UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of	)	
	)	Docket Nos. 50-329
CONSUMERS POWER COMPANY,	)	50-330
	)	
(Midland Plant, Units 1 and 2)	)	Operating License

RESPONSE OF MARY SINCLAIR TO
REQUEST FOR PRODUCTION
OF DOCUMENTS

Category I

1) Article attached

2) Sandia report not attached, as already in possession of all parties

Category II

Contention 3:

a) No witnesses anticipated

b), c) NUREG/CR/2497 (June 1982) requested from Staff, not yet received. Will transmit when available.

Contention 5:

a) No witnesses anticipated

b), c) DES, FES not attached, as in possession of parties

Contention 7:

a) No witnesses anticipated

b), c) Sandia report (see Category I).

Category III

Contention 3:

Relied on FES, (1982), DES, (1982), Lewis Report, (Jan., 1979) NUREG/CR/D400). Not attached as

already in possession of parties.

Contention 5:

Relied on FES, DES, and Sinclair Memo to Gregg Taylor of Attorney-General's office based on visit to Midland of James Carson, meteorologist of Argonne National Laboratory to provide new data on the cooling pond based on observations of the Dresden pond. Not attached as already in possession of parties.

Contention 7:

Relied on abstract in Industrial Research and Development, June, 1982, and Sandia Report sent by Applicant in response to Contention 7. See response to Category I.

Respectfully submitted,

Lee L. Bishop

Attorney for Mary Sinclair

LANL study disputes work as melanoma cause

The number of melanoma cases among workers at Los Alamos National Lab (LANL) in New Mexico is no higher than what is expected, and exposure to low-level occupational radiation does not appear to be a factor in the onset of this form of cancer, according to a recently published report. The study was initiated by the surprising results of a similar study conducted at Lawrence Livermore National Lab (LLNL) in California. That study found that the incidence of melanoma among LLNL employees was as much as three times higher than expected (*IR&D* August 1980, p. 68). The LANL study found six cases of malignancy among LANL workers from 1969 to 1978 while 5.69 cases had been expected. Because the LANL report is in sharp contrast with the LLNL report—despite the fact that workers at both labs perform similar work and the studies used similar analytical techniques—suggests there are other reasons for the melanoma increase at LLNL. "Our inability to confirm the results of the LLNL study raises the possibility that personal factors . . . are a likely explanation for the Livermore findings," the report concluded.

1983 Pittsburgh Conference will run March 7 to 12

The 34th Pittsburgh Conference and Exposition on Analytical Chemistry and Applied Spectroscopy will meet again in Atlantic City from March 7 to 12. Organizers of the show are requesting papers from all areas of analytical chemistry and applied spectroscopy for the conference. Some specific topic areas are: atomic fluorescence spectroscopy; automated analysis; electrochemistry; applications and instrumentation of gas chromatography; and nuclear magnetic resonance spectroscopy. Persons wishing to present papers at the conference are asked to submit five copies of a 300-word abstract no later than August 15 to: Linda Briggs, program secretary, Pittsburgh Conference, 437 Donald Rd., Dept. J-045, Pittsburgh, PA 15235. Those wishing to reserve space at the exposition are asked to write to Paul Bauer at the same address.

Society will provide forum on 'anomalous science'

More than 100 professors from a number of North American universities have formed a society that will provide a forum for discussion of "anomalous phenomena" such as unidentified flying objects and parapsychology. The organization, called the Society for Scientific Exploration, will provide an outlet for "serious papers on anomalous science," said Peter Sturrock, professor of space science and astrophysics at Stanford Univ., and the first president of the society. Sturrock added that, unlike past organizations of this nature, the society will remain neutral on the phenomena it will report on, which will be through a journal to be published by the society. Membership presently includes physical scientists, astronomers, anthropologists, historians, philosophers, psychologists, and sociologists. The first meeting of the society is scheduled for this month at the Univ. of Maryland.

Sandia tests find long-term, low-dose radiation harmful to many polymers used in reactors

Scientists at Sandia National Laboratory, Albuquerque, NM, have found that long-term, low-level doses of gamma radiation degrades many polymers—mainly through embrittlement—more than do equal doses administered at higher rates in shorter testing times. The tests, sponsored by the Nuclear Regulatory Commission, were conducted on polymer cable insulation and jacketing used in nuclear power containment buildings. Similar materials are used as power plant seals, O-rings, and gaskets. Besides the dose-rate effect, the researchers also found that synergistic effects can occur when polymers are exposed to radiation and mildly elevated temperatures. Dr. Roger Clough of Sandia explained that for years it has been assumed that total radiation dose,

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independent of dose rate, governed damage. The present testing method, he said, "underestimates the long-term effects of radiation exposure on polymers by not taking into account dose-rate effects and synergisms that display themselves only in longer tests."

