NES

WINTER STORM FERN

After Action Report

What the independent review found across the 17 focus areas and 58 recommendations/Four Pillars Update

In the few months since the storm, NES has already made real progress against much of what the review found.

NES Board of Directors | June 24, 2026 | Teresa Broyles-Aplin, CEO

BACKGROUND

Winter Storm Fern: The Largest Storm in NES History

Fern was an unprecedented ice storm that hit the NES service area in late January 2026. Ice built up on trees and limbs until they fell into the lines, knocking out power across much of the system. It was the largest outage event in NES history.

231,749

customers out, about half of NES

12 days

to fully restore service

~3,300

crews and support staff at the peak

~64,000

customer calls during the storm

Most of the damage traced back to vegetation. Right after the storm, NES tightened its trimming standard, widening clearances around poles and lines to 15 feet and removing overhanging limbs. The review endorsed it:

> *"These changes align with industry best practices and represent a proactive step toward strengthening long-term system resiliency and reducing vegetation-related outage risk."* **PA Consulting, Final Report**

THE REVIEW AT A GLANCE

Scope of the Review

PA Consulting ran an independent review of how NES prepared for and responded to Fern.

176	60	17	58
Data requests	People interviewed	Focus areas	Recommendations

WHAT THE REVIEW COVERED

The review looked at how NES did leading up to and during the storm. It did not analyze the work the NES team started right after- the effort we have been calling the Four Pillars. This deck adds that progress on top of what the review found.

NES takes the review seriously and is acting on its recommendations.

What PA Did, and the Purpose of This Deck

WHAT PA DID

The Board retained Sherrard Roe Voigt & Harbison and Adams & Reese to conduct and oversee an After-Action Review of Nashville Electric Service's preparedness and response to Winter Storm Fern. Those firms retained PA Consulting to perform that Review. They reviewed NES records, interviewed people across NES and its restoration partners, and made 58 recommendations across 17 focus areas. PA grouped the recommendations by when they should be tackled: immediate, near-term, and long-term.

PURPOSE OF THIS DECK

Much of what the review recommends is already underway. NES did not wait for the report. The Four Pillars work began right after the storm, and a good share of the 58 recommendations are already being addressed through it.

Recommendations will be taken seriously. NES will weigh each one, decide how to tackle any unaddressed issues, and plan how and when to act. This deck is the starting point for that, not the final word.

How the Report is Organized

The full report runs more than 120 pages. Here is how it is built, and where the focus areas and recommendations live.

Executive Summary	The storm, the key findings, and the full list of recommendations.
Section 1 - Introduction	The purpose of the review and how the restoration unfolded over the twelve days.
Section 2 - The Fern Response	What happened during the storm, with the timeline and a comparison to past events.
Section 3 - Findings & Recommendations	The heart of the report. Each of the 17 focus areas is detailed here, with PA's findings and the recommendations under it.
Section 4 - Implementation & Roadmap	How PA suggests sequencing the work: immediate, near-term, and long-term.
Appendices	Methodology, the 176 data requests, and the 60 interviews behind the review.

The Review's Four Priorities

Across all 17 focus areas and 58 recommendations, the report points to four recurring themes as the most critical areas to strengthen.

1

Incident Command

Stand up a clear, scalable command structure to run a major event.

2

Emergency Preparedness

An emergency plan that is detailed and backed by training and drills.

3

Estimates & Customer Communications

Reliable restoration estimates and customer channels that hold up under load.

4

Resource Forecasting & Mobilization

Predict the damage and call for outside help early based on those estimates.

Source: PA Consulting Final Report, Recommendation Improvement Themes.

Where the Review Found NES Strong

The review focused on what to improve, and it also called out clear strengths in how NES performed during Fern.

A culture of ownership and service

PA saw a workforce deeply committed to serving customers and restoring power safely, showing initiative and dedication throughout Fern.

A safe restoration

In freezing conditions and heavy damage, NES restored every customer with no serious injuries, which PA calls a significant accomplishment that reflects its safety culture.

Smart restoration tactics

NES ran line and service crews in parallel to speed restoration, staged materials efficiently at its service centers, and kept crews working with little downtime.

A solid track record

PA notes NES has historically handled routine and major storms largely on its own, restoring outages at a rate consistent with industry norms and reliability on par with or better than similar utilities.

Source: PA Consulting Final Report, Key Strengths and Successful Practices.

OUR RESPONSE

Our Four Pillars, Mapped to the Review

NES organized its work into four pillars. Together they cover all four of the review's priorities and add a focus the review did not single out: making the system itself more resilient.

P1

Storm Readiness & Response

Command, the emergency plan, mutual aid, logistics, restoration, safety, and storm finance.

Answers priorities 1, 2 & 4

P2

Customer Experience & Operations

Communications, the outage map, phone and text, the call center, and supporting technology.

Answers priority 3

P3

Estimated Time of Restoration

The estimate process, damage assessment, and the field tools behind them.

Answers priority 3

P4

Resiliency

Vegetation, undergrounding, metering, and grid hardening.

Adds resiliency

Board oversight and enterprise risk were not specifically part of the Four Pillars, and are tracked separately.

Incident Command System

WHAT THE REVIEW FOUND

The review found the Command Center worked mainly as a staffing and notification framework, not a true command structure. Roles were not clearly defined, and command roles rotated to new people every week. There was limited guidance regarding how coordination and decision-making was to be made.

WHAT NES HAS DONE SINCE, THROUGH OUR FOUR PILLARS INITIATIVE

- **A command structure that scales.** A new incident command model with an org chart that expands by storm size and clear authority for the incident commander.
- **Defined roles.** Role cards spell out the duties and reporting line for every position, with trained backups.
- **No rotation of key roles during an event.** The rewrite replaces weekly rotation with a single-assignment rule and a planned handoff.
- **A set operating rhythm.** Situation-report templates, decision logs, and action trackers keep the event documented and coordinated.

Emergency Response Planning and Preparedness

WHAT THE REVIEW FOUND

The emergency plan was high level and leaned on the knowledge of experienced people rather than written procedures. Its top severity tier applied to events over 50,000 customers with no defined response differentiation above that, while Fern took out more than 200,000.

WHAT NES HAS DONE SINCE, THROUGH OUR FOUR PILLARS INITIATIVE

- **An updated plan in place and improving. An interim emergency plan is already in place, and a fuller version is being rewritten around the new command structure, with a final due in September.**
- **Playbooks and job aids.** Procedures, role guidance, and a scenario library so the response is clear to all employees.
- **Training for everyone.** Company-wide EM 101 training has launched, with ICS-100 certification ongoing and command leadership in ICS-200.
- **Storm drills on the calendar.** Emergency-response exercises are scheduled, the first a full storm drill on August 28.

Estimated Restoration Times and Customer Communications

WHAT THE REVIEW FOUND

NES had no process to build or share restoration estimates and did not publish one until about seven days into Fern. At the same time, several customer-reporting channels, the outage line, texting, and reporting through the map, went down under peak demand.

WHAT NES HAS DONE SINCE, THROUGH OUR FOUR PILLARS INITIATIVE

- **Global restoration estimates, now in use.** NES built a process for global and area restoration estimates and has used it in several storms since.
- **More phone and text capacity.** The outage reporting line was scaled from 300 to 1,000 calls at once, the live-agent line stayed up during Fern, and the outage-system problems are fixed.
- **A new customer app and a stronger map.** NES launched a customer mobile app, and the outage map now shows estimates, a community layer, and multi-channel reporting.
- **Estimates we measure.** NES has been refining the estimate algorithm against actual restoration times to keep it accurate.

Resource Forecasting and Mobilization

WHAT THE REVIEW FOUND

NES did not have a reliable, data-driven methodology for estimating the number of resources required to support restoration activities. Instead, experience and professional judgement were relied upon to determine resource requirements in advance of the storm.

WHAT NES HAS DONE SINCE, THROUGH OUR FOUR PILLARS INITIATIVE

- **New storm-response contracts.** Pre-arranged T&D crew contracts go to the Board this month, locking in surge capacity with some geographic diversity.
- **Call-out triggers in the plan.** Mutual-aid requests are now built into the activation playbook and tied to the Public Power Mutual Aid Network, so the call goes out on the forecast, not after impact.
- **Sizing crews earlier.** An interim method uses existing modeling outputs to estimate storm impact today, with a full prediction model in development, so requests are sized early.
- **Faster onboarding.** A standard crew roster and a contractor safety onboarding video put outside crews to work quickly once they arrive.

WHAT THE DETAIL COVERS

The 17 Focus Areas

The 58 recommendations sit across these 17 focus areas. The slides that follow walk through each one, with PA's finding and our response.

