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SUBJECT: Comment on CP&L application dtd 981223.Proposed finding of no significant hazard is wrong & must be rejected for stated reasons.

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NOTES:Application for permit renewal filed. 05000400

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Waste Awareness and Reduction Network

NC WARN

FAX COVER SHEET

DATE: 2/12/99

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64FR 2237
Jan 13, 1999

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ATTACHED ARE COMMENTS FOR RECORD REGARDING CP&L APPLICATION DATED 12/23/98.

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Joint Comments of NC Waste Awareness & Reduction Network (NC WARN) and NC Citizens Research Group (NCCRG) 12 February 1999

Response to NRC proposed finding of "no significant hazards" 64 FR 2237 at 2238ff:

1. How can such a finding be made in light of the fact that the cooling system for pools C and D which can be filled with additional highly radioactive waste under CP&L's proposal, cannot be N-stamped (item ii, col 1 64 FR 2238)? The Federal Register notice appears to give zero analysis of what a failure in this system could do, but it appears that CP&L has already had a significant reduction in water level in its fuel pools at Harris, and this would in fact reduce the margin against boiling (and the time to expose fuel) should it occur, either due to the same cause as the previous accident, or failure in the less-than-nuclear-quality (per N stamp) cooling system.
2. According to CP&L's presentation to the Orange County (NC) Commission 2/9/99, CP&L has yet to begin to design an actual cooling system for pools C and D. CP&L also has stated that the existing Harris nuclear plant (Unit 1) cooling water system lacks the capacity to cool pools C and D if over 1 MBTU/hr of heat from spent fuel is in those pools. Given these facts, how can NRC certify as "no significant hazard" a system which does not exist, and has not even begun to be designed?
3. Item iii, Column 1 of 64 FR 2238, identifies the use of Harris Unit 1 component cooling water (CCW) for up to 1.0 MBTU/hour of heat load from additional radioactive spent fuel stored in pool C (or, D, according to the Federal Register notice, id.) as an unreviewed safety question. Since this question is unreviewed, how can it be considered no significant hazard absent a review?
4. The statements about probability of an accident (item 1 of the 10 CFR 50.92 no significant hazards consideration, col.2 64 FR 2238) are plainly wrong. First, as pointed out by David Lochbaum in his 1/22/99 letter to the NRC Commissioners, if you keep doing something with the same probability over and over, whether it is moving spent fuel or playing Russian roulette, you clearly do increase the probability of an accident (or of shooting oneself, in Russian roulette). 4715 additional fuel assemblies appear to be involved in CP&L's proposal, making the cumulative number of assemblies involved more than double the number CP&L is now licensed to store in it A and B waste fuel pools at Harris.

   Second, if CP&L's statements to the Orange County (NC) Commissioners 2/9/99 are correct, most, or all of these 4715 assembles may well be moved twice. CP&L declared that they would ship spent fuel that was at least 3 years ("old") after discharge from the reactor, and would only store spent nuclear fuel that was at least 5 years old in pools C and D to reduce the hazard of cladding fires. This evidently means that all fuel discharged from Harris 1 itself will have to be moved once, to pool A, and perhaps again, to pool B, spending at least 5 years before being moved again, to pool C or D.

