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UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
WASHINGTON, D.C. 20555

March 7, 1980

IE Information Notice No. 80-09

POSSIBLE OCCUPATIONAL HEALTH HAZARD ASSOCIATED WITH CLOSED COOLING SYSTEMS FOR OPERATING POWER PLANTS

As a result of information that the causative agent for meningoencephalitis, the amoeba Naeglaria fowleri, had been found in warm water ponds in Florida and Texas where two fatalities were reported, NRC initiated a study by Oak Ridge National Laboratory on the occurrence of Naeglaria in power plants with closed cycle cooling systems. For seven power stations examined (6 fossil, 1 nuclear), this study confirmed the presence of pathogenic Naeglaria at three plants including the nuclear plant (Dresden).

Recently, Northern States Power Company (NSP), while monitoring the Prairie Island Nuclear Generating Plant closed cooling system for the amoeba, did identify the presence of Naeglaria. Although the Minnesota Department of Health does not consider the existence of the organism to be a public health threat, it was recognized as a possible occupational health hazard. Plant personnel were instructed to wear rubber gloves when coming into contact with the circulating water and to wear respirators when working in the area of the cooling towers. In November 1979, NSP conducted a special chlorination program at Prairie Island that was designed by Dr. Richard Tyndall of Oak Ridge to eradicate this organism. Chlorine concentrations in the circulating water system was raised to 2.0 mg/1 (measured as free chlorine) for a period of six hours to destroy both the amoebae and its encysted form. This program also included dechlorination prior to discharge and intensive monitoring to document chlorine concentrations, the impacts of chlorinated cooling tower draft and sampling to determine the efficacy of the special chlorination program in destroying Naeglaria. Preliminary results indicate that the program was successful in reducing the number of organisms present by two to three orders of magnitude.

It is recognized that there have been no reported cases of meningoencephalitis reported among power plant personnel to date; however, the seriousness of the disease (if contracted) and the confirmed presence of Naeglaria at four plants, leads us to inform all licensees with closed cycle cooling water systems of the potential occupational hazard and advise that they take appropriate action.

No written response to this IE Information Notice is required. If you desire additional information regarding this matter, contact the Director of the appropriate NRC Regional Office.

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Enclosure

RECENTLY ISSUED
IE INFORMATION NOTICES

Information Notice No.	Subject	Date Issued	Issued To
80-08	The States Company Sliding Link Electrical Terminal Block	3/7/80	All power reactor facilities with an OL or a CP
80-07	Pump Shaft Fatigue Cracking	2/29/80	All Light Water Reactor Facilities holder power reactor OLs and CPs
80-06	Notification of Significant Events	2/27/80	All holders of Reactor OLs and to near term OL applicants
80-05	Chloride Contamination of Safety Related Piping	2/8/80	All licensees of nuclear power reactor facilities and applicants and holders of nuclear power reactor CPs
80-04	BWR Fuel Exposure in Excess of Limits	2/4/80	All BWR's holding a power reactor OL or CP
80-03	Main Turbine Electro-Hydraulic Control System	1/31/80	All holders of power reactor OLs and CPs
80-02	8X8R Water Rod Lower End Plug Wear	1/25/80	All BWR Facilities holder power reactor OLs or CPs
80-01	Fuel Handling Events	1/4/80	All holders of power reactor OLs and CPs
79-37	Cracking in Low Pressure Turbine Discs	12/28/79	All power reactor OLs and CPs
79-36	Computer Code Defect in Stress Analysis of Piping Elbow	12/31/79	All power reactor OLs and CPs
79-35	Control of Maintenance and Essential Equipment	12/31/79	All power reactor facilities with an OL or CP
79-34	Inadequate Design of Safety-Related Heat Exchangers	12/27/79	All holders of power reactor OLs and CPs