



Demand Response Update

Quentin Nesbitt
August 10, 2021



Idaho Power's Current Demand Response Programs

- Irrigation Peak Rewards ~ 315 megawatts (MW)
- Flex Peak ~ 36 MW
- A/C Cool Credit ~ 28 MW



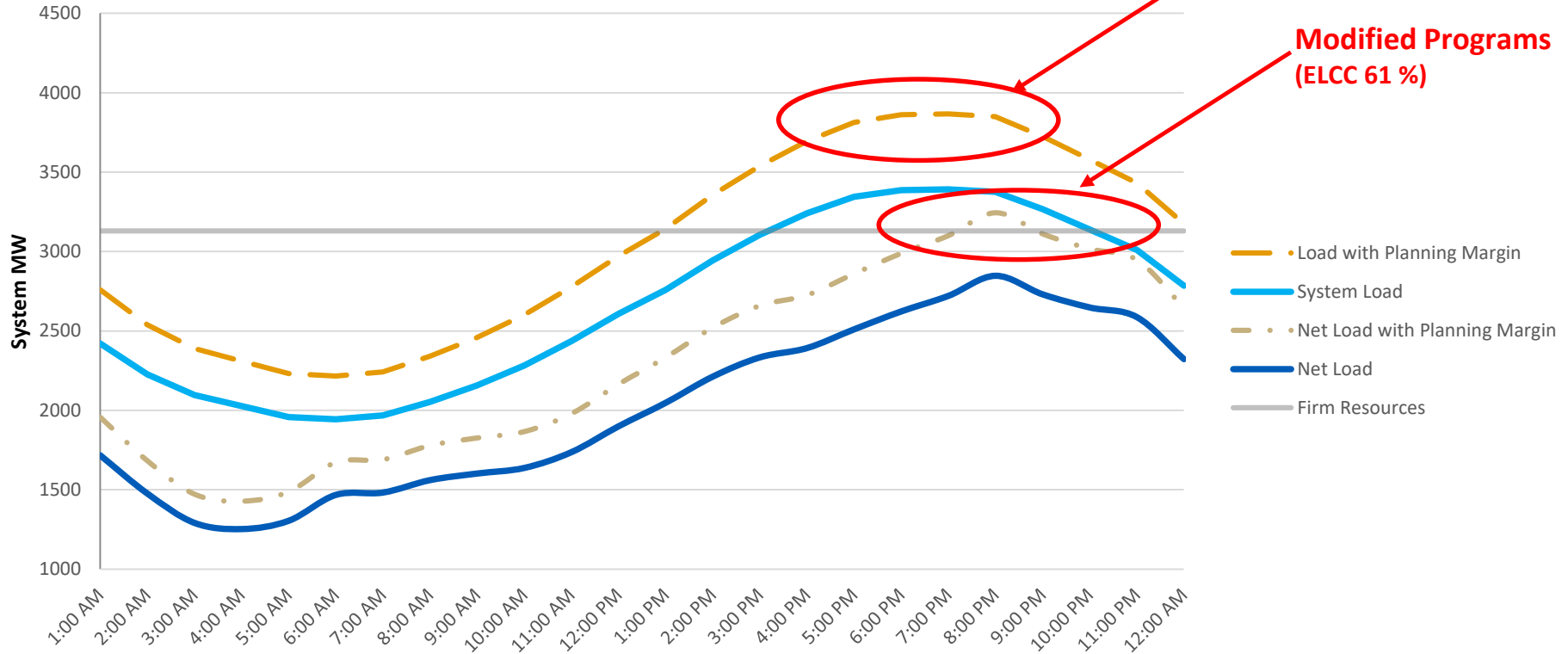
2021 IRP Analysis

- Net peak load drives the need.
- Need is on extremely hot summer evenings after solar falls off.
- Modifies a fundamental premise of the programs



