize spending and projects based on strategic system needs.	Continue the infrastructure and system planning, along with the integration of generation and resource planning.
Flexible & Resilient	Identified & implementing, as of January 2016, a new benefits plan design which preserves the quality of benefits but reduces anticipated premium rate increases for employees as well as the Utility.	Health & Wellness Committee comprised of both non-union and union workers understanding of benefits trends and costs. This was instrumental in securing agreement from the Union to open the current CBA for a successful vote to adopt the changes.	Monitor and respond to the potential effects of ACA regulations and other cost drivers to ensure EWEB benefits remain a tool to attract and retain a qualified workforce.
Increase Organizational Efficiency	Implementation of an on-line learning management system to enable continuous employee development through training, course study and professional certification. The new model will enable employee access to learning in a highly customizable format and at a significantly lower cost than previous training delivery models.	Engagement survey results indicated that employees are interested in development but were limited in their ability to access training. Supervisors and managers had few options to offer their employees. Technology for the delivery of training enables easy and broad access to hundreds of developmental and certification training courses.	Use the learning platform to support: annual performance management, succession planning, required compliance training and recertification, on-boarding for new hires.

Update on the Business Strategies: Both Utilities, continued

Strategy	Accomplishments	Lessons Learned	Looking Ahead
Increase Organizational Efficiency	Establish Enterprise Governance, Risk & Compliance Function. Enable improved identification and prioritization of risk treatments through the Board's adoption of SD-20 Enterprise Risk Management Policy. Commenced internal audits and other assurance work for organization.	Process improvement opportunities as well as strengthening support and resources for higher risk areas of the organization. Normalizing risk appetite and tolerance levels across the enterprise can be a challenge. One person/groups "high risk" item may be "low to medium" for another. They all need to align with the Board, strategic plan, and governance controls.	Continue to provide internal audit functionality after many years without one. Formalize Emergency Management and Readiness Planning across the organization. Enable centralized governance of contracts and in accordance with best practices across the organization.
Increase Customer Value	Modernization efforts (AMI, MDM, CIS, etc.) are progressing forward. Several signed contracts in place. Internal process documentation, network designs, and City land use planning are all in final phases. Initial meters have been ordered for testing.	There is a significant effort needed to develop business processes that support the administration of opting in. The "slow roll" approach is allowing for more manageable transition opportunities. The interest of customers is remarkable given the current lack of available offerings.	In 2016 we expect to finalize all meter testing and certifications, then begin testing initial service offerings. Employee-customers and select commercial customers will be invited to participate in early service testing.

Suggested Next Steps and Areas of Focus for 2016 by Management

In addition to the administrative actions recommended, Management recommends that the Board consider focusing strategic planning in one or two specific areas in early 2016. Management thinks that the general course set forth by the current Strategic Plan remains solid as explained and articulated in this update.

However, a critically important topic seems to be emerging in Board discussion regarding EWEB's role in "being in the generation/trading business." This topic of discussion tends to emerge when generation-related issues are before the Board such as major repair projects to generation facilities (e.g. Leaburg roll-gates), asset sales (e.g. Smith Creek) and future major investments (e.g. Carmen-Smith).

Whether EWEB should remain in the generation and trading business is not a simple topic. EWEB has been in the generation business for decades. Most of that history has been tremendously positive for EWEB customers in terms of economic benefit, diversity of supply and local control. Only since 2007 have of a variety of factors been "painful".

The current strategic plan, as supported by the Long Term Financial Plan, Capital Improvement Plan and other key processes, presume that EWEB remains in this business. The Board has approved and Management has pursued some tactical adjustments such as the proposed sale of Smith Creek. This is more driven by right-sizing our portfolio than a fundamental decision to change our business strategy.

- ***If the Board wishes to discuss an alternative future, it would be appropriate to focus a significant amount of time focused on the question about whether EWEB should be in the generation and trading business.***

This is not a simple question and there are not simple yes/no answers. Certainly, a change in course is not simple. However, it is critically important to discuss this matter and to insure alignment on the Board's direction. A transition from status quo could be made, but it would likely take many years to implement because of constraints related to existing contracts as well as other realities and past and planned investments. However, the benefit of clarity around the future end-state is that decisions made now can be made within the context of where EWEB is going if that future is different than the status quo.

