

4 Structural Fire Operations

- [4.1 Responsibilities](#)
- [4.2 Determining Structure Fire Operations Levels of Service](#)
- [4.3 Levels of Service](#)
- [4.4 Structural Fire Operations](#)
- [4.5 Engine Company Park Program Requirements](#)
- [4.6 Fire Apparatus/Equipment Inspection, Testing, and Maintenance](#)

All NPS units shall address fire protection suppression operations in their SFMP. The park structural fire program manager (PSFPM) is required to identify and assess risk, weight options, develop and *implement structural fire operations programs to protect individuals and resources from the effects of fire* within the designated areas of responsibility within the unit.

This chapter initially defines the program requirements of parks that have Agreements, Partnerships, and Engine Company Operations with potential Wildland Urban Interface (WUI). The chapter fully develops to incorporate Engine Company requirements during response, fireground operations with the addition of Special Operations. Engine Company Program requirements, Firefighting Apparatus and Equipment inspection, testing and maintenance culminate the chapter.

4.1 Responsibilities

4.1.1 Park Level

Superintendents

- Determine the fire suppression operation level for the park and reflect that decision in the park's SFMP.
- Ensure that park structural fire suppression operations follow Director's Order and Reference Manual 58.
- Support operational reviews. Address deficiencies identified during these reviews in a timely manner and report their progress with addressing the deficiencies to the RSFM.
- Comply with nationally issued Standard Operating Procedures (SOPs) and develop and implement park specific SOPs to cover park specific areas, strengthen national and industry standards, promote efficiency, safety and fireground effectiveness.
- Ensure that all structure fire related incidents and agency response outside NPS designated boundaries by NPS personnel and/or apparatus are properly reported according to agency policies.

- Responsible for pre-incident coordination or agreements with response agencies if not an engine company park.

4.1.2 Regional Level

Regional Structural Fire Marshal (RSFM)

- Ensure fire suppression operations in the parks meet the requirements set forth in RM-58.
- Identify region-wide fire suppression training needs and relay this information to the national office.
- Support superintendents with technical expertise regarding the identified service level the park has chosen.
- Ensure that all Level Three suppression operations are thoroughly reviewed on a routine basis. Common deficiencies identified during the review process are used to assist with prioritization of structural fire operations program goals and funding.
- Ensure that all parks within their region are reporting structure fire events and incidents, including alarm activations into an approved incident reporting system.

4.1.3 National Level

- Establish servicewide suppression operations guidelines and requirements for NPS parks, which participate in fire suppression activities or respond to all hazard incidents.
- Work to ensure the availability of servicewide technical expertise to assist the regional offices and parks in maintaining their fire suppression capabilities.
- Identify training needs and develop an annual training schedule.
- Provide structural fire training that meets the standards necessary to support NPS fire suppression operations.
- Establish SOPs that provide consistency between the parks.
- Administer and maintain structural fire training and certification data systems.

4.2 Determining Structure Fire Operations Levels of Service

Park Managers must actively assess and consider the requirements for structure fire incident response and the resources that are available to mitigate these incidents safely and efficiently.

When determining the park's structure fire operations, Park Managers shall:

- Assess Risk
- Reduce/Mitigate Risk
- Determine Levels of Service

These decisions and procedures shall be documented in the parks SFMP.

4.2.1 Assessing Risk

The first step in determining the Levels of Service is to assess the risks at the park

4.2.1.1 Risk to visitors and employees (Life Safety)

Fire loss statistics identify people are most at risk in buildings with sleeping quarters or assembly occupancies such as a park with a hotel or a lodge, drinking and dining facilities, and large visitor center theaters.

4.2.1.2 Available resources for firefighting operations (Incident Stabilization)

Park Managers must determine the availability of park and local first responders to respond to structure fire incidents within designated park boundaries. Time of day, levels of training and certifications along with equipment and apparatus shall be considered. Reliability of adequate water supply and availability should be determined with the appropriate park staff. A comprehensive risk-based assessment from the RSFM can help determine if water supplies are adequate to park risks.

4.2.1.3 Protecting Resources (Property Conservation)

Park staff must consider the protection of our resources from fires when determining how fires are going to be suppressed. Historic architects, cultural resource specialists, and your RSFM can all help assess the risk to your protected resources.

4.2.2 Reduce/Mitigate Risk

All park managers need to consider reducing the risk of a fire to ensure that employees are provided training, education and awareness on suppression of and early detection of incipient stage fires. Portable fire extinguisher training is available on DOI Talent, park resources (e.g., Safety Office) or may be offered through local fire departments and vendors. Park Standard Operating Procedures (SOPs) shall be developed, trained, and implemented for these types of incidents (OSHA).