P1 Storm Readiness & Response

- **3.1** Incident Command System
- **3.2** Emergency Preparedness & Response
- **3.4** Damage Prediction
- **3.5** Mutual Assistance
- **3.7** Logistics & Supply Chain
- **3.10** Restoration Management
- **3.11** Safety
- **3.17** Financial Management & Documentation

P2 Customer Experience & Operations

- **3.12** Communications
- **3.13** Customer Experience
- **3.14** Call Center / Handling
- **3.15** IT / OT

P3 Estimated Time of Restoration

- **3.3** Estimated Time of Restoration
- **3.6** Damage Assessment

P4 Resiliency

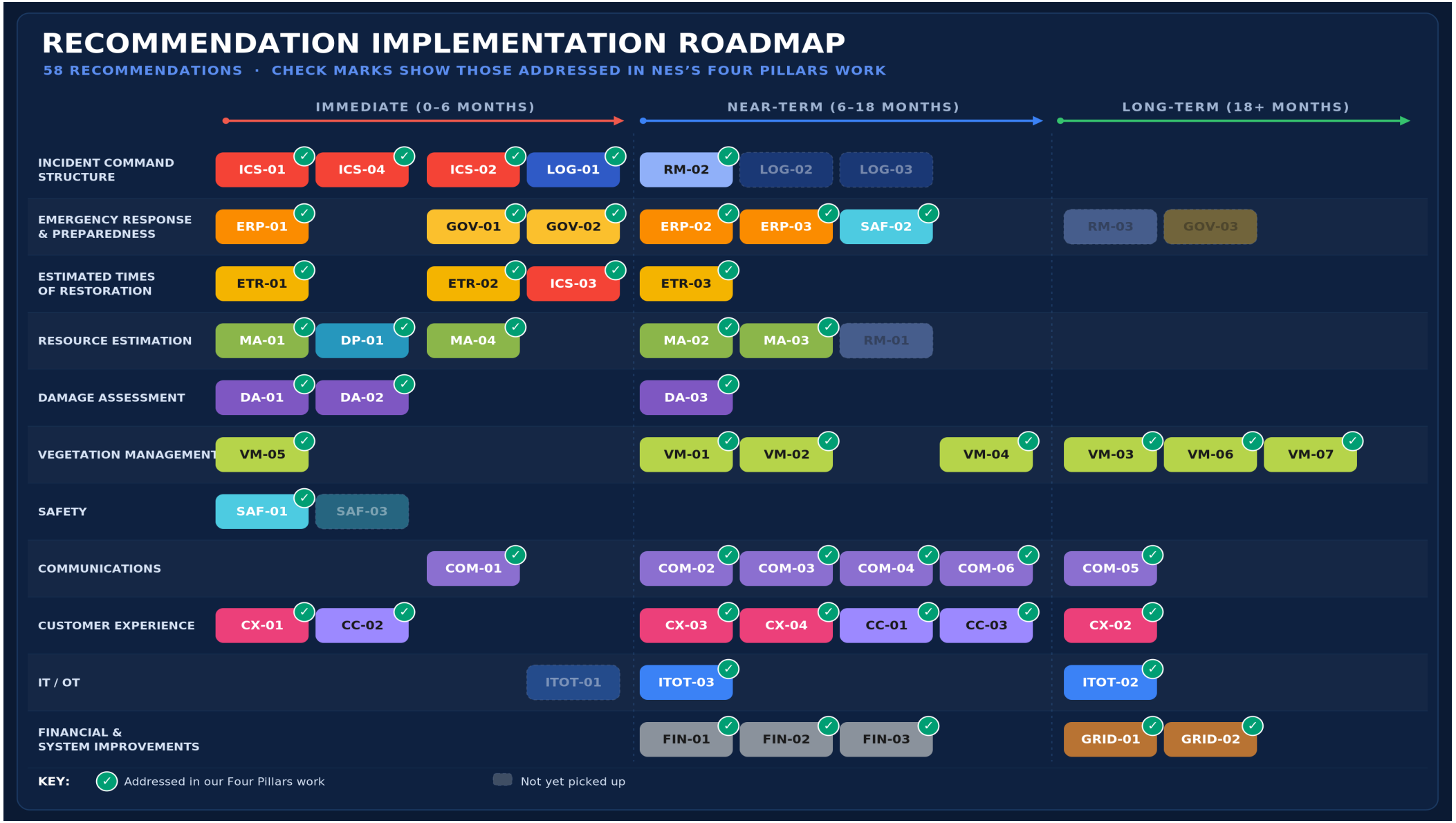
- **3.8** Grid Reliability & Performance
- **3.9** Vegetation Management

Enterprise / Governance (no pillar)

- **3.16** NES Board Responsibilities

The Review's Roadmap of 58 Recommendations, and Our Four Pillars

Check marks show recommendations our Four Pillars work is already addressing in some way. NES is working through how to cover any unaddressed matters.



APPENDIX 1

By Focus Area: The Review's Findings and Our Response

Each of the 17 focus areas, with every recommendation and a short line on what NES has done.

BY FOCUS AREA, IN PA ORDER

What PA found, and what NES has done

3.1 Incident Command System		
Command ran on a staffing list, not a true incident command system, and roles rotated weekly.		
ICS-01 Scalable ICS for major events	Built the tiered command structure, role cards, and activation playbook.	**Pillar 1**
ICS-02 Formalize incident information management	Built situation-report templates, decision logs, and action trackers.	**Pillar 1**
ICS-03 Dedicated ETR coordination in command	Not yet implemented; PA recommendation, no ETR role named.	**Pillar 1**
ICS-04 Standardize the operations center	Redesigned the Cafeteria Annex as the EOC, ready before the August tabletop; operations-center model is in the plan rewrite.	**Pillar 1**
3.2 Emergency Preparedness & Response		
The emergency plan was high level, covered events over 50,000 with nothing above that defined, and the last drill was cyber, not storm.		
ERP-01 Rebuild and set up the emergency plan	Rewriting the plan; operable draft June 15, final September.	**Pillar 1**
ERP-02 Preparedness governance and program management	Stood up a program office and steering committee.	**Pillar 1**
ERP-03 Multi-year training and exercise program	Built the training program; EM 101 launched; drills start August 28.	**Pillar 1**
3.3 Estimated Time of Restoration		
No routine for estimating restoration times, and none were published until about day seven.		
ETR-01 Set up restoration estimates	Built an estimate plan, standardized inputs, and measure accuracy.	**Pillar 3**
ETR-02 Configure OMS estimate functionality	Working with the vendor; OMS upgrade goes live in June, fuller capability in FY27.	**Pillar 3**
ETR-03 Customer-centered estimate communications	Added an outage-map estimate display; estimate texting is in progress.	**Pillar 3**

What PA found, and what NES has done (continued)

3.4 Damage Prediction		
No model to predict damage or crew needs, so crews were taken as they became available.		
DP-01 Scalable damage prediction and forecasting	EDGAR in production as an interim step; full prediction model out for RFP (target September 2026).	**Pillar 1**
3.5 Mutual Assistance		
Outside crews were not called early or broadly enough; the largest waves came on day eight.		
MA-01 Proactive mutual-aid mobilization	Built mutual-aid triggers into the playbook and the aid network.	**Pillar 1**
MA-02 Expand the mutual-aid network	Gives and requests aid under the APPA agreement; ERP 2.0 builds the request side.	**Pillar 1**
MA-03 Standardize outside-crew integration	Building a crew roster template and a contractor onboarding video.	**Pillar 1**
MA-04 Tie mobilization to the prediction model	Will size crew requests off the prediction model (early).	**Pillar 1**
3.6 Damage Assessment		
Early assessment was slow, used one method, and relied on a tool outside crews could not use.		
DA-01 Damage assessment process and flow	Built the storm damage app process; improving field capture.	**Pillar 3**
DA-02 Scalable assessment methods	The app supports quick and detailed assessment.	**Pillar 3**
DA-03 Assessment technology and awareness	Adding rapid aerial assessment and building a digital twin.	**Pillar 3**

What PA found, and what NES has done (continued)

3.7 Logistics & Supply Chain		
Many contracts were signed mid-storm, only 15 storm kits were ready, and lodging was not arranged.		
LOG-01 **Outside-crew mobilization and onboarding**	Building an onboarding video and roster template; rebidding contracts.	**Pillar 1**
LOG-02 **Materials readiness and storm kits**	Storm kits and logistics across the three centers, with inventory being built up.	**Pillar 1**
LOG-03 **Field logistics and workforce support**	Holds discounted year-round hotel contracts for lodging; hotels can launder FR-rated clothing for crews.	**Pillar 1**
3.8 Grid Reliability & Performance		
Steady reliability spending, but early in automation, and everyday reliability trails peers.		
GRID-01 **System segmentation strategy**	Covered in the 10-year reliability plan, completed and signed in May.	**Pillar 4**
GRID-02 **System hardening plan**	The 10-year reliability plan was completed and signed in May; the 4kV upgrade, undergrounding study, distribution automation, BESS, AMI, and digital twin are moving.	**Pillar 4**

What PA found, and what NES has done (continued)

