The due date for proposals responding to the Fuel Cycle Simulator will now be due by 5 PM MST on December 19, 2010.

With respect to the "over-arching framework," or information backbone, the Fuel Cycle Simulator (FCS) framework is being initiated now by a DOE laboratory team within the Fuel Cycle Technologies Systems Analysis Campaign. Since a successful proposal will not receive funding until September 2011, much of the framework development will have taken place by the laboratory team before the NEUP projects begin.

Additionally, on this specific item, DOE laboratory personnel associated with the Fuel Cycle R&D Program working on the Fuel Cycle Simulator (FCS) framework will be funded programmatically and should not be included in NEUP proposals. National Laboratory collaborators working on tasks specific to the proposal in other areas (such as computer scientists, social scientists, etc.) should be part of a proposal (including funding).

To provide assistance in pre-proposal development, the following are the framework development activities the laboratory team will perform and approximate timing.

- Update and Expand FCS Functions and Requirements – This includes what the FCS must do from the perspective of the nuclear fuel cycle (domain perspective). An initial draft of this document exists and will be updated and expanded using a collaborative process to identify the core and eventual extended use cases the simulator is to support, and identify the functionality that is to be added through the first few stages of expansion from the initial core implementation. The activity will also finalize the types of users to be supported and identify interface requirements and data requirements to support the functionality. The collaborative process will include workshops open to interested individuals with relevant experience from laboratories, universities, and industry as well as other stakeholders. (To be completed by September 2011.)

- Develop Software Functions and Requirements – This identifies what the FCS must do from a computer science perspective to implement the FCS functions and requirements. Participate in the collaborative process to update the FCS F&Rs, providing insights on software capabilities. Convert the FCS F&Rs into software F&Rs, including identification of data flow requirements and database F&Rs. Harvest formulas/equations and data from existing simulation tools. Started in the spring of 2011, but may not be complete until the fall of 2011.

- Develop Software Architecture to support the software F&Rs - In collaboration with the hardware F&R activity, identify options for and select the primary programming, interface, and database software and development tools. Develop a plan and schedule for software development. Scheduled to start in the summer of 2011 and be completed by the end of 2011.

- Develop Hardware Functions and Requirements – This activity will identify the hardware architecture to support the extended functionality of the FCS, including compute engine and user platforms. Participate in the collaborative process to update the FCS F&Rs, providing insights on hardware capabilities. In collaboration with the software architecture activity,

identify the initial hardware configuration to support the framework development and fielding of the core functionality. Scheduled to start in the summer of 2011 and be completed by the end of 2011.