4.3 Levels of Service

Fire protection suppression operations for all NPS units will be identified by one of three, or a combination thereof, Levels of Service and detailed in the park SFMP. Integration of the Level of Service shall be fully and clearly understood and incorporated by the park management team.

4.3.1 Level One: Service by Agreement and/or Fee

Level One is met through Memorandums of Understanding (MOU) or Memorandums of Agreement (MOA) with local first responder services. A properly executed and vetted aid agreement is the preferred method of documentation providing this level of service. The MOU/MOA provides the legal framework that details the service to be provided. Some municipalities may require a fee for service and the agreements should clearly detail the expenses and methods of reimbursement.

Some municipalities may not require agreements as fire protection is automatically provided through local or state legislation, policies, or local government agreements. Parks may encounter local fire departments of governments that decline to sign agreements. If an agreement is declined, or there exists legislation already providing response, parks shall document this in a memorandum for record. When the municipality declines to sign an agreement, the memorandum shall clearly document the attempt to establish a formal agreement, the reasons for signing the memorandum, and any verbal agreements to provide service.

Parks utilizing Level One should provide annual orientation (e.g., walk-throughs of facilities, pre-incident planning) to emergency response personnel and ensure an understanding of the importance of park structures, historic facilities, park infrastructure (e.g., water supply, accessibility), special handling and protection of cultural resources contained within the park.

4.3.2 Level Two: Partnership

Level Two, parks may decide to train employees as structural firefighters and make them available to the local fire department. NPS employees engaged in structural firefighting must meet training and certification requirements as detailed by NPS policy (RM-58) and meet all compliance with medical requirements, physical fitness, self-contained breathing apparatus (SCBA) fit testing. In addition to training employees, parks may need to commit resources to purchase required equipment and personal protective equipment (PPE) if not provided through the partnership.

Park managers are responsible for ensuring NPS employees engaged in structural firefighting are using tools, equipment and PPE that meets all NFPA standards even if those items are provided by the local fire department

Parks utilizing Level Two shall enter into a formal agreement with the fire department prior to committing employees to the rigorous training that is required.

Park managers will need to determine the status of these employees during response to fire events. Some options may include:

- Employees are in pay status any time they respond to incidents on or off duty.
- Employees are in pay status when they respond only during normal work hours.
- Employees are in pay status only when responding to the park.

4.3.3 Level Three: Engine Company Park (ECP)

Level Three Engine Company Park operations shall only be considered when parks have the available staffing, funding, and resources to provide a full ECP level of response. Park management must be fully committed to a safe and effective program.

When a park has an established Wildland Fire Program with available trained and certified structural firefighter personnel, apparatus, and resources to conduct WUI operations; the Level Three's objective is to allow properly trained individuals to contain, control and possibly extinguish fires until fire department responders can arrive on scene to mitigate the incident.

Level Three ECP's shall meet all NPS policies and NFPA standards to meet and be in full compliance for fire department response operations. WUI operations shall also follow all DO/RM-18: *Wildland Fire Management and Interagency Standards for Fire & Aviation Operations* in the potential control and extinguishment of structure fires (e.g., exterior only). A NWCG Type III fire apparatus shall be utilized as equipped with a rated pump approved for wildland and structural firefighting.

Level Three ECPs, the park superintendent shall hire an appropriately graded 0081 park structural fire chief based on the complexity identified by the NPS Structural Fire Program and RSFMs. The superintendent of an existing ECP, without an 0081 park structural fire chief, shall hire an appropriate 0081 no later than September 30, 2024.

Superintendents failing to hire/fill the appropriate 0081 park structural fire chief shall stand down all structural fire suppression operations immediately. See Section 4.5.1.2.

4.4 Structural Fire Operations

Life safety is the primary responsibility of NPS structural firefighters and incident commanders (ICs). The following structural fire objectives have been adopted to provide appropriate structural fire planning, training, and response:

- **Life Safety** – Prevent injury and the loss of human life.
- **Incident Stabilization** – Prevent or reduce damage and destruction of real property and cultural and natural resources.
- **Property Conservation** – To the extent possible and with all means necessary without putting firefighters in danger, fire operations are committed to minimizing the damage to property. This requires firefighters to consider the resources and the environment that are at risk and, when safe to do so, take all required actions to protect them.

