

RF Winterization Outreach Program

Derek Kassimer
Principal Technical Analyst



Backstory

- In the Fall of 2014, FERC requested the Regional Entities respond to various questions around the response and follow-up to the February 1-5, 2011 Southwest cold weather, January 6-8, 2014 polar vortex and January 17-29, 2014 winter storm events, both by the Regions and the Entities.
- FERC was aware of ERCOT performing generating site visits to gauge winter readiness and was interested if other Regions were planning on performing them as well for the 2014-2015 winter and if not, provide the reasons for not.
- In response, RF used criteria such as capacity, commissioning date, GADS data, etc. to determine a list of possible generating site visits. Then, based upon RF resources, select sites were visited.
- Based on findings and corrective actions identified during the 2014-2015 and 2015-2016 plant readiness visits or subsequent RFIs, RF believed that the existing winter readiness process should be continued, formalized and refined.



Winter Readiness Program

- **The overall goal is to assess the preparations and planning for the upcoming winter as well as raise awareness**
 - The focus is mainly on new generating facilities and those that have experienced cold weather-related issues
 - More broadly, RF performs various outreach activities in the hopes of educating and informing all Generator Owners and Operators across the footprint.
- **What this Program is NOT**
 - Part of any compliance monitoring process
 - A formal certification that a plant is adequately prepared for winter operations



RF Winter Readiness Survey

- Newly commissioned plants in 2022 will receive a survey
- Existing generation that experienced a cold weather outage may receive a survey or be asked to update a past survey
- Sent out late summer/early fall

1.0	PLANT WINTERIZATION - OVERALL CONCERNS & ISSUES
1.1	How many boiler-turbine-generator enclosures are of the outdoor type, i.e., boiler room and turbine-generator room are not enclosed and directly exposed to weather conditions?
1.2	How many boiler-turbine-generator enclosures are of the semi-outdoor type, i.e., boiler room partially enclosed with portions directly exposed to weather conditions but turbine generator room fully enclosed?
1.3	How many boiler-turbine-generator enclosures are of the indoor type, i.e., boiler room and turbine-generator room are fully enclosed and not directly exposed to weather conditions?
1.4	Due to the applicable type of configuration, describe any past problems (trips, derates, fail-to-start, etc.) caused by extreme weather and list the amount of megawatts impacted.
1.5	Does your entity presently have a plant winterization plan for all generating facilities?
1.6	Briefly describe the training program or exercise which prepares plant personnel for extreme cold weather conditions.
1.7	What plant personnel are specifically assigned or responsible for the plant winterization plan related to directing key activities before, during and after severe winter weather events?
1.8	To what level of corporate management is the plant winterization plan communicated?
1.9	What is the status of the your plant winterization plan?
1.11	What is your facility(ies) minimum starting temperature(s)?
1.12	What is your facility(ies) minimum design/operating temperature(s) and how long can the facility operate at that temperature?

Completion of this survey, as well as participation in RF cold weather program, is completely voluntary



RF Winter Readiness Site Visits

➤ **New generating stations**

- Site visits will be requested of generating stations that have a capacity greater than 100 MW

➤ **Existing generating stations**

- Site visits will be requested based upon recent cold weather outage/derate, historical performance, survey and follow up RFI responses

