Explanation of Significant Differences

LI TUNGSTEN SUPERFUND SITE
Glen Cove, New York

U. S. Environmental Protection Agency
Region 2

May 2005

INTRODUCTION

In accordance with Section 117(c) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and Section 300.435(c)(2)(i) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), if the Environmental Protection Agency (EPA) selects a remedial action and, thereafter, it determines there is a significant change with respect to that action, an Explanation of Significant Differences (ESD) and the reasons for such changes must be published.

EPA issued a Record of Decision (ROD) in 1999 which selected a remedy at the Li Tungsten Superfund site (Site), located in the City of Glen Cove, Nassau County, New York. The Site is comprised of the Captain's Cove and the former Li Tungsten facility properties. The selected remedy requires the excavation and off-site disposal of soil contaminated with radionuclides and heavy metals. At the time of the ROD, EPA estimated the amount of contaminated soil to be approximately 69,400 cubic yards (cy).

During its subsequent implementation of the remedy, EPA issued an ESD in November 2002 describing an increase in the volume of contaminated soil from the amount estimated in the ROD. The 2002 ESD updated the estimate of contaminated soil that required excavation to approximately 132,100 cy and also presented revised cost information resulting from new developments that occurred since the selection of the 1999 remedy.

EPA has chosen to issue this second ESD to address the City of Glen Cove's decision to revise its Glen Cove Creek waterfront revitalization plan to include residential future use of the Site. The Glen Cove Industrial Development Agency (IDA) is planning to redevelop the Site to include both commercial and residential future uses. The City has revised its zoning code accordingly. This ESD re-evaluates the cleanup levels associated with the EPA's 1999 remedy as it pertains to the newly residential portions, examines the on-going implementation of the remedy, and provides detailed information as to how the remedy can safely accommodate the proposed residential uses at portions of the Site. Parcel A of the Li Tungsten property is still under evaluation with respect to future residential development, and may be the subject of a future determination by EPA.

This ESD will become part of the Administrative Record file for the Site. The entire Administrative Record for the Site includes, among other things, the 1999 ROD and other relevant documents. These documents are available for review at the following locations:

Glen Cove Public Library
Reference Section
4 Glen Cove Avenue
Glen Cove, NY 11542
(516) 676-2130

Hours: Mon-Thurs, 9am-9pm
Fri-Sat, 9am-5pm
Sun, 1pm-5 pm

U. S. Environmental Protection Agency
290 Broadway, Floor 18
New York, New York 10007

Hours: Mon-Fri, 9am-5pm
Sat-Sun, Closed

EPA and the New York State Department of Environmental Conservation (NYSDEC) do not believe that the City's planned residential

future use of the Site requires fundamental alteration of the remedy selected in the 1999 ROD. The selected remedy, with minor modification of its original radionuclide cleanup levels and institutional controls, will be protective of human health and the environment and will comply with the federal and state requirements identified in the ROD.

Should there be any questions regarding this ESD, please contact:

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SITE HISTORY, CONTAMINATION PROBLEMS, AND SELECTED REMEDY/IMPLEMENTATION

Site Description and History

The Site is located in the City of Glen Cove, Nassau County, New York. It consists of the former Li Tungsten facility property, the radiologically-contaminated portions of the Captain's Cove property, and nearby areas where radiologically- and/or metals-contaminated materials associated with the former Li Tungsten facility came to be located, including portions of Glen Cove Creek. The Captain's Cove Property is located west of the Li Tungsten Property on Garvies Point Road, and both are located on the north shore of Glen Cove Creek.

In October 1992, the Site was placed on the National Priorities List, which is EPA's list of Superfund sites. In 1993, EPA initiated a Remedial Investigation and Feasibility Study (RI/FS) to define the nature and extent of contamination on Parcels A, B and C of the former Li Tungsten facility property, known as operable unit (OU) 1. Later, in 1995, EPA expanded the Site definition to include the two radioactive waste areas A and G at the Captain's Cove property *i.e.,* OU 2. EPA's RI/FS of the Li Tungsten and Captain's Cove properties revealed that many contaminants were left behind as a result of prior Site practices. These contaminants pose a risk to human health and the environment. The primary contaminant categories of concern at the Site are radionuclides and heavy metals associated with spent ore residuals/slag.

