

MAY 16 1974

William E. Garner, Esq.
Route 4, Box 354
Scottsboro, Alabama 25768

In the Matter of Tennessee Valley Authority
(Bellefonte Nuclear Plant, Units 1 and 2)
Docket Nos. 50-438 and 50-439

Dear Mr. Garner:

This letter is in response to your request for the name, title, education, experience and address of all persons who have had input to the Draft Environmental Statement with regard to the contention involving the location of the access rail route. You also requested the same information for persons involved in the preparation of the Final Environmental Statement.

The Draft Environmental Statement considers the access rail route in Sections 3.4 and 4.1.3.

1. Section 3.4 was written by K. A. Hub. Mr. Hub is employed at Argonne National Laboratory, 9700 South Cass Avenue, Argonne, Illinois 60439. A copy of his professional qualifications is attached. He is the team leader for the Bellefonte project.
2. Section 4.1.3 was written by Pamela A. Merry. Ms. Merry is also employed at Argonne National Laboratory as a biologist. A copy of her professional qualifications is attached.
3. Sections 3.4 and 4.1.3 were reviewed and approved by Gerald L. Dittman, Environmental Project Manager for the AEC. His address is U. S. Atomic Energy Commission, 5650 Wall Lane, Rockville, Maryland 20851. A copy of his professional qualifications is attached.

Heavens

In addition to the above, the following people are reviewing this matter for the Final Environmental Statement:

1. Regis R. Boyle, a cost-benefit specialist, is presently considering the impact of land use on the alternate locations of the access rail route. Mr. Boyle's address is U. S. Atomic Energy Commission, 4922 Fairmont Avenue, Bethesda, Maryland. A copy of his professional qualifications is attached.
2. Rajendra K. Sharma, aquatic biologist, and Pamela A. Merry are presently considering the environmental impact of the alternate locations of the access rail route. Mr. Sharma is employed at Argonne National Laboratory. A copy of his professional qualifications is attached.

You also requested all papers in our files relating to this subject. At our meeting on Friday, May 10, 1974, we gave you a draft copy of a section of our FES relating to this contention even though we expect it to change. We also have a draft copy of the relevant section of TVA's FES. It is attached.

You can obtain copies of two other documents we have; (a) the March, 1973 "Sketch Development Plan - Hollywood, Alabama" from the Top of Alabama Regional Council of governments in Montgomery, Alabama and (b) the March, 1967 "Neighborhood Analysis - Scottsboro, Alabama" from the City Planning Council, Scottsboro, Alabama.

We also have 2 large detailed blueprint maps obtained from TVA at our meeting on March 20, 1974. TVA is sending you two copies of those maps.

We will send answers to the questions contained in paragraph 21 of your letter of April 5, 1974 within a few days.

Sincerely,

William D. Paton
Counsel for AEC Regulatory Staff

Enclosures:
As stated above

OFFICE >	See page 3					
cc: >						
SURNAME >						
DATE >						

cc w/enclosures:

Elizabeth S. Bowers, Esq.
 Mr. Glenn O. Bright
 Dr. E. Leonard Cheatum
 Hugh K. Clark, Esq.
 Dr. John H. Manley
 Robert H. Marquis, Esq.
 David G. Powell, Esq.

Aubrey V. Godwin
 Elisha C. Poole, Esq.
 Atomic Safety and Licensing
 Appeal Board
 Atomic Safety and Licenisng
 Board Panel
 Mr. Frank W. Karas

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DATE ➤	5/14/74				

KENNETH A. HUB

Nuclear Engineer

Education: BS, ChE University of Wisconsin
 MS, ChE Kansas State College

Nuclear Engineering Studies - Oak Ridge School of
 Reactor Technology
 Westinghouse School on Electrical Power and the
 Environment

Worked in the Monsanto Chemical Company-Union Electric Company Group that investigated the economic and technical aspects of producing electrical power using a nuclear power heat source; also investigated the use of nuclear energy in the chemical process industry.

Served as a consultant for two years to Societa Electtronucleare Nazionale in Italy for the preparation of plant specifications and the evaluation of the bids for the Gargliano Plant. Also evaluated the worth of incremental capacity of different energy sources in the national grid.

Served as a consultant for two years to the Brazilian Atomic Energy Commission on the review of sites and preparation of specifications for a proposed Brazilian nuclear power plant. Reviewed existing power plants and those planned in a specific region in conjunction with power demand to estimate the technical - economic feasibility of a small nuclear plant in the region.

Was in charge of the Argonne National Laboratory's technical and economic evaluation of liquid-metal-cooled fast-breeder-reactor designs that were developed by five industrial companies. These design studies funded (\$3.2 million) by the AEC were directed towards a conceptual design of a 1000 MW plant. Specification of the R & D program was part of their study and of the ANL evaluation efforts.

Worked on developing an economic-technical model of electric utility generating system; this model is based on system reliability criteria and is used to find the impact of plant characteristics on system reliability and on system expansion patterns.

