

FIGURE - OVERALL COUNTY BACKBONE NETWORK

# Appendix I

## EUM PRIMER





# Effective Utility Management

A Primer for Water and Wastewater Utilities

January 2017



## MESSAGE FROM THE EUM UTILITY LEADERSHIP GROUP

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DEAR WATER LEADER:

Every day you provide the leadership to deliver vital services that protect public health and support the vitality of your communities, natural environment, and economy; your organizations are truly anchor institutions in your communities. Today's water sector utilities also face a broad range of complex challenges, including rising costs and affordability, aging infrastructure, on-going regulatory requirements, enhanced customer expectations, and rapidly evolving technology. Utilities need a common sense, replicable, and proactive set of approaches to meet these current and future challenges.

Since 2008, a unique coalition representing the "Collaborating Organizations," which include the U.S. Environmental Protection Agency and a growing number of major water sector associations, has supported an approach developed by water sector leaders for water utility management. The approach is based around the Ten Attributes of an Effectively Managed Utility and Five Keys to Management Success—known as Effective Utility Management (EUM). EUM is now the most widely recognized water sector utility management program in the country, and this *Primer* is the foundation of EUM. The *Primer* will help your utility comprehensively assess current operations and identify a path to improving in key areas that are the highest priorities.

EUM, as embodied in this *Primer*, is more relevant than ever before to help meet the challenges that we face. EUM is a starting point for any utility's path to effective and sustainable operations. It can help your utility to respond to and plan for current and future challenges, supporting your mission of being a successful 21<sup>st</sup> century service provider. The *Primer* allows you to address these challenges in a step-wise process, at a pace that you control based on the capacity of your utility.

### Key Messages to the Water Sector

EUM and this *Primer* are the keys to unlock the potential of your utility to protect public health and the environment in the 21<sup>st</sup> century:

- EUM helps you take a 360-degree look at your utility and then set priorities that work for you and your community.
- It helps you protect your current infrastructure investments and ensure that your workforce is motivated and able to address the challenges that they face every day.
- It moves you from reacting only to the "hot priorities" of the day to proactively planning for the future.
- It helps you engage your staff in the process of assessing and charting your own course for the future.
- It is simple, actionable, affordable, and scalable to meet the needs of all utilities.
- Finally, YOU CAN DO THIS. Staff across all levels of your utility can use the *Primer*, helping them collaborate internally and work with the community to provide affordable and sustainable services.

In closing, thank you for all you do every day. Please consider using the EUM *Primer* and chart a sustainable course for the future. We encourage you to join the growing group of utility leaders implementing EUM!

Sincerely,

THE EUM UTILITY LEADERSHIP GROUP

## EUM UTILITY LEADERSHIP GROUP

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# I. Effective Utility Management

The *Effective Utility Management: A Primer for Water and Wastewater Utilities* (“Primer”) is the foundation of Effective Utility Management (EUM). It is designed to help water and wastewater utility managers make informed decisions and practical, systematic changes to achieve excellence in utility performance in the face of everyday challenges and long-term needs for the utility and the community it serves. It was produced by utility leaders who are committed to helping other utilities improve water and wastewater management. The *Primer* distills the expertise and experience of these utility leaders into a framework intended to help utilities identify and address their most pressing needs through an incremental, continual improvement management approach.



All water and wastewater utilities can benefit from applying this *Primer*. Each utility has unique management opportunities and challenges, and this *Primer* provides a common sense way of assessing, managing, and measuring a utility’s performance to address these opportunities and challenges. The steps described in the document and associated resources are relevant to any water or wastewater utility, regardless of size, budget, or other capacity.

