Utility Procurement of Third-Party Demand-Side Services

Utility best practices in acquiring demand response resources at least cost

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SUMMARY

HydroQuébec Distribution (HQD) entered into a framework contract with its unregulated subsidiary Hilo Energie (Hilo) to provide residential peak reduction services. The contract calls for Hilo to develop and implement a portfolio of residential demand response programs over the next 10 years. Demand response offers a cost-effective alternative to traditional capacity resources and thus HQD should be commended for seeking to acquire demand response resources to meet customers' peak demand for electricity. HQD, however, failed to abide by best practices by not adopting a competitive procurement process to acquire demand response program development and implementation services. Evidence from across the United States and Canada finds that many jurisdictions require utilities to use a competitive solicitation for demand-side resources. Furthermore, both Canadian and U.S. utilities routinely procure products and services through requests for proposals. These are often managed through a cloud-based information system to support a transparent and robust competitive procurement process. Without a competitive procurement, there is no way to determine whether the price consumers ultimately pay for demand response resources is the lowest price that the market would bear. HQD's regulator has the authority and obligation to closely review transactions between HQD and its unregulated affiliates due to inherent concerns regarding self-dealing.

1. BACKGROUND

On November 1, 2019, HydroQuébec Distribution (HQD or the Distributor), a division of Hydro-Québec, filed its 2020–2029 Supply Plan. The Supply Plan states that HQD's current and planned electricity supplies will be sufficient to meet energy needs until 2026 and capacity needs until 2025.[1] HQD's peak demand generally occurs during the winter months in the morning and early evening hours, driven by energy use for space heating. Peak demand requirements are expected to grow from the current level at 42 GW to 46 GW by the 2028–2029 winter. The Supply Plan includes an important role for demand response in maintaining the capacity balance between demand and supply throughout the 10-year planning horizon.

On October 21, 2019, HQD entered into a 10-year framework contract with Hydro-Québec's recently formed unregulated subsidiary Hilo Energie (Hilo) to provide residential demand management services.[2] Specifically, HQD and Hilo established annual targets for residential peak load reductions as shown in Table 1 below. The framework contract stipulates that Hilo will execute annual contracts with binding load reduction commitments, on or before October 1 before each contract year. The annual binding commitments will serve as the basis for performance assessment, penalties, and compensation.

Table 1. Peak reduction targets 2019–2028 (residential peak shaving)

Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
MW	1.8	56.7	124.3	274.7	427.9	485.7	529.1	574.1	595.8	620.1

Source: HQD and Hilo. August 21, 2019. Service Contract – Demand Management between Aggregator and the Distributor.

Stakeholders raised several concerns regarding the contractual relationship between HQD and Hilo. One concern is that HDQ did not issue a competitive solicitation for residential demand response resources. HQD entered into a 10-year framework contract with its newly formed unregulated subsidiary without considering proposals from other third-party residential demand response service providers. Furthermore, HQD claims that the contract with Hilo does not require approval from the Régie de l'énergie de Quebec (Régie). The Distributor argues that, while new supply contracts require approval by the Régie under Section 74.1, the contract with Hilo is to provide services that improve the use of existing energy resources, and thus the Distributor is not required to conduct a tender for such services.[3]

[1] Hydro Quebec Distribution. November 2019. *Overview of Hydro-Québec' Energy Resources*. Available at http://www.hydroquebec.com/data/achats-electricite-quebec/pdf/electricity-supply-plan-2020-2029.pdf.

[2] Please see the response to question 2.1 of Information Request no 1 of the AQCIE-CIFQ in HQD-5, document 3.

[3] Please see the response to question 9.1.1 of Information Request no 1 of the RÉGIE in HQD-5, document 1.

This report explores the institutional structures and contracting practices that have been applied in other jurisdictions to procure demand-side program development and implementation services. The report summarizes the best practices in utility acquisition of demand-side resources and provides several examples.

Section 2 begins with a brief overview of the differences between regulated and unregulated services within the electric utility industry and the role of demand-side resources. Section 3 presents the best practices in utility procurement of demand response resources and offers several case studies. Section 4 provides conclusions.