The National Fire Protection Association (NFPA) 1720: Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer Fire Departments, identifies the operation for NPS structural fire engine companies and will be used as the guiding document when conducting fire suppression operations within the NPS. NPS structural fire response functions are very similar to volunteer fire departments in local communities.

4.5 Engine Company Park Program Requirements

Operating an engine company safely and within the requirements identified by the NPS requires establishing and maintaining a complex program.

4.5.1 Initiation (Stand Up) and Suspension (Stand Down) of ECPs

4.5.1.1 Engine Company Park Stand Up

- The superintendent must request in writing the desire to establish or re-establish an engine company for the identified park.
- This request will be sent to the regional and national offices.

- The Structural Fire Program will conduct a park review to ensure that all considerations have been identified and the park is prepared to stand up. Once the review is complete a letter of concurrence will be issued.

The need to stand up an engine company can also be provided to a superintendent as a result of a park review from the region or national structure fire branch office.

4.5.1.2 Engine Company Park Stand Down

Stand down of a program can be initiated from several different areas:

- **Park:** The superintendent can request in writing to the regional and national structure fire branch office the desire to stand down their engine company. The superintendent will need to provide reasons for requesting the stand down.
- **Regional Structural Fire Marshal:** The RSFM may conduct a review of engine company operations within their region. The review may result in the recommendation to shut down engine company operations. The RSFM will provide in writing to the park superintendent and the national structure fire branch office the reason for the recommended action. The national structure fire branch office will review the reasons and may conduct a separate review of the engine company to validate the concerns. The national structure fire branch office will provide a written response to the request.
- **National Office:** The Structural Fire Program may recommend the standing down of engine company parks if after conducting a review the identifies an engine company is not meeting compliance, operating in an unsafe manner, or fails to comply with standards.

The appeals process for the above listed actions related to standing up or down of an engine company will follow the same process identified [in Chapter 2, Community Risk, Reduction, and Code Compliance](#).

4.5.1.3 Safety Stand Down

The Department of Labor describes a Safety Stand Down as a voluntary event for employers and employees to engage in open, honest, objective, poignant dialogue about safety in the workplace. According to the Occupational Safety and Health Administration (OSHA), different companies conduct safety stand downs in different ways, so they work best for their individual workplace concerns.

Engine company parks are encouraged to participate in self-identified, agency and national recognized Safety Stand Down events. During these events, highlights should focus on critical safety, health, training, education and survival issues for fire and emergency services personnel.

During Safety Stand Down Events, ECPs are encouraged to suspend all non-emergency activities and focus attention on safety, health, and education efforts.

The annual nationally recognized Firefighter Safety Stand Down event takes place during the third full week of June.

4.5.2 Organization and Operation

Fire suppression operations shall be organized to ensure that suppression capabilities include sufficient personnel, equipment, and resources to efficiently, effectively, and safely perform at the types of incidents and hazards found in the park. Engine company operations must be clearly identified as an essential function within the park's SFMP. It is also critical that parks with ECPs meet the following:

- Establish a dedicated financial account to provide annual program support for suppression operations. Cyclic replacement programs for tools, hose, PPE, and fire apparatus must be addressed.
- Identified in writing a qualified individual as identified in [Chapter 5, Training and Certification](#) who has the primary duty (e.g., PSFPM) of oversight and supervision of the park ECP program with clearly defined succession of command responsibilities.
- Defined response area (Standard of Coverage) for each engine company.

4.5.3 Staffing

4.5.3.1 Optimal Staffing Requirements for Operating an Engine Company

Engine companies shall ensure that sufficient staffing of personnel within their defined response area are available to respond to all hazard incidents safely, efficiently, and effectively. Employees who are on leave, out of the area on an off-duty basis or on limited duty should be considered.

Parks may augment overall staffing needs by integrating with local community resources and adjacent districts within the park to ensure that the minimum staffing requirements for incident response are met (e.g., NPS fire apparatus arrives on scene with three NPS firefighters and is met on scene by two local volunteer firefighters). Two qualified and certified firefighters are preferred (Driver and a Firefighter) in an apparatus prior to responding to an incident to ensure safe operation.

Available staffing due to leave or seasonal employment may require the park to establish different strategies and tactics for response and fireground operations. A fully staffed structural fire program during the summer season may allow for multiple responding apparatus with full crews while "Off Season" operations may be at a reduced capability. Should staffing be reduced in the off season the park may need to reduce their response posture and only work in an exterior offensive fire attack until help from surrounding districts or local communities arrive.

