FEATURE

Seattle Steam's ENERGY STAR Reporting Service:

Helping customers meet benchmarking mandate

Stan Gent, PEng, President and CEO, Seattle Steam Co.; and Gary Michaels, PE, President, GH Michaels Associates LLC

Seattle Steam Co. has always been committed to the energy efficiency of its customers' facilities and to making it easy for them to track steam usage trends and costs through online tools. Since 2006, Seattle Steam has delivered site-total and meter-level usage data to its customers through the company's online UtilityStudio® customer portal.

Through the UtilityStudio portal, an application service from GH Michaels Associates, Seattle Steam customers can easily export historical steam consumption data for loading into analysis and benchmarking tools. This includes ENERGY STAR® Portfolio Manager – an online tool created by the U.S. Environmental Protection Agency that has become the standard national platform for benchmarking building energy use. Research has shown that benchmarking and tracking energy use can lead to energy savings, lower energy costs and reduced greenhouse gas emissions.

In fact, an EPA analysis of more than 35,000 buildings that used Portfolio Manager and received an ENERGY STAR score from 2008 to 2011 found that those buildings had an average annual energy savings of 2.4 percent, with total savings of 7 percent over the three-year analysis period (see www.EnergyStar.gov/DataTrends).

Supporting its customers' voluntary energy benchmarking efforts has long been important to Seattle Steam, but recently state and local legislation led the company to offer even more support. Following the enactment of Washington state legislation requiring building energy rating and disclosure, the city of Seattle passed an Energy Benchmarking and Reporting Program ordinance in early 2010 (see sidebar). This ruling requires owners of nonresidential and multifamily Seattle buildings of 20,000 sq ft or more to track and report annual energy performance.

A RULING REQUIRES NONRESIDENTIAL AND MULTIFAMILY SEATTLE BUILDINGS OF 20,000 SQ FT OR MORE TO TRACK AND REPORT ANNUAL ENERGY PERFORMANCE.

To help customers meet this mandate, Seattle Steam joined the growing list of utilities offering Portfolio Manager data exchange services, formerly known as automated benchmarking. Seattle Steam understood both the need and the benefit of offering this service: Automating the reporting for customers would ensure timely and accurate steam usage reporting to ENERGY STAR, supporting the city program goals. As well, Seattle Steam could make it easier for customers to comply with the ordinance and keep their ENERGY STAR benchmarking and energy monitoring processes up to date.

PLATFORM INTEGRATION

EPA offers a complete application programming interface that allows utilities, building management companies and others to exchange data with Portfolio Manager. Called "web services," this platform allows for direct transfer of energy data between utility databases and Portfolio Manager on behalf of customers. To offer Portfolio Manager data exchange services, Seattle Steam needed to develop the software code to integrate its billing system with the ENERGY STAR web services platform. Seattle Steam turned to its existing technology partner, GH Michaels Associates, to expand the firm's UtilityStudio billing and reporting solution to include this capability.

Seattle Steam first had to decide what level of data it would automatically report to ENERGY STAR: building-level steam data or individual steam meter usage. Seattle Steam wanted to offer customers meter-level reporting, providing greater granularity for performance assessment. Existing billing and customer information management tools made it easy to identify the customer account, building and meter associations that corresponded to the same buildings and meters in customer Portfolio Manager accounts.

In addition to integrating the UtilityStudio and ENERGY STAR soft-

ware platforms, Seattle Steam had to formalize the new service offering and a plan to introduce it to customers. The company expanded its customer UtilityStudio portal to include ENERGY STAR reporting information and detailed instructions to assist customers with completing steam meter definition and reporting authorization in their Portfolio Manager accounts.

Seattle Steam designed a simple online agreement for customers to use to begin the enrollment process, avoiding cumbersome paperwork and repeated customer data requests. Customers enter their contact information, accept the terms of the reporting service and submit the request. Seattle Steam receives the request and completes the reporting setup and data push to Portfolio Manager.

As utilities commit to offering Portfolio Manager web services, they must decide if service costs will be absorbed by the business or recovered through a subscription service. A March 2013 study by the Institute for Market Transformation, *Utilities' Guide to Data Access for Building Benchmarking*, reported that utilities continue to evaluate the most equitable approach to recovering development costs. Seattle Steam is recovering the software, customer setup and service costs by charging a one-time ENERGY STAR reporting service activation fee of $140 and a nominal monthly fee of $5 per meter. This small service fee allows customers to "set it and forget it." Each month, at the close of the billing cycle, Seattle Steam automatically reports customer steam usage data to ENERGY STAR. Customers that choose to manually enter data into Portfolio Manager pull the necessary information from their steam invoices or customer portal reports.