If there is one matter that the Board chooses to focus on in 2016 for Strategic Planning, it would be this matter of what should be EWEB's role in the generation and trading business.

We Must Continue to Perform While We Transform

The overarching strategy of this Plan is to think long-term, but be agile. We believe we can do this by continuing to *perform* strongly at our every-day tasks, while we prepare (*transform*) for the future. The 'how we work' elements are as critically important as what we do. For both utilities, performing well means continuing to strive for operational excellence resulting in cost effective, safe, and reliable operations.

The water utility is preparing for the future by planning for how EWEB can best provide products and services that balance short term needs with the long term vision of our community and region. Like the electric utility, there are external forces that heavily influence our decisions such as climate change, policy decisions, regional strategies, and private interests. Due to the dramatic events unfolding in other areas of the American West, water availability and access is becoming a more engaging topic for the general public. EWEB is tracking this activity to help us make prudent choices about redundant supply and optimizing infrastructure for resilience. Also common to both utilities, the traditional planning metrics that only use historical data are becoming more challenging to leverage as the historic data sets no longer reflect the magnitude, breadth, and speed of changes affecting the decisions we are making today.

For the electric utility, the speed of adoption of distributed generation resources has accelerated in discrete locations across the country and legislative support for promoting renewable energy options and climate mitigation continues to grow. EWEB is preparing for this future by managing costs and realigning its pricing structures to fit the services customers will be needing from us under this new paradigm. Recent announcements regarding the cost of storage only underscore this change. EWEB's grid modernization efforts are also affecting the water utility. Replacing old technology, such as analog meters and our legacy billing system help prepare us to offer customers products and services they are increasingly demanding from their utilities, such as outage and leak detection, community solar, demand response, and TOU pricing.

Conservation will continue to be a critical part of the future for both utilities "smart" consumption ensures supply for current and future generations in our community. For electric, leveraging efficiency as a resource continues to be the cheapest way to serve new load that comes to our community. Finally, maintaining a strong team of highly skilled employees will continue to be a challenge for both utilities as colleagues retire and the candidate pool of younger workers becomes more competitive.

Preparing for the future, or transforming the business, is the work we will do every day that will take us into the future. We can only do this when we are highly performing at our key existing functions. We must choose carefully and focus on only a few transformational objectives at time and then execute well. Who we are at EWEB represents the raw materials we have to work with to provide our products and services to the community. At the core are our customers; why we exist. Our intent in this work is to move EWEB from a historically asset-focused utility to a much more customer-focused one.

Appendix 1. Optional Reading Materials

What's Your Utility's Risk Culture?

Published In: EnergyBiz Magazine Summer 2015

Kathleen Wolf Davis

JULIE LUECHT WITH KPMG can sum up how she got into risk management on the utilities side of the equation (with fuels and power gen) in one acronym, one command and three numbers: FERC Order 888.

Though, of course, this path wasn't a straight shot. She started with a foreign banking organization and then pushed toward working across financial institutions and industry organizations into the energy business.

But, when FERC Order 888 granted open access, there was a market opening that some utilities wanted to capitalize on, which is where she comes in.

"Back then, a lot of utilities suddenly started thinking about how to trade energy commodities on a larger scale, outside their control areas and with other counterparts than their neighboring utilities," she said.

"They were looking to set up operations to trade and were looking for help in how to create a trade floor, governance and systems but not get into trouble with derivatives like some industries had experienced."

And that's how Luecht went from a general form of risk management to one that focuses on fuels and power generation for utilities, along with oil and gas.

But risk management is still a hard nut to crack. A lot of people don't get it. They fundamentally don't understand what she does.

"What I tell people --- both externally and internally --- is that I help and advise on ways to design hedging and trading strategies and to design the processes, governance and systems that support those activities," she said. "It's all executing transactions based on the organizations risk tolerances and needs."

Risk management has always been all about compliance --- with a history rooted in the heavily regulated financial services industry. The good news is: Utilities can learn from the missteps in that sector and apply those lessons to their industry. No one has to start from scratch.

Add to those well-learned finance lessons a risk culture that Luecht labels "conservative" (in a positive, cautious way), and risk management may be a bit easier for utilities to embrace than it is for other higher-risk industries.