4.5.3.2 Minimum Staffing Requirements for Incidents

Engine company staffing requirements are dictated by the type of incident involved. For example, a successful response to a reported dumpster fire may be

accomplished with a two-person engine company while a structure fire might require several fire apparatus and multiple firefighters.

NFPA 1720 establishes ideal staffing and response times. Minimum engine company staffing levels can include NPS firefighters on scene, responding to the designated response area, and personnel responding to the incident through mutual aid. Exterior operations may involve a crew of less than four firefighters.

Response should begin once a firefighter and a FADO arrive at the fire station. In some circumstances, the fire apparatus may leave the station with only the fire apparatus driver operator. Additional firefighters or mutual aid companies may meet the fire apparatus at the scene.

Firefighting suppression operations are limited to exterior **ONLY** until at least four qualified and certified firefighters are on scene to establish mandatory 2-In/2-Out safety protocols. FADOs not certified to Firefighter I do not meet 2-In/2-Out. OSHA 29 CFR 1910.134 (g)(4) states that once firefighters begin interior attack on a structure fire, the atmosphere is assumed to be Immediately Dangerous to Life or Health (IDLH).

Standard Exceptions to 2-In/2-Out requirements are:

- When there is a reported or suspected life hazard where immediate action could prevent the loss of life.
 - Known rescue and the IC feels it is safe to attempt the rescue
- When the fire is in an incipient stage
 - OSHA defines an incipient stage fire in 29 CFR 1910.155 (g)(26) as a “fire which is in the initial or beginning stage and which can be controlled or extinguished by portable fire extinguishers, Class II standpipe or small hose systems without the need for protective clothing or breathing apparatus.”

4.5.3.3 Positions Required to Staff a Response

There are a minimum of four roles that must be assigned during any incident:

- Incident Commander (IC)
- Safety Officer
- Engine Company Officer/Lead Firefighter
- Fire Apparatus Driver Operator

All structure fire incidents require a minimum of two firefighters to engage a fire of any type. A minimal number of firefighters may assume multiple roles (e.g., FADO/Safety Officer or Engine Company Officer/IC). Larger complex incidents will require dedicated staffed and assigned positions (e.g., IC and a Safety Officer) as well as multiple firefighters performing specific duties.

4.5.3.3.1 Incident Commander (IC)

One **on-scene** individual shall be assigned as the IC. The assumption and identification of this command shall be communicated to all units responding to or involved in the incident. The responsibility for assigning fire companies at an emergency belongs to the IC, who establishes priorities and assigns units based on identified objectives. Once the initial command responsibilities are completed, the IC should begin to obtain progress reports from operating units and evaluate efforts. The initial action plan should then be revised or refined as necessary.

The IC shall remain in command, until command is transferred, or the incident is terminated. If the IC is not familiar with structural fire suppression strategy and tactics and does not have a clear understanding of fireground priorities, an Operations Officer shall be assigned to an Engine Company Officer or the most experienced lead firefighter on-scene.

The IC shall be responsible for the overall safety, coordination, and direction of all activities for the duration of the incident. The IC will ensure that a personnel accountability system is utilized to rapidly account for all personnel at the incident scene.

4.5.3.3.2 Safety Officer

A dedicated safety officer should be appointed when staffing permits. The safety officer should be an experienced firefighter or a person with significant knowledge of the type of incident being handled by the emergency providers. The safety officer has the authority to stop any unsafe activities without consulting the IC. The safety officer shall report any stoppage of unsafe activity to the IC immediately following the action.

The IC is responsible for the functions of the safety officer until one is assigned. The safety officer is appointed only by the IC and should not only be knowledgeable of the functions assigned with that position, but also have the experience and training to recognize unsafe conditions and practices during a fire event or an emergency incident. The safety officer shall be responsible for monitoring conditions throughout the incident, actively engaged with an ongoing risk assessment, and ensuring that personnel adhere to contemporary firefighting safety practices

4.5.3.3.3 Engine Company Officer / Lead Firefighter

The company officer shall be certified to the level of firefighter II per NFPA 1001: *Standard for Fire Fighter Professional Qualifications* as a minimum. The company officer shall always be responsible for the identity, location, and activity of each member of their assigned

engine company. In turn, each member of the engine company shall be aware of the identity of the Engine Company Officer / Lead Firefighter.

4.5.3.3.4 Fire Apparatus Driver Operator (FADO)

The FADO of any fire apparatus (e.g., Pumper, Aerial, Mobile Water Supply) shall be trained and certified to the level of operation for the type of apparatus per NFPA 1002: *Standard for Fire Apparatus Driver Operator Professional Qualifications*.

