Minnesota Public Utilities Commission

Staff Briefing Papers

Meeting Date: July 1, 2015 ..... **Agenda Item **#7**

Company: Interstate Power and Light (IPL or the Company)

Docket No. **E-001/RP-14-77**

In the Matter of Interstate Power and Light's 2014-2029 Integrated Resource Plan

Issue: Should the Commission approve Interstate Power and Light's 2014-2029 Resource Plan?

What modifications, if any, should Interstate Power and Light make to its Resource Plan?

When should Interstate Power and Light file its next Resource Plan?

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Relevant Documents

Interstate Power and Light, Resource Plan (public and non-public) ..... March 31, 2014
Interstate Power and Light, Informational Filing #1 ..... May 1, 2014
Department of Commerce, Initial Comments ..... July 31, 2014
Interstate Power and Light, Informational Filing #2 ..... September 22, 2014
Interstate Power and Light, Reply Comments ..... September 30, 2014
Department of Commerce, Supplemental Comments . ..... December 9, 2014

The attached materials are workpapers of the Commission Staff. They are intended for use by the Public Utilities Commission and are based upon information already in the record unless noted otherwise.

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I. INTRODUCTION

Resource planning is governed by section 216B.2422 of the Minnesota Statutes and Chapter 7843 of the Minnesota Rules. An integrated resource plan (IRP) should propose a set of supply- and demand-side resource options a utility could use to meet its customers' needs during the next fifteen years. A utility's energy and demand forecasts are the foundation upon which an IRP is constructed, and the plan must include "an explanation of the supply and demand circumstances under which, and the extent to which, each resource option would be used to meet those service needs."[1]

Furthermore, the IRP must contain long-term emission reduction planning. Each utility is required to include in the filing "a narrative identifying and describing the costs, opportunities, and technical barriers to the utility continuing to make progress toward achieving the state greenhouse gas emission reduction goals established in Minn. Stat. § 216H.02, subdivision 1."[2]

Chapter 7843 of the Minnesota Rules authorizes the Commission to make findings of fact and conclusions. In doing so, "the Commission shall consider the characteristics of the available resource options and of the proposed plan as a whole."[3] IRPs are evaluated on their ability to:

A. maintain or improve the adequacy and reliability of utility service;

B. keep the customers' bills and the utility's rates as low as practicable, given regulatory and other constraints;

C. minimize adverse socioeconomic effects and adverse effects upon the environment;

D. enhance the utility's ability to respond to changes in the financial, social, and technological factors affecting its operations; and

E. limit the risk of adverse effects on the utility and its customers from financial, social, and technological factors that the utility cannot control.

If the Commission concludes that a set of resource options would be optimal, it may identify that set of resource options as a preferred resource plan. A preferred resource plan "need not have been specifically proposed or advocated by the utility, an intervening party, or other interested person."[4]

Interstate Power & Light (IPL) filed its 2014-2029 resource plan on February 5, 2014. The Department of Commerce (DOC) is the only intervening party in this case. DOC filed its initial comments on July 31, 2014 and supplemental comments on December 9, 2014. Staff recommends the Commission approve the resource plan as filed.

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[1] Minn. Stat. § 216B.2422, Subd 1 (b).
[2] *Ibid*. at Subd. 2 (c).
[3] Minn. Rule 7843.0500, Subp. 3.
[4] *Ibid*, at Subp.2.

II. COMPANY BACKGROUND

A. *Customers and Load*

Currently, IPL serves approximately 530,000 retail electric customers and more than 230,000 retail natural gas customers in over 100 counties in Iowa and Minnesota. Approximately 92 percent of IPL's electric retail customers are located in Iowa, with the remainder in Minnesota.

Table 1: Interstate Power & Light Customers and Sales (as of 2014)

Customers Class	Customer Count	Retail Electric Sales (000s MWh)
Residential	445,486	4,164
Commercial	81,853	4,099
Industrial	1,856	7,132
Other	1,385	-
Total	**530,577**	**15,395**

IPL's total peak demand is approximately 3,150 MW. For comparison, below are the peak demands for investor-owned utilities operating in Minnesota, including IPL:

IPL	3,150 MW
Xcel Energy	9,400 MW
Minnesota Power	1,700 MW
Otter Tail Power	780 MW

IPL has load in Iowa, Minnesota, and Illinois. The state-allocated load of the IPL portion of the Alliant West load balancing area (i.e., the ATLW load zone) is shown in Table 2 below.

