Northwest **Power** and **Conservation** Council

August 6, 2024

MEMORANDUM

TO: **Council Members**

FROM: **Nate Clayville, ID State Staff**

SUBJECT: **Remarks from Bear Prairie, ID Falls Power General Manager: Perspective on Gas Peaker**

BACKGROUND:

Presenter: Bear Prairie, General Manager, Idaho Falls Power

Summary: The purpose of the white paper written by Bear Prairie is to give the Power Board / City Council along with other utility stakeholders a single document that can help inform them of the power supply dynamics of the electric grid and how those relate to Idaho Falls Power. The white paper gives a holistic view, complete with substantial data, scope and background on a complex and multifaceted topic. The accompanying mix of data, analysis and perspective around that data is based on Mr. Prairie's 25 years of experience managing power supply and risk management along with projections and analysis from other consulting groups and industry experts.

Relevance: Idaho Falls Resource Options white paper effectively summarizes several complex concepts related to regional energy issues, distilling them down into easy-to-comprehend conclusions. With the ambiguity surrounding the how the region could or should build and/or acquire the power generation and transmission resources necessary to meet prevailing load forecasts

over the next 20 years, a holistic picture of the trends and available options is an important tool in the power planning process.

This presentation was requested by the Council Chair as a means of supplementing the foundational knowledge of the Council members and staff.

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NWPCC Peaking Plant Whitepaper Discussion

August 14, 2024

Idaho Falls Power Overview

- Municipal Utility founded in 1900
  - One of the oldest public power utilities in U.S.
  - City Council and Mayor are governing body
- 31,500 meters
- Serves city limits of Idaho Falls, including Idaho National Lab in town facilities
- Owns/operates 4 dams which serves roughly 35% of energy needs
- BPA Preference customer
- UAMPS member and was a participant in the NuScale nuclear project
- Completed citywide fiber to home network in 2023.

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Purpose of Paper

- Address governing board (Council) concerns over adding a carbon based resource to portfolio
  - Natural Gas Peaking Plant – 17.5 Megawatts
- A tool/resource to educate the community or concerned stakeholders
- "Wholistic view on a complex and multifaceted topic"
- Give my perspective of 25+ years of managing power supply and risk management
- Educate on the fact that there is no single solution to generation resources = it's a portfolio approach

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Layout of Paper

- Conversational
- Stepwise in approach
  - Starts with strategic mission of IFP
    - #1 – Reliability
    - #2 – Affordability
    - #3 – Sustainability
      - In this order of importance by design!

"If you don't know where you are going any road can take you there"

- Has details and references to back up statements/views

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Analyzes all Resources

- Pragmatic, fact-based approach to resource options:
  - Geothermal
  - Wind
  - Solar
  - Nuclear
  - Gas Combined Cycle
  - Gas Peaking