2. REGULATED VERSUS COMPETITIVE SERVICES IN THE ELECTRICITY SECTOR

The electric utility industry in North America is a complex mix of ownership, management, and regulatory structures that collectively work to deliver reliable electricity to millions of homes and businesses. There are three primary components of the electric utility industry: generation; transmission; and distribution. Power plants connected through the transmission system produce electricity using a variety of methods. The electricity produced at power plants is delivered to homes and businesses through a sprawling transmission and distribution system.

2.1. Electric Sector Restructuring

In most modern economies, the electric industry underwent restructuring in the 1990s based on the understanding that the generation of electricity was a competitive service and should be subject to market forces. The delivery of electricity through the transmission and distribution systems, however, is understood to be a natural monopoly service and thus continues to be regulated.

The natural monopoly concept applies to industries characterized by economies of scale and extremely high capital costs. In these cases, a single monopoly provider is justified. Given the incentive for monopoly service providers to charge high prices and decrease service quality, the regulation of monopoly service providers is necessary to protect consumer interests. This stands in contrast to competitive industries whereby consumer interests are met through robust competition in the marketplace between firms providing consumer goods and services.

Before the 1990s, most electricity was produced and delivered through vertically integrated utilities—utilities that owned and operated generation, transmission, and distribution facilities. In many jurisdictions, the process of industry restructuring required that utilities spin-off their generation business as a separate unregulated enterprise or sell all generation assets. The owners of generation were forced to find buyers for the energy they produced through entering into bilateral contracts with load-serving entities or participation in wholesale power markets.

While vertically integrated utilities still exist in some locations today, most regions in North America are characterized by competitive wholesale energy markets with open access to regional transmission systems. In these regions, the dispatch of generation to reliably balance supply and demand and the operation of the bulk transmission of electricity across the grid is managed by Regional Transmission Operators (RTO) or Independent System Operators (ISO). Regulated distribution utilities own and operate the lower voltage systems that deliver energy to ultimate consumers. These distribution utilities also typically provide additional customer services including metering, billing, and the provision of default service in jurisdictions with electric retail choice.

In contrast to the U.S. electricity sector dominated by investor-owned utilities (IOU), the Canadian system is dominated by Crown corporations. A Crown corporation is wholly owned by the provincial government but operates at arm's length from the government. The regulation of electric utilities in Canada largely falls to the provincial government. Efforts to restructure the electricity sector have been less aggressive in most Canadian provinces than in the United States and other modern economies. Only two provinces (Alberta and Ontario) have pursued exhaustive restructuring of their electricity industry to promote competition similar to the approach taken in the United States. Vertically integrated utilities structured as Crown corporations still enjoy full or quasi-monopolies in Quebec, Manitoba, British Columbia, and most of the smaller provinces. Some efforts have been made to promote competition in these regions, in part to maintain access to important U.S. export markets for Canadian utilities. This included opening the transmission system within these provinces to provide third-party access. Over the past several decades, provincial regulatory bodies assumed the role of regulating rates and service of electric utilities, including Crown utilities.[4]

2.2. Demand-Side Resources in Restructured and Regulated Markets

In the late 1980s, there was a growing awareness of the role that demand-side resources could play to meet utility energy and capacity requirements. Investing in energy efficiency was widely understood as a cost-effective alternative to building new power plants. According to the American Council for an Energy Efficient Economy, in 2018 utilities in the United States spent $8 billion for efficiency programs and saved 27.1 million MWh of electricity.[5] Energy efficiency entails a variety of measures that deliver the energy services that consumers desire using less energy.

Demand response is a specific category of demand-side management resources and involves efforts to reduce the peak demand for power. Peak power is generally the most expensive power for utilities to generate and deliver to customers. Demand response is defined as a reduction in customers' electricity consumption over a given time interval relative to what would otherwise occur, in response to a price

[4] Philip Raphals and Peter Bradford. March 2005. *The Evolution of Competitive Markets in North America: Final Report*. Available at https://www.yumpu.com/en/document/read/20947369/the-evolution-of-competitive-energy-markets-in-north-america.

[5] American Council for an Energy Efficient Economy. October 1, 2019. *2019 State Energy Efficiency Scorecard*. Available at https://www.aceee.org/sites/default/files/publications/researchreports/u1908.pdf.

signal, other financial incentives, or a reliability signal.[6] Customers are given an incentive to curtail load during periods when the utility is experiencing its highest peak demands for the year. The grid operator or utility provides notice in advance of when the peak event will occur, at which point demand response resources must deliver the contracted peak load reductions or be subject to non-performance penalties.