3.9 Vegetation Management		
Trimming output fell by about half over five years, leaving more risk on the lines.		
VM-01 **Clearance standards vs leading practice**	Reviewed standards and adopted a ground-to-sky trimming standard.	**Pillar 4**
VM-02 **Risk-based vegetation strategy**	LiDAR-driven priorities; trimming about 95 percent of the goal.	**Pillar 4**
VM-03 **Vegetation risk communication**	Sharing weekly trimming locations with council members.	**Pillar 4**
VM-04 **Vegetation monitoring and evaluation**	Building tracking against the plan and reliability results.	**Pillar 4**
VM-05 **Vegetation in storm restoration**	Storm vegetation work is in the rebid contract.	**Pillar 4**
VM-06 **Repeat-outage areas**	Using LiDAR for repeat-outage areas; four undergrounding pilots funded.	**Pillar 4**
VM-07 **Advanced vegetation technologies**	Using fixed-wing LiDAR and the digital twin to guide vegetation work.	**Pillar 4**
3.10 Restoration Management		
The centralized restoration model and single-channel switching bottlenecked at storm scale.		
RM-01 **Restoration throughput at scale**	*Not started.*	
RM-02 **Crew deployment and utilization**	Evaluated the ARCOS crew tool; defining crew-guide levels.	**Pillar 1**
RM-03 **Work management, dispatch, switching**	*Not started.*	

What PA found, and what NES has done (continued)

3.11 Safety		
Safety held up with no serious injuries; field-safety coverage was thin for the workforce.		
SAF-01 Hazardous energy control management	The HEC program is effective; a group is reviewing how to scale it for large events.	**Pillar 1**
SAF-02 Scalable field safety oversight	Defining crew-guide levels; named the Safety Officer a must-fill role.	**Pillar 1**
SAF-03 Validate safety-critical processes	*Not started.*	
3.12 Communications		
No communications model tied to restoration, so information lagged and rumors filled in.		
COM-01 Integrated storm communications	Named a PIO in command; building a single communications workspace.	**Pillar 2**
COM-02 Communications governance	Defined the Storm Mode trigger and the approval model.	**Pillar 2**
COM-03 Crisis communications strategy	Completed a crisis communications plan with templates.	**Pillar 2**
COM-04 Tie communications to restoration	Set up sit-report comms, public-official access, and a live ops feed.	**Pillar 2**
COM-05 Communications readiness and training	Communications training is part of the EM 101 and company-wide OCM rollout.	**Pillar 2**
COM-06 Communications tools and templates	Built a pre-approved template library and a communications workspace.	**Pillar 2**

What PA found, and what NES has done (continued)

3.13 Customer Experience		
Customers had little restoration visibility, and several reporting channels went down at peak.		
CX-01 Critical and vulnerable customers	Simplified critical-care registration and added a Critical Care Playbook with pre-storm communications and ETRs.	**Pillar 2**
CX-02 Support during prolonged outages	Added mobile customer crews; tested the outage IVR to 1,000 calls.	**Pillar 2**
CX-03 Customer expectations management	Upgraded the outage map; adopted assessing-conditions messaging.	**Pillar 2**
CX-04 Customer feedback and intelligence	Building a customer-feedback loop (early).	**Pillar 2**
3.14 Call Center / Handling		
About 64,000 calls came in over twelve days, and the two backup call centers struggled.		
CC-01 Call center continuity	Fixed the Fern system issues; load-tested the outage IVR to 1,000 calls.	**Pillar 2**
CC-02 Call center surge and overflow	Expanding the overflow contract; award at the September board, start January 2027.	**Pillar 2**
CC-03 Restoration info to customer staff	Feeding restoration info to staff via sit reports and a single shared source.	**Pillar 2**
3.15 IT / OT		
Core systems stayed up but were set for normal days, which forced manual workarounds.		
ITOT-01 Large-event system operating modes	*Not started.*	
ITOT-02 Data integration and decision support	Looking at OMS data sharing and the ARCOS tool (early).	**Pillar 2**
ITOT-03 Customer communications technology	Delivered the outage map, multi-channel reporting, phone and text scaling, and a mobile app.	**Pillar 2**

What PA found, and what NES has done (continued)

3.16 NES Board Responsibilities		
The Board saw the risk but had little view into whether the fixes were working.		
GOV-01 **Board oversight of preparedness**	Monthly Board updates on readiness, including this review.	**No Pillar - Governance**
GOV-02 **Board roles during major events**	Board-role clarification not yet started (PA recommendation).	**No Pillar - Governance**
GOV-03 **Enterprise risk management**	A timeline is set to overhaul the ERM program on a more advanced, business-linked footing.	**No Pillar - Governance**
3.17 Financial Management & Documentation		
Only two contractors had set rates; storm rates ran 60 to 80 percent higher.		
FIN-01 **Emergency spending thresholds**	Bylaw language for the higher threshold is going to the Board, with a procurement policy update pending.	**Pillar 1**
FIN-02 **Purchase-card holders in logistics**	Naming purchase-card holders not yet started (PA recommendation).	**Pillar 1**
FIN-03 **Track contracted vendor rates**	Capturing vendor rates through the rebid contracts.	**Pillar 1**

APPENDIX 2

Implementation Detail

PA listed specific implementation steps under each recommendation. They are condensed here, with what NES has done. A blank means nothing is on record yet.

Implementation Steps, and What NES Has Done

PA IMPLEMENTATION STEP	WHAT NES HAS DONE
3.1 Incident Command System	
ICS-01 Implement a Scalable ICS Structure	
Start with a simplified ICS structure and mature it toward the full standard model	ICS operating model and org chart built with a tiered structure.
Develop activation criteria covering all event sizes plus mobilization and demobilization procedures	Activation and escalation playbook sets the levels.
Define responsibilities, decision authority, and reporting relationships for each ICS position	Role cards define each ICS position's duties.
Assign personnel to a single ICS role for the full duration of a major event	Replacing weekly rotation with one ICS role per person is part of the ERP 2.0 rewrite (1-15).
Establish communication and coordination pathways between the ICS organization and the CMT	Pathways are defined in the operating model.
Empower the Incident Commander to direct restoration priorities, resources, and communications during major events	The playbook gives the Incident Commander authority over priorities.
Observe and join peer utility incident management and restoration to mature ICS capabilities	
Refine the ICS structure using operational experience, exercises, and lessons learned	Annual drills are scheduled to test and refine the structure.
ICS-02 Formalize Incident Information Management Processes	
Implement situational reporting and information management across the ICS organization and related groups	Cadence pack provides situation-report templates and a set reporting routine (1-8).
Define reporting, approval, coordination, and public messaging responsibilities across the incident management organization	Reporting and messaging duties are set in the cadence pack (1-8).

Implementation Steps, and What NES Has Done

PA IMPLEMENTATION STEP	WHAT NES HAS DONE
3.1 Incident Command System	
ICS-02 Formalize Incident Information Management Processes	
Maintain a centralized information function supporting situational awareness and restoration decisions	Decision logs and action trackers are in place.
Establish communication pathways linking field crews, System Control, leadership, agencies, media, and customer teams	Field, System Control, and public-official reporting is set up (2-6).
Validate information management and communication capabilities through training, exercises, and event activations	To be tested in the company-wide EM 101 training and the August 28 drill (1-5).
ICS-03 Integrate a Dedicated ETR Coordination Function within the ICS	
Establish how restoration estimates are collected, validated, approved, and communicated during major events	ETR development and update steps are being standardized (3-1).
Support consistent, timely ETR updates through defined information flows and coordination across ICS	The restoration-estimate plan and field-update process are in progress (3-3, 3-2).
Build ETR development and updates into daily incident management and restoration briefings	Not yet in place. No ETR manager is named in the duty roster or ERP; this is a PA recommendation NES has not yet implemented (3-3).
ICS-04 Standardize EOC Operating Capabilities	
Maintain primary and alternate EOC facilities supporting incident management and coordination during major events	The Cafeteria Annex has been redesigned as the Emergency Operations Center, ready before the August tabletop.
Equip contingency EOC locations with the technology, communications, and workspace needed for restoration	The EOC has six TVs on backup power, portable chargers, and new seating.
Maintain remote EOC capabilities supporting continuity when primary facilities are unavailable	The operations chief sits with System Control today as an interim.

Implementation Steps, and What NES Has Done

PA IMPLEMENTATION STEP	WHAT NES HAS DONE
3.1 Incident Command System	
ICS-04 Standardize EOC Operating Capabilities	
Validate primary, alternate, and remote EOC capabilities through exercises and event simulations	
3.2 Emergency Preparedness & Response	
ERP-01 Rebuild and Operationalize the ERP	
Redesign the ERP framework with defined roles, reporting relationships, decision authorities, and coordination requirements	ERP 2.0 rewrite is in progress.
Establish scalable response structures and escalation criteria aligned with outage impacts and event complexity	The ICS tiered model and activation playbook set the scalable levels.
Develop restoration playbooks for each event severity level with structures, priorities, and decision points	A storm playbook is drafted and is being built into the plan rewrite (1-15).
Document end-to-end storm response processes from monitoring and activation through restoration and demobilization	End-to-end storm processes are being documented in the rewrite (1-15).
Define thresholds for requesting external resources, activating mutual assistance, and mobilizing contractors	Mutual-aid triggers are set in the playbook.
Establish workflows defining inputs, outputs, responsibilities, and coordination across response and restoration functions	Workflows are being documented in the ERP 2.0 rewrite (1-15).
Develop role-specific procedures, job aids, checklists, and decision-support tools for response personnel	Role cards are done; job aids and checklists are in development.
Provide guidance for integrating mutual assistance, contractors, agencies, and partners into restoration	Contractor onboarding video and crew roster template are in progress.

