MMU BSSTF Pumped Storage

Black Start Service
Task Force

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Monitoring Analytics

Pumped Storage Fuel Storage Cost

- **Fuel storage cost refers to the cost of keeping oil at a black start site, oil that could be sold if not needed by black start critical units**
  - **Why is fuel storage relevant to pumped storage unit costs?**
- **Is the "fuel" cost separate from lost opportunity cost?**
  - **Why is it appropriate to receive both forms of payment?**

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Pumped Storage Opportunity Cost Issues

- **Equation given is "50 days/yr * 50 MW/ft * 15 ft * (80.00 −40.00/.7)$/MWH = $857,143"**
  - **The units of this equation are not consistent (MWH vs. MW) Equation results in ($*MW/MWh)**
- **What is the logic used to select the hours for the opportunity cost calculation?**
  - **If reservoir can be drained in just under 8 hours at full load, why are highest 8 LMP hours used?**
  - **Economic output will occur in most or all of these hours**
  - **The use of these 8 hours is not supported.**

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Pumped Storage Lost Opportunity Cost

- **Data needed for further MMU evaluation:**
  - **Hourly pond levels**
  - **Source & calculation method of LMPs in model**
  - **How long (in hours) pumped storage unit can run at the example rate cited (at 50 mw/ft)?**
  - **Unit black start capacity**
  - **How long does pond take to drain to 15 ft.**
  - **What is the theoretical max output leaving 15 ft. of pond water in pond?**
  - **How long is pumping period?**
  - **What is input during pumping period?**

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