Table 2: State-level split of the IPL peak

Iowa	Minnesota	Illinois
92.2%	5.5%	2.3%

Staff Comment

Since IPL filed its Resource Plan, the Commission has provisionally approved an electric distribution asset sale between IPL and the Southern Minnesota Electric Cooperative (SMEC). Once the sale is completed, SMEC—a collaborative of cooperative utilities with service territories adjacent to IPL's Minnesota territory—will in effect become a generation and transmission cooperative, but it will procure all the power for the acquired territory from IPL for

the next 10 years. Thus, for the majority of the period considered in this IRP, the sale will not materially affect IPL's resource obligations.

B. *Existing Generation*

Table 3 below lists the thermal generating facilities, by primary fuel type, that the Company currently owns or operates.[5] All of IPL's generating facilities listed in Table 3 are located in Iowa, except Fox Lake Unit 3, which is located in Minnesota. In terms of nameplate capacity, 51% of IPL's generation is powered by coal, 32% by natural gas, 11% by oil, and 6% by wind. In addition to its existing owned-resources, IPL also has roughly 650 MW of purchased power contracts: approximately 250 MW from wind resources and another 400 MW from the Duane Arnold Energy Center (DAEC) nuclear plant.

Table 3: IPL Thermal Generating Facilities

Coal	**Natural Gas**	**Oil**
Ottumwa 1	Emery 1-3	Marshalltown 1-3
Lansing 4	Fox Lake 3	Lime Creek 1-2
M.L. Kapp 2	Sutherland 1, 3	Centerville 1-2
Burlington 1	Dubuque 3-4	
George Neal 3-4		
Prairie Creek 3-4		
Louisa 1		

In terms of energy production, approximately 43 percent of IPL's energy is delivered from coal-fired resources. The DAEC nuclear facility comprises about 19 percent of IPL's electric generation. Wind resources provide approximately 9 percent. Also, a large share of IPL's energy requirements is met with purchases from wholesale energy markets.

[5] The units listed are only those greater than 25 MW of nameplate capacity.

Table 4: IPL Energy Production[6]

Sources of electric energy	000s MWh's (2014)	Percent
Coal	7,092	42.9%
Purchased Power		
Nuclear (DAEC)	3,113	18.8%
Wind[7]	798	4.8%
Other	3,802	23.0%
Gas	1,069	6.5%
Wind	622	3.8%
Other	12	0.2%
Total	**16,528**	**100%**

III. LOAD AND CAPABILITY

IPL expects capacity shortfalls in 2015 and 2016, which the Company will meet with short-term, purchased capacity. By 2017, IPL expects to complete construction of its approximate 650 MW combined cycle Marshalltown Generation Station (MGS), located in Marshalltown, Iowa. When MGS is in-service, IPL does not expect to encounter further capacity shortfalls until 2022.

IPL's capacity need is identified by the difference between its MISO planning reserve margin (PRM) requirement and the sum of its accredited generating capability, including existing purchases. Table 5 on the next page shows this calculation, which is commonly referred to as a utility's load and capability (or L&C).

MISO Planning Years begin on June 1st and run through May 31st of the following year. Every load-serving entity (LSE) must meet its annual planning reserve margin requirement with zonal reserve credits (ZRCs)—typically equivalent to one megawatt—which is a credit for owning resources that count towards MISO resource adequacy. As shown in Table 5, IPL's 2015 shortfall is projected to be 96 ZRCs, and its 2016 shortfall is projected to be 180 ZRCs.

[6] For Table 4, Staff used 2014 actual values, from the Company's SEC Form 10-K, filed February 25, 2015.
[7] All or some of the renewable energy attributes associated with IPL's wind generation may be used in future years to comply with renewable energy standards, or sold to third parties as renewable energy credits.

