Member-by-Member Analysis for NG Assets

Washington City

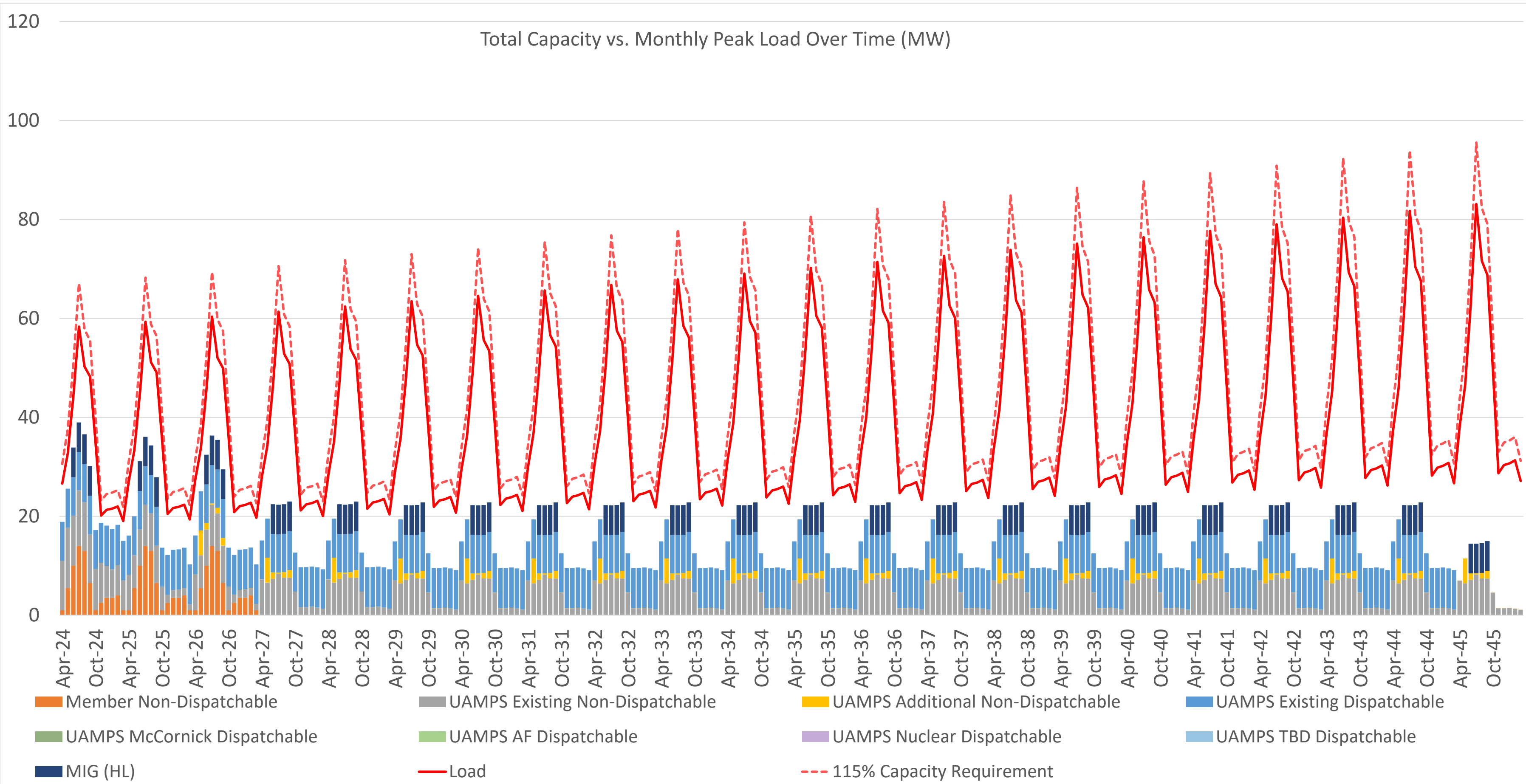
September 4, 2024

UTAH ASSOCIATED MUNICIPAL POWER SYSTEMS

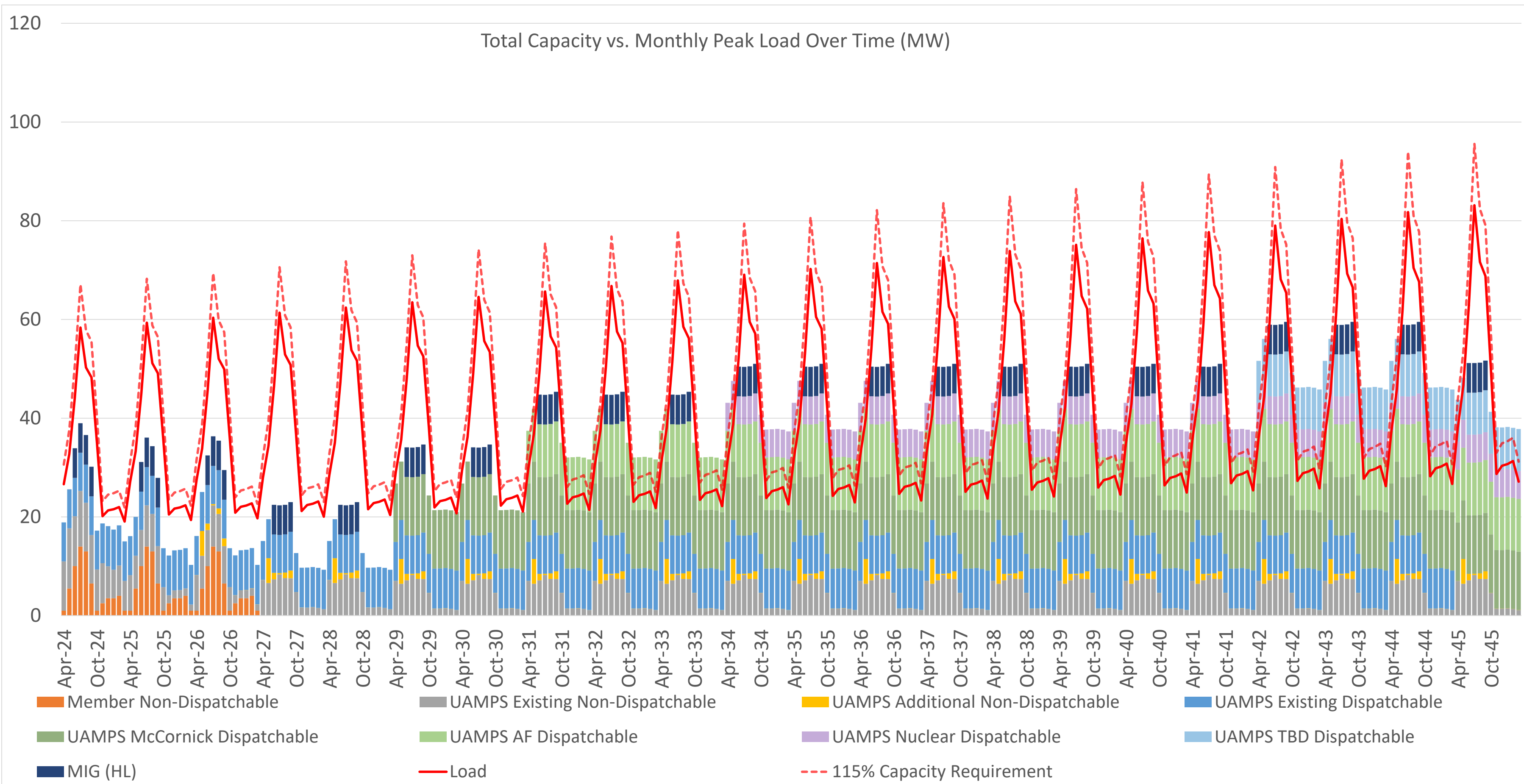
BLUF

- Recommend