Los Alamos Lab and Mexico sign agreement for nuclear research collaboration

An agreement has been reached for a cooperative program of nuclear research between Los Alamos National Laboratory (LANL) and Mexico's Instituto Nacional de Investigaciones Nucleares. The agreement will specifically help "the Mexican government in its thrust to develop up to 20,000 MW of electricity from nuclear power by the end of this century," said Donald Kerr, director of LANL. Presently, Mexico has one light-water reactor under construction, with most of its electricity needs coming from conventional gas, oil, and coal sources. The five-year agreement will include other fields of collaborative research such as fusion, basic nuclear physics, and the economics of nuclear energy. An exchange of scientists and technologies will be involved, Kerr added.

Dr. Arthur Kantrowitz is elected chairman of the Board of Directors for L-5 Society

Dr. Arthur Kantrowitz, chairman of the board, emeritus, Avco Everett Research Laboratory, has recently been elected chairman of the Board of Directors for the L-5 Society. The L-5 Society was formed in 1975 and promotes space development in governmental, industrial, and private sectors. The society played a significant role in lobbying against the controversial Moon Treaty, which would have provided guidelines on future uses of the Earth's moon and outer space (*IR&D* August 1981, p. 76). Kantrowitz is a member of *Industrial Research & Development's* Editorial Advisory Board. Other officers that were elected are: Philip Chapman, president; Mark Hopkins, vice president; Jerry Pournelle, secretary; and Frederick Osborne, treasurer.

Conference will explore applied aspects of fire research

Human behavior in fires, combustion toxicology, hazard analysis, and fire detection and suppression are among topics to be discussed at the Sixth Annual Conference on Fire Research. The meeting will be held at the National Bureau of Standards (NBS) in Gaithersburg, MD, September 20 to 22. This year the focus will be on applied aspects of fire research. The conference will provide overviews of applied research projects conducted at the NBS Center for Fire Research. For additional information on the conference write to Sonya Cherry, Polymers Building B250, Center for Fire Research, NBS, Washington, DC, 20234.

Process extracts aluminum, other metals from fly ash

A process for the extraction of aluminum and other usable metals from fly ash has been developed by a team of researchers at Oak Ridge National Laboratory, Oak Ridge, TN. The process not only recovers usable metals from fly ash—a waste product from coal combustion—but also could help electric utilities dispose of the fly ash in an environmentally acceptable manner. In the process, fly ash is mixed with hydrochloric acid to produce a liquid that later crystallizes into aluminum chloride. From this compound, aluminum can be recovered. The direct-acid leaching process produces a chemically inert by-product that can be easily disposed of after metal recovery, according to the researchers. In terms of numbers, the process could be quite beneficial. U.S. coal-fired steam plants produce 60 million tons of fly ash a year, and there are more than 300 lb of alumina and 150 lb of iron in each ton of waste, the researchers said.

Material could be used to strengthen gas turbines

Scientists at NASA Lewis Research Center, Cleveland, OH, and General Electric Co., Schenectady, NY, have developed a ceramic material that shows promise for heat exchangers in gas turbine engine applications. The material is a mix of oxides of zirconium, magnesium, aluminum, and silicon, and is being called ZrMAS. A benefit of using ZrMAS is that it holds its shape better than single-phase glass ceramic materials, according to the scientists. So far, several full-size heat exchanger honeycomb regenerator cores have been made. When tested against a reference material, ZrMAS was more stable at 2000 F (1100 C) in the presence of sodium and provided expansion characteristics similar to the reference material.

Scientists are studying marine life located at hydrothermal vents off Mexico's coast

Scientists from the U.S., Mexico, and France are engaged in submersible dives to study marine life at hydrothermal vents in the Pacific Ocean. The expedition, called Oasis, marks the first intensive study of marine communities surrounding hydrothermal vents located about 150 mi (24 km) south of the tip of Baja California, Mexico. The vents are at depths of about 8,500 ft along the East Pacific Rise, a spreading center of two of Earth's tectonic plates. The plates at the site are separating at about 2