Table 5: IPL Projected Load and Generating Capability Data (including Marshalltown)

Planning Year	IPL Obligation (MW)	Total Resources (MW)	IPL Position, Surplus/(Deficit), (MW)
2015-16	2,925	2,829	**(96)**
2016-17	2,950	2,771	**(180)**
2017-18	2,975	3,066	92
2018-19	3,000	3,068	68
2019-20	3,022	3,080	58
2020-21	3,048	3,080	33
2021-22	3,073	3,073	0
2022-23	3,098	3,073	**(25)**
2023-24	3,126	3,073	**(53)**
2024-25	3,153	3,069	**(84)**
2025-26	3,181	2,790	**(391)**
2026-27	3,210	2,790	**(419)**
2027-28	3,238	2,783	**(455)**
2028-29	3,267	2,637	**(630)**
2029-30	3,296	2,637	**(659)**

IPL's L&C table shows a decline in total resources in the short-term, declining further after MGS is placed in-service. This is because IPL is in the process of retiring some of its units not likely to be economic in light of recently promulgated environmental rules. In IPL's Petition, the Company differentiates its generation fleet by "tiers." Basically, Tier 1 units consist of IPL's largest coal-fired facilities at which IPL will install emissions controls to extend the units' useful lives for operation over the long-term. Tier 2 units include those which may require minimal emissions controls, thus extending their useful lives slightly for operation over an intermediate term. Tier 3 units are IPL's older, smaller steam units, fueled primarily by either coal or natural gas, which will be retired over the 2015-2017 timeframe.

Staff does not refer to these units specifically because IPL determines them to be Trade Secret.

Staff Comment

Capacity Purchases. To seek additional information regarding IPL's plans to meet its 2015 and 2016 Planning Year capacity deficiencies, Staff issued PUC IR #1, requesting IPL to explain the amount of capacity purchased and for which years of the planning period those purchases would apply. In response, IPL explained that circumstances have changed such that "IPL did not need to purchase capacity to meet its obligation for Planning Year 2015-16." Furthermore, "[t]he final capacity requirements for planning year 2016-17, including load, resource credits, and MISO

considerations, will not be known until fall 2015."[8] In other words, IPL is resource adequate for 2015, although it still appears a capacity deficit exists in 2016. Because IPL still expects MGS to be in-service in 2017, IPL believes it will have a capacity surplus in the intermediate term.

Marshalltown Generation Station. As discussed above, IPL's short-term resource adequacy position (and the expansion plan which follows it) in large part hinges on accredited capacity from its MGS facility, expected in 2017. However, in its Definitive Planning Phase study, MISO identified several Multi-Value Projects and other transmission upgrades necessary for MGS to receive unconditional transmission access. Until this time, MGS could be operational but may not be granted capacity accreditation.[9]

Staff issued PUC IR #2 in order to seek the most up-to-date information regarding the status of accredited capacity at MGS. This is important because IPL will likely face a significant capacity shortfall (or at least its strategic plan might be very different for Planning Year 2017) if MGS is operational but is not granted capacity accreditation. Much of IPL's response to PUC IR #2 is designated as Trade Secret. However, IPL did disclose the following:

> MGS will continue to have a conditional Generation Interconnection Agreement (GIA) until the MVP5 projects are completed, which is currently estimated to be by 2020. The MVP5 projects represent two separate high voltage (345 kV) transmission projects located in western Wisconsin. These new lines improve the transmission interconnection between Iowa, Minnesota and Wisconsin … Based on what is known at this time, IPL expects to receive capacity accreditation for MGS in 2017.

IV. ACTION PLAN

In addition to the completion of MGS and short-term capacity purchases, IPL proposes to add 100 MW of wind power to its system annually, beginning in 2019, for a total of 1,100 MW of wind by the end of the planning period (in nameplate capacity terms). Also, IPL incorporates into the model enough solar energy to satisfy its requirement for the Minnesota Solar Energy Standard (SES), which amounts to about 10 MW of nameplate capacity and 5 MW of resource adequacy. IPL also assumes the extension of an existing wind PPA in 2019.

Table 6 below shows IPL's proposed expansion plan, and its total capacity position, through the 2020-21 Planning Year.[10] Note that in the table below, all resources are quantified on the basis

[8] IPL Response to PUC IR#1.

[9] MISO conducts various reliability studies to ensure LSEs have adequate resources to meet MISO's forecasted peak load obligations plus a reserve margin. Only accredited capacity assigned to electric generating units (EGUs) from the MISO resource adequacy process is available to meet these requirements. To connect to the transmission system, MISO requires an EGU to obtain an interconnection agreement. In order for an EGU to receive accredited capacity, it must, among other requirements, satisfy all transmission requirements identified in its interconnection agreement prior to the MISO planning year. New EGUs like Marshalltown, may not initially receive accredited capacity based on the inability to satisfy all identified transmission requirements. Therefore, accredited capacity may not be granted to such EGUs until all identified transmission requirements are resolved.

