

12 - Wildland/Urban Firefighting



Wildland/Urban Interface

The wildland/urban interface is more than a geographic area or zone where structures meet or intermingle with wildland fuels. It is a set of conditions where flammable structures exist within the reach of ignition sources, primarily firebrands, from burning wildland and structural fuels. Often, as severe wildland fires meet structural developments, vegetation ceases to burn but catastrophic fire continues, sustained by structures igniting and perpetuating these events even a mile or more from wildland fuels. The potential exists in areas of wildland/urban interface conditions for extremely dangerous and complex fire conditions which pose a tremendous threat to public and firefighter safety.

Structural & Vehicle Firefighting

Policy

The operational role of federal and State agencies as partners in the Wildland Urban Interface are wildland firefighting, hazard fuels reduction, cooperative prevention and education, and technical assistance. Structural fire suppression is the responsibility of tribal, State, or local governments. Federal agencies may assist with exterior structural protection activities under formal Fire Protection Agreements that specify the mutual responsibilities of the partners, including funding. (Some federal agencies have full structural protection authority for their facilities on lands they administer and may also enter into formal agreements to assist State and local governments with full structural protection.)

For additional fire service and homeowner information regarding wildland/urban fire refer to FIREWISE.ORG on the web.

Clarification for BLM Resources

- 1) Bureau resources will not be planned, nor dispatched as normal response for structure or vehicle fires, except in those cases where these fires pose significant threat to BLM-administered lands. In these situations, resources should only be used in wildland protection. Employees may only take action on structure or vehicle fires when adequate local firefighting forces are not yet present. Actions will be limited to the exterior of the structure or vehicle unless there is immediate threat to human life. Employees must not knowingly be exposed to noxious gases or chemicals or other situations that require the use of self-contained breathing apparatus. Resources will withdraw from structural fire suppression and protect adjoining wildland resources when local fire agency units arrive in sufficient force.

- 2) The number, type, and location of bureau firefighting resources will not be based on, nor justified by, structure or vehicle firefighting needs.
- 3) No bureau employee should respond to a structure or vehicle fire prior to receiving specialized training in hazard awareness and unique safety considerations associated with structure and vehicle protection. In most cases, a local fire department with responsibility for structure and vehicle fire protection will provide this training.
- 4) BLM employees, in interagency dispatch centers, should not provide dispatch service for cooperating agencies with structure fire, vehicle fire, or emergency medical responsibility, unless (1) a current interagency agreement is in effect, (2) the bureau dispatcher has been trained the same as the cooperating agency dispatchers, and (3) the bureau employee has been given a delegation of authority for those activities outside the normal scope of the bureau. In these instances, BLM employees will be acting as agents of that agency and will **only** communicate information contained in that agency's dispatch plan or as directed by an official from that agency.

Protection Agreements and Planning

Managers must incorporate wildland/urban interface considerations into all agreements, operating plans, and land and fire management plans, to ensure that all interface areas are covered and state and local responsibilities are apportioned appropriately.

Self-Contained Breathing Apparatus (SCBA)

A Job Hazard Analysis (JHA) must be developed to identify situations where BLM employees may be exposed to breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors. Mitigation actions for this situation must be developed. If one of the mitigation actions is to provide respiratory protective equipment, then the BLM unit must develop a Respiratory Protection Program that meets the requirements of the BLM Respiratory Protection Program as defined in BLM Manual Handbook, H-1112-1. Each state's Director must approve the Program. Currently, California is the only state that authorizes employees to use SCBAs.

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Only BLM employees currently qualified to use SCBAs and permanently assigned to states with an approved SCBA Program are authorized to use SCBAs. When these employees are operating outside their state, the use of SCBAs must be authorized by the host State Director.

Sizeup

The following checklists provide for safe and efficient responses and operations. The primary considerations are firefighter safety, public safety, potential fire behavior, access, egress, nature of the threat, hazardous materials, and water supplies.

Wildland/Urban Interface Watch Outs

- Wooden construction and wood shake roofs.
- Poor access and narrow one-way canyons.
- Observe bridge limits when using heavy equipment.
- Inadequate water supply.
- Natural fuels 30 feet or closer to structure.
- Extreme fire behavior.
- Strong winds.
- Evacuations of public, livestock, pets, animals.
- Power lines and poles—watch for both overhead and fallen lines.
- Propane and above ground fuel tanks with nearby vegetation or wooden improvements.
- Local citizens attempting suppression actions.
- Airtanker retardant drops and helicopter bucket operations.

