NFPA 1700 Roadmap and Gap Analysis

Fire department implementation roadmap and gap analysis checklist

This resource is designed to help fire departments of any size or type—municipal, industrial, volunteer, combination, career, or private—successfully implement the 2026 edition of NFPA 1700, *Guide for Structural Firefighting*.

Inside, you'll find:

- A step-by-step **Implementation Roadmap** to guide your agency through the process of bringing policies, training, and operations into compliance with the latest evidence-based best practices.
- A comprehensive **Gap Analysis Checklist** covering all major elements of NFPA 1700 (2026), so you can assess your current program, identify areas for improvement, and track your progress.

Whether you are just beginning your NFPA 1700 journey or refining established practices, this document provides practical tools to enhance responder safety, operational effectiveness, and compliance with modern fireground standards.

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Disclaimer

This roadmap and checklist are informational resources created by Train Teach Lead to help agencies interpret and implement practices aligned with NFPA 1700 (2026), *Guide for Structural Fire Fighting*.

Train Teach Lead is not affiliated with, endorsed by, or acting on behalf of NFPA. This document does not replace NFPA 1700, local laws, codes, or the authority having jurisdiction (AHJ). Agencies must consult the official NFPA publication and applicable local requirements and are solely responsible for their policies, training, and compliance decisions.

Preface – Scope & Alignment

This roadmap and gap analysis is intended to implement the practices and decision flow contained in NFPA 1700 (2026), Guide for Structural Firefighting—specifically the pre-arrival/initial-arrival/360° size-up, strategy identification, strategic decision, Incident Action Plan (IAP) and coordinated water/air tactical considerations.

While this document focuses on NFPA 1700 (a guidance document), certain connected operational needs are governed by complementary NFPA standards:

- Incident management/command safety and personnel accountability roll-calls (PAR) are established by the Authority Having Jurisdiction (AHJ) under NFPA 1550, Standard for Emergency Responder Health & Safety (consolidating NFPA 1561/1500/1521).

- Exposure and contamination control (e.g., preliminary exposure reduction, bagging gear, hygiene/zoning, and station/apparatus procedures) are implemented under NFPA 1585, Standard for Exposure and Contamination Control.

Accordingly, this document aligns policies, SOP/SOGs, and drills with NFPA 1700 and references NFPA 1550 and NFPA 1585 where program requirements apply. AHJ policies and local laws/code provisions remain the controlling authority.

Contents

Implementation Roadmap

NFPA 1700 is a "Guide," not a prescriptive standard. It connects research (e.g., UL FSRI) to structural firefighting strategy, tactics, and tasks and is meant to inform SOP/SOGs and training. For staffing, deployment, or broader safety program requirements, see complementary NFPA documents (e.g., NFPA 1550 for responder health/safety; NFPA 1750 for organization and deployment).

This roadmap is designed to be flexible:

- Agencies can scale steps to their resources and staffing.
- All entities should assign responsibilities and formalize their processes.
- Any agency can use this as a living document—reviewing and update as new hazards, technologies, or standards develop.

Where to Start

1. **Conduct a Gap Analysis (see page 5)**
   - Review your current policies, procedures, training, and incident documentation.
   - Compare your practices to the recommendations and guidance in NFPA 1700 (2026).
   - Identify areas where your agency already aligns and where updates are needed.

2. **Engage Stakeholders**
   - **Bring key personnel together:**
     - Fire Department/Emergency Team (management, supervisors, responders)
     - Training Staff
     - Safety/HSE
     - Industrial Hygiene
     - Occupational Health
     - City/Facility Management
     - Mutual Aid Partners
   - **Ensure all voices are heard.**

3. **Update SOPs/SOGs**
   - Integrate NFPA 1700 guidance on modern hazards (batteries, BESS, PV systems), defensive strategies, hazard control zones, and exposure documentation.

- Clarify roles, responsibilities, and decision-making processes for all incident types.
- Reference local codes and standards (e.g., NFPA 855 for energy storage signage).