4.5.4 Standard Operating Procedures (SOPs) / Standard Operating Guidelines (SOGs)

The NPS Structural Fire Program has developed written **SOPs** that will serve as a foundation to ensure consistent and safe practices and procedures for engine company operations. SOPs will target specific subjects in detail to provide park program managers and firefighters clear critical fireground procedures designed to enhance operational safety, address common questions and provide clarification.

Individual parks or ECPs may develop more stringent procedures that work in conjunction with these SOPs, but they cannot develop or operate from procedures which are less stringent than those developed by the national office. Variance from the minimum established requirements by the national office SOPs is **NOT** allowed and park structural fire programs would be considered operating outside of agency policy and standards.

Nationally issued SOPs can be accessed on the Structural Fire Program site for quick and immediate access to all NPS employees.

SOGs are recommended to be created by fire chief's or PSFPM when specific policy, standards or procedures do not apply. SOGs are designed to streamline processes accordingly to what the program best practices and industry business practices are. SOGs, by nature, are guidelines and should be open to interpretation allowing flexibility for unforeseen circumstance potentially encountered on the fireground, emergency circumstances and structural fire program operations. SOGs are more general versus specific rules and should **NOT** be confused with formal policy, standards, and procedures to include SOPs.

It is the responsibility of every individual in the park structural fire program to be familiar with all established SOPs / SOGs and any updates that have been issued. It is the responsibility of the park fire chief to ensure that the park developed SOP's meet the intent of the nationally developed procedures and, along with SOG's, are reviewed/updated on a regular basis.

4.5.5 Drug and Alcohol Policy

The NPS Structural Fire Program has a **ZERO TOLERANCE** policy towards the consumption of, or being under the influence of, drugs or alcohol when performing the duties, training, responding to or from and/or operating on the fireground of a structural

fire or emergency incident. This is to include prescribed and/or over-the-counter medications with performance restrictions. Individuals performing acts, suspected of, displaying signs of and/or behavior believed to be under the influence of drugs or alcohol will be immediately relieved of their assigned duties, prevented from participating and removed from the fireground or park structural fire program designated areas. Individuals shall be referred to the proper authorities, supervision, and park management teams (e.g., LE, HR) for potential administrative and legal action.

4.5.6 Pre-incident Plans

Pre-incident plans are written (or electronic) documents that are designed to provide responders with information that might affect future emergency operations in a building. Information gathered in pre-incident plans allows firefighters and emergency response personnel to develop operational plans to mitigate the incident. Parks must have pre-incident plans developed and available for all structures and priority facilities previously identified through risk assessments. Pre-incident plans should be made available in all fire apparatus and shared with aid agreement partners. Annual walk-throughs of pre-incident identified hazards and facilities should be conducted to update plans and include aid agreement partners.

Jurisdictions and resources required/requested to respond to an incident shall be determined by a risk analysis assessment and documented on pre-incident plans.

4.5.7 Personal Protective Equipment (PPE)

Firefighters shall be provided with custom fit structural fire PPE. The PPE is issued to and remains with the individual as long as it is serviceable and the employee remains in an engine company park. At a minimum, PPE issued shall include NFPA approved:

- Structural fire helmet
- Structural fire jacket
- Structural fire pants
- Suspenders (if applicable)
- Protective particulate hood
- SCBA mask (stays with the park)
- Eye and hearing protection
- Structural safety toe boots
- Structural fire gloves

Additional recommended PPE may include, but is not limited to:

- 2nd protective particulate hood
- 2nd pair structural fire gloves
- Extrication gloves

- Leather work or similar style gloves (e.g., Mechanix)

Applicable firefighter PPE shall comply with NFPA 1971: *Standard on Protective Ensembles for Structural Firefighting and Proximity Fire Fighting*. Firefighter NFPA PPE shall be:

- <10 years' service life from date of manufacture
- NFPA compliant tagged (attached, legible)
- Same manufacturer, model, style (no mixing/mismatch PPE)
- Properly fitted to the individual issued
- Annual inspected in accordance with NFPA 1851: *Selection, Care and maintenance of Protective Ensembles for Structural and Proximity Firefighting*.

Park structural fire programs should project firefighter PPE purchases on a cyclical basis. This is to ensure that all firefighters have ensembles readily available and spread PPE expiration dates and budget expenses over a multi-year span. Programs should budget for a second set of PPE (jacket, pants, suspenders, hoods, gloves and boots) for all assigned firefighters as recommended by NFPA and industry business practices.

