



PIONEER FIRE PROTECTION DISTRICT

FIRE ? RESCUE ? EMS

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Standard of Response Coverage

Our Mission...

Pioneer Fire Protection District strives to provide cost effective, professional, quality emergency service response for the protection of life, property and the environment

We will accomplish this by...

Delivering exceptional service and compassionate solutions as a cohesive **team** with dedication, vigilance and pride.

Organizational Principles

- Support a safe, healthy and diverse workplace-
- Establish and maintain the highest quality fire suppression program-
- Establish a strong community relations program, particularly in the area of public education and fire prevention/safety-
- Promote lifelong learning with emphasis for high professional standards and higher education-

Pioneer Fire Protection District serves an estimated population of 8,000, and covers 296-square miles or 187,000 acres in size. The District responded to **667 calls for service in year 2008; 515 in year 2007 and 504 in year 2006**. The District provides around the clock emergency fire/rescue and EMS services to our constituents. The District Fire Chief is responsible for the overall day-to-day operations and administration of the District along with an elected five-member board of directors. The estimated operating budget for fiscal year 2008-2009 is approximately \$1.3 million. The District is staffed by trained and certified fire/rescue personnel and is organized into five (5) major elements:

- Incident Management
- Training
- Safety
- Operations (Fire Suppression/Rescue/EMS/HazMat)
- Fire Prevention/Code Enforcement and Public Education

Pioneer Fire Protection District is a "**combination**" (paid & volunteer) fire protection district currently staffed with seven paid firefighter/emt's, a paid fire chief, and two administrative personnel, along with thirteen resident firefighters and volunteer firefighters. Firefighters are expected to perform at the Fire Fighter-I and Fire Fighter-II levels, Hazardous Materials (Operations Level) and meet CICC'S Firefighter (Type-II) level as a minimum. Firefighters respond to a variety of different incidents, to include structural and wild land fire operations, rescue operations, hazardous materials incidents and emergency medical services. All emergency operations are managed utilizing NFPA 1561 of the Incident Management System.

Utilizing vehicular assets and installed supportable systems, our firefighter's control, neutralize, mitigate, and/or extinguish any fire or emergency situation occurring within the Pioneer Fire Protection District boundaries. Assistance from other agencies may be necessary to successfully mitigate some incidents. Firefighters also perform limited containment and control measures at hazardous materials incidents (defensive operations). Mutual aid or emergency contract authority may be requested for incidents beyond the capabilities of this fire protection district.

We provide first responder emergency medical assistance or basic life support (BLS Level) under the supervision of the El Dorado County Emergency Services Authority. Pioneer Fire Protection District currently does not provide ambulance transport; but currently the County has a fire base ALS emergency transport service which provides an extremely high level of service to county local government fire agencies within El Dorado County. In addition, the 9-1-1 Dispatch Center (Cal-Fire **ECC Camino**) serves as Public

Safety Answering Point for emergency calls and is the interface between the law enforcement desk and the local hospitals. Medical assistance may require rescue, extrication, or firefighting actions to be carried out **simultaneously** to ensure the best possible assistance to the victim (s).

All District personnel work together to provide company fire inspections of the local target hazards areas, and to educate the members of the community in sound fire/safety practices. In addition, the county fire prevention planner assigned to the El Dorado County Building Department performs technical reviews of building renovations and construction projects.

There are **six fire stations** operating within the Pioneer Fire Protection District

- **Fire Station-31** (Willows Area) houses **Squad-34** (A Type-IV 4x4 Quick Attack Pumper) or **Engine-31**(A Type-III Pumper)
- **Fire Station-32** (Sandridge Area) houses **Engine-32** (A 1250 GPM Pumper)
- **Fire Station-34** (Mt. Aukum Area) houses **Squad-34** (A Type-IV 4x4 Quick Attack Pumper)
- **Fire Station-35** (Grizzly Flats Area) houses **Squad-35** (A Type-IV 4x4 Quick Attack Pumper) and **Utility-35** (A 2-Wheel Drive Utility Pickup)
- **Fire Station-37** (Omo Ranch Area) houses the PVFA's (1939 Parade Engine)
- **Fire Station-38** (District Headquarters, Three Forks Area) houses **Chief-8600** (A 4x4 Command Vehicle), **Engine-38** (A 4x4 Type-II 1250 GPM Pumper), **Water Tender-38** (3,000 Gallon Water Tender), **Utility-38** (A 4x4 Utility Pickup), and HazMat **Decon Trailer-38**.