"Utilities executives are very smart. There's a conservative mindset and conservative risk cultures here," she said. "So, right off the bat, they were interested in getting the proper infrastructure built to support their activities."

Luecht noted that, at heart, utilities are about serving their customers and their natural gas and electricity demands --- and varying state regulations --- and that risk management for them is all about balance. That conservative risk culture keeps things "as basic as possible," she said, "in order to be able to deliver safe and reliable power at a prudent price."

In other words, utilities' risk management fits their purpose. They're about planning and executing transactions to support demand, policies and governance, regular reviews of the marketplace and keeping themselves in check.

"Most utilities are not in the marketplace to speculate," she added.

As one utility executive told her, "We've always been basic. So, we don't have to `go back' to basic at a time when utilities were rethinking their trading/ hedging business models."

Utilities, she said, are doing a "good job of identifying risks and having conversations around those risks."

That doesn't mean there isn't room for improvement, and, while identifying and discussing risk is important, Luecht believes the real accomplishment is when potential risk discussions reach into every decision-making process --- when it becomes a part of every choice.

And that requires overcoming one real hurdle: Getting utilities to embrace change from the individual on up. Luecht suggests promoting accountability and education about risks and risk management at every level of the organization.

"Have a discussion around the numbers and talk about what could go wrong, what the credit exposure is on this transaction, for instance. Push yourselves to consider other variables that you haven't thought of before," she advised. "Make this an open dialogue rather than punitive. The more you can talk about the risk

and put it on the table, the more you can embed it into the culture of the company. It can't be established overnight. It has to develop."

Luecht noted that the industry is looking at how to use data and analytics more often, how that data can help decision-making along with monitoring. She suggests using data more efficiently is an area utilities should focus on when it comes to risk management.

She also suggests setting up a fit-for-purpose trading compliance program (if you haven't already), given heightened regulatory scrutiny.

"Regulators are making inquiries to many organizations," she noted. "So, be prepared and recognize the changing regulatory environment."

Additionally, Luecht advises looking at your systems environment again, especially if you invested at the beginning (when FERC Order 888 came down the pike) and haven't made any significant changes. Ask the question: "Do we have the right systems to appropriately capture transactions, process them and report on those transactions?"

Luecht's risk management lessons come from over 20 years in the industry and from across the fields of trading and hedging activities. And, after all that time, complacency is her biggest pet peeve.

"This field is dynamic," she said. "You can never become complacent with what you have. You have to constantly ask: Am I doing this the best way possible? What kind of changes do we need to make? Can my organization accept this change, and how does all of this really align with our risk appetite and tolerances?"

The Great Disrupter?

TRYING TO MAKE ECONOMIC SENSE OF TESLA'S BATTERY

Published In: EnergyBiz Magazine Summer 2015

Darrell Delamaide

UTILITIES MAY NEVER be the same in the wake of Tesla's announcement in late April that it will be offering a 220-pound battery pack for home use to store solar power, but it won't be because of Tesla's batteries.

That didn't stop Tesla's Elon Musk from claiming as he unveiled the company's sleek Powerwall that he was announcing "a fundamental transformation of how the world works."

The rechargeable lithium-ion battery pack --- designed to hang on a garage wall and store solar energy --- was a testament to Musk's gift for showmanship, but hardly a revolution that will entice the masses.

"It is symptomatic of a broader transition," says Jesse Morris, a manager in the electricity practice at the Rocky Mountain Institute, a nonprofit consulting firm that focuses on renewable energy. "What we are seeing in general is the upending of an electrical power system from a centrally planned regime to a customer-focused service."

No doubt. But Tesla isn't alone in ramping up production of battery packs. For example, Kyocera Corp., a Japanese electronics manufacturer, sells home energy-storage systems in Japan and Germany using Samsung lithium-ion batteries. The company plans to soon unveil a larger battery system, capable of storing 12 kilowatt-hours of energy, in Japan.

Admittedly, Tesla's announcement created a splash because the sticker price for the Powerwall --- at $3,000 to $3,500 --- is much lower than existing batteries. "It was a price that came much sooner than anyone expected," says Morris.