4. **Enhance Preplanning**
   - Map and document locations of batteries, BESS, PV systems, EV charging stations, and other modern hazards.
   - Update pre-incident plans to include access points, disconnects, standoff distances, and special considerations for these systems.
   - Establish notification procedures for new installations or system changes.

5. **Implement Training and Drills**
   - Train all responders to recognize visual, auditory, and contextual indicators of battery/BESS/PV involvement.
   - Practice scenario-based drills that include hazard recognition, defensive tactics, PPE/SCBA use, decontamination, and documentation.
   - Include all shifts, volunteers, and mutual aid partners in training cycles. Where applicable, any entity involved in data management or reporting workflow receives appropriate training.

6. **Documentation and Exposure Control**
   - Embed exposure and decontamination tracking into your incident reporting process.
   - Ensure records are consistent, accessible, and compliant with occupational health requirements.
   - Coordinate with health/safety to support responder well-being and regulatory compliance.

7. **Promote Hygiene and Decontamination**
   - Standardize gross decon procedures and equipment after all fire responses.
   - Provide facilities and supplies for on-scene and post-incident hygiene.
   - Integrate hygiene practices and monitoring as appropriate.

8. **Foster Continuous Improvement**
   - After each incident or drill, review successes and needs for improvement.
   - Update SOPs/SOGs, training, and preplans based on lessons learned.

- Encourage open communication and feedback from all members and stakeholders.

9. **Communicate and Share**
   - Regularly update all members and stakeholders on changes, successes, and lessons learned.
   - Share best practices with mutual aid partners and the broader fire service community.

Gap Analysis Checklist

For All Fire and Emergency Response Organizations

Instructions:
Use this checklist to review your agency's current practices. For each item, select:

- **Compliant**
- **Needs Improvement**
- **Not Addressed**

This will help you prioritize updates and track progress toward full NFPA 1700 (2026) implementation.

Policies & Procedures

_____ Do your SOPs/SOGs reference NFPA 1700 (2026)?

_____ Are modern hazards (batteries, BESS, PV systems) addressed in your policies?

_____ Are hazard control zones and PPE/SCBA expectations defined?

_____ Are the coordination of ventilation and suppression efforts represented in your policies?

_____ Are exposure and decontamination practices and the documentation process established in your policies and necessary fields included in your reports?

_____ Is there a process for updating SOPs/SOGs as standards evolve and lessons are learned?

Strategic Decision-Making and ICS

_____ Incident Action Plan (IAP) templates are used with clear strategy selection triggers.

_____ Accountability system is in place with a communications plan and PAR/MAYDAY criteria established.

_____ Risk/benefit statements are documented.

Fire Dynamics and Size-Up

_____ Are ventilation-limited fire recognition and flow-path direction assessment practiced?

_____ Are wind-influenced fire risk assessments performed, and basement/attic fire indicators recognized?

_____ Are backdraft/fire gas ignition/smoke-explosion cues included in size-up training?

Building Construction & Occupancies

_____ Construction types and engineered systems (joists/trusses) are documented and collapse risk controls established.

_____ High-rise/multi-family/garden apartments are preplanned and strip-mall hazards (shared attics, rear access, maze-like layouts) addressed.

Tactical Operations

_____ Water application sequence (interior/exterior knockdown) with nozzle/hose selection guidance is incorporated.

_____ Ventilation methods (horizontal/vertical/PPV/hydraulic) are coordinated with suppression timing.

_____ Search tactics include door-initiated, oriented search, and VEIS with isolation/door control.

_____ RIT/RIC and Mayday procedures are established and trained.

_____ Salvage/overhaul and exposure protection practices are defined.

PPE & Equipment Limitations

_____ PPE ensemble capabilities, limitations, inspection, and replacement cycles are documented.

_____ Thermal imaging camera limitations are known – TIC not used to determine structural integrity above basements/voids.