The *Primer* has four primary components which, when taken together, form the basis for a complete cycle of effective and sustainable utility management:

- **The Ten Attributes of Effectively Managed Water Sector Utilities (Attributes).** These Attributes provide a clear set of reference points and are intended to help utilities maintain a balanced focus on all important operational areas rather than reactively moving from one problem to the next or focusing on the “problem of the day.”
- **Five Keys to Management Success.** These proven approaches help utilities maximize their resources and improve performance. By embedding the Five Keys to Management Success into their workplace culture, utilities create a robust foundation for strong, ongoing performance in the Ten Attribute areas.
- **Where to Begin – A Self-Assessment Tool.** The rigorous and systematic self-assessment tool described in the *Primer* helps utility managers and staff evaluate their operations and identify where to begin improvement efforts. By assessing how a utility performs relative to the Attributes, utility managers can gain a more balanced and comprehensive picture of their organization.
- **Getting to Work – Implementation of Effective Utility Management.** The Implementation section is a central connecting point between multiple elements of Effective Utility Management. It focuses on an overall continual improvement cycle (the “EUM cycle”), and describes how a utility’s self-assessment results can lead into a cycle of planning, implementation of effective practices, measuring performance, and making adjustments over time. It includes the following components:
  1. A description of the essential components of the EUM cycle;
  2. A guide for measuring performance;
  3. Resources to support Effective Utility Management implementation; and
  4. Steps for creating an Improvement Plan.

Throughout the *Primer*, utilities will learn about the Ten Attributes of Effectively Managed Utilities and the Five Keys to Management Success, and how these important elements work in tandem to support successful utilities in today’s challenging operating contexts.

**The Ten Attributes of Effectively Managed Utilities and Five Keys to Management Success**



This *Primer* is the product of a decade-long collaboration between the Collaborating Organizations and group of respected water and wastewater utility leaders from across the nation. Originally released in 2008, and updated in 2017 to reflect changes to the context in which water sector utilities operate, the *Primer* is a powerful tool for water sector utilities of all sizes, types, and geographies. A brief history of Effective Utility Management is included on the following page.

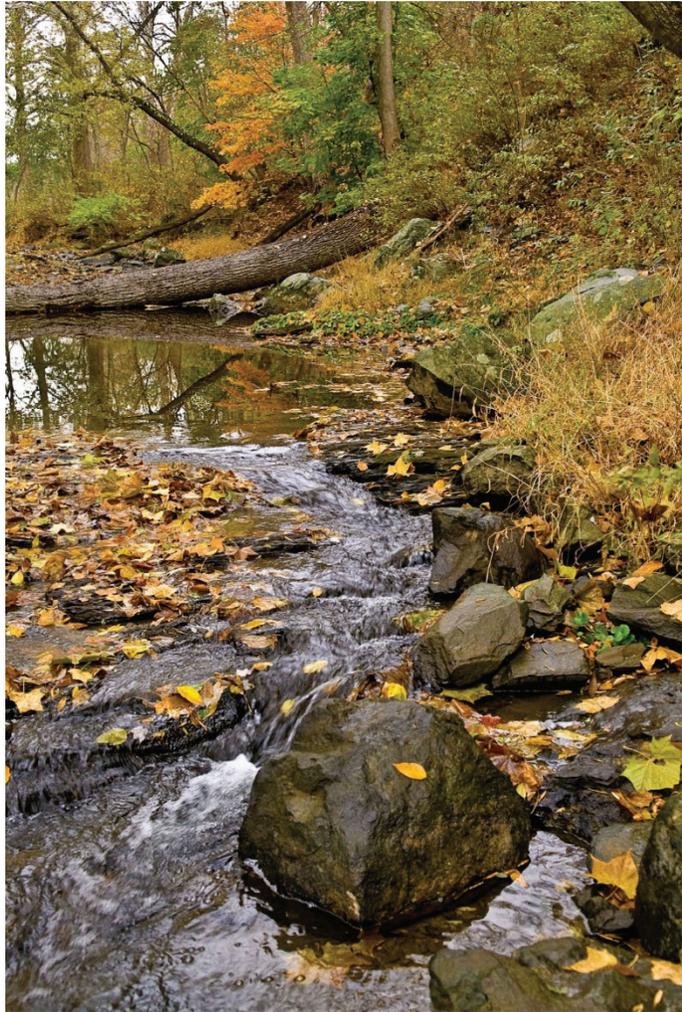
## A Brief History of Effective Utility Management