The Need for Change

System Load vs Net System Load



Program Parameters

Program	Current Program	Proposed Program
Dates	June 15 to August 15	June 15 to September 15
Available Days	Weekdays and Saturdays No Sundays or Holidays (4 th of July)	Weekdays and Saturdays No Sundays or Holidays (4 th of July)
Times Available	1 p.m. to 9 p.m.	3 p.m. to 11 p.m.
Duration/Day	Maximum 4 Hours per Day	Maximum 4 Hours per Day
Duration/Week	No More than 15 Hours in a Week	No More than 16 Hours in a Week
Duration/Season	Maximum 60 Hours for Summer	Maximum 60 Hours for Summer

Effective Load Carrying Capacity



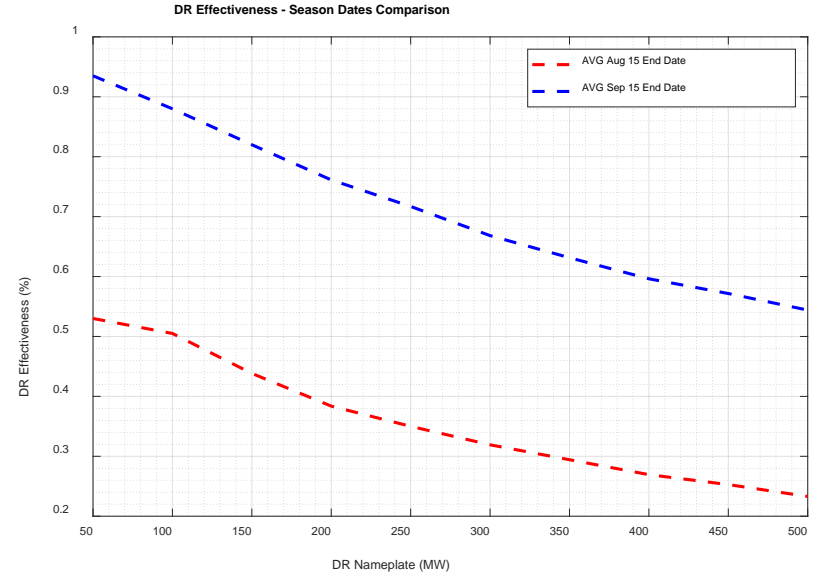
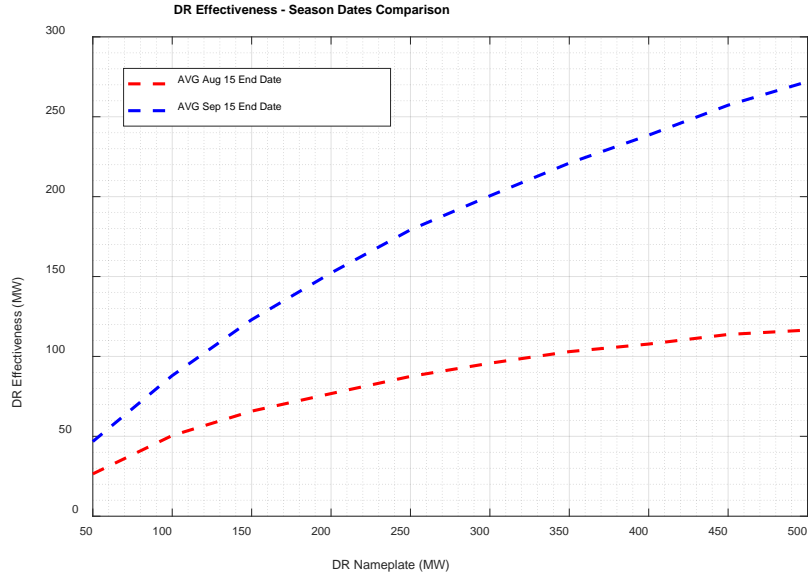
- Every generation resource has a loss-of-load probability assigned.
- ELCC is a statistical analysis method that assigns a measurement of effectiveness for a given resource as it relates to a “perfect generator.”
 - A “perfect generator” refers to a theoretical generation source that could be relied on 100% of the time and would experience no loss-of-load.
 - It also goes down as the size of the resource gets bigger.
- In Aurora:
 - All resources are evaluated with their associated ELCC, which ensures adequate capacity to cover the Load & Resource Balance with the Planning Margin.

