10/23/2025

Motion to Intervene

In his letter regarding Burlington Electric Department's ("BED") troubling pattern of regulatory errors, inconsistencies, and shortfalls dated August 29, 2025, Mr. Johnson writes:

> Having said that, as documented in its Service Quality and Reliability Plan (SQRP) metrics, the Department believes it is important to note that BED delivers reliable service to its customers. Further, the Department receives very few complaints from BED's customers, and we note that BED seems to mostly enjoy strong customer support as evidenced by recent bond votes. Most importantly in this context, we do not believe that BED is intentionally obscuring facts or engaging in actions for any malicious purposes.

I do not dispute the reliability of my electric service as a Burlington Electric rate payer. However, without fully understanding Mr. Johnson's caveat "in this context," I do dispute the suggestion that BED is not intentionally obscuring facts. There are several instances of deliberate misinformation designed to obscure facts on this BED webpage: https://www.burlingtonelectric.com/mcneil/

One misleading claim found on this web page in response to the "myth" that McNeil is too costly. BED claims:

> **Fact** – McNeil has insulated Vermont ratepayers from past volatile and high energy prices on the regional grid in New England, particularly during the summer and winter peak times. **Without McNeil's operation in fiscal year 2023 alone, BED would have been required to seek an approximate 20% rate increase** to compensate for the higher power costs (this would have been in addition to the 3.95% rate increase that year).

BED admitted in case 23-3799 that it has not performed any recent cost-benefit analysis on McNeil which would support this claim, it sought a protective order to avoid producing documents that would help understand this claim, and, in fact, produced financial documents that question the validity of this claim. I and other members of the public have complained about such misinformation as found on the website for years, but to no avail. The average annual day ahead price for ISO-NE energy has been well below the cost of producing energy at McNeil. A power purchase agreement for ISO-NE energy would both eliminate concerns about price volatility and high energy prices.

Another misleading claim on this web page is in response to the "myth," *I see smoke and pollution coming from McNeil*:

> **Fact** – **The most prominent visible phenomenon at the facility is water vapor** from the cooling towers that is visible when the plant is operating. This is not smoke but moisture suspended in the air which is a result of cooling water. To the extent that "smoke" is visible coming from the stack, the majority of the visible stack discharge is, in fact, steam. Thanks to McNeil's pollution control equipment, installed in 2008, emissions are far below what federal and state permits require.

While the statement is not untrue, it deliberately misleads the general public by suggesting that McNeil emits no pollution, only water, when in fact it annually emits, in addition to about 400,000 tons of CO2, about 5 tons of PM 2.5 and VOCs.

But the misleading information is not just found on its website. A resolution passed by the Burlington city council on 11/20/2023 and signed by the mayor on 11/28/2023 required the BED general manager:

> Study the potential timeframes of plans to transition away from the need for conventional wood chip combustion as a significant power source for the City of Burlington, including but not limited to the possibilities of repowering the McNeil plant with different fuels that would reduce greenhouse emissions and for this study to be completed and presented to the Burlington City Council no later than the first City Council meeting of November 2024….

To comply with this directive, on October 15, 2024, close to a year later, Mr. Springer provided a slide deck presentation dated 11/7/2023, *twenty-one days prior to the enactment of the resolution*, that analyzed the feasibility of 1-hour resource planning assuming a 100% capacity factor, and assuming BED was responsible for replacing all of McNeil energy rather than 50%. The slide deck presentation did not consider hydroelectric power, nor did it address the directive found in the resolution. The slide deck was, in fact, older than the resolution itself, but Mr. Springer presented it as work performed to meet the directive and work which found that it there were no alternatives to McNeil. The public takeaway from Mr. Springer's presentation was that "there are no viable green alternatives to McNeil:"

https://www.wcax.com/2024/10/15/report-finds-no-viable-green-alternative-burlingtons-mcneil-generating-plant/

BED ratepayers (and city councilors), who don't and shouldn't need to understand the differences between annual vs. 1-hour granularity or capacity factors, expect and rely on BED management to provide accurate information.

This BED investigation is based on BED filings over the last four years, and DPS and the Commission well understand these filings. It is also important for the public, DPS, and the Commission to understand when and how BED might have obscured facts, or provided inconsistent information at the municipal level. DPS and the Commission are less able to facilitate an investigation at the municipal level. I therefore seek intervenor status with a particularized interest based on my knowledge of municipal BED documents and meetings to ensure that the information BED has provided city council and the Burlington Electric Commission has been accurate.

Thank you for considering this request.

Pike Porter
Burlington resident and BED ratepayer.

Exhibits

100% RENEWABLE RESOURCE PLANNING AND TECHNICAL ANALYSIS AT HOURLY GRANULARITY

Burlington Electric Department-ProsumerGrid

Final Presentation

November 7, 2023

ProsumerGrid™

ProsumerGrid Project Team

Marcelo Sandoval, PhD, MBA, PMP
CEO & Co-founder

Santiago Grijalva, PhD,
Chairman, CTO & Co-founder

John Higley
VP Industry Engagement &
Co-founder

Sadegh Vejdan, PhD
VP Optimization

David Padilla, Msc
Lead Software Engineer

ABB intel EATON NREL NATIONAL RENEWABLE ENERGY LABORATORY PowerWorld Corporation Deloitte. ENERGY MANAGEMENT ASSOCIATES, INC. New York ISO Independent System Operator EPMAPS

Offices in Brookhaven, GA and Binghamton, NY.

ProsumerGrid™

McNeil Equivalence Analysis

Table 2: Project Deliverables

Deliverables	End of Week
1: Kickoff Meeting Requirements Presentation	1st Week
2: Requirements Elicitation Presentation	2
3: Two McNeil Equivalence Scenarios (McNeil Evaluation: Solar plus Storage; Wind plus Storage)	3
3: Resources and Load Data Assumptions Presentation	4
4: Optimal Resource Planning B.1 Presentation	6
5: Optimal Resource Planning B.2 Presentation	8
6: Scenario Results Presentation	10
7: Final Presentation	12

Equivalence Analysis Objective and Problem Statement.

- ProsumerGrid was tasked with running the following equivalence analyses:
  - Find the lowest capacity values and hour-by-hour energy schedule of **solar power generation** and **storage** (charge and discharge) that are **equivalent to the 8760 hourly McNeill Power Output**
  - Find the lowest capacity values and hour-by-hour energy schedule of **wind power generation** and **storage** (charge and discharge) that are **equivalent to the 8760 hourly McNeill Power Output**
  - Find the lowest capacity values and hour-by-hour energy schedule of **solar, wind power generation** and **storage** (charge and discharge) that are **equivalent to the 8760 hourly McNeill Power Output**
- The analyses was constraint by the 8760 time series data for the McNeill power output, solar & wind power output profiles and energy storage model.
- These equivalence analyses were run for the case when curtailment is allowed and when it is not.
- ProsumerGrid used its Grid+DER Planning Studio™ Software that uses an integrated optimization model. More details about the mathematical optimization models can be found at [1], [2].

[1] ProsumerGrid, EPRI. "Incorporating Energy Storage Resources into Long-Term Capacity Planning Models: An Assessment of the Inclusion of Specific Features on Battery Deployment in the Southeastern United States".
[2] ProsumerGrid, Sandia National Labs. "Optimal DER Portfolio Design". SANDIA REPORT SAND2022-11264 Printed August 2022.

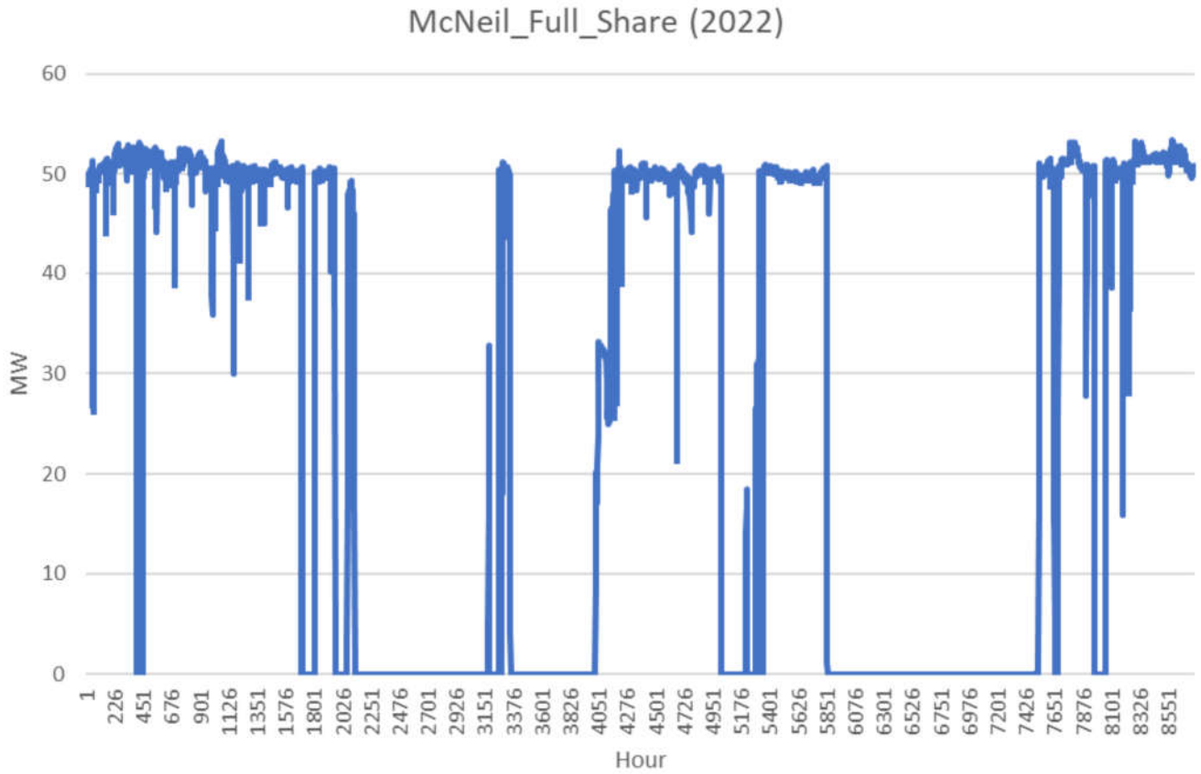
McNeil Equivalence Scenario 1: Solar + Storage