  - 11.84 MW subscription for McCornick peaker
    - 5.92% of total subscription
  - 10.69 MW subscription for American Falls base load
    - 3.56% of total subscription

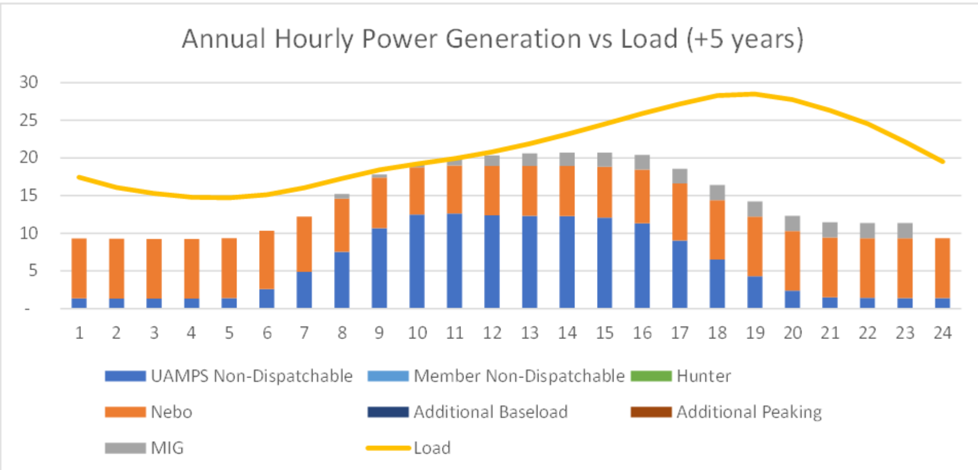
Capacity without Additional Dispatchable

