**FIRE AND EMERGENCY RESPONSE SYSTEM**

**HANFORD FIRE DEPARTMENT**

**Basic System Description:** Fire and Emergency Response includes fire department operations, administration, and training activities; fire marshal’s office services; fire protection systems inspection, testing, and maintenance; and respiratory protection maintenance for site powered air-purifying respirators. The physical system servicing the Hanford Site includes fire stations in the 100, 200, 300 and 400 Areas. The emergency response vehicle fleet includes a mobile incident command vehicle, 1 aerial platform truck, 3 ladder trucks, 2 fire engines, 1 tender truck, 6 brush trucks, 4 grass trucks, a hazardous materials (HAZMAT) response vehicle, and 6 ambulances. Attributes for Fire Systems are provided in Table 3-1.

**Current Condition FY2017:**

- **Condition:** Very good for equipment, staff, and facilities except as noted in this report.
- **Capacity:** Vehicle fleet at needed capacity.
- **Reliability:** 100% usable when needed.
- **Population Served:** 11,217 includes entire Hanford Site, PNNL Site outside the City of Richland limits and PNNL in 300 Area.
- **Areas Served:** Entire Hanford Site plus secondary support to surrounding communities.
- **Gaps and Planned Projects:** No gaps identified; refer to Appendix B for planned projects.

The Fire and Emergency Response System will go through facility and support reconfiguration as the services and projects consolidate to the Central Plateau over the next several years. This transition will result in two stations to serve the site’s needs; one station located south of the Wye Barricade and one located north of the Wye Barricade. Stations in the 100 and 300 Areas will eventually be closed.

<table>
<thead>
<tr>
<th>Table 3-1: Fire System Attributes</th>
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</thead>
<tbody>
<tr>
<td><strong>Operate, Safe &amp; Regulatory Compliant System</strong></td>
</tr>
<tr>
<td>- Continued application of ISMS, EMS and VPP principles.</td>
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<tr>
<td><strong>Availability, Right-Size &amp; Reduce Active Site Footprint</strong></td>
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<tr>
<td>- Technical, infrastructure and administrative activities to ensure the Hanford Fire Department System is available in a ready-to-serve configuration that meets the requirements of the Hanford mission.</td>
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<tr>
<td>- Continual evaluations (e.g., Baseline Needs Assessment) of complex service/facility footprint reduction for non-mission critical facilities.</td>
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<tr>
<td>- Continue to provide a viable/proficient training program.</td>
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<tr>
<td><strong>Sustainability &amp; Minimize Impacts to Environment</strong></td>
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<tr>
<td>- Consistent with Hanford’s Vision to “Be a leader in sustainability and green energy”.</td>
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<tr>
<td>- Perform sustainability evaluations for major repairs, replacements, or upgrades.</td>
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<tr>
<td>- Reductions in resource consumption.</td>
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<tr>
<td>- Perform sustainability guidelines compliance assessment on new fire station.</td>
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<tr>
<td><strong>Reliability</strong></td>
</tr>
<tr>
<td>- Ongoing process improvements and cost savings.</td>
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<td>- Forecasted capital upgrade projects to maintain facility operability.</td>
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<td>- Implement planned improvements.</td>
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<td>- Provide oversight and implement wildfire management and prescribed burn plans.</td>
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<tr>
<td><strong>Maintainability</strong></td>
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<tr>
<td>- Maintain qualifications for maintenance and operations for the facility.</td>
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<tr>
<td>- Perform preventive and corrective maintenance to ensure properly functioning fire protection systems, equipment and apparatus.</td>
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</tbody>
</table>

EMS = emergency management system. VPP = Voluntary Protection Program.
The 100 Area Fire Station will continue to be staffed until the worker populations (MSA for B Reactor, CHPRC for the K Areas, and Washington Closure Hanford (WCH) for all other 100 Areas) in the northernmost portion of the Hanford Site have been significantly reduced to minimize the risk from the increased emergency response times from the 200 Area Fire Station.

The 200 Area Fire Station will continue operation through FY2050. The station will undergo upgrades to support staff and equipment being relocated from the outer areas of the Hanford Site.

The 300 Area Fire Station, owned by RL and operated by MSA, supports the plume cleanup and continued use of the 324 Building. The 300 Area Fire Station is expected to be closed after a new Fire Station is built or the existing 400 Area Fire Station remodeled to serve the facilities and personnel south of the Wye Barricade. Station habitability upgrades to address aging systems were completed in FY2014. The project L-888 has been started in FY2017 for design of a 400 Area Fire Station.

The 400 Area Fire Station was temporarily closed in early FY2014 and placed in a minimum-safe surveillance and maintenance (S&M) mode until reactivated (if warranted) to support the final disposition of the residual sodium contained in the Fast Flux Test Facility (FFTF) system and storage facility. Personnel and equipment were relocated to the existing fire stations in the 200 and 300 Areas and are deployed as necessary to support fire and medical emergency response for those facilities that were formerly served by the 400 Area Fire Station.