The engine/squad response concept is to provide maximum fire suppression capability along with specialized rescue/ems services with one vehicle, while restricting wear and tear on the fleet. A complete inventory of all tools and equipment is maintained on each piece of district fire apparatus.

Paid shift personnel work schedule consist of a **48-hrs On/96-hrs Off** (*2-days On and four days Off), 365 days a year, augmented by available volunteer fire personnel and a certified Grizzly Flats C.E.R.T. Team. Grizzly Flats CERT Team members **do not** actively get involved in any fire suppression/rescue activities. They do however respond to district medical aids and provide logistical support to the district in major emergency incidents. Paid shift personnel supplement the District response during mandatory call-back, and are paid overtime at their going rate, if available on major incidents or during designated Area Red Flag Days.

Response personnel proficiency training and frequencies are specified in the annual fire districts training scheduled and Standard Operating Guideline Manual. Qualified personnel provide all training and education. All exercises are conducted within the established standard operating guidelines, supervised by qualified instructors and company officers and a designated safety officer is assigned for all evolutions. All firefighters maintain current certification in self-contained breathing apparatus, CPR/AED, EMS First Responder /EMT (in some cases) and Hazardous Materials "Operational" Level. We maintain several specialized teams to include wildfire response, over-the-bank/technical rescue and Hazardous Materials Decontamination support. Members receive specialized training of at least 24 hrs annually.

Time Points & Time Intervals

Event Initiation:

All emergency events follow a specific series of events. Emergency systems primarily intercede after the "point of awareness" of the emergency event. An emergency response time continuum is composed of the following time points and intervals for all emergencies. The **event initiation** occurs when factors combine to ultimately result in the activation of an emergency response system. Precipitating factors can occur seconds, minutes, hours or even days before a point of awareness is reached. An example is the patient who ignores chest pain discomfort for hours until it reaches a critical point at which he or she makes the decision to seek assistance (point of awareness). It is rarely possible to quantify the point at which event initiation occurs.

Emergency Event:

The emergency event begins at the point when the need for an emergency response system is identified. These identifiers may include an individual that recognizes or witnesses a need for an emergency response or an electrical or mechanical system such as a smoke or heat detector.

Alarm:

An alarm begins when the emergency response system is activated. An example is when 9-1-1 is initiated by someone in need or when a local or central alarm is transmitted to a receiving agency.

Notification:

Notification begins when the fire dispatcher receives the call or alarm.

Alarm Processing:

Alarm processing is defined as the interval of time between the notification of alarm to the dispatcher and the receipt of the alarm by the emergency responders. This is the first point at which the actual recording of time begins in the response time continuum. The Commission on Fire Accreditation (CFAI) benchmark is 50 seconds.

Turnout Time:

Turnout or "prep time" is from when the alert tones in the station until units indicate they are responding to the call. The CFAI benchmark for this time is 60 seconds. Company Officers or Acting Company Officers are instructed to establish this point by signing out "unit responding (Sample: E-38 Responding)" as the vehicle turns a wheel in transit to an emergency incident, after dispatches check back.

Travel Time:

This is the point at which the units indicate they are responding to the call until they indicate arrival at the scene of the emergency ("on-scene"). Travel time is affected by the location of the emergency equipment within the district. Factors that effect travel time include weather, traffic and time of day.

On-Scene Time:

On-scene time is the point at which the responding unit arrives at the emergency and ends recording of the total response time.

Initiation of Action:

This is the point at which operations to mitigate the incident begins. Actions may include size-up, resource deployment or when patient contact is initiated.

Termination of Incident:

Termination is the time at which the emergency units have completed the assignment and are available to respond to another request for service or the "available" time.

