

Winter Readiness Training Program

Operations Training Users Group (OTUG)

November 4, 2026



WINTER READINESS

Train. Verify. Respond.

A practical, NERC-aligned program for power plant operations and maintenance personnel

Pre-season readiness • field qualification • emergency drills • evidence

Why annual classroom training is not enough

Readiness must be observable in the field and repeatable under pressure.

KNOW

Understand plant vulnerabilities, alert levels, procedures, roles, and communications.

DO

Locate, inspect, test, stage, and protect cold-weather critical components.

RESPOND

Diagnose abnormal indications, execute procedures, communicate risk, and document actions.

Program standard: attendance + demonstrated capability + retained evidence

The recurring winter readiness cycle



PLAN

Update vulnerabilities & procedures

TRAIN

Pre-season kickoff & knowledge check

VERIFY

Field walkdowns & equipment checks

DRILL

Tabletop and control-room scenarios

IMPROVE

Debrief, correct, and retain evidence

Repeat the cycle whenever procedures, equipment, lessons learned, or operating risks change.

Pre-season kickoff: establish a common operating picture

MANDATORY CONTENT

- Plant-specific cold-weather vulnerabilities
- Historical freeze events and near misses
- Revised SOPs and winter readiness plans
- Alert levels and activation triggers
- Roles: plant coordinator, shift supervision, maintenance, engineering
- Escalation and MISO/BA/RC communications

INSTRUCTOR METHODS

- Use photos and marked-up P&IDs*
- Connect each component to the consequence of failure
- Walk through “first frost / last frost” actions
- Confirm who has authority to activate temporary measures
- End with a short knowledge check and unresolved-question log

*Process and Instrument Diagrams

Field qualification: inspect, identify, explain

Instrumentation	Level, pressure, flow transmitters; sensing and impulse lines
Instrument air	Dryers, drains, moisture points, exposed tubing
Freeze protection	Heat trace circuits, junction boxes, insulation, enclosures
DC & controls	Battery and UPS heating, cabinets, alarms, local power
Site resources	Portable heaters, tarps, insulation, ice melt, cords, thermometers

QUALIFICATION PROMPT

Show me the component.

How do you verify it is ready?

What indication suggests freezing or failure?

What happens to the unit if it fails?

Who do you notify?

Scenario drills: practice the decisions that protect the unit

A

Bad data

Drum level fluctuates; redundant transmitter disagrees; heat trace alarm is active.

B

Instrument air

Dew point rises; exposed tubing begins freezing; valve response degrades.

C

Fuel constraint

Gas curtailment notice arrives while ambient temperature is falling.

D

Loss of heating

Turbine enclosure heater fails; wind increases; temporary heat is limited.