_____ Ladders, hose, nozzles, lighting, and tools are maintained and tested per policy.

Special/Emerging Hazards (ESS/EV/Micromobility)

_____ Defensive strategies are included with charged lines before vent/entry when thermal runaway is suspected. Standoff and crew positioning away from likely vent points incorporated into policy and practice.

_____ Apparatus placement avoids potential vents and training incorporates recognition cues (white/gray vapor, popping/hissing, stratified smoke).

_____ Department notification process is in place for AHJ and approval/permitting of new installations.

Exposure & Hygiene

_____ Exposures to products of combustion are recorded for all responders with decon actions (wet/dry/gross) documented.

_____ Contamination control procedures are enforced in apparatus and stations with shower/change time tracked.

_____ Records shared with applicable department health and safety, industrial hygienist, occupational health, etc., and follow-up medical monitoring with PPE failure tracking included.

Preplanning & Data

_____ Preplan mapping is complete (utilities/controls, hydrants/water supply, access points, shared voids).

_____ Update cycles have been established and mechanism for change notification has been implemented.

_____ Water supply and tactical access has been verified with special occupancy notes accessible to responding crews.

Training & Drills

_____ Training covers all occupancies and tactics (water application, ventilation, search, RIT/RIC, Mayday, salvage/overhaul, exposure protection).

_____ Instrument limitations (TIC, gas meters) are taught and include documentation practices.

_____ Hose stream techniques are incorporated into training plan — 1700 §10.5.4.3–.5

Preferred: continuous straight/solid stream "flow-and-move" to wet ceiling/walls/floor ahead of the crew; use O/T/Z/ɲ patterns as needed.

Alternative: intermittent flow; consider condition rebound when closing the bale.

Fog increases air entrainment and reduces reach—use deliberately based on ventilation profile.

_____ Volunteers, part-time, and mutual aid partners are included in training cycles.

Stakeholder Engagement

_____ Fire, Safety, Hygiene, Occupational Health, Facility/City Management, Mutual Aid are involved in planning and review.

_____ Regular communication and feedback loops are established with changes disseminated to all members.

Continuous Improvement

_____ Incidents and drills are reviewed for lessons learned with after action reviews conducted.

_____ SOPs/SOGs, training, and preplans are updated based on feedback and new information.

_____ Culture of open communication, top-down and bottom-up feedback, and ongoing improvement are supported.

Compliance and Recordkeeping

_____ Documentation practices are compliant with NFPA 1700, local codes, and other relevant standards.

_____ Records are accessible, secure, and retained per policy.

Legal Notice

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All references to NFPA publications are for citation and educational purposes; users must review and rely on the official NFPA materials and applicable local codes, standards (e.g., NFPA 855 for stationary ESS), and AHJ directives.

By using this document, you acknowledge that your agency retains responsibility for policy development, training, operations, and compliance determinations, and you agree that Train Teach Lead shall not be liable for actions or outcomes arising from its use.

Annex A – Incident Action Plan Template

Incident Name:	Incident #:	Date:	Operational Period (Start–End):
Location:	Weather/Wind:	IC:	Safety Officer:

Strategy Declaration: Select one → ☐ Offensive ☐ Transitional ☐ Defensive

Primary life safety objective:

Fire control objective:

Property conservation:

Incident Objectives (3 max):

1)

2)

3)

Size-Up Cues (check if present):

☐ ESS/EV/micromobility hazards

☐ Thermal runaway indicators (hissing/popping, jet flames, off-gassing)

☐ Wind-impacted ☐ Vent-limited ☐ Structural collapse potential

☐ Life hazard confirmed ☐ Flow-path concerns

Safety Positioning & Stand-Off:

Minimum stand-off***: _____ ft Hot/Warm/Cold zones established: ☐ Yes ☐ No

Defensive cooling line in place: ☐ Yes ☐ No Shutdown/Isolation plan: ☐ Yes ☐ No

Coordination Triggers:

_____ Ventilation is coordinated with water application to the main body of fire

_____ Door control maintained until the attack line is charged and advancing

Communications Plan:

Dispatch: _____ Command: _____ TAC: _____

EMS: _____ Air/Gas Utility: _____ Tow/Recovery: _____

PAR Cadence:

Initial PAR at _____ min Subsequent PAR every _____ min

PAR after critical events (Mayday, structural changes, significant events, AHJ time frequency).