There are many different demand response programs and structures in use today. Some programs allow large commercial or industrial customers to directly participate in a demand response program. Given that the load reduction from small individual consumers is not large enough to participate in a demand response program, third-party aggregators known in the industry as curtailment service providers (CSP) market demand response, identify curtailable load (air conditioners, water heaters, electric vehicles, etc.), enroll customers, manage curtailment events, and calculate payments or penalties for their customers. The CSP's profit is based on the difference between the payments received for providing firm peak-shaving services to the electric grid and the program expenses including incentive payments to participating customers.

In deregulated markets, demand response resources compete directly alongside supply-side resources to provide capacity and energy in centralized wholesale markets. In some regions, demand response resources also compete to provide ancillary services. Table 1 presents the demand response capacity actively participating in wholesale energy markets for each of the major U.S. RTOs and ISOs. CSPs compete to recruit customers to participate in demand response programs.

Table 2. Demand response capacity participating in RTO / ISO wholesale markets

RTO / ISO	Demand Response Capacity (MW)
California ISO	1,700
Midcontinent Independent System Operator	7,372
ISO New England	363
New York ISO	1,217
PJM Interconnect	10,449
Electric Reliability Council of Texas	2,329
TOTAL	**23,430**

Source: Smart Electric Power Alliance. September 2019. 2019 Utility Demand Response Market Snapshot, available at https://sepapower.org/resource/2019-utility-demand-response-market-snapshot/.

Demand response resources also play a role in meeting peak demand in regulated markets. Utilities are often required by utility commissions or legislative requirements to evaluate demand response and other demand-side resources as part of the periodic integrated resource planning process. Commission regulations and state statues often require that regulated utilities acquire the least costly demand-side

[6] Lawrence Berkeley National Laboratory. June 2012. *Addressing Energy Demand through Demand Response: International Experiences and Practices*. Available at https://gig.lbl.gov/sites/all/files/lbl-5580e-deman-response-azurejune-2012.pdf.

resources through competitive procurements. Section 3 provides specific examples of these requirements.

3. BEST PRACTICES IN UTILITY PROCUREMENT OF DEMAND-SIDE SERVICES

The provision of demand-side resources in general and demand response specifically are intrinsically competitive services in that they do not constitute a natural monopoly. Consumers benefit when multiple firms compete in the marketplace to deliver high-quality demand-side resources to grid operators and utilities. The competition offers the potential to provide more robust and tailored demand response solutions to consumers. It also provides the utility with a more diverse portfolio of resources to reduce peak demand when needed. Price discovery made possible through firms competing to deliver demand response services provides important information regarding demand response as a cost-effective alternative to traditional capacity resources. In this section, we identify utility best practices in acquiring demand-side resources and provide several examples that demonstrate these best practices.

3.1. Requirements for Competitive Procurement of Demand-Side Resources

Regulated electric utilities are granted the exclusive right to serve customers within a certain geographic region and, in exchange for that right, utilities accept that regulators must approve the rates they charge customers. Utilities make infrastructure investments and enter into supply contracts for energy and capacity resources to serve customers. In addition, utilities acquire a range of additional services necessary to provide reliable service. Regulators are charged with overseeing utility investments and spending to impose financial discipline that would otherwise be present under competitive markets.

The decision to procure demand-side resources often occurs within the context of integrated resource planning. An integrated resource plan is defined as "…a utility plan for meeting forecasted annual peak and energy demand, plus some established reserve margin, through a combination of supply-side and demand-side resources over a specified future period."[7] Once a plan has been finalized and approved, the utility is charged with the implementation of the plan. To the degree that demand-side resources were selected as part of the plan, utilities must determine a procurement strategy. This could include developing and implementing efficiency programs in house or contracting with a third-party supplier.

[7] Biewald. B. and Wilson R. June 2013. *Best Practices in Electric Utility Integrated Resource Planning: Examples of State Regulations and Recent Utility Plans*. Available at https://www.raponline.org/wp-content/uploads/2016/05/rapsynapse-wilsonbiewald-bestpracticesinirp-2013-jun-21.pdf. Integrated resource plans are used in numerous U.S. states, and in several Canadian provinces, including British Columbia and Nova Scotia.