Implementation Steps, and What NES Has Done

PA IMPLEMENTATION STEP	WHAT NES HAS DONE
3.2 Emergency Preparedness & Response	
ERP-02 Establish Emergency Preparedness Governance and Program Management	
Assign ownership and accountability for emergency preparedness, plans, procedures, and supporting documentation	A program office and steering committee oversee preparedness.
Establish governance for reviewing, updating, and maintaining response and crisis management documentation	Bi-weekly significant-outage reviews with an assigned to-do log are in place, alongside the steering committee.
Develop a corrective action program to track and resolve findings from events, exercises, and reviews	
Establish processes to capture lessons learned and incorporate improvements into plans and training	After-action review is built into the training program.
Develop preparedness performance measures to evaluate readiness and program maturity	
Conduct periodic assessments of response capabilities, staffing, readiness, and resource needs	
Coordinate preparedness across operations, communications, customer service, logistics, safety, and leadership	The steering committee coordinates across operations.
Maintain a standalone crisis management plan for executive decisions and enterprise coordination during emergencies	The crisis communications plan is done.
ERP-03 Develop a Multi-Year Emergency Response Training and Exercise Program	
Provide role-specific training for ICS, response, restoration, and support function personnel	Company-wide EM 101 training launched this week.
Establish qualification and training requirements for key response and restoration roles	The training program sets qualification requirements, including ongoing ICS-100 certification.

Implementation Steps, and What NES Has Done

PA IMPLEMENTATION STEP	WHAT NES HAS DONE
3.2 Emergency Preparedness & Response	
ERP-03 Develop a Multi-Year Emergency Response Training and Exercise Program	
Use a progressive exercise approach from discussion-based to functional and full-scale exercises	Annual drills are scheduled.
Conduct storm exercises simulating realistic restoration challenges from assessment through executive decision-making	The August 28 drill will run a storm-restoration scenario (1-11).
Exercise end-to-end restoration workflows involving internal teams, partners, contractors, and government stakeholders	End-to-end workflow testing is planned for the August 28 drill (1-11).
Validate personnel familiarity with coordination, communications, and restoration decisions through exercises	To be checked through EM 101 and the August 28 drill (1-5).
Capture exercise lessons and corrective actions and integrate them into plans and training	After-action and lessons-learned steps are built into the program (1-5).
Engage an independent advisor to observe events, assess performance, and track corrective actions	EMA Professional is engaged to review ICS alignment and advise the program (1-5).
3.3 Estimated Time of Restoration	
ETR-01 Establish and Operationalize ETR Development and Communications	
Define ETR development, refinement, update frequency, and communication requirements for major outage events	ETR inputs are standardized and the restoration-estimate plan sets update and communication steps (3-1).
Support ETR development and communications during large-scale and prolonged restoration events	The plan covers major events.
Maintain timely, accurate outage information needed to support ETR development and updates	Field assessment capture is being improved to feed the estimates (3-1).

Implementation Steps, and What NES Has Done

PA IMPLEMENTATION STEP	WHAT NES HAS DONE
3.3 Estimated Time of Restoration	
ETR-01 Establish and Operationalize ETR Development and Communications	
Align ETR activities with restoration operations, response procedures, and customer communications	Alignment is being built through the ETR workflow and the ICS.
Train personnel responsible for ETR development, review, approval, and communications through exercises	Field refresher training will follow the system update.
Monitor timeliness, accuracy, and update frequency of global and local ETRs during major events	A process to measure actual versus estimated restoration time is defined.
Benchmark ETR capabilities periodically against leading utility practices and regulatory expectations	Innovative practices reviewed.
ETR-02 Configure and Operationalize OMS ETR Functionality	
Incorporate NES-specific performance assumptions and historical data into OMS ETR functionality	Work with the OMS vendor on restoration-estimate settings is in progress.
Integrate OMS ETR functionality with GIS, AMI, ADMS, and outage communication systems	
Maintain continuous visibility of OMS-generated ETRs within System Control and restoration operations	System changes are in development to flag expiring estimates for System Control.
Provide customers feeder, substation, and circuit-level ETRs aligned with restoration practices	The outage-map estimate display has been tested, pending the ETR-process rollout (2-2).
Enable meter-to-circuit mapping so customers can find circuit-specific ETRs by lookup or account	

Implementation Steps, and What NES Has Done

PA IMPLEMENTATION STEP	WHAT NES HAS DONE
3.3 Estimated Time of Restoration	
ETR-03 Establish a Customer-Centric ETR Communications Strategy	
Establish ETR communication principles positioning ETRs as expectation-setting tools, not restoration commitments	Interim expectation-setting messaging is being developed (3-1).
Define communication thresholds, update frequencies, approvals, and accuracy ranges for ETR messages	A process compares estimates to actual restoration times (3-5).
Align restoration, customer service, and corporate communications around consistent ETR messaging	ETR texting is planned, pending the ETR process (2-13).
Reinforce ETR communication practices through training, exercises, and major event response	To be reinforced in field refresher training and the August 28 drill.
3.4 Damage Prediction	
DP-01 Develop a Scalable Damage Prediction and Resource Forecasting Model	
Enhance the damage prediction model with storm-specific data on poles, wire, spans, and substations	An interim method uses existing modeling outputs (EDGAR, now in production) to estimate storm impact, with a full storm prediction model out for RFP (4-8, target September 2026).
Integrate historical performance and labor estimates for common restoration activities into the model	Past restoration data is being built into the model (4-8).
Include labor costs for crews, contractors, and mutual assistance to support acquisition decisions	
Validate and calibrate the model periodically using actual storm damage and restoration data	

Implementation Steps, and What NES Has Done

PA IMPLEMENTATION STEP	WHAT NES HAS DONE
3.5 Mutual Assistance	
MA-01 Establish a Proactive Mutual Assistance Mobilization Strategy	
Use predefined criteria and forecast triggers to initiate mutual assistance requests	Mutual-aid triggers are written into the activation playbook (1-7).
Use weather forecasts, damage predictions, and restoration modeling to support resource request decisions	Will draw on the storm prediction model as it comes online (4-8).
Use a phased mobilization approach that secures resources early while keeping flexibility	A phased call-out approach is reflected in the activation playbook (1-7).
Exercise mutual assistance mobilization and acquisition under varying storm scenarios to validate assumptions	
MA-02 Expand Mutual Assistance Network Participation and Resource Partnerships	
Expand participation in mutual assistance organizations, regional associations, and resource-sharing programs	NES has executive commitment to give and request aid under the APPA Mutual Aid Agreement and a documented process for sending aid.
Strengthen relationships with investor-owned utilities and contractors to improve resource access	Storm-response contractor contracts are being rebid to widen access (1-12).
Maintain relationships with utilities, contractors, and providers outside the traditional network	Ops is joining the APPA and TVPPA mutual-aid committees to stay current on the request process (1-12).
Keep mutual assistance agreements, contacts, and availability data current for rapid acquisition	A central contract-crew and support roster is in development (1-16).
Engage mutual assistance partners in restoration planning, readiness efforts, and event exercises	

Implementation Steps, and What NES Has Done

PA IMPLEMENTATION STEP	WHAT NES HAS DONE
3.5 Mutual Assistance	
MA-03 Standardize External Resource Integration Processes	
Standardize arrival, check-in, credentialing, staging, lodging, meals, and demobilization for external crews	A crew roster template and onboarding process are being built (1-16).
Brief external personnel on safety requirements, expectations, priorities, and local system information on arrival	A contractor system-safety onboarding video, materials, and checklist are in development (1-17).
Use OMS, mapping, and communication systems to integrate and manage external resources	
Validate bird-dog staffing, span-of-control, and resource tracking through large-scale exercises	Crew-guide levels and span of control are being defined in the ERP 2.0 draft (1-15).
Support consistent restoration work across internal and external crews through standardized guidance	A standard way of working for all crews is being built.
Integrate external resources into restoration operations, training, and major event exercises	
MA-04 Integrate Resource Mobilization Planning into Damage Prediction Model	
Apply damage prediction resource estimates to mutual assistance requests and acquisition decisions	The storm prediction model will feed resource requests as it matures.
Establish mobilization thresholds that translate forecasted damage and labor into crew requests by type	Call-out thresholds are being developed with the model (4-8).
Apply staffing factors and planning assumptions to determine mutual assistance and support resource needs	Staffing factors are being built into the model (4-8).
Refine staffing factors and thresholds by comparing forecasted to actual resource use after events	

Implementation Steps, and What NES Has Done

PA IMPLEMENTATION STEP	WHAT NES HAS DONE
3.6 Damage Assessment	
DA-01 Establish Damage Assessment Processes and Information Flows	
Run damage assessment as a Planning Section function that builds situational awareness	Damage assessment is being built into the ICS and ERP 2.0 rewrite (1-15).
Activate and deploy damage assessment resources based on expected damage and restoration goals	Contract damage assessors, not linemen, deploy through the ESRI-based Storm Damage App (3-1).
Use damage assessment data to drive restoration prioritization, resource deployment, and ETR development	The app feeds materials and restoration planning (3-1).
Establish flows to collect, validate, analyze, and share damage assessment information	The field capture process is being improved (3-2).
Build damage assessment into emergency response training, exercises, and restoration operations	
DA-02 Establish Scalable Damage Assessment Methodologies	
Apply rapid, preliminary, and detailed damage assessment approaches based on severity and needs	The Storm Damage App supports tiered assessment (3-1).
Run rapid assessments to find hard-hit areas, access constraints, and restoration priorities	Rapid aerial assessment is being added for severe-weather events (3-4).
Shift from rapid assessments to detailed materials-based assessments as access improves	The app supports both quick and detailed assessment (3-1).
Use damage assessment data to guide resource deployment, mutual assistance, and ETR development	Assessment data feeds restoration planning (3-1).
Align damage assessment with the restoration strategy in use, whether event, area, or circuit sweep	Being aligned with the restoration approach through the estimate workflow (3-1).