In October 2010, GH Michaels Associates completed the software development, testing and integration with ENERGY STAR, branding Seattle Steam as a web services provider. Over the next several months, Seattle Steam worked with the City of Seattle Department of Planning and Development on ordinance implementation, coordinating training and demonstration events to ensure a unified program across all Seattle utilities, including Puget Sound Energy and Seattle City Light. Seattle Steam finished the project by creating an automatic email notification that customers receive after their enrollment agreement has been completed, and the company added status and tracking screens in the customer portal so customers can easily verify their monthly reporting. For Seattle Steam Co. administrators, the company expanded UtilityStudio to include program activity reporting, service transaction monitoring and activation management tools.

CUSTOMER ROLLOUT AND ACTIVATION PROCESS

The Seattle Steam home website was expanded to include detailed information on ENERGY STAR reporting services, enrollment instructions and resources for compliance with the city disclosure ordinance (fig. 1).

Seattle Steam had to be ready with clear documentation, training materials and support to assist customers with Portfolio Manager setup and benchmarking authorization. The questions, issues and errors in Portfolio Manager setup are easy to address, but they can cause delay in initiating reporting.

With the software integration completed, the business processes in place, and training and support ready, Seattle Steam customers were now able to request automated reporting. As the first city reporting deadline approached in October 2011, Seattle Steam was ready to go. The company announced its new ENERGY

CITY OF SEATTLE ENERGY BENCHMARKING AND REPORTING PROGRAM ORDINANCE

2009 The Washington state legislature approves SB 5854, known as the Efficiency First bill, requiring commercial building energy rating and disclosure. Codes require qualifying utilities to provide energy consumption data in a format compatible for uploading to EPA's ENERGY STAR Portfolio Manager online benchmarking tool.

2010 The city of Seattle passes the Energy Benchmarking and Reporting Program ordinance, requiring nonresidential and multifamily building owners in Seattle to track the energy performance of properties 20,000 sq ft or larger.

2011 Seattle utilities, including Seattle Steam, prepare for ordinance compliance support and complete software integration with EPA for automated ENERGY STAR Portfolio Manager reporting.

2012 Benchmarking and reporting requirement takes effect for nonresidential and multifamily properties 50,000 sq ft or larger.

2013 Benchmarking and reporting requirements expand to include nonresidential and multifamily properties 20,000 sq ft or larger.

Ongoing Commercial and multifamily buildings 20,000 sq ft or larger must annually benchmark energy use with EPA's Portfolio Manager tool and report building energy use to the city by April 1. Buildings must also disclose data upon request to buyers, lenders and current/prospective tenants.

STAR Reporting Service through its newsletter and training events. It also released information through the website, program announcements and how-to guide of the Seattle Office of Sustainability and Environment Technical Assistance Center and Benchmarking Help Line.

When customers complete the enrollment form in their Seattle Steam UtilityStudio portal (fig. 2), an automated acknowledgement email confirms the start of the activation process. This email also reminds customers to complete and verify their Portfolio Manager account setup for steam reporting.

Customers create their Portfolio Manager account, including steam meter definitions. They then "connect" with "Seattle Steam Company ENERGY STAR Reporting" in Portfolio Manager and "share" data access for their building and steam meters. Once Seattle Steam accepts the connection and data-sharing requests, GH Michaels Associates uses internal UtilityStudio mapping screens to quickly create the associations between the customer account information in the billing application and the customer's Portfolio Manager building and meter profile.