Demand for Tesla's home batteries --- 38,000 queries in the first week --- generated plenty of buzz. But, of course, it would take millions of batteries to store and deliver the power generated from a single fossil fuel power plant.

Also, battery prices are still too high for most Americans and are likely to remain a curio for the rich for a long time to come.

Underscoring that point, an analysis by Bloomberg New Energy Finance concluded the cost to the average U.S. homeowner hoping to rely solely on solar panels and Tesla's new batteries would be roughly $98,000, far beyond the reach of most.

That's why rather than a revolution, the arrival of an affordable energy storage package for home use --- whether Tesla's or someone else's --- is simply part of the evolution toward a mix of grid and distributed resources, renewable and traditional sources of energy that utilities have been dealing with for some time.

"A strong, robust grid enables a wide array of new technologies and innovations, including energy efficiency, electric vehicles, microgrids and energy storage," notes David Owens, executive vice president of business operations at Edison Electric Institute.

"Electric utilities are continuing to actively partner with a variety of technology partners on a number of emerging innovations, including storage at the distribution and grid levels."

Indeed, they are and the point, really, is that little of what's happening at Tesla Energy should be seen as a threat rather than an opportunity.

Smart utilities, whether prodded by regulators or simply acting in their own best interests, have been making the transition toward a more diversified customer-service model for years, using smart meters, microgrids and distributed resource platforms.

"Tesla is making the challenge more immediate with a cheaper battery," says Morris. "It can be good or bad for utilities, depending on if they look at it as a threat." But, again, just how cheap the Tesla battery will be, or how useful, remains unclear.

Analysts were quick to point out that the Tesla products --- a 7kWh battery for daily use or a 10kWh battery as a backup for loss of grid power --- were hardly

adequate for most home needs. The batteries can be stacked to scale up capacity, but then the price goes up fast.

Moreover, the battery sticker price represents only part of the picture, with an inverter and installation adding significantly to the overall cost.

Analysts also were quick to point out that using batteries in the home makes little sense in places where net-metering obliges the utility to buy excess power, since grid power is still much cheaper than self-generated and stored power.

But battery costs and their cost per kilowatt- hour will go down over time.

Morris, for one, thinks utilities should take the lead and actually pay customers to install the batteries in their homes and make up their cost through the demand-management efficiencies the batteries enable.

Tesla is also offering a 100kWh Powerpack to utilities to store energy from renewable sources, which is also scalable.

"Storage can take place in many places," says RMI's Morris, "at the wind turbine, at the substation or with the customer."

For utilities, co-opting energy storage can be a way to meet their own mandates for renewable energy sourcing, while helping them defer costly grid upgrades.

Tesla, as Morris notes, "has shown a knack for design and reliability," but no matter how many batteries it or its competitors sell, "somebody's got to keep the lights on," he says.

BNEF analyst Nathaniel Bullard may have put it best: "The Powerwall is not a system, or a configuration, or a storage solution.

It is a product. Named, recognizable, iconic, attractive, desirable, and unnecessary."

PublicPower magazine of the American Public Power Association

Public Power Utilities Use Variety of Distributed Generation Rate Designs

From the July-August 2015 issue (Vol. 73, No. 4) of *Public Power*
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Washington Report

By Paul Ciampoli
News Director, APPA

JULY 9, 2015
A new report from the American Public Power Association details how a number of public power utilities have adopted new rate designs to serve distributed generation customers, with the designs either supplementing net metering by recouping more of their fixed costs through fixed charges or offering comprehensive alternatives to net metering.

APPA's "Rate Design for Distributed Generation" report examines rate design options for solar and other DG. It discusses how utilities have educated customers about new rates, as well as how DG and non-DG customers responded.

"While the rate design options have some drawbacks and might not be technically feasible for all utilities, they offer the industry new models that account for the rate impacts of distributed generation," the report states.

The report was prepared by Paul Zummo, manager of policy research and analysis at APPA.
"The report offers a variety of examples of how public power utilities are taking a number of innovative approaches to net metering alternatives and underscores the point that one size does not fit all when it comes to rate design and distributed generation," Zummo said.

The use of DG, particularly rooftop solar photovoltaic, is growing fast, the report goes on to say, noting that as of October 2014, just under 8,000 megawatts of solar capacity was installed on residential and business rooftops across the U.S.