Total Response Time:

Total response time is calculated from the notification point until the first units arrive on-scene.

Elements of Response Time

The recommendation for response time is based on examples provided in the CFAI Handbook. This information suggests that intervention at a structure fire prior to the flashover stage is crucial. Smoke alarm activation or awareness of a fire in progress does not occur until approximately 18-20 minutes after initiation of the event. From this point of awareness and time until notification occurs, conditions deteriorate rapidly with maximum temperatures and flashover occurring within an 8-10 minute time frame. Flashover is that point of a fire's growth at which there is a significant shift in its threat to life and property. From an emergency medical perspective, the six-minute time frame is used as a means of service level measurement. Brain damage is very likely in cardiac arrest patients after six minutes without oxygen flow to the brain. The CFAI Handbook also refers to a ten-minute frame in which external defibrillation provides for the greatest chance of survival.

Note: El Dorado County's General Plan **sets** fire response standards and El Dorado County Emergency Services Authority **sets** emergency medical response standards. These standards correlate to General Plan Community Regions, Rural Centers, and Rural Regions. Pioneer Fire Protection District **meets** the 14-45 minute response time standard for Rural Centers and Rural Regions. According to Cal-Fire ECC data, the **average response time** throughout the district in year 2005 was 14-minutes, 07-seconds.

El Dorado County **Response Time Criteria:** **Urban:** 10-minutes

Semi-Rural: 20-minutes
Rural: 20-minutes
Wilderness: As Soon As Possible

Coverage Zones

In order to provide adequate coverage and response times for the entire district, we have established **six** management areas. Pioneer Fire Protection District is comprised of approximately 296 square miles or 187,000 acres in size. The management areas are:

Zone # 1- **Willows Area**, Station-31

Zone # 2- **Sand Ridge Area**, Station-32

Zone # 3- **Mt. Aukum Area & the Community of River Pines** (* located in Amador County, Auto Aid), Station-34

Zone # 4- **Grizzly Flats Area**, Station-35

Zone # 5- **Omo Ranch Area**, Station-37

Zone-# 6- **Three Forks Area**, Station-38 (**District Headquarters**)

Distribution of Vehicles

The fire stations and resources are located to assure a rapid deployment to minimize and terminate emergencies and are our primary measurement to evaluate distribution is first-due engine travel times. Proper fleet distribution is necessary to ensure that first-due emergency vehicles arrive promptly and are able to mitigate or contain any emergency.

Fire Flow

Fire flow must be addressed when considering risk factors. Fire flow is an assessment of water supply needed once a structure has become fully involved. This assessment is based on defining the problem that will occur if the structure is totally involved, thereby creating the maximum demand upon fire suppression/rescue services. Fire flow calculations should be included with all plan review documents. **Responsible agencies** Grizzly Flats Community Service District (**Grizzly Flats Region, ISO-5 Rating/Protection Class**) & El Dorado Irrigation District (EID, **Outingdale Region, ISO-5 Rating/Protection Class**) maintain the water supply system and perform fire flow testing on their fire hydrants. The water supply system is tested for fire flow and a comparison of available hydrant flow to the required fire flow is required with every new project at the "Findings and Recommendations Stage" of the design analysis.

In the summer of 2008, Pioneer Fire Protection District put into operation two (2) remote apparatus water re-supply systems. One 7,000 gallon re-supply system at **Station-38 (Three Forks)**, with generator back-up, and another one at **Station-37 (Omo Ranch)** 10,000 gallons, also with generator back-up for sustained fire ground operations.

We are required to utilize the following standards in establishing minimum fire flow requirements:

Interior Firefighting (Offensive Operations): 250 GPM from each on-scene company (NFPA)

Master Streams: Minimum of 500 GPM (NFPA)

Hose lines: Maximum of 300 GPM (NFPA)

One & Two-Family Dwellings: Minimum 500 GPM (NFPA)

Standard of Coverage for the Pioneer Fire Protection District

Pioneer Fire Protection District is an aggressive, full service local government fire protection district. A first due company shall be able to provide a safe interior attack at a structure fire or basic life support at a medical call. Our non-fire responses are primarily emergency medical calls. For **year 2007**, 280 of the 481 calls for service were medical responses, while another 91 were for working fire calls, i.e. structure, vegetation and vehicle fires.

