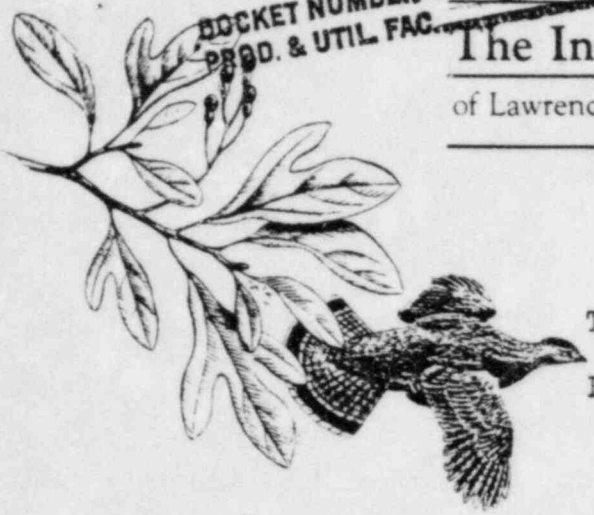

The Indiana Sassafras Audubon Society

of Lawrence, Greene, Monroe, Brown, Morgan & Owen Counties

April 16, 1983

TO THE UNITED STATES NUCLEAR REGULATORY COMMISSION

FROM THE SASSAFRAS AUDUBON SOCIETY OF SOUTH CENTRAL INDIANA

I

The Sassafras Audubon Society of South Central Indiana hereby petitions the United States Nuclear Regulatory Commission (NRC) for the right to intervene in the Operating License Proceeding of Marble Hill Nuclear Generating Station Units 1 and 2. The membership of the Society lives within the service area of Public Service Indiana (PSI), the applicant for the operating license, and as ratepayers have a financial interest in whether or how well it will operate, as well as a deep concern for the public health and safety were it to operate.

II

Sassafras Audubon's interest in Marble Hill is well established. In 1979, the Society petitioned the NRC for a public hearing at a timely point in the licensing process, on significant issues not considered at the construction license proceeding. The Society's petition was denied on a divided vote of the Commission in March 1980.

Sassafras Audubon petitioned the Indiana Public Service Commission (IPSC) in March 1982 for a public hearing on Marble Hill. This was followed in April 1982 by a petition for a Hearing by the Office of Utility Consumer Counselor of Indiana, with the IPSC granting a Hearing on the 1) NEED and 2) COST of Marble Hill. The Hearing was held from October 14-26, 1982, with the public interest represented by the Utility Consumer Counselor of Indiana.

III

It was established at the Hearing that there was no need for Marble Hill and that Public Service Indiana should have recognized that fact as early as 1977 and at the latest by 1979. It was also established by the Utility Consumer Counselor of Indiana that there was no need for Gibson 5, a large coal-fired unit brought on line in October 1982 by PSI. Hoosier Energy plans to bring another large coal-fired unit at Merom into operation in the summer of 1983 adding to the excessive over-capacity of power in Indiana. Other utilities in the ECAR Region, the power grid to which PSI and Hoosier Energy belong, have also over-constructed, and like TVA are having difficulty finding a market for their excess power. There is no market for Marble Hill's power in the time frame of its projected completion dates, nor in the forseeable future.

IV

Witnesses at the October 1982 Hearing on Marble Hill were divided as to the potential cost. Energy Systems Research Group, Inc. (ESRG), the firm hired by the Office of Utility Consumer Counselor on behalf of the public interest, estimated $8-10 billion and recommended immediate cancellation of the Marble Hill Project on the basis of this excessive cost and the fact that there was no need for its power. National Economic Research Associates, Inc. (NERA), the firm hired by the IPSC, supported PSI's estimate of $5.1 billion, but with the reservation that if "significant uncertainties" such as implementation of new safety regulations or other construction delays raised the cost as much as 20-40%, that the Marble Hill Project should be canceled. NERA also recommended another "Independent Audit" be made of the cost, which is now in progress.

V

Intervenors, ratepayers of the PSI service area, and citizens of Indiana in general, are concerned not only with the excessive cost of constructing Marble Hill Units 1 and 2, but also, with the potentially excessive cost of operating, maintaining, and decommissioning Marble Hill, including the full cost of the regulatory process. Will the power produced by Marble Hill during its active life pay for these costs?