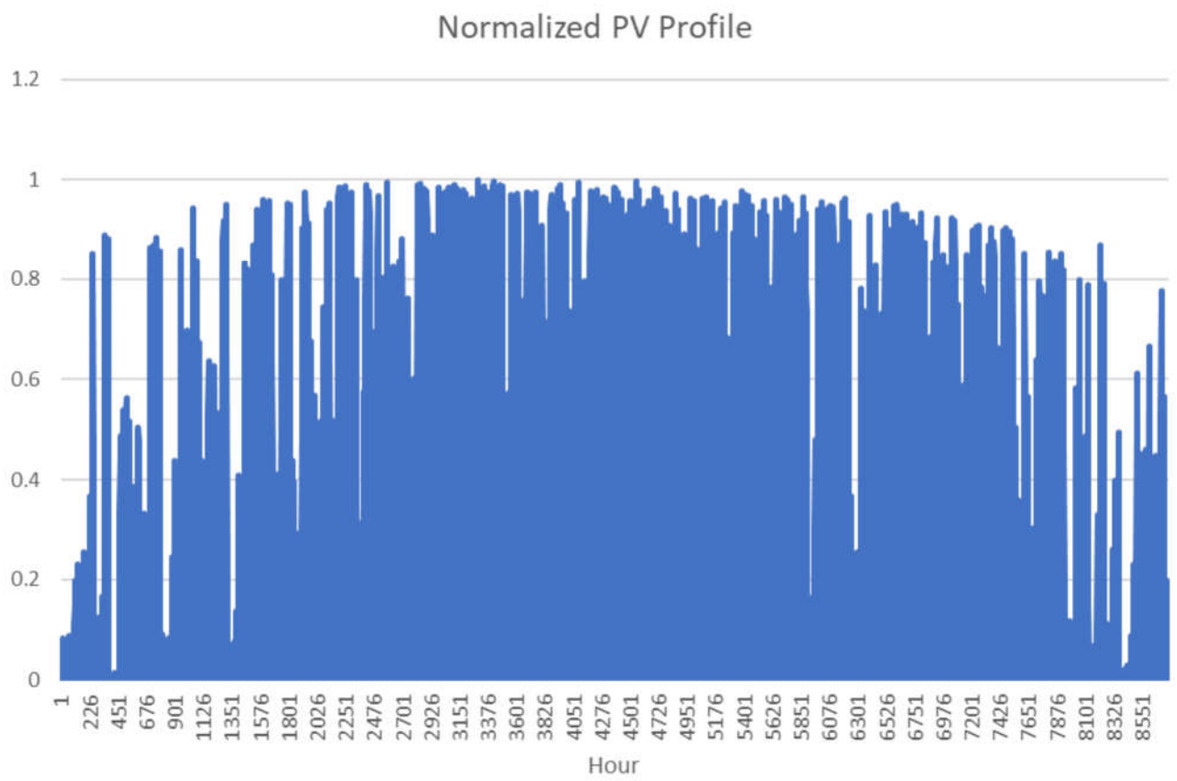
- The objective is to find the solar PV and storage minimum capacities to provide a combined output power equal to the McNeil output for every hour within the simulation horizon.

$$P_{McNeil}(t) = P_{solar}(t) + P_{storage\_discharge}(t) - P_{storage\_charge}(t) \quad \forall t$$

- Based on the data availability, year 2022 is selected as the simulation year.
- The eight solar PV output profiles are averaged and normalized in order to model the normalized profile of the equivalent solar PV.
- A 4-hr Li-Ion battery with 95% roundtrip efficiency is used as the energy storage option.
- Hourly McNeil output (McNeil_Full_Share) for year 2022 is used as $P_{McNeil}(t)$.
- Two cases are considered:
  1. Excess solar generation can be curtailed.
  2. Curtailment is disallowed and all the solar generation needs to be “used”.

McNeil Equivalence Scenario 1: Solar + Storage



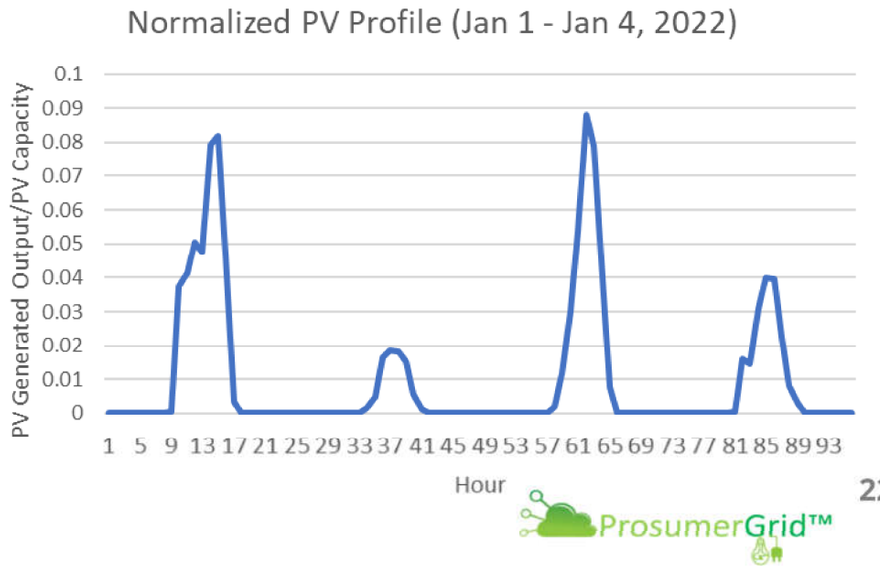


McNeil Equivalence Scenario 1: Solar + Storage

- The optimization simulation results in the following solar and storage capacities:

Case	Solar PV Capacity (MW)	Battery Storage Capacity (MW/MWh)	Solar PV Energy (GW)	Storage Net Loss: discharge - charge (GWh)
With Curtailment	1761	1320/5278	232	3
Without Curtailment	914	5405/21619	1438	1209

- The solar profiles show very low capacity factors for some days that might be due to the cloudy sky. For these days, a large PV capacity is required to match the McNeil output.
- Disallowing curtailment reduces solar PV capacity but requires a larger the battery capacity to store all the excess solar generation.