Implementation Steps, and What NES Has Done

PA IMPLEMENTATION STEP	WHAT NES HAS DONE
3.6 Damage Assessment	
DA-03 Expand Damage Assessment Technologies and Situational Awareness	
Use aerial, drone, LiDAR, and remote sensing to speed damage identification during major events	Rapid aerial assessment is being added for severe-weather events (3-4).
Integrate AMI, SCADA, field devices, and outage management into damage assessment and planning	Digital twin work is bringing meter, SCADA, and outage data together.
Expand technology-enabled damage assessment to quickly find hard-hit areas and access constraints	Aerial assessment and the digital twin are expanding capability (3-4).
Ensure assessment apps, mobile devices, and communications can support large-scale deployments	The Storm Damage App is in use and devices are kept ready (3-1).
Improve integration of assessment technologies and data into restoration planning and ETR development	Integration into planning is developing through the digital twin and app.
3.7 Logistics & Supply Chain	
LOG-01 Improve External Resource Mobilization and Onboarding	
Maintain access to line, vegetation, assessment, and logistics resources for large-scale restoration	Storm-response contracts are being rebid to secure surge access (1-12).
Reduce the time needed to request, onboard, stage, and deploy external restoration resources	Onboarding video and crew roster template are in development (1-16).
Explore crew holding sites just outside NES territory for pre-mobilization staging	
Deploy incoming resources by restoration priority, work location, and available supervision	Crew-guide levels are being defined to match crews with supervision (1-15).

Implementation Steps, and What NES Has Done

PA IMPLEMENTATION STEP	WHAT NES HAS DONE
3.7 Logistics & Supply Chain	
LOG-01 Improve External Resource Mobilization and Onboarding	
Define resource support duties for contractors, including transportation, staging, meals, and lodging	Support duties for contractors are being defined in the onboarding and roster work (1-16).
Periodically test the ability to mobilize, onboard, and deploy large numbers of external resources	
LOG-02 Improve Materials Readiness and Storm Kit Deployment	
Keep storm kit inventories sufficient for large-scale restoration and expected resource levels	About 30 lay-down storm kits on hand, with six months of critical materials.
Maintain inventories of poles, transformers, conductor, and other critical restoration materials	Poles and transformers checked weekly, other materials quarterly.
Pre-stage storm kits, materials, and equipment ahead of forecasted events for rapid deployment	Kits held at the three centers, with future needs being scaled to the contractor plan.
Improve material tracking and inventory visibility for planning, deployment, and replenishment	The inventory report built during Winter Storm Fern is moving into regular use.
Show storm kits and materials can be distributed fast enough to avoid restoration bottlenecks	Materials run through several distribution centers, with more staging to come.
LOG-03 Enhance Field Logistics and Workforce Support Operations	
Provide meals, hydration, and workforce support at service centers and staging locations	Area hotels can launder FR-rated clothing to specification as workforce support during extended events.
Secure and manage lodging for internal personnel, mutual assistance crews, and contractors	NES holds seven discounted year-round contracts with area hotels and pre-stages lodging for storms.

Implementation Steps, and What NES Has Done

PA IMPLEMENTATION STEP	WHAT NES HAS DONE
3.7 Logistics & Supply Chain	
LOG-03 Enhance Field Logistics and Workforce Support Operations	
Scale workforce support operations to match restoration resource levels and operational tempo	
Operate staging sites for check-in, material distribution, and restoration coordination	
Use third-party logistics resources when internal logistics capabilities become constrained	
3.8 Grid Reliability & Performance	
GRID-01 Develop a System Segmentation Strategy	
Set targets for customers behind each protective device and prioritize problem areas	The 10-year reliability plan, completed and signed in May, covers grid hardening and reliability work (4-4).
Standardize distribution automation designs and protection studies to speed device deployment	The 10-year plan deploys sectionalizing devices and distribution automation system-wide, targeted by customer performance, to limit customers affected per outage (4-4).
GRID-02 Develop a System Hardening Plan	
Identify key system risks and build a playbook of mitigation options for each	The 10-year reliability plan and hardening work identify system risks, addressed through distribution automation, battery storage (BESS), and other emerging technologies (4-4).
Run cost-benefit assessments of mitigation options and build a long-term hardening business case	A resilience and undergrounding study weighs undergrounding against overhead hardening, with a cost-benefit tool (4-2).

Implementation Steps, and What NES Has Done

PA IMPLEMENTATION STEP	WHAT NES HAS DONE
3.9 Vegetation Management	
VM-01 Evaluate Vegetation Clearance Standards against Industry Leading Practices	
Benchmark peer utilities and leading programs to validate vegetation management standards	Vegetation practices and scope were reviewed against leading practice.
VM-02 Implement a Risk-based Vegetation Management Strategy	
Use outage history, inspections, LiDAR, GIS, and reliability data in annual vegetation planning	System-generated trimming plans consume fixed-wing LiDAR and outage history to prioritize circuits by risk (3-4, 4-1).
Use restoration performance data to find circuits with long restoration times and high impact	Reliability and restoration data feed prioritization (4-4).
Use vegetation risk indices and circuit ranking to quantify exposure, outage risk, and criticality	Circuit ranking is built from LiDAR, outage history, and reliability data.
Use vegetation and outage analytics to find recurring outage locations and high-risk spans	LiDAR and outage analysis identify recurring trouble spots.
VM-03 Expand Vegetation Risk Communication and Stakeholder Engagement	
Use outage and vegetation data to find high-risk areas and target customer engagement	LiDAR and outage analysis identify high-risk areas (4-1).
Promote the Right Tree, Right Place program to reduce future vegetation conflicts	The Right Tree, Right Place program is in place, with wider promotion planned.
Target outreach to municipalities and customers in high-risk vegetation areas or work zones	Weekly street-level trimmer locations are shared with council members.
Explain vegetation outage causes and the link between trimming and reliability to customers	NES has attended community and council meetings to address vegetation questions, with ongoing updates to customers.

Implementation Steps, and What NES Has Done

PA IMPLEMENTATION STEP	WHAT NES HAS DONE
3.9 Vegetation Management	
VM-04 Implement Vegetation Management Monitoring and Program Evaluation	
Monitor planned versus completed trimming, cycle adherence, and contractor productivity	Tree trimming is about 95 percent complete, with roughly 100 miles left, on track to finish ahead of schedule (4-5).
Use performance results and risk data to adjust work planning priorities and resource allocation	Priorities are adjusted using LiDAR, outage history, and post-storm outage overlay maps.
Reassess trim cycles and clearance standards based on reliability and storm lessons learned	Shorter high-risk cycles are adopted.
Align long-term vegetation goals with reliability, resiliency, and storm hardening priorities	Vegetation work is tied to the 10-year reliability plan (4-4).
VM-05 Integrate Vegetation Management into Storm Restoration Operations	
Integrate vegetation crews into damage assessment, access clearing, and restoration during events	Vegetation storm work is in the rebid contract, and the damage app now captures vegetation issues in the field (4-5).
Use vegetation crews to flag and mitigate access constraints and field safety hazards	Veg crews worked alongside line crews during restoration, and that practice is being built into the plan.
Coordinate vegetation and electric operations crews to support restoration priorities and access	Coordination between veg and electric crews is being written into the storm playbook.
Deploy vegetation crews by restoration workload, damage severity, and operational priority	Storm veg resources are scaled through the rebid contract (4-5).
Build vegetation crews into restoration training, exercises, and major event response	

Implementation Steps, and What NES Has Done

PA IMPLEMENTATION STEP	WHAT NES HAS DONE
3.9 Vegetation Management	
VM-06 Evaluate Targeted Strategies for Repetitive Vegetation-Related Outage Areas	
Use outage history, reliability data, and GIS to find assets with high vegetation-related risk	The Distribution Reliability Improvement Program reviews underperforming circuits each quarter and adds off-cycle hot-spot trimming.
Apply mitigation such as covered conductor, undergrounding, and sectionalizing by risk driver	Four-neighborhood undergrounding pilots are funded (4-3).
Prioritize mitigation by outage frequency, customer impact, vegetation exposure, and cost	Priorities are driven by LiDAR risk ranking.
Periodically reassess high-risk circuits and corridors to support capital and hardening planning	Built into the reliability planning cycle (4-4).
VM-07 Evaluate Advanced Vegetation Management Technologies and Practices	
Use advanced vegetation technologies to support inspection, risk identification, and work planning	Fixed-wing LiDAR and aerial imagery support vegetation risk analysis (3-4).
Use LiDAR, aerial imagery, and GIS analytics to find vegetation risks and prioritize circuits	Fixed-wing LiDAR supports vegetation risk analysis (3-4).
Build vegetation risk data and analytics into annual work planning and circuit prioritization	Risk data feeds circuit prioritization (4-1).
Track emerging vegetation technologies and practices through peer and industry engagement	LiDAR analysis keeps vegetation practice current (3-4).

