

Idaho Power IRP and Regional Resource Adequacy



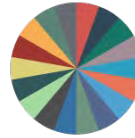
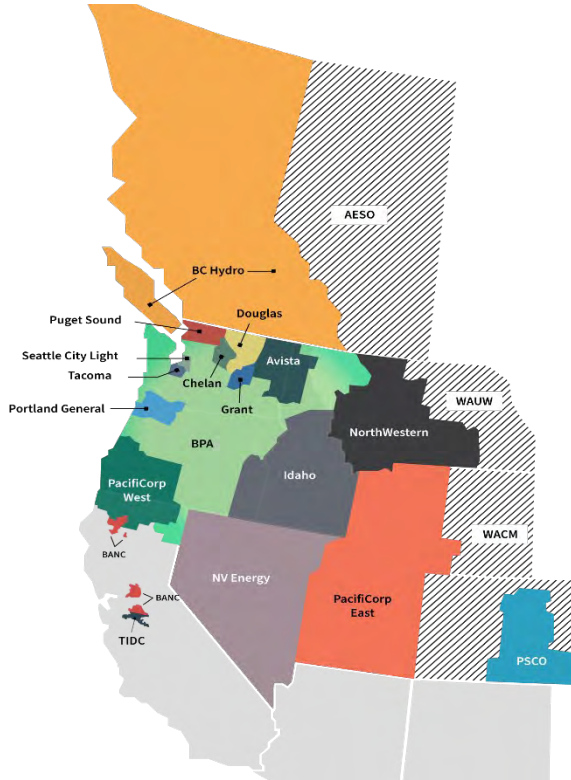
Ben Brandt – Load Serving Operations
May 2021

Agenda



- Background
 - Reserve Sharing Group
- Timeline
- Benefits
 - Diversity, Coordination, Transparency
- Program Structure
- Challenges
 - Unlocking Diversity (Transmission)