Response Time

Travel Time, which states that the first arriving unit will meet a travel time of 5:00 minutes, 90% of the time. Our actual goals at Pioneer Fire Protection District's may vary, based on the risk presented, and extended travel distances within the district.

El Dorado County's General Plan Minimum Levels of Service:

- Community Region, Fire District's Response: 8- minute response to 80% of the population-
- Rural Center & Rural Region, Fire District's Response: 15 to 45-minute response-

For maximum risks, significant risk, and moderate risks, a goal of an 8-minute travel time is established-

For low risks, a goal of a 15 to 40-minute travel time is established (these risks include isolated/remote buildings or facilities)-

Each of the facilities within the district has been analyzed to ensure we meet our response times to each type of occupancy regardless of the location within the coverage zones. Other fire (non-structural) risks were also evaluated and were critical in the development of this document.

Staffing Levels

Staffing levels will determine the number of personnel available at an emergency scene. Their positions, training specialties and experience level are considered when determining which personnel are assigned to accomplish tasks at an emergency IAW-NFPA Standards 1710 and 1720. We have determined that the following types of emergencies require a minimum amount of personnel to ensure a safe and effective outcome.

Structural Responses:

<u>Function:</u>	<u>Minimum Personnel Required:</u>
Incident Management	1
Safety Officer	1
Providing Water Supply	1
Pump Operations	1
Forcible Entry	2
Fire Attack	2
Search & Rescue	2
Ventilation	2
Overhaul	2
Ladder Placement	2
Rapid Intervention/Safety Team	2

Note 1: Any or all of these functions may have to be performed **simultaneously** to be effective.

Note 2: Initial response to "Maximum" or "Significant" hazards includes a senior fire official, two engine companies and a squad (or three engine companies). For "Typical" or "Remote" hazards, the initial response will require a senior fire official and a single engine company.

Medical Responses:

<u>Function:</u>	<u>Minimum Personnel Required:</u>
Incident Management	1
Safety Officer	1
Patient Assessment	1
Patient Treatment	1
Extrication	2
Immobilization	3 per-victim
Litter/Gurney Carry	2 per-victim

Note 1: Any or all these functions may have to be performed **simultaneously** to be effective.

Note 2: Initial response will require a senior fire official and a single engine company.

Wild land Fire:

Function: _____ **Minimum Personnel Required:**

Incident Management	1
Safety Officer	1
Providing Water Supply	1
Fire Attack	2
Overhaul	1

Note: Initial response required for wild land fire incidents include a senior fire official, two engines and a water tender.

Miscellaneous Response:

Function: _____ **Minimum Personnel Required:**

Incident Management	1
Safety Officer	1
Providing Water Supply	1
Pump Operations	1
Fire Attack	2
Overhaul	3

Note 1: Any or all of these functions may have to be performed **simultaneously** to be effective.

Note 2: Initial response to "Maximum" or "Significant" hazards includes a senior fire official, two engine companies and a water tender (or three engine companies). For "Typical" or "Remote" hazards, the initial response will require a senior fire official, one engine company and water tender.

Miscellaneous Rescue Situations

Pioneer Fire District provides technical rescue during non-fire situations. Example: Over-the-Bank and Swiftwater Rescue. A request through Cal-Fire Fire Dispatch-ECC/**Camino** for a more difficult technical rescue situation i.e. cave rescue, search rescue for a missing person, will be made by the senior fire official. Initial response to these situations will be two engine companies, Diamond Fire's Rescue-49, and a senior fire official.

Progression of Emergency Situations

It is recognized that not all emergencies will be handled by the initial response force. Specifically, a major wildfire within the district will quickly deplete our resources. During situations that exceed the capabilities of the first due apparatus, the senior fire official will request for additional resources, first from within the fire district through the recall of off-duty personnel, then from the mutual-aid agreements that are in effect. Request for outside assistance will be made by the senior fire official on-scene.

