

OTS NOTE

DATE: March 22, 1991
TO: A. Williams
FROM: D. Stout *DS*

Attached is a revised site summary for the Exxon Company in Linden, New Jersey.

The summary incorporates new information from a file search and from a conversation with an NRC inspector. The specific locations of AEC/MED operations have not been identified. The NRC inspector did note that the site had been decontaminated.

cc:
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Exxon Research and Engineering Company
The Former Standard Oil Development Company
Linden, New Jersey

Site Function

In the spring of 1942, Standard Oil Development Company (SODC) was contracted to be in charge of obtaining materials for work being done by the Metallurgical Laboratories and subsequently the MED. SODC played a major role in coordinating the supply of uranium oxides from Canada and was instrumental in arrangements for the purchase of pitchblende ores from African Metals.

During the early 1940's, SODC was under contract with the Office of Scientific Research and Development (OSRD) (Contracts # OEMsr-290 and OEMsr-688) for studies and development work toward preparation of metallic uranium by reduction of a uranium-chloride with sodium. During the same period SODC became involved in studies on the use of centrifuges for the upper stage of a separation plant that led to three contracts with the OSRD. Contract #OEMsr-567 was for the construction of a centrifuge pilot plant. Contract #OEMsr-925 was for operation of the pilot plant. Contract #OEMsr-926 covered a number of miscellaneous items such as engineering studies on various projects and coordination work on the centrifuge project. The pilot plant was constructed at SODC's (now Exxon's) Bayway, New Jersey, facility. The period of operation of the plant is unknown. However, records dated July 1945 indicate that the plant was dismantled, decontaminated and stored at a part of the facility leased to OSRD.

Standard Oil Development Company continued support to AEC's Raw Materials Division under Contract AT(30-3) Gen 3, primarily for consultant services, and Contract #W-7418 Eng 106. Work under the latter contract is believed to have included experimental/developmental related to the REDOX Process which continued at the Bayway facility, probably into the early 1950's.

Standard Oil Development Company was among the participating research institutions associated with work done by Brookhaven National Laboratory.

Site Description

No records have been found that would provide descriptions of the facilities in Linden or Bayway, New Jersey. Telephone contact with Exxon personnel at these facilities indicate that laboratory facilities in Linden are currently occupied. The facilities at the Bayway plant used to support MED/AEC programs have probably been torn down. Maps of the area and of the Linden facility are attached.

Owner History

The property and facilities in Linden, NJ, are occupied by Exxon Research and Engineering Company. The property at Bayway, NJ, is occupied by an Exxon refinery operation.

Radiological History and Status

The fact that the Standard Oil Development Company was a recognized expert in the field might explain the lack of records in the Federal records system that would indicate the radiological environment at the Linden and Bayway facilities during the period of contracts with the OSRD and MED/AEC.

Indications of SODC intent to dismantle and decontaminate equipment was found in an MED letter and its first endorsement from C. Bunker to Trent, subject: Transmittal of Letter, date 27 July 1945. A brief description of the dismantlement and decontamination process intended by SODC is found in the first endorsement to the letter. Item 4 of the endorsement indicates that: "The contaminated fabricated piping determined by the company as scrap and other material which cannot be economically decontaminated will be abandoned in the manner recommended by the company." The ultimate disposition of the piping is not known.

An AEC memorandum from W.A. Erickson to F.M. Belmore, subject: Disposition Instructions, and dated January 18, 1949, describes radioactive materials and residues that remained on the site as of the date of the memorandum. The materials included 475 pounds of uranium in the form of trioxide in 75 pound containers. Residues included 1,100 pounds (350-400 gallons) of uranium in process solution. A reply to W.A. Erickson from J.P. Morgan, dated January 25, 1949, instructed that the material be shipped to Middlesex for subsequent shipment of the trioxide to Harshaw and of the remainder to Vitro.

No records have been found that would indicate the radiological condition of properties at the termination of contracts with OSRD or MED/AEC. The facilities (Exxon Research and Engineering at Linden and Exxon Chemical Company at Bayway) have both active and retired licenses. According to an NRC inspector, contacted in February 1991, a full cleanup of the site was performed. A small amount of enriched uranium was sent to Oak Ridge and other radioactive waste was shipped to a disposal site. The laboratories were cleaned up by a consultant. Radiation safety officers were not aware of any burials in the past twenty years (MED work predates these recollections).

The final disposition of the pilot plant piping is the only remaining question. It is highly unlikely that additional records can be found to determine the location of the piping.



EXXON NEW JERSEY FACILITIES

LINDEN TECHNOLOGY CENTER. LINDEN, N.J.

VISITORS PARKING PLAN

