COVENANT DEFERRAL REQUEST

FOR THE PROPOSED TRANSFER OF BUILDINGS K-1036 AND K-1400 AT THE EAST TENNESSEE TECHNOLOGY PARK OAK RIDGE, TENNESSEE

DRAFT

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Draft Covenant Deferral Request for the Proposed Transfer of Buildings K-1036 and K-1400 at the East Tennessee Technology Park, Oak Ridge, Tennessee

Introduction

The United States Department of Energy (DOE) is proposing to transfer two buildings, including their related real property and land (hereinafter referred to as "the Properties"), designated as K-1036 and K-1400, at East Tennessee Technology Park (ETTP) in Oak Ridge, Tennessee, by deed, and is submitting this Covenant Deferral Request (CDR) pursuant to Section 120(h)(3)(C) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, and applicable United States Environmental Protection Agency (EPA) guidance. The Oak Ridge Reservation (ORR), which includes ETTP, was placed on the National Priorities List (NPL) in November 1989. Environmental investigation and cleanup activities are continuing at ETTP in accordance with CERCLA, the National Contingency Plan (NCP), and the Federal Facility Agreement (FFA). The FFA was entered into by DOE-Oak Ridge Operations (ORO), EPA Region 4, and the Tennessee Department of Environment and Conservation (TDEC) in 1991. The FFA establishes the schedule and milestones for environmental remediation of the ORR.

This proposed property transfer is a key component of the Oak Ridge Performance Management Plan (ORPMP) for accelerated cleanup of the ORR and will result in savings to DOE through avoided building demolition costs. DOE, using its authority under Section 161(g) of the Atomic Energy Act, proposes to transfer the Properties to the Heritage Center, LLC, a subsidiary of the Community Reuse Organization of East Tennessee (CROET), a 501(c)(3) not-for-profit corporation established to foster the diversification of the regional economy by re-utilizing DOE property for private-sector investment and job creation.

The Properties are currently used as office space or for light industrial/warehousing activities and are proposed for transfer to the Heritage Center for their continued use as office space and light industrial/warehousing activities and, potentially, for future development to accommodate other commercial uses. The proposed transfer is the second of several planned to be requested in support of the ORPMP. CDRs will be submitted for any additional proposed transfers, as necessary. DOE would continue to be responsible for any contamination resulting from DOE activities that is present on the property at the time of transfer but found after the date of transfer. The deed transferring the Properties contains various restrictions and prohibitions on the use of the Properties that are subject to enforcement pursuant to State Law TCA 68-212-225. These restrictions and prohibitions are designed to ensure protection of human health and the environment.

CERCLA requires that when the Federal government transfers property where hazardous substances have been stored for one year or more, released, or disposed of, the deed must contain two covenants warranting that 1) all remedial actions necessary to

protect human health and the environment from hazardous substances remaining on the property have been taken before the date of the property transfer [CERCLA 120(h)(3)(A)(ii) I)], and 2) any additional remedial action found to be necessary after the date of the property transfer shall be conducted by the United States [CERCLA 120(h)(3)(A)(ii)(II)]. The deeds will contain this last covenant. However, in certain circumstances, EPA, with concurrence of the Governor of the State in which the facility is located, may defer the covenant set forth in CERCLA 120(h)(3)(A)(ii)(I) warranting all remedial actions necessary to protect human health and the environment have been taken. In order for EPA to defer the covenant requirement in CERCLA 120(h)(3)(A)(ii)(I), CERCLA Section 120(h)(3)(C) requires that the EPA determine that the property is suitable for transfer based on the following findings:

1. The property is suitable for transfer for the expected use, and such use is consistent with protection of human health and the environment;

2. The deed proposed to govern the transfer between the United States and the Grantee of the property contains the Response Action Assurances described in Section 120(h)(3)(C)(ii) of CERCLA with regard to a release, or threatened release, of a hazardous substance for which the Federal agency is potentially responsible, including:

    a) Provide for any necessary restrictions on the use of the property to ensure the protection of human health and the environment;

    b) Provide that there will be restrictions on use necessary to ensure that required remedial investigations, response actions, and oversight activities will not be disrupted;

    c) Provide that all necessary response actions will be taken, and identify the schedules for investigation and completion of all necessary response actions as approved by the appropriate regulatory agency; and

    d) Provide that the Federal agency responsible for the property subject to transfer will submit a budget request to the Director of the Office of Management and Budget that adequately addresses schedules for investigation and completion of all necessary response actions, subject to congressional authorizations and appropriations.

