Comments on the Briefing Paper from the Union of Concerned Scientists (UCS) on Browns Ferry Nuclear Plant Trolley Drop

On Oct. 29, 2004, NRC received a copy of a briefing paper by the Union of Concerned Scientists (UCS) concerning an Oct. 24, 2004, trolley drop at the Browns Ferry Nuclear Plant (BFN). The trolley is part of the overhead crane above the refueling floor. The crane is used to move heavy loads such as equipment or new fuel shipping cartons. The Tennessee Valley Authority (TVA) is the licensee for the facility which has three boiling-water reactors.

In its paper, UCS states that, during TVA's efforts to upgrade the crane, "the overhead crane trolley broke loose and fell onto the refueling floor at the Unit 1 end. The weight of the fallen equipment was about 64,000 pounds (32 tons)." Although the trolley weight cited by UCS is approximately correct, important facts were omitted in the paper. The trolley, which was being replaced at the time of the incident, fell about three feet, when the rigging strap broke as it was being lowered to the floor. The trolley was being rigged from the refuel floor ceiling via chain falls. Since the crane trolley was being removed, the overhead crane was not being used to lower the trolley. Unit 1 has been shutdown and defueled for several years and the area of the refuel floor the trolley was dropped on had been previously evaluated to ensure that an accidental drop would not affect safety. To further clarify, the incident involved the failure of the rigging holding the trolley rather than the crane itself. The NRC inspection staff was aware of the trolley drop and is continuing to monitor TVA's evaluation of the cause(s) of the trolley drop and their evaluation of the impact on the structural integrity of the refuel floor.

The UCS paper states that this event raises the question, "Could it (a similar failure) happen during the movement of a 100-ton cask? The answer is "no" for several reasons: (1) the cask would be moved with the overhead crane and new trolley assembly, not the fixed chain falls, (2) standard rigging materials are specifically designed and constructed for the cask movement, differing from the synthetic straps that were used for removal of the old trolley, (3) the Independent Spent Fuel Storage Installation (ISFSI) cask would be moved using a single-failure proof rigging methodology in addition to the safe-load-path method used for the trolley removal, and (4) prior to using the crane with a loaded cask, the utility will perform dry runs which subject the crane to equivalent test loads and which will be inspected by the NRC.

In summary, the NRC is committed to the safe operation of nuclear power reactors. This includes ensuring safety of the Browns Ferry Plant and its personnel during the lifting of heavy loads. The NRC has specified guidance for the lifting heavy loads at nuclear power plants in NUREG-0612. Utilities are required to address this guidance through the NRC regulatory framework. NRC also conducts inspections that address this area. The trolley drop did not involve a crane failure and is not representative of the conditions under which spent fuel casks would be lifted and moved.