Utility regulators have the authority to review transactions between regulated utilities and their unregulated subsidiaries to protect consumer interests. There is the potential for self-dealing between regulated and unregulated entities of a parent holding company. For example, the utility could pay above-market prices for services provided to it by an unregulated affiliate. Conversely, a utility could provide services to its unregulated affiliate at below-market costs. In both cases, the regulated utility is taking advantage of its captive customers by providing its unregulated affiliate an unfair advantage over the competition.[8] Good regulatory practice requires careful oversight of the relationship between a utility and its affiliated interests. In 1997, the California Public Utilities Commission (CPUC) issued Decision 97-12-088 adopting standards of conduct governing relationships between utilities and their affiliates. The rule stipulates specific standards that apply to all transactions between a utility and its affiliated interests. This includes the following provision governing affiliated transactions:

> "Affiliate Transactions: Transactions between a utility and its affiliates shall be limited to tariffed products and services, the sale or purchase of goods, property, products or services made generally available by the utility or affiliate to all market participants through an open, competitive bidding process, or as provided for in Sections V D and V E (joint purchases and corporate support) and Section VII (new products and services) below, provided the transactions provided for in Section VII comply with all of the other adopted Rules."[9]

Utilities that choose or are required to procure demand-side resources from a third party should seek to obtain the resources at the least cost, consistent with their integrated resource plans. Firms compete to provide demand-side resources through a competitive procurement process, which creates price competition that drives down program costs. Many state utility commissions and state legislatures have specific requirements for competitive procurements for demand-side resources.

Massachusetts requires energy efficiency program administrators (the electric and gas utilities and aggregators) to utilize competitive procurement processes. This requirement is codified in the state of Massachusetts' 2008 Green Communities Act Section 19(a), which states:

> "In authorizing such programs, the department shall ensure that they are delivered in a cost-effective manner capturing all available efficiency opportunities, minimizing administrative costs to the fullest extent practicable and utilizing competitive procurement processes to the fullest extent practicable."[10]

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[8] Regulatory Assistance Project. June 2016. *Electricity Regulation in the US: A Guide*. Available at https://www.raponline.org/wp-content/uploads/2016/07/rap-lazar-electricity-regulation-US-june-2016.pdf.

[9] California Public Utilities Commission. December 1997. Decision 97-12-088--*Decision Order Instituting Rulemaking to Establish Standards of Conduct Governing Relationships Between Energy Utilities and Their Affiliates*, available at ftp://ftp.cpuc.ca.gov/gopher-data/energy_division/affiliate/D9712088.doc.

[10] 191ST General Court of the Commonwealth of Massachusetts, *Chapter 169 An Act Relative to Green Communities Section 19(a)* available at https://malegislature.gov/laws/sessionlaws/acts/2008/chapter169.

In Massachusetts, electric and natural gas utilities and energy efficiency service providers joined to form MassSave. MassSave is the umbrella organization that delivers a portfolio of energy efficiency programs to residential and commercial and industrial (C&I) customers throughout the state. MassSave administrators engage in competitive solicitations to obtain third-party efficiency program design and delivery services.

In 2016, the CPUC adopted D.16-08-019 requiring that a minimum of 60 percent of each of the four IOU's spending on their respective portfolios of energy efficiency programs be third-party designed and delivered by the end of 2022. The CPUC defines a third-party program as one in which the efficiency program is proposed, designed, implemented, and delivered by non-utility personnel under contract to a utility program administrator. The CPUC Decision D.16-08-019 further recommends that third-party energy efficiency programs should become the default unless the utilities can justify why the use of utility personnel should continue.[11] This is in recognition that third-party demand-side resource service providers can deliver better quality and lower cost efficiency programs relative to utility-designed and -managed programs.

