

Fire Protection System Deactivation Process

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History of Changes/Requirements

- Prior to 1995 – Fire system deactivation was based only on building value and environmental release limits.
- March 1995 – DOE published interim guidelines for abandoned facilities and facilities in the D&D process.
 - Should consider public, worker, and firefighter safety.
 - “Stand-off and protect” tactical approach introduced.
- September 1995 – DOE G 440.1-5, issued with Chapter 10 of the Guide reflecting the interim guidelines.



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Former Process for Fire System Deactivation

- Late 2003 – Groundwork was initiated to implement a comprehensive deactivation process at Hanford that included the non-mandatory guidance in DOE G 440.1-5 with the issuance of a Fire Marshal Advisory Bulletin.
- June 2004 – A second Fire Marshal Advisory Bulletin was issued with details of the process. However, this initial process was soon judged to be too cumbersome with too many approvals.



Former Process for Fire System Deactivation (cont.)

- March 2005 – A third Fire Marshal Advisory Bulletin was issued to redefine the deactivation process.
- January 2006 – Chapter 10 of DOE G 440.1-5 (now DOE G 420.1-3) was added to the Requirements Applicability Matrix for Hanford contractors and was now a mandatory set of contractor requirements.



Current Process for Fire System Deactivation

- The need to continue the development of a more formal and comprehensive deactivation process grew for two primary reasons:
 1. Hanford Site work was being transitioned to facility deactivation and demolition activities.



Current Process for Fire System Deactivation (cont.)

2. Facility/project management sought cost savings for an increasing number of unoccupied buildings primarily through:
 - Elimination of heating and utility costs,
 - Elimination of Fire Systems Testing and Maintenance costs.
- Late 2006 – Revised process based on previous work was created to establish the basic deactivation steps.



Current Process for Fire System Deactivation (cont.)

Process concludes with one of three possibilities:

1. Fire system deactivation is **not** allowed if nuclear safety requirements cannot be achieved.
2. Fire system deactivation is allowed, but facility demolition must begin within 30 days.



Current Process for Fire System Deactivation

(cont.)

Process concludes with one of three possibilities: (cont.)

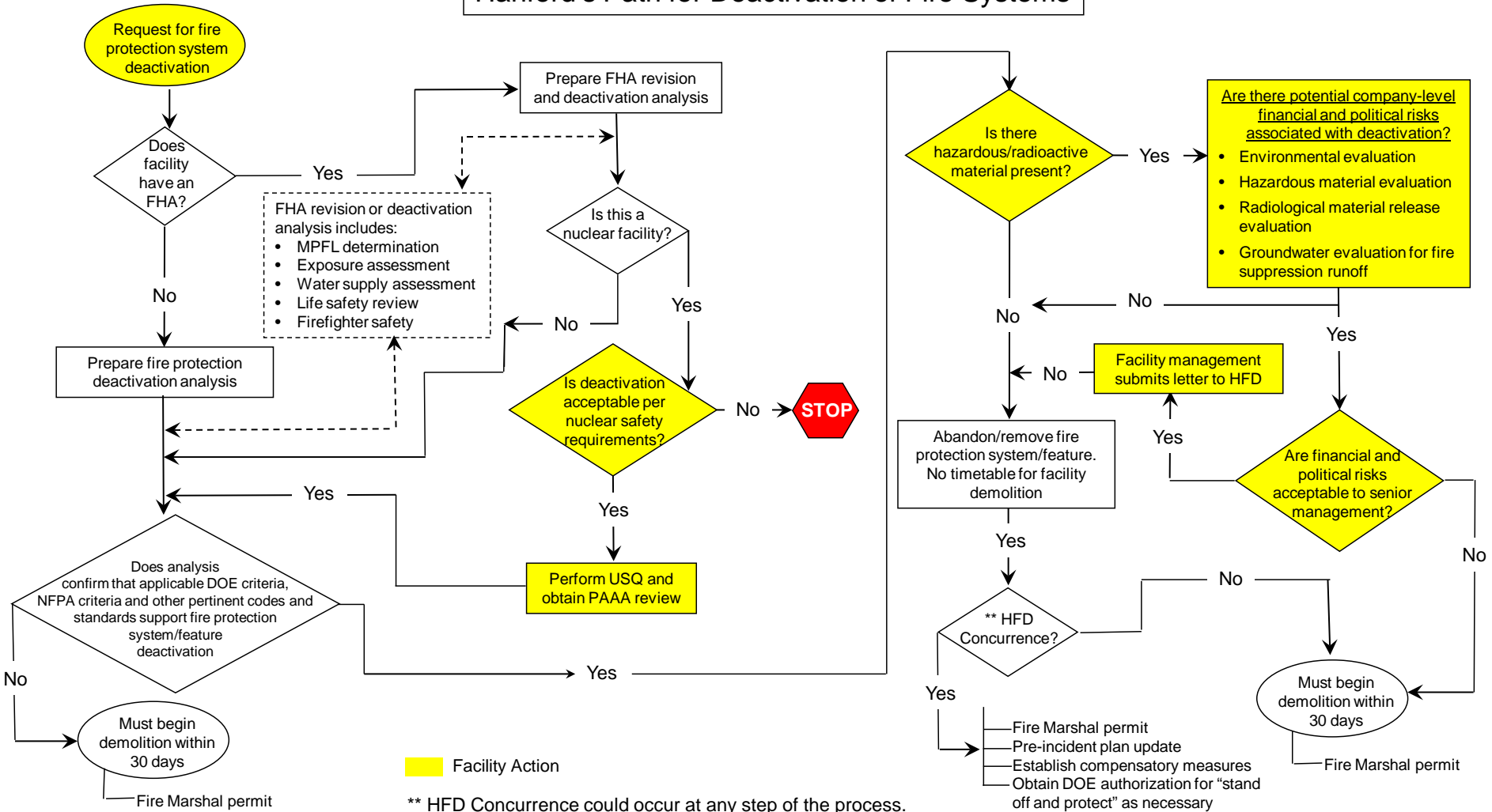
3. Fire system deactivation may be allowed with no timetable for building demolition provided:

- DOE loss criteria will not be exceeded;
- Adequate water supply is available without the fire system;
- No unacceptable exposure hazards exist;
- Adequate fire control and firefighter safety is anticipated with existing resources; and
- The financial or political risks are considered acceptable.



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Hanford's Path for Deactivation of Fire Systems



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Current Process for Fire System Deactivation

- Requirements Document MSC-RD-9717, *Fire Prevention for Construction, Occupancy, Demolition Activities* was revised to define the new process.
 - Facility submits request for fire system deactivation;
 - FPE prepares an FHA revision per MSC-PRO-38421, *Fire Hazard Analysis*, or a fire system deactivation analysis as applicable, including:
 - MPFL determination,
 - Exposure assessment,
 - Water supply analysis,
 - Life Safety Code review,
 - Firefighter Safety determination.



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Current Process for Fire System Deactivation (cont.)

- Analyses are reviewed against DOE requirements, NFPA requirements and other codes and standards as applicable.
- Nuclear safety evaluation for acceptability of deactivation as applicable.
- USQ/PAAA screening is performed as applicable.
- Company level financial and political risk evaluation is performed if hazardous and/or radioactive materials are present, with the submittal of a risk acceptance letter to HFD as appropriate.



Current Process for Fire System Deactivation (cont.)

- Evaluation of the deactivation request by the HFD Operations staff for the proposed tactical approach in the absence of the fire system including a possible “stand-off and protect” approach and resource limits.
- Prepare Fire Marshal Permit for deactivation.



Current Process for Fire System Deactivation (cont.)

- Obtain HFD Fire Chief concurrence for fire system deactivation based on:
 - Fire system deactivation allowed with the requirement that building demolition begin within 30 days;
 - Sequential fire system deactivation required in conjunction with building section demolition as applicable;
 - Fire system deactivation allowed with no timetable for building demolition.



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- HFD Internal Procedure – SOG 4.10, *Deactivation of Facility Fire Protection Features*, created to further detail the features of the process.
 - Provides pertinent definitions.
 - Establishes individual/organizational responsibilities.
 - Identifies and details Deactivation Evaluation and Decision requirements.
 - Provides required analyses and assessment forms to be completed (minimum fire water flow, exposure analysis, and response assessment for firefighter safety and possible “stand-off and protect” posture).



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- Since implementation minor adjustments to the process continue, but the basic steps have remained the same.
- Since November 2006, HFD has received 36 formal requests for facility fire system deactivation.
 - 2 declined (large wooden structures – HFD resource issues).
 - 4 initially denied, then approved after additional hazard reductions.
 - 7 approved for fire system deactivation provided building demolition begins within 30 days (2 extended to 90 days).
 - 23 approved for fire system deactivation with no timetable for facility deactivation.



Questions??