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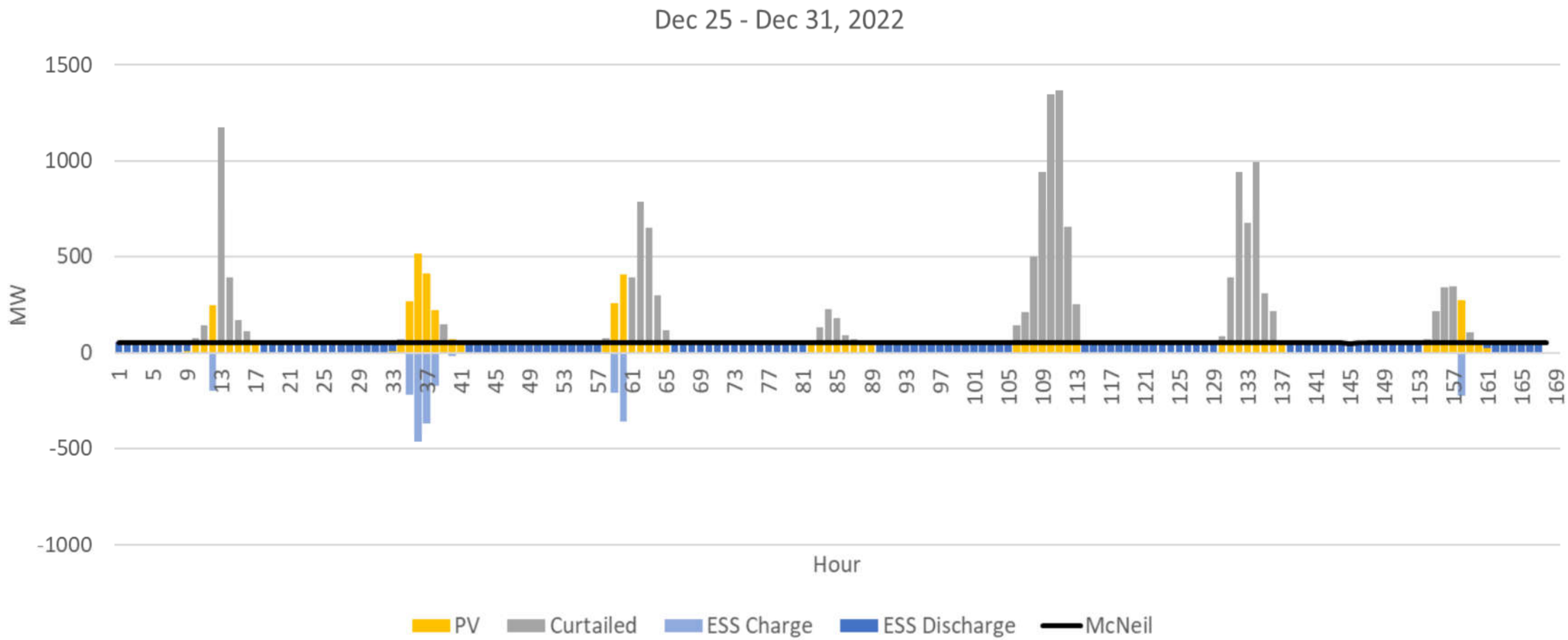
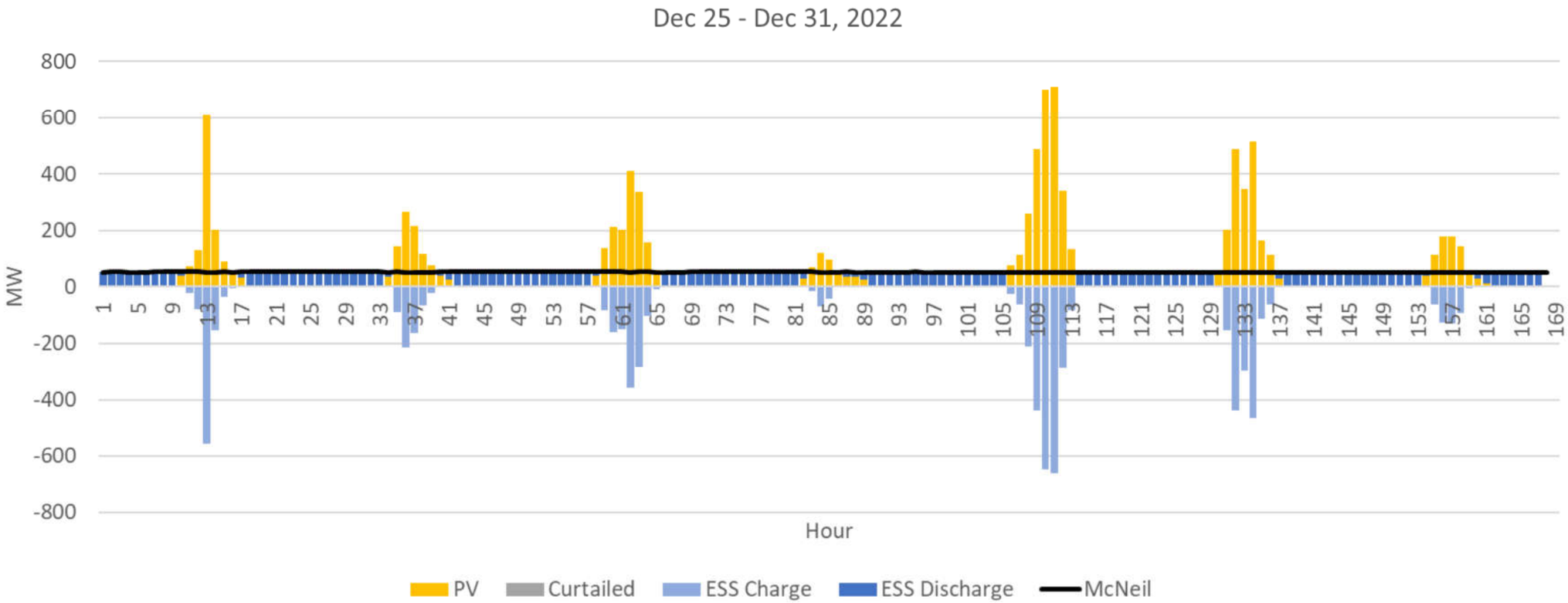
McNeil Equivalence Scenario 1: Solar + Storage (with curtailment)

- With curtailment, solar capacity is selected to be very high while excess generation is curtailed.



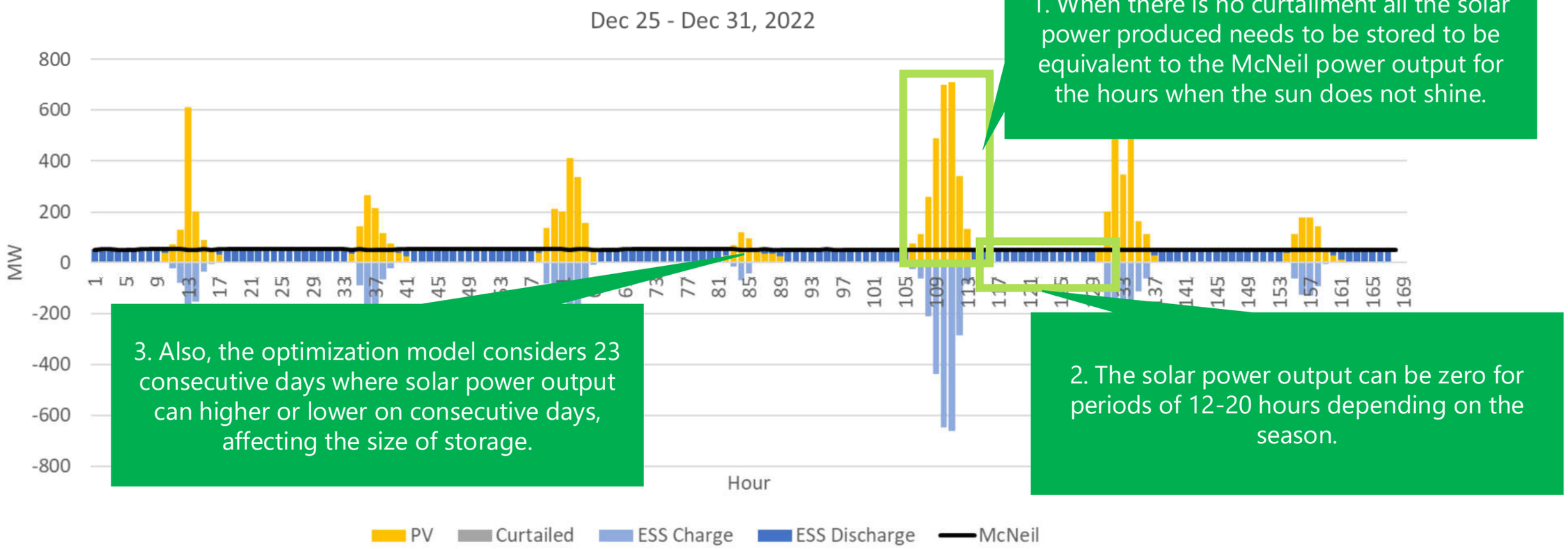
McNeil Equivalence Scenario 1: Solar + Storage (without curtailment)

- Without curtailment, solar capacity is lower but the excess generation needs to be stored completely requiring a larger battery capacity.



McNeil Equivalence Scenario 1: Solar + Storage (without curtailment). Additional Insights.

- Without curtailment, solar capacity is lower but the excess generation needs to be stored completely requiring a larger battery capacity.



