Distribution Planning Advisory Group

System Needs

DPAG 2 – August 2025

John Gross, P.E. Manager, System Planning

Agenda & Meeting Etiquette

Agenda

- Introductions and Logistics
- Distribution System Needs
- Transmission System Needs
- Transmission Capacity Needs
- Generation/Load Interconnections
- Future Meeting Topics
- Questions & Discussions

Meeting Etiquette

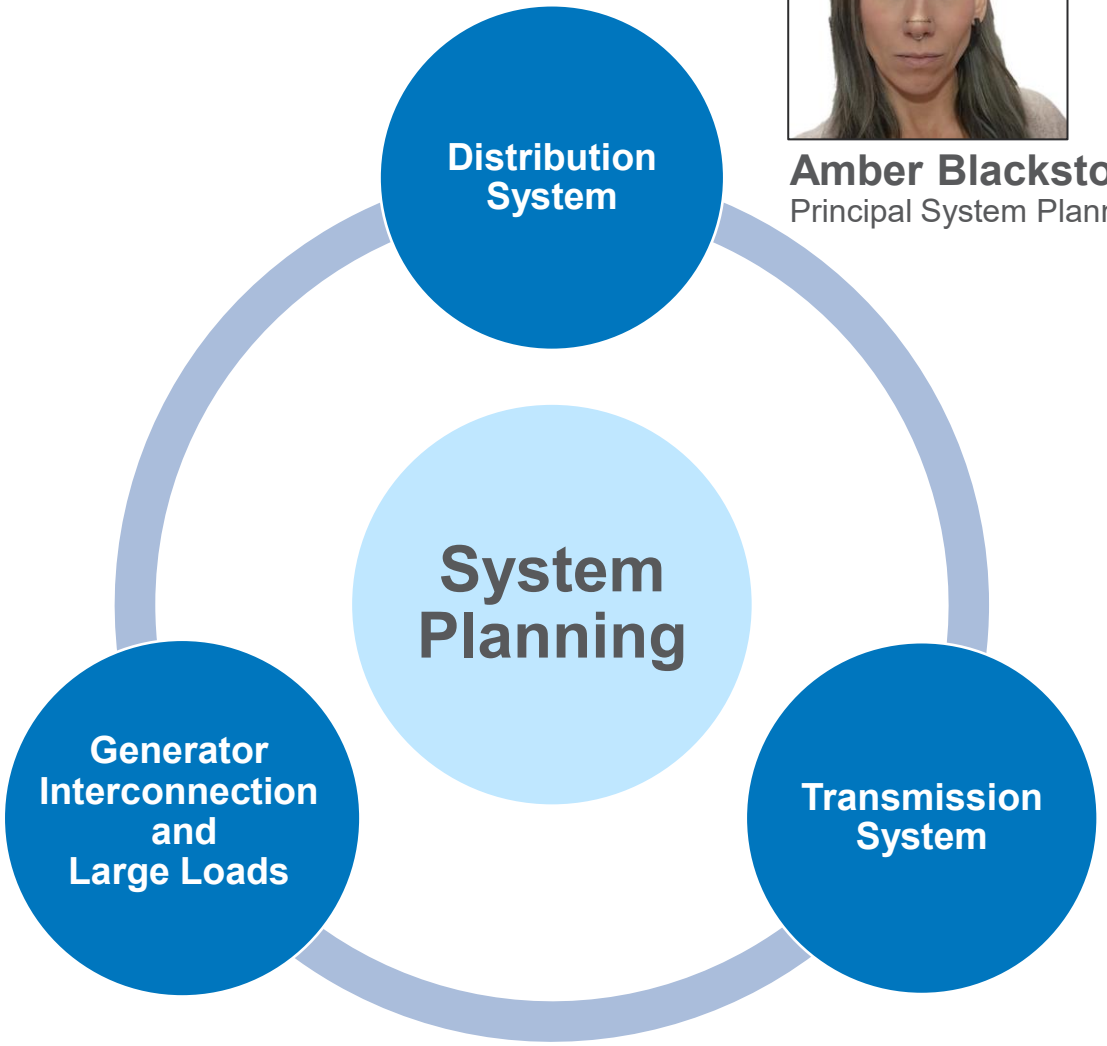
- Meetings will be recorded & posted
- Mute speakers & cameras optional
- Questions in the chat or use the “raise hand” feature
- Respect diverse opinions

Presenters & Topics

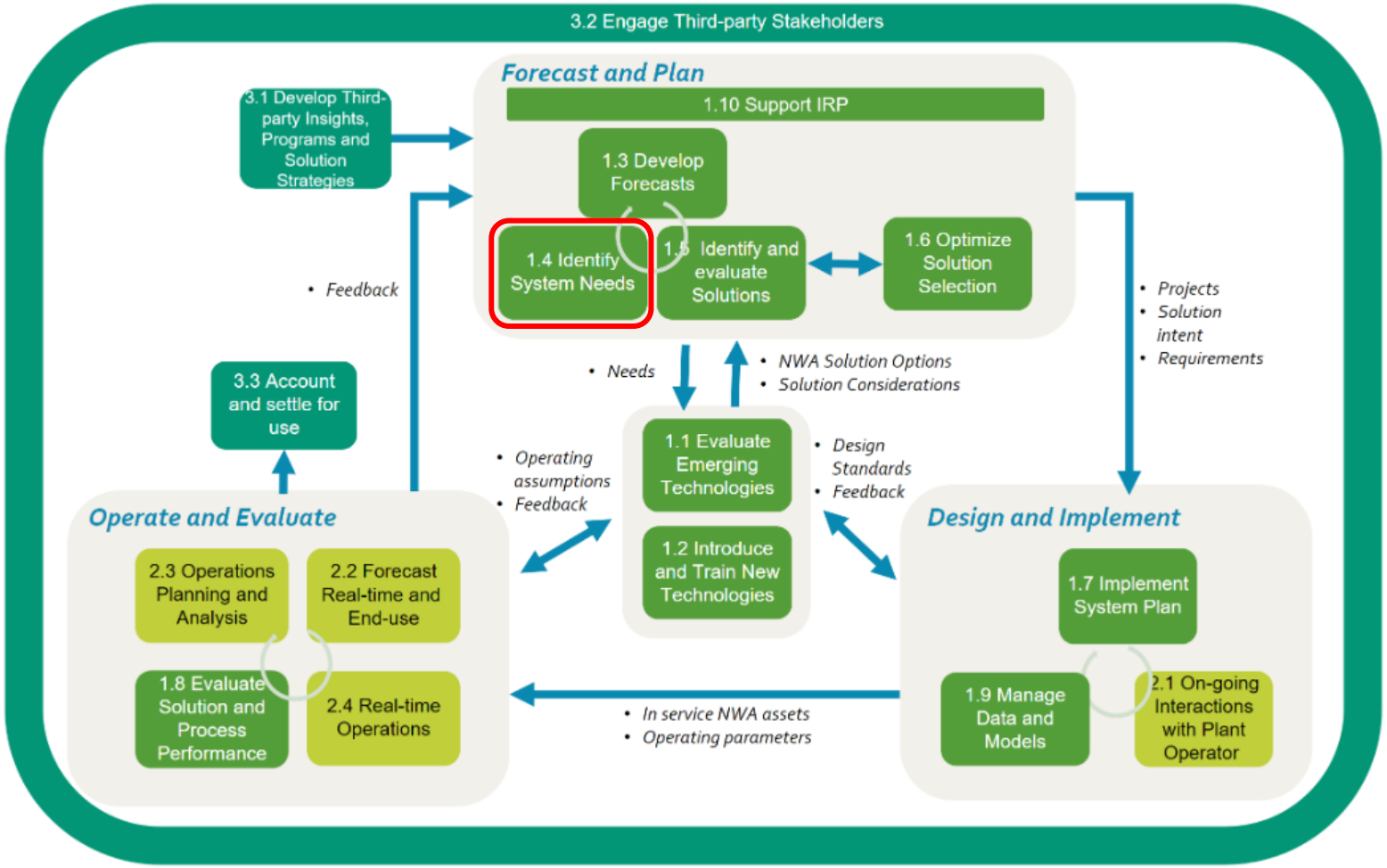
Amber Blackstock
Principal System Planning Engineer

David Thompson
System Planning Engineer

Dean Spratt
Principal System Planning Engineer



Avista's Planning Cycle



Stakeholder Engagement

System Operations

Planning, Engineering and Field Implementation

Distribution System Needs

Amber Blackstock | Principal System Planning Engineer

Evaluating the Distribution System

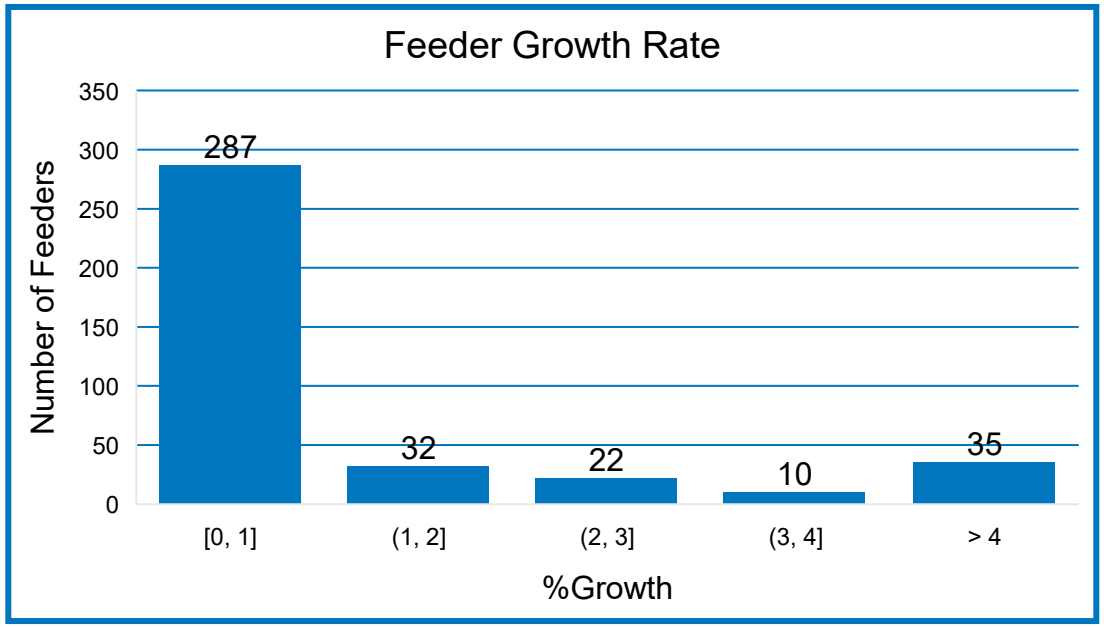
System metrics

- 420 feeders, 183 transformers
- 1 in 10 conditions adjusted for weather normalization

Location	Heavy Summer	Heavy Winter
Colville	103º	-19°
Sandpoint	102°	-10°
Lewiston	108°	-10°
St Maries	102°	-14°
Spokane	104°	-17°
Othello	108°	-15°
Silver Valley	102°	-14°

Forecasted Demand

- Use three years of historical measurement
- Multi-variable regression at feeder level
- Distributed Energy Resource Potential Assessment



Identified Capacity Constraints

Substation Projects

	Count	Cost
Rebuild	2	$21 M
Expansion	3	$32 M
New	4	$76 M

Equipment operating beyond 80% of its rated capacity, pre-project.

	2025	2034
Transformers	35	47
Feeders	32	49

Key Focus Areas

- Colville
- East Lake CDA
- Lewiston
- Post Falls/Rathdrum
- Moscow
- North Spokane
- Sandpoint

Summer Results – Pre-Project

NAME	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
CDA124	89%	93%	97%	100%	102%	104%	106%	107%	109%	110%	111%
M15 - XFMR #1	96%	98%	99%	101%	102%	103%	104%	105%	105%	106%	106%
LOL - XFMR #3	92%	95%	97%	99%	100%	102%	103%	104%	104%	105%	106%
PVW - XFMR #1	80%	85%	89%	92%	95%	98%	100%	102%	103%	104%	105%
LOL1266	82%	86%	90%	93%	96%	98%	100%	101%	102%	104%	104%
GLN - XFMR #1	91%	93%	95%	97%	98%	99%	100%	101%	101%	102%	102%
PVW241	76%	81%	85%	88%	91%	94%	96%	98%	100%	101%	102%
TEN - XFMR #2	94%	95%	96%	97%	98%	98%	99%	99%	100%	100%	100%
PDL - XFMR #1	94%	95%	96%	97%	97%	98%	98%	99%	99%	99%	99%
SPT - XFMR #2	93%	94%	95%	95%	96%	97%	97%	97%	98%	98%	98%
VAL - XFMR #1	94%	94%	94%	94%	94%	94%	94%	94%	94%	94%	94%
PRA - XFMR #2	94%	94%	94%	94%	94%	94%	94%	94%	94%	94%	94%
LOL1359	90%	91%	91%	92%	92%	92%	93%	93%	93%	93%	93%
PF213	77%	80%	83%	85%	87%	88%	90%	91%	92%	92%	93%
GLN12F2	75%	78%	81%	84%	86%	87%	89%	90%	91%	92%	92%
SIP - XFMR #3	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%
SIP12F1	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%
K34	82%	83%	85%	86%	87%	88%	89%	89%	90%	91%	91%
ROS - XFMR #2	91%	91%	91%	91%	91%	91%	91%	91%	91%	91%	91%

Summer Results – Post-Project

NAME	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
CDA124	89%	79%	82%	85%	87%	89%	90%	91%	92%	93%	94%
M15 - XFMR #1	96%	98%	99%	101%	102%	103%	63%	64%	64%	64%	64%
LOL - XFMR #3	92%	95%	97%	99%	90%	92%	93%	94%	59%	60%	60%
PVW - XFMR #1	80%	75%	78%	82%	35%	36%	37%	38%	39%	39%	40%
LOL1266	82%	86%	90%	93%	75%	77%	78%	79%	85%	86%	86%
GLN - XFMR #1	91%	93%	95%	97%	98%	59%	60%	60%	61%	61%	61%
PVW241	76%	63%	67%	70%	33%	35%	36%	36%	37%	37%	38%
TEN - XFMR #2	94%	95%	96%	97%	98%	98%	99%	82%	82%	82%	83%
PDL - XFMR #1	94%	95%	96%	97%	97%	98%	98%	99%	99%	99%	99%
SPT - XFMR #2	93%	94%	95%	55%	55%	56%	56%	56%	56%	57%	57%
VAL - XFMR #1	94%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%
PRA - XFMR #2	94%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
LOL1359	90%	91%	91%	92%	90%	90%	90%	75%	71%	72%	72%
PF213	77%	80%	83%	85%	62%	63%	64%	65%	66%	66%	67%
GLN12F2	75%	78%	81%	84%	86%	83%	85%	86%	87%	88%	89%
SIP - XFMR #3	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%
SIP12F1	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%
K34	82%	83%	85%	86%	87%	88%	89%	89%	90%	91%	91%
ROS - XFMR #2	91%	91%	91%	91%	91%	91%	91%	91%	91%	91%	91%