Northwest Power Pool Resource Adequacy Program



NWPP RA PARTICIPANTS TO DATE

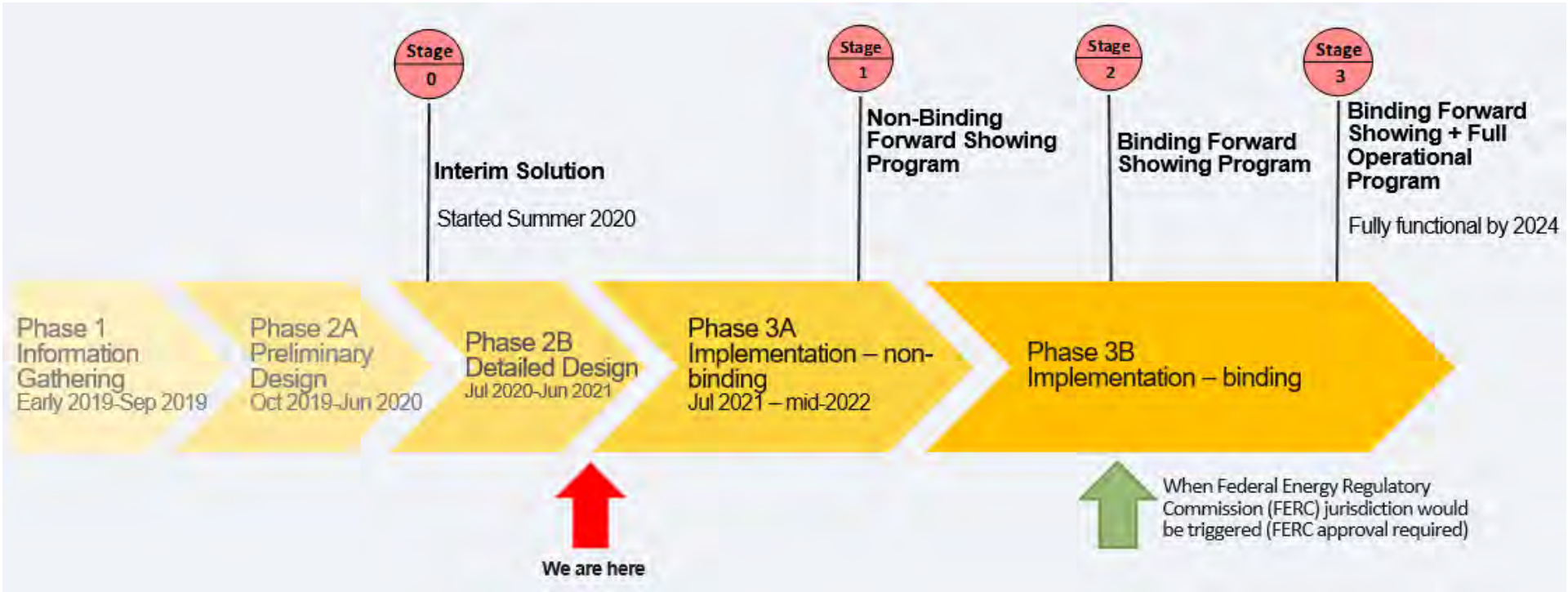


NWPP AREA



NON-NWPP AREA

Program Timeline



Diversity Benefit Example

LOAD DIVERSITY

- Entities across the region are unlikely to experience high loads at the same time; it is more likely that one entity's load comes in high while another is low.

	Peak MW	Peak + PRM
Individual Utility +15% Planning Reserve Margin (PRM)	33,574	46,398
Regional Peak +15% PRM	32,833	42,896
Regional Peak +12% PRM	31,977	41,777
Reduction (MW)	1,597	4,621

Capacity Critical Hours (CCH)