ELCC of Demand Response



- The existing hour and season (1 p.m.–9 p.m. and June 15 through August 15) program parameters are not expected to be effective at meeting future system needs.
 - ELCC is estimated to be 19% for 380 MW of demand response (DR) currently enrolled with current parameters.
- By shifting the hours and season (3 p.m.–11 p.m. and June 15 through September 15), the ELCC or effectiveness of the program is improved.
 - ELCC is estimated to be 61% for 380 MW of DR enrollment.

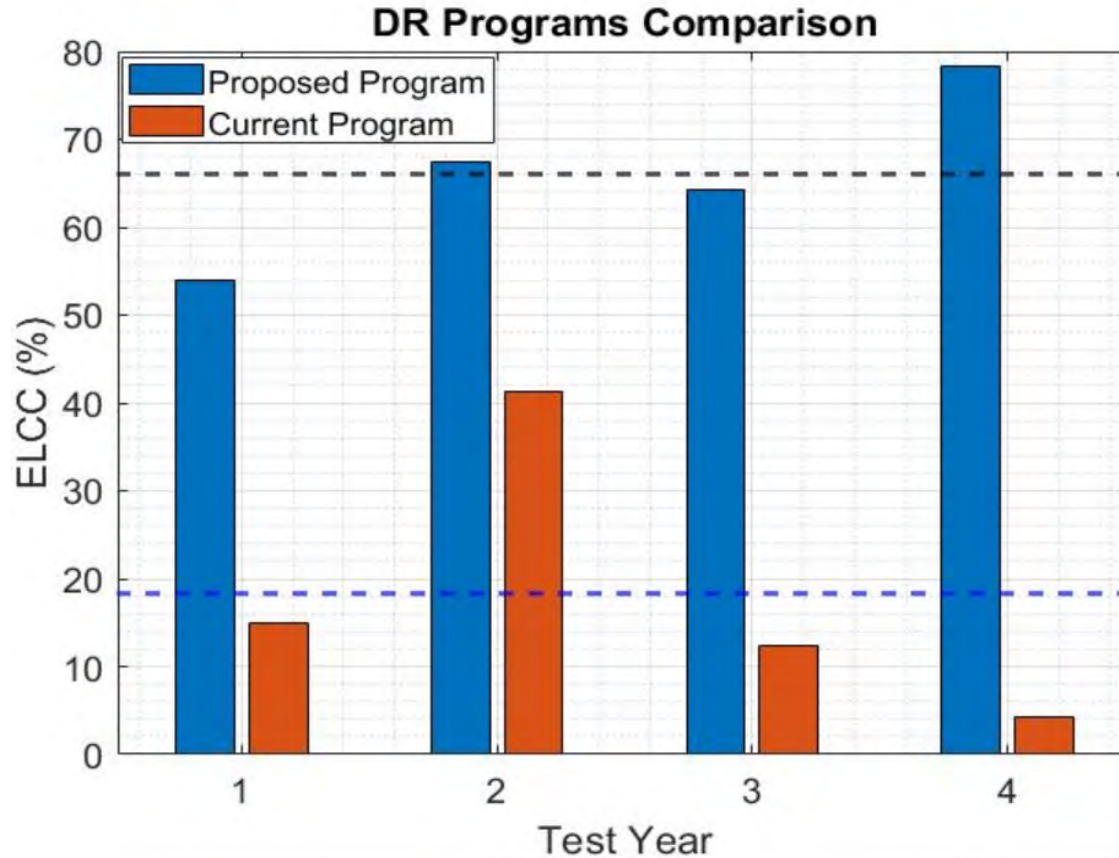
August 15 End Date Compared to September 15 End Date



