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Mr. A. T. Cardone
Nuclear Regulatory Commission
Bethesda, Maryland

Dear Mr. Cardone:

I have read the report on the fault at the Shearon Harris site in Wake County. The enclosed comments represent my views of the report.

In spite of the apparent age of the fault of millions or even hundreds of millions of years, I am still concerned. I cannot see taking a chance on having a large fault pass through the waste processing room of a major nuclear power plant. It just seems so unnecessary. The burden of justification for such an unsound act must be fully on the shoulders of Carolina Power and Light.

We do not know the stress in the rocks at the Shearon Harris site and the orientation of the stress. To me this should be determined before any final decisions are made.

Sincerely,

S. Duncan Heron, Jr.

SDH/ja

Comments on Fault Investigation
Shearon Harris Nuclear Power Plant

by Duncan Heron

Much of the work that has been done on the Shearon Harris site fault appears to be of high quality. I especially refer to the reports of the various consultants and to the work of the Ebasco personnel on the structural aspects of the faults. However, sections of the report are just short of unreadable. Much of it is poorly written, poorly organized, and essentially non-scientific in style. In fact, it is repetitious and confusing to the point that one believes it was done so as to overwhelm the reader. The specific accusations against the report is that evidence or source is not cited for rather quantum conclusions. In fact, upon continued and prolonged reading one may find the supporting evidence tucked away in a consultant report or in a study by CP and L or Ebasco services. The reader should not be subjected to such labor as trying to figure out what is being said and especially what is the evidence to back it up.

The reader is from time to time treated as a scientific child (preface Figure Pf1) and as an expert in everything from plate tectonics to low temperature geochemistry.

Meaningless repetition is rampant throughout this report. For example, there is very little difference between parts of Chapter III, Regional Geologic Setting and Chapter IV, Site Geologic Setting.

Specifically, the descriptives of the Triassic Formations on page III-6 are rephrased on page IV-6. Why subject the reader to this needless repetition? The site geologic setting should describe in some detail th nature of the Sanford Formation at the site rather than repeating the general description of the Sanford Formation.

Literature is misquoted and conclusions are often drawn on the slimmest evidence. Take the next to last paragraph on page III-10. Abnormal hydrostatic pressure in the Dunbarton Triassic Basin of South Carolina-Georgia is reported by Kiersch (1972). The writers of the Ebasco report then state that "this finding is consistent with other evidence from geology and seismology (this evidence is not given or references cited) that the localization of seismic activity on an alignment from Charleston through Columbia, South Carolina, to the Appalachians is a locally occurring phenomena related to tectonic forces." What the reader isn't told is that by no stretch of geography can the Dunbarton Basin be on an alignment from Charleston through Columbia But accidentally the reader may sooner or later notice Figure 7 and se that the whole state of South Carolina forms a seismic zone at right angles to the Appalachian tend (according to Bollinger). Was this the meaning of the sentence quoted? Who knows, certainly not the reader.

I see no reason to labor the point anymore. One is, however, left with the impression that Ebasco services will go to any length to stretch the evidence, confuse the reader, and misquote previous

workers (to be charitable, accept tenuous conclusions of others as absolute fact).

Age of Movement of the Fault

In Section VI the age of the movement of the fault is discussed from five different lines of evidence. Much of this section appears to be based on sound studies. I do feel, however, the need to comment on Part B, Evidence from Soil, Saprolite and Sediment Exposures.

In trench FET-19W the fault is overlain by a sedimentary deposit. In spite of all the speculation made on pages VI-11-15, there is no evidence presented for the age of this deposit. In fact, some of the speculations made (see especially the third paragraph on page VI-16) are geologically unsound and even unbelievable. In addition there are undocumented statements made concerning the thickness of the soil profile (page VI-15, second paragraph) as related to the soil found in the Middle Coastal Plain. The fact is that neither the sedimentary deposit in trench FET-19W nor the soils developed on them or on the Triassic rocks themselves can be dated.

In Section C, Evidence from General Geology, the statement is made that faults displacing strata younger than Paleocene have not been found in the Carolina Coastal Plain. Again this is an example of half truths and/or a poor search of the literature. Faults cutting sediments younger than Paleocene in the Carolina Coastal Plain are reported in

the literature. This may be a minor point, but it does illustrate how unsup

ported statements are common in this document.