"The growth of DG has been spurred by environmental concerns and economic considerations. Federal and state tax incentives are a driving force behind solar PV installations and can together cover up to 70 percent of the total cost of solar panels in some states," the report said. Declining solar panel prices have also fueled growth in rooftop solar. "Utility rate structures for distributed generation have provided a significant benefit to solar customers," the report adds.
The report notes that most U.S. utilities use net metering to measure and compensate customers for the generation they produce.

“However net metering has several shortcomings and results in non-DG customers subsidizing DG customers,” the report said, pointing out that utilities have options other than traditional net metering. Net metering “causes revenue shortfalls for utilities, and creates a situation where one class of customers is subsidizing another,” Zummo writes. “In the long run, this is untenable, especially as more customers install DG systems. Utilities should consider modified approaches to net metering, or completely new billing arrangements.”
Many public power utilities have adopted new rate designs to serve DG customers. “Some of these rate designs supplement net metering by recouping more of their fixed costs through fixed charges, while other designs provide comprehensive alternatives to net metering,” the report said.

Case studies
The report includes a section that details how a number of public power utilities have adopted different rate designs to serve DG customers.

The case studies looked at the experiences of Austin Energy (Texas), Lincoln Electric System (Nebraska), Lakeland Electric (Florida), Sacramento Municipal Utility District (California), City of Whitehall (Wisconsin), Santee Cooper (South Carolina), and Concord Light (Massachusetts).
The case studies show that these public utilities have taken a variety of paths in terms of net metering alternatives.

The report notes that Austin Energy is the only utility in the U.S. to have implemented a value of solar, or VOS, rate.

VOS is a measure of electric system attributes such as transmission costs, generation costs, environmental externalities, and other inputs, and of how distributed solar energy positively and negatively affects each.

“VOS is an effort to associate a quantifiable benefit with each kWh of distributed solar exported to the grid. Presumably, that number would become the kWh rate at which solar DG would be compensated,” the report explained.

“VOS represents a departure from net metering. Austin Energy’s VOS rate is based on a ‘buy-all, sell-all’ approach where the DG customer buys all of the electricity it consumes from the distribution utility at one rate, and then separately sells all of its distributed generation output to the utility at the VOS rate,” the report noted.

For its part, Lakeland, which has been operating under a traditional net metering tariff for several years, decided to modify its net metering program and establish a new tariff that incorporates a residential demand charge. The move came after the utility engaged in a rate analysis.
The report notes that the purpose of the modified tariff is to better align revenue to costs.
“Residential demand charges will ensure solar PV customers receive a billing credit for surplus energy they provide to the utility, while paying a fixed charge for demands they place on the utility system, especially during peak hours,” the report said.

Utilities can’t afford to take “wait and see” approach
A key point made in the report is that utilities cannot afford to sit on the sidelines when it comes to DG and rate design issues.

“We are beyond the initial stages of DG,” the report said. “More and more customers are installing DG, and there is no sign that this trend will slow in the immediate future. Utilities can no longer afford to take a wait and see approach when it comes to rate design, nor should they assume that their existing rate design — especially a net metering design that was adopted before the escalation in the number of DG installations — will suffice to recover the utility’s revenue requirements and send good price signals to its customers.”

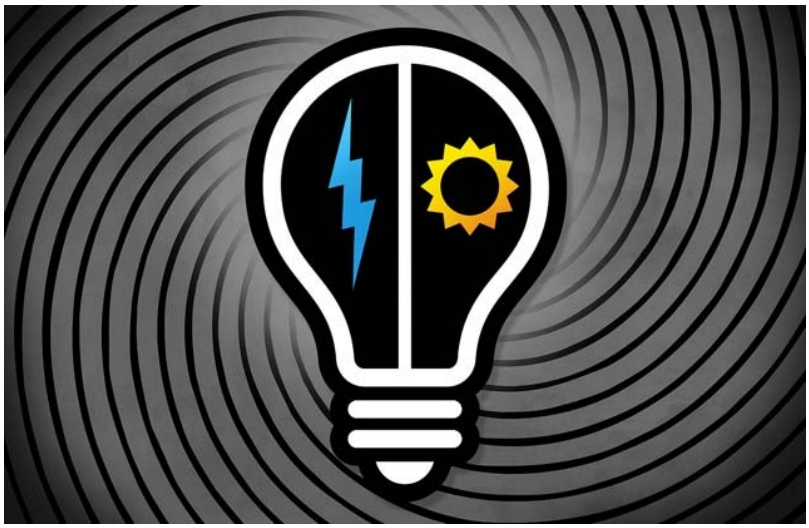
Read More
http://www.publicpower.org/Media/magazine/ArticleDetail.cfm?ItemNumber=44162
Find the full report on publicpower.org.