MAY 2006	<p>Seven Collaborating Organizations sign a Statement of Intent to establish a framework for working together to advance understanding of the principles and practices of effective utility management, and to encourage and promote their wider application.</p> 
MAY 2007	<p><i>Findings and Recommendations</i> report delivered from a utility Steering Committee to the seven collaborating organizations. The report recommends a variety of activities be initiated, including the development of a stand-alone primer that outlines a strategy for effective utility management.</p>
JUNE 2008	<p><i>Effective Utility Management: A Primer for Water and Wastewater Utilities</i> is released.</p>
2009 - 2015	<p>The Collaborating Organizations develop and sponsor a wide range of EUM-based workshops, webinars, case examples, and award programs to promote and support EUM implementation by the water sector.</p>
APRIL 2015	<p>The Association of Clean Water Agencies and the Association of State Drinking Water Administrators join as new EUM Collaborating Organization partners.</p>  <p>Collaborating Organizations convene a group of utility leaders to explore how the operating context of water sector utilities has changed since the <i>Primer</i> was released in 2008, and to consider refinements to the EUM framework.</p>
FEB 2016	<p><i>Taking the Next Step: Findings of the Effective Utility Management Review Steering Group</i> report released. The report outlines key operating shifts in the water sector since 2008, and recommends a series of updates to the <i>Primer</i>.</p>
JULY-DEC 2016	<p>Collaborating Organizations convene a group of utility leaders to update the <i>Primer</i>.</p>
OCT 2016	<p>The Water Research Foundation and the Water Environment &amp; Reuse Foundation join as new EUM Collaborating Organization partners.</p> 
JAN 2017	<p>The Collaborating Organizations release the newly updated <i>Primer</i>.</p>
2017 & BEYOND	<p>The Collaborating Organizations sponsor ongoing education and promotional efforts to support implementation of EUM by the water sector, including webinars, workshops, and the development of other learning resources.</p>

## II. Ten Attributes of an Effectively Managed Utility

The Ten Attributes of an Effectively Managed Utility provide useful and concise goals for water sector utility managers seeking to improve organization-wide performance. The Attributes describe desired outcomes that are applicable to all water and wastewater utilities. They comprise a comprehensive framework related to operations, infrastructure, customer satisfaction, community sustainability, natural resource stewardship, and financial performance.

Water and wastewater utilities can use the Attributes to select priorities for improvement, based on each organization's strategic objectives and the needs of the community it serves. The Attributes are not presented in a particular order, but rather can be viewed as a set of opportunities for improving utility management and operations. **Section IV** provides a basic self-assessment tool to help utilities easily identify their priorities and opportunities based on the Attributes. Over time, utilities will be able to deliver increasingly efficient, high-quality service by addressing more, and eventually all, of the Attributes. **Section V** provides several example performance measures for each of the Attributes.



## Ten Attributes of an Effectively Managed Utility

### Product Quality

Produces “fit for purpose” water and other recovered resources (e.g., energy, nutrients, biosolids) that meet or exceed full compliance with regulatory and reliability requirements and consistent with customer, public health, ecological, and economic needs. Products include treated drinking water, treated wastewater effluent, recycled water, stormwater discharge, and recovered resources.

### Customer Satisfaction

Provides reliable, responsive, and affordable services in line with explicit, customer-derived service levels. Utilizes a mix of evolving communication technologies to understand and respond to customer needs and expectations, including receiving timely customer feedback and communicating during emergencies. Provides tailored customer service and outreach to traditional residential, commercial, and industrial customers, and understands and exercises as appropriate the opportunities presented by emergent customer groups (e.g., high strength waste producers, power companies).