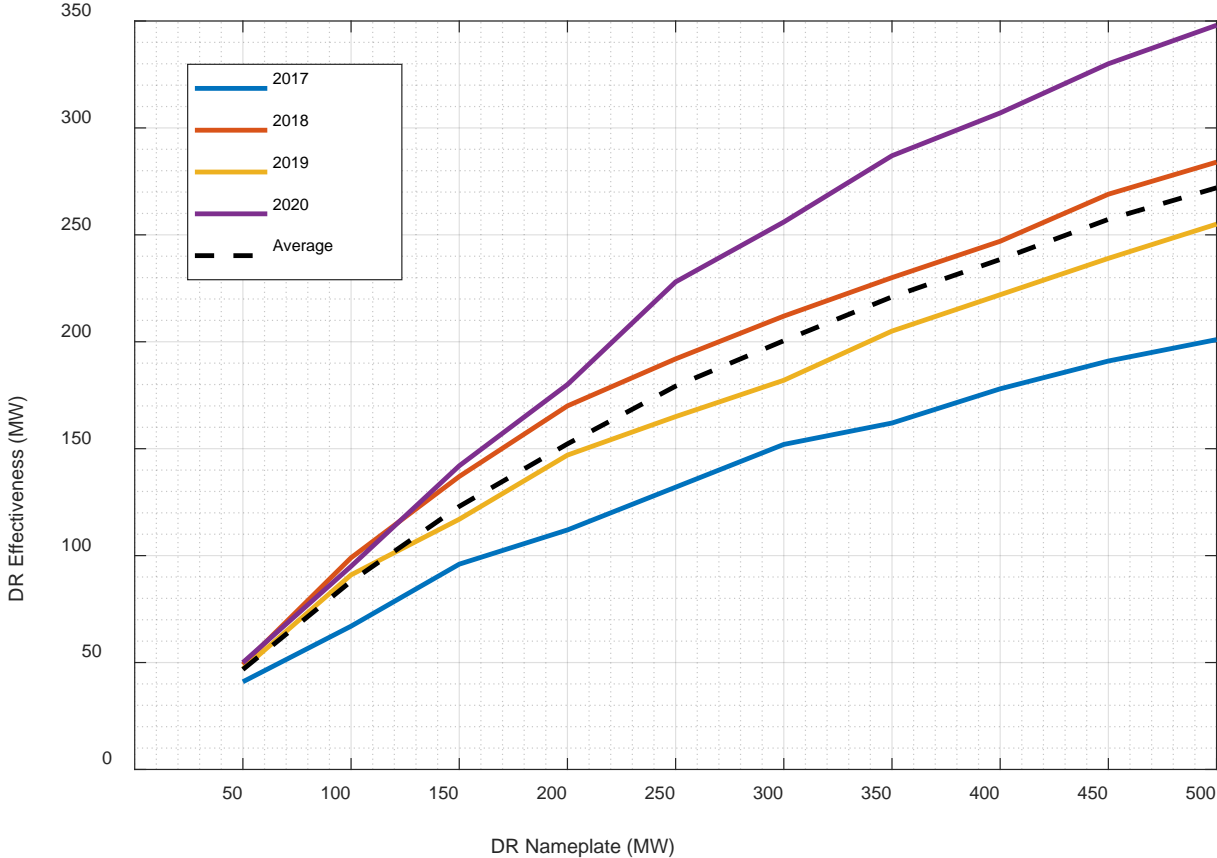
Modeling Parameters	Comparison Description
16 Hours per Week	<ul style="list-style-type: none"> • ELCC Comparison Between the Following Demand Response Season Dates: <ul style="list-style-type: none"> ✓ June 15 through August 15 ✓ June 15 through September 15
60 Hours per Season	
2023 Resources	
No Retirements Assumed	