Company Performance Standards

To determine the necessary standard of coverage, our organization had to first determine the times for on-scene performance of minimum company standards to mitigate fire emergencies. After arriving at the scene it is necessary to know that we can initiate operations to mitigate the incident in a timely fashion. The minimum company standards are performance indicators for specific offensive and defensive tactics to extinguish a fire or perform a rescue. Each standard requires a certain type of hose evolution necessary to combat specific fire situations. Mitigation of a fire emergency is based upon recommended maximum times for fire ground evolutions as established by NFPA 1410, current edition. All companies are evaluated annually and are required to complete the evolution assigned within the maximum allowed time frame.

Time frames range as follows (NFPA STD) and Pioneer Fire Protection District's adopted standards:

	<u>NFPA STD</u>	<u>Pioneer Fire P.D.</u>
Forward Lay: 1 pre-connect, 1 back up line	3:00	2:48
Reverse Lay: 1 pre-connect, 1 back up line	4:00	3:18
Double Reverse from Monitor to Hydrant	5:00	4:00

Note: Cal-Fire's Station-30 (**Pine Lodge, located in River Pines**, in Amador County) is staffed 3/0-24/7 during designated fire seasons. Effective @ 1700-hrs, November 5th 2008 they ran out of funding from their Amador Plan and closed Station-30 for the winter. El Dorado National Forest (**Grizzly Flats**) Fire Station may be staffed or not during designated fire seasons. In Year 2008 they **were not** staffed! In that scenario the closest ENF Engine and Crew shall come from ENF's Sly Park Fire Station. When available, these resources **enhance** Pioneer Fire Protection District's response with extra manpower and equipment, as well as provide the district incident overhead/management

References:

- **NFPA Standard-1710, Standard for the Organization & Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments.**
- **Document's Scope:** 1.1.1 This standard contains minimum requirements relating to the organization and deployment of fire suppression operations, emergency medical operations, and special operations to the public by substantially **all** career fire departments. 1.1.2 The requirements address functions and objectives of fire department emergency service delivery, response capabilities, and resources. 1.1.3 This standard also contains minimum requirements for managing resources and systems, such as health & safety, incident management, training, communications, and pre-incident planning. 1.1.4 This standard addresses the strategic and system issues involving the organization operation, and deployment of a fire department and **does not** address tactical operations at a specific emergency incident.
- **NFPA Standard-1720, Standard for the Organization & Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer Fire Departments.**
- **Documents Scope:** This standard contains minimum requirements relating to the organization & deployment of fire suppression operations, emergency medical operations, and special operations to the public by substantially **all** volunteer fire departments. 1.1.1 The requirements address functions and outcomes of fire department emergency service delivery, response capabilities, and resources. 1.1.2 This standard also contains minimum requirements for managing resources and systems, such as health & safety, incident management, training, communications, and pre-incident planning. 1.1.3 This standard addresses the strategic and system issues involving the organization, operation, and deployment of a fire department and **does not** address tactical operations at a specific emergency incident. 1.1.4 This standard **does not address** fire prevention, community education, fire investigations, support services, personnel management, and budgeting.
- The Center for Public Safety Excellence, www.Publicsafetyexcellence.org
- California State Fire Training, www.osfm.fire.ca.gov
- National Fire Academy, www.usfa.dhs.gov/nfa
- California Specialized Training Institute, CSTInfo@oes.ca.gov
- NWCG's Wildland & Prescribed Fire Qualifications System Guide (**PMS 310-1**, 2000 Edition)
- NFPA Standard-472, NFPA Standard-1001, NFPA Standard-1021, NFPA Standard-1561, NFPA Standard-1710 and NFPA Standard-1720
- Aircraft Accidents, A Practical Guide for Responders www.delmarlearning.com/firerescue
- El Dorado County Emergency Services Authority (EDC-JPA)
- NIOSH's 2007 Fire Fighter Fatality Investigation & Prevention Program Document, www.cdc.gov/niosh/fire

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01/29/2009

Since 1980, proudly serving the communities of Mt. Aukum, Fair Play, Outingdale, Grizzly Flats, Omo Ranch and Somerset