3. The Federal agency requesting deferral has provided notice, by publication in a newspaper of general circulation in the vicinity of the property, of the proposed transfer and of the opportunity for the public to submit, within a period of not less than 30 days after the date of notice, written comments on the suitability of the property for transfer; and

4. The deferral and the transfer of property will not substantially delay any necessary response action at the property.

These findings are intended to ensure that there is a sound basis for the proposed transfer because the expected reuse of the property does not pose an unacceptable risk to human health or the environment. As stated in CERCLA Section 120(h)(3)(C)(iv), all statutory obligations required of a Federal agency remain the same, regardless of whether the property is transferred subject to a covenant deferral.

DOE hereby requests that the Regional Administrator for EPA Region 4 determine, with the concurrence of the Governor of the State of Tennessee, that the Properties are suitable for transfer and that the CERCLA Section 120(h)(3)(A)(ii)(I) covenant may be deferred. Once the deferral request is granted, DOE will proceed to convey the Properties while DOE continues to complete all necessary remediation at the ETTP site in accordance with CERCLA, the NCP, and the FFA. In accordance with CERCLA Section 120(h)(3)(B), this covenant deferral request pertains solely to the transfer of these Properties or any portion thereof to a non-Potentially Responsible Party.

1.0 Property Description

The Properties proposed for transfer by deed are two office/industrial buildings located at the ETTP [formerly the Oak Ridge Gaseous Diffusion Plant (ORGDP) and later the K-25 Site], including their respective utilities, ancillary fixtures, and land (i.e., the land lying beneath each building structure, the land lying beneath the utility and ancillary fixtures, and a minimal access and maintenance area). The ETTP is located on the ORR within the City of Oak Ridge in Roane County, Tennessee, and is owned by the U. S. Government and managed by Bechtel Jacobs Company LLC (BJC). Prior to construction of the ORGDP, the area was used as farmland. For many years, the DOE enriched uranium at the ORGDP. However, uranium enrichment operations at the site have been shut down since the mid-1980s. ORO is now transitioning to an accelerated completion of cleanup at ETTP in preparation for its closure as a DOE site. ETTP will then be available for use as a private-sector, brownfield industrial park. The two buildings currently proposed for title transfer are K-1036 and K-1400. General descriptions of the Properties are contained in their respective Environmental Baseline Survey (EBS) Reports included in Attachment A and are summarized below. Legal descriptions and color footprints of the Properties are provided in Attachment B.

1.1 Building K-1036

Building K-1036 (Figure 1) is located inside the property protection fence in the central portion of ETTP. The building is an 80,000-ft^2, one-story, rectangular structure with a steel frame and concrete block construction and with a concrete foundation and corrugated asbestos/concrete roofing. The K-1036 Building was built in 1945 as a warehouse. It is the first building at this location as well as one of the original buildings at ETTP. In 1948, it became the Main Spare Parts Stores Warehouse. In 1955, Shipping and Receiving was moved from the K-1212 and K-1213 Buildings to K-1036. It continued as the main site Stores until 1998 when it was leased to CROET as part of the Reindustrialization Program. The transfer footprint includes the building, external electrical and air-conditioning equipment, loading docks, steps, the underlying fee, and a small area of pavement surrounding the building.

Figure 1. Building K-1036

1.2 Building K-1400

Building K-1400 (Figure 2) is located in the eastern portion of ETTP, inside the property protection fence. It is a 13,000-ft^2, "L"-shaped, two story masonry structure that was built in 1953 as an office building and has been used for that purpose ever since. The building was leased in 2001 to CROET, and continues to be used for office space. A sprinkler shed on the northwest corner is being transferred with the building.

Figure 2. Building K-1400

2.0 Nature/Extent of Contamination

In accordance with CERCLA Section 120(h), reviews of government records, title documents, and aerial photographs, visual inspections of the Properties and adjacent properties, and interviews with current and former employees were conducted to identify any areas on the Properties where hazardous substances and petroleum products were stored for one year or more, known to have been released, or disposed of. Additionally, radiological surveys were conducted to assess the radiological condition of the Properties. The details of these evaluations, including discussions of the nature and extent of contamination, are presented in the Environmental Baseline Survey Report (Attachment A) for each property. The findings of the evaluations are summarized in Subsections 2.1 through 2.3 below.

