



Risk Process Updates

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Introductions

- Greg Park, Manager, Risk Analysis and Data Services
 - Responsible for operations-based risks
- Scott Brooksby, Senior Cybersecurity Risk Analyst
 - Responsible for cybersecurity and physical security risks

Agenda

- Risk Reduction Plans
- New Risks
- Refresh Existing Risk

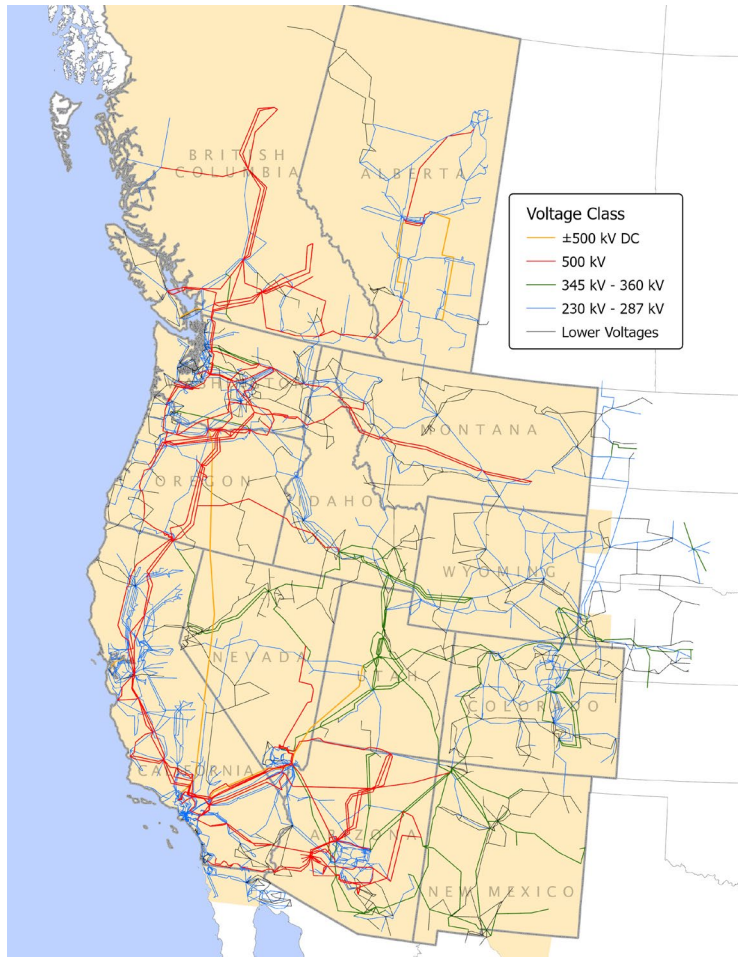
Risk Register



RRC section of WECC.org, under RRC Risk Management Process, found [here](#).

Regional Evolution

- Western Interconnection-wide
- Western Interconnection Subregions



Risk Reduction

- Extreme Natural Events (Advisory Group)
 - Large and prolonged heat waves
 - Wildfire
 - Cold Weather Preparedness
 - *Exploratory:* Drought (Aridification)

ENE Mitigation Plan Advisory Group

- June 6: Kick-off
- June 20: Heat wave mitigation option collection
- July 18: Cold weather mitigation option collection
- August 1: Wildfire mitigation option collection
- August 15: Drought mitigation option collection. Begin ranking options
- August 29: Preliminary write-up of mitigation option ranking
- September 12: Review draft treatment plans
- September 26: Review final treatment plan proposal
- October 14: Submit final treatment plans at RRC SC meeting

Risk Reduction

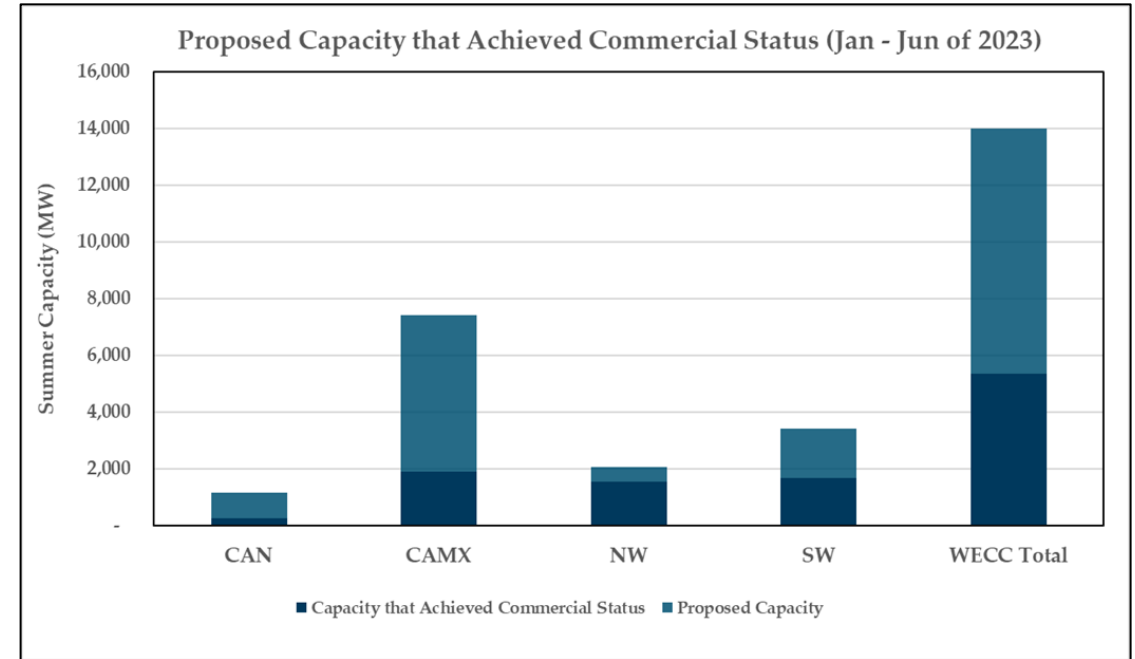
- Cybersecurity (CSF)
 - Insider Threat
 - Malware
 - Zero-day Exploit
- CSF Developed Best-practice Survey
 - Covers all Risk Register risks
 - All CSF Members