The 2018 CPUC decision D.18-01-004 addresses requirements for third-party solicitations for energy efficiency program design and delivery, with the IOUs serving as the program administrators. The CPUC recommends a two-stage solicitation process designed to create an efficient mechanism to attract proposals for cost-effective energy efficiency programs. The first stage is the Request for Abstract (RFA), whereby third-party implementers provide a short abstract summarizing their proposed program, approach, qualifications and experience, and indicative pricing. The IOUs then issue a request for proposal (RFP) to the strongest proposals, soliciting detailed offers. The RFP responses from the third-party providers are evaluated with qualitative and quantitative criteria and, if warranted, in-person interviews. The most competitive participants are notified that they have been selected and the process then moves to the final contract negotiation phase. The CPUC decision D.18-01-004 also requires the IOUs to utilize Independent Evaluators (IE) as part of the competitive procurement process. The IE's role is to provide independent oversight of the solicitation process to evaluate the fairness of the conduct and results of the solicitation process by the IOUs.[12]

An example of a competitive procurement requirement for both supply-side and demand-side resources is in the State of Illinois. The Illinois Power Authority (IPA) is an independent agency charged with the responsibility to develop annual electricity procurement plans and conduct a competitive procurement process. The Illinois Public Utilities Act Section 16-111.5 provides the

[11] California Public Utilities Commission. August 2016. Decision 16-08-019--Decision Providing Guidance for Initial Energy Efficiency Rolling Portfolio Business Plan Filings, available at https://www.cpuc.ca.gov/general.aspx?id=6442456320.

[12] California Public Utilities Commission. April 2020. Energy Efficiency Policy Manual, Version 6, Applicable to post-2018 Energy Efficiency Programs. Available at https://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Utilities_and_Industries/Energy/Energy_Programs/Demand_Side_Management/EE_and_Energy_Savings_Assist/EEPolicyManualRevised_032020.docx.

procedural requirements for the procurement process, which is followed by the IPA. The Act states:

> "The procurement administrator shall disseminate information to potential bidders to promote a procurement event, notify potential bidders that the procurement administrator may enter into a post-bid price negotiation with bidders that meet the applicable benchmarks, provide supply requirements, and otherwise explain the competitive procurement process."[13]

All the resource needs identified in the IPA's 2020 Procurement Plan for the 2020–2021 delivery plan will adhere to these procurement procedures. While the IPA has the authority to acquire demand response resources, the 2020 plan does not call for the acquisition of any demand response resources for the 2020–2021 delivery year.[14]

These are just a few examples of state policy and regulatory requirements that require regulated utilities to adopt a competitive procurement process to acquire goods and services from third-party providers. This is common practice for the procurement of default service, advanced metering infrastructure, and non-wires alternatives to traditional distribution investments, among others. In some cases (e.g. Massachusetts and Illinois), competitive procurement is required by legislation, but in others (e.g. California) it has been imposed by regulators.

Competitive solicitations for products and services are an important tool to reduce consumer costs while providing reliable service. The process must ensure that the products and services being procured meet the performance standards as outlined in the RFP and penalties are enforced for non-performance.

3.2. Utility Demand-Side Management Competitive Procurement Case Studies

Here, we discuss the operation of Ontario's wholesale energy markets that allow demand response resources to participate in meeting regional capacity requirements. We also present several examples of both Canadian and U.S. utilities that engage in competitive solicitations to obtain services that support the acquisition of demand-side management resources. The competitive procurement process is an important mechanism to assure that utilities are acquiring demand-side resources on behalf of customers to meet energy and capacity demands at the least cost.

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[13] Illinois General Assembly. (220 ILCS 5/16-111.5) *Sec. 16-111.5. Provisions relating to procurement*. Available at https://www.ilga.gov/legislation/ilcs/fulltext.asp?DocName=022000050K16-111.5.

[14] Illinois Power Authority. January 2020. *Procurement Plan, Final 2020 Plan*, available at https://www.ilga.gov/legislation/ilcs/fulltext.asp?DocName=022000050K16-111.5#:~:text=A%20utility%20shall%20recover%20through,Agency%2C%20costs%20associated%20with%20loadhttps://www2.illinois.gov/sites/ipa/Documents/2020%20Final%20Electricity%20Procurement%20Plan/IPA%20Final%202020%20Electricity%20Procurement%20Plan.pdf.