Winter Results – Pre-Project

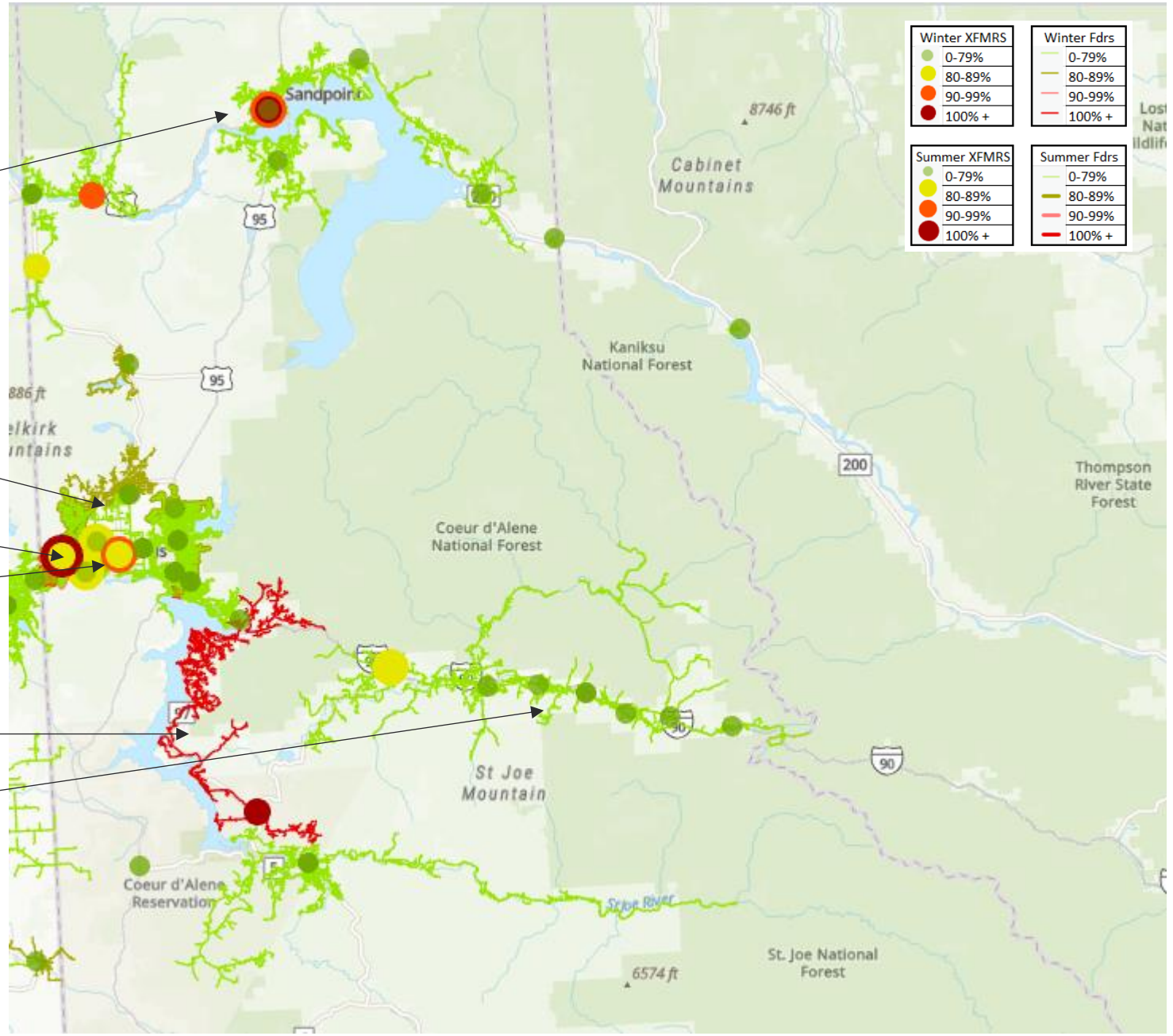
NAME	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
M15 - XFMR #1	108%	111%	113%	115%	117%	119%	120%	121%	122%	123%	123%
K34	100%	102%	103%	105%	106%	107%	108%	109%	110%	111%	111%
SPT - XFMR #2	104%	105%	106%	107%	108%	108%	108%	109%	109%	109%	110%
ORI - XFMR #1	104%	104%	105%	105%	105%	106%	106%	106%	106%	106%	106%
VAL - XFMR #1	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
MLN12	99%	100%	101%	102%	102%	103%	103%	103%	103%	104%	104%
M15515	76%	81%	86%	89%	93%	95%	98%	100%	101%	103%	104%
OGA611	86%	89%	92%	95%	97%	98%	100%	101%	102%	103%	103%
OGA - XFMR #1	84%	88%	90%	93%	95%	97%	98%	99%	100%	101%	102%
BLU321	86%	89%	92%	94%	96%	97%	99%	100%	101%	101%	102%
SPAS_SP_12	97%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%
TUR116	93%	94%	94%	95%	95%	95%	95%	96%	96%	96%	96%
PRV - XFMR #1	92%	92%	92%	93%	93%	93%	93%	93%	93%	94%	94%
SPA - XFMR #1	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%
M15514	85%	87%	88%	89%	90%	91%	92%	92%	93%	93%	93%
KAM1291	91%	92%	92%	92%	92%	92%	93%	93%	93%	93%	93%
GRV - XFMR #1	90%	90%	91%	91%	91%	92%	92%	92%	92%	92%	92%
MLN - XFMR #2	88%	89%	89%	90%	90%	90%	91%	91%	91%	91%	91%
MIS - XFMR #1	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%

Winter Results – Post-Project

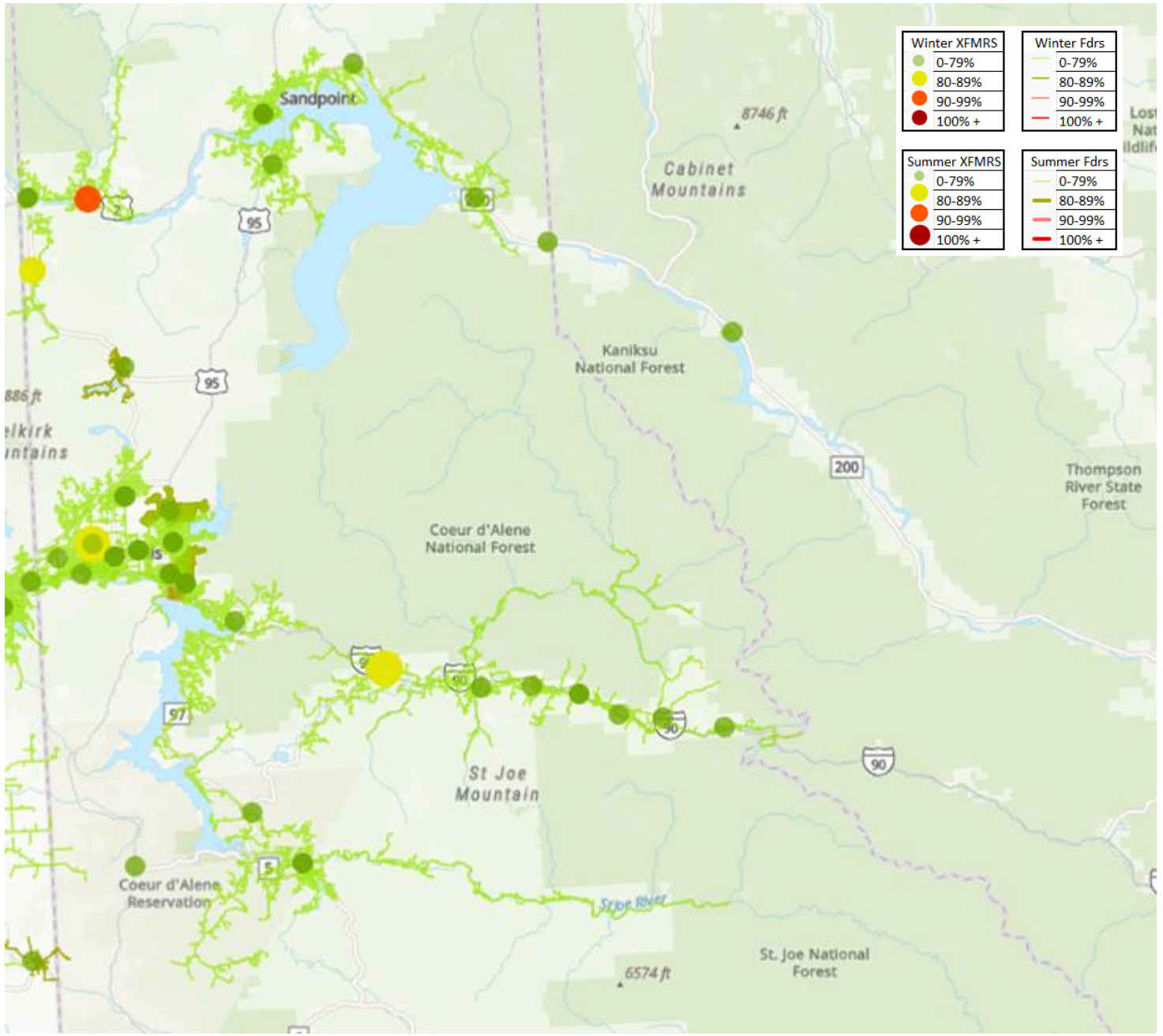
NAME	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
M15 - XFMR #1	108%	111%	113%	115%	117%	119%	64%	64%	64%	65%	65%
K34	100%	102%	103%	105%	106%	107%	108%	109%	110%	111%	111%
SPT - XFMR #2	104%	105%	106%	60%	60%	60%	61%	61%	61%	62%	62%
ORI - XFMR #1	104%	104%	105%	105%	43%	43%	43%	43%	43%	43%	43%
VAL - XFMR #1	106%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%
MLN12	99%	100%	101%	102%	102%	103%	103%	103%	103%	104%	104%
M15515	76%	81%	86%	89%	93%	95%	25%	25%	26%	26%	26%
OGA611	86%	89%	92%	95%	64%	22%	22%	22%	22%	22%	22%
OGA - XFMR #1	84%	88%	90%	93%	69%	24%	24%	24%	24%	25%	25%
BLU321	86%	89%	92%	94%	33%	34%	35%	35%	35%	35%	35%
SPAS_SP_12	97%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%
TUR116	93%	94%	94%	95%	95%	95%	95%	96%	96%	96%	96%
PRV - XFMR #1	92%	92%	92%	93%	93%	93%	93%	93%	93%	94%	94%
SPA - XFMR #1	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%
M15514	85%	87%	88%	89%	90%	91%	61%	61%	61%	61%	62%
KAM1291	91%	92%	92%	92%	92%	92%	93%	93%	93%	93%	93%
GRV - XFMR #1	90%	90%	91%	91%	91%	92%	92%	92%	92%	92%	92%
MLN - XFMR #2	88%	89%	89%	90%	90%	90%	91%	91%	91%	91%	91%
MIS - XFMR #1	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%