Mayday

Mayday channel: _____ RIT activation: ☐ Yes ☐ No RIT location: _____

Last known position marker set: ☐ Yes ☐ No

Assignments (enter Crew ID and Task) — keep concise:

Division/Group	Crew/Officer	Task/Objective	Location/Notes
Division/Group	Crew/Officer	Task/Objective	Location/Notes
Division/Group	Crew/Officer	Task/Objective	Location/Notes
Division/Group	Crew/Officer	Task/Objective	Location/Notes
Division/Group	Crew/Officer	Task/Objective	Location/Notes
Division/Group	Crew/Officer	Task/Objective	Location/Notes

Logistics & Rehab:

Water supply: _____ Staging: _____ Rehab set: ☐ Yes ☐ No EMS/Transport: _____

Exposure & Decon (document per policy):

On-scene gross decon: ☐ Yes ☐ No Shower/change planned within ___ min: _____

Contaminated PPE bagged: ☐ Yes ☐ No Notes:

Pre-Plan / Reference:

Site/Building pre-plan ID: _____ ERG/Rescue sheet link: _____ Utility contact: _____

IC Signature: _____ Time: _____

Transfer of Command to: _____ Time: _____

IAP Template Notes

Stand-Off Distance -- EV incidents: Pull the NHTSA ERG and enter its distance

1. Open the **NHTSA ERG portal** on your device (bookmark it): **https://www.nhtsa.gov/emergency-response-guides**
2. Filter by **make/model** → open the ERG → find the **"Fire"** or **"Size-Up/Isolation"** section and **use the distance it specifies** (isolation/perimeter/approach).
3. If the ERG isn't immediately available, follow **USFA/NHTSA** guidance to stay **upwind/uphill** and at a **safe distance**, and **enter your department's SOG default**.
4. Update the number as soon as you access NHTSA ERG.

Stand-Off Distance -- ESS incidents: Use the site pre-plan / UL 9540A-derived zones

- The stand-off for fixed ESS is defined in your pre-incident plan using **UL 9540A** installation-level test results (radiant heat flux, gas analysis) and the design in NFPA 855. Enter that pre-planned distance into the IAP.
- If the pre-plan isn't at hand, hold crews upwind/uphill and outside likely vent paths until the pre-plan is retrieved.

Remember: NFPA 855's 3 ft figure is a unit-to-unit installation spacing, not a responder standoff; do not treat it as the perimeter for operations.

Annex B – 13 Initial Arrival Factors

Initial Arrival Size-Up — AHJ Checklist aligned to NFPA 1550 and NFPA 1700 (2026) §9.4–9.6.

According to NFPA 1700 (2026), when observation of these factors becomes second-nature, firefighters will instinctively perform an evaluation of conditions at the scene that directly impact the fire control strategy.

1. Bystander/witness statements
2. Access concerns on the property
3. Building height, size, and stability
4. Occupancy type
5. Construction type
6. Wind direction relative to the building location and configuration
7. Fire location, size, extent
8. Civilian and firefighter life safety
9. Suspected direction of fire and smoke travel within the structure (flow path)
10. Smoke and fire exposures exterior to the structure
11. Presence and status of fixed fire protection systems
12. Firefighter safety building marking systems
13. Resources available

Annex C – Checklist for Window-Initiated Search (VEIS)

- Confirm conditions and staffing, coordinate with command.
- Select target room (high-probability victim locations, e.g. bedrooms).
- Enter quickly; IMMEDIATELY isolate the room by closing the interior door.
- Conduct rapid sweep; communicate findings; manage flow-path.
- Remove victim via window or interior path as appropriate; coordinate with suppression/ventilation.
- Maintain SCBA; monitor conditions; exit if isolation cannot be maintained or conditions deteriorate.