New purchased/acquired structural fire PPE shall meet the most current editions of applicable NFPA standards. Under no circumstances shall NFPA structural firefighter PPE be used if exceeding 10 years from date of manufacture or NFPA approved tags are not attached. Out-of-Service PPE shall be removed from service and disposed of properly to ensure it cannot be used for structural firefighting operations.

4.5.7.1 Eye Protection

Personnel shall be provided NFPA/ANSI approved eye protection (e.g., goggles, safety glasses). Fire helmet face shields are not approved as primary eye protection. Properly worn SCBA facepiece/masks meet approved eye protection requirements.

4.5.7.2 Hearing Protection

Personnel shall be provided hearing protection when exposure to noise levels in excess of 90dBA. Noise sources considered include, but not limited to:

- Fire apparatus
- Fire pumps and generators
- Power tools
- Vehicle extrication equipment
- OSHA identified permissible exposure levels (PEL) (e.g., continuous, prolonged exposure over a designated time)

4.5.7.3 Helmets

Structural fire program personnel shall be provided NFPA approved fire helmets. Helmets issued shall be:

- Fire Chief / Chief Officers – White
- Fire Officers – Red
- Firefighters / FADO – Yellow

Park structural fire programs should also include additional identification to fire helmets in the form of rockers, crescents and/or front shields (e.g., Firefighter I, Firefighter II, FADO, Fire Officer, Fire Investigator).

Fire helmets shall be secured in the apparatus and not worn by firefighters while the vehicle is in motion.

4.5.7.4 SCBA

All existing and new SCBA shall meet the current requirements of NFPA 1981: *Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services* and NFPA 1852: *Standard on Selection, Care and Maintenance of Open-Circuit Self-Contained Breathing Apparatus*. Inspections of SCBA and all related accessories shall be documented and kept on record.

4.5.7.4.1 SCBA Facepiece/Mask

All firefighters shall be personally issued a SCBA facepiece/mask properly sized and FIT tested.

- Masks shall be inspected on a weekly basis to include:
- Facepiece seal for damage, wear, deformation, and cracks
- Lens for cracks, gouges, scratches or any condition that could impair the user's vision
- Lens frame
- Harness
- Nose cup
- Attachment points

4.5.7.4.2 SCBA Pack Frame, Hoses, Harness and Regulator

Components shall be inspected weekly for damage and serviceable condition:

- Heads-up display
- Regulator operation
- Hoses and hose attachments

- Pack frame
- Batteries (replace as needed)
- Harness and connections
- Operational check of all assembled components

SCBA operation and visual inspections shall be conducted by firefighters prior to entering IDLH environments and immediately after each use.

All SCBA packs/regulators shall be annually flow tested. Flow tests are to be performed by properly trained and manufacturer service care certified technicians.

4.5.7.4.3 SCBA Cylinders

SCBA cylinders in-service on apparatus for fireground operations may be inspected concurrent with SCBA inspections.

SCBA cylinders shall be of the correct operating pressures as designed for the SCBA utilized by the park Structural Fire Program.

SCBA cylinders kept on apparatus (e.g., SCBA packs or spare cylinders) shall be inspected on a weekly basis. Cylinders found below 90% of rated capacity should be refilled/topped off.

SCBA cylinders shall be current on hydrostatic testing and be labeled accordingly. Service life and hydrostatic testing shall be conducted according to manufacturer guidelines.

SCBA Cylinders outside their designated service life shall be retired and disposed of according to manufacturer guidelines. Service life for cylinders is based on cylinder components and year of manufacture vs NFPA applicable standards (e.g., 15-year service life w/ hydrostatic testing required every 5 years)

4.5.7.4.4 Personal Alert Safety Systems (PASS) Devices

PASS devices shall meet the requirements of NFPA 1982: *Standard on Personal Alert Safety Systems*.

PASS devices shall be inspected weekly and may be performed concurrently with SCBA inspections.

PASS devices may be integrated into SCBA pack assemblies.

All personnel operating on a structural fireground operation shall be equipped with a NFPA approved PASS device and in the operational “On” condition. Individuals not wearing SCBA shall have individual PASS devices attached to their PPE/person while operating on the fireground area.

4.5.8 Personal Accountability System

All NPS Park Structural Fire Programs / ECPs shall have an accountability system in place. The accountability system shall be documented in program SOPs and all personnel trained and evaluated on its use on a recurring basis.

Personal Accountability will be used on all incidents regardless of the level of complexity.