System Needs East

- Bronx
- Rathdrum
- Pleasant View
- Poleline
- Carlin Bay
- Bunker Hill

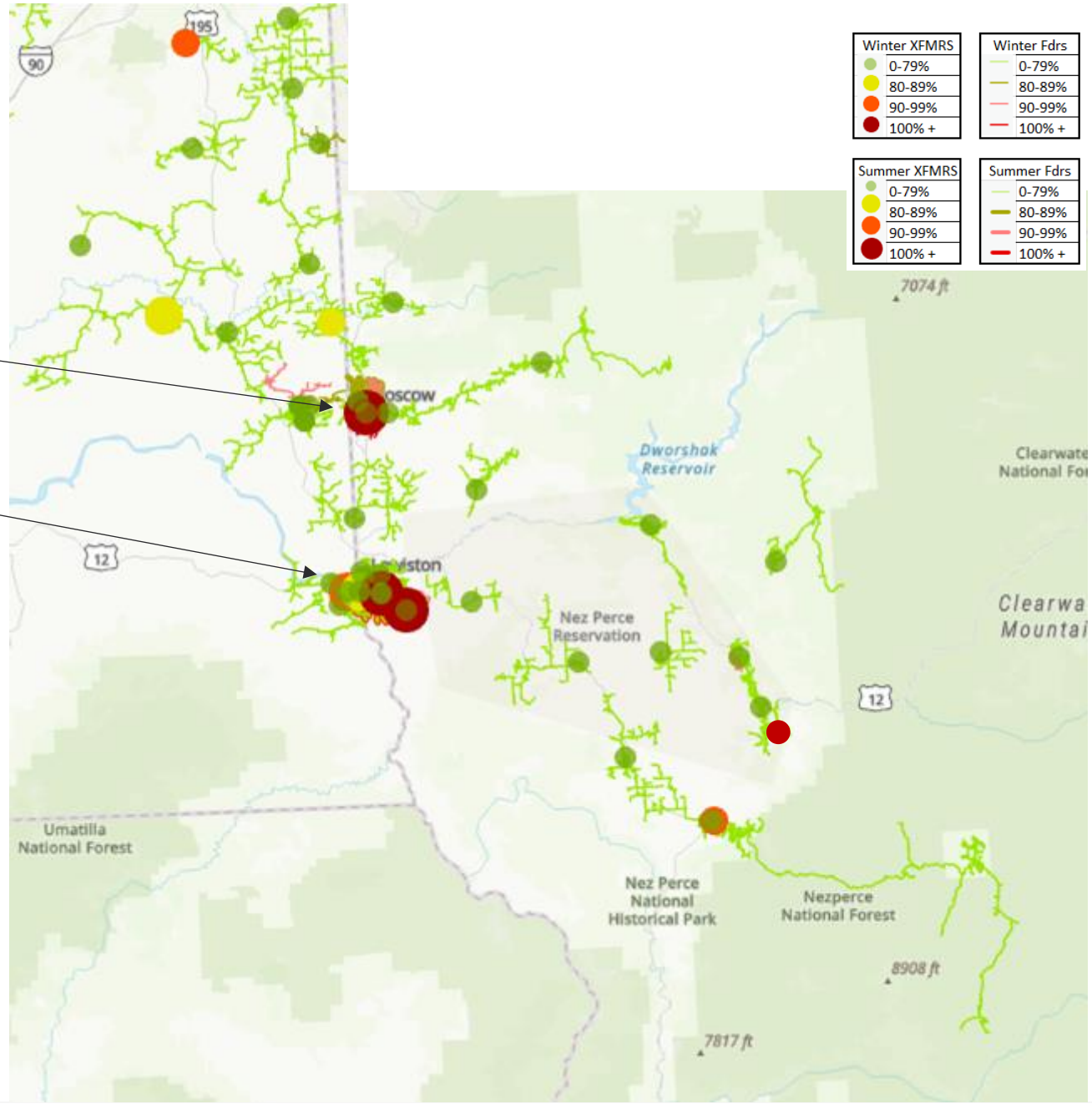


System Needs East



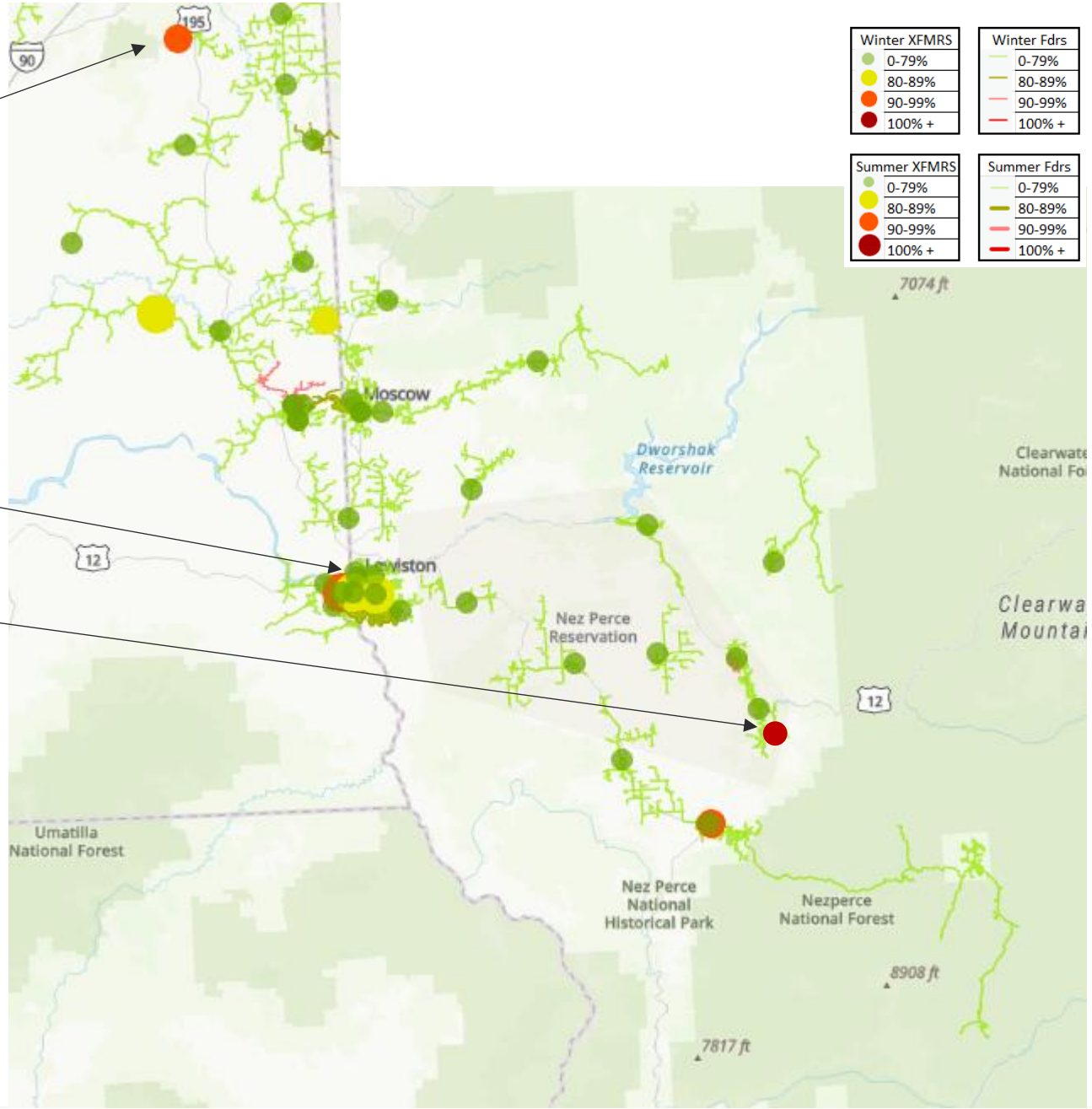
System Needs South

- Moscow
- Lewiston



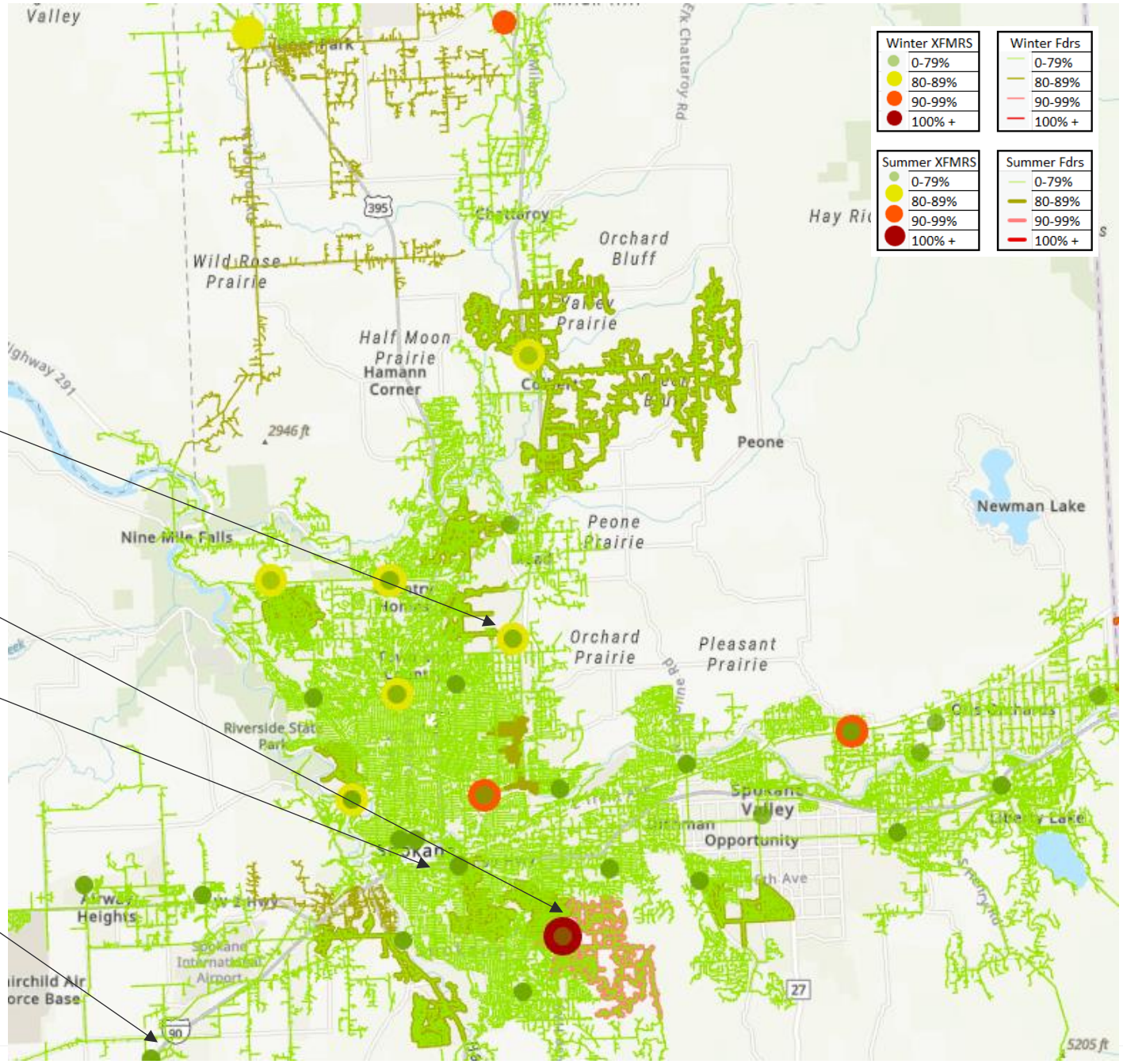
System Needs South

- Spangle
- Lewiston
- K34



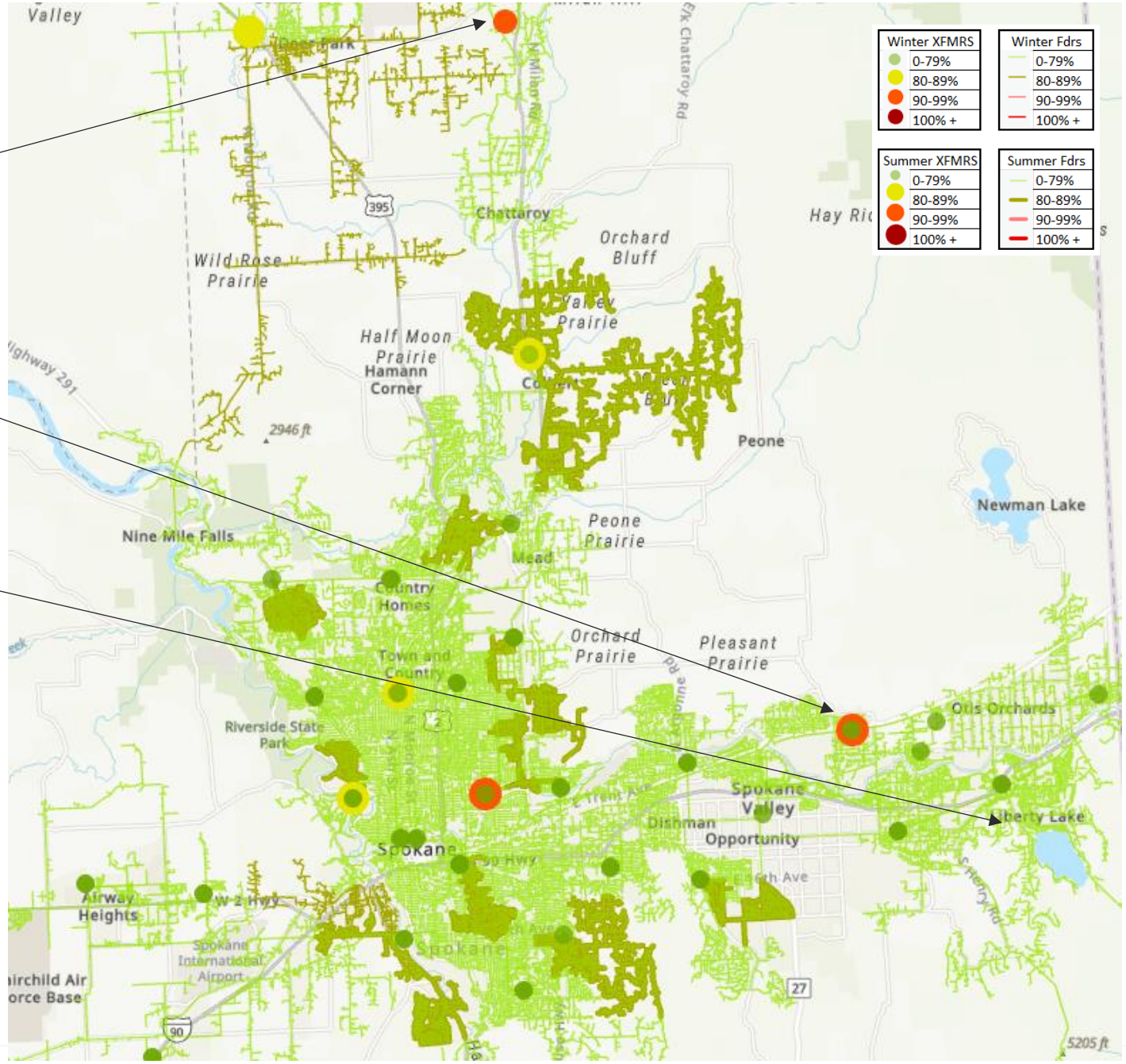
System Needs Spokane

- Northeast
- Glenrose
- Metro
- Melville



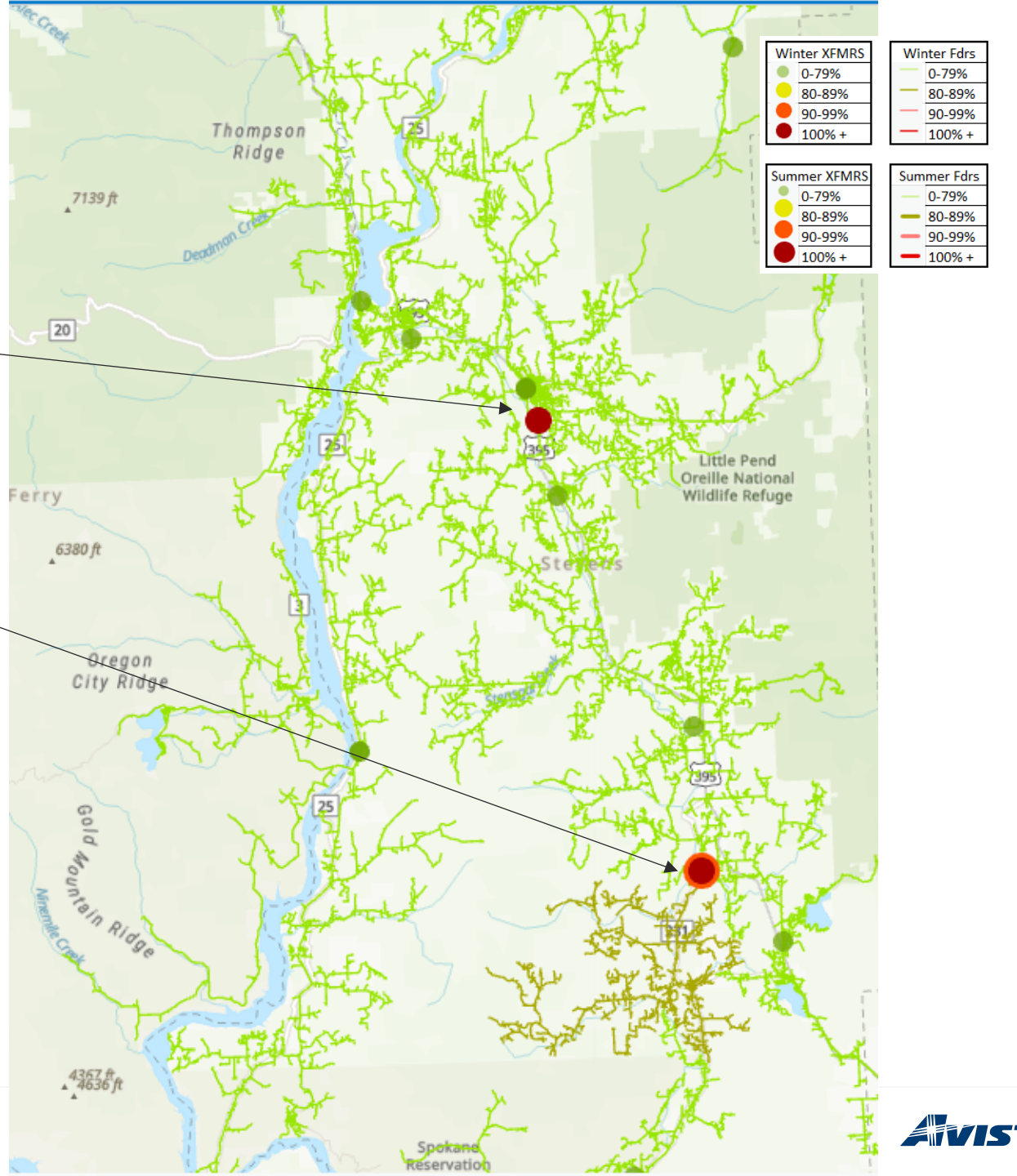
System Needs Spokane

- Milan
- Spokane Industrial Park
- Liberty Lake

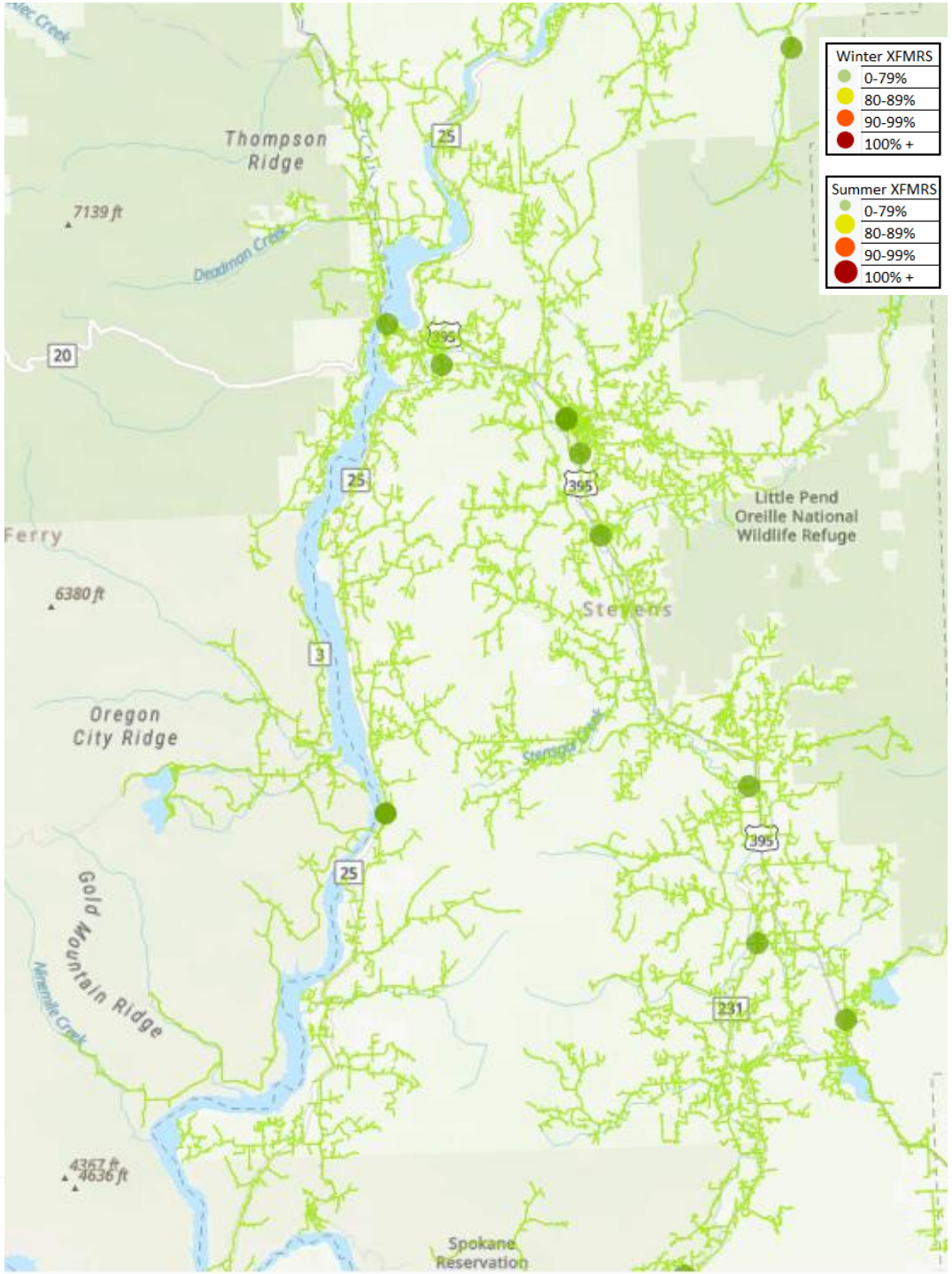


System Needs West

- Orin
- Valley



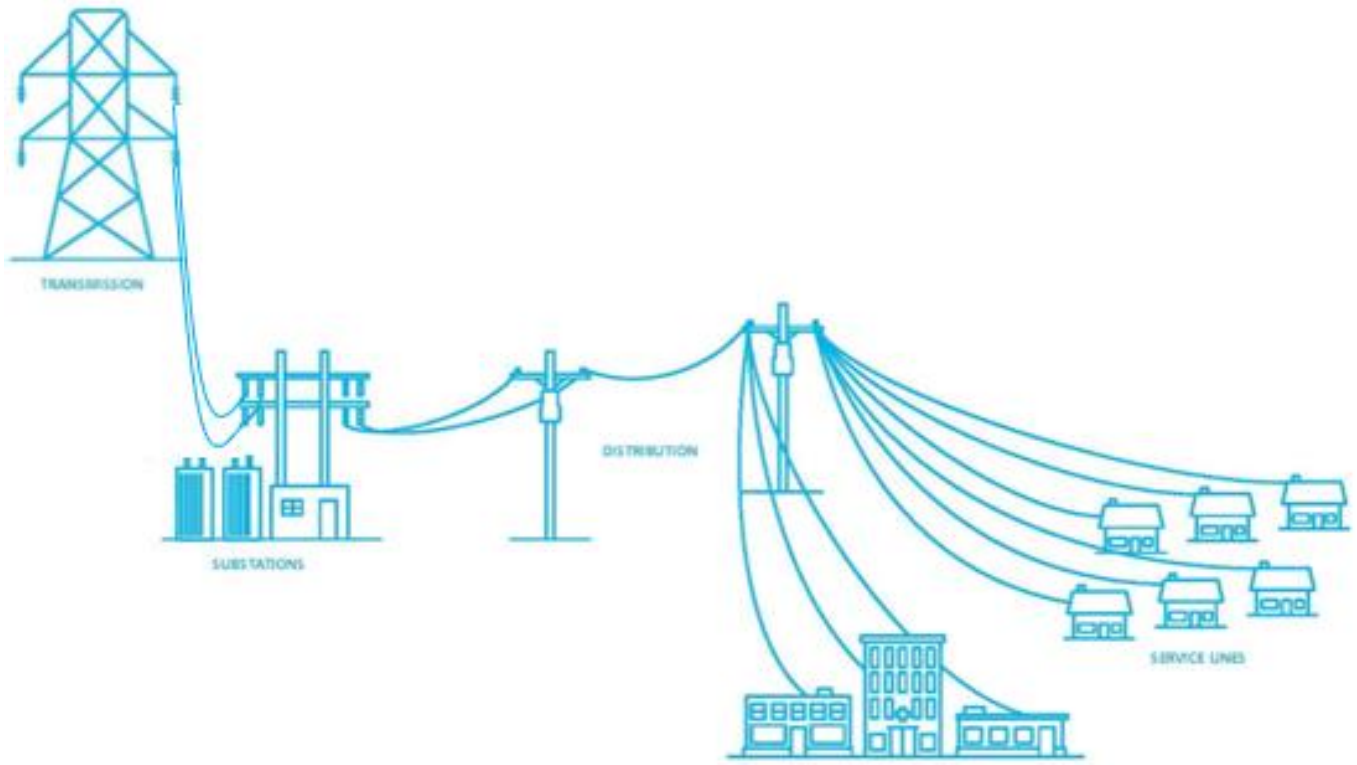
System Needs West