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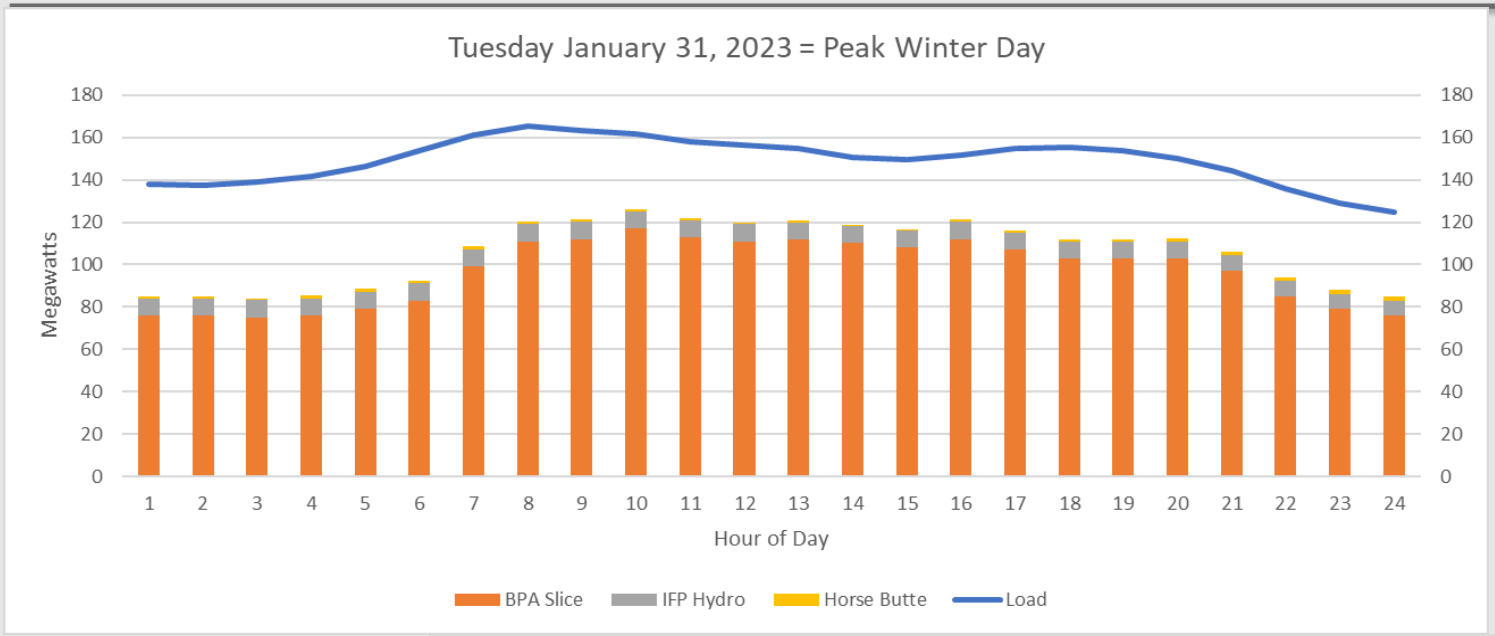