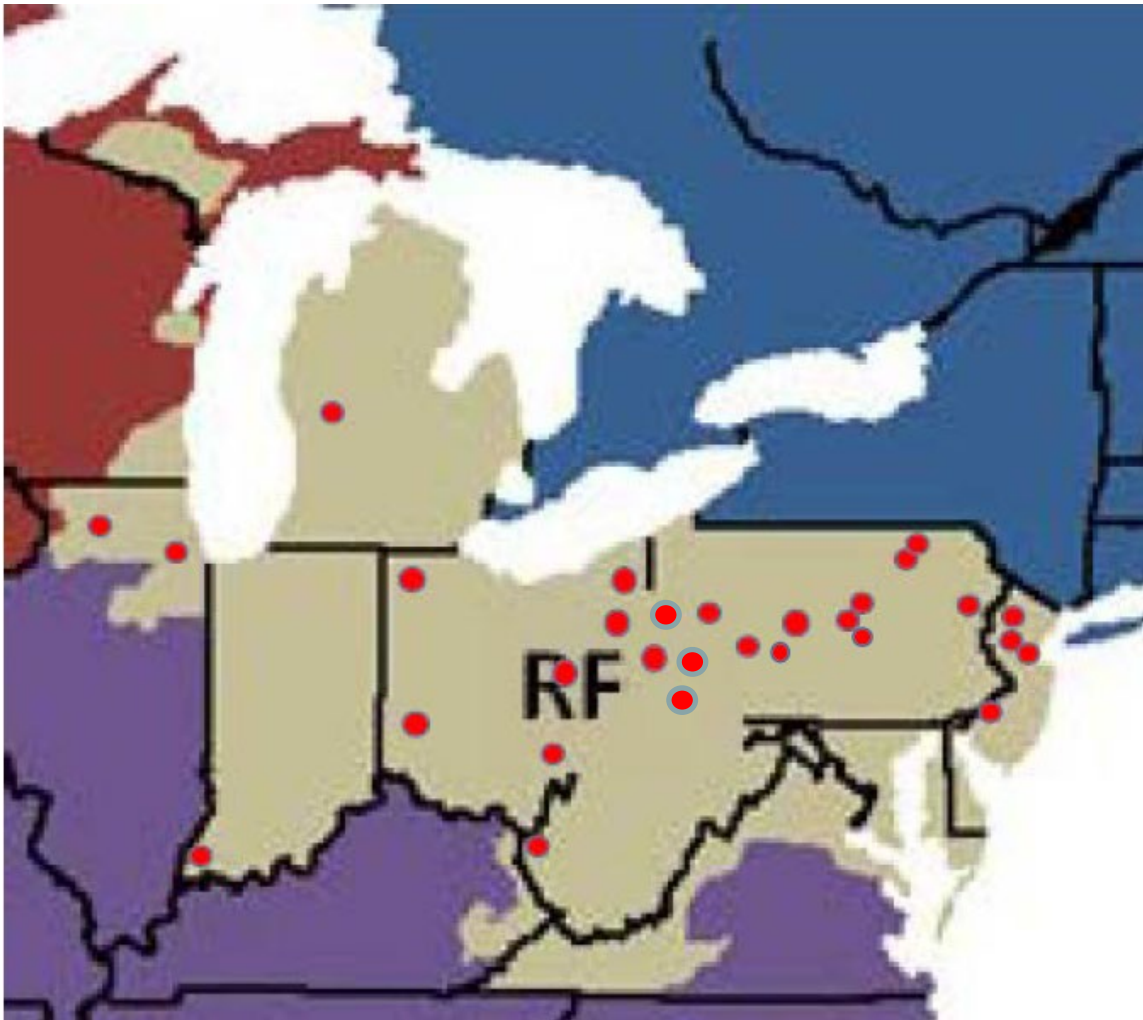
➤ **Process**

- Timeline – Late October – Mid December
- Duration – 1 day visit
- Personnel – 2~4 RF staff members



Historically speaking...

