

## Fire PRA Methods Development Panel

### EPRI – NRC RES Panels

#### **Background**

NUREG/CR-6850 EPRI1011989 was written in the 2003 timeframe and was ultimately published in 2005. It was produced as a compilation of fire PRA methodology best practices available at the time and arranged into a framework that allowed for the evolution of the building blocks of the analysis while maintaining a consistent and coherent structure. Although the technical development team did provide some advancement of the state-of-the-art from the 2003 state, this was not the primary focus of the project.

The preamble to NUREG/CR-6850 EPRI1011989 acknowledges that the development of methods would continue beyond the publication of the report. Volume 1, Page xi states:

*The methods documented in this report represent the current state-of-the-art in fire PRA practice. Certain aspects of PRA continue to evolve and likely will see additional developments in the near future. Such developments should be easily captured within the overall analysis framework described here. It is important to emphasize that while specific aspects of the analysis process will likely evolve, the overall analysis framework represents a stable and well-proven platform and should not be subject to fundamental changes in the foreseeable future.*

The authors of the document clearly intended further development of fire PRA methods as shown in the Conclusions and Closing Remarks section. Volume 1, Section 3.2, Page 3-2 concludes:

*The methods documented in this report represent the current state of the art in Fire PRA. Fire PRA is an evolving discipline. The most effective way to allow these methods to further evolve is through their use in practical applications.*

This methods development panel is one avenue that is available to collect the experience gained through the development of plant specific fire PRAs and fire PRA applications and use it to further the evolution of fire PRA methods, tools, and data (MTD).

#### **Purpose**

The purpose of the panel is to provide a venue for advancing the state of the art of fire PRA MTDs by combining the resources and expertise of EPRI and NRC-RES under the MOU (ref 1). Since the publication of NUREG/CR-6850 EPRI 1011989, several plant specific fire PRAs have been developed using the guidance in that document. For some fire scenarios at some plants, the analysts found that strict adherence to the recommended MTDs did not produce realistic results. In addition, some of the tasks require extensive resources to achieve a satisfactory level of realism. These situations could not have been anticipated without performing full fire PRAs. Stakeholders that find solutions to these situations can provide the solutions to the panel for review.

The panel provides a forum for industry, regulator, or other experts to discuss the proposed MTD. The panel will review and revise the MTD so that it can be used in fire PRAs that will meet the consensus PRA standard (ref 2). The output from the panel is supplemental guidance for doing fire PRA so that the issues encountered can be addressed in a consistent manner and will meet the standard.

### **Initiation of a Panel**

Any fire PRA stakeholder can propose a method to be reviewed and developed by a panel. A description of the MTD, including a description of the issue that the MTD is addressing, should be forwarded to EPRI. EPRI and RES will put together a panel of subject matter experts to review and revise as necessary the proposed MTD. The developer of the proposal (or appropriate designee) will be included on the panel. The panel should also include representation by the intended end users of the method. EPRI and RES will coordinate the interaction of the panel under the guidelines outlined in the MOU.

A panel will typically consist of 4 – 8 members. The number of members selected by EPRI and by RES will be balanced.

The method submitted should not contain proprietary information. No processes are being established for the panel to handle proprietary information.

### **Conduct of the Panel Review**

The initiator of a method is required to explain the method to the rest of the panel and describe how it resolves the issues that it was intended to address. This will typically be done via a kickoff meeting in person or by webcast. The panel members will review the initial proposal and provide comments on the method. The comments are to be provided in writing. The comments will be collected and compiled by EPRI and provided to the panel members, including the initiator.

Using meetings, phone calls, or webcasts, the panel will discuss the comments and develop ways to resolve them. It is expected that the most up to date information will be used when resolving the comments. Decisions will be made by consensus (i.e., general agreement by the group, but with an intent to achieve unanimity where it is possible). The panel will make every attempt to adjust the method until consensus can be achieved. If necessary, the EPRI and RES project managers will provide mediation to aid in resolving the conflict.

In some cases, a unanimous conclusion may not be achievable. If this turns out to be the case, the output of the panel will contain both conclusions and a description of why consensus could not be reached. This is considered to be a “last resort” solution because it makes later implementation of the MTD more difficult.

For some elements of the method, such as the review and disposition of data records, a consensus on each and every detail is impractical. For these, a vote of the panel members will determine the outcome. The panel will decide which elements can be resolved using a vote. The panel will also decide, prior to voting, what the criteria are for accepting the decision. All panel members will participate in the development of the final method. If the method is significantly altered by the panel,

the method will be considered the product of the panel and not of the initiator. The initiator will document the final method. The panel will designate a member to document the panel's consensus deliberations and any limitations of the method.

Panel members are expected to perform demonstration calculations to illustrate the effects of any changes to the method from the original submitted.

During the development of the MTD, panel meetings and phone calls are restricted to panel members, the panel facilitator (if one is used), and the stakeholder who requested the panel review (if different from the developer), and the EPRI and RES project managers.

### **References**

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