2.1 Evaluation of Potential Contamination in the Buildings

The results of each building evaluation are as follows:

- There is no evidence that hazardous substances in quantities greater than or equal to 1,000 kilograms (kg) or their respective CERCLA reportable quantities as specified in 40 CFR Section 302.4, and/or acutely hazardous wastes, as specified in 40 CFR Section 261.30, in quantities greater than or equal to 1.0 kg, have been stored for one year or more within the transfer footprints of Buildings K-1036 or K-1400. There is no evidence that hazardous substances have been disposed of within Buildings K-1036 or K-1400.

- Current groundwater plume maps indicate the presence of volatile organic compounds (VOCs) in shallow groundwater beneath all of K-1400 and beneath the northeastern side of K-1036. Although the contamination did not originate at K-1400 or K-1036, the contaminated groundwater is considered to be a release within the respective footprints.

- A release of 30 gallons of trichloroethane (TCA) from the west dock to the adjacent ground occurred at Building K-1036 in 1980 and was cleaned up. This may or may not have exceeded the reportable quantity. If the substance was 1,1,1-TCA, the reportable quantity was not exceeded; if the substance was 1,1,2-TCA, the reportable quantity was exceeded. Information about the isomer of trichloroethane was not provided in the spill incident report.

- There is no asbestos present in Building K-1400. No evidence was found of friable types of asbestos present in Building K-1036; however, it is possible that there is asbestos in the vinyl flooring and the roof is an asbestos-containing material. The roofing and vinyl tiles in K-1036 should be periodically inspected to ensure that the asbestos does not become friable, and disposal of the materials must be conducted pursuant to applicable regulations. Based on the ages of the K-1036 and K-1400 buildings, the presence of lead-based paint is considered possible in these buildings. Lead-based paint should be managed pursuant to applicable regulations.

- Based on the age of the K-1400 building, it is assumed that the ballasts in some of the older fluorescent lighting fixtures may contain low concentrations of polychlorinated biphenyls (PCBs). The fluorescent lighting fixture ballasts in Building K-1036 do not contain PCBs.

- The building interior, exterior (including ancillary equipment and appurtenances and the sprinkler shed at K-1400), and furnishings in K-1036 and K-1400 were surveyed for radioactive contamination in accordance with the approved radiological survey plans. The data were analyzed to determine 1) if any residual contamination was present, and 2) if so, whether the contamination might exceed the derived concentration guideline level (DCGL) established for each of the survey units. Survey results showed that the K-1036 and K-1400 study areas had no areas of residual radioactivity present above DOE contamination limits or the DCGL[1] and, therefore, can be released without radiological restrictions.

- The radiological survey data for Buildings K-1036 and K-1400 were used to evaluate the risk to an industrial worker occupying each building. The risk evaluation concluded that occupancy of the buildings for their intended use as office space or for light industrial/warehousing activities does not present an unacceptable risk to human health. The details of the risk evaluation are included in Section 4.1.

2.2 ETTP Soil and Groundwater Contamination

There are more than 2,000 acres within the 5,000-acre ETTP footprint that have, or potentially have, soil contamination and/or waste from past disposal activities. Contaminants in soil and burial grounds include a variety of radionuclides, organics, and heavy metals. A review of historical information concluded that there were no areas of contamination believed to be within the transfer footprints of Buildings K-1036 and K-1400, except contaminated groundwater. Based on document reviews of the K-1036 property, there is no indication that the area has been contaminated from past activities, and the building is surrounded by asphalt paving; therefore, no soil samples were collected. Based on document reviews of the K-1400 property and interviews with long-term ETTP workers, there is no indication that the area (underlying fee) has been contaminated from past activities, except the groundwater. Therefore, no soil sampling was conducted to support the title transfer of the building and its underlying fee. Surface soil sampling was conducted in the immediate vicinity of K-1400 in November 2000 prior to leasing of the building. Results for PCBs, VOCs, and semivolatile organic compounds (SVOCs) were factored into the risk assessment for the rover scenario discussed in Section 4.2.

It should be noted that full characterization of ETTP soils is not complete. Future soil characterization activities may uncover areas of contamination in the vicinity of the

[1] Derived Concentration Guideline Level: total alpha, 5000 disintegrations per minute (dpm)/100 cm^2; removable alpha, 1000 dpm/100 cm^2; total beta-gamma, 5000 dpm/100cm^2; and removable beta-gamma, 1000 dpm/100 cm^2. DCGLs are established in the *Multi-Agency Radiation Survey and Site Investigation Manual* (MARSSIM), also known at NUREG-1575.