[10] Section 10 of IPL's resource plan includes a complete L&C table, with all new supply-side additions, through

of MISO accredited capacity, not nameplate capacity.[11] Since, in MISO, wind power is accredited with an approximate 14 percent Effective Load Carrying Capacity, the 100 MW of nameplate wind proposed in the expansion plan is equivalent to approximately 14 MW of accredited capacity in MISO.

Table 6: IPL's Load and Capability (Including MGS), After Resource Additions (in MW)

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Existing Resources	2,403	2,344	2,640	2,642	2,654	2,667
Existing Purchases	426	426	426	426	426	413
New Units						
Purchases	100	200				
Wind					14.1	28.2
Forced Solar						4.9
Combined Cycle						
Wind PPA ext.					12.7	12.7
Total Resources	2,929	2,971	3,066	3,068	3,107	3,126
Capacity Surplus	5	20	91	68	84	78

Note: IPL's Total Resources for 2015 is 100 MW higher in Table 6 than in Table 5, due to the IRP's 100 MW capacity purchase.

To satisfy its long-term capacity deficit, IPL's preferred plan includes a 600 MW natural gas combined cycle unit in 2025, along with the aforementioned 100 MW annual wind additions.

Staff Comment

On April 28, 2015, IPL issued a Request for Proposals (RFP) to solicit bids for the acquisition of up to 200 MW (nameplate) of wind power supply, to be delivered to the IPL load zone and sourced from within the MISO footprint and more specifically, from within the State of Iowa. The Company seeks proposals that can commence delivery on or about January 1, 2017, which is two years prior to the wind additions included in the Proposed Plan.

V. PARTY POSITIONS

The Department is the only intervening party in this case. The Department's recommendation is for the Commission to approve IPL's resource plan, with modifications.

2030. However, to edit for space, Staff chose to include only those years until SES compliance.

[11] Nameplate capacity represents the nominal amount of electricity an Electric Generating Unit (EGU) is designed to produce. Each EGU is also assessed amount of accredited capacity from MISO through its annual resource adequacy process. The accredited capacity, assessed by MISO for each EGU, is subject to change each year and is based upon the current performance capability of the EGU and is based on historical forced outages.

A. Department's Expansion Plan

Like IPL, the Department performed a capacity expansion analysis.[12] The Department's base case resulted in the following expansion plan[13]:

Size:	CT 191.7 MW	CC 604.7 MW	WIND 100 MW	PPA 50 MW	SOLAR 10 MW	COAL 300 MW
2014	-	-	-	-	-	-
2015	-	-	-	1	-	-
2016	-	-	-	3	-	-
2017	-	-	2	-	-	-
2018	-	-	-	-	-	-
2019	-	-	2	-	-	-
2020	-	-	-	-	1	-
2021	-	-	2	-	-	-
2022	-	-	-	-	-	-
2023	-	-	2	-	-	-
2024	-	-	-	-	-	-
2025	1	-	2	-	-	-
2026	-	-	-	-	-	-
2027	1	-	2	-	-	-
2028	-	-	-	-	-	-
2029	1	-	2	-	-	-

