

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)
)
NORTHERN INDIANA PUBLIC) Docket No. 50-367
SERVICE COMPANY) (Construction Permit Extension)
)
(Bailly Generating Station,)
Nuclear-1))

AFFIDAVIT OF ROBERT P. GECKLER

I, Robert P. Geckler, being duly sworn, state as follows:

1. I am employed by the U. S. Nuclear Regulatory Commission as a Senior Environmental Project Manager, in the Division of Site Safety and Environmental Analysis, Office of Nuclear Reactor Regulation.
2. I am the environmental project manager assigned to the Bailly Generating Station construction permit extension application.
3. I was the environmental project manager responsible for the final direction and supervision of the environmental review of the Bailly construction permit application. This review culminated in the issuance of an NRC Staff Final Environmental Statement, dated February, 1973, and subsequent submission of direct testimony at evidentiary hearings held before an Atomic Safety and Licensing Board in 1973. Several observations on the relationship between the ash ponds for the Applicant's coal-fired plants and Bailly construction site dewatering flow.

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4. Two coal units have been operated at the Bailly site since the 1960's. In connection with their operation, ash from the units has been sluiced into ponds designed to accept the ash. Periodically, the ponds are cleared with a drag line and the ponds reused. Several million gallons of water are cycled through the ponds each day. The porous (sandy) nature of the soil results in considerable loss of water into the ground water and raises the water table in the present interdunal pond area of the Indiana Dunes National Lakeshore (Lakeshore).
5. In 1970, the Applicant (NIPSCO) submitted an application to the NRC to construct the Bailly Generating Station. The actual operation of the coal units, and their ash ponds, bears no direct relationship to Bailly construction. However, nuclear site dewatering required during construction bears a tangential relationship to seepage from the ash ponds in light of the fact that (though separable therefrom) it may combine with the seepage to influence the water levels in the adjacent interdunal ponds. This relationship led to the formulation and approval of a monitoring and mitigation program to be applied during the dewatering phase of construction in order to detect and mitigate, if necessary, any adverse impacts upon the Lakeshore or interdunal area due to the nuclear construction. This program was the subject of litigation at the construction permit hearings and received Licensing Board approval.
6. Shortly after construction of the Bailly plant had begun, the Applicant proposed a method to further reduce the potential for adverse dewatering

impact through installation of a slurry wall around the excavation. This was designed to impede the flow of groundwater into the excavation and further reduce dewatering pumping requirements. The proposal was approved following evidentiary hearings before an Atomic Safety and Licensing Board. The installation of the slurry wall was completed in February 1977. It has been estimated to be 80 to 90 percent effective.

7. As a result of the slurry wall proceedings, a license condition was placed in the construction permit to the effect that any change in dewatering technique leading to the use of well-point dewatering would be subject to Staff review and approval. Subsequent thereto, such a change was proposed and received Staff review and approval.
8. Following issuance of the construction permit, the National Park Service and the Department of the Interior changed their objectives respecting the ultimate character of the Lakeshore. The National Park Service now appears to view its mandate as requiring restoration of the Lakeshore to its original nature to the extent feasible. As a result, the National Park Service is apparently concerned about the water regime in the entire Lakeshore, of which that portion adjacent to the site is only a small fraction. Its principal concern appears to be that water seeping from the ash ponds into the groundwater artificially raises the water level of the interdunal ponds. Consequently, an agreement was entered into between the Northern Indiana Public Service Company and the Department of the Interior in February 1978, under cover letter of March 3, 1978, whereby NIPSCO would seal the ash ponds.

9. I am advised by NIPSCO that, subject to completion of a waste water treatment plant, the ash ponds will be sealed by the end of 1980. The first pond will probably be sealed by June 1980. Recharge from the ash ponds will diminish over time following their sealing until no effective recharge mound should be discernible after approximately 18 months.
10. The monitoring program for the interdunal pond levels during nuclear construction dewatering is designed to detect potential adverse effects before they approach the site boundary. Mitigative measures (such as recharging the groundwater) could be taken before such effects occur off-site; thus protecting the Lakeshore from any adverse impact. Dewatering has been going on continually since 1974-75. To date, all data evaluation has been done with the presence of the current ash pond seepage. No off-site impacts have been detected. The National Park Service, through the U. S. Geological Survey, has established a monitoring program, supplemental to that devised by the Applicant, to study the groundwater regime in the Lakeshore and adjacent areas.
11. Originally, the dewatering phase of construction would have been completed before the ash ponds were sealed. If an extended period of construction is permitted, site dewatering will continue after the ash ponds have been sealed (approximately the end of 1980). With the resumption of construction, dewatering could continue for a period of approximately 18 additional months.