### Stakeholder Understanding and Support

Engenders understanding and support from stakeholders (anyone who can affect or be affected by the utility), including customers, oversight bodies, community and watershed interests, and regulatory bodies for service levels, rate structures, operating budgets, capital improvement programs, and risk management decisions. Actively promotes an appreciation of the true value of water and water services, and water’s role in the social, economic, public and environmental health of the community. Actively engages in partnerships, involves stakeholders in the decisions that will affect them, understands what it takes to operate as a “good neighbor,” and positions the utility as a critical asset (anchor institution) to the community.



### Financial Viability

Understands and plans for the full life-cycle cost of utility operations and value of water resources. Establishes and maintains an effective balance between long-term debt, asset values, operations and maintenance expenditures, and operating revenues. Establishes predictable rates—consistent with community expectations and acceptability—adequate to recover costs, provide for reserves, maintain support from bond rating agencies, plan and invest for future needs, and taking into account affordability and the needs of disadvantaged households. Implements sound strategies for collecting customer payments. Understands the opportunities available to diversify revenues and raise capital through adoption of new business models, including revenues from resource recovery.



## Operational Optimization

Ensures ongoing, timely, cost-effective, reliable, and sustainable performance improvements in all facets of its operations in service to public health and environmental protection. Makes effective use of data from automated and smart systems, and learns from performance monitoring. Minimizes resource use, loss, and impacts from day-to-day operations, and reduces all forms of waste. Maintains awareness of information and operational technology developments to anticipate and support timely adoption of improvements.

## Employee and Leadership Development

Recruits, develops, and retains a workforce that is competent, motivated, adaptive, and safety-focused. Establishes a participatory, collaborative organization dedicated to continual learning, improvement, and innovation. Ensures employee institutional knowledge is retained, transferred, and improved upon over time. Emphasizes and invests in opportunities for professional and leadership development, taking into account the differing needs and expectations of a multi-generational workforce and for resource recovery operations. Establishes an integrated and well-coordinated senior leadership team.

## Enterprise Resiliency

Ensures utility leadership and staff work together internally, and coordinate with external partners, to anticipate, respond to, and avoid problems. Proactively identifies, assesses, establishes tolerance levels for, and effectively manages a full range of business risks (including interdependencies with other services and utilities, legal, regulatory, financial, environmental, safety, physical and cyber security, knowledge loss, talent, and natural disaster-related) consistent with industry trends and system reliability goals. Plans for and actively manages around business continuity.

## Infrastructure Strategy and Performance

Understands the condition of and costs associated with critical infrastructure assets. Plans infrastructure investments consistent with community needs, anticipated growth, system reliability goals, and relevant community priorities, building in a robust set of adaptation strategies (e.g., for changing weather patterns, customer base). Maintains and enhances the condition of all assets over the long-term at the lowest possible life-cycle cost and acceptable risk consistent with customer, community, and regulator-supported service levels. Assures asset repair, rehabilitation, and replacement efforts are coordinated within the community to minimize disruptions and other negative consequences.

## Community Sustainability

Takes an active leadership role in promoting and organizing community sustainability improvements through collaboration with local partners (e.g., transportation departments, electrical utilities, planning departments, economic development organizations, watershed and source water protection groups). Manages operations, infrastructure, and investments to support the economic, environmental, and social health of its community. Integrates water resource management with other critical community infrastructure, social and economic development planning to support community-wide resilience, support for disadvantaged households, community sustainability, and livability.



## Water Resource Sustainability

Ensures the availability and sustainable management of water for its community and watershed, including water resource recovery. Understands its role in the complete water cycle, understands fit for purpose water reuse options, and integrates utility objectives and activities with other watershed managers and partners. Understands and plans for the potential for water resource variability (e.g., changing weather patterns, including extreme events, such as drought and flooding), and utilizes as appropriate a full range of watershed investment and engagement strategies (e.g., Integrated Planning). Engages in long-term integrated water resource management, and ensures that current and future customer, community, and ecological water-related needs are met.

## III. Keys to Management Success

The Keys to Management Success represent frequently used management approaches and systems that experience indicates help water and wastewater utilities manage more effectively. They create a supportive context for a utility as it works towards the outcomes outlined in the Attributes, and they can help integrate the utility's improvement efforts across the Attributes. The Keys to Management Success are listed below.