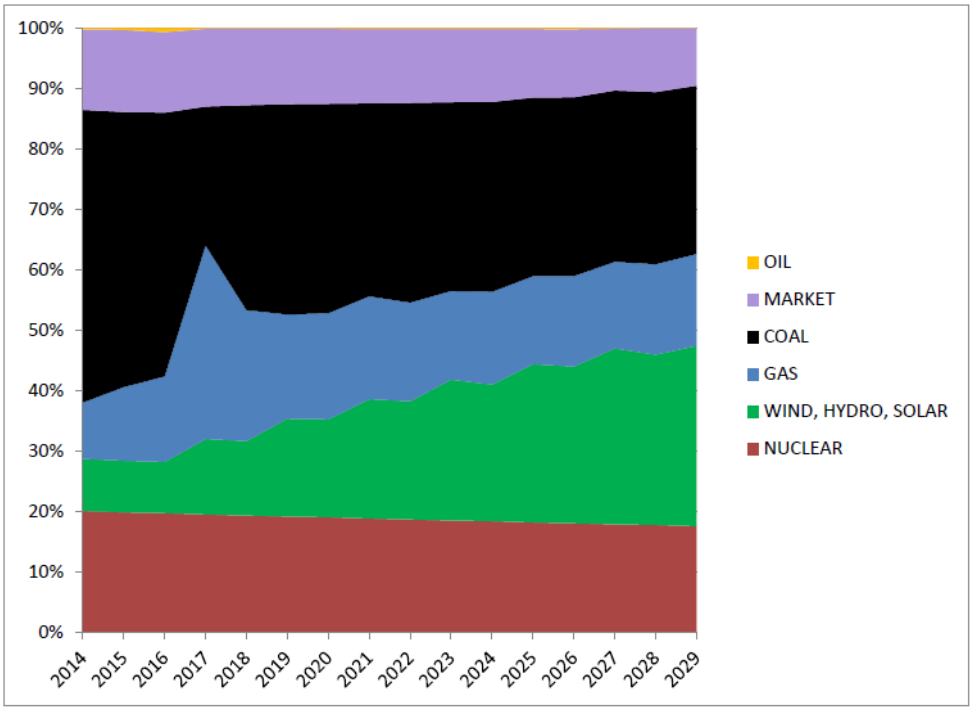
The Department's least-cost expansion plan is very similar to IPL's base case (with Minnesota Midpoint CO_2 values), with a few minor differences. Like the Company, the Department's plan selects short-term capacity purchases in 2015 and 2016; however, the Department's plan includes 50 MW less for each year. Both plans also propose considerable wind additions, but the Department's calls for more (1,400 MW instead of 1,100) units to be added sooner (2017 instead of 2018). Both plans also select roughly 600 MW of natural gas additions in the later years of the plan, but the Department's calls for three smaller Combustion Turbines (CT) installed between 2025 and 2029, while the Company's selects one large Combined Cycle (CC) unit in 2025. Finally, both plans select 10 MW of solar generation in 2020 to meet IPL's Minnesota Solar Energy Standard (SES).

The Department concluded that the most appropriate expansion plan is that shown in the table above, but with 100 MW wind annually instead of 200 MW every other year. The Department's preferred plan would have the following effect on the Company's resource mix[14]:

[12] The Department's analysis differs from the Company's in three main ways. First, the Department uses a different capacity expansion model (Strategist) than the Company (EGEAS). Second, the Department adjusted some of IPL's price inputs, including adding a value for a generic coal unit and simplifying (and lowering) the values for generic solar and wind units. Third, the Department allowed Strategist to select "superfluous" units, or those that are not required to meet peak demand, but are added because they lower overall system costs.

[13] Source: "Table 10: Department Base Case Expansion Plan (units added)," Department of Commerce, Initial Comments, July 31, 2014, at page 25.

[14] Source: "Figure 6: IPL's Fuel Mix," Department of Commerce, Initial Comments, July 31, 2014, at page 26.



B. Five-Year Action Plan

Though IPL's and the Department's expansion plans are very similar overall, the parties differ slightly in their recommendations for the five-year action plan (which begins in 2014). The Department's model, which includes CO_2 values in the base case, selected two 100 MW wind units in 2017. Thus, the Department recommends the Commission require IPL to procure 200 MW of wind by 2018. IPL's modeling, with CO_2, selected 100 MW of wind in 2018; however, IPL's Action Plan does not include any wind additions until 2019.[15] This is because IPL's preferred plan does not include the Commission's CO_2 values.

The Company argued that the Commission-approved Action Plan should not *require* the Company to add wind in the near-term, but merely to "investigate and consider" acquiring more wind. On page 5 of its Reply Comments, the Company argued that "further investigation and analysis is necessary before there is any commitment to annually acquiring (starting in about 2017) approximately 100 MW of wind resources annually or to acquiring solar resources." Instead of requiring a firm commitment to acquiring wind additions in 2017, the Company would amend the recommendation to "direct IPL to 'investigate and consider the acquisition of' wind and solar." The Company believes this "would enable IPL to continue review (over time) whether those resource additions continue to be in customers' interests."[16]

The Department, on the other hand, recommended the Commission require wind acquisitions in 2017 and 2018. The Department cited Minnesota Rules 7843.0400, subp. 3 C, which states:

[15] As discussed on pages 6-8 of this briefing paper and in greater detail in Section 7 of the Company's Initial Filing, IPL's five-year action plan also includes: short-term capacity purchases; the completion of the 650 MW MGS facility; the retirement of older steam units; and a fuel switch for the Sutherland CTs (from oil to natural gas).
[16] IPL Reply Comments, September 30, 2014, at page 5.

