UNION CARBIDE CORPORATION

ENGINEERING, MANUFACTURING AND TECHNOLOGY SERVICES DEPTARTMENT
HEALTH, SAFETY AND ENVIRONMENTAL TECHNOLOGY
SOUTH CHARLESTON, WEST VIRGINIA

M E M O R A N D U M

November 21, 1986

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FROM: D. C. Kirby

Attached is the final report of the Operations Safety/Health Survey (OS/HS) for Institute No. 2 Power House. The Survey was conducted October 6-10, 1986 by the team shown on the attached report.

Many positive indications of management's interest and commitment to safety and health were noted during the survey. The team discovered no immient hazards requiring immediate attention. Three major concerns were noted, dealing with boiler trip reliability, cross tie between high-low pressure systems, and potential for deaerator flooding into the low pressure steam system. Several less serious safety and health concerns are identified, as outlined in the report.

It is customary, and in accordance with the OS/HS guidelines, for the surveyed department to develop and publish an action plan in response to the final report within about 60 days following its receipt. The response should be addressed to Mr. C. Smith with copies distributed as indicated on Pages 11-12 of the OSS Guidelines.

I would like to express the team's appreciation for the cooperation afforded us during the survey; expecially to Ross Parkman, who ably served and guided the team.

If you have any comments or questions concerning the report, please contact me at the Tech Center, Extension 3696.

D. C. Kirby

DCK/mw
6445D

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Advice and Counsel

OPERATIONAL SAFETY/HEALTH SURVEY

NO. 2 POWER HOUSE

AT

INSTITUTE PLANT

October 6-10, 1986

By:

L. M. Bruger
G. G. Gaetke
R. S. Holmes
D. C. Kirby
R. M. Parkman
J. G. Roy
P. M. Thomasson

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LH.3 Arsenic and Inorganic Lead Exposure

A study of coal-fired power plants sponsored by the Edison Electric Institute and consultation with Utility Industry I.H.'s, indicates a significant potential for employee exposure to arsenic in excess of the 10 mg/m^3 OSHA PEL. They also report a potential for exposure to inorganic lead, but found no exposures greater than the 50 mg/M^3 OSHA PEL. The exposure levels for both metals were found to be highest for personnel exposed to flyash. Arsenic can cause chronic systemic poisoning and may also be carcinogenic to the skin and lungs.

Recommendation:

Conduct I.H. monitoring for arsenic and lead with emphasis on maintenance personnel exposed to flyash Institute respiratory, work practice and/or engineering controls as necessary.

LH.4 Exposure to Particulate Polycyclic Aromatic Hydrocarbons

The Edison Electric Institute report also found excessive exposures to particulate polycyclic aromatic hydrocarbons (PPAH's). Exposures for ash handlers were found to exceed the OSHA and ACGIH exposure limits of 0.2 mg/m^3 (as benzene soluble coal tar pitch volatiles). PPAH levels were also found to be high for coal handlers, but only when lignite coal was used. PPAH's contain many compounds including benzo(a)pyrene and anthracene which are carcinogenic. PPAH's have been found to increase the incidence of lung cancer.

Recommendation:

Evaluate personnel exposures to PPAH's. Institute respiratory, work practice and/or engineering controls as necessary.

LH.5 Asbestos Insulation

A significant amount of deteriorated and exposed asbestos insulation is present throughout the No. 2 Powerhouse. This is especially true on the North side of the steam plant. Apparently, no comprehensive survey to identify and label asbestos in insulation has been conducted. Maintenance personnel report potential exposure to asbestos resulting from accidental contact with exposed insulation during normal maintenance activities. One insulator stated that he determined the presence of asbestos in insulation solely by visual inspection indicating a lack of both proper testing procedures and training.

Recommendation:

Survey insulation and label that which contains asbestos. Asbestos insulation which is exposed, deteriorated and no longer functional should be prioritized and scheduled for removal. If the insulation is still functional it can be recovered and labeled if so desired. Maintenance personnel should be instructed to avoid disturbing any insulation until it has been verified to be non-asbestos.