Uses proposed program parameters with the only difference being the season dates

Overall Change



DR Effectiveness by Year



Parameters

June 15 – September 15

60 Hours per Season

16 Hours per Week

2023 Resources

Jackpot & Durkee Included

No Retirements Assumed

Valmy & Bridger Still On

Customer Engagement

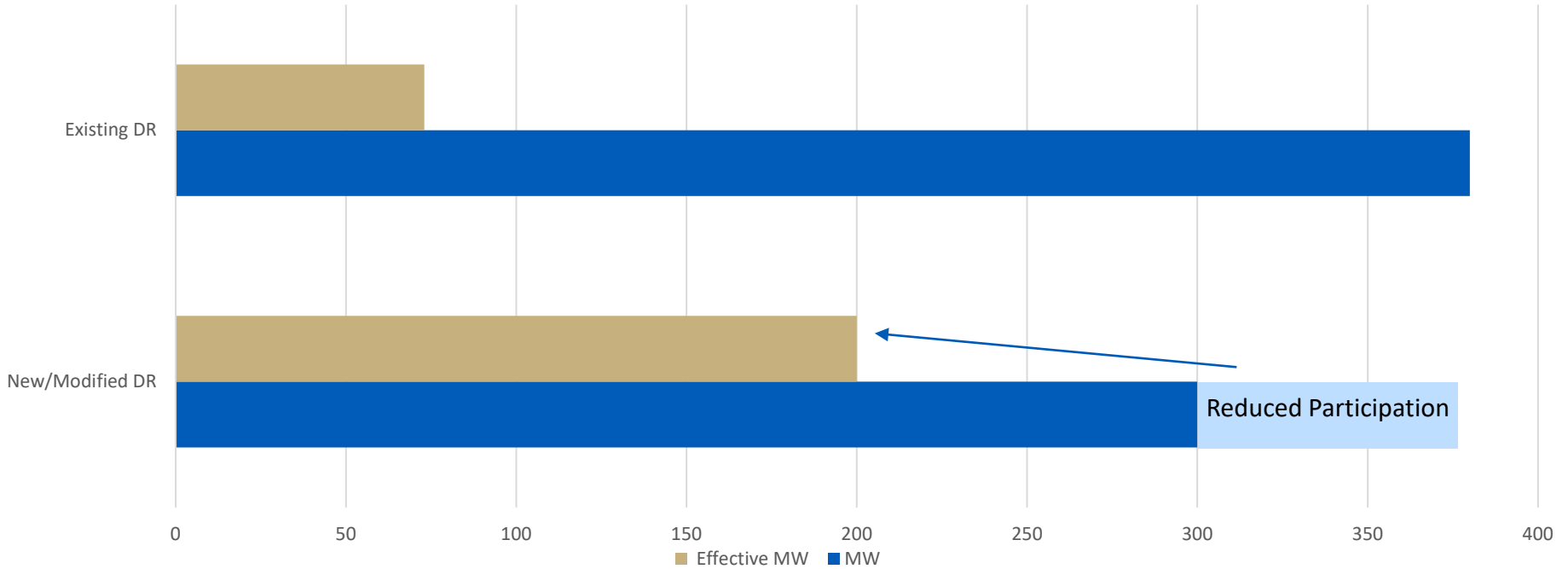
- Customer Surveys

- ✓ Residential
- ✓ Irrigation
- ✓ Commercial & Industrial

Review of Results

% Able to Participate			
Time Period	Residential AC	Irrigation	C & I
5-9 p.m.	87%	88%	79%
6-10 p.m.	80%	59%	71%
7-11 p.m.	77%	30%	67%

Possible Outcome



Potential for Expanded DR



- Northwest Power and Conservation Council Regional DR Potential
 - Committee involved multiple utilities and regional stakeholders
 - Determined costs and maximum regional potential for each type of DR program, which included:
 - Direct load control
 - Traditional demand response
 - Pricing programs
 - Distribution Voltage Regulation (DVR)
- Idaho Power's potential estimated to be 584 MW
 - Planning on modeling with an assumed 300 MW from existing programs
 - Allowing Aurora to pick up to 20 MW per year to the full 584 MW potential



Next Steps

- Customer feedback on draft program designs
- Refine concepts as needed
- Create final program designs
- Prepare updated tariffs and file case targeting September
- Implement changes prior to 2022 season

Questions/Comments?