> The supporting information must include an action plan, a description of the activities the utility intends to undertake to develop or obtain noncurrent resources identified in its proposed plan. The action plan must cover a five-year period beginning with the filing date. The action plan must include a schedule of key activities, including construction and regulatory filings.

Since the Action Plan covers the years 2014-2018 and the Department's preferred plan includes wind additions in 2017 and 2018, the Department recommends that the Commission's approved Action Plan require the addition of 100 MW of wind in 2017 and another 100 MW in 2018.

Staff Comment

As mentioned in the Staff Comment on page 8, IPL recently issued an RFP for the acquisition of up to 200 MW of wind power supply. The RFP seeks proposals that can commence delivery on or about January 1, 2017. Thus, it appears the dispute between the Company and the Department over the five-year Action Plan may be moot. Staff invites parties to discuss the RFP's impact on the Action Plan at the upcoming agenda meeting.

C. Department's DSM Recommendation

The Department recommends that the Commission approve IPL's proposed amount of DSM, which on an annual basis averages 1.44 percent of IPL's retail sales.

VI. STATUTORY COMPLIANCE

A. Minnesota Renewable Energy Standard

Minnesota's Renewable Energy Standard (RES) requires utilities to:

> …generate or procure sufficient electricity generated by an eligible energy technology to provide its retail customers in Minnesota, or the retail customers of a distribution utility to which the electric utility provides wholesale electric service, so that at least the following standard percentages of the electric utility's total retail electric sales to retail customers in Minnesota is generated by eligible energy technologies by the end of the year indicated:
>
> - 2012 12 percent
> - 2016 17 percent
> - 2020 20 percent
> - 2025 25 percent[17]

With the current level of renewable generation on its system, IPL would not be able to satisfy its RES obligation purely through the Renewable Energy Credits (RECs) allotted to its Minnesota customers. IPL allocates the RECs from its renewable generation according to either the state's percentage of IPL's total sales (for wind PPAs) or its contribution to system peak (for utility-

[17] Minn. Stat. §216B.1691, Subd. 2(a).

owned wind facilities). But because IPL's current wind generation is less than Minnesota's RES requirement, IPL would not be able to meet its RES requirement solely from the RECs allocated to its Minnesota customers. In 2013, for example, IPL's RES requirement was 102,956 RECs, but Minnesota's share of IPL's total renewable generation totaled only 80,460 RECs.[18]

However, because Iowa's RES has a smaller mandate than Minnesota's, IPL has an abundance of unretired RECs allocated to Iowa. While Iowa's renewable portfolio standard requires IPL to generate or purchase about 50 MW of renewable energy, IPL has approximately 1,200 MW of renewable energy between its utility-owned facilities and its PPAs. Currently, the Company has an unretired REC balance of approximately 1.3 million RECs. In the past, IPL has met its RES obligation by having its Minnesota customers purchase some of these unused RECs from its Iowa customers.[19] As the Department concluded, if the Company were to continue this practice, it would have sufficient resources to meet its RES requirements through the planning period.

B. Minnesota Solar Energy Standard

In 2013, the Minnesota Legislature amended the RES statute to add a Solar Energy Standard (SES). The statute[20] requires investor-owned utilities (IOUs) to procure at least 1.5% of their retail electric sales from solar energy by the end of 2020, with at least 0.15% of retail sales coming from small-scale solar installations (systems of 20 kW or less). Both IPL's and the Department's preferred plans address the SES requirements through the addition of 10 MW of solar in 2020.

Staff Comment

Because the SES applies only to IOUs, when the asset sale is finalized, SMEC will not need to meet the 1.5% solar requirement. While IPL's Resource Plan called for 10 MW of solar additions in 2020, this was a "forced" selection, not a least-cost selection under IPL's solar price assumptions.

However, Staff notes that IPL's solar price inputs are dramatically higher than the national average for recent installations. Citing a 2013 Black & Veatch "Power Station Characterization Study," IPL estimated solar PV installation costs to be $2.8 to $3.3 per watt.[21] However, according to GTM Research, the national average for utility-scale fixed-tilt PV system installations was $1.55 per watt in the fourth quarter of 2014.[22] The price of solar PPAs has fallen dramatically over the last five years, with levelized prices consistently around $50-$75/MWh in 2014.[23] Staff believes IPL's future planning would benefit from updating its solar price inputs to reflect recent price declines.