Correction Action Plans

Solutions

- Operational
  - Phase Balance
  - Load Transfer
- Non-Wire Alternatives
- Equipment Sizing
- Feeder addition
- Substation Expansion
- New Substation



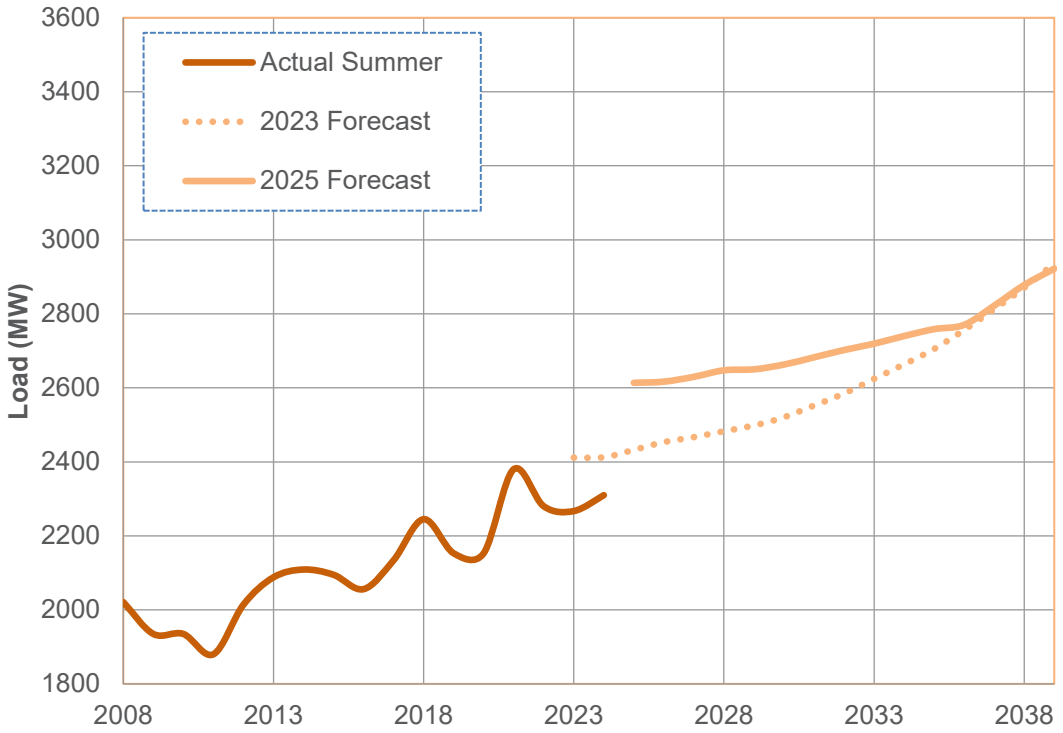
Transmission System Needs

Load Service

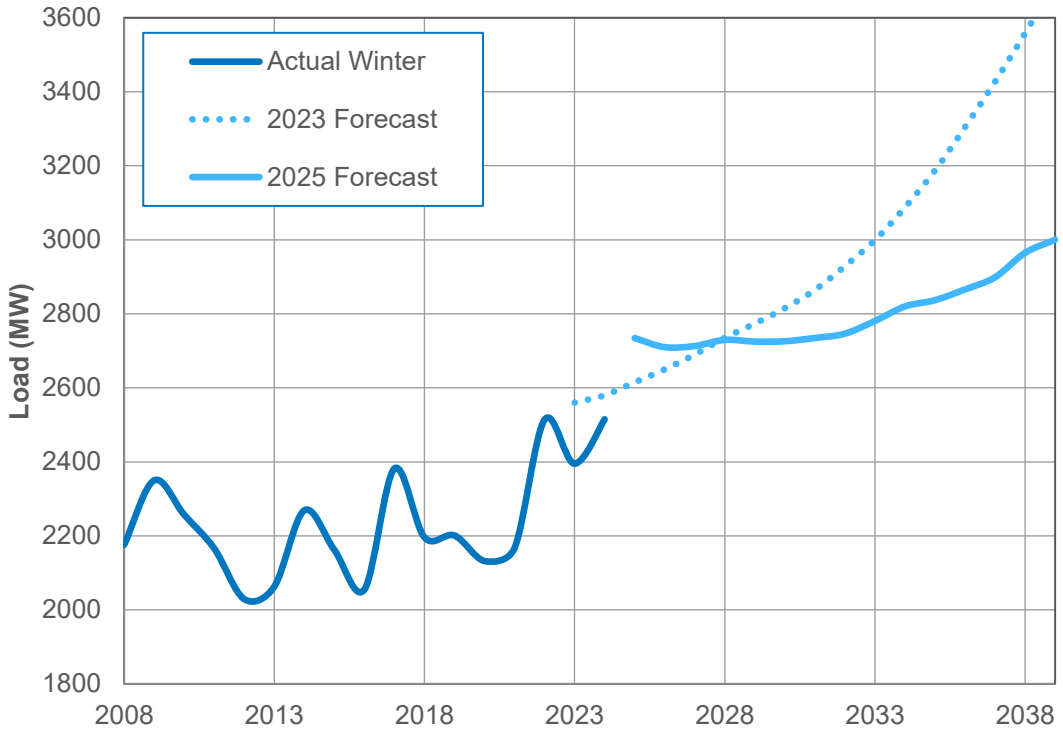
Dean Spratt | Principal System Planning Engineer

Load Growth Assumptions

Summer Balancing Area Forecast



Winter Balancing Area Forecast



- Vehicle and building electrification included
- 1-in-10 probability of weather occurrence (104° and -20°)

Transmission Performance Criteria

Planning Horizons

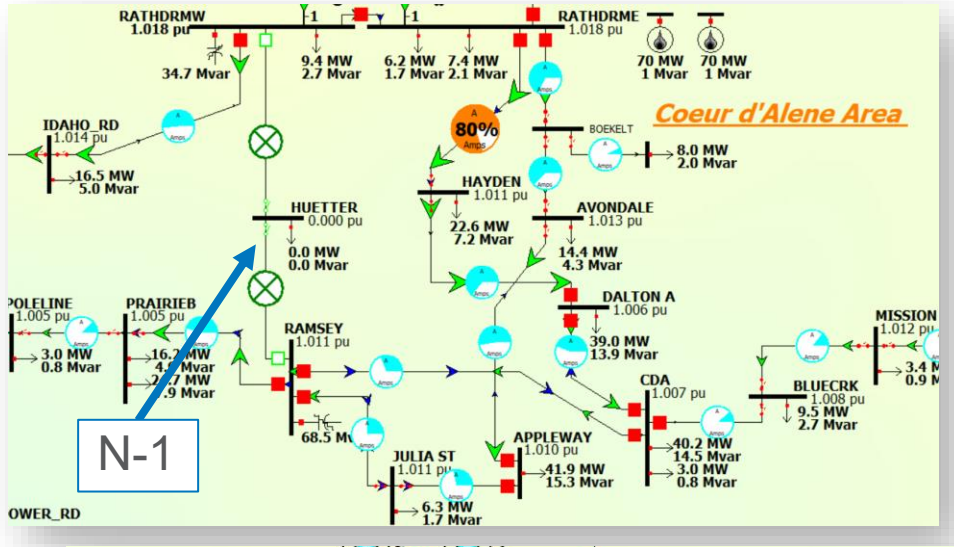
- Near Term – 1-5 years
- Long Term – 5-10+ years