Obsolescence of equipment is driving the need to replace the radio fire alarm reporting system. This critical system provides fire alarm reporting from multiple facilities/buildings throughout the Hanford Site to the Hanford Fire dispatch center. Core system components were replaced in FY2013 with peripheral components slated for upgrade over the next several years. While replacement intervals for the emergency response vehicle fleet have been increasing over the past several years, a refresh of the ambulance fleet was completed in FY2013. Equipment priorities to support mission needs over the next few years include replacing or refurbishing the mobile incident command vehicle, replacing two pumper trucks, two aerial telesquirts and replacing the HAZMAT response vehicle.

Facility consolidation from four to three, then to two stations is part of RL’s footprint reduction strategy.

**End State FY2022:**

Two fire stations, including one new fire station located to serve the Central Plateau and areas south of the Wye Barricade, will centralize fire and emergency support for the safety mission on the Hanford Site.

- **Condition:** Excellent for equipment, staff, and facilities as noted in this report.
- **Capacity:** Vehicle fleet at needed capacity.
- **Population Served:** 10,766; includes entire Hanford Site, PNNL in 300 Area.
- **Area(s) Served:** Entire Hanford Site.

**Existing Gaps:** No gaps identified; no major projects for facilities after FY2021. Equipment replacements will continue as required and as scheduled.

**Cost Savings Proposals:** None proposed.

**Major Actions/Decisions Needed:** See Appendix E.

**Roadmap:** Refer to Figure 3-2.

Revised: September 11, 2017
# Figure 3-2. Fire Station Roadmap

## 2017 CURRENT CONDITION
- Site population has moved from the outer areas to the Central Plateau.
- Fire and emergency response equipment is in good to excellent condition excluding ambulances 1, 2, and 3. Three are past National Fire Protection Association (NFPA) inspection standards.
- Radio Fire Alarm and Reporting system obsolete, replacement parts are no longer manufactured and ODE handbook needs to be revised.
- Existing 400 Area fire station is ready but unstaffed and closed.
- 400 Area station project in planning and design during FY2017.

## END STATES 2022
- Implement consolidated operations fire station on the Central Plateau, Upgrade Station 92 for additional staff and build new equipment storage building.
- 300 Area Fire Station Closure.
- 100 Area Fire Station Closure.
- RFAR system replaced (transmitters).
- 400 Area new Fire Station.

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### Project Description

<table>
<thead>
<tr>
<th>Project Description</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>Notes</th>
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<tbody>
<tr>
<td>S720, Replace Hydrant 80 (fire-system only), Hydrant 80 (1995)</td>
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<td>S729, Replace 89-A All-Death Tape with a 75-HC-302, 89-3002 (1994); Hydrant 89 (1992)</td>
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<td>L-79, Replace RRA (Phase 8: OITAS procurement &amp; new RRA &amp; definate design)</td>
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<td>L-794, Upgrade HFD Station 92 (Bldg. 698)</td>
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<td>L-771, New Equipment Storage Building at HFD Station 92</td>
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<tr>
<td>S720, Replace Fire Engine Pump Truck 76-241CD (88-3001) (2011) (Flag)</td>
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<td>S730, Replace Fire Engine Pump Truck 75-44 (Flag) (1990)</td>
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<tr>
<td>S730, Replace Mobile Incident Command Post (1998)</td>
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<td>L-722, Fire Systems Maintenance Consolidation</td>
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<td>L-889, 400 Area Fire Station</td>
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### Major Actions/Decisions

<table>
<thead>
<tr>
<th>Class 100 Area Station 91 – Building 699</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>Notes</th>
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<tbody>
<tr>
<td>Class 300 Area Station 93 – Building 300A</td>
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<tr>
<td>Consolidated Operations Fire Station on Central Plateau</td>
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</tbody>
</table>

Provisioned = ❌  Design = ❌  Construction = ❌
EMERGENCY MANAGEMENT PROGRAM

Basic System Description: The Emergency Management Program provides coordination, integration, and maintenance of a centralized emergency operations capability for coping with a spectrum of emergencies originating from or affecting the Hanford Site. This integrated program ensures Emergency Management can respond effectively and efficiently to emergencies so that appropriate measures are taken to protect workers, the public, the environment, and preserve the credibility to the DOE. Coordinating with OHCs ensures that emergencies are promptly recognized, categorized, and classified with the required reporting and notifications. Emergency Management includes managing the Hanford Site Emergency Management Program and the Emergency Operations Center (EOC), contractor emergency management support, assessments, site-wide occurrence reporting, and operating the 24/7 EOC Shift Office. Attributes for Emergency Management are provided in Table 3-3.

Current Condition FY2017:

- **Condition:** Very Good.
- **Capacity:** No metric available.
- **Reliability:** 100% usable when needed.
- **Population Served:** 6,785. All Site areas except ENW in 600 Area. Excludes PNNL (there are 400 PNNL staff located in 300 Area structures) and ENW.
- **Areas Served:** Entire Hanford Site.
- **Gaps and Planned Projects:** No gaps identified; refer to Appendix B for planned project ET56 for Zetron console replacement.

