RESOURCES / FINANCIAL FRAMEWORK

The True Cost of a Freeze Event

Mission-Ready Freeze Protection.

One frozen line almost never costs what the repair invoice says. This is the framework for the whole number — damage, downtime, the emergency premium, and what your regulator or insurer does afterward — with a worksheet you fill in using your plant's own figures.

FOUR BUCKETS · ONE BLANK WORKSHEET · NO BENCHMARK DEFAULTS · BY THE CREW THAT DOES THE WORK

WHERE THE MONEY ACTUALLY GOES

FOUR BUCKETS, ONE INVOICE

The number most plants carry into the post-mortem is what it cost to fix the pipe. **That is the smallest of four numbers.** The other three are harder to see, they land in different budgets, and they are where the money is.

01

Equipment damage

The freeze itself is quiet. The thaw is what breaks things — a split fitting that holds while it's frozen, then lets go over a motor or a switchgear room when the ice releases. The repair estimate is the visible part; the secondary damage rarely lands on the same work order.

WHAT DRIVES IT

- Line size, contents, and what sits underneath it
- How long the line stayed frozen before anyone found it
- Whether the shutdown was orderly or uncontrolled
- Insulation and jacket stripped and replaced

02

Downtime and lost production

Hours multiplied by your cost per hour — and the hours are almost never just the freeze. Thaw, inspection, restart and requalification usually run longer than the outage itself, and an uncontrolled shutdown restarts slower than a planned one.

WHAT DRIVES IT

- Total hours down: freeze, thaw, inspection, restart
- Your real cost per hour, including contract exposure
- Whether one line takes a unit down or the whole plant
- How long qualified help takes to reach you mid-storm

03

The emergency repair premium

The same repair costs more in January. Off-hours labor, expedited freight, temporary heat, and a regional contractor market where every qualified crew was booked before the storm. Nothing gets competitively bid at two in the morning.

WHAT DRIVES IT

- Premium and overtime rates against your normal rate
- Expedited material, freight and equipment rental
- Temporary heat, containment and cleanup
- No time to bid, so no competitive pressure

04

Regulatory and insurance exposure

For a NERC-registered generator, freeze protection stopped being a maintenance preference: EOP-012 makes it an enforceable requirement with documentation attached, carrying exposure of up to $1 million per violation per day under the Federal Power Act, indexed for inflation.

WHAT DRIVES IT

- Whether you are a registered generator owner or operator
- Your deductible and the loss you retain
- Open insurer recommendations and how long they have been open
- Whether the program was documented before the event

FREEZE EXPOSURE WORKSHEET

YOUR NUMBERS, NOT OURS

Nothing here is pre-filled with an industry average, because an average has never paid anyone's invoice. Fill in what you know and leave the rest blank — a partial number you can defend beats a complete number you can't.

01

Equipment damage

REPAIR OR REPLACEMENT

Pipe, valves, instruments, insulation, and what the water reached.

$

AFFECTED CIRCUITS OR LINES

Used to work out the cost per circuit.

BUCKET 01

02

Downtime and lost production

HOURS DOWN

Freeze, thaw, inspection and restart — not just the outage.

YOUR COST PER HOUR

Lost production, purchased replacement, contract exposure.

$

BUCKET 02

03

Emergency repair premium

EMERGENCY LABOR AND EXPEDITED MATERIAL

The premium over what the same scope costs in October.

$

TEMPORARY HEAT, MOBILIZATION, CLEANUP

Rentals, containment, water removal, extra supervision.

$

BUCKET 03

04

Regulatory and insurance exposure

DEDUCTIBLE OR RETAINED LOSS

The part of the claim your plant carries.

$

PENALTY OR COMPLIANCE EXPOSURE

Only what you'd actually carry — leave blank if unsure.

$

BUCKET 04

ONE EVENT · YOUR NUMBERS

PER AFFECTED CIRCUIT OR LINE

ANNUAL COST OF A DOCUMENTED PROGRAM

THE LEDGER

01 Equipment damage	
02 Downtime and lost production	
03 Emergency repair premium	
04 Regulatory and insurance exposure	
ONE EVENT, TOTAL	
One event, in years of the program	

Nothing on this sheet is reported to anyone. The live version does the arithmetic as you type, writes a summary you can paste into an email, and keeps every figure in your own browser.

patriotthermal.com/resources/true-cost-freeze-event/

THE COMPOUNDING ARGUMENT

ONE JANUARY AGAINST FIVE YEARS

A freeze event is not a one-off. The conditions that produced it — the dead circuit nobody knew was dead, the crushed insulation, the panel schedule that stopped matching the field three turnarounds ago — are all still there in March. **A documented program spends a predictable amount every year, in daylight, on a purchase order.** An event spends an unpredictable amount once, at night, at premium rates, with your name on the incident report.

YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
________	________	________	________	________

Cumulative program spend, year by year. Mark the year the running total passes the one event you priced — everything left of that mark is money the plant spends instead of losing.

THE SAME QUESTION, ASKED ON THE RECORD

After the 2011 Southwest cold-weather event, the joint FERC and NERC review priced the winterization equipment a gas plant needs — insulation and heat tracing among it — at **$50,000 to $500,000 per plant, in 2011 dollars**. Ten years later the Federal Reserve Bank of Dallas set that figure against what Winter Storm Uri actually cost Texas and titled the finding plainly: the cost of the deep freeze justifies the weatherization. That ratio is on the public record. Yours is in the strip above.

TAKE IT UPSTAIRS

WHAT TO BRING TO THE CFO

Finance does not argue with a freeze. It argues with an unbudgeted number. Three things make that conversation short: **one event priced with your own figures**, one annual number to compare it against, and a date by which the work has to happen to matter this winter.

Qualified crews book up through the fall. Remediation found in November is remediation performed in November. The work that changes this winter's exposure is scoped before cold weather, not during it.

FREEZE EXPOSURE — SUMMARY

01 Equipment damage	________
02 Downtime and lost production	________
03 Emergency repair premium	________
04 Regulatory and insurance	________
ONE EVENT, TOTAL	________
Documented program, annual	________
One event, in program-years	________
Prepared by / date	________

WHERE MOST PLANTS START

TURN THE ESTIMATES INTO MEASUREMENTS

A walkdown is the fastest way to replace the guesses on this sheet with measured numbers — which circuits are dead, which records stopped matching the field, and what it would take to close the gap before cold season. Vendor-neutral: we don't sell a cable brand, so the findings are your system's condition, not a quote in disguise. If you're in good shape, that's what we'll tell you.

GET A QUOTE
patriotthermal.com/contact-us/
401-932-9159

BOOK A FREE DISCOVERY CALL
patriotthermal.com/
freeze-protection-walkdown/

THE LIVE WORKSHEET
patriotthermal.com/resources/
true-cost-freeze-event/

This sheet is a budgeting framework, not accounting, legal, or insurance advice. Public figures are attributed to their sources — the joint FERC and NERC winter-event reports (2011–2023), the Federal Reserve Bank of Dallas (2021), and the Federal Power Act penalty provisions as adjusted by FERC. Every other number on this sheet is one you enter. Patriot Thermal Controls Inc. · Warwick, RI · veteran-led.