VI

The contentions which Sassafras Audubon would raise as intervenor in the Marble Hill Operating License Proceeding have financial and public health and safety implications of the highest consequence. Each contention is discussed in some detail to establish the validity of our interest:

Fracture Toughness of Marble Hill 1 and 2 Containments

Neutron radiation "embrittlement" of reactor pressure vessels of PWR's is occurring more rapidly than expected, making them susceptible to fracture and loss-of-coolant accidents and reducing their capacity and life-expectancy.

Enclosure 6 of the NRC "Acceptance Review of Application for Operating License for Marble Hill Units 1 and 2" is concerned with "Fracture Prevention of Containment Pressure Boundary" (6-2) which states:

> "We have determined that the fracture toughness requirements contained in ASME Code editions and addenda typical of those used in the design of the Marble Hill 1 and 2 containments may not ensure compliance with GDC 51 for all areas of the containment pressure boundary."

The NRC further notes that components of the containment system which are load bearing and provide a pressure boundary in the performance of the containment function, may have materials which will not have been fracture toughness tested or will have been inappropriately tested.

We seek more than "reasonable assurance" that whatever the metallurgical characterization of the materials, that the Marble Hill 1 and 2 reactor containment pressure boundary will behave in a nonbrittle manner, and that the probability of rapidly propogating fracture will be minimized by adherence to certain technical specifica-

tions. Rather, we seek an evaluation of the materials used in the Marble Hill reactor pressure vessel in terms of the effect of neutron radiation and load rates on similar materials in operating reactors, after 5, 10, 15 years of operation? What limits have had to be placed on operating levels with time? How frequent inspection to test for progressive embrittlement?

Pressurized Water Reactor Steam Generator Tube Integrity, and, Vibration and Water Hammer Problems in Westinghouse Model D-Series Steam Generators

The NRC Steam Generator Status Report of February 1982 acknowledges that no effective solution has been found for prevention of steam generator tube degradation, an unresolved safety issue of the Commission. The NRC is critical of the fact that manufacturers of steam generators have sought only technological or chemical "fixes" to the problem, whereas a basic systems approach is needed.

Marble Hill's steam generators will be susceptible to steam generator tube degradation, with all that implies, and with the possibility of it occurring within a few years of operation.

Marble Hill may have additional steam generator problems, for the Westinghouse D-Series Models to be installed in Marble Hill have had a problem of excessive vibration which can impair steam generator tube integrity, and have had to be operated at reduced levels.

The McGuire Nuclear Plant is to have a "technological fix" installed (manifold) in October 1983, but whether that will "solve" the vibration problem, or solve that problem while creating another one such as sludge build-up, will only be known with time.

The Comanche Peak, Byron, and Marble Hill nuclear plants will have similar D-Series Models (D-4 and D-5) and are expected to require "technological fixes" designed specifically for these models. How long will it take to design, install, test and/or determine the reliability of the "fix"?

Water hammer occurred in the D-4 steam generator of the Krsko, Yugoslavia plant during testing. While the NRC has issued a NUREG declaring the water hammer problem resolved on the basis of a Westinghouse "solution", there is a question as to whether there has been sufficient testing of the "solution" to declare it resolved. On that basis, it should be included as a possible problem at Marble Hill.

Seismic and Dynamic Qualification of Safety-Related Electrical Equipment and Construction at Marble Hill

Safety-related electrical construction was halted at Marble Hill in January 1983 in response to allegations of a welding inspector that faulty welds and failure to maintain documentation on critical materials raised doubts about the plant's structural soundness.

A Confirmatory Action Letter (CAL) was sent to PSI by the NRC on February 2, 1983 which gives the public some information on the type and depth of the problems verified by the NRC during the special inspection which they conducted from January 24-28, 1983, but the Report on the results of the inspection has not been issued as yet.

The CAL mentions that "the stop work encompasses fabrication and installation

of electrical auxiliary steel; cable tray and conduit hangers; and cable tray and exposed conduit." We are particularly concerned with the word "fabrication" for it implies that the quality of the materials used in the electrical work may be unknown.

Mr. M. J. Landers, the welding inspector who made the allegations concerning the quality of the electrical work, alleged that much of the building materials used were not documented, and that the situation cannot be corrected without at least half of the completed electrical work being replaced.

