FAQ Number 06-0025 **FAQ Revision** 1b

FAQ Title Scope and Content of Pre-Fire Plans

Plant: Harris Nuclear Plan (HNP) **Date:** 04-16-07

Contact: Alan Holder **Phone:** 919-546-3372

Email: alan.holder@pgnmail.com

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☒ 805 TF ☐ FPWG ☐ FPRATF

Purpose of FAQ:

FAQ seeks clarification to define the minimum acceptable scope and content for Pre-Fire Plans.

Is this Interpretation of guidance? **Yes** / No

Proposed new guidance not in NEI 04-02? **Yes** / No

Details:

NEI 04-02 guidance needing interpretation (include section, paragraph, and line numbers as applicable):

NEI 04-02, Section 4.3.1, Fundamental Fire Protection Program and Design Elements Transition Review, appendices to list acceptable interpretations to the NFPA 805 standard (future).

Circumstances requiring guidance interpretation or new guidance:

Clarification of NFPA-805, Standard for Fire Protection for Light Water Reactor Electric Generating Plants (2001 Edition), Chapter 3, Section 3.4, Industrial Fire Brigade, section 3.4.2.1, “The plans shall detail the fire area configuration and fire hazards to be encountered in the fire area, along with any nuclear safety components and fire protection systems and features that are present.”

Specifically, define the minimum acceptable scope and content for Pre-Fire Plans.

Detail contentious points if licensee and NRC have not reached consensus on the facts and circumstances:

NA

Potentially relevant existing FAQ numbers:

FAQ #06-0007

Response Section:

Proposed resolution of FAQ and the basis for the proposal:

This FAQ seeks to define minimum acceptable pre-fire plan scope and content. Current guidance is found in regulatory documents such as 10CFR50, Appendix R, Section K, NUREG 0800 and the FRAQA letter (see comparison table below). This FAQ provides clarification for continued use of this scope and content through inclusion in NEI 04-02, Appendix K.

If appropriate, provide proposed rewording of guidance for inclusion in the next Revision:

As follows;

Clarification of NFPA 805 specific sections as applied under NEI 04-02, to be included in (New) Appendix K, to NEI 04-02 upon approval of specific clarification (final formatting to be provided by NEI).

Specific clarification for NFPA 805 section 3.4, from FAQ 06-0025,
As a minimum, the pre-fire plans should include a description of the following:

Define the pre-fire plans for fighting fires in all areas in which a fire could jeopardize the ability to meet the performance criteria described in Section 1.5. These pre-fire plans should designate:

-Fire hazards in each area covered by the specific pre-fire plans.
-Fire extinguishants best suited for controlling the fires associated with the fire hazards in that area and the nearest location of these extinguishants.
-Most favorable direction from which to attack a fire in each area in view of the ventilation direction, access hallways, stairs, and doors that are most likely to be free of fire, and the best station or elevation for fighting the fire. All access and egress routes that involve locked doors should be specifically identified in the pre-fire plan with the appropriate precautions and methods for access specified.
- Plant systems that should be managed to reduce the damage potential during a local fire and the location of local and remote controls for such management (e.g.,

any hydraulic or electrical systems in the zone covered by the specific pre-fire plan that could increase the hazards in the area because of overpressurization or electrical hazards).
-Vital heat-sensitive system components that need to be kept cool while fighting a local fire. Particularly hazardous combustibles that need cooling should be designated.
-Organization of fire fighting brigades and the assignment of special duties according to job title so that all fire fighting functions are covered by any complete shift personnel complement. These duties include command control of the brigade, transporting fire suppression and support equipment top the fire scenes, applying the extinguishant to the fire, communication with the control room, and coordination with outside fire departments.
Potential radiological and toxic hazards in fire zones
-Ventilation system operation that ensures desired plant air distribution when the ventilation flow is modified for fire containment or smoke clearing operation.
-Operations requiring control room and shift engineer coordination or authorization.
Instructions for plant operators and general plant personnel during fire.