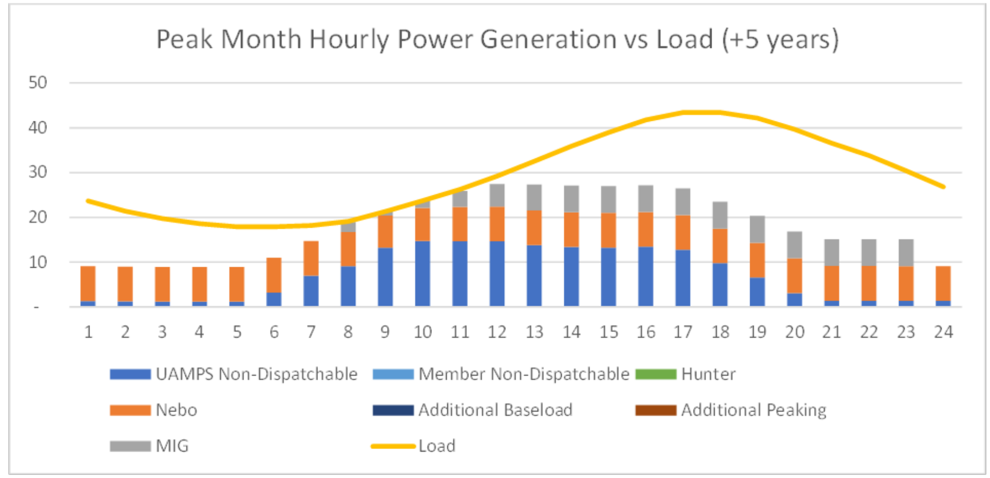


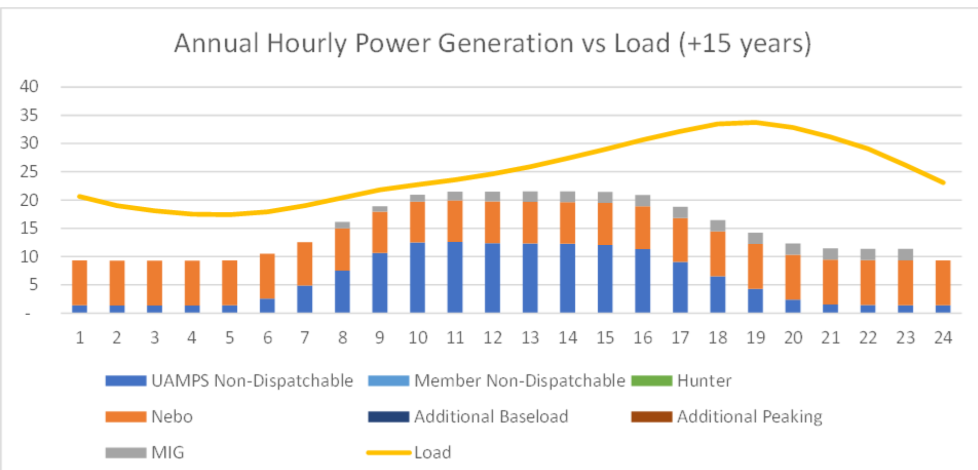
Capacity with Additional Dispatchable

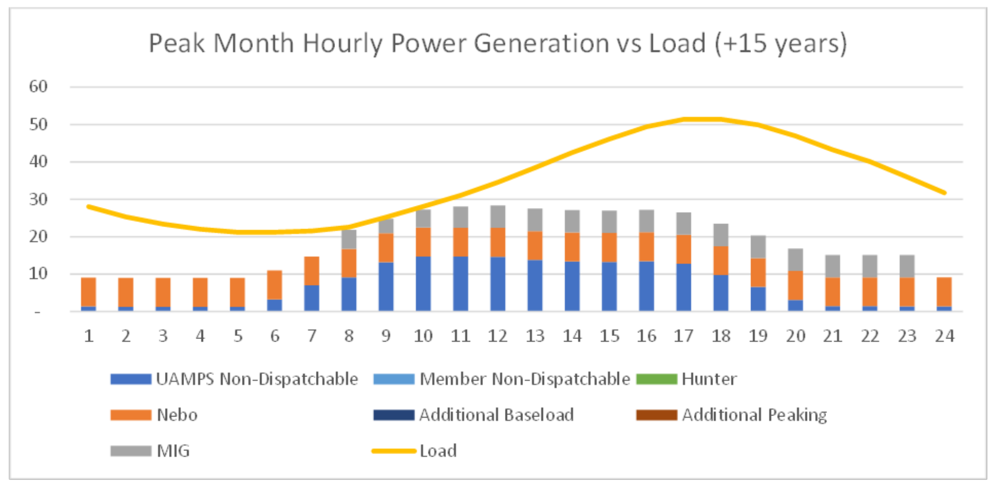


Generation without McCornick + American Falls

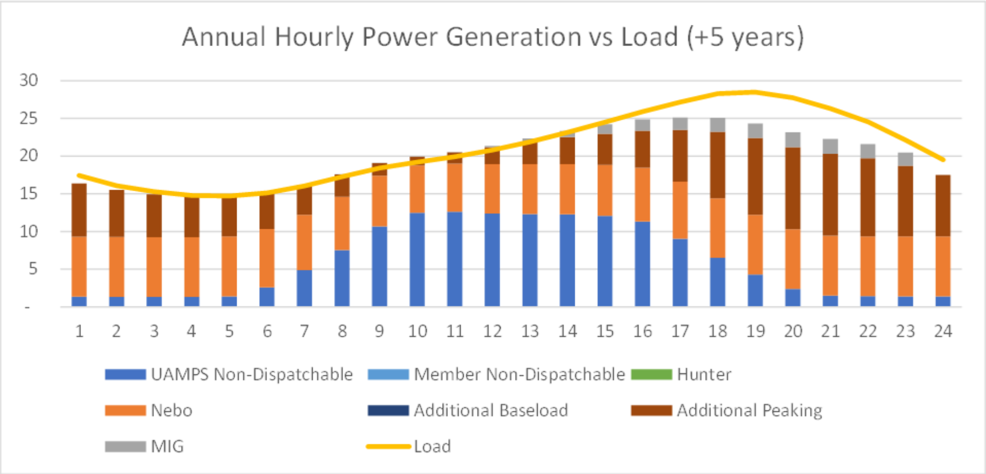


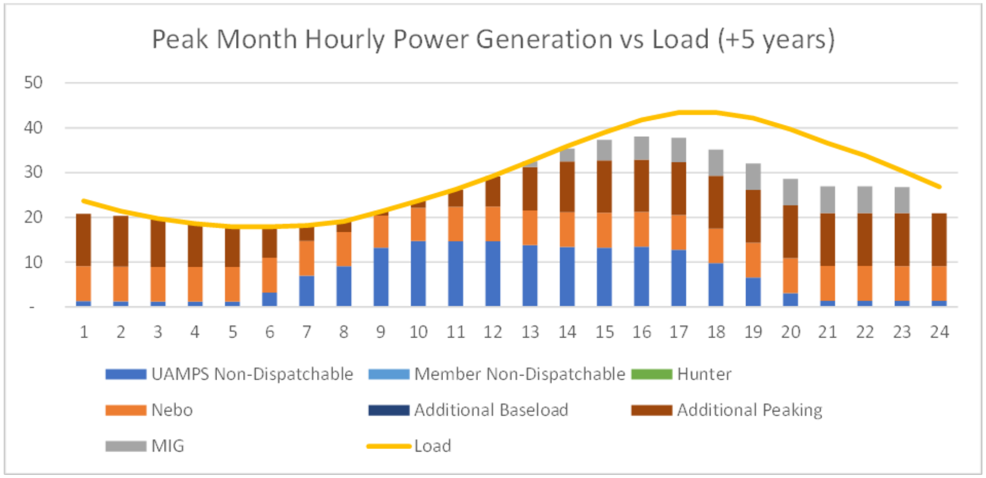


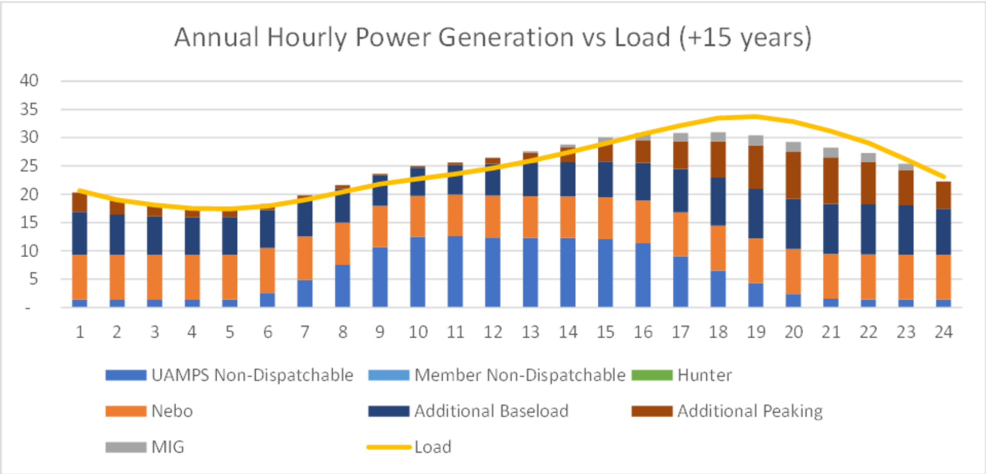


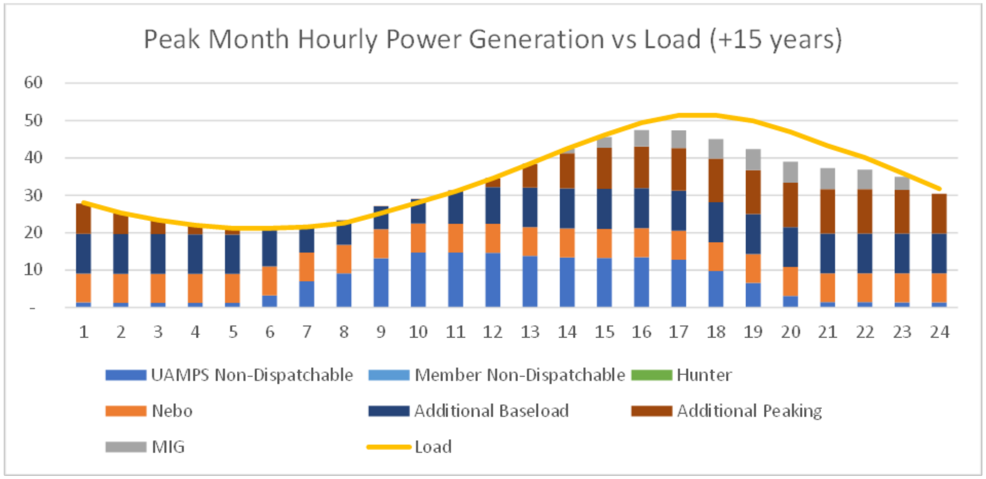


Generation with McCornick + American Falls

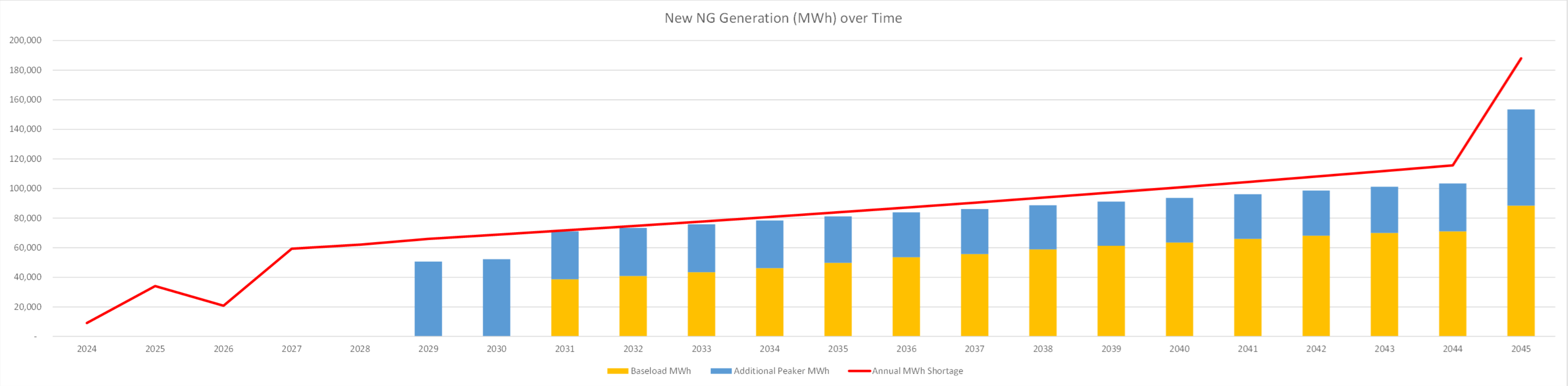


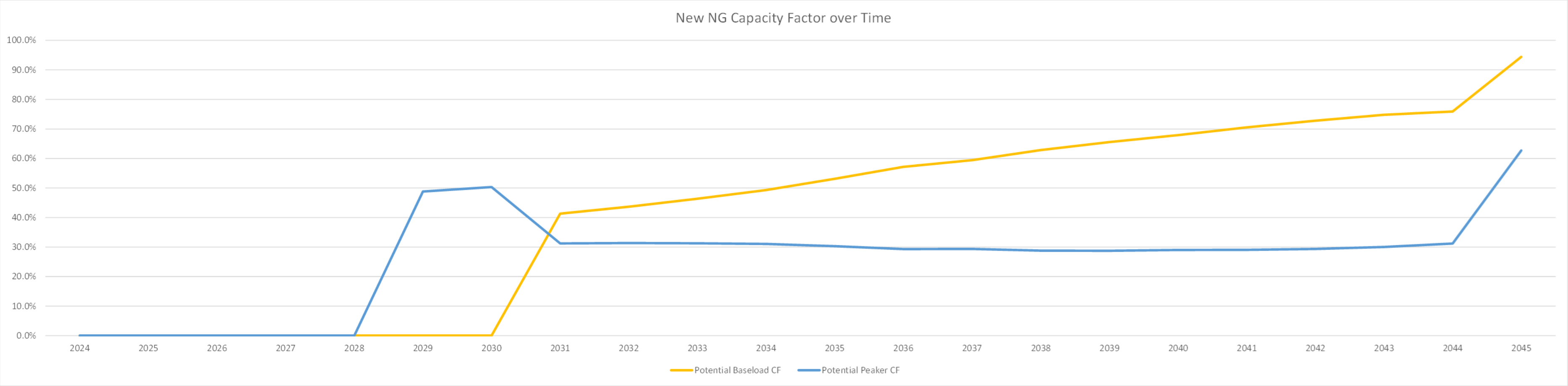






McCornick + American Falls Projected Utilization





Key Methodology – detailed assumptions

- Recommendations based on resource diversity (reliability) and utilization (LCOE) optimization
  - McCornick CF: 30.01% (annual average 2031-2044)
  - McCornick peakers estimated to serve 14.69% of member's load (annual average 2031-2044)
