

FORMERLY UTILIZED SITES REMEDIAL ACTION PROGRAM

ELIMINATION REPORT

FOR

THE FORMER WESTINGHOUSE ELECTRIC CORPORATION

BUILDING 7

BLOOMFIELD, NEW JERSEY

SEP 30 1985

Department of Energy

Office of Nuclear Energy

Office of Remedial Action and Waste Technology

Division of Facility and Site Decommissioning Projects

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INTRODUCTION

The Department of Energy (DOE), Office of Nuclear Energy, Office of Remedial Action and Waste Technology, Division of Facility and Site Decommissioning Projects (and/or predecessor agencies, offices, and divisions) has reviewed the past activities of the Manhattan Engineer District (MED) at the former Westinghouse Electric Corporation, Building 7, Bloomfield, New Jersey (now North American Philips Lighting Corporation). Based on the review of decontamination operations by Westinghouse and the Nuclear Regulatory Commission's (NRC) recommendation to release this site for unrestricted use, DOE has determined that the conditions at this site are in compliance with current radiological guidelines and standards. Therefore, this site requires no further remedial action and will not be included in the Formerly Utilized Sites Remedial Action Program.

This report presents information supporting the determination that the radiological conditions at the former Westinghouse Electric Corporation, Building 7, Bloomfield, New Jersey site are in compliance with current DOE radiological guidelines and standards¹ and provides assurance that use of the site will not result in any significant radiological hazard to site occupants or the general public.

¹U.S. Department of Energy Guidelines for Residual Radioactivity at Formerly Utilized Sites Remedial Action Program and Remote Surplus Facilities Management Program Sites (Rev. 1, July 1985).

This elimination report will be archived by DOE through the Assistant Secretary for Management and Administration. A copy of this package will be available for public review between 8:00 a.m. and 4:00 p.m., Monday through Friday (except Federal holidays), at the DOE Public Document Room located in Room 1E-190 of the Forrestal Building, 1000 Independence Avenue, SW., Washington, D.C.

BACKGROUND

Site Function

From 1941 to 1943 at its Bloomfield, New Jersey, facility, Westinghouse developed a photochemical technique to produce uranium metal using uranium oxide or nitrate and potassium fluoride. The process was used to produce limited quantities of uranium. (Under the best weather conditions with good sunlight, the process could produce 1 ton/month.) The green salt produced by the reaction was electrolyzed to yield uranium metal that was subsequently cast into discs, tuballoy, pellets, and ingots. Five MED contracts have been identified: W-7407-Eng-2 (LYTMET, August 1, 1942); W-7407-Eng-132 (equipment, December 18, 1943); W-7409-Eng-31 (thorium metal, August 8, 1944); W-7405-Eng-312 (chemistry of uranium, date unknown); and W-7505-Eng-312(2) (Micronex-development of high speed X-ray tubes and circuits, date unknown). LYTMET presumably refers to the photochemical uranium production. It is unknown whether the other contracts pertain to work performed at the Bloomfield facility.

Site Description

This facility is located in Bloomfield, New Jersey, and was owned and operated by the Westinghouse Electric Corporation until 1982 when it was acquired by North American Philips Lighting Corporation. Only Building 7 was used in the MED work. Uranium processed on the roof was pipe-fed to the basement laboratory for purification. The pipe

was stripped from the facility, along with other process equipment, at the conclusion of the MED work. The disposition of this material has not been determined.

Radiological History and Status

The known or suspected areas involved in the MED work were surveyed by Oak Ridge Operations Office and Oak Ridge National Laboratory personnel on October 21, 1976. Several surface areas were found to be contaminated slightly in excess of NRC guidelines.² The facility has been licensed by NRC to handle source and by-product material. Subsequently, Westinghouse decontaminated these areas at their own expense and resurveyed the area. Although radioactivity levels reported showed no health hazards, certain basement and connecting sub-floor piping plus some loading dock support members were still contaminated above the guidelines. DOE recommended that necessary long-range controls of the contaminated components in case of future demolition be implemented either by the NRC or the State of New Jersey, or both.

At the recommendation of NRC, Westinghouse, in November 1979, began decontamination of the remaining contaminated areas of Building 7 basement to obtain radiation levels below NRC guidelines. NRC conducted a post-decontamination survey on February 11, 1980, that revealed several new areas of contamination. Westinghouse conducted further decontamination procedures in April 1980, October 1980, and January 1981. An additional closeout survey was conducted by NRC on January 29, 1981. The average radiation readings were found below the beta-gamma radiation guidelines for release of a facility for unrestricted use. NRC, Region I, recommended release of this site for unrestricted use.

²"Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Material," U.S. Nuclear Regulatory Commission, November 1976.

ELIMINATION ANALYSIS

Piping and other contaminated process equipment has been removed from this facility. NRC radiological surveys performed after a succession of decontamination operations conducted by Westinghouse have demonstrated that the facility is in compliance with applicable guidelines for unconditional release. Radiation doses to persons using this facility or the general public resulting from the residual material will not exceed standards for either occupational or nonoccupational exposure.

Based on the information summarized in this report, DOE's Division of Facility and Site Decommissioning Projects has determined that no further remedial action is necessary at this site and has eliminated the former Bloomfield, New Jersey facility of Westinghouse Electric Corporation from further consideration under the Formerly Utilized Sites Remedial Action Program.

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