Appendix D — Checklist for Basements

Designed to be broadly applicable and trace back to NFPA 1700's 2026 emphasis on flow paths, coordination, and occupancy-specific hazards, plus research-backed guidance from FSRI and NIOSH. While not inclusive of all actions this brief list stresses the unique considerations for basement fires.

- Control openings; manage flow path; do not open basement door until the IAP dictates. [1700 §12.7.1.8]

- Cool gases ahead of entry; consider penetrating/distributor nozzles to control the hot layer. [1700 §12.7.1]

- Use TIC for awareness only; do NOT rely on TIC to judge floor integrity—sound floors and adjust access. [1700 Ch. 8; §12.7.1.8]

Appendix E — Checklist for Garden-Style Apartments

Designed to be broadly applicable and trace back to NFPA 1700's 2026 emphasis on flow paths, coordination, and occupancy-specific hazards, plus research-backed guidance from FSRI and NIOSH.

Pre-arrival / Size-up

- Identify intake/exhaust points, neutral plane, and wind alignment; prefer positions on intake side of dominant flow path when possible.
- Confirm occupancy layout: bedrooms window-side; check shared utility chases/voids that can carry fire/gases.

Initial actions (coordinate water & air)

- Bracket ventilation with water application; avoid venting into a ventilation-limited fire until a charged line is ready to cool the compartment.
- Door control on attack stairs; use PPV only when sealing/flow path is understood and water is imminent.

Search

- Door-initiated search prioritizing isolation; or VEIS into already isolated bedrooms (close door immediately). Vent the isolated room as needed for tenability.

Water application

- Fast exterior/quick interior knock as conditions dictate; choose nozzle pattern for cooling and containment (avoid pushing gases to egress routes).

Exposure / extension

- Check attic/soffits/utility voids early; coordinate cuts/PPV with suppression to avoid drawing fire across apartments.

RIC/RIT & Mayday

- Establish RIC on arrival; ensure known egress routes and secondary ladders to window bedrooms. (See RIC/RIT card.)

Post-incident

- Monitor for regrowth and gas accumulation in closed voids; document exposures/decon for all responders.

Appendix F — Checklist for High-rise

Designed to be broadly applicable and trace back to NFPA 1700's 2026 emphasis on flow paths, coordination, and occupancy-specific hazards, plus research-backed guidance from FSRI and NIOSH. While not inclusive of all actions this brief list stresses the unique considerations for high-rise fires.

- Preplans, staging floor below fire, and wind-control devices/smoke curtains improve conditions. [1700 §12.7.6]

- Limited vertical vent; horizontal risk from falling glass; radio issues common—plan command and comms accordingly. [1700 §12.7.6]

Appendix G — Checklist for Photovoltaic (PV) Systems

Designed to be broadly applicable and trace back to NFPA 1700's 2026 emphasis on flow paths, coordination, and occupancy-specific hazards, plus research-backed guidance from FSRI and NIOSH. While not inclusive of all actions this brief list stresses the unique considerations for PV fires.

- Arrays may remain energized even when "disconnected"; avoid salt water streams; understand enclosure pooling hazards. [1700 §12.7.8]
- Maintain safe distance and use fog patterns to reduce shock risk; tarp efficacy depends on opacity and dryness. [1700 §12.7.8]
- Treat roof operations with caution; fire beneath arrays can breach into the attic. [1700 §12.7.8]

Appendix H — Checklist for Strip-Malls

Designed to be broadly applicable and trace back to NFPA 1700's 2026 emphasis on flow paths, coordination, and occupancy-specific hazards, plus research-backed guidance from FSRI and NIOSH.

Pre-arrival / Size-up

Assign rear recon (Side C) if 360 is limited; expect shared attics/drop ceilings, maze-like interiors, and heavy fuel loading.

Initial actions (flow-path control)

Control doors prior to vent; coordinate vertical/horizontal ventilation with active water application to avoid rapid extension along halls/attics.