Established accountability systems shall allow for the quick identification of all individuals on an incident to include but not limited to:

- Firefighter Identification (e.g., Name, FF ID, Position Designation)
- Primary Assignment (e.g., Apparatus, Function, Status)
- Location (e.g., Interior, Exterior, Rehab)

Overall responsibility for managing firefighter accountability during an incident belongs to the IC. These duties may be delegated to the incident safety officer or an accountability officer.

4.5.8.1 Personnel Accountability Report (PAR)

Personnel accountability reports (aka PAR checks) are radio reports that are periodically requested by the IC, or their designated accountability officers, to ensure that each crew is whole, and all firefighters are accounted for. During a structural fire incident or fireground operations, PAR checks are requested at pre-determined benchmarks identified in the ECPs SOPs on Personal Accountability System. Benchmarks may include but are not limited to:

- Every 10 minutes of elapsed time crews are on SCBA “breathing air”
- Firefighters/Crews exiting a IDLH environment
- Change in strategy and tactics (e.g., Offensive to Defensive)
- Hazardous Event (e.g., collapse, explosion, back draft)
- Building evacuation
- Report of a missing or trapped firefighter
- Every 30 to 60 minutes of elapsed time of fireground operations
- When the fire is declared under control.
- Prior to release of firefighters from the fireground
- Termination of Command

4.6 Fire Apparatus/Equipment Inspection, Testing, and Maintenance

Structural fire program apparatus, electronic devices, tools, and equipment shall be maintained in accordance with program policies, NFPA standards, applicable regulations, and manufacturers

recommendation/guidelines. All inspection, testing, and maintenance shall be recorded, documented, and maintained on file by the park and readily provided upon request.

4.6.1 Fire Apparatus

It shall be the responsibility of every NPS ECP program that has fire apparatus to establish a preventative maintenance program and plan for their apparatus. Records shall be maintained by the park and be kept readily available for program audits or site visits. Each vehicle shall have documents on file to reflect FADO inspections, maintenance, and repairs. All structural fire apparatus will be compliant NFPA 1901: *Standard for Automotive Fire Apparatus* and maintained in accordance with NFPA 1911: *Standard for the Inspection, Maintenance, Testing and Retirement of In-Service Fire Apparatus*.

Fire apparatus not in compliance with NFPA 1901 and/or 1911 shall be taken immediately out of service until compliance is met, repair rendered, and written documentation of the apparatus's readiness can be provided upon request.

4.6.1.1 Inspection

Fire apparatus shall be inspected on a weekly basis. Fire apparatus shall be maintained and available in a 24/7 emergency response ready posture.

4.6.1.2 Annual Pump Test

All fire apparatus equipped with a rated fire pump ≥ 750 gpm shall be annually pump tested in accordance with NFPA 1911. Records of annual fire apparatus pump tests shall be maintained by the park.

4.6.1.3 Purchase

Fire apparatus and all associated equipment shall be purchased, operated, equipped, and maintained in accordance with NFPA 1901 and this reference manual.

Fire apparatus purchased through either a park or regional equipment replacement program are to be used in accordance with agency policies and assigned at the discretion of the RSFM.

Fire apparatus purchased by the NPS Structural Fire Program office shall be placed in service at the needs of the agency. Apparatus may be removed, relocated, and replaced as deemed necessary to best meet the needs of the agency. The park has the responsibility of assuring the apparatus is maintained in safe operating condition and is responsible for all associated costs.

4.6.1.4 Refurbishment

If the park fire chief and RSFM determine that refurbishment of an apparatus is necessary to meet the park's structural fire suppression needs, associated NFPA standards, and it is cost effective, the apparatus may be sent to a manufacturer approved certified vendor to bring the apparatus into compliance with the current edition standard of NFPA 1901.

Due to overall costs associated and NFPA 1901 (<1991 = non-compliant), apparatus manufactured before 1991 shall not be considered for refurbishment

Apparatus older than 15 years old and have been properly maintained and are in good condition may be refurbished in accordance with NFPA 1912: *Standard for Fire Apparatus Refurbishing*. Apparatus that meets this criterion shall be inspected by a certified Emergency Vehicle Technician (EVT), or certified equivalent, to determine the apparatus condition for refurbishment.

4.6.1.5 Retirement & Disposal

NFPA 1911 shall be used to determine if a fire apparatus is to be taken out of service. A EVT will, after thorough inspection and testing, determine if the apparatus meets one of the following criteria:

- Remove from service
- Retain in service with limitations
- Retain in service without limitations

Apparatus shall be retired and disposed of in accordance with all applicable agency policies.