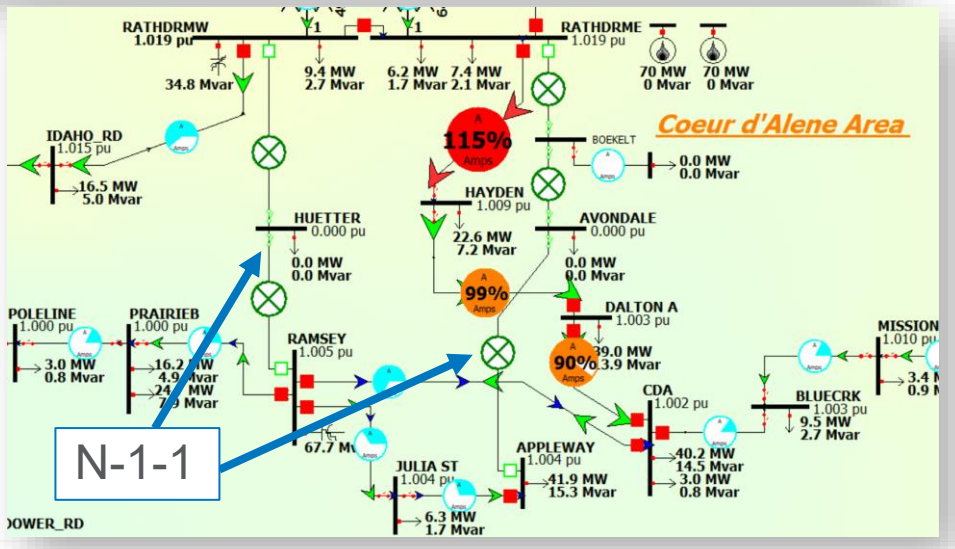
System Conditions

- Peak loading
- Light loading
- Sensitivities

Performance

- Meet applicable facility ratings
- N-1 – loss of single facility
- N-1-1 – loss of any two facilities





Beacon Transmission Reinforcement

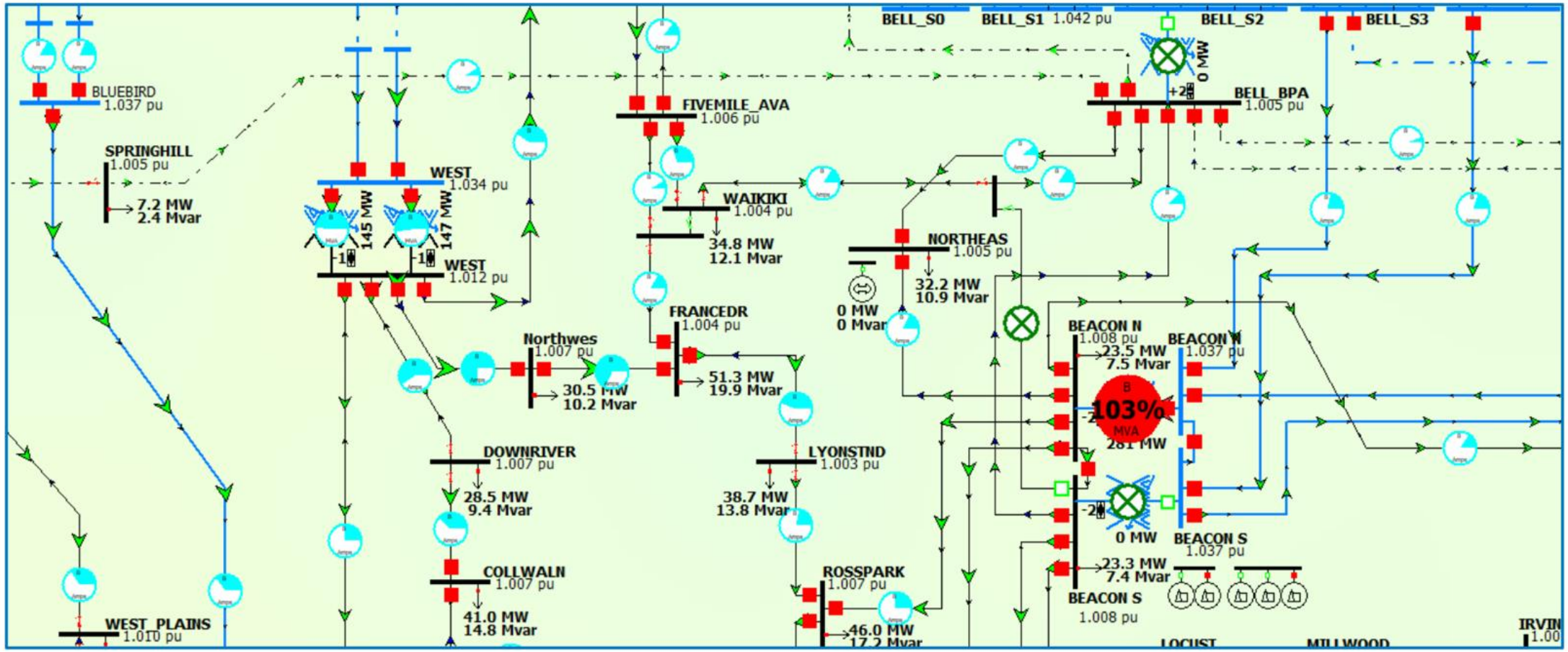


Figure 9: Beacon 230/115kV Transformer and Bell 230/115kV Transformer Outage – 2030 Heavy Summer Scenario

Coeur d'Alene Station Voltage Support

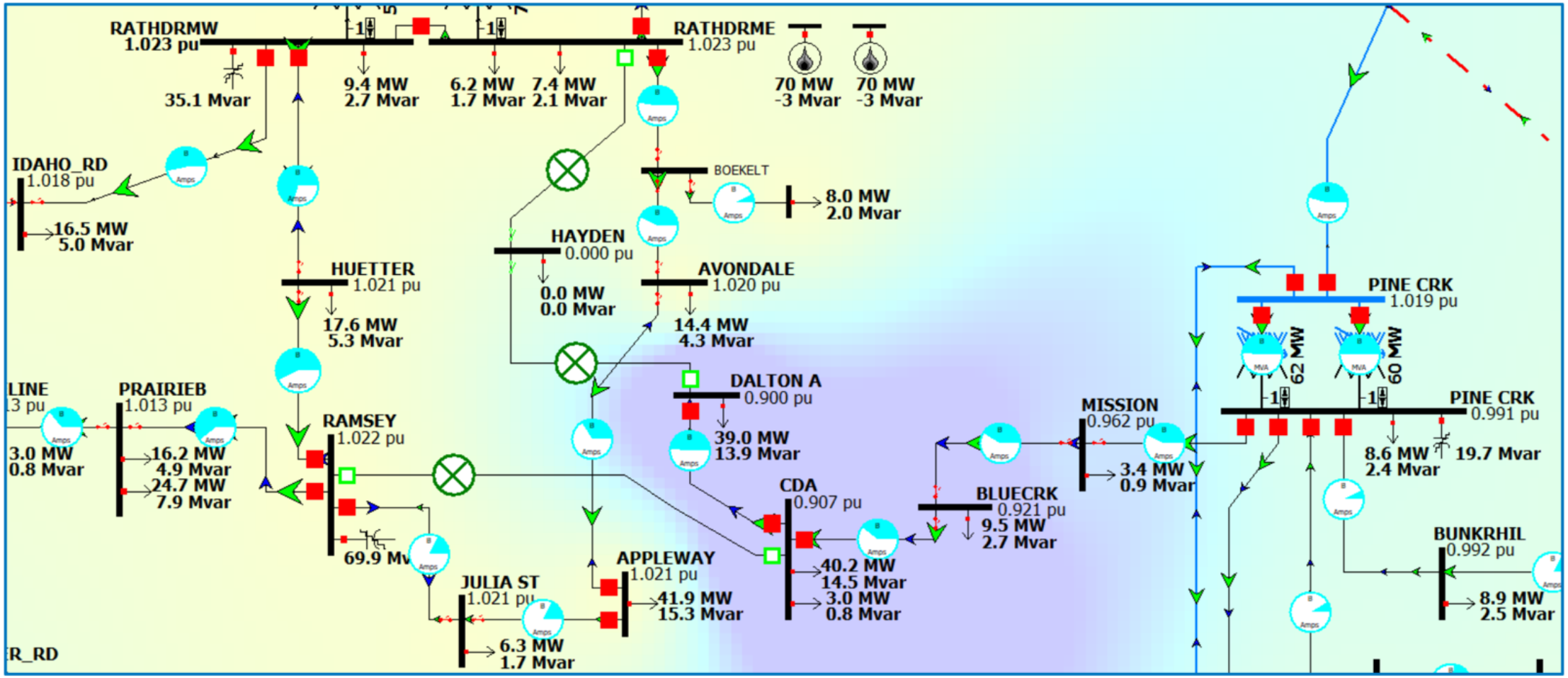


Figure 13: Coeur d'Alene – Ramsey 115kV and Dalton – Rathdrum 115kV Transmission Line Outage – 2030 Heavy Summer Scenario

Grangeville Station Voltage Support

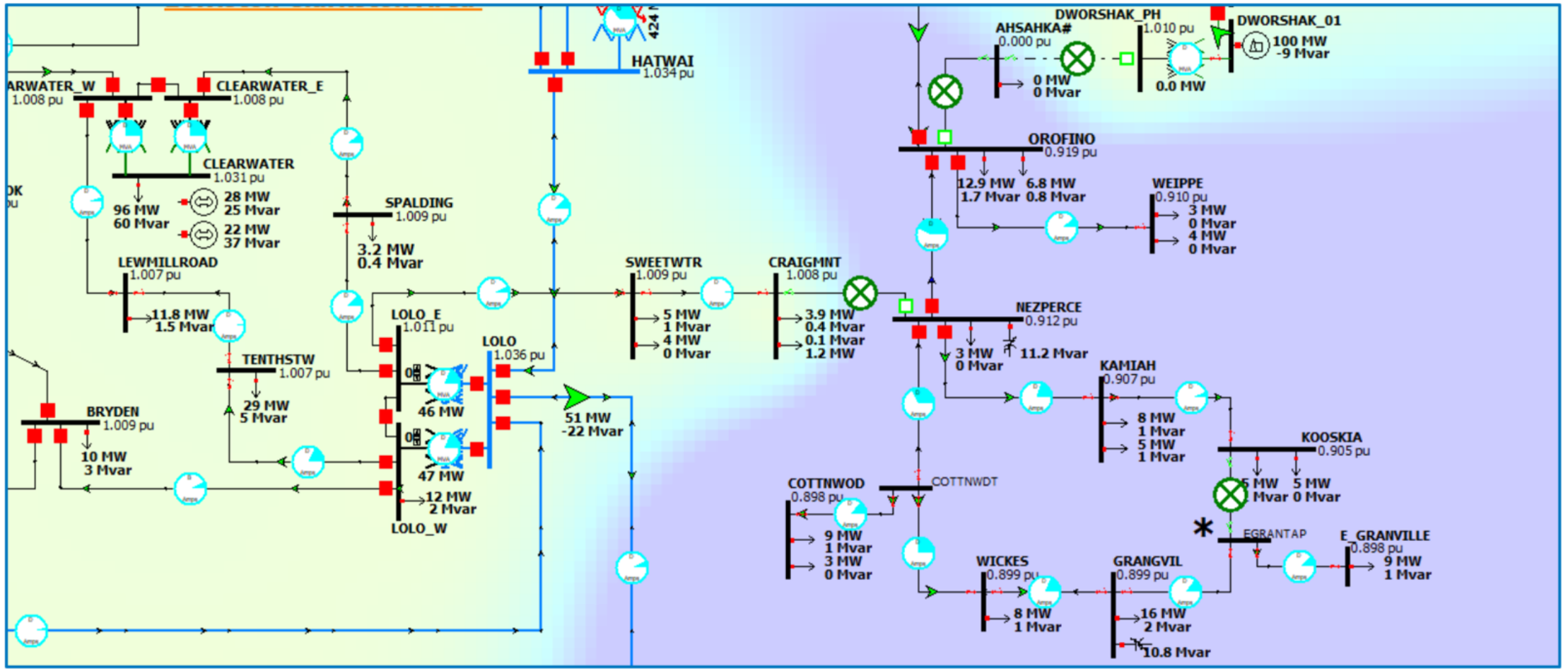


Figure 27: Dworshak – Orofino 115kV and Lolo – Nez Perce115kV Transmission Line Outage – 2030 Heavy Winter Scenario