The Glen Cove Creek area has been industrialized since the mid-1800's. The immediate area now includes light industry, commercial businesses, a sewage treatment plant, a County public works facility, and State and Federally-designated hazardous waste sites. Other land uses in the vicinity include marinas, yacht clubs, beaches, and the Garvies Point Preserve. There are residences within 100 feet of the Li Tungsten property, along Janet Lane and The Place, and within 1,000 feet of the Captain's Cove property on McLoughlin Street.

The processing of tungsten and other metals began at the Li Tungsten facility in 1942 and ended in 1985. Operations consisted mainly of processing tungsten ore concentrates and scrap metal containing tungsten into ammonium paratungstate (APT) and formulating APT into tungsten powder and tungsten carbide powder. The Captain's Cove property was used as a dump site for the disposal of incinerator ash, sewage sludge, rubbish, household debris, dredged sediments from Glen Cove Creek, and industrial wastes, including wastes from the Li Tungsten facility, from the 1950's to the late 1970's. The property was purchased by developers in 1983 for development as a residential condominium project. Development efforts were abandoned in the mid-1980's when the NYSDEC designated the Captain's Cove property as a State Superfund site.

The City of Glen Cove, which has been designated as an EPA Brownfields Showcase Community, has been gradually implementing its 1998 Glen Cove Creek Revitalization Plan involving more than 200 acres surrounding the Creek. The Revitalization Plan projected the future use of the area as commercial redevelopment, featuring shops, restaurants, parking facilities, museums, and a hotel/conference center. The Glen Cove IDA has recently entered into a land disposition agreement with Glen Isle developers and is revising the Revitalization Plan to include substantial residential development. The City has requested that EPA perform the necessary actions to allow residential development of the Li Tungsten and Captain's Cove properties.

Selected Remedy

As mentioned above, based on the results of the RI/FS, EPA issued a ROD in 1999 which selected a remedy for the Site. The selected remedy primarily consists of excavation of soils and sediments contaminated above cleanup levels, segregation of radionuclide-contaminated soil and nonradionuclide soil contaminated with heavy metals, and off-Site disposal of all contaminated soil at appropriately licensed facilities.

Implementation of the Remedy

EPA acted to expedite the implementation of the soil excavation activities for the southern portion of the Li Tungsten property, encompassing Parcel A and the lower portion of Parcel C, by federally funding the remediation of these areas. Fast-tracking this portion of the remediation facilitated the City's revitalization efforts around Glen Cove Creek.

EPA also issued a series of unilateral administrative orders (UAOs) to potentially responsible parties (PRPs) for the Site, directing them to perform various cleanup work to complement the work being performed by EPA. Negotiations with the City (also a PRP) resulted in an agreement by which the City funded a significant portion of EPA's excavation work at the Captain's Cove property.

In May 2001, EPA completed the excavation and segregation of contaminated soils on Parcel A and lower Parcel C of the Li Tungsten property. EPA arranged for the nonradioactive, heavy metals-contaminated soils to be trucked off-site for disposal and the radioactively-contaminated soils to be stored on-site in the Dickson Warehouse for future disposal by PRPs.

In November 2003, EPA also completed the excavation of contaminated soils from the Captain's Cove portion of the Site. Both radioactively-contaminated soil and nonradioactively contaminated soil containing heavy metals are presently staged at the Captain's Cove property, awaiting off-site disposal.

In early 2004, TDY Industries, a PRP, disposed of the radioactive wastes stored in the Dickson Warehouse and also performed some limited excavation of radioactively-contaminated soil on upper Parcel C, with disposal at an off-site licensed facility.

Second ROD

In September 2000, the US Army Corps of Engineers (USACE) began dredging the navigational channel in the inner half of Glen Cove Creek, using remediated Parcel A of the Li Tungsten property as a temporary dewatering area. During the course of the dredging, EPA determined that the dredged spoils placed on Parcel A were contaminated with chunks of radioactive slag. Dredging was suspended and EPA ordered certain PRPs to segregate radioactive materials from the dewatered sediment and dispose of the radioactive materials. In response, TDY Industries conducted the segregation work in the Summer 2002. Afterwards, the City of Glen Cove disposed of the remediated sediments at the North Hempstead Landfill for use as grading material, while the segregated radioactive materials were eventually disposed of by TDY at the US Ecology facility in Idaho.

After dredging was suspended, the USACE performed an underwater radiation survey in Glen Cove Creek to assess the amount of radioactive materials potentially left in the Creek. The survey indicated that significant sources of radiation remained in the Creek, particularly around the bulkhead of Parcel A. EPA has performed a focused feasibility study (FFS) regarding the Creek and intends to address the Creek radiation as OU 4 of the Li Tungsten Site, as reflected in the recently issued ROD describing its selected remedy.