Independent Electricity System Operator

Ontario's Independent Electricity System Operator (IESO) is comparable to the RTOs/ISOs that function in the United States. The IESO is responsible for the operation of the bulk transmission system while balancing the supply of and demand for electricity in real time. In addition, the IESO operates and settles the wholesale electricity markets, creating an opportunity for energy resources to be bought and sold at competitive prices. The IESO operates an annual auction to competitively procure demand response services. The IESO's demand response auction procurement process provides a transparent and cost-effective way to select competitive demand response service providers. Companies selected through the auction process are held to the same performance requirements, thus creating consistency across demand response service providers. The IESO's December 2019 capacity auction was expanded to allow participation of both demand response resources and non-committed dispatchable generators.

The IESO's capacity auctions acquire capacity resources for summer (May 1 to October 31) and Winter (November 1 to April 30) commitment periods. Table 3 lists the demand response resources that cleared for the summand and winter commitment periods for the 2020 delivery year. Within Ontario, physical demand response resources are those that are revenue-metered by the IESO and fully participate in the energy market. In contrast, virtual demand response resources are those that are not directly metered, in which aggregator enlists residential customers to participate through the installation of direct load control systems.[15] Over 20 different demand response providers had demand response resources cleared in one or more of the IESO load zones.[16]

Table 3. Ontario IESO's 2020 demand response auction results

	Summer Commitment Period	Winter Commitment Period
Physical demand response Capacity Cleared (MW)	171.2	214.7
Virtual demand response Capacity Cleared (MW)	622.3	704.6
TOTAL demand response Capacity Cleared (MW)	793.5	919.3

Source: IESO Demand Response Auction: Post-Auction Summary Report for 2020 Delivery Year, available at http://reports.ieso.ca/public/demand response-PostAuctionSummary/PUB_demand response-PostAuctionSummary_2020.xml.

[15] Ontario IESO. November 2019. *Introduction to the Capacity Auction*. Available at http://www.ieso.ca/-/media/Files/IESO/Document-Library/training/Introduction-to-the-Capacity-Auction-December-2019-IESO-Training.pdf?la=en#:~:text=Physical%20demand%20response%20resources%20are,with%20residential%20customers%20as%20contributors.

[16] Ontario IESO. 2020. *Ontario IESO Demand Response Auction: Post-Auction Summary Report for 2020 Delivery Year*. Available at http://reports.ieso.ca/public/demand response-PostAuctionSummary/PUB_demand response-PostAuctionSummary_2020.xml.

Canadian Distribution Utilities with Competitive RFP processes

Hydro One

Hydro One is an IOU and is Ontario's largest electricity transmission and distribution service provider. Hydro One distributes electricity across Ontario to nearly 1.4 million predominantly rural customers, which represent 26 percent of all customers in Ontario.[17] Hydro One is comparable to IOUs that operate within restructured regions of the United States, such as National Grid (discussed below) which has operations in both the New England and New York regions. Hydro One uses a cloud-based procurement system called SAP Ariba to manage all competitive procurements. Potential suppliers must register in the system before accessing requests for quotes, proposals, information, or qualifications. The company uses an eight-step procurement process as follows:

1. Supplier requests an invitation to register on Hydro One's SAP Ariba system via email to SupplierContact@HydroOne.com
2. Supplier receives an email invitation and registers through the provided link
3. Supplier receives invitations via email to participate in RFx events
4. Supplier views the event details which:
    - Shows how much time is remaining to submit your response
    - Shows when the event will start accepting responses and when the event will close
    - Supplier can review and accept Bidder Agreement
5. Supplier prepares response as per the requirements specified in the RFx event
    - Suppliers will be able to communicate with the Hydro One buyer via the Ariba message board
    - Suppliers are required to regularly monitor their message board for the duration of the event for notes/instructions from the buyer
6. Supplier submits proposal to Hydro One
7. Hydro One evaluates proposals
8. Hydro One awards the contract[18]

[17] Hydro One. "About Us." Available at https://www.hydroone.com/about/.

[18] Hydro One. February 2020. *Procurement at Hydro One: A Guide for Indigenous Businesses*. Available at https://www.hydroone.com/abouthydroone/indigenousrelations/Documents/Procurement%20at%20Hydro%20One%20A%20Guide%20for%20Indigenous%20Businesses.pdf.