Apparatus more than 25 years old should be inspected by an EVT for serviceability and should be considered for removal and replacement.

Under no circumstance should an apparatus be operated that does not contain properly installed and functioning seat belts/restrains for each seated position.

4.6.2 Fireboats

Any marine vessel whose primary mission is firefighting and pumping operations, including emergency operations, shall be classified as a firefighting vessel. These types of apparatus have unique requirements (e.g., USCG Regulations) and, although components of these operations are similar to fire engines, their operation, associated training, and tactics require specialized skills and standards.

4.6.2.1 Inspection

Fireboats shall be inspected at least weekly, and the vessel and all equipment remain in a full operational ready 24/7 emergency response posture status. During the weekly inspection, the vessel, equipment, and fire pumps shall be operated on the water to ensure operation. All applicable USCG regulations and policies should be met at all times.

Parks operating firefighting vessels shall develop a maintenance schedule which will specify the maintenance or inspection interval and what is to be done to maintain each piece of equipment, including oil and other fluids recommended for use. The inspection, testing, and maintenance of fireboats shall be conducted in accordance with NFPA 1925: *Standard on Marine Firefighting Vessels*.

Parks utilizing fireboats should berth the vessel in such a way that it meets NFPA 303: *Fire Protection Standard for Marinas and Boatyards*. As identified and classified by boat type, NPS fireboats should be equipped with the necessary tools and materials, as outlined by NFPA 1925.

4.6.2.2 Annual Pump Testing

All vessels that are used to suppress structure fires shall have an annual pump performance test. Records of these tests will be maintained by the park.

4.6.2.3 Purchase

Fireboats and associated equipment should be purchased, operated, equipped and maintained in accordance with NFPA 1925.

Fireboats that have been replaced through the regional Equipment Replacement Program are to be disposed of in accordance with agency and the region's policies for excess capital equipment.

Vessels which have purchased by the NPS Structural Fire Program office shall be placed in service at the needs of the agency. Vessels may be removed, relocated, and replaced as deemed necessary to best meet the needs of the agency. The park has the responsibility of assuring the vessel is maintained in safe operating condition and is responsible for all associated costs.

4.6.3 SCBA Breathing Air and Cascade Systems

Compressed air used for filling SCBA cylinders shall be tested quarterly and maintenance completed in accordance with manufacturer guidelines. Testing shall be conducted by an independent third-party testing firm. A certificate shall be issued by the testing firm that certifies that the air quality meets OSHA 29 CFR 1910.134 specifications and grade E breathing air, as described in ANSI/Compressed Gas Association Commodity Specification for Air, G-7.1-1989. The park shall maintain all testing and maintenance documents and make them readily available upon request.

4.6.4 Fire Hose

Fire hose selection shall comply with NFPA 1961: *Standard on Fire Hose*. Fire hose should not be stored on apparatus in the same compartment as petroleum products or other items that may damage the hose. Hose loaded on apparatus (e.g., pre-connects, supply lines) should be unloaded, rotated, and reloaded at least twice a year to prevent permanent fold in the rubber linings. Fire hose stored in a fire station or support structure should be kept clean, dry, and serviceable on hose racks out of direct sunlight.

Fire hose should be individually and uniquely identified with markings to track testing, repair and ownership. The identification should be marked on the same location for every section of hose for easy reference.

Fire hose shall be annually tested in accordance with NFPA 1962: *Standard for Care, Use and Service Testing of Fire Hose including Couplings, Nozzles and Fire Hose Appliances*.

The park shall maintain test documents and records and make readily available upon request.

4.6.5 Ground Ladders

Ladders shall be visually inspected and cleaned after each use or at least quarterly. Heat sensors must be checked after each use. Ladders which have been found to have defects shall be removed from service for repair or replacement.

Ground ladders shall be tested annually in accordance with NFPA 1932: *Standard on Use, Maintenance, and Service Testing of In-Service Fire Department Ground Ladders*. The park shall maintain test documents and records and make readily available upon request.

4.6.6 Electronic devices

All electronic devices shall be inspected, tested, and maintained in accordance with applicable NFPA standards and manufacturer recommendations. To include, but not limited to:

- Thermal Imaging (TI) devices
- Air monitoring devices
- Gas monitoring devices
- Computers

4.6.7 Tools and Equipment

All power tool and devices shall be inspected, tested, and maintained in accordance with applicable NFPA standards and manufacturer recommendations. To include, but not limited to:

- Vehicle extrication equipment
- Positive-Pressure fans
- Generators
- Scene lighting
- Flashlights