Structure Protection Checklist

Don't enter a burning structure unless you are trained, equipped, and authorized! Firefighter safety and survival is the number one priority.

- Always stay mobile and wear all of your PPE.
- Back equipment in for quick escape.
- Coil a short 1½" charged line with fog nozzle on your engine for safety and quick knock down.
- Don't make long hose lays.

- Know bridge limits, alternate access, and turnarounds for you and support vehicles.
- Keep at least 100 gallons of water reserve in your tank.
- Check roads before the fire hits.
- Determine if residents are home. Leave home lights on inside and out, day and night.
- Close garage door.
- Place owner's ladder at a corner of home on side with least fire threat.
- Coil and charge garden hoses.
- Check and mark HazMat, i.e., LPG, pesticides, paint storage.
- Check each home for defense. **Use Structure Triage and Structure Assessment Checklist.**

Structure Triage

There are three categories of structures:

- Those that are not threatened
- Those that are threatened
- Those that are lost or too dangerous to protect

Factors that may make an attempt to save a structure hopeless or too dangerous are:

- Fire is making a sustained run and there is little or no clearance.
- Fire behavior is extreme; spot fires are numerous and out pacing control.
- Water supply will not last as long as the threat.
- Fire's intensity dictates you leave the area **now**.
- Roof is more than one-quarter involved.
- There is fire inside the structure or windows are broken.

- You cannot safely remain at the structure and your escape route could become unusable.

If a home becomes well involved, leave it. Move on to one you can save.

Structure Assessment Checklist

The following checklist is designed for incidents that BLM normally does not respond to unless specifically trained. Distribute these checklists only to those who are trained and qualified to perform these tasks and assessments.

Address/Property Name

- Numerical street address, ranch name, etc.
- Residents on site?

Road Access

- Paved, gravel, dirt?
- Number of lanes, vegetation clearance, defensible space, safety zones?
- Undercarriage problems, 4x4 only?
- Turnouts, turnarounds?
- Bridges—adequate support structure?
- Creek Crossings—approach angle, crossing surface?
- Terrain—road slope, position on slope, near chimneys, saddles, canyon bottom?
- Grade—greater or less than 15 percent?

Structure/Building

- Single residence, multiple occupancy, barn, fuel storage, unknown storage?
- Exterior walls—stucco or other non-combustible, wood frame, wood shake, or other combustible? Large unprotected windows facing heat source?
- Roof—asphalt or fiberglass shingle, tile, rock, metal or other low combustible material; wood shake or other easily combustible material?
- Eaves—covered and little overhang; exposed with large overhang exposure?

- Other—exposed wooden structural elements, overhangs slope, attached wood deck, firewood piles, wooden patio furniture, wooden fences attached to house.

Clearances/Exposures/Defensible Space

- 100' vegetation clearance, max. 18" high, 15 percent or less slope, good ground clearance, vegetation is low combustible type, or is clearance less than described?
- Predominant fuel bed in area surrounding structure is light, medium, heavy, continuous, non-continuous?
- Flammable trees adjacent to structure?
- Other combustibles adjacent to structure?
- High voltage lines or transformers near apparatus placement areas?
- Structure located on narrow ridge, knoll, narrow canyon, chimney, mid-slope; defensible space less than 200 feet?
- Propane and above ground fuel tanks with nearby vegetation?

Hazardous Materials

- Pesticides, herbicides, DOT/NFPA/UN symbols, propane, oil, fuels, paints?

Available Water

- Hydrant or standpipe, water storage tank with valve, swimming pool with access?

Evacuation Needs

- Coordination with local law enforcement and emergency services personnel?

Estimated Resources for Protection

- Number and type engines, number water tenders, number crews, number dozers?

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Other Wildland/Urban Interface Considerations

Wildland firefighters authorized to assist with municipal fire suppression operations will be trained on the potential hazards, requirements, and/or limitations of water systems, apparatus, and equipment. For example:

- The size and venting capabilities of wildland fire tanks may be incompatible with or unable to handle the high flow rates and g.p.m. outputs when hooking up to municipal hydrants.
- The limited protection of wildland PPE (especially aramid fabric) compared to bunker or turn-out gear.
- The potential damage that can be done to municipal water systems without knowing proper procedure and protocol for use. Some municipalities require approval prior to hooking up to them (water hammers, vacuum locked valve systems, etc.)

