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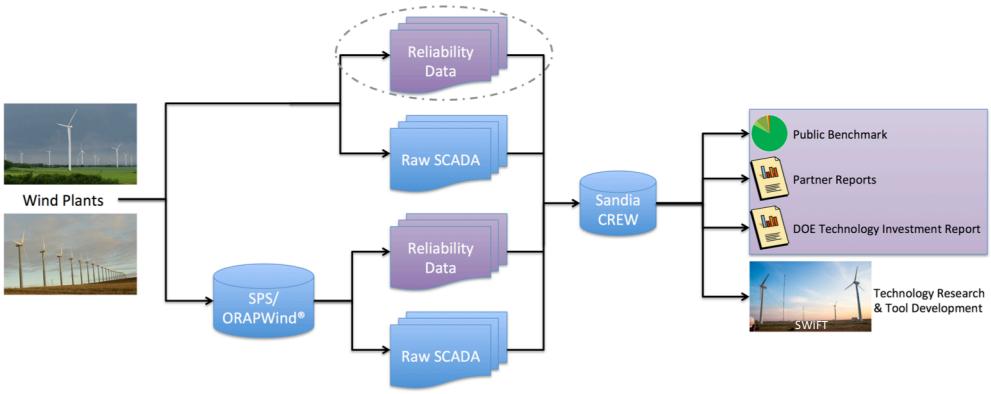
Sandia Involves Wind-Farm Owners in Defining New Data Pathway for National Wind-Plant Reliability Database

The Continuous Reliability Enhancement for Wind (CREW) Database is a DOE-funded national reliability database that enables wind-plant operational analysis—to benchmark the reliability performance of the current installed wind fleet, including characterizing operating performance at a system-to-component level and identifying technology improvement opportunities. After a series of interviews with wind-plant owners and other stakeholders, the Sandia CREW team has expanded the goals of the project, now in its sixth year. The DOE-approved plan allows a new data pathway for the CREW database—advanced owner/operators can provide their summarized reliability data *directly* to the database.

This new pathway will permit the CREW dataset and wind-plant reliability benchmark to grow substantially in representing the U.S. wind fleet—while also controlling data costs. The process will support alignment and validation of these rather complex data from geographically dispersed plants, followed by aggregation for anonymous public reporting.



CREW data pathways, including summarized reliability data directly from owner/operators.

This additional pathway was brought about because a thorough review of the current CREW project and wind-plant reliability landscape showed that many large owner/operators are now performing their own advanced reliability self-assessments—in contrast with just a few years ago when very few companies were performing this type of analysis. Even so, wind-plant owners saw an opportunity for Sandia to support this development by growing Sandia's existing role as a secure and independent source of reliability benchmarking.

The industry involvement continues as the new data pathway evolves. In the next few weeks, CREW will finalize a "Steering Committee" for the new summarized data pathway and associated expansion of the benchmark report. The Steering Committee will consist of those participating in the new data pathway and other interested owner/operators. This group will be asked to provide feedback and guidance for the CREW team as new legal vehicles, data methods, numeric algorithms, and reporting are created to incorporate the summarized reliability data into the expanded Benchmark.

Benefits of the new data pathway and expanded Benchmark include

- improved fleet representation;
- controlled data costs;
- increased precision in assessing subsets of similar plants (region, geography, wind profile, etc.);
- visibility into rare events; and
- assessments of age-related impacts to wind-plant reliability.

Exceptional Service in the National Interest

By having direct access to the growing amount of data that is aggregated across wind plants, researchers at Sandia will have the opportunity to expose reliability events that may appear random to individual plant operators. This analysis provides extremely valuable input to the owners' understanding of the long-term trends in their wind plants and to improvements of wind technology at the Department of Energy.

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