### Leadership

Leadership must respond to both internal organizational and broader external community imperatives. It is critical to effective utility management, particularly in the context of leading and inspiring change within an organization and in its surrounding community.

“Leadership” refers both to individuals who can be effective champions for improvement, and to teams that provide resilient, day-to-day management continuity and direction. Effective leadership establishes and communicates a long-term vision for the organization and embodies a commitment to cultivating the organization's culture, helping to ingrain methods to achieve the utility's vision into the organization's day-to-day operations.

Leaders have an important responsibility to engage proactively with stakeholders and community decision makers, promote the utility as a valued, competent, and trustworthy environmental steward and community asset, and collaborate with external partners (including new and nontraditional partners, like the agricultural sector). Leaders should drive an awareness and commitment to workplace safety, organizational diversity, ethical conduct, and positive morale. Leadership further reflects a commitment to organizational excellence, leading by example to establish and reinforce an organizational culture that embraces positive change, providing new opportunities for emerging leaders, and planning for and assuring a seamless transition to new leadership when required. Organizational improvement efforts require a commitment to continual improvement from the utility's leadership, including the celebration of small and large victories for the utility.



### Strategic Business Planning

Strategic business planning directs and helps to achieve balance and cohesion across the Ten Attributes. A strategic business plan provides a framework for decision making by:

- Assessing current conditions and conducting a strengths, weaknesses, opportunities, and threats (SWOT analysis);
- Characterizing a continuum of possible and likely future conditions;
- Assessing underlying causes and effects of future conditions; and
- Establishing vision, objectives, strategies, and underlying organizational values.

A successful strategic business plan is dynamic and adaptable, allowing the utility to capitalize on new and emerging opportunities. It is made more robust by engaging with staff and external stakeholders, and by utilizing planning methods that can accommodate and address a variety of future operating scenarios (e.g., managing for uncertainty through “stress testing” a plan’s ability to hold up during extreme events, such as extended drought).



A strong plan reflects specific implementation steps that will move a utility from its current level of performance to achieving its vision. Preparation of a strategic business plan involves taking a longer-term view of utility goals and operations and establishing a clear vision and mission. The plan, through engagement with external stakeholders, should reflect key community values, needs, and interests. When developed, the strategic business plan should drive and guide utility objectives, measurement efforts, investments, and operations. A strategic business plan can also help explain the utility’s conditions, goals, and

plans to staff and stakeholders, stimulate change, and increase engagement and support for improvement efforts. After developing a strategic business plan, it is important that the utility integrates tracking of progress and clear accountability into its management framework, and revisits the plan on a regular basis.

## Knowledge Management

Knowledge management is another cornerstone of effective utility management, and is critical to ensuring reliable utility operations. It spans standard operating procedures, human resource management, and business systems and operating systems data integration and utilization to support dependable operations and continual improvement across the Ten Attributes.

By ensuring that processes are well documented through writing down “this is how we do things” and regularly updating standard operating procedures and creating shared knowledge among various employee categories, a utility is able to respond effectively to the inevitable knowledge loss brought on by employee turnover or unexpected absences. An effective knowledge management system is flexible to the use of new and evolving technologies, and should be updated on an ongoing basis. Automated “smart” systems and data integration/management capabilities are an increasingly important aspect of efficient and effective continual improvement management. These systems and capabilities are available across all areas of utility management, and can substantially improve the ability of utilities to track performance in real time, identify variability, and manage performance more effectively and precisely.

## Measurement

Measurement is critical to management improvement efforts associated with the Attributes and is the backbone of successful continual improvement management and strategic business planning. A measurement system serves many vital purposes, including focusing attention on key issues, clarifying

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“If you can’t measure it, you  
can’t improve it.”