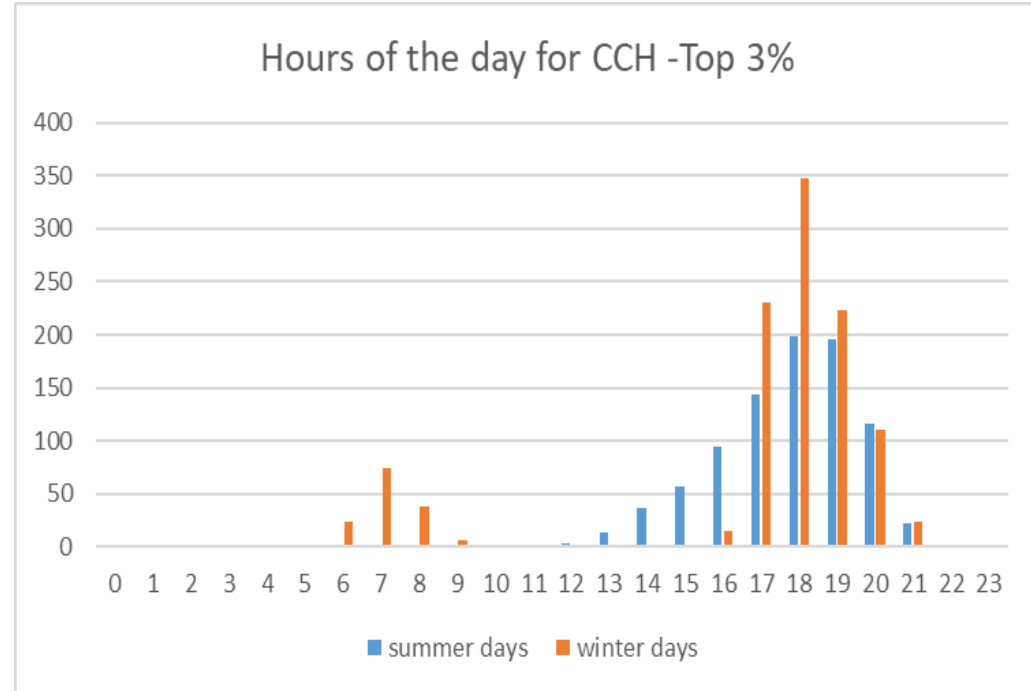
- Distribution of Hours of Day

- Summer

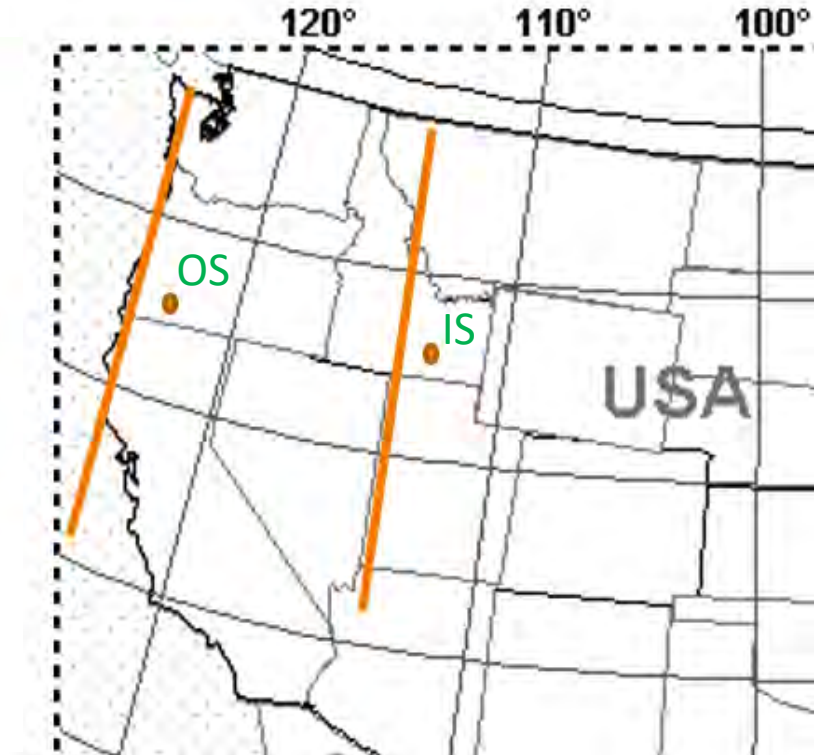
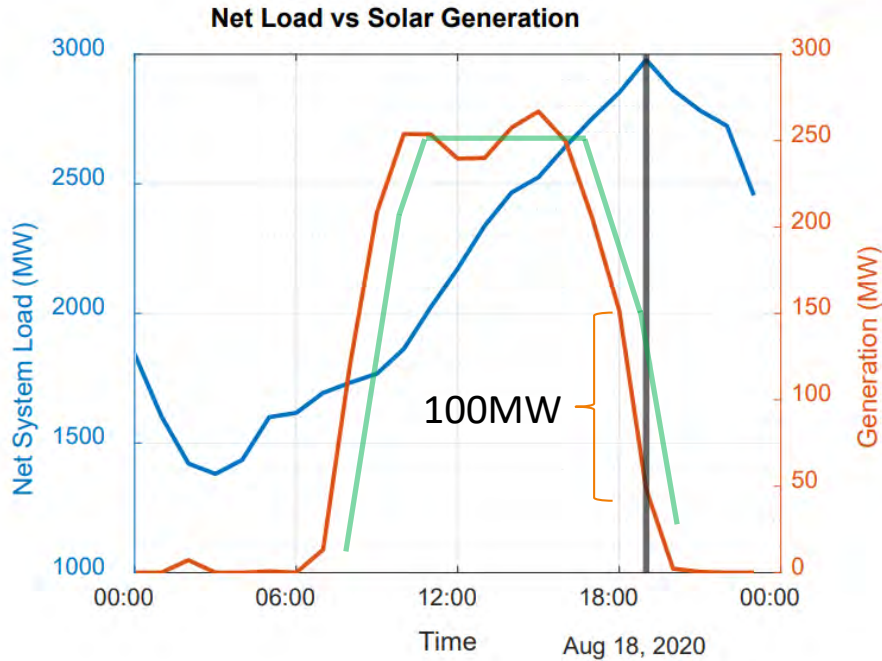
- Hour 18 – 23%
 - Hour 19 – 22%
 - Hour 17 – 16%

- Winter

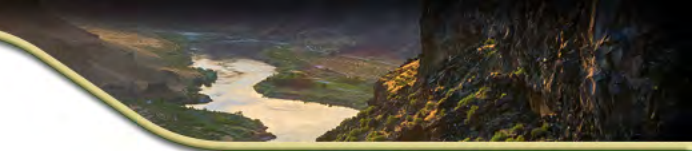
- Hour 18 – 32%
 - Hour 17 – 21%
 - Hour 19 – 20%



Regional Diversity & Effective Load Carrying Capability (ELCC)