The continuation of the Hanford Site cleanup mission and the hazards associated with that work will drive upcoming changes in the Emergency Management system in the next 5 to 10 years. It is projected that the elimination of hazards found in such places as the Plutonium Finishing Plant and K-Basins will allow for the reduction of siren footprint coverage in the 100 Area. However, as WTP transitions from construction to operational status, a new emergency planning zone (EPZ) may need to be defined with a

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Table 3-3. Emergency Management System Attributes

| Operate, Safe & Regulatory Compliant System | • Continued application of ISMS, EMS and VPP principles.  
• Strong safety culture; EZAC, safety log book, weekly safety starts.  
• Hanford’s Emergency Management Program is compliant with DOE’s Comprehensive Emergency Management System. |
| Availability, Right-Size & Reduce Active Site Footprint | • Maintain and implement Emergency Management Plan per DOE/RL-94-02 for the Hanford Site.  
• Technical, infrastructure and administrative activities to ensure the Emergency Management Program is available in a configuration that meets the requirements of the Hanford Site mission.  
• Proficiency of the Emergency Response Organization is maintained through a robust drill and exercise program.  
• Maintain appropriate communication with federal, state, and local emergency management agencies.  
• Maintain depth of qualified emergency responders.  
• Maintain 24/7 capability to notify and provide emergency direction to personnel on the Hanford Site. |
| Sustainability & Minimize Impacts to Environment | • Consistent with Hanford’s Vision to “Be a leader in sustainability and green energy.”  
• Perform sustainability evaluations for major repairs, replacements, or upgrades. |
| Reliability | • Ongoing process improvements and cost savings.  
• Implement planned improvements. |
| Maintainability | • Maintain 24/7 operation of the Emergency Operations Center. |

DOE = U.S. Department of Energy  
EMS = Emergency Management System  
ISMS = Integrated Safety Management System  
VPP = Voluntary Protection Program  
EZAC = Employee Zero Accident Council
maximum 10-mile radius by the time of the DFLAW plant cold start by FY2020 (illustrated in Figure 3.4).

**End State FY2022:**

Continued work with Information Management on the Hanford Site Emergency Alerting System upgrades, continued footprint reduction and modifications to EPZ limits are three main activities by FY2022. To support the Task Waste treatment mission by FY2022, two mission support actions are needed:

- Update of the Emergency Management Plan for Cold Commissioning related hazards by FY2020. This update will support completion of Emergency Preparedness procedures and drills in advance of Cold Commissioning Authorization by DOE, for the anticipated cold plant start date.
- Update EPZ limits for the 200 Areas on EM Roadmap in Figure 3.4

**Condition:** Excellent.

**Capacity:** No metric available.

**Reliability:** 100% usable when needed.

**Population Served:** 7,138. All site areas covered except ENW in 600 Area. Excludes PNNL (there are 400 PNNL staff located in 300 Area structures) and ENW.

**Areas Served:** Entire Hanford Site

**Existing Gaps:** See Appendix D.

**Cost Savings Proposals:** No cost savings have been identified.

**Major Actions/Decisions Needed:** See Appendix E.

**Roadmap:** Refer to Figure 3-4.

Revised September 11, 2017
Figure 3-4. Emergency Management Roadmap

Emergency Management Roadmap

2017 CURRENT CONDITION

- Emergency Management Program and capabilities in place to support cleanup mission
- Emergency Management Program maintained to respond effectively and efficiently to emergencies so appropriate measures are taken to protect workers, the public, and the environment
- 24/7 Hanford Emergency Operations Center (EOC) and shift office maintained in a state of readiness for emergency operations and to support site-wide occurrence reporting
- Coordination with other Hanford contractors to ensure emergencies are promptly recognized, categorized, and classified with required reporting and notifications made

END STATES 2022

- EOC remains at the federal building and in operation for overall Hanford response
- Continued work with information management on the Hanford Site Emergency Alerting System upgrades and footprint
- WTP incorporated into Emergency Management facility/program plans by FY2020

Sirens
- DOE Hanford Silts
- Columbia Generating Station
- Emergency Operations Center
- Emergency Planning Zones (EPZs)

HAZARDOUS FACILITIES
- 400 Area
- 300 Area
- 200 Area

HAZARDOUS FACILITIES IN 200W
- Hanford Reach National Monument
- 300 Area Haz Mat

HAZARDOUS FACILITIES IN 200E
- Hanford Reach National Monument
- 300 Area Haz Mat

PROJECT DESCRIPTIONS

<table>
<thead>
<tr>
<th>Project Description</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023 &amp; Beyond</th>
</tr>
</thead>
<tbody>
<tr>
<td>EIT56, UI-145, &amp; Patrol Station Console Upgrade</td>
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Major Actions/Decisions

- Assumption made that Energy Northwest will maintain sirens for Columbia Generating Station through FY2020
- Update Emergency Management Plan
- Update EPZs in 200E & 200W for CEM Commissioning
- Practice WTP EP Site Exercise