Drill standard: detect →decide →act →communicate

1

DETECT

Recognize abnormal indications & challenge bad data

2

DECIDE

Determine trusted indications, procedure entry, and priorities

3

ACT

Dispatch field checks & implement protective measures

4

COMMUNICATE

Update plant leadership & system counterparts

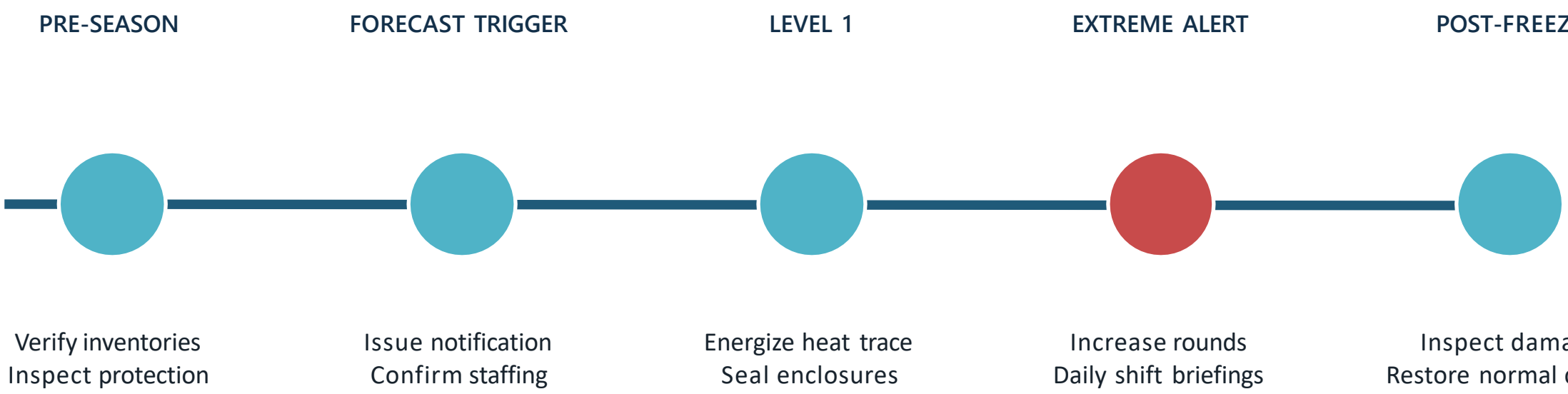
5

DOCUMENT

Record conditions, decisions, constraints, and follow-up

Evaluate the quality of the response, not just whether the "right answer" was reached.

First frost / last frost: train to triggers, not memory



Use the approved site plan for exact dates, temperatures, durations, and assigned actions.

Materials and resource readiness

PORTABLE HEAT

Heaters, heat lamps, approved fuel

WEATHER BARRIERS

Tarps, liners, blankets, wind breaks

ICE CONTROL

Snow/ice melt, shovels, de-icing tools

POWER & LIGHT

Extension cords, flashlights, temporary power

PERSONNEL PPE

Gloves, hand warmers, cold-weather gear

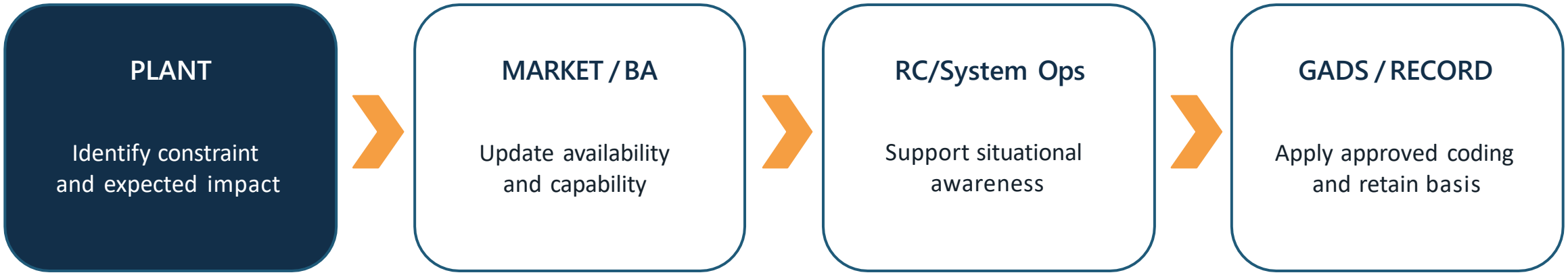
MEASUREMENT

Thermometers and local verification tools

Training objective: personnel can locate, inspect, deploy, and replenish critical winter supplies.

Availability reporting and emergency communication

When capability changes, speed and accuracy matter.



Drill the message: current condition • MW impact • expected duration • actions underway • next update

Evidence package: prove the program worked

- ✓ Approved curriculum and learning objectives
- ✓ Attendance and completion records
- ✓ Knowledge checks and answer keys
- ✓ Field qualification checklists
- ✓ Drill scenarios and evaluator sheets
- ✓ Daily shift briefing records
- ✓ Deficiencies and corrective actions
- ✓ Procedure and slide revision history
- ✓ Post-winter debrief notes
- ✓ Evidence index mapped to requirements

Evidence should show who was trained, on what, when, and how competence was verified.

Implementation roadmap

NOW	Confirm program owner, site coordinators, audience, and controlled source documents.
30 DAYS	Finalize modules, field checklists, scenarios, evaluator guides, and evidence index.
PRE-SEASON	Deliver kickoff, complete field qualifications, stage resources, and run at least one drill.
DURING EVENTS	Conduct shift briefings, enhanced rounds, status updates, and issue tracking.
POST-WINTER	Debrief, trend gaps, close corrective actions, and revise next season’s program.

WINTER READINESS IS A PRACTICED CAPABILITY