*Peter Drucker*

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expectations, facilitating decision making, supporting learning and improving, establishing and maintaining accountability, and, most importantly, communicating effectively internally and externally. Always keep in mind the management adage, “If you can’t measure it, you can’t improve it.” Successful measurement efforts should be:

- Carefully select a limited number of performance measures that are used to focus the organization on the achievement of the Strategic Business Plan goals;
- Viewed as a continuum starting with basic internal tracking, and moving to more sophisticated baselining and trend analysis as necessary, with development of key performance indicators, and inclusion of externally oriented measures which address community sustainability interests;
- Informed by staff input, driven by and focused on answering questions critical to effective internal management and external stakeholder needs, including information needed to allow governing bodies to comfortably support large capital investments; and
- Supported by a well-defined decision framework assuring results are evaluated, communicated, and addressed in a timely manner.

## Continual Improvement Management

Continual improvement management is usually implemented through a complete, start-to-finish management system, also referred to as a “Plan-Do-Check-Act” framework. Continual improvement plays a central role in effective utility management and is critical to making progress on the Attributes. Continual improvement management includes:

- Conducting an honest and comprehensive self- assessment – informed through staff engagement – to identify management strengths, areas for improvement, priority needs, etc.;
- Conducting frequent sessions among interested parties (stakeholders) to identify improvement opportunities;
- Following up on improvement projects underway;
- Establishing and implementing performance measures and specific internal targets associated with those measures;
- Defining and implementing related operational requirements, practices, and procedures;
- Defining supporting roles and responsibilities to derive clear accountability for conducting assessments and implementing performance improvements;
- Implementing measurement activities such as regular evaluation through operational and procedural audits; and
- Responding to evaluations through the use of an explicit change management process.

Continual improvement management is further supported by gap analysis, establishment of standard operating procedures, internal trend analysis and external benchmarking where appropriate, best practice review and adoption, and other continual improvement tools. It can be used as a framework to help utilities understand improvement opportunities and establish explicit service levels, guide investment and operational decisions, form the basis for ongoing measurement, and provide the ability to communicate clearly with customers and key stakeholders.

## IV. Where to Begin: A Self-Assessment Tool

There are many ways to improve utility performance and each utility is unique. Many utilities may choose to start small and make improvements step-by-step, perhaps by working on projects that will yield early successes. Other utilities may choose to take on several improvement efforts simultaneously. Some may prefer to enhance their strengths, while others will prefer to focus on addressing areas for improvement. Each utility should determine for itself the most important issue to address, based on its own strategic objectives, priorities, and the needs of the community it serves.

A thorough assessment of current performance based on the Attributes is a useful first step in identifying options for improvement. It also establishes a quantifiable baseline from which to measure progress. As conditions change, future reassessments will reveal new opportunities and new priorities.

The following Self-Assessment tool can help water and wastewater managers use the EUM Attributes to evaluate their utility's current performance against internal goals or specific needs and determine where to focus improvement efforts. While it can be completed initially by an individual manager, it is more effective when used as a vehicle for conversation and consensus building among the utility's management team and key staff. As appropriate, other stakeholders might be invited to participate in the assessment, including oversight bodies, community and watershed interests, and regulatory authorities.

The assessment has four steps: 1) Assess current conditions based on the Attributes; 2) Rank the importance of each Attribute for your utility; 3) Chart the results; and 4) Choose one or more Attributes to focus on. Following completion of the Self-Assessment, a guide for taking action on the results is included in the next section, **Getting to Work: Implementation of Effective Utility Management**.

A blank copy of the Self-Assessment worksheet is available in **Appendix B**.

### STEP 1

Candidly Assess  
Current Conditions

### STEP 2

Rank Importance of Each  
Attribute to Your Entity

### STEP 3

Graph Attributes to  
Determine Importance and  
Level of Achievement

### STEP 4

Choose Attributes



## Step 1: Assess Current Level of Achievement

Using the blank worksheet in **Appendix B**, assess current conditions by rating your utility’s systems and approaches and current level of achievement for each Attribute, using a 1 (high achievement) to 5 (low achievement) scale. Consider the degree to which your current management systems effectively support each of the Attributes and their component parts. Consider all components of each Attribute and gauge your rating accordingly. Use these descriptions to guide your rating. You will note that each Attribute has several components represented by the bullet points listed for each.

