

FAQ Number 08-0049 **FAQ Revision** 0

FAQ Title Cable Fires

Plant: Generic Issue **Date:** March 31, 2008

Contact: Ken Canavan - EPRI **Phone:** (704) 595-2237

Email: kcanavan@epri.com

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805 TF FPWG RATF RIRWG BWROG PWROG

Purpose of FAQ:

NUREG/CR-6850, EPRI 1011989 describes an empirical rule set (or model) for the spread of fires into and among a stack of cable trays above a fire ignition source. The model recommends that the time to ignition for the lowest tray in the stack to be estimated using fire models. The empirical model then specifies the subsequent time for tray to tray fire spread to each of the higher-level trays. If a second adjacent stack is also present directly above the fire source, then the model can be extended to cover the second stack with the lowest tray in the adjacent stack igniting concurrent with the third tray in the first stack. In this way, the model can be extended to cases involving at most three tray stacks, the first stack ignited plus “tray stacks located on one or both sides of the initial stack.” Based on initial feedback from use of the methodology, this empirical model is being extended beyond the intended range of application to, effectively, an unlimited number of cable tray stacks. Extension of the model by inference to additional tray stacks (e.g. the third, fourth, fifth, etc. stack of cable trays) results in fire growths in the cable trays that appear to be beyond reasonable expectations as to actual cable tray fire spread behaviors and what can be supported by operating experience. The extension of the empirical rule set in this way has led some of the pilot plants to grossly conservative estimates of cable fire growth rates and unrealistically short room burn-out or hot gas layer damage times.

The purpose of this FAQ is to clarify (or emphasize) the limits of this model and provide guidance as to how to model scenarios beyond those limits, e.g., in a cable spreading room where cable trays may run the entire upper half of the room in close proximity and in all directions.

Is this Interpretation of guidance? Yes / No

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

Details:

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

None

Circumstances requiring guidance interpretation or new guidance:

Later

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

None

Potentially relevant existing FAQ numbers:

None

Response Section:

Proposed resolution of FAQ and the basis for the proposal:

Later

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

None