**PRR 153 Next Steps Discussion**
**EWWG Meeting #29 January 30th, 2026**

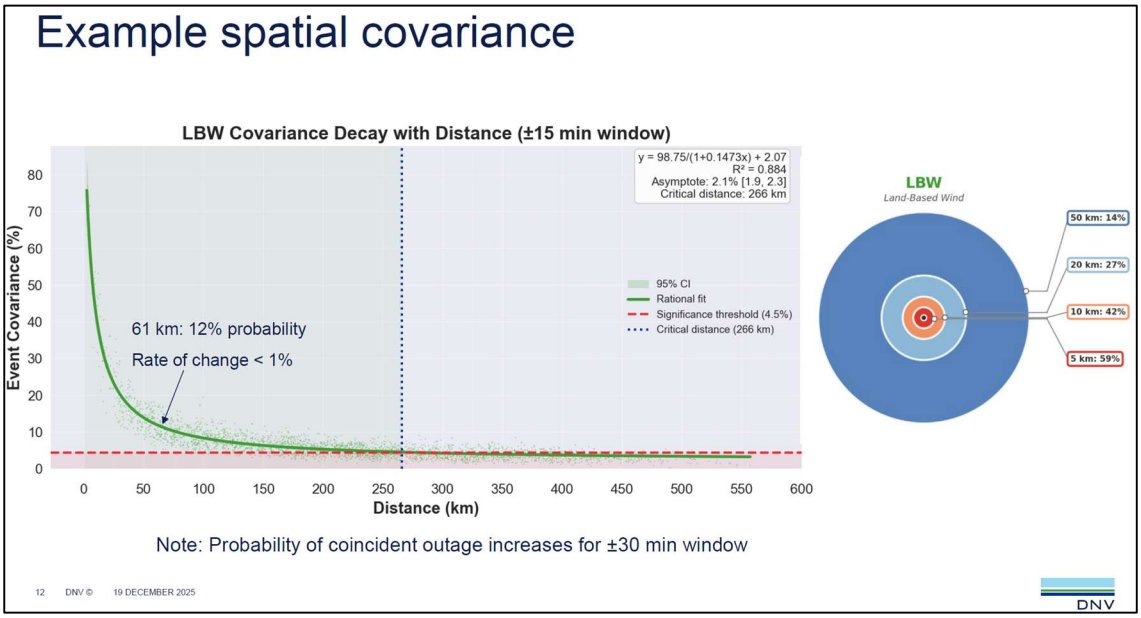
## Background:

To progress with PRR153 NYISO consulted DNV to provide analysis of sudden outages for Land Based Wind (LBW), Offshore Wind (OSW), Utility Solar (UPV), and Behind-the-Meter Solar (BTM).

DNV presented the results of their analysis and recommendations during EWWG Meeting #28 (December 19th, 2025).

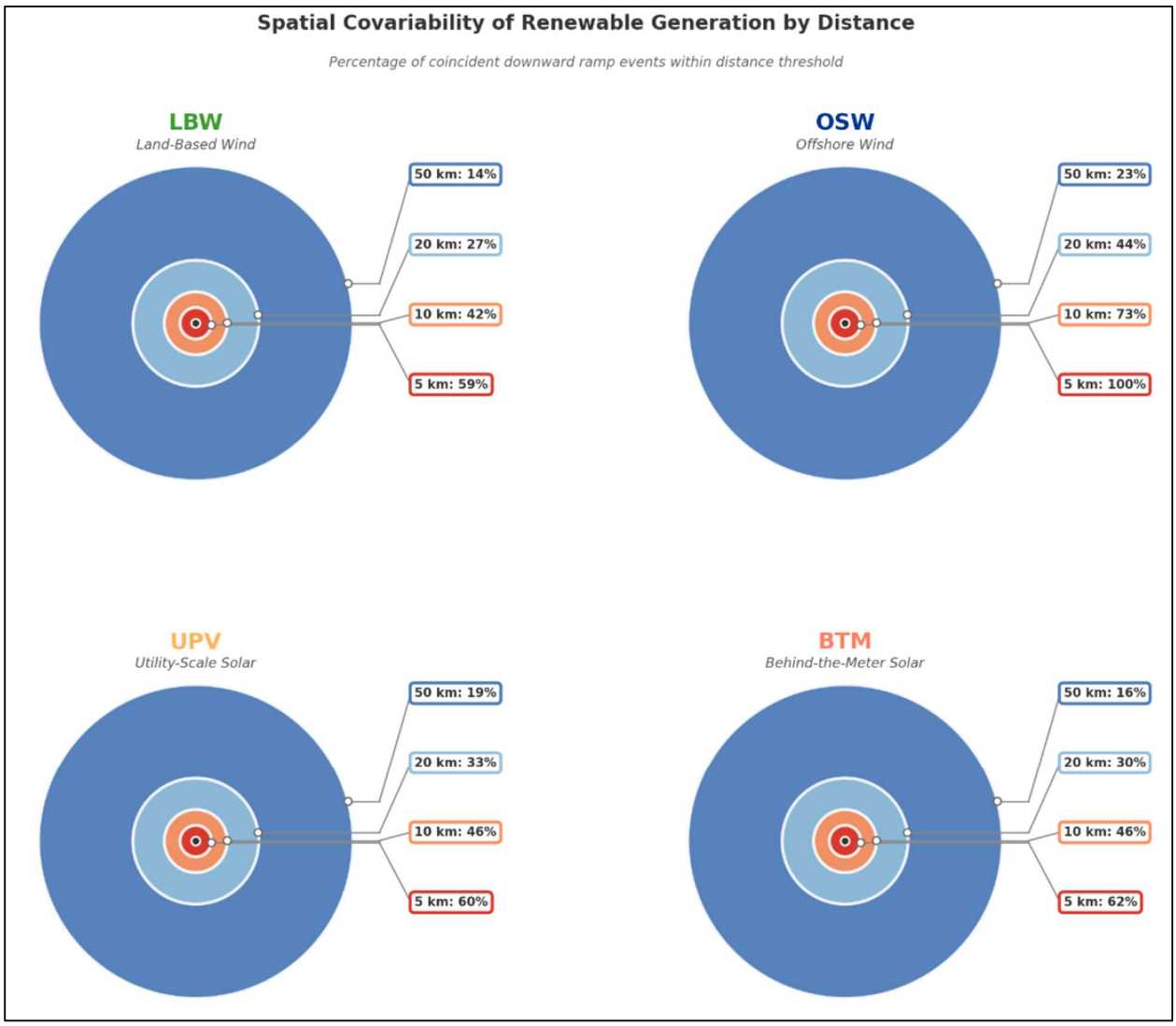
## Key Takeaways:

- For the analysis sudden outage events were defined as a ramp down of at least 25% project capacity over a 15-minute period.
- 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.

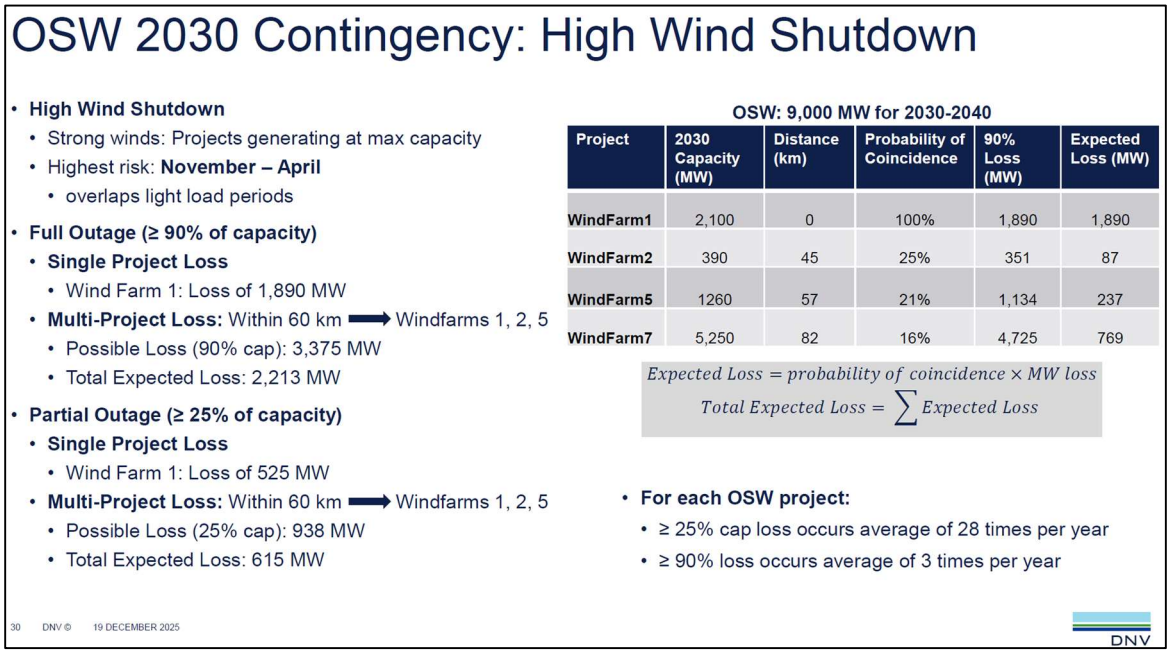


- Table of covariance (%) by distance and useful visualizations were also provided:

| Resource Type | ±15 Minutes | | | | | | |
|---|---|---|---|---|---|---|---|
| | Distance | | | | | | |
| | 1 km | 3 km | 5 km | 10 km | 20 km | 50 km | 100 km |
| **LBW** | 88% | 71% | 59% | 42% | 27% | 14% | 8% |
| **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

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**Discussion and Next Steps:**

EWWG needs to provide RRS an update on whether enough data is available to adopt PRR 153

- Would we recommend application of the analysis to planning criteria, operating rules, or both?
- What other data is necessary?
    - Defining probabilistic basis for criteria
    - Further spatial covariance data
    - More detailed temporal covariance with load by season
    - Planning case test data
- At the EC Meeting #321 (January 14th, 2026) NYISO VP of System and Resource Planning Zach Smith asked whether these sudden ramp down events should be raised to being considered design contingencies? Is mitigation appropriate?
    - NYISO Members mentioned that mitigations are possible with wind speed forecasting provided to NYISO Operations.