Properties. Any such areas will be addressed as part of the site's remediation program as agreed to by the FFA parties. In order to ensure protection of human health until any necessary additional characterization of soils has been completed and any required remedial action has been taken, the deed for the Properties requires that prior to soil disturbance in areas 10 feet or less below the ground surface, the Grantee must comply with the DOE excavation and penetration permit program. The deed also prohibits the use of the Properties in a manner inconsistent with the land use assumptions of "unrestricted industrial use," defined as a condition that includes activities involving exposures under the industrial use scenario (2,000 hours/year for 25 years) to surface conditions down to 10 feet below ground surface, and prohibits disturbance of soils 10 feet or below the surface without prior written approval by the FFA parties. Additionally, property uses are restricted to specific industrial uses identified in the deed. These deed restrictions and prohibitions are described in more detail in Section 3.0 and are also included in Section 6.0.

In order to ensure protection of human health, soil characterization data from the ETTP Sitewide Remedial Investigation, as well as other historical data, were used to evaluate risk to human health from exposure to existing or potential contamination in areas outside the transfer footprints. These data were used in the risk assessments for each facility, and they are adequate for assessment of the risks to future workers at the site who might spend 2 hours a day roaming accessible areas of the site, including trips to and from their vehicles. The results of the evaluation are included in Section 4.0, and the Risk Screens for each property can be found in Attachment C.

The ETTP site has known contaminated groundwater plumes (consisting mainly of VOCs with concentrations ranging from a high of approximately 15 parts per million in the far northeast portion of the site to non-detectable concentrations) that resulted from past operations. As stated above, a contaminated VOC groundwater plume extends just underneath K-1036 on the northeastern side. A contaminated VOC groundwater plume also extends underneath all of K-1400. The deed includes a prohibition for use of the groundwater in any way, unless such use is approved by the FFA parties.

Based on a review of historical information, the results of risk analysis performed, and the restrictions and prohibitions included in the Quitclaim Deed, it has been determined that the intended use of the Properties is consistent with the protection of human health and the environment.

2.2.1 Vapor Intrusion Sampling

Because of the occurrence of VOCs in known contaminated groundwater plumes at ETTP, EPA Region 4 recommended investigation of the potential vapor intrusion pathway for site facilities that are targeted for transfer under a CERCLA Section 120(h) CDR. In accordance with EPA's *Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils* (EPA530-F-02-052, November 2002), and through consultation with representatives from EPA Region 4, ORO developed a process to evaluate the potential for vapor intrusion at existing ETTP facilities to be transferred to the private sector. The process is described in detail in Section 4.4, *Path*

Forward for Evaluating the Potential for Vapor Intrusion at East Tennessee Technology Park Facilities Targeted for Transfer, of the EBS reports for each building (Attachment A). In accordance with this process, during the winter and summer of 2004, ORO collected soil vapor samples through the sub-slab in Buildings K-1036 and K-1400 to evaluate the potential vapor intrusion pathway. The evaluation concluded that the vapor intrusion pathway is not complete (i.e., there is no significant source of VOCs under the building) for either of the Properties. The results of these evaluations are discussed in more detail in Section 4.4, "Risk Summary," of this CDR.

2.3 ETTP Demolition Project

As part of the accelerated cleanup of the ETTP, numerous facilities are being demolished. Some of these facilities may be in the vicinity of the buildings proposed for transfer in this CDR; however, appropriate work controls will be utilized to minimize and control the release of hazardous substances during demolition activities so that surrounding properties and persons are protected.

3.0 Analysis of Intended Land Use During the Deferral Period

The Properties proposed for transfer are situated within an industrial facility (ETTP) that is owned by the Federal government. As stated previously, the ETTP is on an aggressive environmental cleanup schedule to allow for its conversion to a brownfield industrial park. The Properties are office/light industry/warehouse buildings currently occupied by private entities that have leases with CROET. The existing buildings were designed and constructed for office/light industry/warehouse use, and it is expected that the future use of these facilities will continue to be compatible with their design and infrastructure. Based on results of the risk assessments presented in Section 4.0 below, the Properties are acceptable for transfer for industrial use by the private sector, in accordance with Exhibit "B," which can be found in Section 6.0 of this CDR.