BC Hydro

BC Hydro is an integrated electric utility structured as a Crown corporation that serves the electricity needs of homes and businesses throughout the Province of British Columbia. The utility owns and operates 31 generating stations (mostly hydroelectric) delivering electricity to homes and businesses along the company's 75,000 kilometers of power lines. As a Crown corporation, BC Hydro is owned by the government and people of British Columbia. British Columbia's 2010 Clean Energy Act reaffirmed a prior mandate that utilities operating within the province offer demand-side measures to consumers. This includes an increase to 66 percent from a prior goal to displace 50 percent of BC Hydro's increase in demand through demand-side management programs.[19]

The British Columbia Utilities Commission has the authority to regulate and approve utility expenditures on demand-side management programs. The Commission's approval is required before a utility can recover the cost of expenditures on demand-side management resources. Furthermore, utility demand-side management programs are subject to cost-effectiveness screening to verify that the benefits (avoided costs) are greater than the program costs.[20]

BC Hydro uses a competitive procurement process to acquire services to support demand-side resource programs consistent with its supply plan. The company advertises its procurement opportunities on the web-based portal BC Bid™ operated by the provincial government. The BC Bid™ portal is used to view, download, respond to, and manage responses to BC Hydro requests for proposals (RFP). In April of 2019, BC Hydro issued an RFP for demand response management system (DRMS) pilot.[21] More recently, BC Hydro issued an RFP in a May of 2020 for demand-side management evaluation consulting services.[22] These competitive procurements help to assure that the company is paying competitive prices for products and services used to support its acquisition of demand-side resources.

American Utilities with Competitive RFP Processes

National Grid

National Grid is one of the largest IOUs in the United States with over 20 million customers throughout New York, Massachusetts, and Rhode Island. Like BC Hydro discussed above, National Grid issued a request in 2017 for consulting and implementation services to provide and maintain a DRMS. The

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[19] British Columbia Clean Energy Act [SBC 2010] Chapter 22. Available at http://www.bclaws.ca/civix/document/id/complete/statreg/10022_01#part1.

[20] BC Ministry of Energy and Mines. July 2014. *Guide to the Demand-Side Measures Regulation*. Available at https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/electricity-alternative-energy/energy-efficiency/guide_to_the_dsm_regulation_july_2014_c2.pdf.

[21] BC Hydro. April 2019. *Demand Response Management System (*DRMS*) Pilot, Reference #12659*. Available at https://www.bcbid.gov.bc.ca/open.dll/welcome?language=En.

[22] BC Hydro. May 2020. *Demand Side Management Evaluation Consulting Services, Reference #14528*. Available at https://www.bcbid.gov.bc.ca/open.dll/welcome?language=En.

company initiated a competitive procurement process to select a DRMS to manage existing and future residential customer demand response programs in New York, Massachusetts, and Rhode Island.[23] In addition, in 2019 National Grid's New York division issued an RFP for a non-wires alternative to upgrading a substation that was projected to be overloaded, thereby creating reliability concerns.[24] Similar to other utilities discussed above, National Grid uses a cloud-based procurement tool called Ariba e-Sourcing to manage competitive procurements for various goods and services it procures through a competitive RFP process.

Public Service Company of New Mexico

The IOU Public Service Company of New Mexico (PNM) is the largest utility operating in New Mexico and serves more than 525,000 residential and business customers. In 2016, PNM issued an RFP for a direct load control program targeting residential and small commercial customers. This is similar to the services that HQD seeks from its unregulated subsidiary Hilo. The RFP was designed to identify a quality third-party implementation contractor to develop and implement a demand response program within PNM's service territory as part of the company's portfolio of energy efficiency programs.[25]

Puget Sound Energy

Puget Sound Energy (PSE) is an electric and natural gas utility serving about 1.1 million electric customers and nearly 840,000 natural gas customers in Washington State. The company is a subsidiary of Puget Energy. Following Washington Utilities and Transportation Commission rules, PSE files an RFP when its integrated resource plan identifies a resource need within the next three years. PSE recently initiated its "Demand Response and All-Source RFPs" in May of 2020. An all-source RFP is one in which the utility considers any electric generation or energy storage resource capable of providing a material capacity contribution consistent with the requirements described in the RFP.[26] PSE's 2020 Demand Response RFP states:

> "Puget Sound Energy (PSE) seeks bids from qualified firms to supply technology and implementation services for its Demand Response (demand response) Program(s). PSE is issuing this Request for Proposals (RFP) for program delivery for 2021 through 2026 (program years). The bidder(s) will be responsible for providing load curtailment by

[23] National Grid. December 2017. *Notice of Request for Proposals for Demand Response Management System partner*. Available at https://www.masssave.com/-/media/Files/PDFs/Partners/Resi-demand responseMS-RFP-Posting-for-MassSave.pdf?la=en&hash=5AF4CC4D232083ADB998658625D8E49EEB10AE71.

