



# Union of Concerned Scientists

Citizens and Scientists for Environmental Solutions

December 10, 2007

Victor McCree, Regional Administrator (Acting)  
U.S. Nuclear Regulatory Commission Region II  
Sam Nunn Atlanta Federal Center, 23 T85  
61 Forsyth Street, SW  
Atlanta, GA 30303-8931

**SUBJECT: EXCELLENT CATCH BY BRUNSWICK SPECIAL INSPECTION TEAM**

Dear Mr. McCree:

On behalf of the Union of Concerned Scientists (UCS), it is my pleasure to acknowledge the excellent catch made by Nuclear Regulatory Commission inspectors Steven J. Vias, Michael F. King, and George T. MacDonald during their special inspection at the Brunswick nuclear plant. Their efforts are documented in NRC Inspection Report dated November 16, 2007 (available in ADAMS under Accession No. ML073200779).

As reported on pages 5 and 6 of the enclosure to the NRC inspection report, the special inspection team reviewed an evaluation performed by Progress Energy of a problem involving a significant reduction in the cooling water flow rate through the 1B Residual Heat Removal room cooler. On August 18, 2007, workers identified foreign material in the inlet piping to the room cooler as partially blocking the cooling flow path and initially determined the material to be pieces from the rubber lining of a Fisher Model 9100 butterfly valve. The company's operability evaluation assumed that the material came from 1B Nuclear Service Water Discharge Valve 1-SW-V20, the only Fisher Model 9100 rubber lined butterfly valve upstream of the room cooler. Based upon this assumption and the amount of material removed from the inlet piping, the company's operability evaluation concluded that no further foreign material could exist in the cooling system to represent potential clogging hazard.

The NRC special inspection team challenged the operability evaluation's conclusion by pointing out that (a) valve 1-SW-V20 had not been inspected to confirm it was the source of the foreign material, and (b) poor details in the documentation of several other valve failures could not rule out them as possible sources of foreign material. The NRC special inspection team concluded "*it was not likely that the operability evaluation's conclusion of operable but degraded was reasonable.*"

The company voluntarily shut down Brunswick Unit 1 on September 9, 2007, to drain and inspect the service water system piping. A visual inspection of suspect valve 1-SW-V20 on September 11, 2007, revealed no missing rubber lining material. As documented in the inspection report, this finding "*confirmed that the foreign material retrieved from the 1B RHR room cooler was not from 1-SW-V20 but was in fact legacy foreign material most probably from 1-SW-V19.*" Additional foreign material was removed from the inlet piping to the 1A RHR room cooler and in the 1B RHR heat exchanger.

Thus, but for the commendable work by the NRC's special inspection team members Vias, King, and MacDonald, it is apparent that Brunswick Unit 1 would have continued operating with foreign material in the cooling water system for emergency equipment due to the inadequate operability evaluation conducted by Progress Energy.

Even if the inspection during the September outage had located no other foreign materials and determined that the source of the foreign material removed from the 1B RHR room cooler in August came from valve 1-SW-V20, the NRC special inspection team members would still had been right. The company's operability evaluation was based on unverified, tenuous assumptions amounting to little more than a guess. The NRC special inspection team members forced the company to jettison its guess and determine the true condition inside the cooling water system with certainty. It was the right thing to do and would have remained right even if the ensuing inspections revealed the guess to have been correct.

The NRC has formally instituted programs to capture lessons learned from events like Davis-Besse and present them during training for new employees. This Brunswick catch should be considered for those programs. It is as important to learn what to do as it is to learn what not to do. This Brunswick catch demonstrated regulatory oversight at its best and is therefore worthy of emulation.

Sincerely,

A handwritten signature in dark ink, reading "David Lochbaum". The signature is written in a cursive, flowing style with a large initial "D".

David Lochbaum  
Director, Nuclear Safety Project