The public does not know at this point what corrective action will be required by the NRC to ensure the soundness of electrical construction at Marble Hill. Whatever is required, the intervenors should have the opportunity at the Operating License Proceeding to question and determine as far as possible the adequacy of the solution and the quality and soundness of Marble Hill's electrical system.

Seismic Design Criteria

Cassafras Audubon's concern for the seismic design of Marble Hill is evidenced in a letter of June 21, 1982 to B. J. Youngblood, Chief, Licensing Branch No. 1, Division of Licensing, NRC. This concern is based on recent research, the identification by the U. S. Geological Survey of the deep fracture that caused the New Madrid earthquakes of 1811 and 1812, some 55 miles long in a northeast direction and with shifts of 3000 feet in the rock formation more than a mile underground, and the warning by seismologists that the New Madrid rift represents a high risk earthquake area where another major quake is overdue. The lower Ohio River Valley has been cited as a zone of potentially heavy earthquake damage.

L. L. Kintner, in his reply on behalf of B. J. Youngblood, mentions that the NRC did not see, currently, new information that would adversely impact the seismic design input for the Marble Hill site, and did not foresee a revision to the requirements for Marble Hill at that time.

The NRC's Operating License Safety Evaluation Report (OL SER) may reflect recent research and re-evaluation of the earthquake potential of the Ohio River Valley, Wabash River Valley, and New Madrid areas. Nevertheless, Mr. Kintner's reply to our concerns was inadequate and we ask that the seismic design of Marble Hill be a contention of the Operating License Proceeding.

Class 9 and Core-Melt Accidents

The March 1979 core-melt accident at Three Mile Island-2 (TMI-2) dispelled the opinion that partial core-melt and Class 9 accidents were of such remote probability that they need not enter into licensing decisions.

Defense-in-depth or the redundancy concept of nuclear design is an incomplete answer to nuclear safety and does not insure protection from systems interaction-type accidents where man is part of the system and human error may contribute to the accident.

A recent study of the probability of core-melt accidents and their possible consequences must be part of the decision as to whether Marble Hill is an acceptable risk and should be granted an operating license.

Decommissioning of Marble Hill and Disposal of Marble Hill's Radioactive Wastes

Assurances have been given the public that the technology for decommissioning aged commercial nuclear reactors is present, and the cost-estimates of decommissioning large reactors have been modest. No aged, large-scale commercial reactor, however, has been decommissioned, nor ultimate disposal been made of its radioactive wastes.

We contend that dismantling ofalarge-scale, aged, nuclear reactor with return of the plant site to its former condition, with final disposal of the radioactive wastes produced during its operation an integral part of the decommissioning process, will be far more difficult and many times more costly than current estimates.

The scientific knowledge necessary for the acceptable decommissioning of nuclear plants and particularly for the final disposal of their radioactive wastes, is inadequate, and there is still insufficient recognition of the social issues involved which will deter the process.

Marble Hill will have a tag-end priority for space in a Federal Repository. The prospect is for Marble Hill to be a high-level, radioactive waste storage site not only during its operating life, but for an indeterminate period afterwards. When PSI was granted a construction permit, a total of one and two-thirds cores, approximately 380 spent fuel assemblies was to be stored on site for any length of time. The prospect now under an operating license would be for all the spent fuel produced during the active life of the plant to be stored on site. The implications of this change must be addressed at the Operation License Proceeding.

Emergency Planning and Evacuation

TMI-2 demonstrated the necessity of emergency planning not only for the immediate vicinity of the plant, but for varying distances depending on meteorological conditions. An emergency plan for Marble Hill should be available for public review prior to the Operating License Proceeding,with its evaluation part of the proceeding. Final details should be worked out and tested prior to operation of Marble Hill.

VII

The NRC indicated in their Acceptance Review of Application for Operating License for Marble Hill Units No. 1 and 2 that substantive deficiencies existed in PSI's application reports and requested additional information in order to complete their SER. Will the additional information requested from PSI be made available to the public as appendices to the FSAR, ER-OL, etc.? This information is essential to developing various contentions, e.g. seismic qualification of safety-related equipment.

Yours sincerely,

Mary Pat Lynch

Mary Pat Lynch
President, Sassafras Audubon Society
605 South Fess Avenue, Apt. 6
Bloomington, Indiana 47401