

Teaching Notes

Operational Reactor Safety Course

Lecture: 5 – MIT Reactor Physics Exercise - Power Change

Objective:

Students should gain appreciation of the reactor physics concepts discussed up to this point. They are: reactivity effects of control movement, the prompt drop up as well as the effect of delayed neutrons, the effects of thermal feedback as well as the reactivity measurements of control rod worth. Each student was allowed to change power, either up or down, and to deal with the sensitivity of periods and the ability to bring the reactor to a steady-state power level considering feedback effects rod position movements and possible power overrides. The students were to maintain control within technical specification limits of period and to stabilize the reactor at a constant power level.

Please see the video tape of the class to appreciate the nature of this exercise.

What this brought home to the students was that the concept that they learned in class are real.

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