July 13, 1994

COMMENTS OF OHIO CITIZENS FOR RESPONSIBLE ENERGY, INC. (OCRE) ON PROPOSED RULE, "LIST OF APPROVED SPENT FUEL STORAGE CASKS: ADDITION" (59 FED. REG. 28496, JUNE 2, 1994)

The NRC is proposing to add the Standardized NUHOMS Horizontal Modular Storage System to the list of approved spent fuel storage casks in 10 CFR Part 72.

OCRE supports this proposed rule. The NUHOMS system has the advantage of using the same dry storage canister for onsite storage, transportation, and ultimate disposal of the spent fuel, thereby greatly reducing fuel handling operations and consequently reducing occupational radiation exposure and the chance for leakage and contamination. OCRE does have the following specific comments regarding the NUHOMS application:

1. OCRE is pleased that the NRC is requiring daily measurement of the thermal performance of each Horizontal Storage Module. Such daily measurements will give early warning of impaired heat transfer which could lead to overheating of the HSM concrete and the fuel rod cladding within the canister. Impaired heat transfer could result from blockage of the air vents by wind-blown debris or by animal nesting activity (e.g., paper wasps can block openings with their nests), or from atmospheric conditions leading to stagnation of air flow.

2. The criticality analysis (SAR Section 3.3.4.1.3) assumes that irradiated fuel has been cooled 7.5 years following discharge from the reactor, and takes credit for fission product neutron absorbers. Since the minimum cooling time for spent fuel to be stored in the NUHOMS system is 5 years, OCRE assumes that the use of the 7.5 year cooling time in the criticality analysis is done for conservatism; i.e., as time passes, the quantity of the fission product absorbers will diminish due to radioactive decay. OCRE would therefore question whether the assumption of the 7.5 year cooling time is conservative, as it is very likely that even older fuel will be stored in the casks. (Compare SAR Section 7.4.2, which states that "given the average age of fuel in U.S. storage pools, and the most probable NUHOMS loading schedules, filled NUHOMS ISFSIs should have substantially older fuel than [10 years].")

3. SAR Section 7.4, "Estimated On-site Collective Dose Assessment," assumes that the spent fuel stored in the NUHOMS system has been cooled for 10 years before placement in the cask. The SAR states that 10 year cooled fuel was chosen "since it is a physical impossibility for a utility to have a facility full of five year fuel." However, it is certainly possible that at least some of the fuel stored in the system will be five year fuel, which will result in higher radiation levels and on-site doses. In fact, Section 1.1.7 of the Attachment A of the Draft Certifi-

cate of Compliance requires that the first DSC be loaded with fuel assemblies constituting a heat source of approximately 24kW, which means that first DSC will probably use five year fuel. OCRE believes that the assumption of 10 year cooled fuel for the dose assessment is nonconservative.

4. The Draft SEIS (Section 5.2) dismisses corrosion of the DSC with one sentence. "Because all of the parts of the confinement boundary are fabricated from stainless steel, the DSC is adequately protected from corrosion mechanisms." The SAR (Section 4.6, "Cathodic Protection") notes that the DSC is filled with helium, which provides an inert atmosphere, and that the DSC temperature is well above ambient air temperature such that there will be no condensation on exterior surfaces. OCRE would note that some stainless steels are subject to corrosion under certain conditions. Situations can be postulated which would result in wetting of the DSC exterior surfaces, such as flooding and rains driven by high winds. The potential for corrosion should be analyzed in a rigorous manner instead of being summarily dismissed. Since it is likely that the NUHOMS systems will be used to store spent fuel for decades, before a disposal facility is available, the long term potential for corrosion must be evaluated.

5. The combination of the transfer cask containing the DSC has only been analyzed for an accidental drop of 80 inches. This is conservative for handling outside the spent fuel building. However, absolutely no consideration has been given for potential accidental drops of the transfer cask and the DSC <u>inside</u> the spent fuel building, where the potential for accidental drops much greater than 80 inches exists. Indeed, such accidents inside the spent fuel building are more likely because of the lifting of the cask in and out of the fuel pool and onto the transport trailer. The cask must be analyzed for the maximum possible drop, regardless of whether that drop can occur inside or outside a building.

Respectfully submitted,

Susan L. Hiatt

Susan L. Hiatt
Director, OCRE
8275 Munson Road
Mentor, OH 44060-2406
(216) 255-3158