GIS and the Electric Utility Death Spiral

by Bill Meehan on August 6, 2015

"The report of my death was highly exaggerated."
It turns out Mark Twain never really said the quote like this. But that doesn't really matter. The quote retains its meaning. For a utility professional like myself, Twain's insight reminds me that though many are speculating on the impending demise of the electric utility, that death is highly exaggerated.

The Electric Utility Death Spiral Goes Like This
In the United States, we have a new trend. Customers are installing solar panels to beat the band. In most places, customers can sell excess electricity these panels generate to utilities—at the same price they buy electricity from these utilities. The controversial practice is called "net metering." The question people are asking is, "Is this fair?"



At the same time net metering is rising, utilities are dealing with old infrastructure. As it gets older, they have to spend more money on fixing and replacing the old stuff. Plus, they have to supply power to customers whether the sun shines or not. This means the cost of delivering power continues to rise—while revenue goes down (since customers' electric needs have gotten lower). Because electric companies are regulated monopolies, they can't raise prices unless they go to the state public utility commission, who can approve a rate increase.
Sure, the utilities can make a strong case. Revenue is down, and costs are up. Regulators guarantee a rate of return on the utilities' investments, so they are apt to grant these rate increases.

The problem, however, is that the rate increase hurts the people who don't have solar power. So what do they do?

What would you do?

You'd install solar. Over time, the population of people with solar grows, and utility revenue shrinks further. Costs rise. You get the point.

Behold the death spiral.

Add to this all the onset of affordable battery power. Instead of people relying on the utility during times of low sunshine, they can install a battery along with their solar panels. Guess what? They disconnect from the grid entirely. The gas companies might even jump on the bandwagon and install natural gas generators to supplement batteries and solar. Who knows what's coming next? Perhaps people will install wind turbines, just for fun.

A Light on the Future

Will that really happen? No.

Do you remember big, mainframe computers? They came along, and next came PCs. Everyone predicted the death of the central computer (just like centralized power generation). Although PCs became hugely popular, they also had limitations. As people placed more demand on them, the computers needed to be constantly upgraded. Otherwise, they ran out of memory, broke down, and left people stranded for computing power.

The biggest change happened when people realized computers were information islands. The PCs had to talk to one another. They needed to connect. Thus, the Internet became the equivalent of the mainframe computer. Today, the notion of an independent PC is almost never an issue. The cloud has replaced much of the computing power of the PC. Now, the cloud is even more of a centralized system than the mainframes ever were.

See the Trend

Here's the first trend: The computing industry started with localized, central systems. It moved to decentralized systems. Now, it's returning to *global* centralized systems—with the cloud, which lets users expand their computing power as demand changes their needs.

To some extent, this centralize-decentralize cycle has created a hybrid. You can have local resources when a particular application requires it, but these are backed up by a nearly infinite supply of computing resources when peak demands require.

The same trend is happening with the power industry. It has also created a hybrid: the microgrid.

By definition, a microgrid is an electric supply and distribution system that can provide all the power it needs to a small facility, such as a house or college campus. It is neither independent from nor dependent on the grid. A microgrid is in effect a power system that stands alone when a situation requires it—perhaps during power failures or power curtailments—but will connect to the grid whenever doing so makes sense.

Just as I continue working on my PC during power and Internet failures (but can't wait to connect back to my power supply and Wi-Fi), the distribution electric grid will evolve to a two-way power platform, where suppliers and demanders communicate and collaborate.

It will be a hybrid, centralized at times and decentralized at others. The grid of tomorrow will be like the cloud of today—only for power. We will migrate to a market system, able to buy and sell power at the lowest price that benefits consumers.