The Quitclaim Deed for the Properties includes various prohibitions and restrictions intended to ensure that the proposed transfer is protective of human health and the environment. The deed prohibits the use of the Properties in a manner inconsistent with the land use assumptions of "unrestrictive industrial use," as defined in Section 2.0 above. Additionally, real property uses are restricted to those uses specified in the deed, in accordance with guidance from EPA Region 4 and consistent with the Environmental Assessment (and its Addendum) for the proposed lease and transfer of ETTP land and facilities. The allowable property uses are: 1) light and heavy manufacturing and processing plants; 2) research and development facilities; 3) laboratory services; 4) waste management, including recycling, waste treatment, and packaging; 5) warehousing and wholesaling facilities; 6) public or semi-public utility structure or related use; 7) offices, excluding any on-site daycare facilities; and 8) industries related to operation and maintenance of the industrial park.

In order to prevent inadvertent exposure to possible site soil contaminants, the Grantee is required, prior to disturbing soil on the property located 10 feet or less below ground surface, to comply with DOE's excavation and penetration permit program. The

deed also specifies that DOE will retain this program until it has been determined that all necessary remedial action on the property has been taken. The ORO Environmental Management (EM) organization will be in the approval chain for the excavation and penetration permits, and will submit any permit package it proposes to approve to EPA and TDEC for notification no later than 15 business days prior to giving EM's approval for the permit. Consistent with the "unrestricted industrial use" definition, use of property below 10 feet without prior approval by the FFA parties is prohibited. To ensure protection of human health from exposure to contaminants in groundwater plumes throughout the site, the deed prohibits the Grantee from extracting, consuming, or using in any way the groundwater underlying the Properties without the prior written approval of DOE, EPA Region 4, and TDEC. Finally, the deed requires compliance with all applicable Federal, State, and local laws and regulations with respect to any development of the property.

As stated above, due to the presence of VOCs in shallow groundwater throughout the site, there is a potential for vapor intrusion at the Properties proposed for transfer. ORO will address the potential for vapor intrusion in the ETTP Sitewide Record of Decision (ROD), which will cover groundwater, and is scheduled to be signed by 2006, and will take interim measures to ensure protectiveness until those actions of the ROD related to vapor intrusion are implemented. Those interim measures are specified in the *Path Forward for Evaluating the Potential for Vapor Intrusion at the East Tennessee Technology Park Facilities Targeted for Transfer*, included in Section 4.4 of each building's EBS (Attachment A). It should be noted that the EBSs have been made a part of the Quitclaim Deed by reference.

4.0 Risk Assessment Results

A risk analysis addressing the possible exposure to potentially contaminated building surfaces was conducted for each of the Properties proposed for transfer. These analyses can be found in Attachment C of this CDR. Two exposure scenarios were evaluated for Buildings K-1036 and K-1400: 1) an industrial worker potentially exposed to contamination inside the building, and 2) a "roving worker" potentially exposed to contamination outside the building.

4.1 Industrial Worker Scenario

The risk calculations for the interiors of the office/warehouse buildings proposed for transfer were based on the most recent radiological survey data. For the surveys, the study area was divided into interior survey units (ISUs), furnishings units, and exterior survey units (ESUs). For purposes of conducting the risk assessment, it was assumed that the furnishings would remain in place, and, thus, each ISU was assumed to include any furnishings.

Because the buildings have been used in the past for offices and/or warehouse space, it is unlikely that heavy industrial activities would be compatible with their infrastructure. Furthermore, current plans are for CROET's tenants to continue to occupy the Properties for offices or for warehouse activities under a lease agreement with CROET until the

contract expires in 2008. Therefore, the anticipated use for the buildings is light industrial activity, represented by an industrial worker exposure scenario in this evaluation. Exposures to the building worker, while spending time outside the building, were included in the roving worker exposure scenario described in Section 4.2 below.

The industrial worker exposure scenario assumes the following:

- The industrial worker is employed at one of the buildings for a 25-year period,
- The worker is on-site for 250 d/year, and
- The worker spends the entire 8-hr workday working in the interior of one of the buildings.

The risks associated with an industrial worker at each of the buildings proposed for transfer under this CDR can be summarized as follows:

- The risks for carcinogens are either within or below the EPA-acceptable range of 10^{-4} to 10^{-6}, and
- The hazards are below the EPA-acceptable hazard level of 1.0 for non-carcinogens.