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[18] Department of Commerce, Initial Comments, July 31 2014, at page 33.
[19] See the July 28, 2014 Order in Docket No. E001/M-12-950.
[20] Minn. Stat. §216B.1691, Subd. 2(f)
[21] IPL Resource Plan, Page 5-2, March 31, 2014.
[22] Munsell, Mike, "Solar PV Pricing Continues to Fall During a Record-Breaking 2014," *GreenTech Media*, March 13, 2015. (link)
[23] Wesoff, Eric, "GTM Research: 10 Slides That Show the Complex Future and 'Tipping Point' of US Solar," *GreenTech Media*, December 9, 2014. (Link)

C. Greenhouse Gas Reduction Goal

In addition to the RES and SES requirements described above, Minnesota statutes also include a greenhouse gas (GHG) emissions reduction goal, which states: "It is the goal of the state to reduce statewide greenhouse gas emissions across all sectors producing those emissions to a level at least 15 percent below 2005 levels by 2015, to a level at least 30 percent below 2005 levels by 2025, and to a level at least 80 percent below 2005 levels by 2050."[24] As the Table[25] below displays, IPL's preferred plan would be in compliance with the state's GHG reduction goals through the planning period.

Year	2005 CO2 Emissions, Tons	Projected CO2 Emissions, Tons	Reduction from 2005
2014	14,916,674	12,208,076	-18%
2015		11,630,616	-22%
2016		11,792,949	-21%
2017		11,267,733	-24%
2018		11,564,142	-22%
2019		10,691,488	-28%
2020		10,587,302	-29%
2021		9,783,081	-34%
2022		9,688,952	-35%
2023		9,588,499	-36%
2024		9,530,538	-36%
2025		9,306,896	-38%
2026		9,179,554	-38%
2027		9,083,481	-39%
2028		9,011,451	-40%
2029		9,053,869	-39%

VII. STAFF DISCUSSION

Generally, the Commission reviews a utility's resource plan on the basis of whether the Company demonstrates its capacity deficit is reasonably met, specifically in the five-year action plan, while meeting its renewable energy and DSM obligations. Moreover, the IRP must reasonably comply with the State's long-term greenhouse gas emissions reduction targets.

In this case, Staff believes IPL's five-year action plan reasonably meets these criteria through its ongoing construction of the 650 MW MGS (with a 2017 in-service date), its 200 MW wind RFP targeting a January 1, 2017 commercial operation date, and a possible one-year capacity purchase for 2016. Staff also agrees with the Department's conclusion that IPL's average DSM level is reasonable for planning purposes. With the Company's addition of MGS and incremental amounts of wind on its system, coupled with several unit retirements over the

[24] Minn. Stat. §216H.02, Subd. 1

[25] Source: "Table 1: No Carbon Scenario, IPL Projected CO_2 Emissions, Including Market Energy Purchases," IPL Reply Comments, September 30, 2014, at page 6.

planning period, IPL expects its 2025 carbon emissions to be approximately 40 percent below 2005 levels, which exceeds the 30 percent by 2025 reduction goal defined in Minn. Stat. § 216H.02. Thus, given IPL's resource plan and its similarity with the Department's least-cost expansion plan (with the Commission's CO_2 values), Staff recommends that the Commission approve the Company's 2014-2029 resource plan as filed.

Regarding IPL's resource planning process moving forward, IPL will still be required to submit resource plans once the IPL-SMEC transaction is completed. Under Subdivision 2 of Minn. Stat. § 216B.2422 (the IRP statute), utilities subject to filing resource plan include those "with the capability of generating 100,000 kilowatts or more of electric power and serving, either directly or indirectly, the needs of 10,000 retail customers in Minnesota." Thus, during the 10-year initial period of the Wholesale Power Agreement (and perhaps thereafter), IPL will be an entity that meets this definition. IPL and SMEC came to the same conclusion in their asset sale docket.[26]

However, as staff understands it, the impacts of the pending SMEC sale on the Company's IRP process are at least twofold. First, as IPL notes in its reply comments, SMEC will be responsible for satisfying the Minnesota RES, and, therefore, IPL's future resource plan filings will not include SMEC's plans for RES compliance. Second, the nature of the Commission's review of IPL's resource plans will become an advisory one, not one in which the Commission must approve, reject, or modify the plan, pursuant to Minn. Stat. § 216B.2422. IPL's generation will instead be approved by the Iowa Utilities Board and its wholesale customers, and IPL's rates will no longer be under the Commission's jurisdiction.