Completely splitting from the grid will never happen. That would be like never having Internet access. People could never install enough capacity in their houses to achieve total self-sufficiency, able to increase power those rare days they need a lot of it. For instance, let's say you host a big pool party complete with a power-hogging margarita machine and three blow-up jumping-jack houses for the kids. You could never run all that stuff at once from a self-contained in-house power supply. The other problem is reliability. Sure, a utility power failure doesn't impact you. But what if your inverter dies? You might be without power for days, maybe

even weeks while waiting for a new part or a service technician. Today, when the power fails you call the power company, day or night, and they get your lights back on.

The future is the hybrid. You will have it both ways.

In the new world, you could arrange to buy supplemental power delivered over the grid just when you need it. This is analogous to buying extra computing and storage capacity from the cloud. You would have your own microgrid for normal days and perhaps sell excess power via a contract to a local aggregator, and you would at times purchase extra juice from the aggregator for the party.

The distribution utility will be the energy equivalent of the internet—it will facilitate the energy market at a much lower level than happens today. Customers will pay for connection to the grid and its services, and less so for their energy uses.

GIS and Tomorrow's Smart Grid

So what has this got to do with GIS? A lot. The grid of tomorrow will need to be much smarter. It will in effect be a grid of connected and disconnected microgrids, some producing, some not. There will be a need for more sensors, more intelligence, and a lot more monitoring.

GIS will help monitor the health of the solar panels. It will be able to help predict new demands, where to site new charging stations, and how best to integrate microgrids together. It will help figure out shifting populations for better planning of energy sources. It will help utilities shift their business model. GIS will help operators and new participants in the grid market figure out where things stand: how the market is working, why it is not working when it goes down, and which actions to take.

Rumors of the death of the utility are dead wrong. The grid is changing, dramatically. But as more sectors, like transportation, move to electric, we will actually see increases in electric usage and a decrease in the use of fossil fuels.

GIS will be there to help. It will play a key role in helping utilities, solar providers, battery producers, gas companies, wind farms and who knows who else figure out how to manage this new world of energy.

It's going to be great.

Learn more about GIS and the grid at esri.com/electric.

About Bill Meehan

Bill Meehan, P.E., heads the worldwide utility industry solutions practice for Esri. Author of *Enhancing Electric Utility Performance with GIS*, *Modeling Electric Distribution Performance with GIS*, *Empowering Electric and Gas Utilities*, *Power System Analysis by Digital Computer*, and numerous papers and articles, Bill has lectured extensively and taught courses at Northeastern University and the University of Massachusetts. Bill is a registered professional engineer. Follow Bill on Twitter.

- See more at: http://blogs.esri.com/esri/esri-insider/2015/08/06/gis-and-the-electric-utility-death-spiral/#sthash.WfmltX9q.dpuf

http://blogs.esri.com/esri/esri-insider/2015/08/06/gis-and-the-electric-utility-death-spiral/

RESOLUTION NO. 1527
OCTOBER 2015

EUGENE WATER & ELECTRIC BOARD
RESOLUTION APPROVING REVISIONS TO BOARD POLICY SD1

WHEREAS, the Eugene Water & Electric Board (EWEB) maintains a Board Policy Manual that contains governing policies for the Board of Commissioners; and

WHEREAS, the Board of Commissioners periodically reviews said policies and identifies required modifications or amendments to those policies; and

WHEREAS, the Board of Commissioners periodically determines that new policy is required to adequately document the work or intention of the Board with regard to governance, Board-staff linkage, strategic direction or executive limitations; and

WHEREAS, the Board of Commissioners has reviewed a modification to Board Policy SD1, Strategic Direction and has determined that the modification is appropriate and necessary.

NOW, THEREFORE, BE IT RESOLVED by the Eugene Water & Electric Board hereby approves the revisions to Board Policy SD1 – Strategic Direction.

DATED this 6th day of October 2015.

THE CITY OF EUGENE, OREGON
Acting by and through the
Eugene Water & Electric Board

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President

I, ANNE M. KAH the duly appointed, qualified, and acting Assistant Secretary of the Eugene Water & Electric Board, do hereby certify that the above is a true and exact copy of the Resolution adopted by the Board at its October 6, 2015 Regular Board Meeting.

_____
Assistant Secretary