Risk Reduction

- GT: Changing Resource Mix (RAC)
 - Generation Resource Mix Impacts to Future Transmission Congestion
- GT: IBR (RAC / Operational RRC)
 - Inadequate interconnection requirements and commissioning
 - Modeling quality issues
- GT: IBR (Advisory Group)
 - System Restoration
 - Do we start ASAP?
- Infrastructure (Advisory Group)
 - Supply Chain Constraints

Supply Chain Risks Across the West

- Supply chain—project delays
 - Transformers (10 Months–3 Years)
 - Circuit breakers (1.5–2.5 Years)
 - Switchgears (1 Year)
 - Increasing costs
 - Skilled labor shortage
- WECC 2024 summer proposed capacity additions = 17 GW



WECC: Capacity Additions*				
Region	Proposed for Summer of 2023 (MW)	Proposed Capacity that Achieved Commercial Status by Summer of 2023 (MW)	Proposed Capacity that Achieved Commercial Status by Summer of 2023 (%)	Proposed Capacity for Summer of 2024 (MW)
CAN	1,137	265	23%	2,395
CAMX	7,409	1,901	26%	5,871
NW	2,060	1,528	74%	4,991
SW	3,401	1,653	49%	3,802
WECC Total	14,007	5,347	38%	17,059

*Capacity additions of any tier between January and July of listed year.

New Risks

- Forced Oscillations
 - New emerging reliability risk
 - Discussion at combined RRC/RAC
- Ambient Adjusted Ratings
 - Not imminent—After FERC Order 881
 - Wide scope risk

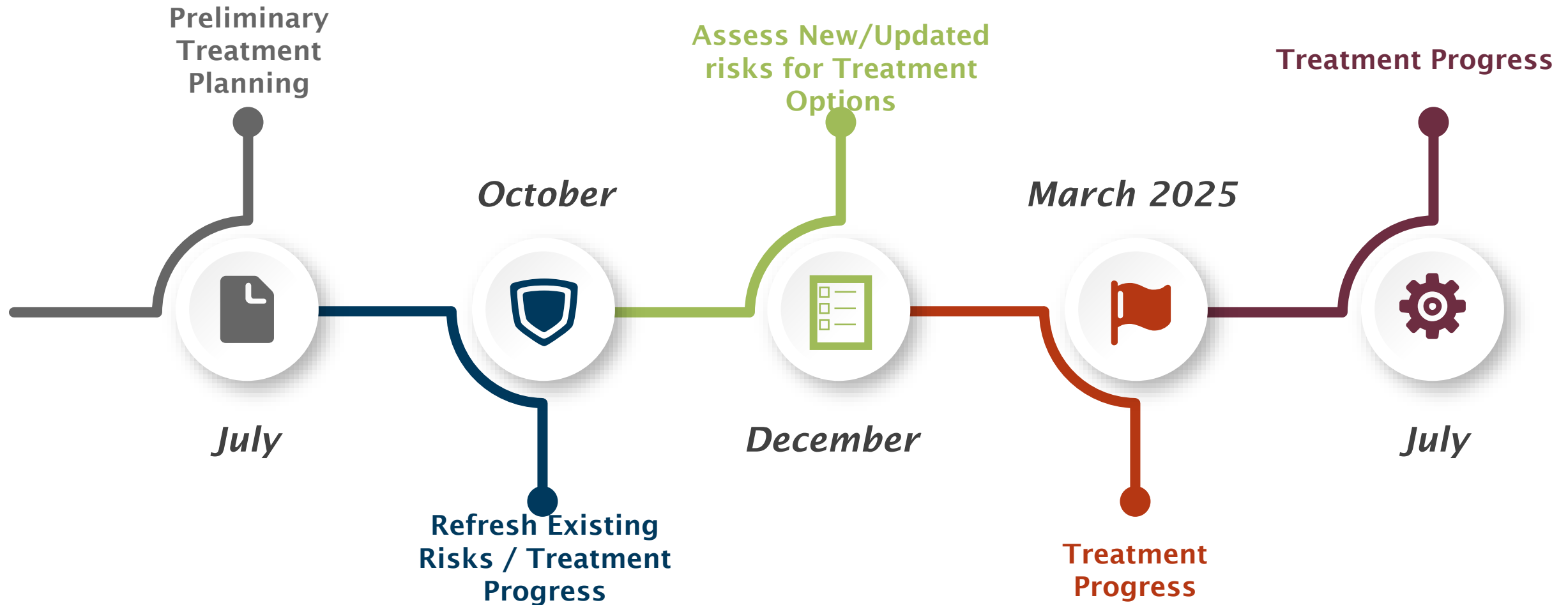
ENE Additional Risks

- Geomagnetic Disturbance
- Haboobs (Extreme Dust Storm)
- Atmospheric Rivers
- Rising Oceans and Coastal Erosion
- Extreme Winds
- Earthquakes
- Tsunamis
- Volcanic Eruptions

Risk Report Status

- Regional Risk Priorities
- Likely separate reports

Upcoming RRC Timeline of Work





www.wecc.org