[24] National Grid. November 2019. *Request for Proposal (RFP) Non-Wires Alternatives Solutions Project Development Services Coffeen Substation Watertown, NY*. Available at https://www.nationalgridus.com/media/pdfs/bus-partners/national-grid-watertown-coffeen-nwa-rfp-final.pdf.

[25] PNM. January 2016. *Invitation to Bid Demand Response Program Services for Direct Load Control*. Available at https://www.pnm.com/documents/396023/3003075/Bid+Invitation.pdf/fa97c27b-371e-482e-87d9-1928009bc370.

[26] PSE. May 2020. *2020 All-Source RFP for Peak Capacity Resources*. Available at https://www.pse.com/-/media/PDFs/001-Energy-Supply/003-Acquiring-Energy/000_main_All-Source-RFP_050120.pdf?la=en&revision=16083627-22e0-42c3-b168-e355aa213574&hash=1F26923FCEF1997715800BE6D2D2260FED42D536.

> winter 2023 from PSE's customers. PSE has a capacity need of 753 MW by 2026. Our most recent Integrated Resource Plan indicates that winter achievable technical potential for demand response in PSE's service territory is 250 MW by 2039. No minimum capacity offer is required to qualify to bid."[27]

In response to its 2018 demand response and all-source RFPs, PSE received six demand response proposals ranging from 20–40 MW each.

4. CONCLUSIONS

Demand-side resources play an increasingly important role in the electricity sector by helping to balance the demand and supply of energy and capacity. Utilities across North America routinely include the acquisition of demand-side resources in their integrated resource plans. The generation of electricity is understood to be a competitive product—an understanding which led to many regions restructuring the electric sector to promote competition. Similarly, demand-side resources are intrinsically competitive and thus do not constitute a natural monopoly. Consumers benefit when demand-side resources, including demand response resources, are procured through a competitive process.

Curtailment service providers (CSP) serve an important role in aggregating demand response resources and bringing these resources to the market. Demand response competes alongside generation resources to provide capacity in wholesale markets in several U.S. regions and the Province of Ontario. CSP also delivers demand response resources to vertically integrated utilities as cost-effective capacity resources.

Many jurisdictions have in place specific requirements that demand-side resources be procured through a competitive solicitation. Price discovery through competitive procurements assure that the utility is acquiring the needed resources to serve customers at least cost. Without a competitive procurement, the utility is not able to compare offerings to find the best solution to meet its needs. Best practices in competitive procurement include transparent and open processes to solicit bids for demand-side resources.

HQD's Supply Plan calls for a substantial role for demand response to meet its anticipated capacity shortfall in the coming years. The framework contract with HQD's unregulated affiliate Hilo raises concern that the utility failed to adhere to best practices for acquiring demand-side resources. Best practices, as exemplified by the utility demand-side procurement case studies referenced above, would result in HQD issuing an RFP for demand response resources and allowing multiple firms to bid to

[27] PSE. May 2020. *2020 Request for Proposals (RFP) Technology and Implementation Services In support of Puget Sound Energy (PSE) Demand Response (demand response) Program*. Available at https://www.pse.com/-/media/PDFs/001-Energy-Supply/003-Acquiring-Energy/2020_Demand_Response_RFP.pdf?la=en&revision=917e709c-8322-46bf-9d69-57c5d7b7f52d&hash=4F86AFF32FC2EC850BF896D1F3B182FA8E30E6B2.

provide these services. Best practices in utility regulation suggest that the Régie should closely evaluate any transactions between HQD and its unregulated affiliates. Consumers will benefit from a transparent and fair competitive process for the acquisition of demand response resources that HQD needs to meet its anticipated capacity needs.