Search

Oriented/door-initiated search in high-probability victim areas; landmarking and hose management to reduce disorientation risk; consider VEIS in perimeter rooms with exterior access.

Water application

Select lines for reach and flow; consider exterior knock for large-volume compartments; monitor roof loads and early collapse indicators (engineered trusses).

Ventilation

Vertical ventilation only as coordinated with water and with attic checks; PPV when you can seal adjacent units and control the path.

Exposures

Early checks for lateral extension through the common attic; pull ceilings tactically, control fresh-air openings feeding the fire unit.

RIC/RIT & Mayday

Pre-stage RIC with large-area search tools; confirm egress routes through primary/secondary doors; establish PAR cadence given complex layouts. (See RIC/RIT card.)

Post-incident

Overhaul shared voids carefully; document exposures/decon for all responders.

Appendix I — Variable-grade / Hillside Buildings

Designed to be broadly applicable and trace back to NFPA 1700's 2026 emphasis on flow paths, coordination, and occupancy-specific hazards, plus research-backed guidance from FSRI and NIOSH. While not inclusive of all actions this brief list stresses the unique considerations for variable-grade/hillside building fires.

- Identify true fire level early; avoid entering above the fire (exhaust side of the flow path). [1700 §12.7.5]

- Coordinate ventilation tightly with suppression; stairwells can create vertical flow paths—size your stream and approach accordingly. [1700 §12.7.5]

Appendix J — RIC/RIT & Mayday Reference

Note: NFPA 1550 anchors the safety program, ICS/command safety, and incident safety officer responsibilities; your local SOPs determine exact triggers/phrasing. Use this card as a template and adapt to AHJ requirements.

When to declare MAYDAY:

- Lost/disoriented / cannot locate egress
- Low air / SCBA malfunction / entanglement
- Trapped / pinned / collapse / fall through floor
- Separated from crew / zero visibility with rising heat

MAYDAY message format: While LUNAR is a format familiar to the fire service the physical and psychological stress of these events demands a well-trained (in frequency, duration, and proven competence) method that can be easily recalled while operating in these potentially life-threatening environments. Therefore, while not specifically recommended in NFPA 1700, the adoption of the WWW method is strongly encouraged – always follow policy and practice of your AHJ/SOP.

WWW

- **W**ho are you
- **W**here are you
- **W**hat do you need

LUNAR

- **L**ocation (closest landmark, floor, side)
- **U**nit (company identifier)
- **N**ame (or badge # if required)
- **A**ir (PSI/time) & **A**ctions (what you're doing)
- **R**esources (what you need: ladder, saws, hoseline, air, removal)

Command actions (first minute):

- Acknowledge MAYDAY

- Declare Defensive Pause on non-critical tasks; reconfirm door control and flow-path management
- Assign RIC/RIT and Rescue Group Supervisor, designate a Safety Officer
- Order PAR (Personnel Accountability Report); confirm firefighter's last known location & egress options
- Stabilize the environment: bracket ventilation with water; cool the involved compartment to improve survivability and search conditions

RIC/RIT setup (equipment & roles):

- Irons/forcible entry, thermal imaging camera (for awareness only), search rope/tags, spare air (RIT pack), saws, ladders, lighting
- Assign: Lead, Air/Package, Forcible Entry, Orientation/Tag line, etc.
- Confirm primary & secondary egress routes, ladder windows for fast removal
- Build rescue corridor by controlling doors and cooling as needed; avoid creating new exhaust paths that worsen conditions

PAR cadence:

- Initial PAR after MAYDAY acknowledgement
- Every 5 minutes or at critical tactical changes (vent opened, water applied, collapse zone change)
- PAR on RIC entry/exit and victim removal

Interior survival actions (for the distressed member):

- Find/maintain contact with a wall or hose line; try to isolate (closed door)
- Call MAYDAY early; conserve air; activate PASS if appropriate
- Breathing tactics: skip-breath; stay low; use cooling water if available to reduce heat layer
- Create audible/visual cues (tap, light, PASS) for RIC team

Safety Officer prompts:

- Reassess collapse zones, basement/void exposures, and roof loads; do not rely on TIC to judge floor integrity—use sounding/alternate routes.