  - American Falls CF: 60.05% (annual average 2031-2044)
  - American Falls CCGT estimated to serve 24.81% of member's load (annual average 2031-2044)
- Base Year = 2024
- Load is based on 2024 forecast provided by Kelton
  - Load Growth = 1.7%, annual, exponential
- Existing non-dispatchable and/or renewable generation in 2024 forecast is assumed to be constant each year until that resource is retired.
- Hunter (if applicable) is assumed to only be available for 7 winter and summer months (consistent with 2024 operating approach).
- Nebo (if applicable) is assumed to operate "perfectly." If there is any need/load beyond what the non-dispatchable resources + Hunter can provide, the model assumes Nebo will be on, running at least at its min capacity, up to its max capacity.
- MIGs also operate "perfectly." If there is any need/load beyond what Nebo and/or other dispatchable resources can provide, the model assumes any available MIGs will be generating up to the currently available MIG capacity (which varies depending on HL and LL hours).
  - I.e., MIGs run only if all other resources (including new resources in future years) cannot meet load

Additional Assumptions

- IPP (if applicable) is not credited
- Hunter (if applicable) is assumed to be online through 2032
- Nebo (if applicable) is assumed be online through 2044
- New non-dispatchable/renewable resources considered:
  - HB1 software upgrade (if applicable)
  - Fremont solar
- New dispatchable resources considered:
  - McCornick
  - American Falls
  - New Nuclear (**included in capacity graph only – not energy graph**)
  - TBD Dispatchable (**included in capacity graph only – not energy graph**)

Resource Stack

Project Type	Project Name	Allocation	Entitlement (MW)	COD	Retirement