Was in charge of the study of "Social Costs of Alternate Means of Generating Electrical Energy in 1980 and 1990." This comprehensive study attempted to assess the social costs of generating electrical energy by fossil (coal, oil, gas) and nuclear (BWR, PWR, HTGR, LMFBR) means. Primary imports from the mine through the disposal of wastes from the generating plant were expressed for each energy system based on the annual output of a 1000 MW_e plant. Secondary external effects were discussed. External and internal costs were tabulated; these included such things as health and genetic effects from radiation, SO₂ and particulate damages to property, land dispoliation, thermal discharge effects and conventional collar costs. Limitations of the study were stated.

PROFESSIONAL QUALIFICATIONS

Pamela A. Merry

Argonne National Laboratory

I am presently employed as a scientific assistant on the staff of the Environmental Statement Project at Argonne National Laboratory. My work involves evaluating the biological aspects of the environmental impacts of the construction and operation of nuclear power stations.

Michigan State University, Lyman Briggs College, awarded me a B.S. degree in biology with a coordinate major in zoology in 1971.

I have had a broad education in many areas of the biological and physical sciences, including spending a summer at MSU's Kellogg Biological Station studying ecology and limnology and doing research on a blue-green algal virus at Oakland University (Rochester, Michigan). Presently, I am taking a course in population ecology at the University of Chicago.

Since receiving my degree I have been employed as a laboratory technician doing eye research at the Institute of Biological Science, Oakland University, and then at Argonne in my present capacity. I am a member of the Scientific Research Society of America.

1966 - 1970

Project Engineer

Project Engineer for the nuclear warhead used in the Navy's Poseidon submarine launched ballistic missile system. I supervised about a 15 man project team with a peak operating budget of approximately three million dollars. During initial phases of this program many preliminary design concepts were investigated in conjunction with a private industrial concern under contract to the Navy. Warhead and reentry body design criteria and significant missile trade off parameters were evaluated so that a highly integrated and optimized weapon system would result. The process was continued throughout the development phase to insure that the initial goals were realized.

1965 - 1966

Group Leader

Laboratory engineering representative to various AEC and military study groups involved with advanced conceptual design of strategic missile reentry systems. My duties included generating preliminary nuclear warhead data packages and engineering concept drawings, liaison with the private industrial subcontractors to establish an acceptable nuclear/reentry system hardware design and preliminary thermal and mechanical assessments of design capabilities. I supervised a five man project team comprised of three design engineers and two draftsmen.

1960 - 1965

Design Engineer

Design engineer on nuclear warheads for several weapon systems including the Air Force Minuteman III ICBM. During this period of time my duties increased from responsibility for components of a major sub-system to lead engineer for the sub-system itself. I was eventually promoted to Assistant Project Engineer.

1958 - 1960

Design Engineer

Design engineer for a residue retrieval system used in a contained high explosive test facility. Duties included concept formulation, preliminary detail design and supervision of three draftsmen to provide drawings for fabrication of a prototype scaled assembly for field evaluation. Other tasks assigned with this project group consisted of thermal analysis of a refrigeration system, preliminary analysis of facility air conditioning requirements, temperature response predictions of the containment vessel for test calibration purposes and some evaluation of vessel strain gage data.

PROFESSIONAL QUALIFICATIONS

REGIS R. BOYLE

U.S. ATOMIC ENERGY COMMISSION

I am Regis R. Boyle, Cost-Benefit Specialist, with the Cost-Benefit Analysis Branch, Directorate of Licensing of Regulatory Staff of the Commission. I joined the staff in December 1972. I received a B.S. Degree from the Pennsylvania State University in Mechanical Engineering and a M.S. Degree in Mechanical Engineering from the University of Pittsburgh. I am currently working toward a D.Sc. Degree at the George Washington University in Mechanical Engineering with my principal area of study being Environmental Control. I am a member of the American Society of Mechanical Engineers and a registered Professional Engineer in Pennsylvania.

My major duties at the Atomic Energy Commission are the review and analysis of Applicant's environmental reports and the preparation of portions of the Staff's environmental statement. My principal areas of responsibility include the need for power, alternative energy sources, sites, and plant design, and the cost-benefit analysis. In addition, I have conducted generic research on the nuclear park concept and nuclear power plant cooling systems and have made contributions to the cost-benefit analysis section of the Staff's Final Environmental Statement on Emergency Core Cooling Systems.

Prior to joining the Atomic Energy Commission Staff, I was employed by Westinghouse Electric Corporation as a Generation Engineer in their Fuels and Energy Systems group of Power Systems Planning. My major responsibilities in this position were to perform long-range commercial and economic studies on both state-of-the-art and advanced power system equipment and facilities.

I have authored or co-authored three publications. These are "The Environment and Electric Power Plants," MIT Tech Engineering New, April 1971.

"How to Cool Steam-Electric Power Plants," Chemical Engineering Progress, July 1971.

"The Effect of Fuel Availability on Future R&D Programs in Power Generation" Presented at the American Power Conference, April 1972.

In addition, to these publications, I have made several presentations to professional societies on advanced methods of power generation.