Introduction to Wildland Firefighting for the Structural Company Officer, a course developed by the National Fire Academy, covers two primary areas: what a company officer can expect when assigned to a wildland fire incident, and the basics of wildland firefighting. The course is designed to have a wildland fire instructor participate. It is highly recommended that bureau fire managers participate in the local instruction of this course whenever possible.

Hazardous Materials

All individuals responding to wildland fire incidents should be familiar with the Department of Transportation's *Emergency Response Guidebook* DOT P 5800.7 (1996).

It is required that all employees receive hazardous materials awareness training (BLM H-1112-2). This training is available either through agency HazMat coordinators or local fire departments.

IC HazMat Checklist

Approach cautiously Resist the urge to rush in; you cannot help others until you know what you are facing. Stay upwind and uphill.

Identify the Hazards Placards, container labels, shipping papers and knowledgeable persons on the scene are valuable information sources. Evaluate all of them and then consult the recommended guide page before you place yourself or others at risk.

Secure the Scene Without entering the immediate hazard area, do what you can to isolate the area and assure the safety of individuals and the environment. Move and keep individuals away from the scene and the perimeter. Allow room enough to move and remove your own equipment.

Obtain Help Advise dispatch to notify responsible agencies and call for assistance from trained experts through CHEMTREC and the National Response Center.

Decide on Site Entry Any efforts you make to rescue persons, protect property or the environment must be weighed against the possibility that you could become part of the problem.

Above All - Do not walk into or touch spilled material. Avoid inhalation of fumes, smoke and vapors, even if no hazardous materials are known to be involved. Do not assume that gasses or vapors are harmless because of lack of smell—odorless gasses or vapors may be harmful.

1-800-424-9300 **CHEMTREC** (Chemical Transportation Emergency Center) – for immediate information about a chemical or to seek assistance from a manufacturer

1-800-424-8802 **National Response Center** – To report spills of oil and hazardous materials

HazMat Checklist

Assume role of IC until relieved by responsible agency

- Assign safety officer.
- Develop action plan for area security and evacuation. Advise dispatcher.
- Advise all units of changes in situation.
- Document all actions taken and contacts.
- Document employee exposure.

Rules for Isolation Distances

- Minor event (1 drum, 1 bag, etc.) = 150 feet.
- Major event (1 drum or more, etc.) = 500 feet.
- Residential and light commercial = 300 feet.
- Open areas = 1000 feet.
- BLEVE (Boiling Liquid Expanding Vapor Explosion) potential = 2500 feet (one-half mile).

- Stage arriving units 2500 feet upwind.
- Position vehicles headed out.

Think Safety

- Safe approach, upwind/upgrade/upstream.
- Identify, isolate and deny entry.
- Notify agency dispatcher.
- Request needed assistance via safe route.

Scene Management

- Goal is to protect life, environment and property.
- Attempt to identify substance using DOT Emergency Response Guide, occupancy/location, placards/labels, container shapes/colors, Material Safety Data Sheets (MSDS), shipping papers. **Use binoculars!**
- Assess situation—exact location, identity and quantity of material involved, exposures and hazards.

HazMat Response Acronyms Reference: NFES 2148

- S**afety—Responder safety is #1 priority.
- I**solation & Deny Entry—Isolate material and don't let anyone enter hazard area.
- N**otifications—Local, state, and federal responders and regulators.
- C**ommand/Management—Implement command. IC must be identified/assigned.
- I**dentification & Assessment—ID material and hazards associated with it.
- A**ction Planning—State law requires written action plan. ICS 201 will work.
- P**rotective Equipment—Determine appropriate level for responders.
- C**ontainment & Control—Mitigate hazardous material involved only if you are trained, equipped, and authorized.
- P**rotective Actions—Secure area, evacuate or shelter in place.
- D**econtamination & Cleanup—Up to responsible party or local health department.
- D**isposal—Very expensive. Special permits required for hauling.
- D**ocumentation—Document everything!