- Confirm flow-path control and coordination of vent with water; avoid wind-driven alignment (doors/windows) during rescue operations.

Post-rescue actions:

- Immediate medical assessment and exposure documentation for all involved members; capture decon steps (gross/wet/dry) and shower/change times
- Conduct a brief hot-wash; finalize AAR later; update SOPs/training based on findings

Appendix K — Program Performance Metrics

Purpose

Provide chiefs, company officers, safety/QA leads, and industrial ERT managers with a concise, repeatable way to track implementation of NFPA 1700 (2026) practices. Use these goals to track and verify adoption progress.

Suggested Use

- Track progress monthly or as noted (quarterly/semiannual where indicated).
- Adopt a simple scale: Green ≥ Target; Amber ≥ Threshold; Red < Threshold.
- Review results in Safety/QA or command staff meetings; assign owners and due dates for corrective actions.
- Maintain a brief evidence trail for each KPI (report ID, form name, roster, or AAR reference).

Suggested Summary Report

- Overall Compliance Index (average color scores: Green=100, Amber=75, Red=25).
- Top 3 Strengths / Top 3 Improvements.
- Open Actions (owner, due date, status).

Governance & Strategy

KPI	Definition / Formula	Target	Threshold	Frequency	Owner	Data Source	Notes
IAP usage rate	Incidents with an Incident Action Plan (IAP) filed ÷ total structure fire incidents	≥ 95%	≥ 85%	Monthly	Shift Commander	RMS / IAP form ID	Attach AAR ID if applicable
PAR cadence compliance	Incidents with PAR at start, mid-incident, end ÷ incidents where PAR required	≥ 90%	≥ 80%	Monthly	Incident Safety Officer	Radio log / CAD export	Document timestamps
Strategy declaration rate	Incidents with explicit offensive/defensive declaration ÷ total	≥ 95%	≥ 85%	Monthly	Incident Commander	First-due report	Checkbox or narrative tag

Fire Dynamics & Size-Up

KPI	Definition / Formula	Target	Threshold	Frequency	Owner	Data Source	Notes
Flow-path assessment documented	Incidents with intake/exhaust/neutral plane indicators recorded ÷ total	≥ 90%	≥ 80%	Monthly	IC	RMS size-up fields	Use standardized picklists
Wind-influence considered	Incidents with wind noted in size-up ÷ total	≥ 90%	≥ 80%	Monthly	IC	RMS	Include wind direction/speed
Basement / attic flags	Incidents where basement/attic risk flagged ÷ total	≥ 90%	≥ 80%	Monthly	IC	RMS	Basement / attic checkbox present

Building Construction & Occupancies

KPI	Definition / Formula	Target	Threshold	Frequency	Owner	Data Source	Notes
Preplan currency	Occupancies with preplans updated in last 12 months ÷ total preplanned occupancies	≥ 90%	≥ 75%	Quarterly	Preplan Officer	Preplan database	Tag garden apts/strip-malls
Construction type recorded	Incidents with construction type captured ÷ total	≥ 95%	≥ 85%	Monthly	Incident Commander	RMS	Type I–V or equivalent

Tactical Operations

KPI	Definition / Formula	Target	Threshold	Frequency	Owner	Data Source	Notes
Ventilation coordinated with water	Incidents where vent timing is bracketed by water application ÷ incidents with vent	≥ 90%	≥ 80%	Monthly	Incident Commander	AAR / tactical log	Record timing relationship
Search isolation compliance	Searches with door control/isolation documented ÷ searches performed	≥ 95%	≥ 85%	Monthly	Operations Captain	AAR / search report	VEIS or door-initiated
RIC/RIT drill frequency	RIC/RIT drills completed ÷ planned (per quarter)	100%	≥ 80%	Quarterly	Training Officer	Training roster	Use drill calendar

