

THE AEROSPACE CORPORATION



15-30-7

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13 January 1987

Mr. Andrew Wallo, III
Division of Facility & Site
Decommissioning Projects
U.S. Department of Energy
Germantown, Maryland 20545

Dear Mr. Wallo:

CONTACT REPORT - DISCUSSIONS WITH MR. WILLIAM A. HOOPER
MANAGER, PLANT ENGINEERING, ALLIED BENDIX AEROSPACE SECTOR
TETERBORO, NEW JERSEY

Per your request, the undersigned contacted Mr. William A. Hooper on 8 January 1987 to obtain information that might assist in the identification of the source or sources of elevated concentrations of thorium and radium discovered on properties in the vicinity of the Bendix Plant described in the ORNL letter of December 22, 1986, to Mr. James W. Wagoner, subject: Radium Contamination in Teterboro, NJ.

After a telephone conversation with Mr. Ray Foley of ORNL, the author of the letter referenced above, to obtain information regarding his discussions with Mr. Hooper during the radiological survey conducted on the property, I contacted Mr. Hooper at his office in Teterboro. The following is a summary of information reflecting his recollections concerning the history of the area since the beginning of his service there in 1949.

- o The site, bounded on the west by Route 7, on the north by Route 46, on the east by Industrial Avenue and on the south by Malcom Avenue, was purchased by Bendix in 1938.
- o The site was originally a swampy, dump area that was filled with about 5 feet of Class A fill before construction of the plant.
- o The plant was used to manufacture aircraft and other types of instruments. During WWII, the U.S. Navy built a plant (foundry) on the Bendix property, now known as Plant #4, to cast aircraft parts made of magnesium-thorium alloy. Bendix operated the plant for the Navy. The specific duration of these operations

is unknown. However, Bendix purchased the Navy's interest in the plant in about 1956 and continued to operate the foundry until 1966. The building is now used as an engineering laboratory. Radioactive materials have not been used in the building for some time. However, several large granite surface plates were installed in the building in the area now used by the missile section of the organization. These plates are the source of elevated gamma radiation due to the natural occurrence of radium in the granite. The plant is still used to manufacture aircraft and other special types of instruments.

- o In the early days, crushed stone was used to construct and maintain roadways and parking lots on the plant grounds. Because of the marshy nature of the terrain, a considerable amount of stone was required to maintain the roadways and parking lots.
- o Initially the plant had its own sewage treatment facility. Several settling and evaporation ponds, called sand beds by Mr. Hooper, occupied a portion of the southwestern section of the property near Malcom Avenue. Apparently this area was not included when fill was brought in to raise the elevation of the plant site.
- o In 1976 or 1977, approximately thirty-seven acres of the southwestern portion of the property was sold to two firms, the Sumitomo Machine Company and the Metpath Company. A layout of the property identifying the areas sold is provided in the letter referenced above. These areas were filled (elevation raised approximately 5 feet) before construction could begin. The source of the fill material is unknown. However, the ORNL survey team is believed to have information concerning the identity of the construction firm that delivered the fill material to the site.
- o Approximately six years ago, Bendix brought in fill material to construct a baseball field for employees in the southwest corner of their property. Mr. Hooper could not recall having specific knowledge of the source of the fill material. However, he believed it may have come from the Franklin Lakes area in the vicinity of the Oakland community.

- o The Navy work and subsequent operations of the foundry involving the use of thorium was conducted under NRC License No. STB-424. Closeout inspection associated with the termination of the license was conducted by NRC representatives on 27 August 1981. The inspection included a general survey of Plant #4 with handheld instruments. This survey did not include the grounds around the plant. The site was released for unrestricted use by NRC letter (Docket No. 40-0772) dated 22 October 1981.
- o Mr. Hooper is responsible for plant health and safety and has available, and uses handheld radiation detection instruments. He is aware of the elevated gamma radiation and its source in the granite plates used in the plant. However, prior to the ORNL survey, he was not aware of the radioactive contamination on the property that was identified by the survey team. Except for the thorium used in the casting of aircraft parts and the possible use of radium in the manufacture of instrument dials, Mr. Hooper could not recall any other material used at the plant that might be the source of the radioactive contamination discovered by the survey team.

During a subsequent telephone conversation with Mr. Hooper on 9 January 1987, two additional activities at the plant that might contribute to the elevated radiation levels were mentioned.

- o The initial source of heat for the plant was coal. One of the plant parking lots was a former storage area for large quantities of coal. The ash from the furnaces was used around the plant site as fill material.
- o The foundry included a machining operation. The magnesium chips from this operation were disposed of in several ways over the years. Special handling was required because of the pyrophoric nature of the material. First, the chips were mixed with cement in barrels and disposed of at sea. This method of disposal was apparently terminated because of prohibitive cost and difficulty in obtaining services to carryout the disposal. The next method of disposal used, after obtaining a permit from the state, was burning in the vicinity of the plant. Method for disposal of the ashes is unknown. Withdrawal of the permit to burn by the state in the late 1960's terminated this method of disposal.

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The final method was soaking the chips in a chemical solution for approximately 30 days to neutralize the pyrophoric properties of the magnesium, then disposal in barrels in a local landfill. Although the thorium content of the chips was very small, some thorium contamination could be the result of burning or soaking the magnesium chips on the plant site. In the case of the latter method, the concrete tank used to soak the chips is still on the property.

Mr. Hooper was very cooperative and interested in determining the source and cleaning up the radioactive contamination found on the Bendix property. He indicated that he had requested a copy of the survey report.

Please call if you have questions concerning the information provided above.

Sincerely,



Charles D. Young
Government Support Directorate
Architecture Planning and
Technology Division

CDY/smb

cc: J. Fiore
J. Wagoner
R. Lewis

bcc: E. Katz
S. Jones
D. Levine