   For spent fuel from CP&L's Robinson or Brunswick nuclear plants, if it were shipped at "age" after discharge from those reactors, of 3 years but less than 5 years, the fuel would be unloaded in the cask loading/unloading pool at the north end of the Harris fuel building (near pools D and C) and then moved across those pools to storage until its "age" exceeded 5 years, and then moved back to pools C or D. Such activity implies possibly 9000 or more fuel assembly movements, which could add nearly triple the number of fuel assembly movements in the storage building, That would mean nearly four times the potential for a fuel assembly drop, with the amendment. A factor of nearly four increase in accident probability appears to be significant.
5. The proposed analysis of a fuel assembly drop appears to ignore the chance that the dropped assembly could damage or break loose the neutron shielding beside another assembly, leading to accidental criticality or damage to more than one fuel assembly. These appear to be accidents beyond those mentioned as previously analyzed in the NRC's 1/13/99 Federal Register notice; also the probability of such accidents is increased by the larger number of fuel assembly moves as noted above (item 4).
6. The requirement for at least 5 years after discharge for fuel to be stored in pools C or D does not appear to be included in the Technical Specifications. Thus, the chance for a fuel cladding fire is increased (above zero, which is the chance if this amendment is denied), and a fuel cladding fire does not appear to have been analyzed in the NRC's 1/13/99 Federal Register notice, 64 FR 2237. Unless such requirement, or whatever stricter and/or other requirements may be necessary to avoid a cladding fire are included in the Technical Specifications, they would not be enforceable.
7. The NRC's statement (64 FR 2239, Col. 3, "Thermal-hydraulic and pool cooling") that "the pool temperature will not exceed 137 [degrees] F. during the highest heat load conditions, appears to be wishful thinking absent a design of, and an analysis of, the additional cooling system capacity (CCW

or other source) to cool pools C and D from Harris 1. We believe that, to prevent a significant increase in the probability of an accident from stored spent fuel in pools C and/or D, a cooling and cleanup system completely independent of Harris Unit 1, and comprising at least two independent cooling pathways, pumping systems, filters and water supplies, needs to be in place, along with independent power supply (at least two diesel generators not associated with Harris 1), to provide the same level of protection and cooling that would have been there had Harris 2, with systems as described above, been built. Otherwise, the probability of an accident is in fact increased in two ways: By placing fuel cooling loads on Harris 1 systems which they were not designed for, and by increasing the probability of an accident involving Harris 1 itself due to failures of its component cooling and/or other systems due to the additional cooling demands and/or failures of the cooling system for fuel pools C and or D. There appears to be zero indication that NRC staff has analyzed any of these contingencies, nor has CP&L provided in its application any rationales for switching from cooling pools C and D independently of Harris 1 and its cooling systems.

8. Both NRC and CP&L have evidently failed to analyze the cladding fire causing potential of having spent fuel stored in a configuration that so limits air cooling that, as described by Orange County's consultant Dr. Gordon Thompson, fires can be caused when water is still covering the bottom of the fuel assemblies, preventing convection cooling from the fuel building atmosphere, or greatly reducing it. This appears to be an accident yet to be analyzed, or analyzed properly (as Dr. Thompson stated 2/9/99 to the Orange County NC Commissioners) and the larger number of fuel assemblies allowed into pools C and D under CP&L.'s proposal would also increase the conseqences of such an accident (more waste, more fission products, more severe consequences). In the absence of an enforceable license condition eliminating spent fuel that could overheat to such an extent, this type of accident is possible in pools C and/or D.
9. Increasing the amount of spent fuel, full of highly dangerous fission products and fissionable material, does increase both the probabily and the consequences of accidents. For example, the more fuel stored, the greater the risk that a dropped assembly will in fact strike stored fuel, and/or its supporting structure, and/or its neutron-absorbing shield (which CP&L relies on to prevent accidental criticality). And the more fuel present, the greater heat load that must be dissipated to prevent overheating, and the greater amount of fission products and toxic material (e.g. uranium) that could be released in an accident.
10. Although CP&L states that it rejected horizontal silo storage, and by implication other dry cask technologies as well (their words) (12/23/98 application at page 11-5 of Holtec report HI-971760), because "fuel with cladding defects ["leakers"] cannot be placed in the [horizontal] silo" (first reason stated), neither NRC nor CP&L have stated or analyzed the impact of leaking fuel assemblies and/or fuel cladding defects on accident risks, accident probabilities, or demand on the cleanup system for pools C and D, nor the design of any additional water or air cleaning systems due to the storage of their requested 4715 additional spent fuel assemblies to be stored in pools C and/or D. Such leaks and defects can increase the probability and severity of accidents, and the more fuel stored, the more fuel can be contaminated by leaks or be involved in accidents.

For these reasons the proposed finding of no significant hazards is wrong and must be rejected.