PROFESSIONAL QUALIFICATIONS

Rajendra K. Sharma

Argonne National Laboratory

I have been an Assistant Biologist in the Environmental Statement Project of the Argonne National Laboratory since July 1972. I have responsibility for contributing to the Environmental Impact Statements for the Nine Mile Point Station and the FitzPatrick Plant in the area of biological effects of plant construction and operation on the aquatic ecosystem.

I obtained a Bachelor of Science degree in Botany, Chemistry, and Zoology in 1959 and a Master of Science degree in Zoology with courses in fisheries in 1961 from Agra University, India. I was conferred a Doctor of Philosophy degree in Fishery Biology at Utah State University in 1968.

From July 1962 to February 1965 I served as a Senior Research Assistant at the Fisheries Research Laboratory, Lucknow, India, where I conducted fishery surveys of inland waters for evaluation of fisheries potential. I was also involved in conducting experiments on artificial spawning of commercially important fishes.

While studying for the Ph.D. degree (February 1965 - April 1968) I was employed as a part-time Research Assistant in the Department of Wildlife Resources, Utah State University under a USAEC research grant. Under laboratory conditions, I studied the effects of gamma radiation dose and the interacting effects of gamma radiation dose and sodium halide concentrations on rainbow trout. This work was submitted as a dissertation for the Ph.D degree.

During May - June, 1968, I worked as a Research Assistant in the Department of Animal Science, Utah State University where I assisted in various biochemical analyses.

I joined the University of Arizona as a postdoctoral Research Associate in July, 1968, in the Department of Agricultural Biochemistry. For two years I studied the effects of insecticide and flavonoid interactions on growth and survival of fish.

In July 1970 I joined the Consolidated Edison Company of New York as a Biologist in the Office of Environmental Affairs. I was Project Manager of the Fish Advisory Board (a group of Con Ed consultants in biology and engineering) whose primary responsibility was to search for a solution of the intake fish kill problem at Indian Point. I was also Project Manager for the ecological studies in connection with the Cornwall Hydroelectric Project and the Astoria Station. I prepared

proposals for ecological studies to assess the construction and operational effects of thermal and pumped storage power plants. I also contributed to a proposal for environmental studies for site selection for an offshore nuclear power plant in New York Bay. I contributed to the Environmental Reports (sections of biological impacts) and to a report on Fish Protection at Indian Point (Appendix S of the Environmental Report for Unit 3). Other duties in this position included management of various other support projects. I resigned from Con Ed in July 1972 to assume my current position.

I am a Certified Fishery Scientist and member of the American Fisheries Society. I am also a fellow of the International Academy of Fishery Scientists (Rome, Italy).

Protection of the areas indicated above and the planting of various tree and shrub species in the open areas to be developed along with natural succession is expected to improve the peninsula habitat.

In summary, the principal costs associated with recreational development of the peninsula include an incremental total cost of \$160,000 for access construction, approximately \$500,000 for development of the recreation area, and the impact on wildlife of some habitat removal and disturbance. Benefits derived from the recreational development include \$2,600,000 in recreation benefit over the life of the plant, reduced traffic through old town Bellefonte, and increased utilization of existing wildlife resources.

After considering the alternatives, TVA selected the indicated route across Town Creek as representing the best balance between cost, environmental impact, and the other considerations discussed.

Railroad access to the site will be provided by approximately 3 miles of new roadbed extending from the Southern Railway main line at a point about 1 mile west of Hollywood (Alternative B, Figure 2.9-1). The right of way for the access railroad will require about 65 acres of land.

TVA considered two alternate routes for the access railroad. Preliminary estimates show no significant differences in cost between the two routes, although potentially extensive excavation of rock could drive the cost of alternative A higher. Consideration of other resource commitments for these alternates is as follows:

1. Alternative A was slightly shorter than the one selected. It crossed the Town Creek embayment and extended in a generally

north-westward direction from the plant. The significant beneficial impact of the route was the enhancement of some land in its vicinity for potential industrial use. Adverse impacts included: (1) several large tracts of land and cultivated farm fields would be split; (2) at-grade crossings of two county roads would be necessary, with one road requiring extensive adjustment; (3) possibly two or three residences would be affected and might have to be relocated; (4) dust and noise inherent in construction; (5) temporary turbidity and siltation of the Town Creek embayment during construction of the crossing; (6) loss of some aquatic habitat in Town Creek embayment; and (7) requires approximately 185,000 cubic yards of borrow excavation. This route would require about 60 acres of land for right of way north of Town Creek.

2. The selected route, Alternative B, extends in a generally westward direction to a point on Southern Railway about 1 mile west of Hollywood. Beneficial impacts of this route are that (1) it would provide more direct rail access to potential industrial lands between the plant site and the city of Scottsboro with an acreage 4 to 5 times greater than alternate A; (2) the route is adjacent to property lines for a great portion of the length; and (3) requires about 90,000 cubic yards less borrow excavation than alternative A. Adverse impacts would be primarily the dust and noise inherent in construction, and the impact on Town Creek embayment due to the filling. These adverse impacts would be less than those for alternative A.

2. Aesthetics - The plant will be located on a broad plain of a peninsula. A wooded ridge on the southeastern edge of the peninsula separates the plain from the body of Gunterville