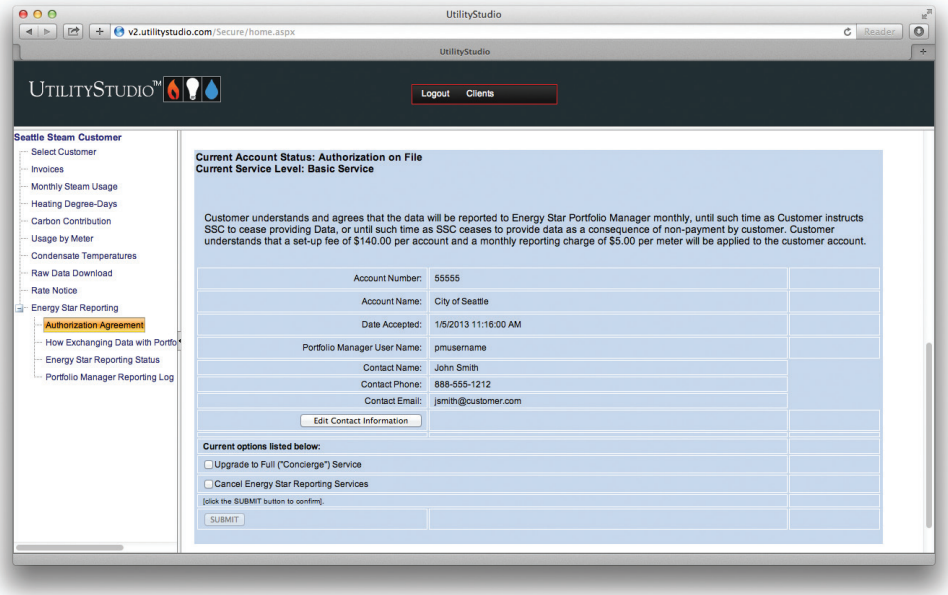
Seattle Steam then reports a minimum of 24 months of steam meter usage history. Reporting continues each month automatically, and Seattle Steam includes the service fee on its steam invoice. Reported transactions are logged in the customer portal, so customers know that their data is communicated to ENERGY STAR each month (fig. 3).

A phased rollout of Seattle's Energy Benchmarking and Reporting Program ordinance began in October 2011 and was completed by April 2013. At this time, with approximately 70 customers enrolled in data exchange services, Seattle Steam is pleased at the response to this offering and expects continued growth. The company believes its commitment to meeting customer expectations for data access and benchmarking support strengthens customer satisfaction and loyalty.

Figure 1. ENERGY STAR Reporting Services on Seattle Steam Website. (www.seattlesteam.com/energy-star-reporting.htm)

Source: Seattle Steam Co.

Figure 2. Customer Authorization for Participation in Seattle Steam's ENERGY STAR Reporting Service.



Source: Seattle Steam Co.

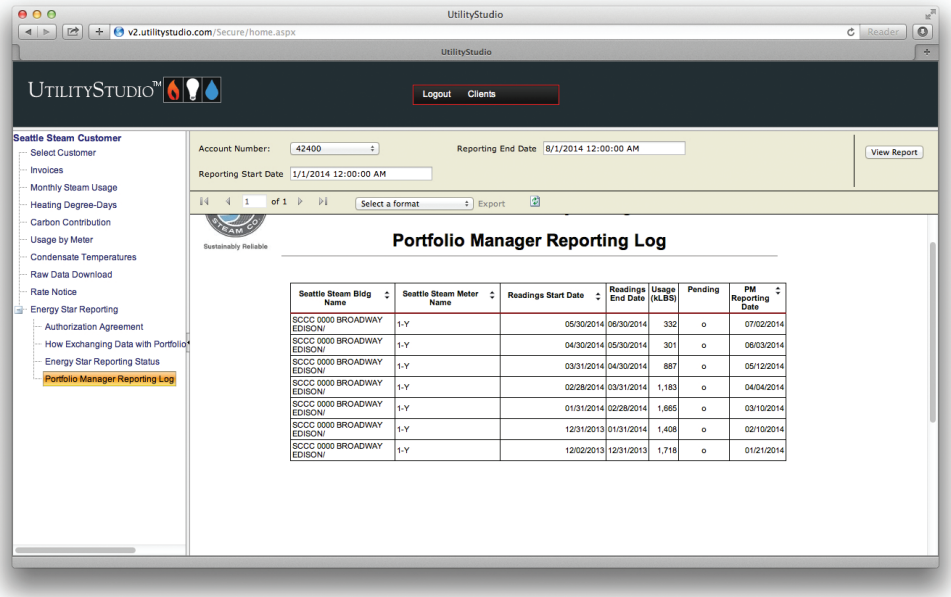
CUSTOMER EASE AND OPERATIONAL EFFICIENCY

Seattle Steam has made the process as easy as possible for its customers. Once customers enroll in the program, they do not need to do any additional work to maintain the reporting to ENERGY STAR. Seattle Steam automatically reports readings after the close of each monthly billing cycle; the same usage recorded on the customer invoice is reported to ENERGY STAR. As customers benchmark their facilities, and the city of Seattle reviews annual building energy performance data, they can be confident that the data is accurate and up to date. Monthly reporting supports customers' efforts to closely track efficiency performance and improvement.

From a service delivery standpoint, the automated process requires minimal intervention. When customers have questions or need assistance with the ENERGY STAR reporting process, the Seattle Steam business development team responds and coordinates additional support with UtilityStudio. Customer service and business development staff can also direct customers in the use of the customer portal for access to historical usage data.