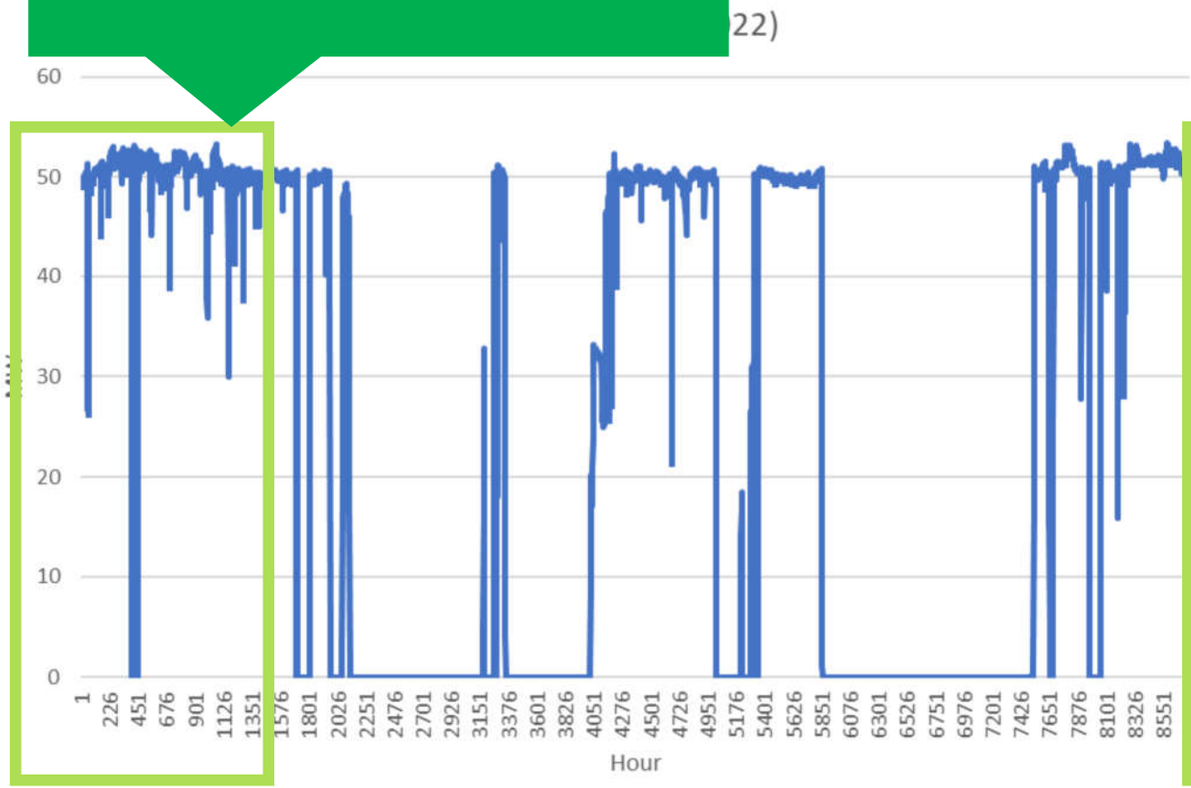
1. When there is no curtailment all the solar power produced needs to be stored to be equivalent to the McNeil power output for the hours when the sun does not shine.

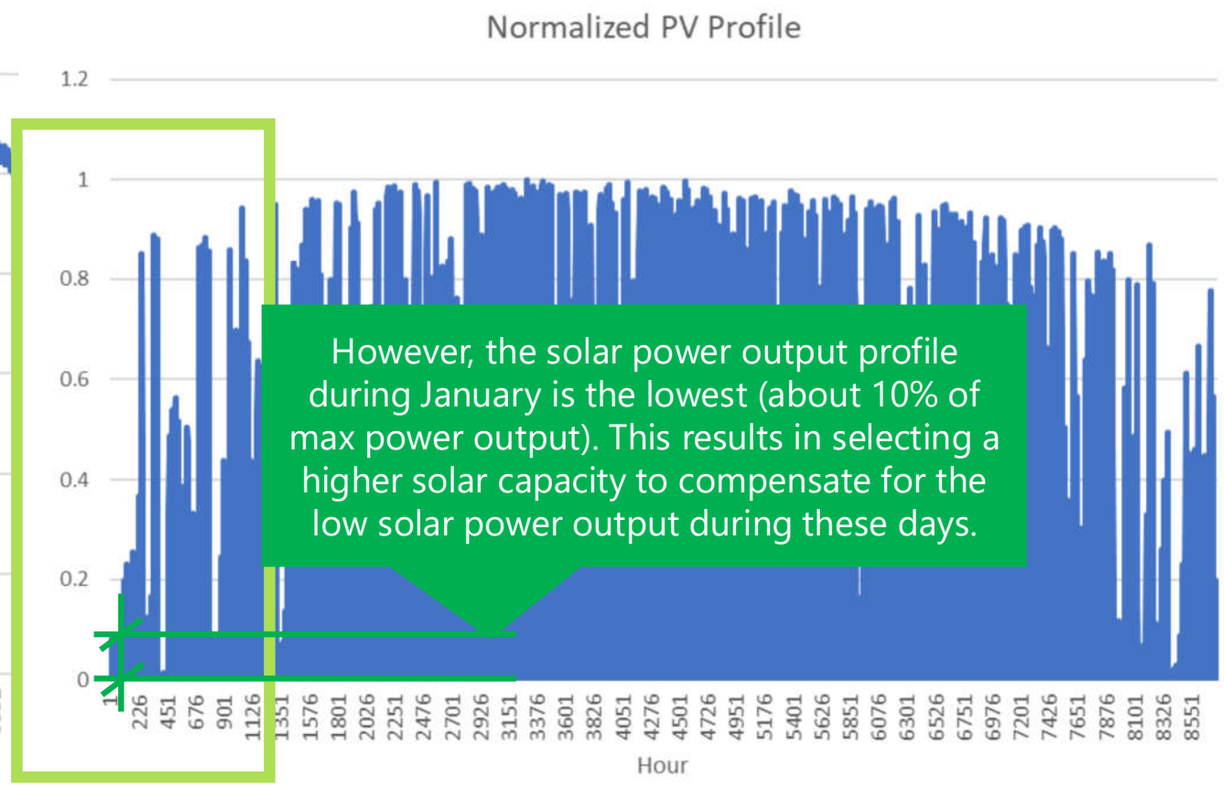
2. The solar power output can be zero for periods of 12-20 hours depending on the season.

3. Also, the optimization model considers 23 consecutive days where solar power output can higher or lower on consecutive days, affecting the size of storage.

McNeil Equivalence Scenario 1: Solar + Storage. Additional Insights.

McNeil Power output is above 51 MW during January, February.





However, the solar power output profile during January is the lowest (about 10% of max power output). This results in selecting a higher solar capacity to compensate for the low solar power output during these days.

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McNeil Equivalence Scenario 1: Solar + Storage (without curtailment). Question

- The optimized solar capacity may seem to high. A quick calculation shows to match the annual McNeil energy (~438GWh = 50MW*8760hrs, assuming 100% capacity factor), there needs to be a ~385MW solar PV (assuming a 13% capacity factor).
- However, as shown in the previous slide, the solar capacity factor during the first 23 days is very low ~5.4% while McNeil capacity factor is very high ~96% (of 50MW). Equating the generated energy from both resources results in ~890MW of minimum solar PV.
- Accounting for energy storage and its conversion losses, the optimized solar PV capacity of 914MW seems reasonable and justified.

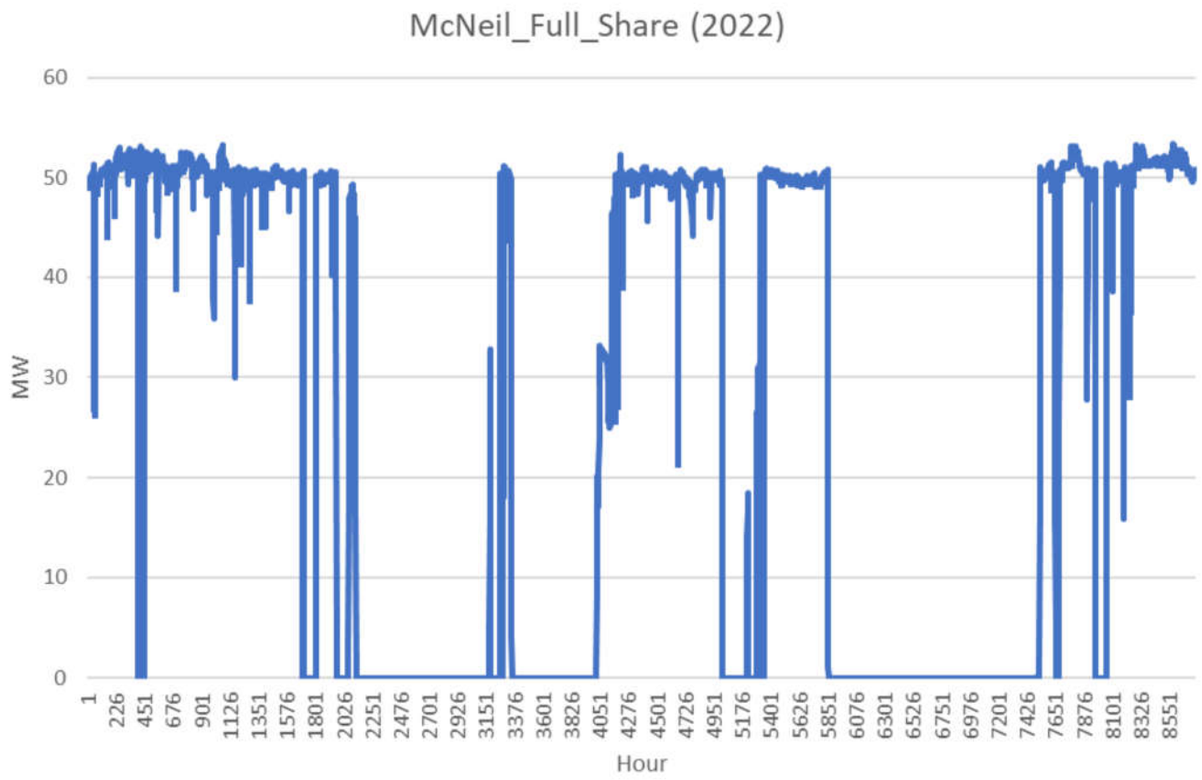
McNeil Equivalence Scenario 2: Wind + Storage