Implementation Steps, and What NES Has Done

PA IMPLEMENTATION STEP	WHAT NES HAS DONE
3.10 Restoration Management	
RM-01 Increase Restoration Throughput During Large-Scale Events	
Apply event-based, circuit sweep, or hybrid restoration based on damage density and resources	
Distribute restoration planning, dispatch, and switching across operating areas during large events	
Set operational thresholds that trigger the shift to large-event restoration operations	
Increase the number of restoration jobs planned, dispatched, and completed at once during events	
Validate restoration throughput through exercises covering assignment, dispatch, and switching	
RM-02 Standardize Resource Deployment and Crew Utilization Processes	
Deploy crew guides, bird dogs, and field supervisors to match workload and resource levels	Crew-guide levels are being defined in the ERP 2.0 draft (1-15).
Keep supervisory staffing sufficient to support mutual assistance crews and external resources	A supervisory staffing model is being defined through crew-guide levels (1-15).
Assign restoration work by crew qualifications, capabilities, and supervisory capacity	The ARCOS crew-management tool was evaluated June 4 with Operations and AEP.
Integrate service, vegetation, and mutual assistance crews into daily restoration work assignment	Integration of all crew types is being built into the ERP.
Adjust restoration resource levels through the event to match remaining workload	

Implementation Steps, and What NES Has Done

PA IMPLEMENTATION STEP	WHAT NES HAS DONE
3.10 Restoration Management	
RM-03 Improve Restoration Work Management, Dispatch, and Switching Capabilities	
Establish a common restoration work queue with enterprise-wide visibility and local flexibility	
Use OMS, CADOPS, and PCAD as the primary tools for prioritization and status tracking	
Eliminate spreadsheet and paper restoration processes where systems can do the same work	
Configure restoration systems to assign and track external crews, crew guides, and bird dogs	
Standardize dispatch processes for primary, secondary, and service restoration activities	
Establish dedicated radio channels for each restoration operating area during major events	
Distribute switching order development and dispatch during large-scale restoration events	
Resolve system, licensing, mobile device, and connectivity limits that constrain restoration	
3.11 Safety	
SAF-01 Continued Enhancement of HEC Administration and Clearance Management	
Review Fern lessons on non-native crews holding clearances to improve HEC clarity	A T&D Operations group is reviewing how to evaluate and enhance the HEC program for large-scale events, including expanding the pool of HEC-qualified personnel for emergencies.

Implementation Steps, and What NES Has Done

PA IMPLEMENTATION STEP	WHAT NES HAS DONE
3.11 Safety	
SAF-01 Continued Enhancement of HEC Administration and Clearance Management	
Evaluate clearance management under large-scale conditions to safely deploy outside resources	This is part of the same hazardous-energy-control review.
Set criteria and authorities for modifying or suspending the HEC during emergency restoration	This is included in the review.
Periodically review HEC requirements and job aids against evolving practices and workforce models	The program is effective; its administration and leadership review need a forward-looking regroup.
SAF-02 Establish Scalable Field Safety Oversight Requirements	
Size field safety staffing to restoration workforce, geographic spread, and complexity	Being addressed through the ERP 2.0 crew-guide and safety-oversight work (1-15).
Identify sources of field safety inspectors and set up contracts for external inspectors	
Define safety activation triggers and staffing thresholds for contractor and mutual assistance	
Develop field safety coverage plans covering clearances, contractors, and staging areas	The Safety Officer is named a must-fill role.
Monitor field safety coverage during events and adjust staffing as activities expand	Vehicle equipment, PPE, backyard right-of-way capability, and fleet telematics are operational safety work underway.
SAF-03 Validate Safety-Critical Restoration Processes	
Add high-consequence safety scenarios to restoration exercises, including electrical contacts	
Exercise HEC scaling capabilities under realistic storm conditions	

Implementation Steps, and What NES Has Done

PA IMPLEMENTATION STEP	WHAT NES HAS DONE
3.11 Safety	
SAF-03 Validate Safety-Critical Restoration Processes	
Validate safety notification, escalation, and communications procedures across leadership and agencies	
Test contractor and mutual assistance integration in exercises, including onboarding and supervision	
Use exercise and event lessons to update HEC, restoration procedures, and training	Safety training is being aligned to assigned ICS storm roles.
3.12 Communications	
COM-01 Establish an Integrated Storm Communications Organization	
Designate a Public Information Officer within the Incident Command System for storm communications	A Public Information Officer is designated as Command Staff (2-1).
Define communications leadership, reporting lines, decision authority, and escalation paths for major events	The PIO-to-Chief Communications Officer reporting line is being set up.
Build a scalable communications staffing model with core roles, surge needs, and activation triggers	A staffing model is being built within the communications workspace effort.
Define roles of Corporate Communications, Government Relations, executives, and operational staff during major events	Roles for Corporate Communications are being defined.
Establish formal ways of working between Communications and Government Relations	Ways of working between Communications and Government Relations are being set.
Define roles for external communications partners and integrate them before major events	Roles for outside communications partners are being defined.

Implementation Steps, and What NES Has Done

PA IMPLEMENTATION STEP	WHAT NES HAS DONE
3.12 Communications	
COM-01 Establish an Integrated Storm Communications Organization	
Benchmark communications staffing and storm capabilities against peer utilities with mature programs	
COM-02 Establish Communications Governance and Decision-Making Processes for	
Establish a storm communications governance model for drafting, reviewing, approving, and releasing messages	Storm Mode versus Blue Sky trigger and approval model are defined (2-1).
Define approval workflows and service-level expectations for routine and sensitive communications	An ICS communications approval workflow is being put in place (2-15).
Establish escalation procedures for communications needing legal, regulatory, political, or executive review	Escalation for legal and executive review is being built into the approval workflow (2-15).
Define decision rights and approval authority across operational, media, social, and executive messaging	Decision rights for updates are being set.
Establish policies governing customer engagement through social media during major events	Social channels are in use.
Evaluate communications governance after exercises and events and apply lessons learned	
COM-03 Develop and Operationalize a Comprehensive Crisis Communications	
Establish communications principles emphasizing transparency, consistency, empathy, credibility, and proactive expectation management	The crisis communications plan sets these principles.
Develop a structured message architecture built around a few core messages per operational period	Pre-approved templates provide the core-message structure.

Implementation Steps, and What NES Has Done

PA IMPLEMENTATION STEP	WHAT NES HAS DONE
3.12 Communications	
COM-03 Develop and Operationalize a Comprehensive Crisis Communications	
Define communication objectives, triggers, cadence, and audience-specific messaging across all event phases	The Storm Mode trigger and schedule are defined (2-1).
Establish channel-specific protocols defining ownership, purpose, timing, and audiences for each platform	A multi-channel framework is in place.
Add sentiment monitoring, misinformation management, and narrative tracking to storm communications	Sentiment and misinformation tracking is being built into the communications workspace.
Develop dedicated communication strategies for elected officials, agencies, and community groups	Public-official and community messaging is set up through sit-report communications (2-6).
Establish a community outreach network using trusted local partners to expand communications reach	
COM-04 Improve Communications Integration with Restoration Operations	
Embed communications staff in operational briefings, planning meetings, and restoration coordination	The PIO gets a live operations feed and sit reports (2-6).
Establish direct access to outage, restoration, and ETR information for customer communications	Direct access to outage and restoration data is being set up.
Define communications information needs and standardize operational reporting that supports customer messaging	Sit-report products are defined and being expanded (2-6).
Integrate communications staff into ETR development and restoration prioritization discussions	Communications is being connected to estimate and restoration planning through the sit-report process (2-6).
Develop dashboards and information-sharing processes giving communications staff timely validated restoration data	

Implementation Steps, and What NES Has Done

PA IMPLEMENTATION STEP	WHAT NES HAS DONE
3.12 Communications	
COM-04 Improve Communications Integration with Restoration Operations	
Establish communications support within Planning or Situation Unit to translate operations into messaging	
COM-05 Strengthen Communications Readiness, Training, and Workforce Capabilities	
Define competency requirements for all storm communications positions	Skill requirements for storm communications roles are being defined.
Use competency requirements for hiring, workforce planning, contractor management, and succession planning	Tied to the planned CCO hire and staffing model.
Conduct recurring training on crisis communications, media, and customer engagement	Communications is included in the EM 101 training and the company-wide OCM rollout (1-5).
Integrate communications staff into ERP, ICS exercises, and major event simulations	Planned for the August 28 drill (1-11).
Provide media training to executives, operational leaders, and spokespersons	
Track corrective actions from exercises and fold lessons into plans, staffing, and training	
COM-06 Develop Storm Communications Tools, Templates, and Internal	
Build and maintain a library of pre-approved communications templates for all audiences	A pre-approved template library is in place.
Design templates to allow rapid insertion of event-specific information without extensive drafting	Templates are built for quick customization during an event.
Develop messaging directing customers to authoritative sources like outage maps and contact centers	The outage map and channels point customers to official information (2-2).