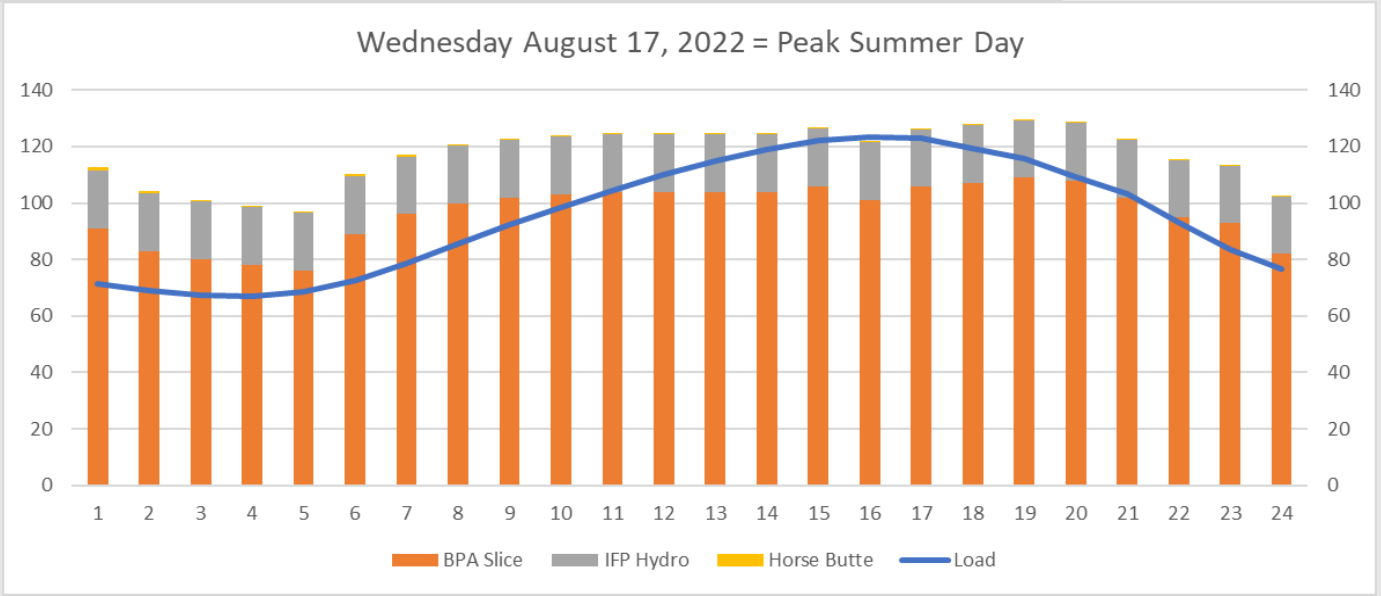
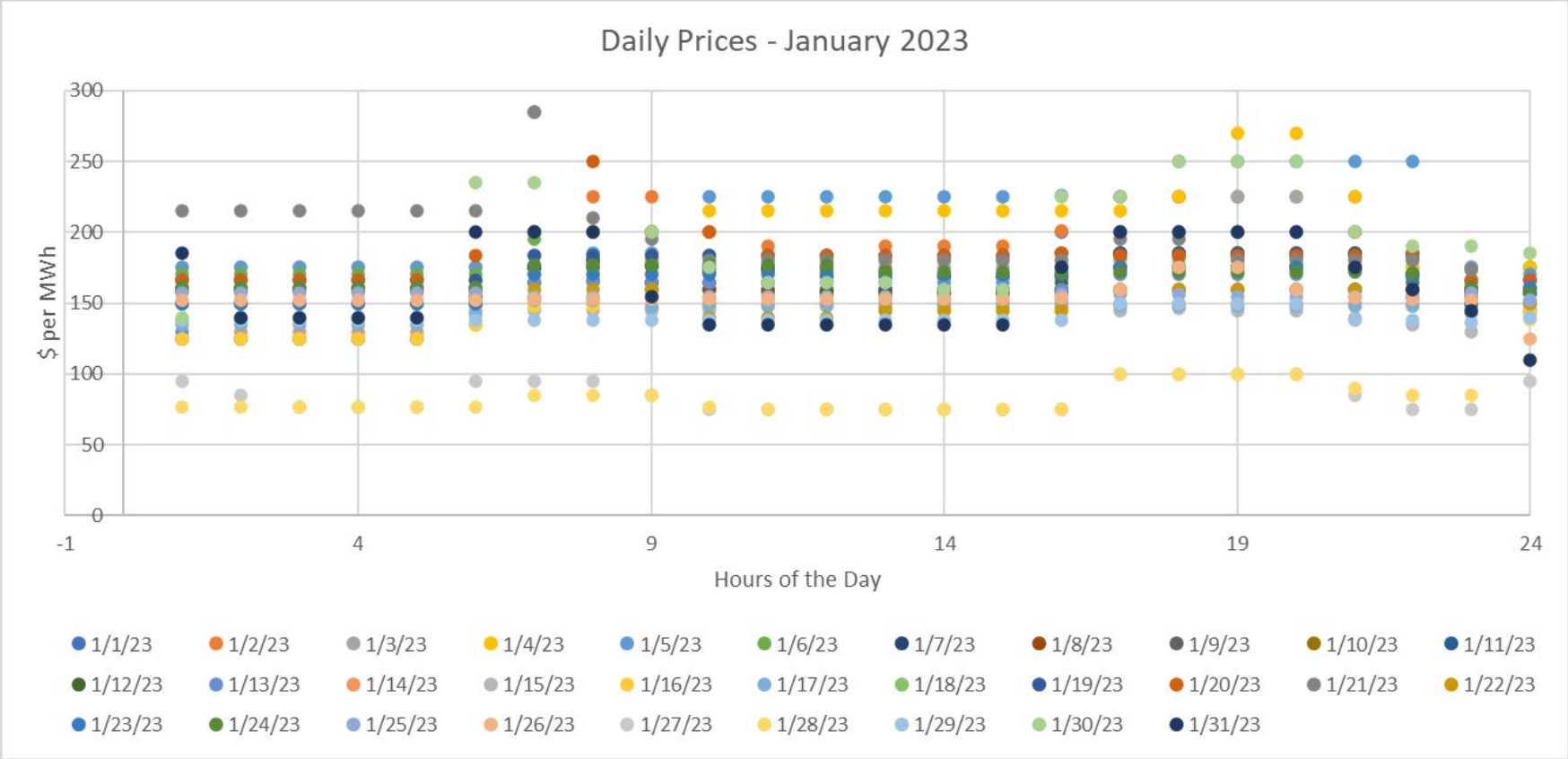
Why dispatchable peaking?