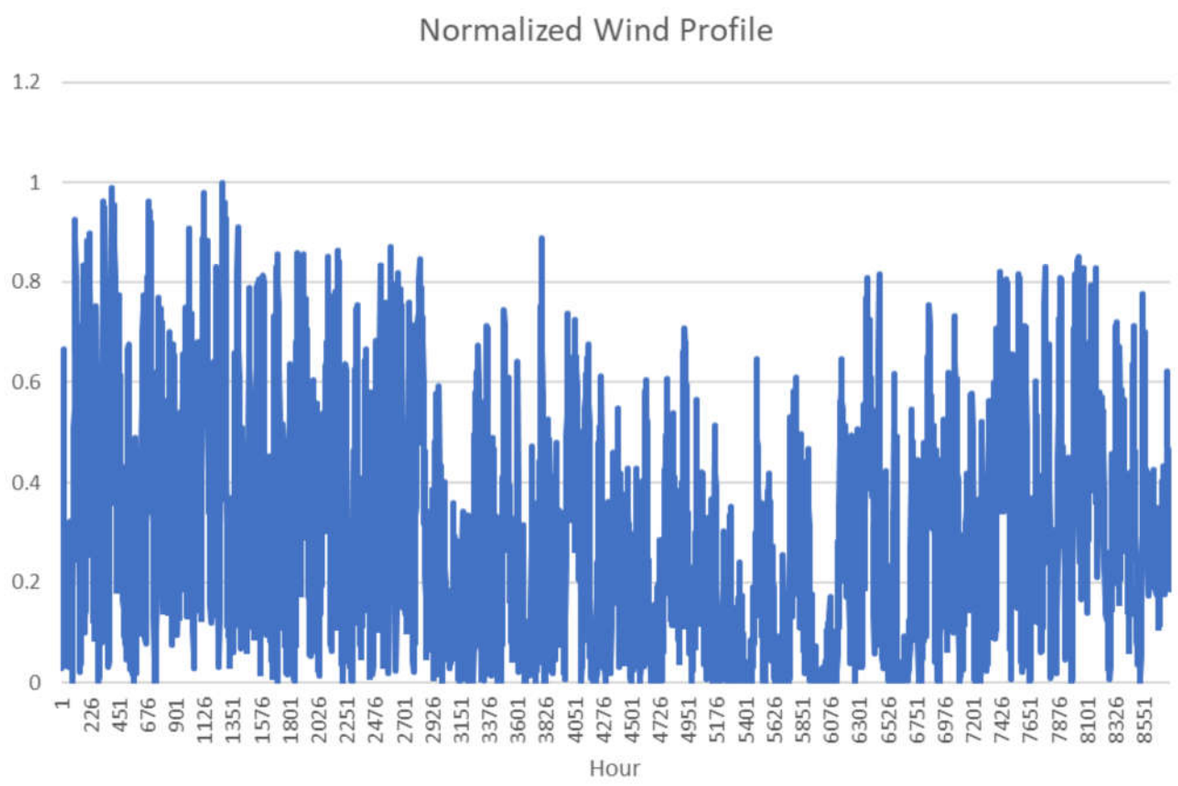
- The objective is to find the smallest wind and storage capacities to provide a combined output power equal to the McNeil output for every hour within the simulation horizon.

$$P_{McNeil}(t) = P_{wind}(t) + P_{storage-discharge}(t) - P_{storage-charge}(t) \quad \forall t$$

- Similar to scenario 1, year 2022 is selected as the simulation year.
- The three wind output profiles are averaged and normalized in order to model the normalized profile of the equivalent wind generation.
- A 4-hr Li-Ion battery with 95% roundtrip efficiency is used as the energy storage option.
- Hourly McNeil output (McNeil_Full_Share) for year 2022 is used as $P_{McNeil}(t)$.
- Two cases are considered:
  1. Excess wind generation can be curtailed.
  2. Curtailment is disallowed and all the wind generation needs to be “used”.

McNeil Equivalence Scenario 2: Wind + Storage





McNeil Equivalence Scenario 2: Wind + Storage

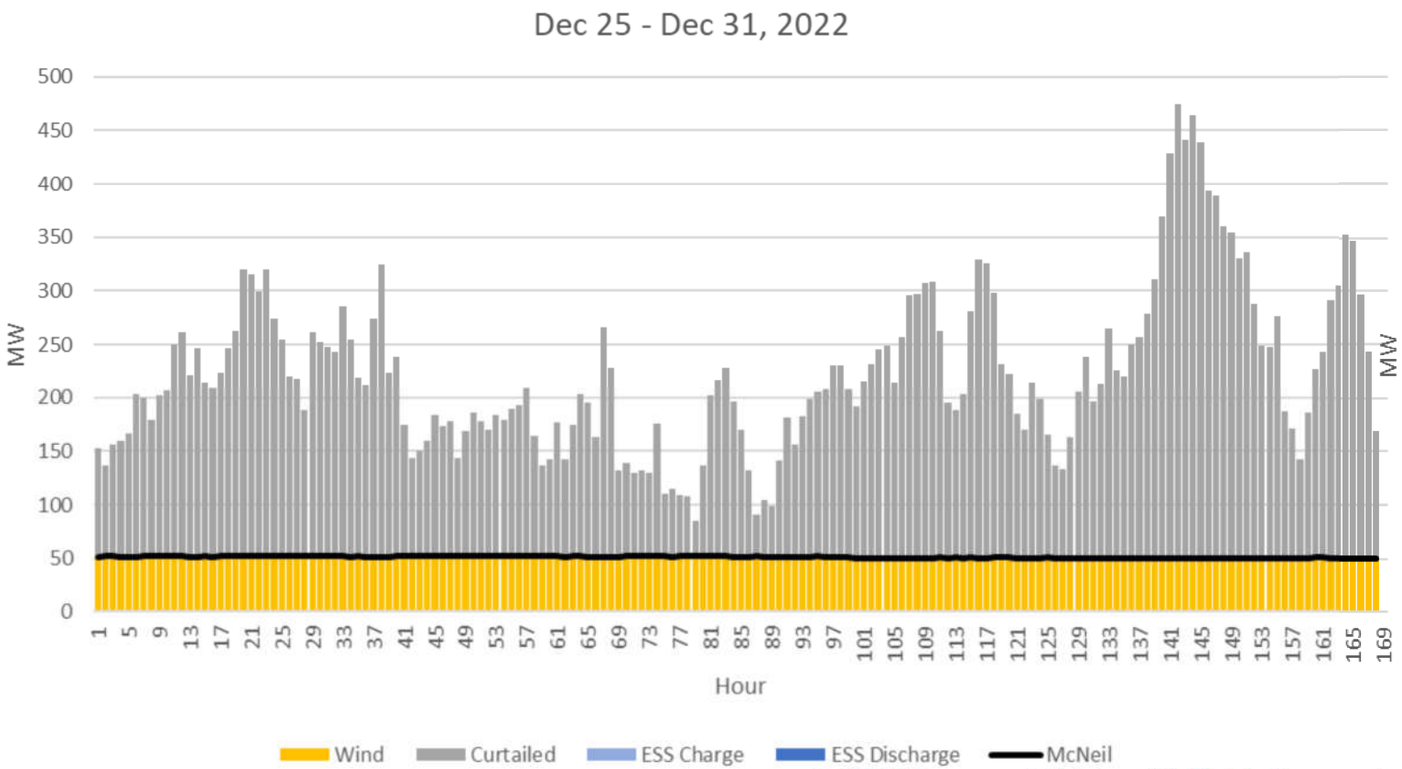
- The optimization simulation results in the following solar and storage capacities:

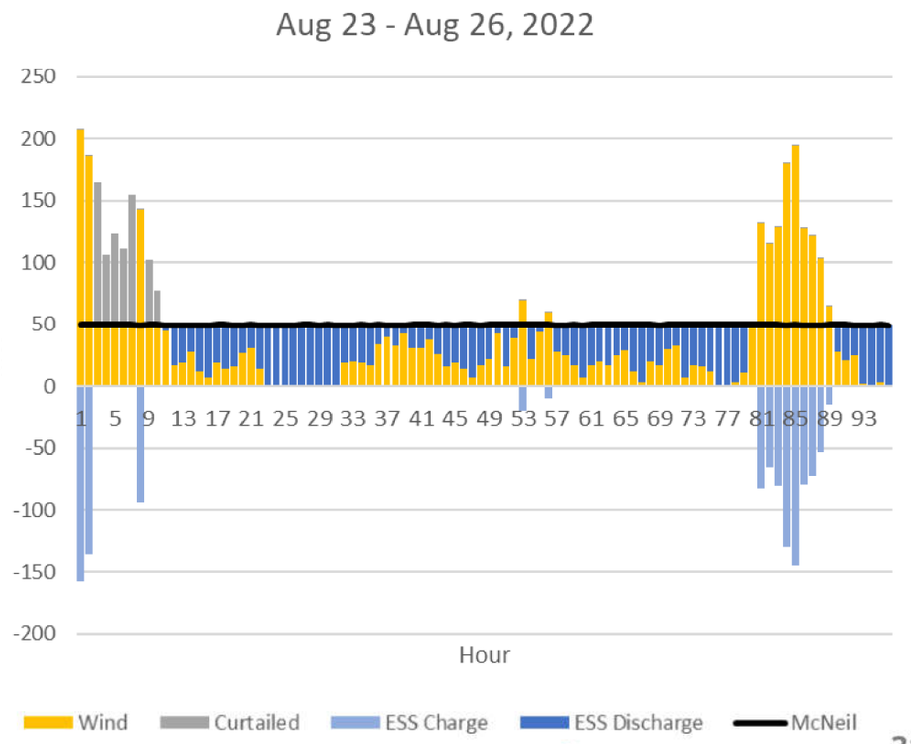
Case	Wind Capacity (MW)	Battery Storage Capacity (MW/MWh)	Wind Energy (GWh)	Storage Net Loss: discharge - charge (GWh)
With Curtailment	763	765/3059	229	0.4
Without Curtailment	355	3062/12248	925	696

- Compared to solar profiles, wind profiles have a higher capacity factor and are more distributed over the hours of the day (not just limited to day time). Therefore, the optimized wind capacity is less than half of solar optimized capacity.
- Disallowing curtailment reduces wind generation capacity but requires a larger the battery capacity to store all the excess wind generation.

McNeil Equivalence Scenario 2: Wind + Storage (with curtailment)

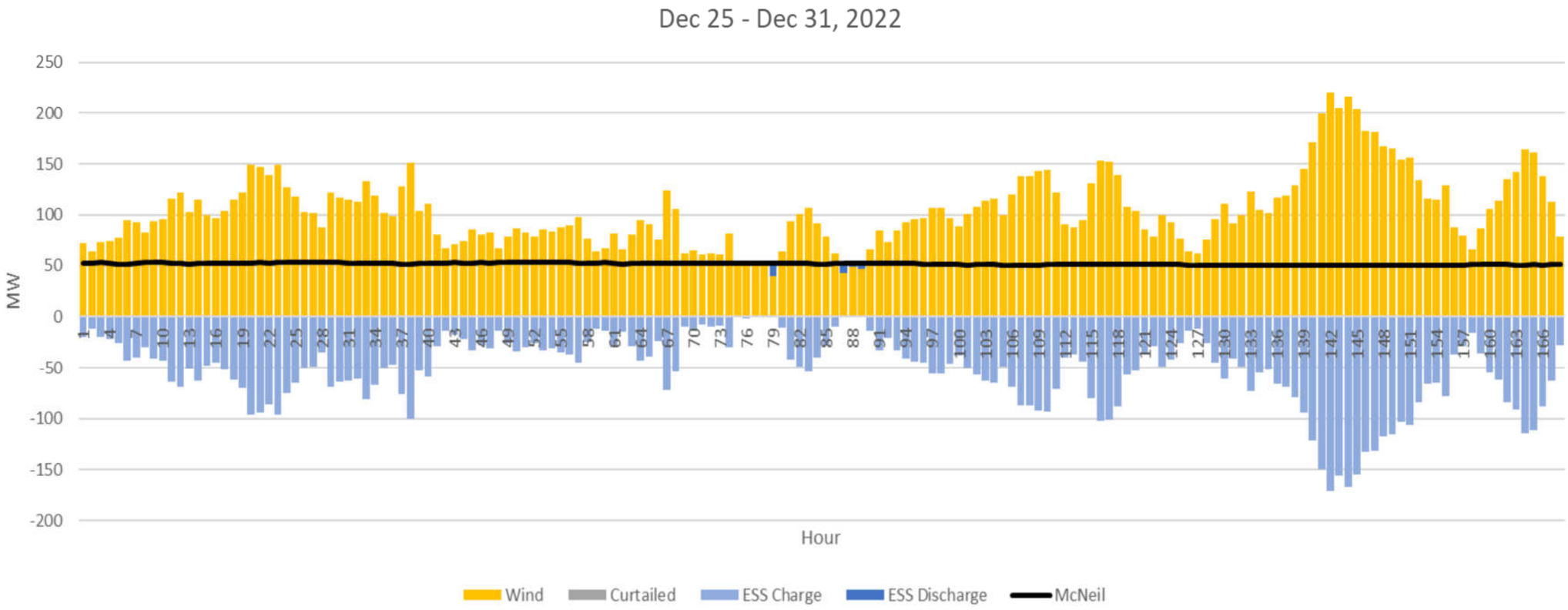
- Due to the high wind generation, no energy storage operation is observed during the last week of 2022. However, having storage is necessary for days where the wind generation is not high enough e.g., in summer months.





McNeil Equivalence Scenario 2: Wind + Storage (without curtailment)

- Due to the high wind generation during this week, energy storage is in charging mode in almost every hour. This requires a large energy storage capacity (MWh).



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McNeil Equivalence Scenario 3: Solar + Wind + Storage

- The objective is to find the smallest solar, wind and storage capacities to provide a combined output power equal to the McNeil output for every hour within the simulation horizon.

$$P_{McNeil}(t) = P_{solar}(t) + P_{wind}(t) + P_{storage-discharge}(t) - P_{storage-charge}(t) \quad \forall t$$

- Year 2022 is selected as the simulation year.
- The normalized solar and wind profiles are used based on the available data.
- A 4-hr Li-Ion battery with 95% roundtrip efficiency is used as the energy storage option.
- Hourly McNeil output (McNeil_Full_Share) for year 2022 is used as $P_{McNeil}(t)$.
- Two cases are considered:
  1. Excess solar and wind generation can be curtailed.
  2. Curtailment is disallowed and all the solar and wind generation needs to be “used”.

McNeil Equivalence Scenario 3: Solar + Wind + Storage

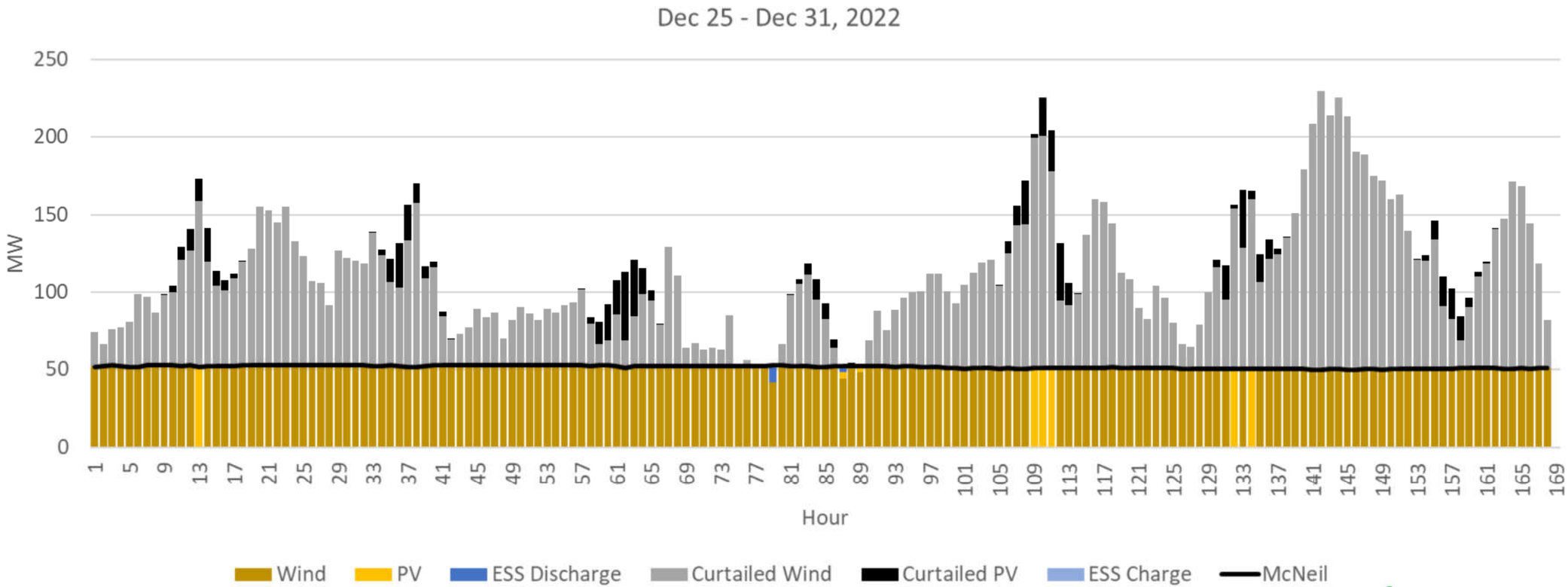
- The optimization simulation results in the following solar, wind and storage capacities:

Case	Solar Capacity (MW)	Wind Capacity (MW)	Storage Capacity (MW/MWh)	Solar Energy (GWh)	Wind Energy (GWh)	Storage Net Loss: discharge - charge (GWh)
With Curtailment	99	370	498/1990	39	189	0.1
Without Curtailment	106	123	1533/6132	166	321	259

- Compared to Scenarios 1 and 2, solar, wind and storage are optimized at smaller capacities. This shows a better match of renewables + storage to equate McNeil output.

