

Engelhard Corporation

1. Site Identification

Engelhard Corporation
Plainville, MA

License No.: None
Docket No.: 070-00139 (old)
License Status: Terminated by AEC in 1962
Project Manager: J. Parrott

2. Site and Operations

A subsidiary of Engelhard Corporation called D.E. Makepeace was licensed by the Atomic Energy Commission (AEC) to use enriched uranium for the fabrication of fuel elements from the late 1950s to the early 1960s. During this period, the licensee was allowed to discharge uranium contaminated effluent to an on-site septic system and to incinerate uranium contaminated solid waste on-site. At license termination, only indoor areas were surveyed for release. The outdoor contamination was not discovered until the site became subject to characterization for the presence of hazardous wastes on-site under the Resource Conservation and Recovery Act (RCRA). Because the contamination was from special nuclear material, and therefore not subject to regulation by RCRA, the U.S. Environmental Protection Agency (EPA) contacted the Nuclear Regulatory Commission (NRC) in late 1991.

The site is currently operating but does not use licensable material. The majority of the approximately 10 hectare (25 acre) site is covered by buildings and parking lots. This site is adjacent to a small reservoir called Turnpike Lake. Engelhard is in the process of shutting down this facility.

3. Radioactive Wastes

Very little data on the radioactive wastes at this site exists. A gamma survey was done by Engelhard in 1988 on the buildings that existed at the time that licensed activities took place, and also around the septic system and pump house. Inside the buildings, maximum readings of 1.8×10^{-8} to 2.1×10^{-8} C/kg/hr (70 to 80 μ R/hr) were found in isolated areas. Sludge inside the unused septic tank was also found to be contaminated. Preliminary sampling in the area of the old septic system have yielded gross alpha values as high as 2.4 Bq/g (66 pCi/g) in the soil and 48 Bq/l (1300 pCi/l) in the groundwater. Areas of the site are also contaminated with heavy metals and organic solvents, so the potential for mixed wastes exists.

4. Description of Radiological Hazard

Access to indoor areas suspected of being radiologically contaminated is not controlled. The known outdoor contaminated areas are under pavement.

B/168

Access to the old septic tank is possible through a man-hole in the parking lot. The radiological contamination detected so far is confined to the site. Hazardous waste has been detected in on-site soil and groundwater and in off-site groundwater.

5. Financial Assurance/Viable Responsible Organization

Since no license exists for this site, compliance with financial assurance regulations does not apply. Engelhard appears to be a financially viable company and seems willing to properly decommission this site. Engelhard has received an administrative order from EPA's Region I RCRA office to characterize and remediate the hazardous contamination associated with this site.

6. Status of Decommissioning Activities

On November 10, 1992, NRC Headquarters personnel participated in a public meeting in Plainville involving representatives of EPA Region I, the Massachusetts Department of Environmental Protection (DEP) and Engelhard Corporation. This meeting was held in conjunction with the release of the Public Involvement Plan prepared jointly by DEP and EPA. The Public Involvement Plan is applied to sites which are designated Public Involvement Plan sites by DEP in response to community interest in becoming involved in the remediation process.

A letter was sent to Engelhard on November 23, 1992, requesting that all samples taken for RCRA site characterization be analyzed for gross alpha and gross beta, or isotopic uranium in areas where elevated gross alpha readings have already been found. This letter also outlined the residual clean-up criteria that should be applied to the site soil as 1.1 Bq/g (30 pCi/g) total uranium, and 1.1 Bq/l (30 pCi/l) total uranium in groundwater.

Engelhard is currently negotiating with EPA on the specifics of site characterization/remediation under the RCRA order. So that the characterization/remediation of this site goes as efficiently as possible, NRC is requesting that Engelhard combine their RCRA site characterization efforts with the site characterization requested by NRC. However, if the EPA RCRA order process becomes unreasonably delayed in the negotiating phase, NRC will require Engelhard to act independently on the NRC request.

Engelhard plans to submit the characterization data and a decommissioning plan for the building contamination by March 15, 1993.

7. Other Involved Parties

The EPA Region I RCRA office and Massachusetts DEP are involved at this site due to the hazardous waste contamination.

8. NRC/Licensee Actions and Schedule

A. Actions/Milestones

- Engelhard submits characterization data and decommissioning plan for

the building interiors, 3/15/93

- NFC approves building interior decommissioning plan, 5/15/93
- Engelhard submits radiological site characterization plan concurrent with RCRA site characterization plan, 10/1/93
- NFC approves site characterization plan, 12/1/93
- Engelhard submits site characterization data and decommissioning plan, 6/1/94
- NFC approves decommissioning plan, 9/1/94
- Engelhard completes decommissioning, submits verification survey data, 12/31/94
- NFC performs confirmatory survey, 3/1/95
- NFC terminates license, 8/1/95

B. Problems

No specific problems have been identified with this site as of yet. However, as mentioned above, there is a possibility for mixed waste at this site.