Implementation Steps, and What NES Has Done

PA IMPLEMENTATION STEP	WHAT NES HAS DONE
3.12 Communications	
COM-06 Develop Storm Communications Tools, Templates, and Internal	
Establish an internal communications program with employee briefings, leadership updates, and escalation procedures	Internal communications is being built into the communications workspace (2-14).
Ensure employees get timely validated information and customer response guidance during major events	Employee communication is being developed alongside EM 101 (1-5).
Incorporate internal communications requirements into plans, exercises, and post-event reviews	
3.13 Customer Experience	
CX-01 Strengthen Critical Customer and Vulnerable Population Management	
Strengthen enrollment, validation, and maintenance for the Critical Referral Program	Critical-care registration was simplified, and a Critical Care Playbook adds pre-storm communications and ETRs for these customers.
Improve visibility of critical customer information across customer service and emergency response processes	Critical customers are flagged in OMS and C2M and added to the Community Portal for Strike Team monitoring.
Establish procedures to identify and track vulnerable customers not captured by existing programs	A process to find and track vulnerable customers beyond the registry is being built.
Develop escalation pathways for high-risk customer situations identified through multiple channels	Escalation handling for high-risk situations is being built into customer operations.
Integrate critical and vulnerable customer information into emergency response and decision-support processes	Critical-customer information is being connected to the ICS situational-awareness work.
Strengthen coordination with community partners and agencies to support vulnerable populations	

Implementation Steps, and What NES Has Done

PA IMPLEMENTATION STEP	WHAT NES HAS DONE
3.13 Customer Experience	
CX-02 Enhance Customer Support During Prolonged Outages	
Establish contingency procedures for customer support when customer-facing systems fail or degrade	Backup channels are added.
Conduct periodic capacity assessments and stress testing of customer-facing systems	The outage reporting line (IVR/HVCA) was load-tested to handle 1,000 concurrent calls, and the vendor contract now allows periodic and ad-hoc load testing (2-10).
Develop redundant customer reporting and information channels to limit single system failures	Reporting reaches customers across social and other channels (2-3).
Define performance and monitoring expectations for customer-facing systems during major events	Performance monitoring is being defined.
Establish guidance clarifying reporting methods, support options, and information sources during outages	Clear outage-reporting guidance is provided across channels (2-5).
Incorporate customer support system performance into exercises, after-action reviews, and readiness assessments	
CX-03 Improve Customer Expectations Management During Major Events	
Build ETR development, governance, and communication processes to release restoration information faster	Restoration-estimate development and communication are being put into regular use (3-1).
Improve outage map and restoration visibility tools to give customers more localized information	The outage map was upgraded with a community layer and estimate.
Communicate restoration priorities, sequencing, and factors influencing timelines during major events	Assessing-conditions and restoration messaging are in use (3-1).

Implementation Steps, and What NES Has Done

PA IMPLEMENTATION STEP	WHAT NES HAS DONE
3.13 Customer Experience	
CX-03 Improve Customer Expectations Management During Major Events	
Develop customer education materials on restoration processes and priorities before major events	Customer education materials are being developed.
Establish service-level expectations and staffing for social media engagement during major events	Digital engagement is being built into the communications model (2-3).
Incorporate customer expectation management into storm communications planning, training, and exercises	
CX-04 Operationalize Customer Feedback and Customer Intelligence	
Define processes to monitor customer feedback across service, social media, and escalation channels	Customer-feedback monitoring is being developed.
Establish thresholds and escalation criteria for recurring concerns and sentiment shifts	Escalation triggers for repeat concerns are being defined.
Integrate customer feedback and escalation data into operational and communications briefings	The feedback loop is being connected to communications (2-14).
Develop processes to spot recurring customer information gaps and service issues	Recurring information gaps are being captured through customer contacts.
Use customer intelligence to guide communications, restoration messaging, and vulnerable customer outreach	Customer insight will feed communications planning (2-14).
Develop reporting that gives leadership visibility into customer concerns and sentiment	

Implementation Steps, and What NES Has Done

PA IMPLEMENTATION STEP	WHAT NES HAS DONE
3.14 Call Center / Handling	
CC-01 Improve Call Center Operational Continuity During Major Events	
Maintain staffing models aligning call volumes, staffing, supervision, and surge needs to outage scenarios	The overflow staffing model is being expanded, and internal staff now carry defined storm roles (2-11).
Maintain remote call handling so customer service continues during weather and workforce disruptions	Remote call handling runs through overflow centers.
Provide lodging, transportation, and support for customer service staff during extended events	Customer service staff can be lodged or work remotely during extended events.
Maintain cross-trained internal staff to handle outage-related customer inquiries during major events	Billing staff were cross-trained and shifted to outage calls during Fern.
Periodically validate the ability to scale and sustain customer service during large outages	
CC-02 Enhance Call Center Surge Capacity and Overflow Readiness	
Ensure overflow and external call staff can support outage inquiries and escalations	An expanded call-center contract goes to the September board, starting January 2027 (2-11).
Reduce the time to activate and integrate overflow call handling resources	Faster overflow activation is part of the new contract (2-11).
Maintain overflow call resources sized to outage volumes of major restoration events	Higher overflow capacity is part of the contract (2-11).
Monitor call quality, messaging consistency, escalation effectiveness, and customer experience across resources	Quality standards are being set in the contract (2-11).
Establish performance expectations for call response, interactions, escalations, and restoration communications	Performance terms are being written into the contract (2-11).

Implementation Steps, and What NES Has Done

PA IMPLEMENTATION STEP	WHAT NES HAS DONE
3.14 Call Center / Handling	
CC-02 Enhance Call Center Surge Capacity and Overflow Readiness	
Periodically validate overflow call resource readiness through drills and exercises	
CC-03 Improve Restoration Information Distribution to Customer-Facing Personnel	
Provide customer service staff timely, accurate, consistent restoration information during major outages	Sit-report communications feed customer-facing staff (2-6).
Establish a single operational source for restoration status, ETRs, priorities, and messaging	A single, shared source for restoration status, ETRs, priorities, and messaging is being set up for customer-facing staff (2-14).
Deliver routine operational updates to customer service reflecting current conditions and messaging	An update schedule is being set (2-6).
Integrate restoration data into customer-facing systems to reduce manual information sharing	The outage map and channels carry restoration and estimate information (2-2).
Improve coordination between customer service, communications, System Control, and restoration operations	Information-sharing between customer service and operations is being put on a regular footing (2-6).
Reduce the time to obtain field verification and restoration information for complex inquiries	
3.15 IT / OT	
ITOT-01 Establish Large-Scale System Operating Modes	
Define large-event operating modes for outage, restoration, communications, inventory, and field systems	

Implementation Steps, and What NES Has Done

PA IMPLEMENTATION STEP	WHAT NES HAS DONE
3.15 IT / OT	
ITOT-01 Establish Large-Scale System Operating Modes	
Establish procedures governing system configurations, data refresh, reporting, and interfaces during major events	
Define triggers for shifting systems from normal to large-event operations	
Evaluate system performance and scalability under major event conditions	
Validate large-event procedures, configurations, and decision-support through exercises and reviews	
ITOT-02 Improve Operational Data Integration and Decision Support Capabilities	
Improve integration and data sharing across outage, GIS, AMI, customer, and inventory systems	OMS data-sharing work to add crews is under review by IT.
Reduce reliance on manual workarounds like custom queries and spreadsheets	The ARCOS crew-management evaluation aims to cut manual tracking (June 4).
Develop dashboards giving real-time visibility into outages, restoration, resources, and customer impacts	
Improve access to operational, customer, and inventory information for restoration and incident management	OMS and ARCOS work will improve data access.
Establish support models, escalation procedures, and service levels for IT and OT staff during restoration	

Implementation Steps, and What NES Has Done

PA IMPLEMENTATION STEP	WHAT NES HAS DONE
3.15 IT / OT	
ITOT-03 Enhance Customer Communications Information Technologies	
Configure and activate OMS ETR capabilities for restoration planning and customer communications	OMS restoration-estimate setup is in progress with the vendor.
Integrate OMS, AMI, and customer systems to improve restoration visibility and consistency	System integration is progressing.
Improve use of AMI for outage verification, restoration validation, and status monitoring	Meter-network acceleration and the NextGen pilot are improving outage verification (4-6).
Establish performance monitoring and support for AMI communications infrastructure	Monitoring is being built with the meter-network upgrade (4-6).
Validate outage reporting, communications, and notification capabilities through testing and exercises	Outage map, multi-channel reporting, IVR and texting, and the mobile app.
Improve customer-facing restoration information to be more localized, accurate, and actionable	The outage map was upgraded with estimate display and a community layer.
3.16 NES Board Responsibilities	
GOV-01 Enhance Board Oversight of Emergency Preparedness and Major Event Risks	
Review major outage risks, preparedness, and resiliency initiatives in recurring ERM discussions	Monthly Board updates now cover restoration readiness and this gap analysis.
Maintain Board visibility into preparedness plans, corrective actions, exercise results, and hardening efforts	Steering-committee reporting gives the Board status visibility.
Evaluate preparedness assumptions for high-impact, low-frequency events including damage and restoration duration	This is being addressed through the readiness reporting.

