

March 25, 2016 – NRR Viewpoint on Priority List of the EPRI Research Items

An EPRI report on items, a) transient fires propagation parameter, b) liquid oil spills, and c) wall and corner effects on HRR, has been prepared and these methods are expected to be treated by the NRC Vetting Panel Process – so these haven't been ranked.

As shown below, items are listed by "merit" for NRR purposes, using judgement of overestimation of risk (i.e. conservative) and NRR thinks new method needed. The [EPRI#] identifier at the beginning of each topic indicates the EPRI priority. The [NRC] identifier indicates that NRC introduced this topic.

Note that some issues with low importance rating are listed as high merit. For example, incipient detection is important because of the need to collect additional operating experience due to the sparseness of data supporting the methodology.

High Merit

Importance Rating (Conservative/new method needed)

<u>[EPRI#2] - In cabinet fire growth modeling</u>	(Yes/Yes)
<u>[EPRI#3] - Ignition criteria for cables trays</u>	(Yes/Yes)
<u>[EPRI#5] - Incipient detection</u>	(Unknown/No)
<u>[EPRI#6] - Obstructed plume ZOI</u>	(Yes/Yes)
<u>[EPRI#7] – HEAFs</u>	(Unknown/Yes)
<u>[EPRI#9] - MCR abandonment</u>	(Unknown/Yes)
<u>[NRC] – Bin 15 cabinet frequency breakdown</u>	(Unknown/No)

With the publication of RACHELLE-FIRE, the need for electrical cabinet frequencies broken down into cabinet type becomes more necessary. For example, a breakdown of frequency into cabinet type will enable the PRA to more accurately distinguish between the risk of low and high voltage electrical cabinets, as the HRR and frequency will be aligned for cabinet type. Since no new method is needed, this task is also considered low hanging fruit.

Medium Merit

<u>[EPRI#1] - Transient fire HRR and methodology</u>	(Unknown, Yes)
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[EPRI#8] - Cabinet to cabinet fire propagation (Unknown, Unknown)

Lower Merit

[EPRI#4] - Fire growth profiles for different types of ignition sources

[EPRI#10] - Electric pump and motor HRR

[EPRI#11] - Cable coatings

Longer Term Items – Not Ranked by EPRI

Component based fire frequencies

Plant trip assumption