Engelhard Corporation

1. Site Identification

Engelhard Corporation
Plainville, MA

License No.: None
Docket No.: 070-00139 (old)
License Status: Terminated by AEC in 1962
Project Manager: J. Parrott

2. Site and Operations

A subsidiary of Engelhard Corporation called D.E. Makepeace was licensed by the Atomic Energy Commission (AEC) to use enriched uranium for the fabrication of fuel elements from the late 1950s to the early 1960s. During this period, the licensee was allowed to discharge uranium contaminated effluent to an on-site septic system and to incinerate uranium contaminated solid waste on-site. At license termination, only indoor areas were surveyed for release. The outdoor contamination was not discovered until the site became subject to characterization for the presence of hazardous wastes on-site under the Resource Conservation and Recovery Act (RCRA). Because the contamination was from special nuclear material, and therefore not subject to regulation by RCRA, the U.S. Environmental Protection Agency (EPA) contacted the Nuclear Regulatory Commission (NRC) in late 1991.

The site is currently operating but does not use licensable material. The majority of the approximately 10 hectare (25 acre) site is covered by buildings and parking lots. This site is adjacent to a small reservoir called Turnpike Lake. Engelhard is in the process of shutting down this facility.

3. Radioactive Wastes

Very little data on the radioactive wastes at this site exists. A gamma survey was done by Engelhard in 1988 on the buildings that existed at the time that licensed activities took place, and also around the septic system and pump house. Inside the buildings, maximum readings of 1.8×10^{-8} to 2.1×10^{-8} C/kg/hr (70 to 80 uR/hr) were found in isolated areas. Sludge inside the unused septic tank was also found to be contaminated. Preliminary sampling in the area of the old septic system have yielded gross alpha values as high as 2.4 Bq/g (66 pCi/g) in the soil and 48 Bq/l (1300 pCi/l) in the groundwater. Areas of the site are also contaminated with heavy metals and organic solvents, so the potential for mixed wastes exists.

unverified

4. Description of Radiological Hazard

Access to indoor areas suspected of being radiologically contaminated is not controlled. The ~~known~~ outdoor contaminated areas are under pavement.

suspected

Access to the old septic tank is possible through a man-hole in the parking lot. The radiological contamination detected so far is confined to the site. Hazardous waste has been detected in on-site soil and groundwater and in off-site groundwater.

5. Financial Assurance/Viable Responsible Organization

Since no license exists for this site, compliance with financial assurance regulations does not apply. Engelhard appears to be a financially viable company and seems willing to properly decommission this site. Engelhard has received an administrative order from EPA's Region I RCRA office to characterize and remediate the hazardous contamination associated with this site.

6. Status of Decommissioning Activities

On November 10, 1992, NRC Headquarters personnel participated in a public meeting in Plainville involving representatives of EPA Region I, the Massachusetts Department of Environmental Protection (DEP) and Engelhard Corporation. This meeting was held in conjunction with the release of the Public Involvement Plan prepared jointly by DEP and EPA. The Public Involvement Plan is applied to sites which are designated Public Involvement Plan sites by DEP in response to community interest in becoming involved in the remediation process.

^{NRC} ~~A letter~~ ^{a letter} was sent to Engelhard on November 23, 1992, requesting that all samples taken for RCRA site characterization be analyzed for gross alpha and gross beta, or isotopic uranium in areas where elevated gross alpha readings have already been found. This letter also outlined the residual clean-up criteria that should be applied to the site soil as 1.1 Bq/g (30 pCi/g) total uranium, and 1.1 Bq/l (30 pCi/l) total uranium in groundwater.

Engelhard is currently negotiating with EPA on the specifics of site characterization/remediation under the RCRA order. So that the characterization/remediation of this site goes as efficiently as possible, NRC is requesting that Engelhard combine their RCRA site characterization efforts with the site characterization requested by NRC. However, if the EPA RCRA order process becomes unreasonably delayed in the negotiating phase, NRC will require Engelhard to act independently on the NRC request.

Engelhard plans to submit the characterization data and a decommissioning plan for the building contamination by March 15, 1993.

7. Other Involved Parties

The EPA Region I RCRA office and Massachusetts DEP are involved at this site due to the hazardous waste contamination.

8. NRC/Licensee Actions and Schedule

A. Actions/Milestones

- Engelhard submits characterization data and decommissioning plan for

the building interiors, 3/15/93

- NRC approves building interior decommissioning plan, 5/15/93
- Engelhard submits radiological site characterization plan concurrent with RCRA site characterization plan, 10/1/93
- NRC approves site characterization plan, 12/1/93
- Engelhard submits site characterization data and decommissioning plan, 6/1/94
- NRC approves decommissioning plan, 9/1/94
- Engelhard completes decommissioning, submits verification survey data, 12/31/94
- NRC performs confirmatory survey, 3/1/95
- NRC terminates license, 8/1/95 ? *there is no license*

B. Problems

No specific problems have been identified with this site as of yet. However, as mentioned above, there is a possibility for mixed waste at this site.