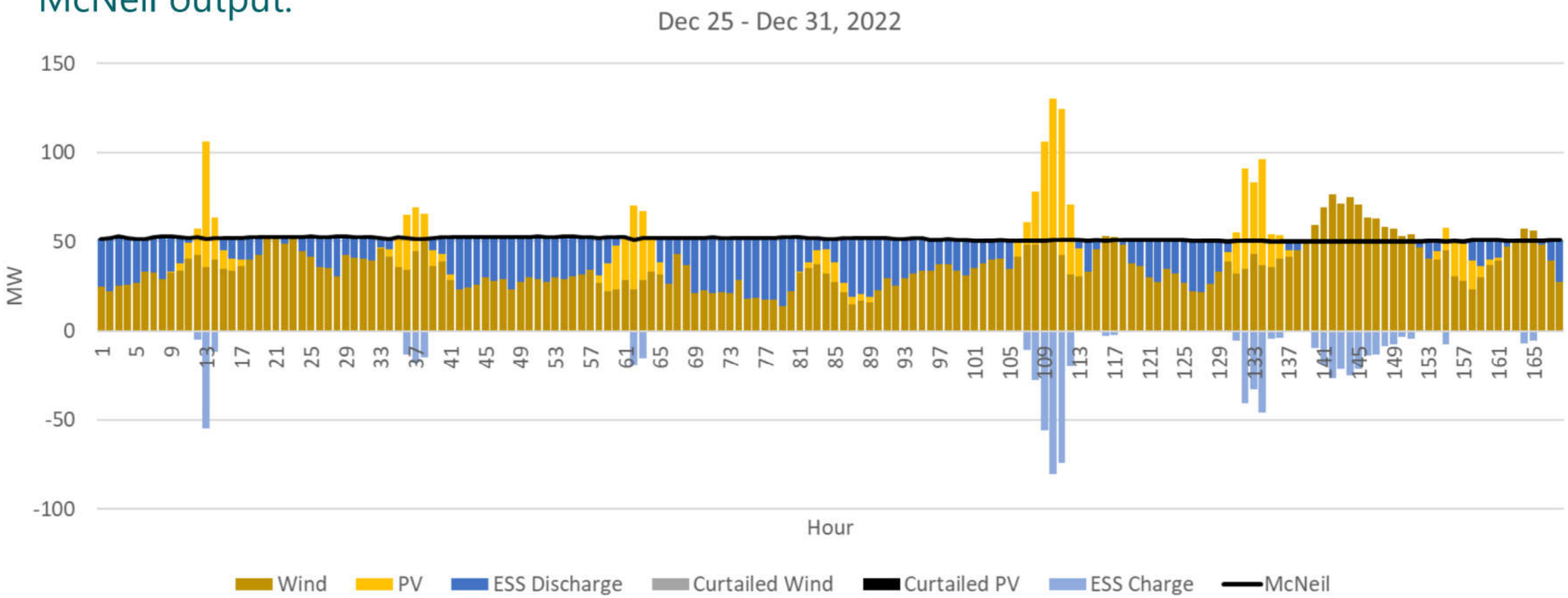
McNeil Equivalence Scenario 3: Solar + Wind + Storage (with curtailment)

- Due to the high wind generation, minimal energy storage operation is observed during this week. However, having storage is necessary for times where the wind generation is not high enough and solar is not available e.g., in summer nights.



McNeil Equivalence Scenario 3: Solar + Wind + Storage (without curtailment)

- This Scenario-case presents the lowest optimized renewable capacity where the generated solar and wind is complemented by energy storage discharging and charging to equate McNeil output.



McNeil Equivalence Summary

Case: Solar + Storage	Solar PV (MW)		Battery Storage (MW/MWh)	Solar Energy (GWh)		Storage Net Loss: discharge - charge (GWh)
With Curtailment	1761		1320/5278	232		3
Without Curtailment	914		5405/21619	1438		1209

Case: Wind + Storage		Wind (MW)	Battery Storage (MW/MWh)		Wind Energy (GWh)	Storage Net Loss: discharge - charge (GWh)
With Curtailment		763	765/3059		229	0.4
Without Curtailment		355	3062/12248		925	696

Case: Solar + Wind + Storage	Solar (MW)	Wind (MW)	Battery Storage (MW/MWh)	Solar Energy (GWh)	Wind Energy (GWh)	Storage Net Loss: discharge - charge (GWh)
With Curtailment	99	370	498/1990	39	189	0.1
Without Curtailment	106	123	1533/6132	166	321	259

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MEMORANDUM

To: Burlington City Council

From: Darren Springer, General Manager

Date: October 15, 2024

Subject: Report from District Energy Resolution 7.6 (2023)

This memo reports back to the City Council and the public per the District Energy Resolution 7.6[1] from 2023 (lines 100-119), which directs the General Manager of the Burlington Electric Department (BED) to report back by November 2024 on several items regarding the Joseph C. McNeil Generating Station.

Background on McNeil

As context for this report and recommendations, below are some key facts about McNeil:

- 50-megawatt power plant; currently the largest energy producer in the State of Vermont
- Placed in service: 1984
- Ownership structure: 50% BED, 31% Green Mountain Power (GMP), 19% Vermont Public Power Supply Authority (VPPSA, which represents a number of smaller municipal electric utilities in Vermont), in accordance with a Joint Ownership, Construction, and Operation Agreement.
- Operating owner: BED
- Employees: 35 full-time equivalent positions (FTE) at McNeil; another 5-7 FTE in BED's accounting, IT, safety, environmental compliance, purchasing and inventory, and power resource planning areas. All are BED employees, including IBEW and non-union positions.
- Fuel: Runs on wood chips; is capable of running on natural gas (at full output) or fuel oil (at 15 megawatts), but has not generated electricity with any fuel but wood for over a decade.
- BED focuses operation of McNeil primarily in the winter when the New England region has known issues with natural gas availability and energy prices tend to be higher and to a lesser extent in the summer when New England electricity loads are higher.

[1] https://burlingtonvt.portal.civicclerk.com/event/6667/files/attachment/2027

- Unlike other renewable energy generation sources that BED owns or contracts for (or might contract for), McNeil is "dispatchable" and can store fuel on-site and operate based on local decision-making and/or grid reliability needs.

BED Work Since Resolution 7.6 Passed

Since the Resolution passed in November of 2023, BED has undertaken efforts to support progress on the items outlined within it, including:

- Issuing a request for information (RFI) in December of 2023 to seek information about installing a wood chip dryer at McNeil or other means to improve efficiency; BED learned from respondents about additional ideas for efficiency and emissions reduction including the potential for carbon capture in the future as well as thermal coating;
- Including funding in the BED FY25 budget for engineering services to design and implement a wood chip dryer at McNeil, and issuing a request for proposal (RFP) to procure such engineering services in FY25;
- Including funding in the BED FY25 budget to support two RFPs related to McNeil (and also called for in Resolution 7.6) to procure two third-party studies – one related to forestry and one related to emissions reduction assessment;
- Discussing these latter two RFPs and taking public feedback on them at a joint Electric Commission/City Council Transportation Energy & Utilities Committee (TEUC) meeting held in August 2024, and issuing the RFPs[2] in September 2024 following Council review and approval; and
- Working with the Mayor and new Administration to set goals for our work at McNeil regarding innovation, efficiency, and just transition.

Report on Recommendations Related to Resolution 7.6

Below we report on each of the specific items called for by Resolution 7.6:

Item 1. *Study the potential timeframes of plans to transition away from the need for conventional wood chip combustion as a significant power source for the City of Burlington, including but not limited to the possibilities of repowering the McNeil plant with different fuels that would reduce greenhouse gas emissions and for this study to be completed and presented to the Burlington City Council no later than the first City Council meeting of November 2024;*

The current RFP related to emission reduction assessment should yield information and analysis related to the potential repowering of McNeil with different fuels. BED is interested in opportunities to examine different repowering technologies that could improve efficiency and/or reduce lifecycle greenhouse gas emissions at McNeil and will examine any recommendations made in the assessment that is relevant.