Dealing with Market Risk



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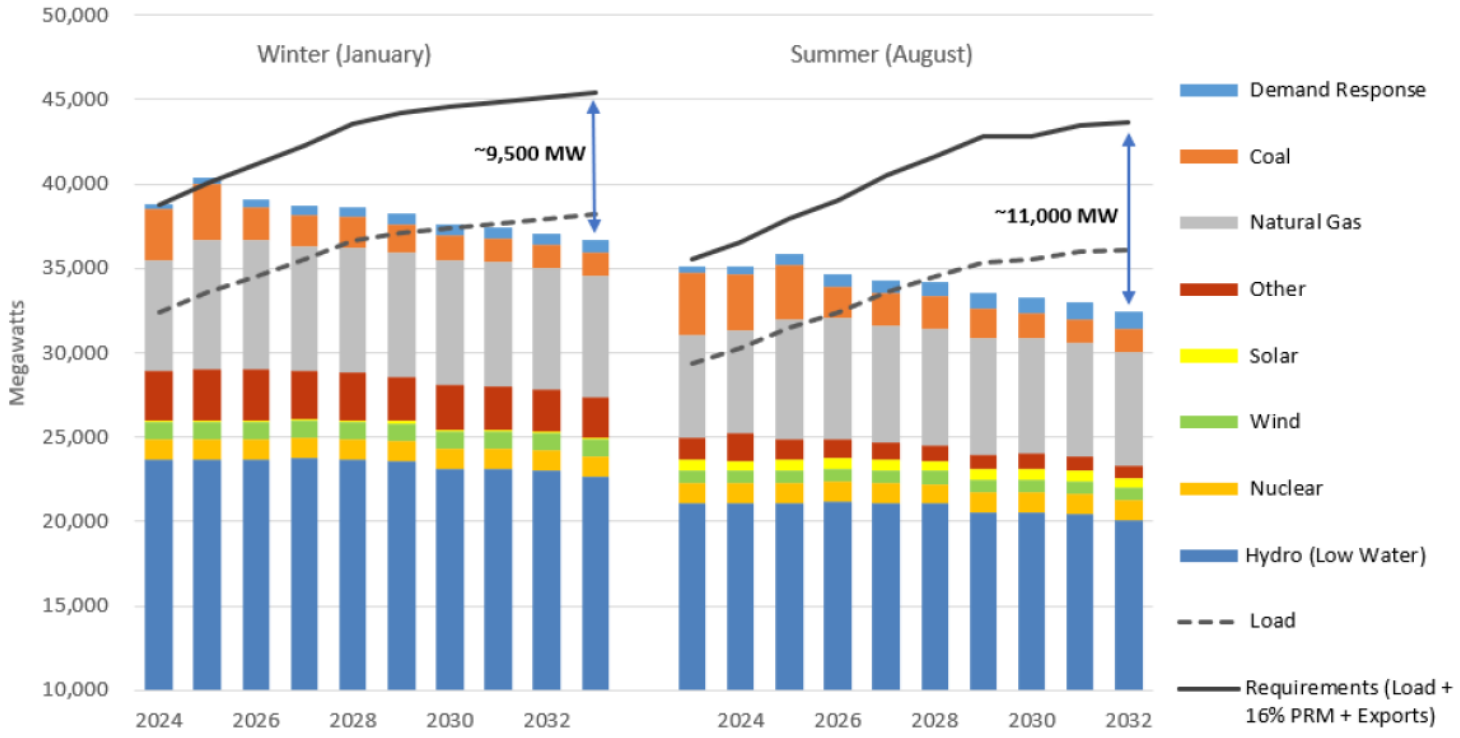
Market Reliance Looking Ahead



Requirements are expected load plus a 16% planning reserve margin plus exports. They are higher than the peak hour load to ensure that utilities have sufficient resources to count on when the weather is above normal and some resources are not generating. When forecast peak hour requirements exceed the forecast of existing resource peaking capabilities, a deficit is identified and when the opposite is true, a surplus is identified.