UAMPS Non-Dispatchable	CRSP	0.67%	0.71	N/A	>2045
UAMPS Dispatchable	Nebo	5.72%	7.94	N/A	2044
UAMPS Non-Dispatchable	Horse Butte	1.76%	1.01	N/A	>2045
UAMPS Non-Dispatchable	PX	13.25%	6.49	N/A	2024
UAMPS Non-Dispatchable	PV Wind	3.19%	0.50	N/A	2028
UAMPS Non-Dispatchable	Red Mesa	1.52%	1.00	N/A	>2045
UAMPS Non-Dispatchable	Steel	8.80%	7.04	N/A	>2045
UAMPS Non-Dispatchable	Veyo	12.87%	1.00	N/A	>2045
Member Non-Dispatchable	5-Year Washington	100.00%	14.00	N/A	2026
Future Non-Dispatchable	Long Road PV	7.58%	7.50	2026	>2045
Future Non-Dispatchable	Horse Butte II	1.76%	0.11	2026	>2045
Member Dispatchable	Washington	100.00%			
Future Dispatchable	McCornick	5.92%	11.84	2029	>2045
Future Dispatchable	American Falls	3.56%	10.69	2031	>2045
Future Dispatchable	New Nuclear	2.83%	5.67	2034	>2045
Future Dispatchable	TBD Dispatchable 2	2.83%	8.50	2042	>2045