Your rating can either reflect the lowest level of achievement of all of the bullet points for that Attribute (for example, if you believe that your achievement in one of the bullet points for that Attribute was “5,” but another bullet point you rated as “2,” your rating for achievement under that Attribute would be “5”), or an average across all of the bullet points for that Attribute. For whatever approach you choose to use when rating, make sure to be consistent in this approach across all Attributes.

Rating	Description
1.	Effective, systematic approach and implementation; consistently achieve goals.
2.	Workable systems in place; mostly achieve goals.
3.	Partial systems in place with moderate achievement, but could improve.
4.	Occasionally address this when specific need arises.
5.	No system for addressing this.

## Step 2: Rank Importance of Attributes

Rank the importance of each Attribute to your utility, based on your utility’s vision, goals, and specific needs. The ranking should reflect the interests and considerations of all stakeholders (managers, staff, customers, regulators, elected officials, community and watershed interests, and others).

There are Ten Attributes. Considering long-term importance to your utility, rank the most important Attribute 1, the second most important 2, and so on. The least important Attribute would be ranked 10. Your ranking of each Attribute’s importance may be influenced by current or expected challenges in that particular area, recent accomplishments in addressing these issues, or other factors. Importance ranking is likely to change over time as internal and external conditions change.

As you fill in numbers on the worksheet in **Appendix B**, please note that your analysis for Step 1 (rating achievement) should be separate and independent from your analysis for Step 2 (ranking importance).

Attribute	Attribute Components
Product Quality (PQ)	<ul style="list-style-type: none"> <li>• Meets or exceeds regulatory and reliability requirements.</li> <li>• Operates consistent with customer, public health, economic, and ecological needs.</li> </ul>
Customer Satisfaction (CS)	<ul style="list-style-type: none"> <li>• Provides reliable, responsive, and affordable services.</li> <li>• Receives timely customer feedback.</li> <li>• Is responsive to customer needs and emergencies.</li> <li>• Provides tailored customer service and outreach to a range of customer groups (e.g., residential, commercial, industrial, and newly emerging groups such as high-strength waste producers or power companies)</li> </ul>
Employee and Leadership Development (ED)	<ul style="list-style-type: none"> <li>• Recruits, develops, and retains a competent, safety-focused workforce.</li> <li>• Is a collaborative organization dedicated to continual learning, improvement, and adaptation.</li> <li>• Implements procedures for institutional knowledge retention, workplace safety, and continual learning (e.g., standard operating procedures).</li> <li>• Invests in/provides opportunities for professional and leadership development.</li> <li>• Supports an integrated and well-coordinated senior leadership team.</li> </ul>
Operational Optimization (OO)	<ul style="list-style-type: none"> <li>• Conducts ongoing performance improvements informed by performance monitoring.</li> <li>• Minimizes resource use and loss from day-to-day operations.</li> <li>• Is aware of and adopts in a timely manner operational and technology improvements, including operational technology and information technology.</li> <li>• Manages and utilizes data from automated and smart systems.</li> </ul>
Financial Viability (FV)	<ul style="list-style-type: none"> <li>• Understands and plans for full life-cycle cost of utility.</li> <li>• Effectively balances long-term debt, asset values, operations and maintenance expenditures, and operating revenues.</li> <li>• Sets predictable and adequate rates to support utility current needs and plans to invest in future needs, taking into account affordability and the needs of disadvantaged households when setting rates.</li> <li>• Understands opportunities for diversifying revenue and raising capital.</li> </ul>
Infrastructure Strategy and Performance (IS)	<ul style="list-style-type: none"> <li>• Understands the condition of and costs associated with critical infrastructure assets.</li> <li>• Maintains and enhances assets over the long-term at the lowest possible life-cycle cost and acceptable risk.</li> <li>• Coordinates repair efforts within the community to minimize disruptions.</li> <li>• Plans infrastructure investments consistent with community needs, anticipated growth, system reliability goals, and with a robust set of adaptation strategies.</li> </ul>
Enterprise Resiliency (ER)	<ul style="list-style-type: none"> <li>• Works together with staff internally and coordinate with external partners to anticipate and avoid problems.</li> <li>• Proactively establishes tolerance levels and effectively manages risks (including legal, regulatory, financial, environmental, safety, security, cyber, knowledge-loss, talent, and natural disaster-related).</li> <li>• Plans for and actively manages to maintain business continuity.</li> </ul>