DESCRIPTION OF SIGNIFICANT DIFFERENCES AND THE REASONS FOR THOSE DIFFERENCES

Since the issuance of the 1999 ROD, a significant amount of excavation has been performed on both Site properties. EPA has completed all the excavation and disposal activities on Li Tungsten's Parcel A and lower Parcel C, as well as completing all excavation work at the Captain's Cove portion of the Site. In addition, TDY Industries has performed limited excavation and disposal of radioactively contaminated soil on upper Parcel C.

EPA selected its 1999 remedy in anticipation of the future use of the Site as envisioned in the City's 1998 Glen Cove Creek Revitalization Plan; namely, commercial/light industrial use. In light of the change in future land use at the Site, discussed above, the City has requested that EPA re-evaluate the 1999 remedy for both the Captain's Cove and Li Tungsten properties to determine whether the 1999 remedy, as selected, would be protective of a residential future use scenario.

Therefore, EPA has re-evaluated the cleanup levels associated with the 1999 remedy as well as the implementation of the remedy to date to determine whether the remedy can safely accommodate the newly proposed residential uses of the Site (except for Parcel A of the Li Tungsten property, which may be the subject of a future determination by EPA). EPA considers the following italicized excerpts from the 1999 ROD as relevant and potentially impacted by the proposed change in future use. They are provided as background for the discussions and determinations that follow:

Soils, Sediment and Debris

The ROD states the following with respect to soils, sediments, and debris:

"The selected remedy at both Li Tungsten and Captain's Cove will include excavation, volume reduction, and off-Site disposal of all radioactive/chemical wastes, consistent with the cleanup levels developed for this Site. The remedial action cleanup levels for these wastes were provided earlier in ***Table 15****."*

Table 15 of the ROD is set forth below:

TABLE 15

Parameter (In Soil)	Cleanup Levels
Arsenic	**24 mg/kg**
Lead	**400 mg/kg**
Thorium-232	**5 pCi/g[1]**
Radium-226	**5 pCi/g[1]**

[1] These cleanup levels do not include the natural background radiation of each radionuclide i.e., approximately 1 pCi/g.

The ROD's cleanup levels for radionuclides and arsenic were developed as a result of a human health risk assessment for commercial use of the Site. The cleanup level for lead was based on EPA policy for residential land use. Based on a re-evaluation of the ROD's cleanup levels, vis-a-vis residential future use, EPA has determined that only the radionuclides need to be further restricted in soil. Consistent with EPA's OSWER Directive 9200.4-25, which further defines the provisions of 40 CFR 192 for Superfund sites, the following radiological criteria will apply to the OU1/OU2 cleanup:

radium-226+radium-228 $\leq$ 5pCi/g+background

thorium-230+thorium-232 $\leq$ 5 pCi/g+background

The lead cleanup level selected in 1999 was and still is the residential cleanup level for Superfund sites. Regarding arsenic, EPA believes that, based on a review of the Li Tungsten risk assessment as well as arsenic cleanup levels used at other Superfund Sites, the arsenic cleanup level of 24 mg/kg, although selected for a commercial future use, can be considered sufficiently protective for residential future use, particularly in the context of the Li Tungsten remedy i.e., excavation followed by clean backfill.

Because the 1999 ROD selected excavation of contaminated soils followed by replacement with clean backfill, the achievement of soil cleanup levels is only an issue beyond the boundaries of the excavations. Post-excavation sampling of the boundaries excavated by EPA (*i.e.*, the entire Captain's Cove portion of the Site, as well as Parcel A and lower Parcel C of the Li Tungsten property) show that not only the original cleanup criteria, but also the modified radionuclide criteria have been met; therefore, EPA has determined that the areas of the Site that have been excavated to date meet residential standards for arsenic, lead, and radionuclides. As mentioned earlier, however, Parcel A requires further evaluation in regard to its being used for residential development, due to the presence of organic contaminants in the soil and in the shallow groundwater beneath it.

Groundwater and Surface Water

The ROD states the following with respect to groundwater and surface water:

"The preferred alternative at the Li Tungsten facility will require monitoring of the Upper Glacial Aquifer in the vicinity of the Site to determine the effects of the soil remedy on groundwater quality. The preference for no action is based on the sporadic and generally low-level nature of the inorganic contamination; as well as the impacts of saltwater intrusion on the Aquifer and the availability of the City's potable water supply to the affected area, which significantly contribute to the non-use of the contaminated aquifer as a potable water source. Nassau County Public Health Ordinance Article 4, which prohibits the installation of new private potable water systems in areas served by a public water supply, should effectively preclude any future potable water well installations in this portion of the aquifer."