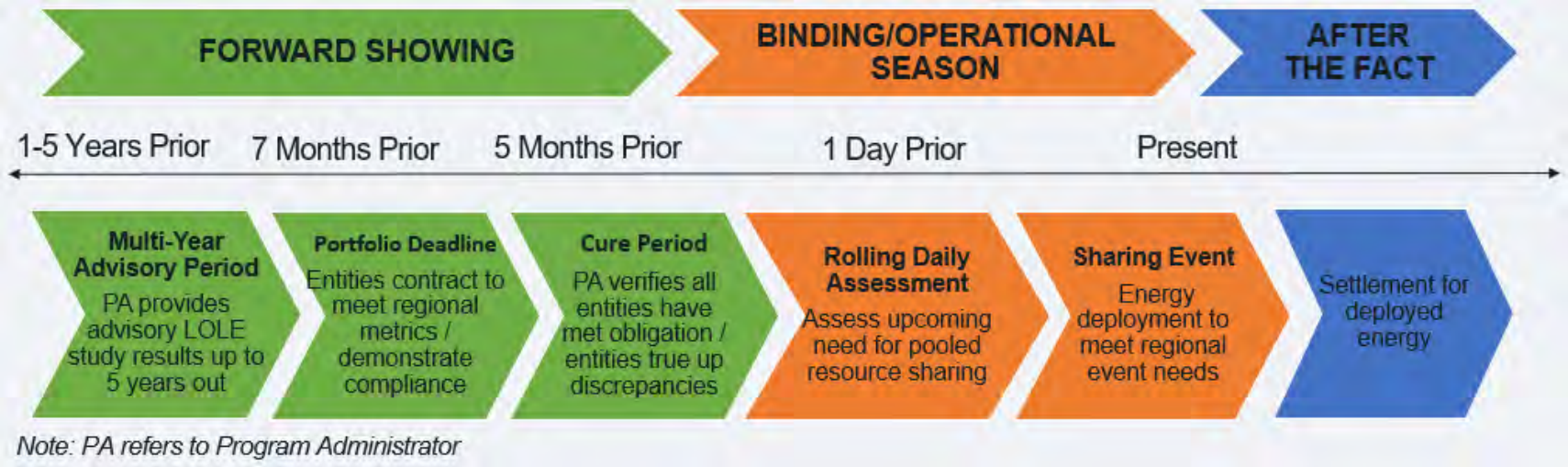


Improved ELCC



Resource Type	Rating Methodology	Summer QC/ELCC	Winter QC/ELCC	Note
Coal	UCAP	94%	94%	De-rated by EFORD
Oil	UCAP	94%	94%	De-rated by EFORD
Gas	UCAP	95%	95%	De-rated by EFORD
Bio/Geo	UCAP	94%	94%	De-rated by EFORD
Run-of-river hydro	NWPCC QC Methodology	36%	45%	Varies by locations/resource
Scheduled hydro	HWG #	TBD	TBD	E3 is presenting Scheduled Hydro ELCC but default is HWG numbers
Nuclear	UCAP	96%	96%	De-rated by EFORD
Wind	ELCC	13%	10%	With diversity value allocated
Solar	ELCC	51%	19%	With diversity value allocated
Storage 4-hour	ELCC	61%	12%	On top of the system (i.e. after hydro)
Imports	Imports capability	100%	100%	BA-specific imports, which should be distinguished from regional imports modeled in the imports/exports analysis.

Program Structure



LOLE – Loss Of Load Expectation

Challenges to Unlocking Diversity

Primary Hub – Mid Columbia

- Some Load Serving Entities multiple “wheels” away across constrained paths

Second Hub Proposal

- Dilutes diversity
- Could be “tied” together in the future creating a single hub



Implications of a Regional Resource Adequacy Program



Table ES-1 IRP RA components, impact from a regional RA program on these components, and how control of these components is allocated

IRP RA Component	Report Section	Impact of Regional RA Program on IRP	Control of RA Elements of IRP
RA Reliability Targets	3.1.1	High	Regional
Net Load Forecast	3.1.2		
Load Forecast	3.1.2.1	Medium	Shared
Demand-side Resources	3.1.2.2	Low	Local
Future Resource Portfolio	3.1.3		
Modelling Approach	3.1.3.1	Low	Local
Resource Capacity Credit	3.1.3.2	High	Regional
Market Transactions	3.1.3.3	Low	Local
Transmission Expansion	3.1.4	Medium	Shared
Emerging Technologies	3.1.5	Low	Local
Load Uncertainty	3.2.1	Low	Local
Power Supply Uncertainty	3.2.2	Low	Local
Preferred Portfolio / Utility Resource Mix	Overall	Low	Local

Questions?