Attribute	Attribute Components
Community Sustainability (SU)	<ul style="list-style-type: none"> <li>• Actively leads in promoting and organizing improvements to community and watershed health within utility and with external community partners.</li> <li>• Actively leads in promoting welfare within the community for disadvantaged households.</li> <li>• Uses operations to enhance natural environment.</li> <li>• Efficiently uses water and energy resources, promotes economic vitality, and engenders overall community improvement.</li> <li>• Maintains and enhances ecological and community sustainability including pollution prevention, watershed and source water protection.</li> </ul>
Water Resource Sustainability (WS)	<ul style="list-style-type: none"> <li>• Ensures water availability through long-term resource supply and demand analysis, conservation, fit for purpose water reuse, integrated water resource management, watershed management and protection, and public education initiatives.</li> <li>• Manages operations to provide for long-term aquifer and surface water sustainability and replenishment.</li> <li>• Understands and plans for future water resource variability (e.g., changing weather patterns, including extreme events, such as drought and flooding).</li> </ul>
Stakeholder Understanding and Support (SS)	<ul style="list-style-type: none"> <li>• Engenders understanding and support from oversight bodies, community and watershed interests, and regulatory bodies for service levels, rate structures, operating budgets, capital improvement programs, and risk management decisions.</li> <li>• Actively engages in partnerships and involves stakeholders in the decisions that will affect them.</li> <li>• Actively promotes an appreciation of the true value of water and water services, and water’s role in the social, economic, public and environmental health of the community.</li> </ul>

### Step 3: Graph Results

Graph each Attribute based on your rating and ranking. For example, if you rated Product Quality (PQ) 4 for achievement and ranked it 3 for importance, you would place it on the graph as illustrated below. Similarly, if you rated Customer Satisfaction (CS) 3 for achievement and ranked it 5 for importance, you would place it on the graph as illustrated below. A blank graph is provided in **Appendix B**.

<b>Rating</b>	Lower Achievement	5												
		4			PQ									
	Higher Achievement	3												
		2												
		1												
			1	2	3	4	5	6	7	8	9	10		
			More Important					Less Important						
			<b>Ranking</b>											

### Step 4: Choose Attributes to Focus On

The goal of Effective Utility Management is to establish high-achieving systems and approaches for each Attribute. Ultimately, utilities should strive to improve performance for all Attributes until each can be charted in the lower half of the table (high achieving). Utility managers may wish to focus on one or a few Attributes at a time, aiming to eventually ensure that all Attributes have been addressed and improved upon over time.

Examining the results of the charting exercise in Step 3 can help identify Attributes for focused attention. Attributes that graph into the orange shaded quadrant are both very important (ranked 1-4), and have low achievement (rated 4-5), and would typically be selected as the highest priority Attribute areas for moving forward with improvement actions. Attributes that graph into the yellow shaded area indicate medium importance, and a moderate level of current achievement; these would typically be selected as additional strong candidates for improvement efforts.

Attributes that fall in the lower left-hand quadrant are both important and high-achieving areas for the utility. Some utilities may choose to focus on these areas to continue further improving upon important and high-achieving areas, due to their long-term importance (e.g., water resource adequacy). Specifically examining these areas may also help a utility identify success factors which would be helpful in addressing areas needing improvement. Others may choose to focus on Attributes that would lead to early successes to build confidence