August 12, 1995

COMMENTS OF OHIO CITIZENS FOR RESPONSIBLE ENERGY, INC. ("OCRE") ON PROPOSED RULE: STANDARD DESIGN CERTIFICATION FOR THE U.S. ADVANCED BOILING WATER REACTOR DESIGN (60 FR 17902, APRIL 7, 1995)

In these comments OCRE is addressing the ABWR design. Incorporation of the following suggestions in the ABWR design will enhance safety.

1. Although the ABWR will use the same type of Main Steam Isolation Valves as are used in operating BWRs, it will not have a MSIV Leakage Control System. Instead, GE is taking credit for fission product retention in the main steam lines and main condenser. However, in a main steam line break outside of containment, a design basis event, such fission product retention will not occur. Given the excessive leakage experience of MSIVs in operating BWRs, it would be prudent to incorporate a MSIVLCS into the ABWR design. OCRE would recommend a positive pressure MSIVLCS, which would pressurize the main steam lines between the inboard and outboard MSIVs after MSIV closure to a pressure above that in the reactor pressure vessel. Thus, any leakage through the inboard MSIV will be into the reactor.

2. The ABWR Standby Liquid Control System requires simultaneous parallel, two-pump operation to achieve 100 gpm flow rate, necessary to comply with 10 CFR 50.62(c)(4). However, a single failure rendering one train inoperable would only yield a flow of 50 gpm, which does not comply with the ATWS rule. OCRE recommends increasing the capacity of each SLCS train to 100 gpm, so that the SLCS can perform its ATWS mitigation function even with a single failure.

3. In the ABWR, the drywell to wetwell vacuum breakers consist of a single vacuum breaker valve in each line. In operating BWRs, there are two vacuum breaker valves in series in each line. The ABWR design thus is vulnerable to a single failure, a stuck-open vacuum breaker, which would result in suppression pool bypass, which can overpressurize the containment in both design basis and severe accidents. Having the containment function vulnerable to a single failure is unacceptable. OCRE recommends the addition of a second vacuum breaker valve in series with the one proposed in the design.

4. ACRS members William Kerr and Charles J. Wylie made the following additional remarks in the ACRS letter of July 18, 1989 on proposed staff actions regarding the fire risk scoping study (NUREG/CR-5088):

> We recommend that the staff require the use of armored electrical cable in advanced light-water reactors. There are more than 20 years of U.S. electric utility experience which demonstrates its advantages in both nuclear and fossil electric generating plants. There is extensive experience with armored cable in naval and maritime vessels and in chemical plants. The British are requiring its use in the Sizewell B plant.
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> The armor makes its significantly more difficult for external heat sources to kindle and to propagate fires within the cables. It is

practically impossible to kindle and propagate a fire from internal short circuits and overloads. Armor provides a high degree of mechanical protection for the cable. It also provides shielding against external electromagnetic fields. This feature becomes more important as the application of solid-state components in power plants increases. It is particularly important in providing protection against electromagnetic pulses generated by lightning.

OCRE believes this is sound advice and recommends that the NRC require the use of armored cable in the ABWR and in all future nuclear power plants.

Respectfully submitted,

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