EWWG Chair Report to NYSRC Executive Committee (EC)
December 12th, 2025, EWWG Meeting #28
Prepared for: January 14th, 2026, EC Meeting #321
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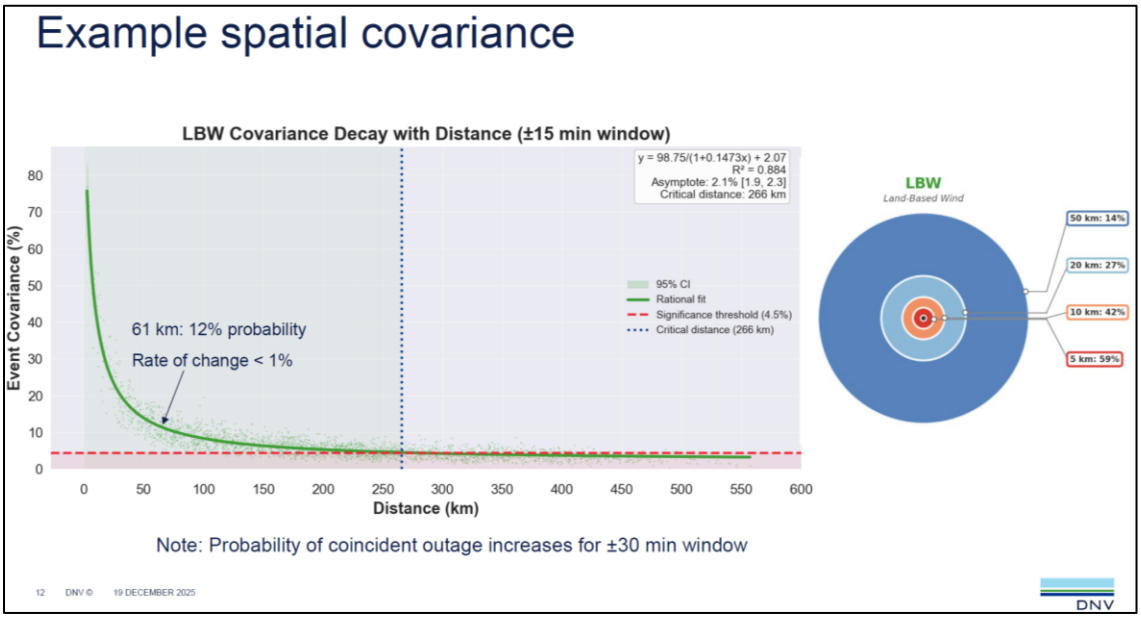
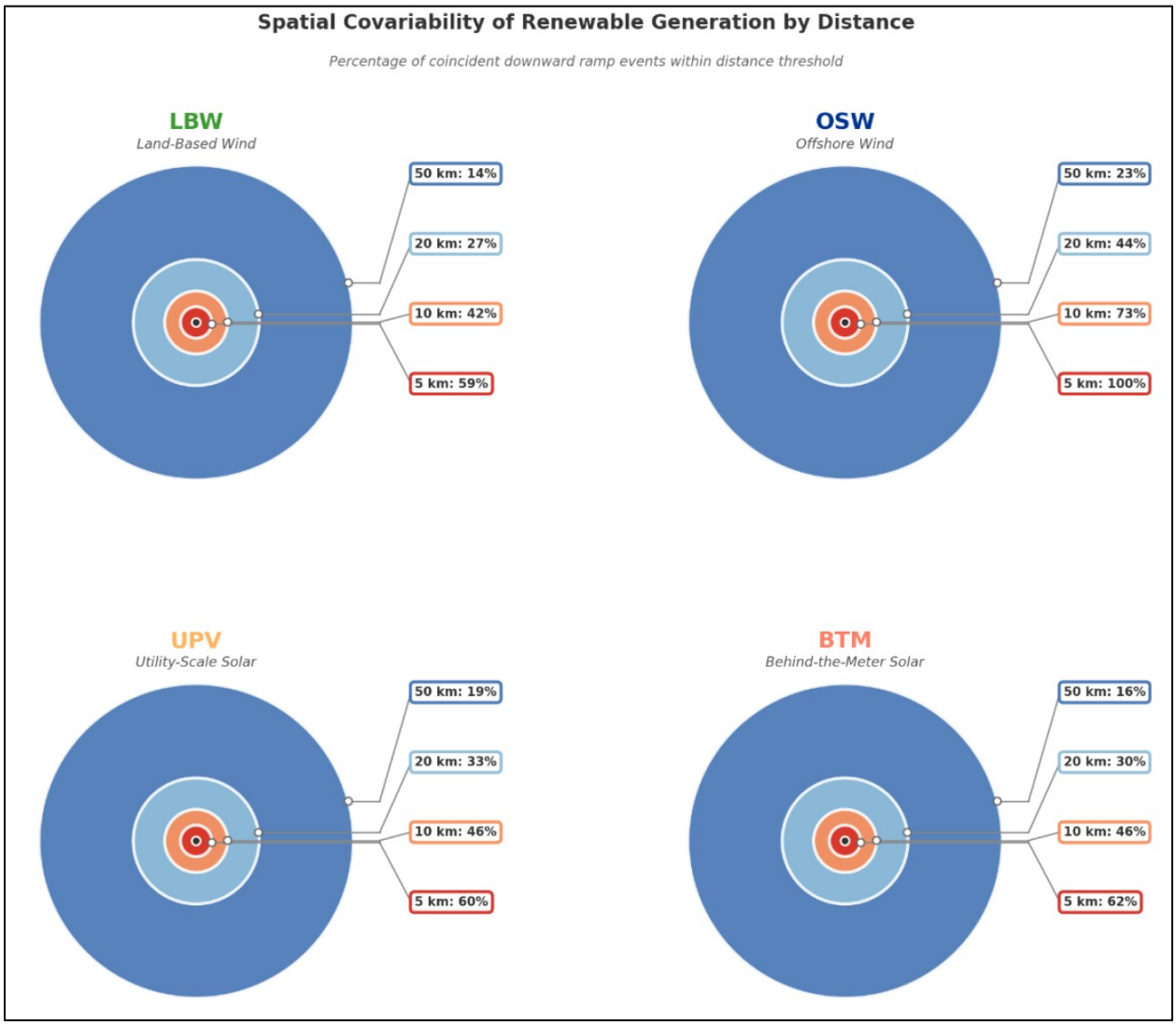
DNV PRR 153 Sudden Outage Analysis and Recommendations:

- DNV in coordination with NYISO regarding development of PRR 153, has conducted analysis for sudden outages of renewable resources.
- Sudden Outage Events were defined as a ramp down of at least 25% project capacity over a 15-minute period. Note this does not consider lulls.
- Statistics of all 15-Minute Down Ramps were provided:
  - LBW: 99.4% are < 25% capacity: (103 per yr / project)
  - OFW: 98.9% are < 25% capacity: (190 per yr / project)
  - UPV: 98.5% are < 25% capacity: (132 per yr / project)
  - BTM: 99.6% are < 25% capacity: (32 per yr / county)
- Down Ramps with ≥ 90% Capacity:
  - LBW: ~ 1 per year / project
  - OSW: 4 per year / project
  - UPV: ~ 1 per year / project
  - BTM*: < 1 per year / county
- DNV investigated spatial and temporal covariance of sudden production drops providing quantification of covariance decay by distance for a project.

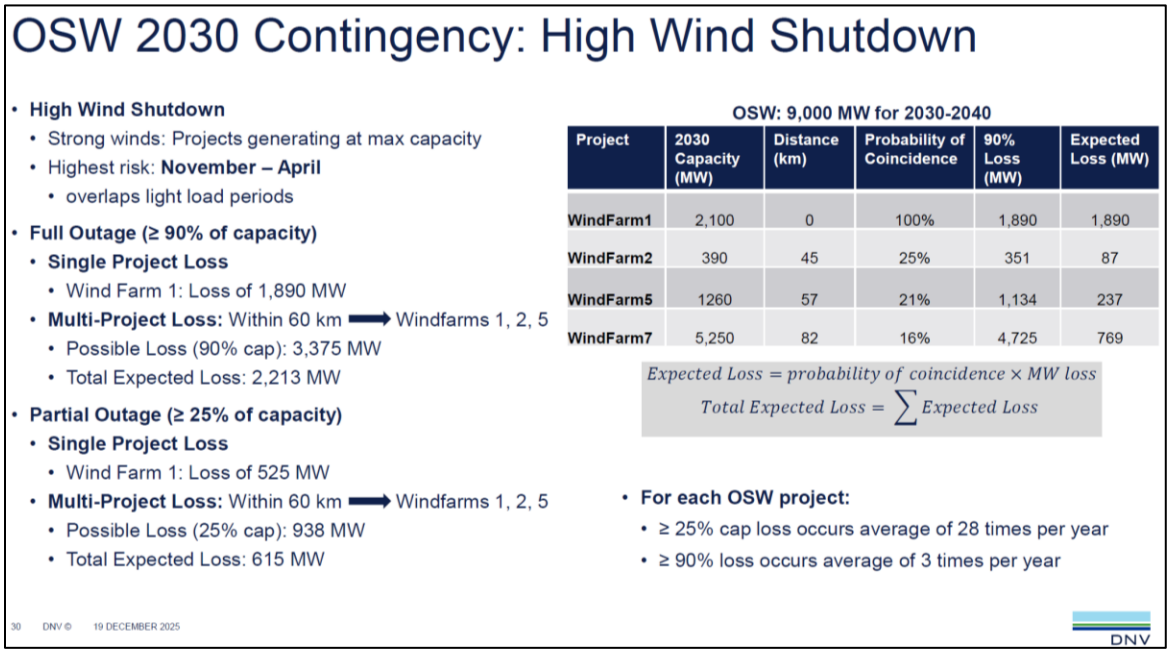


- Table of covariance (%) by distance and useful visualizations were also provided:

	±15 Minutes						
	Distance						
Resource Type	**1 km**	**3 km**	**5 km**	**10 km**	**20 km**	**50 km**	**100 km**
LBW	88%	71%	59%	42%	27%	14%	80%
OSW	100%	100%	100%	73%	44%	23%	14%
UPV	80%	69%	60%	46%	33%	19%	13%
BTM	89%	73%	62%	46%	30%	16%	10%



- Contingency recommendations utilized an expected loss using covariance as probability of loss:
    - Per Project Expected Loss = Probability x MW Loss
    - Aggregate Total Expected Loss = ∑ Per Project Expected Loss
- Examples of an expected loss contingency were provided:



OSW 2030 Contingency: High Wind Shutdown

- **High Wind Shutdown**
  - Strong winds: Projects generating at max capacity
  - Highest risk: **November – April**
    - overlaps light load periods
- **Full Outage (≥ 90% of capacity)**
  - **Single Project Loss**
    - Wind Farm 1: Loss of 1,890 MW
  - **Multi-Project Loss:** Within 60 km ⟶ Windfarms 1, 2, 5
    - Possible Loss (90% cap): 3,375 MW
    - Total Expected Loss: 2,213 MW
- **Partial Outage (≥ 25% of capacity)**
  - **Single Project Loss**
    - Wind Farm 1: Loss of 525 MW
  - **Multi-Project Loss:** Within 60 km ⟶ Windfarms 1, 2, 5
    - Possible Loss (25% cap): 938 MW
    - Total Expected Loss: 615 MW

OSW: 9,000 MW for 2030-2040

Project	2030 Capacity (MW)	Distance (km)	Probability of Coincidence	90% Loss (MW)	Expected Loss (MW)
WindFarm1	2,100	0	100%	1,890	1,890
WindFarm2	390	45	25%	351	87
WindFarm5	1260	57	21%	1,134	237
WindFarm7	5,250	82	16%	4,725	769

$$Expected\ Loss = probability\ of\ coincidence \times MW\ loss$$

$$Total\ Expected\ Loss = \sum Expected\ Loss$$

- **For each OSW project:**
  - ≥ 25% cap loss occurs average of 28 times per year
  - ≥ 90% loss occurs average of 3 times per year

- Roger Clayton noted for next steps on PRR 153 further clarification is required as to whether the application of this analysis is for planning or operating rules, or both. And discussion is required on the selection of a probabilistic basis for a criterion:
    - Event definition by resource type (LBW, OSW, UPV, BTM PV)
    - Spatial covariance
    - Zonal vs cluster grouping
    - Temporal covariance with load by season
    - Magnitude, frequency & duration of events