Resource Stack - MIG Schedule

Year	MIG	Summer HLH Capacity	Other HLH Capacity	LLH Capacity
2024	Washington	6	0	0
2025	Washington	6	0	0
2026	Washington	6	0	0
2027	Washington	6	0	0
2028	Washington	6	0	0
2029	Washington	6	0	0
2030	Washington	6	0	0
2031	Washington	6	0	0
2032	Washington	6	0	0
2033	Washington	6	0	0
2034	Washington	6	0	0
2035	Washington	6	0	0
2036	Washington	6	0	0
2037	Washington	6	0	0
2038	Washington	6	0	0
2039	Washington	6	0	0
2040	Washington	6	0	0
2041	Washington	6	0	0
2042	Washington	6	0	0
2043	Washington	6	0	0
2044	Washington	6	0	0
2045	Washington	6	0	0

Natural Gas Projects – Peaking Facility

- Millard County peaking facility
  - 200 MW fleet of 10-12 Reciprocating Internal Combustion Units (RICE)
  - Able to ramp on and off quickly to meet the members' changing load needs
    - Each engine ramps to full load in 2 to 5 minutes
    - Fast ramp times enable integration of additional clean, less expensive, renewable energy
  - 6-8 permanent jobs
  - Natural gas peaking units compliment members' intermittent resources
  - Capable of burning hydrogen mix when available in the future
  - Ideally located near natural gas and transmission lines
  - Helps member meet future resource adequacy requirements

Natural Gas Projects – Baseload Facility

- Power County baseload combined cycle facility
  - 360 MW 1x1 frame-style combined cycle plant
  - Highly efficient system includes a gas turbine and steam turbine, decreasing overall energy cost
  - 10-20 permanent jobs
  - Natural gas baseload generation is critical to support members’ reliable generation needs
  - Capable of burning hydrogen mix when available in the future
  - Ideally located near natural gas and transmission lines
  - Helps member meet future resource adequacy requirements

September 2024

Project Meeting Overview Report

CARBON FREE POWER PROJECT (CFPP)

1. Discussed in Executive Session:
   a. Current activity status, project wind down steps, timeline, legislative strategy and Department of Energy interactions.

CENTRAL-ST. GEORGE PROJECT

1. Discussed in Executive Session:
   a. Litigation update including an overview, comments and next steps.

2. Discussed the Operations Report including substation reports for the month of August.

COLORADO RIVER STORAGE PROJECT (CRSP)

1. Discussed CRSP and CREDA including hydrology, the Smallmouth Bass issue and photos of the facility from the CREDA dam tour.
2. Discussed the Operations Report including output for each resource for the month of August.

FIRM POWER SUPPLY PROJECT

1. Discussed the prepay transaction including the current status, closing schedule and anticipated savings.
2. Discussed the Operations Report including output and scheduling from each resource for the month of August.

GOVERNMENT AND PUBLIC AFFAIRS PROJECT (GPA)

1. Discussed Federal & State Legislation including Executive Branch and Congressional Updates:
    a. September overview for both Federal and State items.
    b. Polling trends and voting maps.
    c. Federal legislative activity including CRSP efforts, permitting reform and continuing resolution.
    d. 2024 State Elections including Gubernatorial Election and races to watch.
    e. State Legislation including Amendment D overview and 2025 General Session.
2. Discussed upcoming GPA items including "State of UAMPS" discussion with the congressional delegation on **October 24, 2024 at 11:00 am MT,** 40101(d) Grants and the congress toolkit.

HORSE BUTTE PROJECT (HBW)

1. **Ratified approval of the re-solicitation of additional generating facilities to trigger a firm solicitation of Participants concerning their intent to participate in HBWII and to put the Land Lease Agreements on hold until the outcome of HBWII is known.**
2. **Approved resolution to move HBWII to the Resource Project, as discussed.**
3. Discussed plant operations including plant maintenance/upgrades, various blade repairs, photos of the site and site updates.
4. Discussed the Operations Report including production output for the month of August.