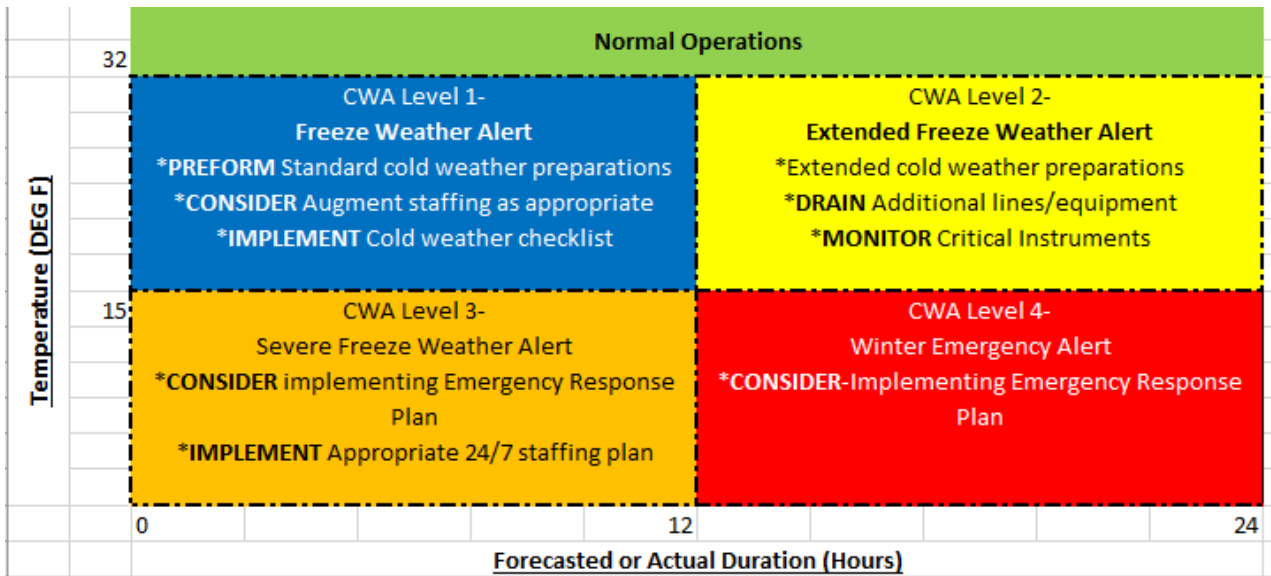
Plant Visit Locations



- 2014-2015 – 9 surveys, 3 visits
- 2015-2016 – 28 surveys, 7 visits
- 2016-2017 – 8 surveys, 6 visits
- 2017-2018 – 7 surveys, 4 visits
- 2018-2019 – 26 surveys, 7 visits
- 2019-2020 – 21 surveys, 2 visits
- 2020-2021 – 0 surveys, 0 visits
- 2021-2022 – 39 surveys, 2 visits
 - 25 wind turbine generators
 - 14 fossil fuel generators
- 2022-2023 Plan
 - 20~30 surveys
 - 8~12 visits



Site visits



Site visits



Site visits



RF Winter Readiness Recommendations

- ✓ Begin winter readiness preparations in late summer/early fall to allow ample time to correct any deficiencies.
- ✓ Ensure any lessons learned have been included in winter readiness program especially those they may impact the generation fleet or those with similar configurations.
- ✓ Complete training of operations and maintenance staff so they understand their roles and responsibilities regarding winter readiness.
- ✓ Utilize winterization checklists and walk-downs to verify readiness
- ✓ Consider MISO or PJM winter guidelines as required or deemed appropriate.
- ✓ Ensure that MISO or PJM are always made aware of any cold weather-related operating limitation
- ✓ Ensure that all cold weather-related data is provided to MISO or PJM prior to a cold weather event.



A word on compliance...

- ✓ EOP-011-2 becomes effective 4/1/2023, use this winter period to fine tune your cold weather preparations
- ✓ Formalize any cold weather preparedness plan(s)
 - Clearly define roles and responsibilities
 - Ensure the plan(s) address all the parts of EOP-011-2 R7
 - [ERO CMEP Practice Guide – Cold Weather Preparedness](#)
 - Make certain that training is developed, implemented, and tracked
 - Utilize checklists to effectively prepare, monitor and evaluate cold weather preparedness
 - Coordinate with the RC



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COLD WEATHER PREPAREDNESS

Cold weather preparedness and operations is key to ensuring reliability and resiliency of the Bulk Power System, especially given the cold weather the ReliabilityFirst footprint experiences year after year. Since 2014, ReliabilityFirst has strived to support generating facilities by identifying best practices as well as sharing lessons learned around cold weather preparedness.

The following documents are meant to serve as a reference of various cold weather preparedness materials. These documents include:

- Cold weather training materials from sources across the ERO
- ERO guidance and recommendations around cold weather preparedness
- Lessons Learned from cold weather events
- Reports from historical cold weather events

Specific to ReliabilityFirst's cold weather preparedness program, references include the surveys used to benchmark generating facilities' current cold weather preparedness as well as the best practices and lessons learned that have been identified over the years.

<https://rfirst.org/KnowledgeCenter/Risk%20Analysis/ColdWeather/>



Questions & Answers

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