In addition, BED has worked with Prosumer Grid[3], a company providing simulation and modeling for distributed energy resources that was among the 2023 cohort of energy businesses participating in DeltaClime, an accelerator program managed by Vermont Sustainable Jobs Fund. Under a pilot project for BED, Prosumer Grid modeled how much solar, wind, and battery storage capacity in various combinations would be needed to replace McNeil's

[2] https://www.burlingtonelectric.com/rfp; and https://burlingtonvt.portal.civicclerk.com/event/7008/files/attachment/5976

[3] From the Prosumer Grid website: "ProsumerGrid, Inc. is an award-winning company with its roots and origins from the Georgia Institute of Technology. The Company was created after three of the principals participated in the National Science Foundation's I-Corps program, where they identified the need for next generation planning tools as massive amounts of distributed energy resources were going to be added to the grid. ProsumerGrid has been the winner of several completions: the ACC Clean Energy Business Plan, the Southeast Region Clean Tech Open, an Awardee of the 2019 New York State 76West Clean Energy Competition, 2023 DistribuTECH Duke Energy Innovation of the Year Award, 2023 Vermont Delta Clime Award and 2023 TechStars prize."

energy generation and attempt to match its dispatch characteristics (i.e., the times when McNeil produces energy). This includes scenarios with and without curtailment of excess generation (where renewables are essentially overbuilt to meet certain needs but idled during periods where demand for power is lower, for example). This high-level analysis, which was completed and finalized at the end of 2023 and subsequently reviewed by BED, provides important context for the questions outlined above; the results are shown in the table below:

Estimated Resources Needed to Replace McNeil's Volume/Profile						
	No curtailment of excess generation			**With curtailment of excess generation**		
	Solar (MW)	**Wind (MW)**	**Battery (MW)**	**Solar (MW)**	**Wind (MW)**	**Battery (MW)**
Scenario 1: solar + battery[4]	914	NA	5405	1761	NA	1320
Scenario 2: wind + battery[5]	NA	355	3062	NA	763	765
Scenario 3: solar + wind + battery[6]	106	123	1533	99	370	498

For context, Vermont as a whole—as of the 2024 annual report from the Public Service Department—currently has 514 megawatts of solar, 151 megawatts of wind, and 55 megawatts of battery storage.[7] Burlington currently has approximately 10 megawatts of solar installed and no utility-scale battery storage.

In any of the scenarios above, there would need to be very significant increases in availability of solar and/or wind energy plus installation of between 9x and 98x the total amount of battery storage currently in Vermont to replace McNeil's output. The study made no attempt to determine if the Vermont electrical system could support any of the above scenarios, nor did it attempt to determine the necessary resources are available currently or, if not currently available, on what timescale they could be constructed and made operational. Given the scale of increases in renewable energy and battery storage technologies required, however, BED does not believe any of the scenarios are a near-term achievable outcome and that all will require broader progress region-wide in New England. BED will continue to work towards supporting that progress by procuring renewable energy sources, including wind, solar, and hydropower, to both meet current demand and to meet load growth under the updated Renewable Energy Standard in Vermont. Given these dynamics, BED will also continue to focus on how to improve the environmental performance and footprint of the McNeil plant, including efficiency and innovation opportunities and options to reduce stack emissions outlined further below.

Item 2. *Generate and implement a plan in collaboration with the McNeil Joint Owners to reduce the greenhouse gas emissions from the McNeil plant stack by at least 25% in the next 5 years and 50% in the next 10 years to the greatest extent practicable while continuing to reliably operate the Plant for the benefit for ratepayers, and with regular review and reporting of progress to the Transportation Energy and Utilities Committee (TEUC);*

BED believes that there may be an opportunity to achieve the goals and other objectives for McNeil outlined in Resolution 7.6 and as set by the Administration by pursuing a transfer of the other two Joint Owners' shares of McNeil to BED to obtain full ownership of the plant and full control of the site. Given that half of McNeil's output is dedicated to providing energy to the other Joint Owners, if BED had sole control of the plant, it could optimize production parameters to provide dispatchable and reliable energy for BED ratepayers while reducing operations and associated stack emissions significantly (including less run-time during low load periods and potentially at

[4] See page 7 of attached PDF (22 on page number) presentation from Prosumer Grid.
[5] See page 15 of attached PDF (30 on page number) presentation from Prosumer Grid.
[6] See page 19 of attached PDF (34 on page number) presentation from Prosumer Grid.
[7] See page 7 https://legislature.vermont.gov/assets/Legislative-Reports/2024-Annual-Energy-Report.pdf

lower levels of output). There are a variety of factors to consider, including what a transition path to full ownership might look like, the costs and benefits for BED ratepayers, the ability of the wood supply to accommodate changed operational modes, and other opportunities this might create, including opportunities to pursue battery storage at McNeil and move forward with projects that improve efficiency such as the wood chip dryer.

To examine these possibilities, BED has sought and obtained agreement from the other Joint Owners to enter into exclusive negotiations on this subject as of October 10th, 2024 (see attached documents). Negotiations will proceed until April 15th, 2025, at which time the Joint Owners may collectively have reached agreement or could extend or terminate negotiations. Any resulting agreement will be subject to appropriate review and approval by governing bodies, including in Burlington the Electric Commission and City Council. BED believes these negotiations are responsive to the call outlined in Resolution 7.6 to find a way to cut stack emissions significantly, and alongside efficiency improvements that may result from a wood chip dryer, implementation of district energy, and other opportunities, can meaningfully contribute to improvement in the environmental footprint of McNeil.

Item 3. *Identify opportunities for utilizing the McNeil site for additional energy needs including energy storage and/or thermal energy provision and/or expansion of innovative partnerships such as the UVM solar research center located at the McNeil Plant;*

BED believes there is an opportunity to implement utility-scale battery storage at the McNeil site, initially of 5 megawatts with a 4-hour discharge capability, to support peak reduction and provide ancillary grid services. BED has engaged with multiple battery storage companies to examine this and other battery storage opportunities for Burlington. BED will look at the possibility of entering a contract to implement battery storage at McNeil simultaneous with the negotiations with the Joint Owners described above. In order to place the multiple proposals for storage it has received on a level playing field BED may issue an RFP for one or more 5-megawatt, four-hour discharge batteries this fall.

Regarding district energy, The City and UVM Medical Center are working on an update to the Land Use MOU that should appropriately precede further work on district energy. The district energy project remains an opportunity to provide thermal energy from McNeil and support important partnerships that would reduce greenhouse gas emissions in the thermal sector significantly. BED and the Administration will return to examining the possibilities for district energy subsequent to that MOU work, and in the interim, the non-profit Burlington District Energy is exploring several opportunities for low-cost financing for the project.

Lastly, BED has also recently partnered with CEDO to support the use of the McNeil site to host a shipping container-sized agricultural project from Village Hydroponics.[8] This is another innovative use of the site to support community agriculture.

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[8] https://www.villagehydroponics.com/
"Village Hydroponics sprouted from the rich soil of community effort and shared vision, deeply rooted in the success of The Peoples Farmstand and The Peoples Kitchen. These sister initiatives, which have been supplying fresh, culturally-relevant produce and nourishing meals to Burlington's underserved communities, highlighted the stark need for sustainable food sources year-round. Motivated by the gap in fresh produce availability during Vermont's harsh winters, Village Hydroponics was conceived to extend the growing season, ensuring continuous access to healthy food. Our history is a testament to the power of collective action, inspired by the desire to nurture our community with every leaf and every harvest. Village Hydroponics stands at the forefront of climate resilience, offering a robust response to climate-related disasters through its use of shipping containers for year-round produce growth. This approach not only minimizes the need to import food during Vermont's winters, significantly reducing food miles and the carbon footprint associated with long-distance transportation, but it also taps into Burlington's commitment to renewable energy to power its operations."

Item 4. *Participate in the TEUC meetings and convene community and stakeholder meetings as needed to monitor progress on implementing ideas for transitioning away from conventional wood chip combustion as soon as practicable at the McNeil Generating Station, or improving efficiency at the Plant, and to consider additional ideas from the public while reporting periodically to the full Council on progress and outcomes.*

BED has joined several TEUC meetings to discuss items related to Resolution 7.6 and received interesting ideas for improving efficiency at McNeil through the December 2023 RFI as referenced above. BED has and will continue to bring items to the Council related to Resolution 7.6 as well as to the Electric Commission and TEUC. Several comments from the public at the August 2024 joint Electric Commission/TEUC meeting were incorporated into the final RFP, and BED remains interested in ideas from the public, stakeholders, and vendors about improving efficiency and innovation at McNeil.

To further engage with the public and community on these topics, BED is working with the Administration to convene a public discussion later this year to seek additional ideas on how we can improve efficiency, support innovative projects, and increase community benefits from the McNeil plant and site. We look forward to that discussion opportunity. This could include an open house type format with several small group opportunities for facilitated dialogue and idea-sharing from the community.

Conclusion

BED appreciates the importance of continuing to improve efficiency, support innovative projects, and evaluate opportunities to reduce stack emissions at McNeil. Our team has, as outlined above, worked hard to think creatively about ways to meet key goals and objectives outlined in Resolution 7.6. Further, in partnership with the Mayor and Administration, we are excited to chart a path toward a just transition that respects the role of our workforce at McNeil and the importance of reliability and affordability for ratepayers while also seeking to continuously improve the efficiency and environmental performance of the plant and increase innovation in our use of the site as we plan for the long-term. We believe the efforts outlined in this report, combined with a ramp up locally and regionally of more solar and wind and battery storage, will ultimately lead to a reduced need for traditional wood chip energy. BED will continue to provide timely updates to the Electric Commission, TEUC, and full Council on these items and engage with the public, including at the upcoming public discussion this year as well as through the work outlined in the two RFPs approved by Council on September 9th.