Figure 15 PNUCC summer/winter deficit projection graph with resources

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Peak Capacity

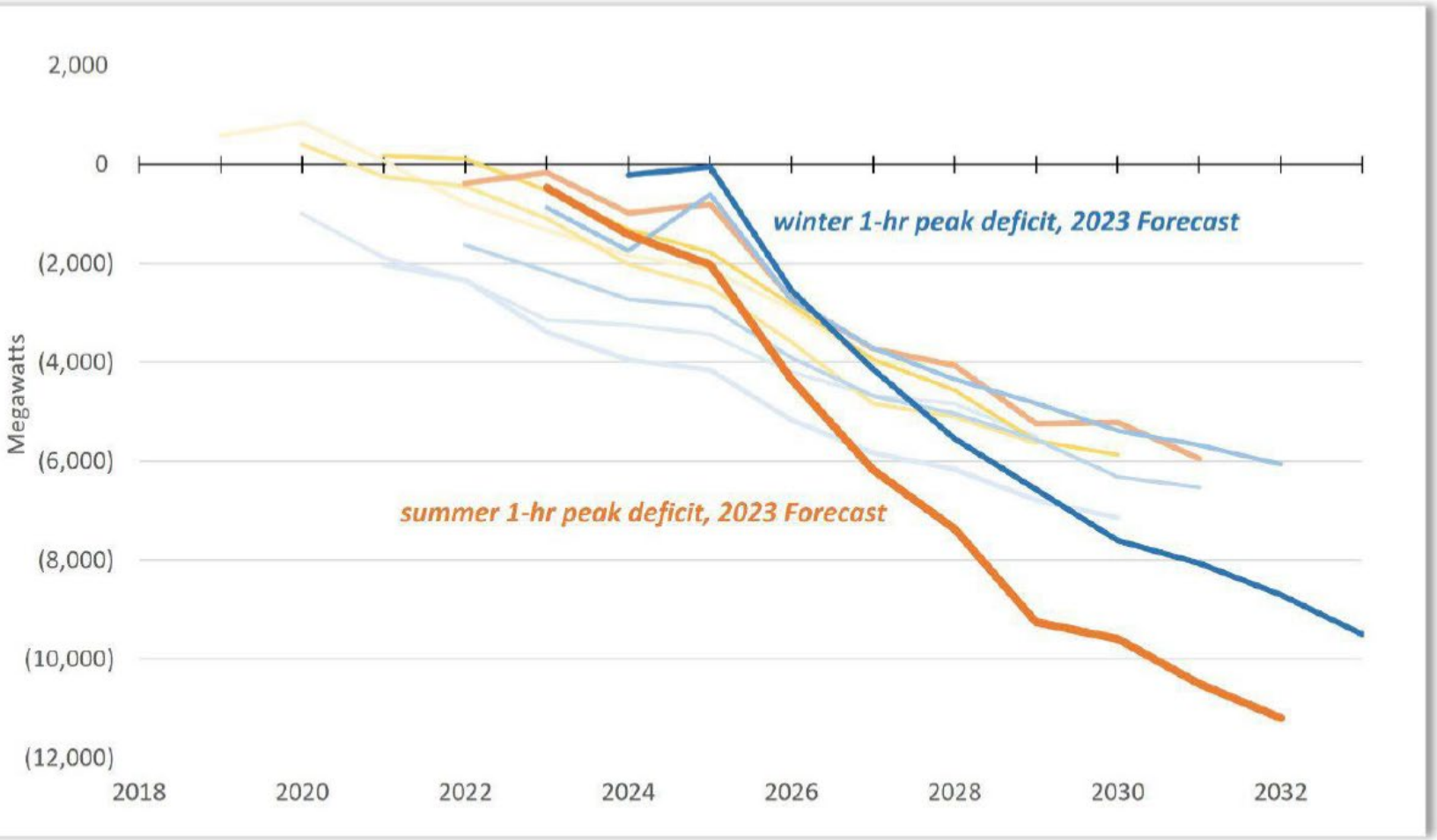

Figure 16 PNUCC summer/winter deficit projection graph historical with current

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Emissions Profile

- 1 MWh electric heat = **634.6 lbs CO2**. (WECC).
- 1 MWh electric heat = (27*0.812)+(0*0.188) = **21.92 lbs CO2**. (IFP).
- 1 MWh (equivalent) natural gas heat = **34.1214*11.684 = 398.7** lbs CO2.

The other way to think about it is, that if the region overall is already relying on fossil fuel / thermal resources to meet peak demand needs, we are simply displacing market thermal resources for local thermal resources that we are ensured to be modern technology. This improves local control, reliability, compliance and flexibility to convert when operationally and economically feasible to clean fuel technologies.

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Next Resources for IFP

- We doubled our Energy Efficiency program last year = self-funding 125% of BPA amount.
  - Did an analysis to go after any EE lower than $80 per MWh.
- Geothermal MOU signed May 2024
- Advanced nuclear exploration
  - PPA with no development or FOAK risk
- Battery storage
  - Can also help with micro-grid work
  - Works in unison with peaking plant & hydros

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Questions?

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