HUNTER PROJECT

1. Discussed operations and dispatch including October schedule, changes from the last dispatch discussion, market outlook and future changes
2. Discussed the Operations Report including plant scheduled output for the month of August.

MEMBER SERVICES PROJECT

1. **Approved authorizing the issuance and sale of Member Services Project Revenue Bonds (Payson City Generation Project) Series 2024; and related matters.**
2. Discussed the AMI Taskforce including various vendors, resending a solicitation of interest and next steps.
3. A reminder about the equipment training scheduled for October and sign-up sheets have been sent to members.

NEBO PROJECT (PAYSON)

1. Discussed the prepay transaction including current status and anticipated savings.
2. Discussed additional one-year natural gas purchase including volumes and staff recommendations.
3. **Approved pursuing a 40% Gas Hedge against the WEIM values for November 2028 to October 2029.**
4. Discussed plant operations including regulatory items, August statistics, operational items, plant maintenance/safety items and cash flow outlook.
5. **Ratified the approval to move forward with exploring the option of storing the mobile generator at the Nebo Site to be used as a backup generator and having staff provide an update when more information is available for permanent solicitation.**
6. **Ratified the approval bypassing the current surplus procedures and moving forward with the sale of the MKVI Control System to a third party.**
7. **Approved moving forward with purchasing a new Caterpillar Generator with enclosure for $298,282.28, for the Nebo Power Plant, as discussed.**
8. **Approved moving forward with the Gas Turbine Combustion Hardware Option #3 – Purchase of a new DLN 1+ hardware with an advanced secondary fuel nozzle as recommended.**
9. Discussed upgrading the combustion hardware of the gas turbine including various options, different pricing, lead times and staff recommendations.
10. Discussed the Operations Report for the month of August including Nebo energy breakdown and Nebo sales margins.

POOL PROJECT

1. Discussed PX & Scheduling Report including member internal generation and peak load.
2. Discussed the operations coordination including EIM/EDAM, resource sufficiency, resource participation, gap analysis work scope, implementation timeline, identified gaps and next steps.
3. Discussed the Mercuria Swap in FY2025 including details on the unique opportunity, breakdown of the profit share, how the swap will occur, risk minimization and staff recommendation.
4. **Approved the Mercuria Swap for Quarter 3, 2025, as discussed.**
5. Discussed the Operations Report for the month of August including load peak and energy, along with Pool information.

RESOURCE PROJECT

1. **Approved the termination of the Cyrq Geothermal Study Project as discussed.**
2. Discussed in Executive Session:
   a. Uinta Wind Energy Project including project overview, current status and next steps.
   b. Rodatherm Study Project including project overview and next steps.
   c. Cove Fort 2 Study Project including project overview and next steps.
   d. Natural Gas Project including project overview, current status, timeline and next steps.
3. Discussed HBWII including timeline and next steps.
4. **Approved the Unita Wind Study Project formation and study budget not to exceed $175K, as presented and discussed.**
5. **Approved the Rodatherm Study Project formation and study budget not to exceed $95K, as presented and discussed.**
6. **Approved engaging with Zions Public Finance as Municipal Advisor, and to move forward with an informal RFP interview and evaluation process for the selection of the bankers/underwriters.**
7. Discussed Natural Gas Power Sales Contract including recitals, development period, construction period, other key terms and next steps.

BOARD OF DIRECTORS MEETING

1. Discussed Operations Report:
    a. Natural Gas Storage including both Pacific and Mountain regions.
    b. Seasonal Outlook including September forecast and forward seasonal & precipitation outlook.
    c. Industry news including EDAM stakeholder process.
    d. Wildfire and Public Safety Power Shutoffs (PSPS) including the upcoming PACE Wildfire Season, PacifiCorp not implementing a PSPS last month, NV Energy de-energized due to wildfires and transmission formula rate litigation.
    e. Reminder to sign up for the new UAMPS SMS text notification system to provide timely notice of operational impacts to Projects.
2. **Approved declaring UAMPS' official intent to issue bonds to finance the cost of acquisition and construction of a Single Cycle Electric Generating Facility, and related matters.**
3. **Approved declaring UAMPS' official intent to issue bonds to finance the cost of acquisition and construction of a Combined Cycle Electric Generating Facility, and related matters.**
4. **Approved authorizing the issuance and sale of Member Services Project Revenue Bonds (Payson City Generation Project) Series 2024; and related matters.**
5. Approved all action items for the Project Meetings.
6. Discussed the IPP Project including the callback process & analysis and future scheduled meetings.
7. Discussed Board Retreat and Board Meetings being held in October.