Kootenai County Transmission Reinforcement

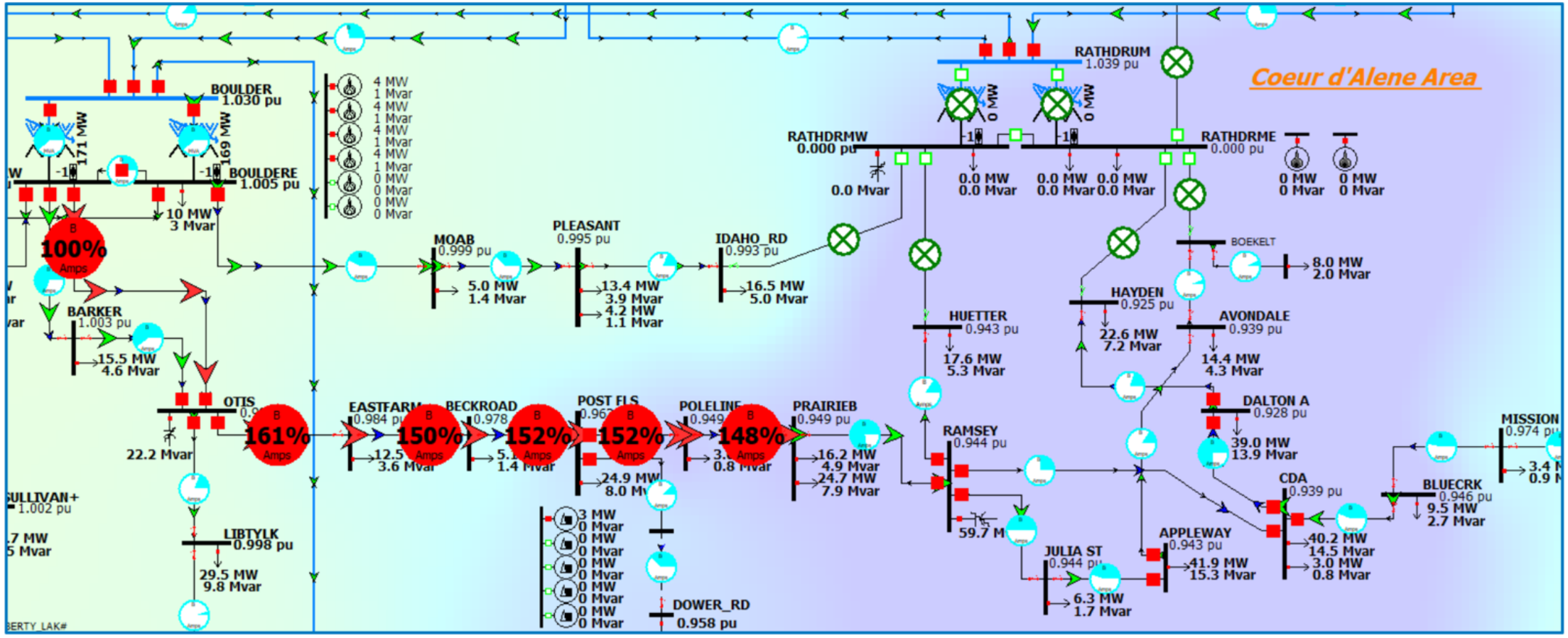


Figure 24: Rathdrum 115kV Bus-tie Breaker Failure – 2030 Heavy Summer Scenario

Lewiston 230kV Transmission Reinforcement

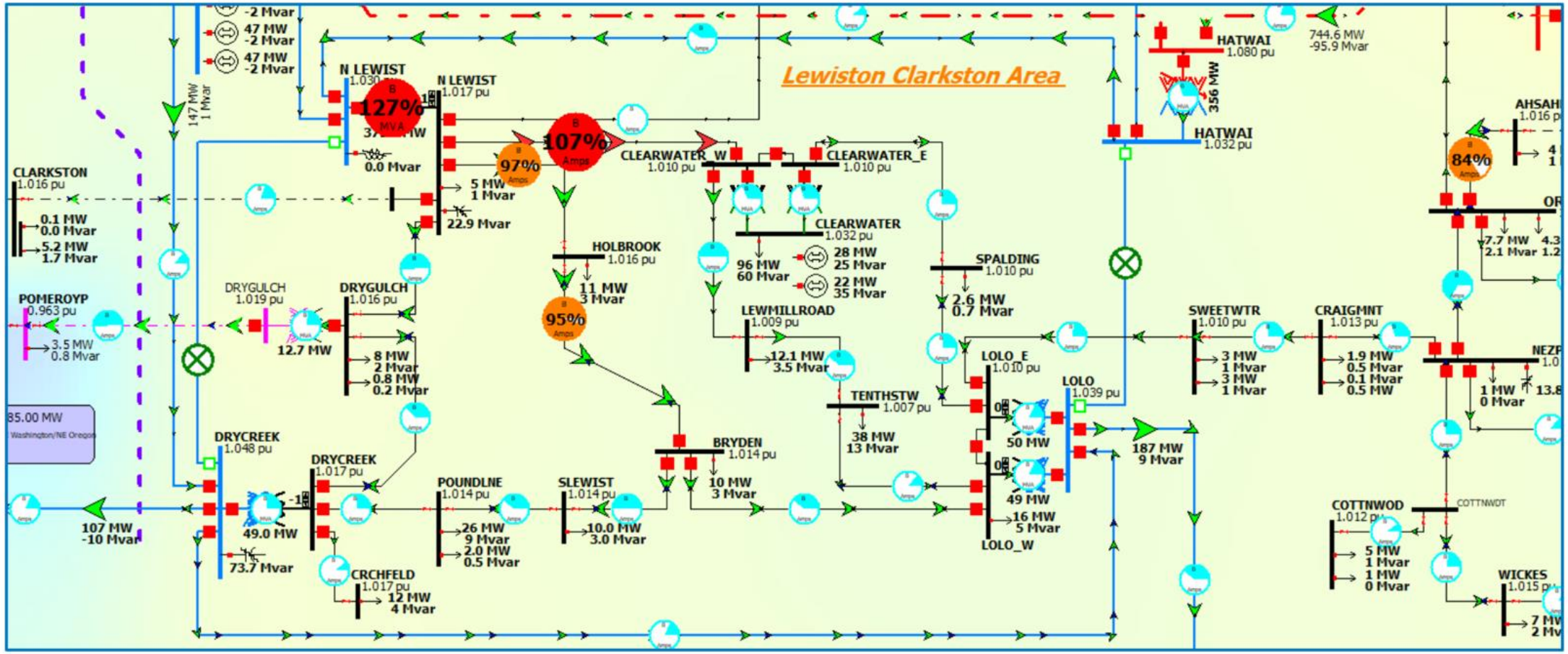


Figure 20: Dry Creek – North Lewiston 230kV and the Hatwai – Lolo 230kV Transmission Line Outage – 2030 Heavy Summer Scenario

Northwest Transmission Reinforcement

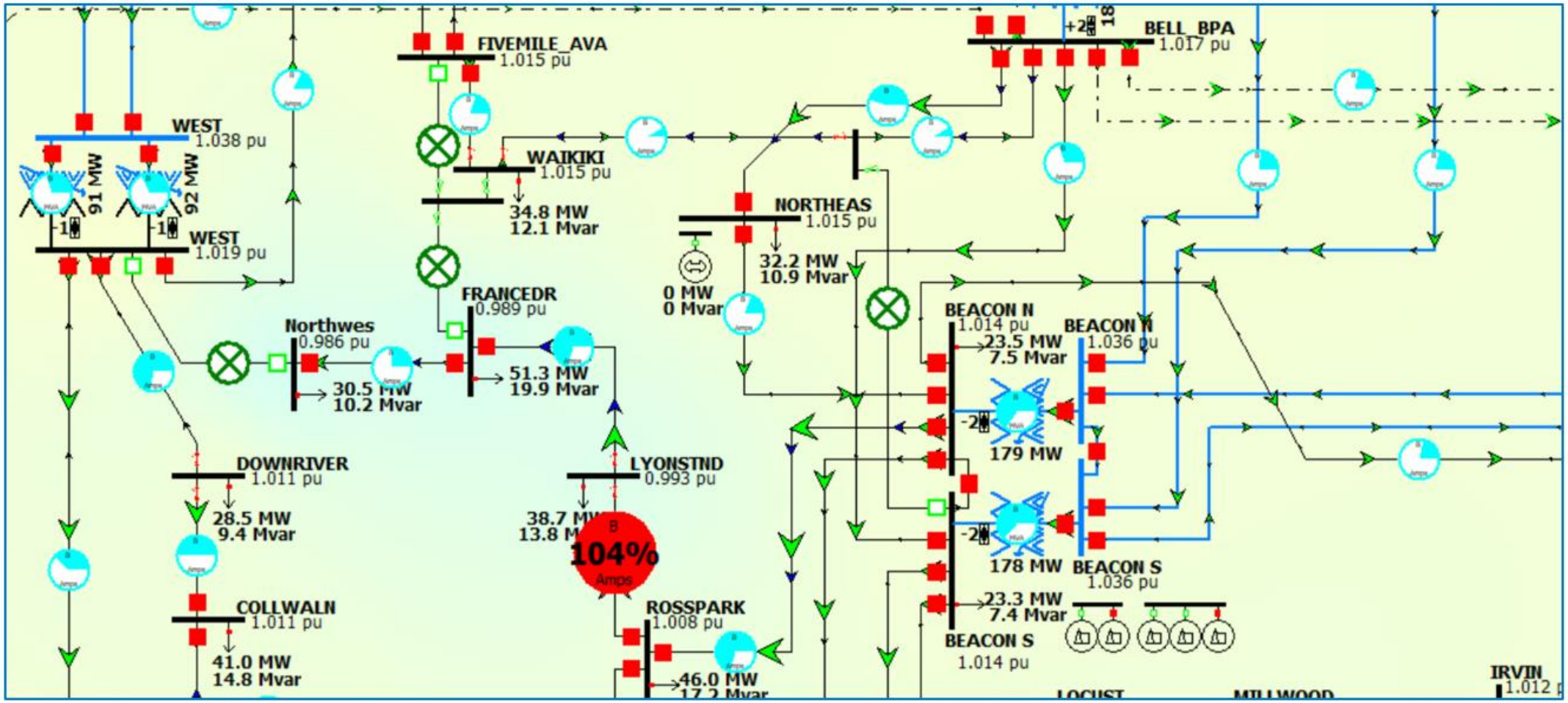


Figure 17: Five Mile – Francis & Cedar 115kV and Northwest – Westside 115kV Transmission Line Outage – 2030 Heavy Summer Scenario

Palouse Transmission Reinforcement

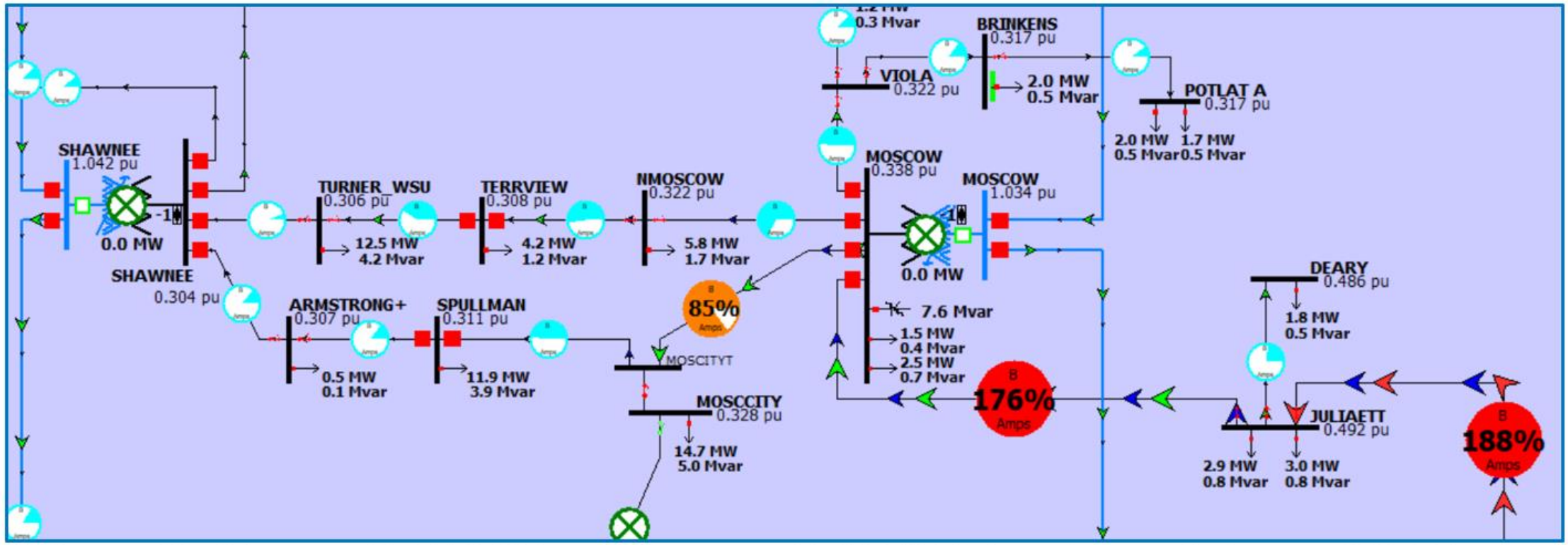


Figure 22: Moscow 230/115kV and Shawnee 230/115kV Transformer Outage – 2030 Heavy Summer Scenario

Sandpoint Transmission Reinforcement

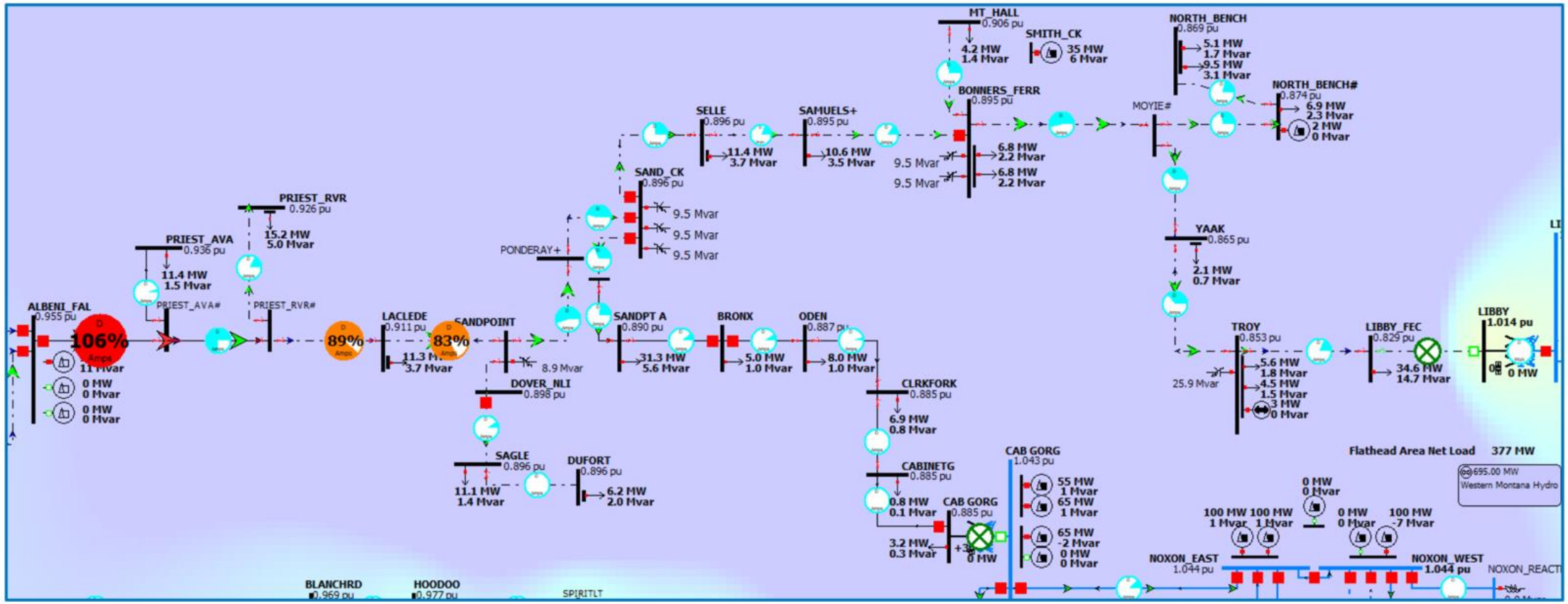


Figure 22: Cabinet 230/115kV Transformer and Libby 230/115kV Transformer Outage – 2030 Heavy Winter Scenario