Implementation Steps, and What NES Has Done

PA IMPLEMENTATION STEP	WHAT NES HAS DONE
3.16 NES Board Responsibilities	
GOV-01 Enhance Board Oversight of Emergency Preparedness and Major Event Risks	
Review the adequacy of mitigation measures for identified preparedness and restoration risks	The Board is reviewing mitigation progress through these updates.
GOV-02 Clarify Board Roles and Governance Responsibilities During Major Events	
Clearly define Board responsibilities and communication pathways during major outage events	Board roles and communication paths are being clarified.
Establish Board communication protocols providing situational awareness while meeting sunshine law requirements	A reporting routine for Board awareness is being set.
Establish pathways to raise customer concerns and external support opportunities to leadership	Paths for customer and community concerns are being defined.
Preserve clear separation between governance oversight and operational decision-making during restoration	Not yet addressed; PA recommends clarifying Board roles for storm events.
Review Board performance and governance coordination after major events and apply lessons learned	
GOV-03 Strengthen Enterprise Risk Management Oversight and Integration	
Ensure major outage, severe weather, and grid resiliency risks are represented within the ERM	An ERM overhaul is underway, moving to a more advanced, business-linked approach.
Document mitigation measures for major outage risks across plans, exercises, and hardening programs	
Establish risk indicators and reporting showing the status and effectiveness of mitigation measures	

Implementation Steps, and What NES Has Done

PA IMPLEMENTATION STEP	WHAT NES HAS DONE
3.16 NES Board Responsibilities	
GOV-03 Strengthen Enterprise Risk Management Oversight and Integration	
Periodically review major outage risks, mitigation, and resilience initiatives through the ERM process	
Evaluate whether mitigation measures match identified risks and the Board's risk tolerance	
Review findings, lessons learned, and corrective actions from major events through the ERM process	
3.17 Financial Management & Documentation	
FIN-01 Establish Increased Spending Thresholds to Enable Emergency Spending	
Review Fern restoration spending and set a reasonable threshold for future emergency expenditures	NES raised the emergency expenditure threshold to $5 million per transaction, approved by the Board in February.
Benchmark the proposed emergency expenditure threshold against other utilities	A formal threshold benchmark is a PA recommendation, not yet started.
Draft language and update NES bylaws to reflect the increased emergency expenditure threshold	Bylaw language for the higher threshold is going to the Board, with a procurement policy update pending.
FIN-02 Establish P-Card Holders within Key Logistics Functions	
Identify key personnel needing p-card access during emergencies and assign cards as appropriate	Not yet addressed; PA recommends naming purchase-card holders in logistics.
Establish spending and oversight controls for roles lacking p-card guidelines	Additional controls to be set once key personnel are identified.

Implementation Steps, and What NES Has Done

PA IMPLEMENTATION STEP	WHAT NES HAS DONE
3.17 Financial Management & Documentation	
FIN-03 Track Rates from Contracted Vendors for Future Cost Tracking and RFP	
Formally document and track vendor rates contracted through the Winter Storm Fern response	Vendor rates are being captured through the rebid contracts (1-12).
Use the cost tracker tool for future storms where contracts remain in effect	Vendor rates captured through the rebid contracts support future cost tracking (1-12).
Benchmark future RFP rates against rates observed during the Winter Storm Fern response	Recent bid results to be compared against future competitive bids.

APPENDIX 3

NES's Restoration Track Record

How NES's actual restoration compares with PA's ideal curve, storm by storm.

What the Restoration Curves Show

The review notes that NES restores outages at a rate consistent with industry norms, and that its everyday reliability is on par with, or better than, similarly sized utilities. The chart that follows shows this on NES's own storm data.

8 of 11

storms restored faster than PA's ideal curve within the first day

~97%

of the April 2026 storm restored within 24 hours, among the fastest

11 storms

the largest NES storms over the past 21 years, based on peak customer outages

Solid lines show actual restoration, the share of peak outages still out. Dashed lines show PA's ideal curve. The further a solid line sits below its dashed line, the faster NES restored.

WHAT PA FOUND ON RESTORATION SPEED

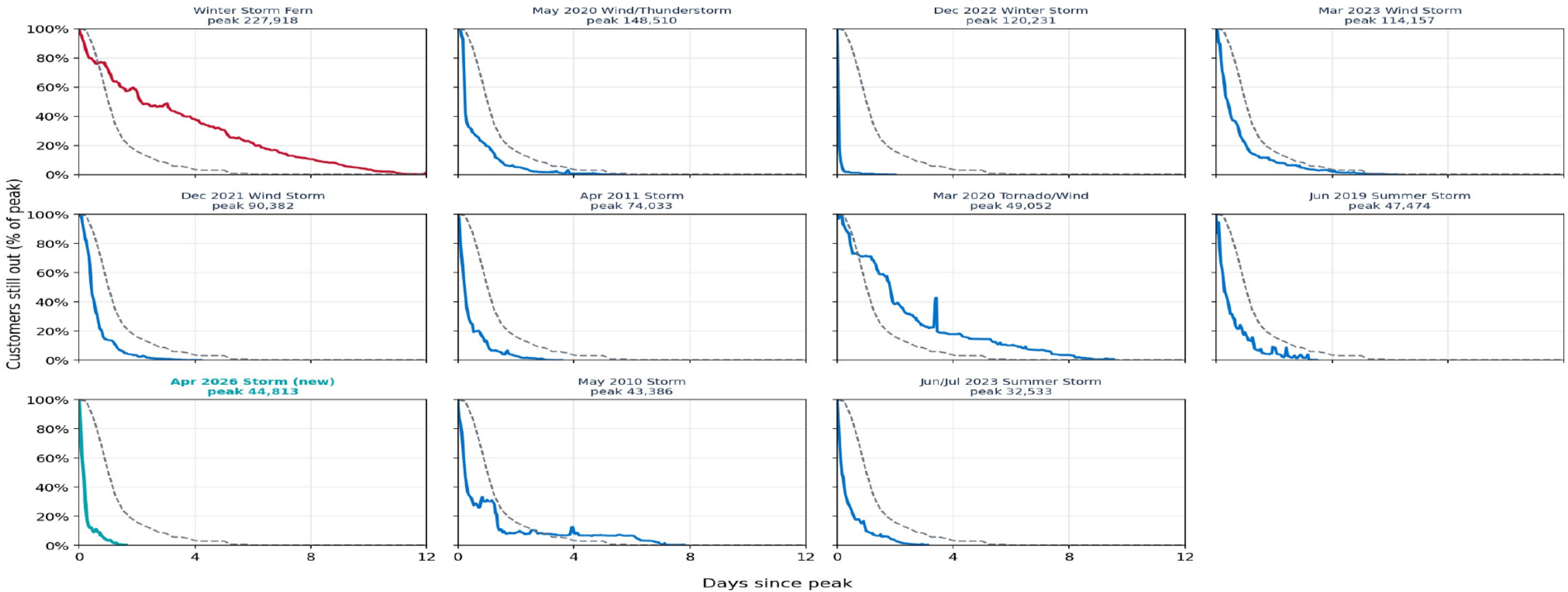
CAIDI is the average time to restore power once a customer's outage begins, where lower is better. PA found that *"NES restores power just as fast, if not faster than peers,"* and on major storm days, *"NES restores power just as fast, if not faster than peers, unless there are major storms."* **PA Consulting, Final Report**

Source: Stowe Utility Group analysis of NES restoration data against PA's ideal restoration curve.

Actual restoration vs. PA's ideal curve, 11 largest storms

Solid = actual (% of peak still out) | Dashed = PA ideal curve | ordered by peak customer outages | April 2026 storm added (teal)

All 11 storms: actual restoration (solid) vs. PA ideal curve (dashed)



Eight of the eleven storms drop below PA's ideal curve within the first day. The new April 2026 storm (teal) restored about 97% within 24 hours, among the fastest on record. Only Fern (top-left, red) stays above the ideal the whole time.