The no action remedy for groundwater was chosen in part based on the local non-use of the Upper Glacial Aquifer, regardless of the future use of the Site. Therefore, EPA doesn't consider the existence of sporadic and low level inorganic contamination in the aquifer a direct human health threat to residential future use, as long as the institutional controls described in the 1999 ROD are implemented e.g., restrictions on the use of the aquifer immediately underlying the Site for drinking water, irrigation, fountains etc.

Institutional Controls

Regarding institutional controls in general, the ROD states the following:

"To complete the proposed remedial action, EPA recommends that deed restrictions be placed on the Li Tungsten Site, primarily to prevent the Site from being used for residential purposes. The deed restriction will also include controls to ensure the protection of public health through restrictions on groundwater withdrawals for any purpose that could lead to human exposure e.g., drinking water, irrigation, fountains, etc. until the groundwater beneath the Site has reached cleanup levels; as well as requiring that any new construction on this Site should adhere to relevant building codes for radon/thoron gases."

With the exception of the restriction on future development of the Site for residential use, the recommendations for institutional controls remain relevant for the proposed residential development and must be implemented by the Glen Cove IDA and the developer. In addition, because of the potential for migration of radon, as well as soil vapor from off-site volatile chemical groundwater plumes in the study area, the deed restriction discussed above for the Site must require an assessment of the migration of radon gas and chemical vapor through soil for any new construction proposed on this Site, including the need to incorporate appropriate safeguards.

Protection of Human Health and the Environment

Regarding protection of human health and environment, the ROD summarizes:

"Further, the numerical cleanup levels are sufficiently protective from the standpoint of carcinogenic and non-carcinogenic risk for all future on-Site populations except for residential use.... Because the low levels of radionuclides and heavy metals that are left behind may still be technically above their respective regional background levels and above levels considered safe for residential occupation, institutional controls in the form of deed restrictions on residential future use of the properties will help protect human health by limiting the properties to commercial uses."

After a review of the remedy selected in the 1999 ROD and all relevant data to date, EPA believes that the original cleanup criteria and institutional controls, as modified by this ESD, will provide an appropriate level of cleanup of the Site to allow the residential future use envisioned by the City (with the exception of Parcel A, which is still under review).

EPA expects that the excavation work that remains to be completed (*i.e.,* on Parcel B and upper Parcel C) will be performed in the near future. Post-excavation sampling in these areas will be required to confirm the ROD's original cleanup criteria as well as the modified radionuclide criteria have been met, as discussed above.

SUPPORT AGENCY COMMENTS

NYSDEC is aware of the City's intended revisions to the future use of the Site, and it agrees that EPA's 1999 ROD remedy remains appropriate, albeit with the minor modifications discussed above.

AFFIRMATION OF STATUTORY DETERMINATIONS

This ESD recognizes changes to a remedy that leaves hazardous substances, pollutants or contaminants above levels that allow for unlimited use and unrestricted exposure. Pursuant to CERCLA Section 121 (c), EPA shall review such remedies no less often than every five years to assure that human health and the environment are protected. This ESD, which involved a review of the 1999 remedy as described earlier, constitutes the basis of the first five-year review of OUs 1 and 2 for this site. A five-year review report will be prepared separately. As indicated elsewhere in this document, the remedy selected for OUs 1 and 2 will protect human health and the environment when they are completed and/or put into place. A second five-year review will be completed before March, 2010, five years from the date of this ESD.

Considering the new information that has been developed, EPA and NYSDEC have both determined that the selected remedy, with the modifications described in this ESD, remains protective of human health and the environment, complies with federal and state requirements that are applicable or relevant and appropriate to this remedial action, and is cost-effective. In addition, the remedy utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable for this Site.

PUBLIC PARTICIPATION ACTIVITIES

In accordance with the NCP, a formal public comment period is not required when issuing an ESD. However, EPA is announcing the availability of this ESD in the Glen Cove Record Pilot, and there will be a public availability session relating to this ESD on Wednesday, May 18, 2005 at 7 PM in the City Council chamber, City Hall, 9 Glen Street, Glen Cove. In addition, as noted above, questions regarding this ESD may be directed to Edward Als of EPA, whose mailing address, e-mail address, and phone number are set forth above, under **INTRODUCTION**.