West of Lancaster Constraint

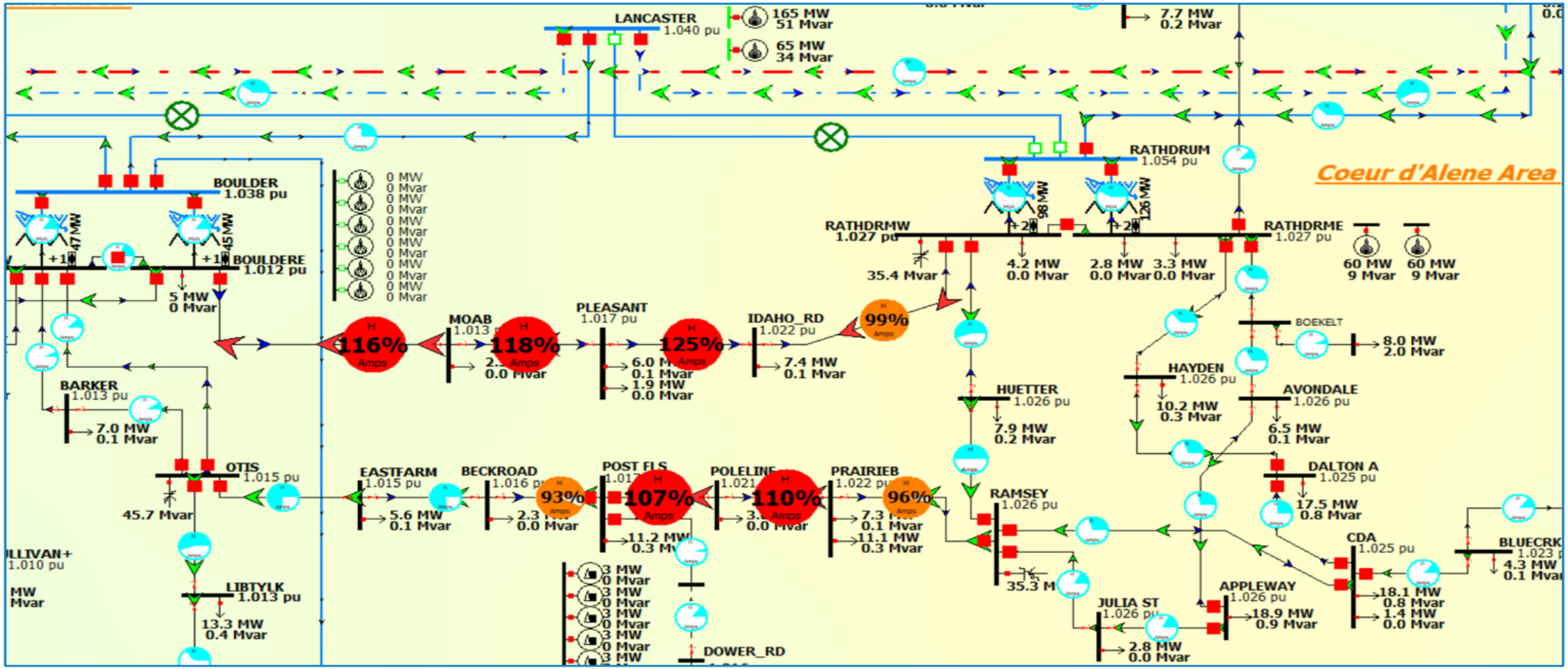


Figure 30: Beacon - Rathdrum 230kV and Boulder - Rathdrum 230kV Transmission Line Outage – 2030 Light Summer Scenario

West Spokane Transmission Reinforcement

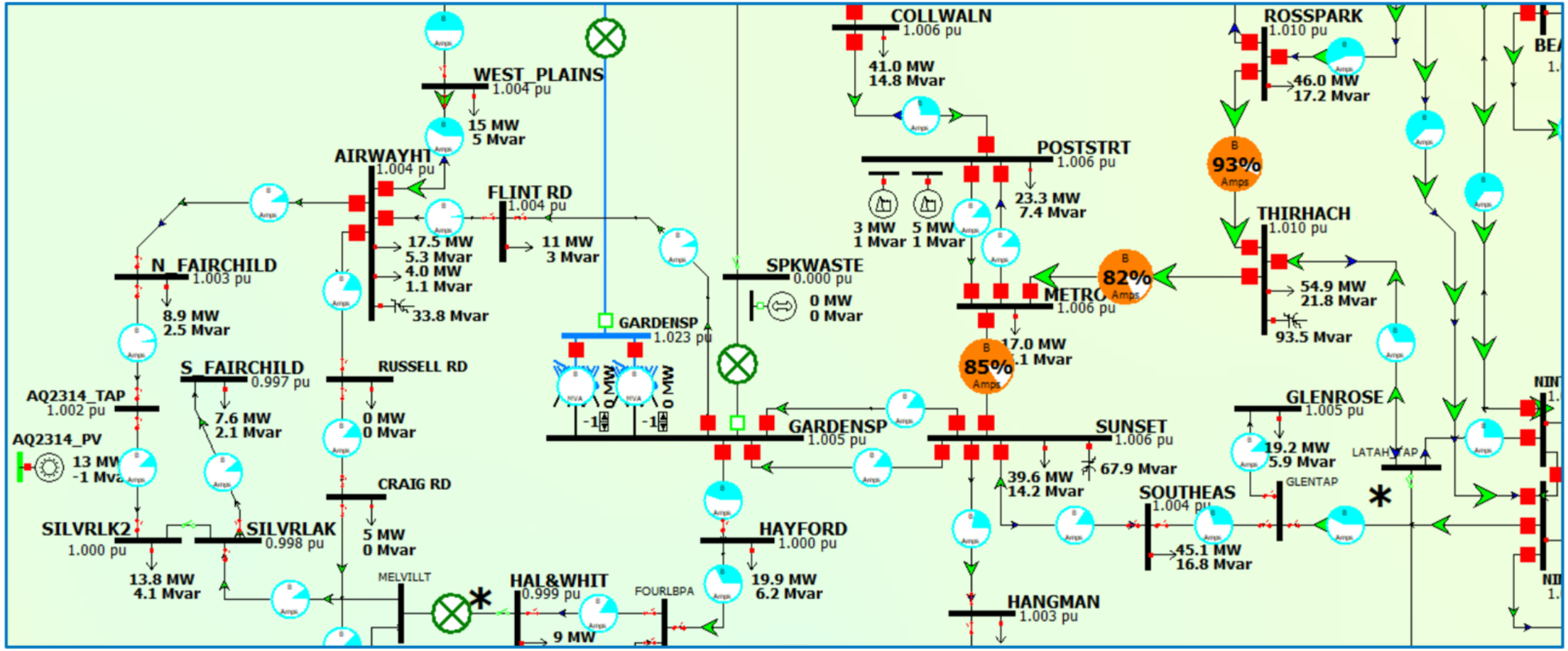


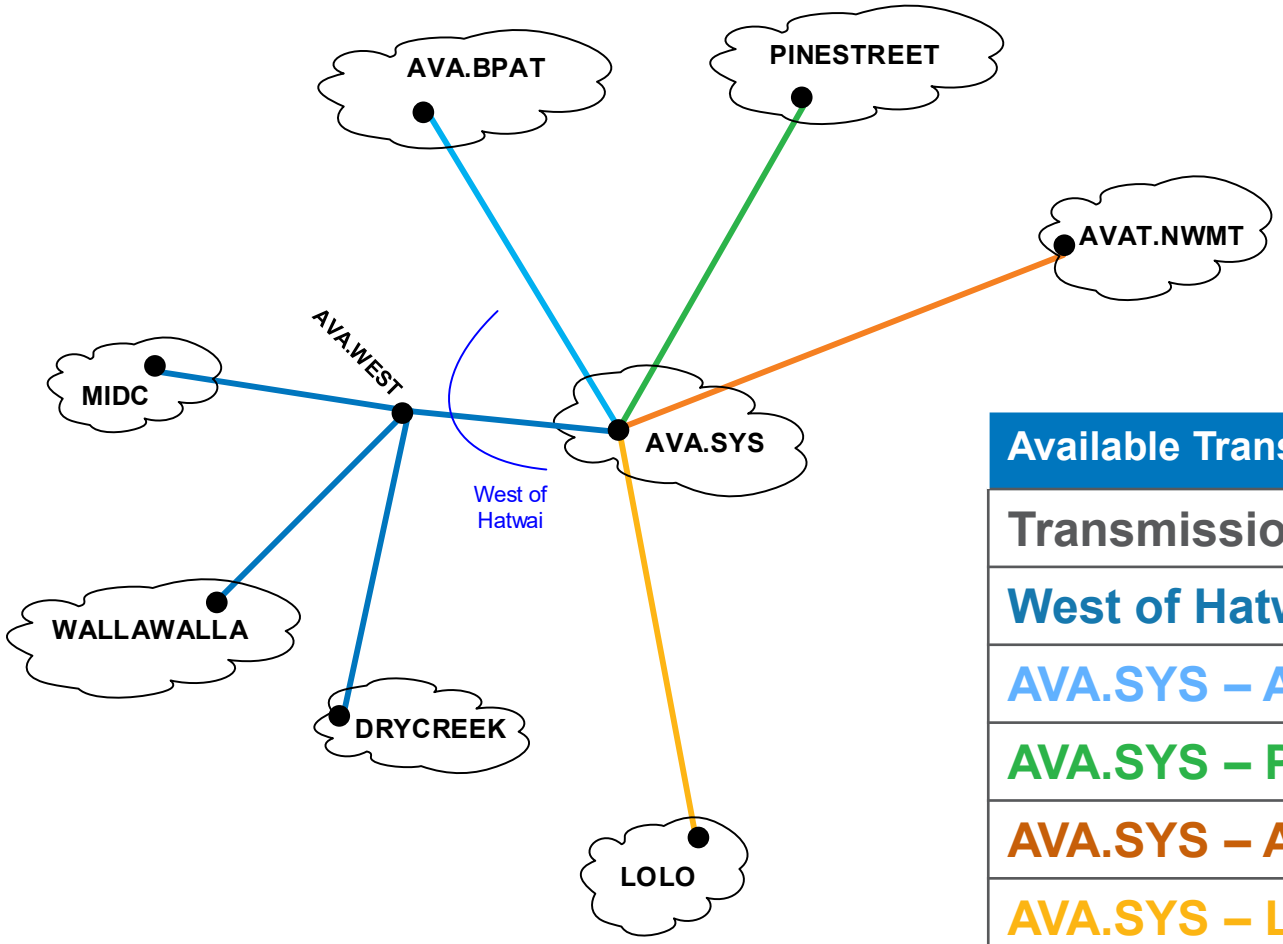
Figure 11: Blue Bird – Garden Springs 230kV and Garden Springs – Westside 115kV Transmission Line Outage – 2030 Heavy Summer Scenario

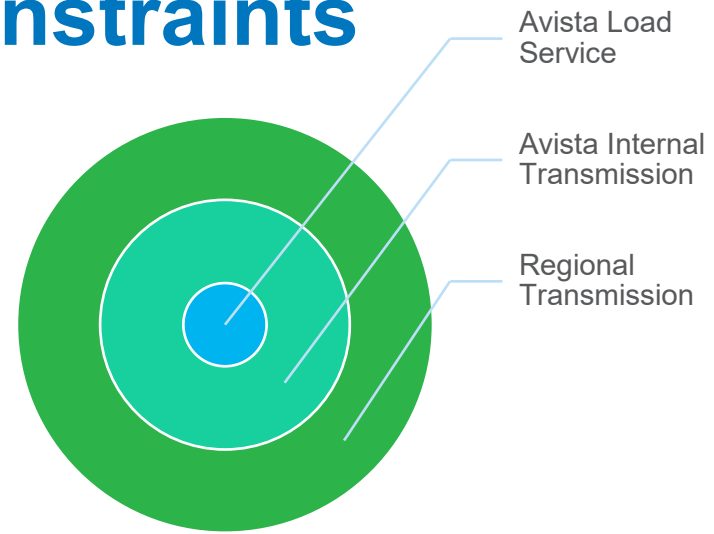
Transmission System Needs

Contractual Capacity and Integrated Resource Plan Support

Dean Spratt | Principal System Planning Engineer

Avista's Commercial Transmission Constraints

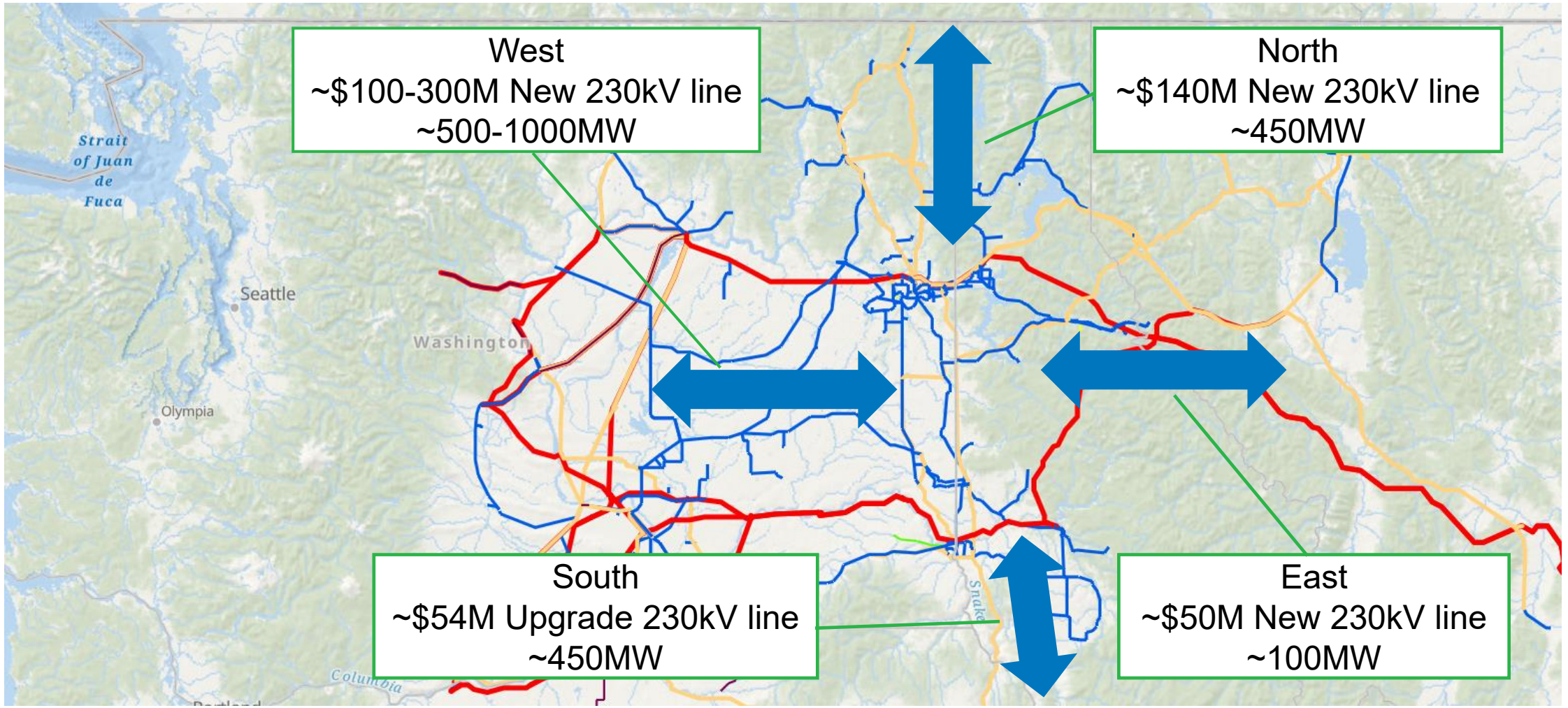




Available Transmission Capacity (ATC) by Path as of January 2026*		
Transmission Path	**Inbound ATC**	**Outbound ATC**
West of Hatwai	0 MW	0 MW
AVA.SYS – AVA.BPAT	221 MW	1335 MW
AVA.SYS – PINESTREET	-	62 MW
AVA.SYS – AVA.NWMT	0 MW	382 MW
AVA.SYS – LOLO	33 MW	0 MW