NUREG 0800 Define the strategies for fighting fires in all safety-related areas and areas presenting a hazard to safety-related equipment. These strategies should designate:	**10CFR50, Appendix R (III.K.12)** Define the strategies for fighting fires in all safety-related areas and areas presenting a hazard to safety-related equipment. These strategies should designate:	**FRACQA Letter (06/20/77)** The strategies established for fighting fires in all safety-related areas and areas presenting a hazard to safety-related equipment. As a minimum the following subjects should be covered:	**NFPA 805 (FAQ 06-0025)** As a minimum, the pre-fire plans should include a description of the following:
Fire hazards in each area covered by the specific pre-fire plans.	Fire hazards in each area covered by the specific pre-fire plans.	Identification of combustibles in each plant zone covered by the specific fire fighting procedures.	
Fire extinguishants best suited for controlling the fires associated with the fire hazards in that area and the nearest location of these extinguishants.	Fire extinguishants best suited for controlling the fires associated with the fire hazards in that area and the nearest location of these extinguishants.	Fire extinguishants best suited for controlling the fires associated with the combustible loadings in that zone and the nearest location of these extinguishants.	Available fire protection systems Fire extinguisher locations
Most favorable direction from which to attack a fire in each area in view of the ventilation direction, access hallways, stairs, and doors that are most likely to be free of fire, and the best station or elevation for fighting the fire. All access and egress routes that involve locked doors should be specifically identified in the procedure with the appropriate precautions and methods for access specified.	Most favorable direction from which to attack a fire in each area in view of the ventilation direction, access hallways, stairs, and doors that are most likely to be free of fire, and the best station or elevation for fighting the fire. All access and egress routes that involve locked doors should be specifically identified in the procedure with the appropriate precautions and methods for access specified.	Most favorable direction from which to attack a fire in each area, in view of the ventilation direction, access hallways, stairs and doors which are most likely to be fire-free, and the best station or elevation for fighting the fire. *A specific identification system shall designate all hallways, stairs, doors fire equipment and system control locations, and other items described in the fire fighting procedures. This identification should be used in the procedures and the corresponding plant items should be prominently marked so that they can be recognized in dim light.* All access and egress routes that involve locked doors should	Fire barriers Fire doors Locked doors Inaccessible of limited access areas

		be specifically identified in the procedure with the appropriate precautions and methods for access specified.	
Plant systems that should be managed to reduce the damage potential during a local fire and the location of local and remote controls for such management (e.g., any hydraulic or electrical systems in the zone covered by the specific fire fighting procedure that could increase the hazards in the area because of overpressurization or electrical hazards).	Plant systems that should be managed to reduce the damage potential during a local fire and the location of local and remote controls for such management (e.g., any hydraulic or electrical systems in the zone covered by the specific fire fighting procedure that could increase the hazards in the area because of overpressurization or electrical hazards).	Designation of plant systems that should be managed to reduce the damage potential during a local fire; location of local and remote controls for such management (e.g., any hydraulic or electrical systems in the zone covered by the specific fire fighting procedure that cold increase the hazards in the area because of overpressurization or electrical hazards).	Safe shutdown equipment
Vital heat-sensitive system components that need to be kept cool while fighting a local fire. Particularly hazardous combustibles that need cooling should be designated.	Vital heat-sensitive system components that need to be kept cool while fighting a local fire. Particularly hazardous combustibles that need cooling should be designated.	Designation of vital heat-sensitive system components that need to be kept cool while fighting a local fire. Critical equipment which are particularly hazardous combustible sources should be designated to receive cooling.	
Organization of fire fighting brigades and the assignment of special duties according to job title so that all fire fighting functions are covered by any complete shift personnel complement. These duties include command control of	Organization of fire fighting brigades and the assignment of special duties according to job title so that all fire fighting functions are covered by any complete shift personnel complement. These duties include command control of	Organization of fire fighting brigades and the assignment of special duties according to job title so that all fire fighting functions are covered by any complete shift personnel complement. These duties include command control of	Communication equipment

the brigade, transporting fire suppression and support equipment top the fire scenes, applying the extinguishant to the fire, communication with the control room, and coordination with outside fire departments.	the brigade, transporting fire suppression and support equipment top the fire scenes, applying the extinguishant to the fire, communication with the control room, and coordination with outside fire departments.	the brigade, fire hose laying, applying the extinguishant to the fire, advancing support supplies to the fire scene, communication with the control room, coordination with outside fire departments.	
Potential radiological and toxic hazards in fire zones	Potential radiological and toxic hazards in fire zones.	Identification radiological and toxic hazards in fire zones.	Radiological hazards Special hazards Pre-fire plans should detail radiologically hazardous areas and radiation protection barriers.
Ventilation system operation that ensures desired plant air distribution when the ventilation flow is modified for fire containment or smoke clearing operation.	Ventilation system operation that ensures desired plant air distribution when the ventilation flow is modified for fire containment or smoke clearing operation.	Ventilation system operation that ensures desired plant air pressure distribution when the ventilation flow is modified for fire containment or smoke clearing operations.	Ventilation capabilities Methods of smoke and heat removal should be identified for all fire areas in the pre-fire plans. These can include the use of dedicated smoke and heat removal systems or use of the structure's heating ventilating and air-conditioning (HAC) system if it can operate in the 100 percent exhaust mode.
Operations requiring control room and shift engineer coordination or authorization.	Operations requiring control room and shift engineer coordination or authorization.	Operations requiring control room and shift engineer coordination or authorization.	Areas subject to flooding Water drainage methods should be reviewed and included in the pre-fire plan for each area.
Instructions for plant operators and general plant personnel during fire.	Instructions for plant operators and general plant personnel during fire.	Instructions for plant operators and general plant personnel during fire.	