PPE & Equipment Limitations

KPI	Definition / Formula	Target	Threshold	Frequency	Owner	Data Source	Notes
PPE inspection on schedule	Gear inspected per schedule ÷ total gear	≥ 98%	≥ 90%	Monthly	Safety/HSE	PPE inventory system	Reference NFPA 1970
TIC limitation training	Members trained on TIC limitations ÷ total members	≥ 100%	≥ 90%	Semiannual	Training Officer	LMS / roster	“TIC ≠ structural integrity” above basements/voids

Special/Emerging Hazards (ESS/EV/Micromobility)

KPI	Definition / Formula	Target	Threshold	Frequency	Owner	Data Source	Notes
ESS preplan coverage	Sites with ESS mapped ÷ known ESS sites	≥ 95%	≥ 85%	Quarterly	Preplan Officer	Preplan database	NFPA 855 spacing/separation referenced
Charged lines before vent/entry	Incidents with charged lines prior to vent/entry when ESS suspected ÷ incidents with suspected ESS	≥ 95%	≥ 85%	Monthly	Incident Commander	AAR / RMS	Note apparatus placement away from likely vent points

Exposure & Hygiene

KPI	Definition / Formula	Target	Threshold	Frequency	Owner	Data Source	Notes
Exposure documentation rate	Responders with exposure field completed ÷ responders on incident	≥ 100%	≥ 95%	Monthly	Safety/HSE	RMS / OH system	Every responder, every incident
Decon actions recorded	Incidents with decon steps documented ÷ total incidents	≥ 95%	≥ 85%	Monthly	Incident Commander	RMS / AAR	Wet/dry/gross captured
Shower/change compliance	Responders with shower/change time recorded ÷ responders exposed	≥ 95%	≥ 85%	Monthly	Safety/HSE	RMS / OH system	Within policy time window

Preplanning & Data

KPI	Definition / Formula	Target	Threshold	Frequency	Owner	Data Source	Notes
AHJ notifications timeliness	Notifications sent within X days ÷ total changes	≥ 95%	≥ 85%	Monthly	Preplan Officer	Email log / ticket	New installations and changes
Water supply verified	Incidents with water supply notes ÷ total	≥ 95%	≥ 85%	Monthly	Incident Commander	RMS	Hydrants/flow noted

Training & Drills

KPI	Definition / Formula	Target	Threshold	Frequency	Owner	Data Source	Notes
Course completion (by topic)	Members complete flow-path, vent methods, search, RIC/RIT, exposure/decon	≥ 100%	≥ 95%	Semiannual	Training Officer	LMS / rosters	Topic-level tracking
Mutual aid participation	Agencies participating in joint drills ÷ invited agencies	≥ 80%	≥ 60%	Quarterly	Training Officer	Attendance sheets	Interoperability focus

Stakeholder Engagement, Continuous Improvement & Compliance

KPI	Definition / Formula	Target	Threshold	Frequency	Owner	Data Source	Notes
Stakeholder review cadence	Scheduled cross-functional reviews held ÷ scheduled	100%	≥ 80%	Quarterly	Fire Chief / ERT Manager	Agenda & minutes	Ops, Training, HSE, IH, Occ Health
AAR timeliness	AAR completed ≤ 7 days ÷ incidents requiring AAR	≥ 95%	≥ 85%	Monthly	Training Officer	AAR tracker	Attach to RMS record
SOP/SOG updates	SOP/SOG updates issued ÷ planned updates	100%	≥ 75%	Quarterly	Policy Owner	Revision log	Change control observed
Records audit trail	Incidents with complete record set ÷ audited incidents	≥ 95%	≥ 85%	Quarterly	Admin	Audit report	Retention per policy

Legend for Dashboards

Red: < Threshold **Amber:** ≥ Threshold and < Target **Green:** ≥ Target

Notes

- Customize targets/thresholds to your AHJ, risk profile, and data system capabilities.
- Maintain KPI definitions in an SOP addendum so they survive personnel turnover and software changes.