*Representative information and should not be used for commercial purposes

Transmission Expansion Projects



Generator Interconnections

Large Load Studies

David Thompson| System Planning Engineer

Generator Interconnections

Cluster Number	Cluster Area	Request Status	MW Output	Type	County	State	POI	Customer Requested COD
Q59	NA	Suspended	60	Solar/Storage	Adams	WA	Roxboro 115kV Station	Suspended LGIA
Q60	NA	Suspended	150	Solar/Storage	Asotin	WA	Dry Creek 230kV Station	Suspended LGIA
Q97	NA	Suspended	100	Solar/Storage	Nez Perce	ID	Lolo 230kV Station	Suspended LGIA
TCS-03	T7a - Big Bend	Suspended	80	Solar/Storage	Adams	WA	Warden 115kV Station	Suspended LGIA
TCS-14	T6 - Lewis Clark	Construction	375	Wind/Storage	Garfield	WA	Dry Creek 230kV Station	TBD
CS23-06	CA5 - Palouse	LGIA	220.5	Wind	Whitman	WA	Shawnee - Thornton 230kV	12/15/2025
CS23-12	CA7 - Big Bend	LGIA	199	Storage	Franklin	WA	Saddle Mountain - Walla Walla 230kV	1/10/2027
CS23-13	CA1 - West Plains	LGIA	40	Solar	Lincoln	WA	Davenport 115kV Station	6/31/2024
CS23-14	CA1 - West Plains	LGIA	40	Solar	Spokane	WA	Airway Heights - Silver Lake 115kV	6/30/2027
CS24-01	CA8A - S. Othello	SGIA	999kW	Solar	Adams	WA	S. Othello 13kV	10/1/2024
CS24-02	CA8D - Third & Hatch	SGIA	500kW	Storage	Spokane	WA	Third & Hatch 13kV	8/1/2025
CS24-07	CA8B - Othello	SGIA	2	Solar	Adams	WA	Othello 13kV	12/10/2024
CS24-09	CA8C - Othello	Draft SGIA	9.5	Solar	Adams	WA	Othello 13kV	8/1/2025
CS24-14	CA1 - West Plains	Phase Two Restudy	40	Solar	Spokane	WA	South Fairchild Tap 115kV	6/30/2028
CS24-15	CA1 - West Plains	Phase Two Restudy	300	Wind/Storage	Lincoln	WA	Bluebird 230kV Station	12/31/2027
CS25-01	CA5 - Palouse	Phase One Study	120	Wind	Spokane	WA	Benewah 230kV Station	12/31/2028
CS25-02	CA7 - Big Bend	Phase One Study	126	Wind	Adams	WA	Saddle Mountain 230kV Station	12/31/2030
CS25-03	CA1 - Spokane	Phase One Study	100	Storage	Spokane	WA	Northeast 115kV Station	1/1/2030
CS25-04	CA3 - Coeur d'Alene	Phase One Study	101.5	Natural Gas	Kootenai	ID	Rathdrum 115kV Station	5/30/2027
CS25-05	CA3 - Coeur d'Alene	Phase One Study	101.5	Natural Gas	Kootenai	ID	Rathdrum 115kV Station	5/30/2029
CS25-06	CA2 - Stratford	Phase One Study	54	Solar & Storage	Grant	WA	Chelan-Stratford 115kV	8/31/2031
CS25-07	CA5 - Palouse	Phase One Study	199	Wind	Whitman	WA	Thornton 230kV Station	12/16/2029
CS25-08	CA1 - Spokane	Phase One Study	250	Storage	Spokane	WA	Boulder 230kV Station	5/4/2029
CS25-09	CA7 - Big Bend	Phase One Study	375	Solar & Storage	Adams	WA	Saddle Mountain - Wanapum 230kV	5/1/2030
CS25-11	CA6 - Lewis Clark	Phase One Study	300	Wind	Garfield	WA	Dry Creek - Talbot 230kV	12/1/2029
CS25-12	CA6 - Lewis Clark	Phase One Study	160	Solar & Storage	Garfield	WA	Dry Creek - Talbot 230kV	12/1/2029
CS25-13	CA7 - Big Bend	Phase One Study	150	Solar & Storage	Adams	WA	AVAHub25-04 230kV Station	12/31/2030
CS25-14	CA7 - Big Bend	Phase One Study	199	Solar & Storage	Adams	WA	Neilson 230kV Station	12/31/2030
CS25-15	CA5 - Palouse	Phase One Study	200	Wind	Spokane	WA	Benewah 230kV Station	1/12/2030
CS25-16	CA7 - Big Bend	Phase One Study	150	Wind	Adams	WA	Neilson 230kV Station	1/12/2030
CS25-17	CA1 - Spokane	Phase One Study	200	Wind	Spokane	WA	Bluebird 230kV Station	1/12/2030
CS25-18	CA8 - Melville	Phase One Study	5	Solar	Spokane	WA	Melville 13kV	6/30/2026

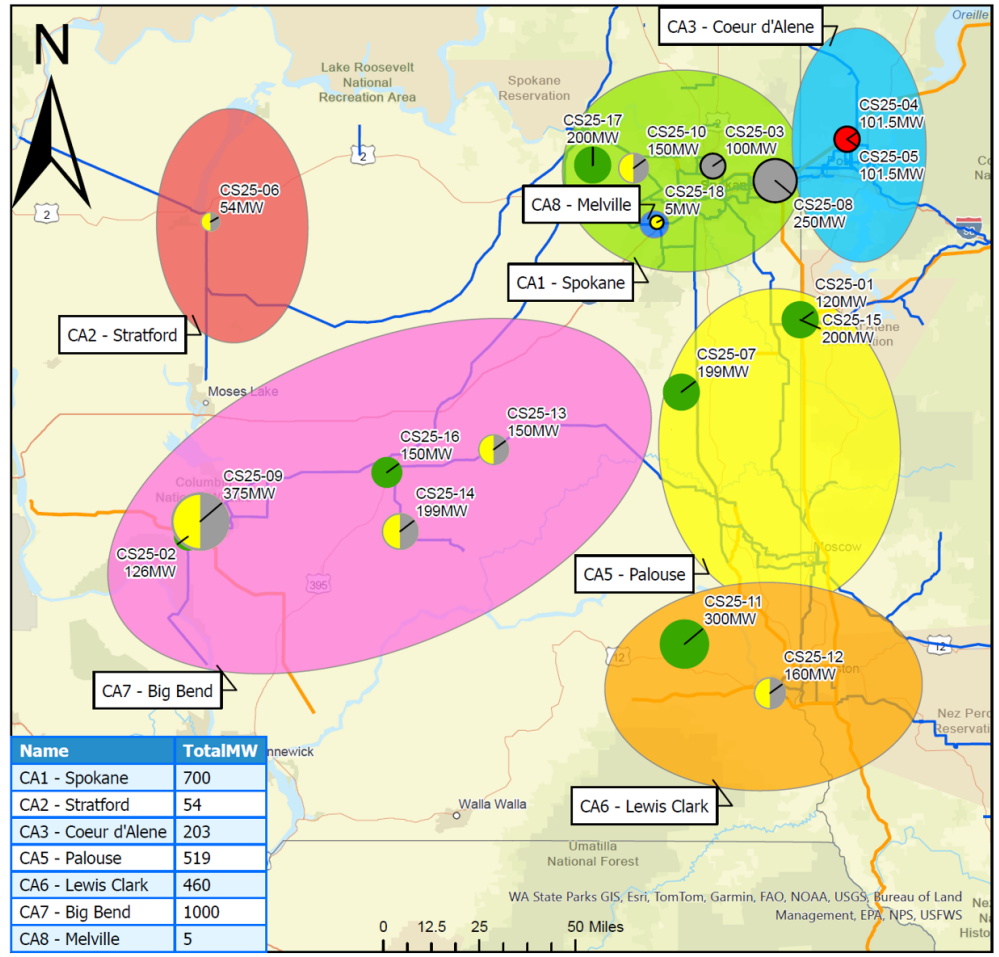
Active studies for 4,100 MWs of non-Avista owned generation through 2030

2025 Cluster Studies

Cluster Area 7 (Big Bend) – Cost Estimate Example

	Transmission Provider Interconnection Facilities	Station Equipment Network Upgrades	Shared Network Upgrades	Total
CS25-02	$800,000	$2,150,000	$62,275,000	**$65,225,000**
CS25-09	$775,000	$11,425,000	$185,350,000	**$197,550,000**
CS25-13	$725,000	$12,575,000	$74,150,000	**$87,450,000**
CS25-14	$975,000	$9,500,000	$98,375,000	**$108,850,000**
CS25-16	$975,000	$9,500,000	$74,150,000	**$84,625,000**
Total	**$4,250,000**	**$45,150,000**	**$494,300,000**	**$543,700,000**

2025 Cluster Study Map



Name	TotalMW
CA1 - Spokane	700
CA2 - Stratford	54
CA3 - Coeur d'Alene	203
CA5 - Palouse	519
CA6 - Lewis Clark	460
CA7 - Big Bend	1000
CA8 - Melville	5

Interconnection Requests
Resource Type
- Energy Storage
- Natural Gas
- Solar
- Solar/Energy Storage
- Wind

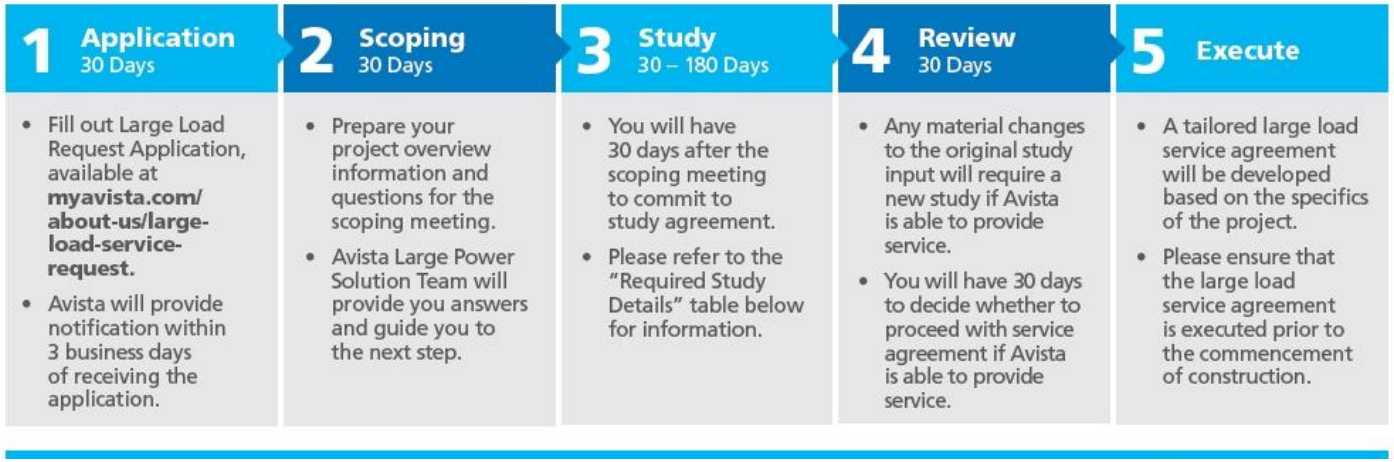
Cluster Areas
Name
- CA1 - Spokane
- CA2 - Stratford
- CA3 - Coeur d'Alene
- CA5 - Palouse
- CA6 - Lewis Clark
- CA7 - Big Bend
- CA8 - Melville

Transmission Line
- 115 kV
- 230 kV
- 500 kV
- 60 kV
- Deenergized
- Other

Publish Date: June 5, 2025

Large Load Studies

Large Load Request Process Overview (Any Load Request Size Exceeding 1.5 MVA)



- Fifteen current Large Load requests
- 3,400MW total requests, ranging from 2MW to 1000MW
- Regional concentrations in the West Plains and Rathdrum areas

www.myavista.com/about-us/large-load-service-request

Large Power Request Size	Required Study	Deposit	Typical Timeline	Deliverables	Needs from Customer
1.6 - 8 MVA	Capacity Study	$5,000	30 Days	Capacity acknowledgement, project details including cost and schedule, and next steps if Avista is able to provide service.	Properly filled out application.
8.1 - 25 MVA or Insufficient Grid Capacity	Distribution Impact Study	$20,000	60-90 Days	Facility violations, system modifications, estimates of scope, schedule and cost if Avista is able to provide service.	Facility oneline, class of load, redundancy requirements, preferred resource, seasonal coincident peaks.
Over 25 MVA or Transmission Service Requested	Transmission Impact Study	$40,000	60-180 Days	Facility violations, contingent facilities, resource requirements and system modifications, customer facility requirements, estimate of scope, schedule and cost if Avista is able to provide service.	Facility oneline, class of load, redundancy requirements, preferred resource, seasonal coincident peaks.

Wrap-Up

Next Steps

Continue System Assessment Technical Studies

- DER Potential Study scenario
- N-1 contingency analysis

Development of Corrective Action Plans

- Complete System Assessment report
- Detailed project studies in 2026

Topic suggestions email: DistributionPlanning@avistacorp.com

Avista's O'Gara 115kV / 13kV Substation, South of Harrison, ID

Q&A

Solving future energy system challenges today