With regard to the content of the filings, IPL's subsequent resource plans will presumably still include the Company's proposed expansion plan, which may include renewable energy additions and how Renewable Energy Credits (RECs) are allocated between Iowa and Minnesota. Additionally, IPL will include an explanation of projected energy served by fuel source, even though there will be no MPUC rate recovery proceeding tied to those decisions.

The Commission could discuss with IPL at the hearing the Company's (or Commission's) expectations of the future resource plan filings' content. As the Commission is well-aware, resource plan filings are generally comprehensive, voluminous documents. Staff is uncertain whether IPL develops and presents its resource plans similarly across service territories, which is the case, for the most part, for other multi-jurisdictional utilities operating in Minnesota. If IPL's Minnesota resource plan is unique for Minnesota processes, the Commission and IPL could discuss, at a high level, what information would be useful for future IRP proceedings.

One decision option included in the next section but not recommended for adoption by staff is the recommendation that IPL be found in compliance with its 2014 RES obligations. Findings of RES compliance are typically made in the Commission's biennial RES docket, which happens to be scheduled for this same agenda meeting. Findings of RES compliance are no longer made in resource plans. The biennial docket gathers specific information from each of the 16 utilities subject to the RES and is subject to a notice and comment period from stakeholders. The Commission has specifically declined to make RES findings in resource plan dockets even when

[26] See, e.g., pages 26-27 of IPL and SMEC's September 4, 2014 joint comment in Docket 14-322.

recommended by parties[27], to avoid duplication and for other reasons listed in the briefing papers for this year's biennial RES docket.

Finally, the Commission often includes in its IRP Order a variance of the "July 1st of every other year" filing date requirement defined in Minn. Rule 7843, Subpart 2. Staff includes as a decision option a proposed filing date of July 1, 2017 for IPL's next resource plan, although the Commission could certainly select another date as it deems appropriate and reasonable.

[27] For example: "The Commission takes no action on the question of whether Minnesota Power is in compliance with its renewable energy requirements. The Commission will address this issue in a pending, industry-wide proceeding." ORDER ACCEPTING RESOURCE PLAN AND REQUIRING COMPLIANCE FILINGS, E015/RP-09-1088, Issued May 6, 2011, page 7. The Commission has declined to make an RES finding in the last several resource plans filed with the Commission, to keep that matter contained within the biennial RES docket.

Decision Options

Approval

1. Approve Interstate Power & Light's 2014-2029 Resource Plan, as filed (IPL, Staff); **OR**,

2. Approve Interstate Power & Light's 2014-2029 Resource Plan, with modifications (*Department*); **OR**

3. Reject Interstate Power & Light's 2014-2029 Resource Plan.

Modifications

4. Require IPL to acquire 100 MW of wind resources annually in 2017 and 2018. (*Department*)

Findings of Fact

5. The record demonstrates that IPL's resource plan should use short term power purchase agreements to cover capacity deficits until IPL's new Marshalltown combined cycle unit comes on-line in 2017 (*Department*);

6. The record demonstrates that IPL's resource plan should acquire 100 MW of wind resources annually in 2017 and 2018 (*Department*);

7. The record demonstrates that IPL's resource plan should acquire solar resources required by the Minnesota Solar Energy Standard by 2020 (*Department*);

8. IPL is in compliance with its 2014 RES obligations (*Department*).

9. IPL's proposed amount of DSM, which on an annual basis averages 1.44 percent of IPL's retail sales, is reasonable for planning purposes (*Department*)

10. IPL has monitored the important environmental regulations that will impact its resources and operations. (*Department*)

Next Resource Plan

11. IPL must update its analysis of its progress towards meeting Minnesota's greenhouse gas reduction goal once the Commission has approved a method for all electric utilities to use (*Department*)

12. IPL shall file its next resource plan on July 1, 2017

Staff recommends: 1, 12 (Staff does not oppose Options # 5, 6, 9, and 10)