NRC Staff Comments – Fire PRA FAQ 18-0015, “More Realistic Contained Fire Duration Limits”

1) The staff acknowledges that long duration fires may play a larger role in risk than warranted due to the current way the fire PRA methodology is employed. The lack of burnout in fire scenarios allows fires limited to the source of origin to cause damage beyond what is expected.
2) Yet the staff notes that justifications for the selected floor on nonsuppression failure probability and the choice of duration limit have not been provided.
3) The staff feels that long duration fires can exist, although with low probability. Thus, fires should not be truncated at long durations. High HRRs beyond the 98th percentile are already excluded from analyses; however, high likelihood HRRs should not also be excluded
4) The FAQ should be divided into two portions: 1 – floor on nonsuppression probability, and 2 – limit on duration. The second part should be handed off to the RES research program since under its Fire Progression Project fires suppression by plant personnel will be separated from those suppressed by the fire brigade, enabling long duration fires to be handled much more realistically.
5) The staff understands the problem presented by MCR fires per the example in the FAQ. Are there other situations in which long duration fires produce HGL even though no secondary combustibles are ignited?