12. The Staff will evaluate the environmental consequences of construction dewatering absent the phenomenon of ash pond seepage and cooperate with the National Park Service to further its goal of returning the Lakeshore to its natural state to every extent feasible. The Staff does not expect that continued nuclear construction activities would appreciably alter the achievement of this goal.
13. A statement of my professional qualifications is attached.

Robert P. Geckler

Robert P. Geckler

Subscribed and sworn to before me
this 9th day of April, 1980.

Elizabeth Ann Foster
Notary Public

My Commission expires: July 1, 1980

PROFESSIONAL QUALIFICATIONS

ROBERT P. GECKLER

U. S. NUCLEAR REGULATORY COMMISSION

I am a Senior Environmental Project Manager for the U. S. Nuclear Regulatory Commission(NRC), having joined the staff in 1972. As an Environmental Project Manager(EPM) I am responsible for the management of the review of an applicant's environmental reports and the preparation of NRC Environmental Statements which meet the requirements of 10 CFR, part 51 and the National Environmental Policy Act of 1969 in connection with applications for construction permits, operating licenses and amendments for nuclear power plants. I also act as the main point of contact between the NRC and the applicant in matters relating to environmental affairs.

I have held assignments in various capacities as the EPM on the LACBWR, Baily Nuclear Station, Calvert Cliffs, Hatch, Indian Point, Seabrook Nuclear Station, Farley, South Dade, Brunswick, Pebble Springs and Palisades. In addition, I have held a number of special assignments, including such areas as generic problems of alternative siting, cost-benefit analysis, monitoring requirements, workshops on biological significance and committee membership on a committee between EPA and the NRC, evaluation of research proposals and review of internal staff documents.

Prior to joining the NRC, I spent approximately five years as a Senior Research Associate in the Biomathematics Program, Statistics Department, at North Carolina State University, Raleigh, N. C. As a faculty member and associate member of the graduate faculty, I taught courses in resource management and biology at the advanced undergraduate and graduate level, assisted in organizing and giving a course in systems ecology, participated in graduate student guidance, program administration and research in prey-predation in an aquatic system(snails and marsh flies). I was also a member of the Nutrition Institute and the Air Pollution faculty. Outside consulting activities included general toxicology and toxicology of atmospheric pollutants.

Before joining NCSU, I was employed by Aerojet-General Corporation in California and Ohio for eleven years, three of which were with the company's nuclear division. While with the nuclear division, I had several assignments including those of Project Engineer for manufacture and assembly, including critical assembly, of nuclear training reactors and Administrative Reactor Supervisor. I held an AEC Reactor Operator License for Aerojet-General reactors.

In 1960, I transferred within the company to assist in establishing a life sciences activity. I participated in all phases of life sciences programs and was responsible for the biological research within the Corporation.

Programs included establishing and operating an inhalation toxicology laboratory at Wright-Patterson Air Force Base, Ohio. I was Project Engineer during the early phases of design and fabrication and later Assistant Laboratory Director. Other programs included systems studies of waste management processes, the relationships between solid wastes and disease, needs in solid waste research, water purification and microbial problems in desalination, river purification, recreational water criteria, various problems associated with manned space flight and life support systems (including the manned Mars Mission), research and development leading to the fabrication of a photosynthetic gas exchanger and study of man in confinement. Special assignments were accepted as a life science specialist within the corporation. My final position with the company was Assistant Manager, Life Sciences Division and Manager of the Advanced Biological Applications Department.

Before my employment with Aerojet, I spent one year in military operations research and more than four years with the AEC, Oak Ridge Operations Office, Isotopes Division and Division of Research and Medicine as a Physiologist and Biologist.

From 1949-51, I was a faculty member in the Biology Department at Vanderbilt University, Nashville, Tennessee, where I taught general biology, genetics, and cytology and did research in protozoan genetics.

I received my B. S. in Chemistry and Ph.D. in zoology from Indiana University in 1944 and 1949, respectively. I was granted an M. S. in Biological Chemistry from the University of Michigan in 1946.

I am responsible for approximately a dozen environmental statements for the NRC. In addition, I am author or co-author of more than thirty unclassified scientific papers, and co-holder of a patent on the use of concentrated carbon dioxide for growing algae and have been listed in American Men of Science since 1954. I am or have been a member of Sigma Xi, Phi Lambda Upsilon, the American Society of Naturalists, the American Society of Zoologists and numerous other scientific societies. I held a NIH predoctoral fellowship for two years (1947-49).

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CERTIFICATE OF SERVICE

I hereby certify that copies of "NRC STAFF BRIEF ON THE FINALITY OF ASH POND SEEPAGE AND CONSTRUCTION DEWATERING CONSIDERATIONS AT THE BAILLY CONSTRUCTION PERMIT STAGE" in the above-captioned proceeding have been served on the following by deposit in the United States mail, first class, or as indicated by an asterisk, through deposit in the Nuclear Regulatory Commission's internal mail system, this 10th day of April, 1980:

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