This service is managed with minimal support and little demand on Seattle Steam resources. UtilityStudio validates the reporting cycle each month and manages customer meter changes and reporting exceptions as necessary. In 2012, ENERGY STAR announced a redesign of Portfolio Manager, requiring software modification for all automated benchmarking providers. Seattle Steam planned appropriately for the transition by testing software changes and preparing updated documentation. The Portfolio Manager upgrade was released in mid-July 2013. Seattle Steam tested its processes and code changes in the new Portfolio Manager production environment and was able to continue automated reporting within two weeks of the upgrade.

Figure 3. Portfolio Manager Reporting Log, Seattle Steam's ENERGY STAR Reporting Service.



Source: Seattle Steam Co.

Through online tools, Seattle Steam can easily track customer participation in automated reporting and assist customers and the city with custom data requests. The company continues to work with the city to ensure program success and to support customers with data access, reporting and energy-saving strategies.

Municipal energy disclosure mandates are growing. Nine cities – New York City; Boston; Philadelphia; Washington, D.C.; Minneapolis; Austin; San Francisco; Seattle; and Chicago – as well as Montgomery County, Md., now have benchmarking ordinances for large commercial buildings. Many other jurisdictions are also considering similar moves.

Jayson Antonoff, U.S. director for the Global Buildings Performance Network with the Institute for Market Transformation, participated in the recent IDEA Annual Conference panel on improving data access for benchmarking. Antonoff stressed the growing trend of utility programs supporting energy benchmarking with Portfolio Manager and the opportunity for district energy utilities to play an integral role in this. He noted, "It is important that district energy utilities be a part of these benchmarking conversations and provide support to their customers."

As utilities consider this support, the objective extends beyond compliance. "Even in a city with required

OFFERING ENERGY STAR DATA EXCHANGE SERVICES

Utilities and energy service providers that already provide energy usage data to customers may consider extending their services to include ENERGY STAR data exchange. Here are key steps for doing so:

- **Register with ENERGY STAR as a Portfolio Manager web services provider (see http://tinyurl.com/pkn7g96). Will internal resources develop the software to integrate with ENERGY STAR, or will a service partner develop and integrate the software with utility customer information and billing programs?**
- **Develop an easy customer registration and enrollment process. Let customers "set it and forget it."**
- **Decide what data will be reported to ENERGY STAR – building or meter-level data.**
- **Evaluate metering and billing systems. Streamline the mapping required to push data to ENERGY STAR.**
- **Support customers with information, training and easy-to-use, self-service tools.**
- **"Overcommunicate" with customers via newsletters, company website and the customer portal.**
- **Partner with the municipality program team to share information and present a unified approach to reporting and compliance. Work with the city to meet its program compliance schedule.**

energy disclosure, utilities need to see that mandated reporting is not a hammer. It is a market opportunity. Offering data and reporting services can drive a better understanding of how customers are operating their buildings and, in turn, drive greater energy conservation. Utilities can take advantage of this opportunity, using this information to work more closely with their customers," Antonoff said.

Utilities benefit by supporting benchmarking, as it allows them to offer expanded customer service and a gateway to other energy efficiency programs. Benchmarking offers data for use in analyzing these programs and validating savings. With greater insight into building loads, utilities can improve marketing, target programs and inform infrastructure planning.

District utilities play a critical role in making these programs operate efficiently and driving results. As communities adopt energy benchmarking and reporting requirements, utilities can be strong partners in the program success. Even without municipal disclosure mandates, offering ENERGY STAR Portfolio Manager web services gives district energy systems an opportunity to support voluntary benchmarking and provide additional services that promote the energy efficiency of their customers and communities.

***Stanley Gent, PEng**, joined Seattle Steam Co. as president and CEO in 2004. He previously was president of Comfort Link, a district cooling company located in Baltimore, Md. During the 1990s, he was employed as vice president of engineering and development for Chicago-based Unicom Thermal Technologies and became a leader in the development of various district cooling technologies. He may be reached at sgent@seattlesteam.com.*

***Gary H. Michaels, PE**, is founder and president of GH Michaels Associates LLC. He has been working in the energy field for more than 30 years, developing a large portfolio of successful projects in building energy analysis, utility rate analysis, building automation systems, thermal load modeling, database design and web application development. Michaels designed and developed the UtilityStudio platform for client energy information management software solutions. He received his Bachelor of Science degree in mechanical engineering from the University of Illinois. Michaels can be contacted at gmichaels@utilitystudio.com.*