A summary of the risk/hazard results can be found on Table 6.2 of each risk analysis (Attachment C).

4.2 Roving Worker Scenario

To determine risk to human health from potential exposure to contaminants outside of a property proposed for transfer, a roving worker scenario was evaluated. The roving worker scenario assumes that the roving worker:

- may access contaminated soil for 5 years, until 2008, when remediation at ETTP will be completed;
- is on-site for 250 days/year;
- spends 2 hours each day moving around ETTP among all accessible exposure areas;
- ingests 50 mg of contaminated soil during each 2-hour period of roving; and
- inhales 20 m^3 of air during each 2-hour period of roving.

For workers in Buildings K-1036 and K-1400, which are located *inside* the property protection fence, the risk to the roving worker was 2×10^{-5}, which is within the EPA acceptable range of 10^{-4} to 10^{-6}. The risk was mainly due to external exposure to ionizing

radiation, as well as both ingestion and dermal contact with polycyclic aromatic hydrocarbons. The calculated hazard for the roving worker, who can access areas both inside and outside the fence, was 0.3, which is below the EPA-acceptable level of 1.0.

4.3 Vapor Intrusion Pathway Evaluation

Sub-slab soil vapor was collected under Buildings K-1036 and K-1400 to determine if a potential source for VOCs exists under them. These samples were collected in the winter and summer months of 2004, in each building, to account for seasonal variations. The same process was followed for both the winter and summer sampling events. The results for each building were validated using standard validation rules. A 100% validation was performed for each building. No data were rejected (i.e., "R" qualified for this project).

If a compound was never detected in any sample collected for a given building, it was considered a non-detect and was not analyzed further for that building. If a compound was detected at least once for a building, all values (including the non-detects at half of their respective detection levels) were used to calculate an arithmetic mean concentration. The resulting values were then compared to their respective health-protective soil-vapor trigger level. Trigger levels were developed using a Hazard Index of 0.1 and a risk value of $10^{-5.}$

Based on the results of the winter and summer 2004 sampling events, no VOC exceeded its respective trigger level in either building. In addition, to ensure that the VOCs did not cumulatively exceed trigger levels, for each building the average concentration for each VOC was divided by its respective trigger level to determine what fraction the concentration represented. The resulting fractions were then summed for all VOCs for that building that had at least one detection. If, collectively, the VOC concentrations for a particular building had exceeded the trigger levels, the resulting value for that building would be above 1.0 (i.e., the fractions would add up to over 1.0). The sum of fractions was not above 1.0 for either of the two buildings, indicating the cumulative impact from all VOCs would not result in adverse health effects. The data for the winter and summer soil vapor sampling events are provided for each building in Tables 6.1 and 6.2, respectively, of each building's EBS report, and the sampling locations for each building are provided in Figure 6.1 (Building K-1400) or 6.2 (Building K-1036) of its respective EBS (see Attachment A).

The results and comparisons from the winter and summer sampling events of 2004 show that the vapor intrusion pathway is not complete beneath Buildings K-1036 and K-1400. Thus, there is no adverse impact to human health.

Due to changes in soil-vapor concentrations resulting from migration of groundwater contaminants, maximum concentrations in soil vapor could increase above those currently present. Therefore, in addition to an evaluation of currently measured soil vapor concentrations, the approach for evaluating soil vapor at ETTP includes an analysis of the sampling frequency required at a building in order to prevent unacceptable

exposures in the future. By periodically re-sampling soil-vapor under a building and taking action if needed, unacceptable exposures can be avoided.

The combined data from both the winter and summer 2004 sampling events were evaluated to determine how often sampling will be needed to ensure protectiveness to workers inside transferred buildings. For this analysis, the acceptable risk level was 1E-6, and the acceptable hazard level was 1.0. For Building K-1036, the re-sampling frequency was determined to be 20 years. For Building K-1400, it was 15 years.

4.4 Risk Summary

The risk analyses for each of the two buildings proposed for transfer indicate that risks are considered to be within acceptable levels of EPA's target risk range (10^{-4} to 10^{-6}) and that the calculated hazard for workers at K-1036 and K-1400 is below the EPA-acceptable level of 1.0. The analyses indicate a low likelihood of adverse health effects to a worker who is working in the buildings proposed for transfer under this CDR. The risk assessment includes the evaluation of risks from the potential vapor intrusion pathway for both the winter and summer 2004 soil-vapor sampling events, which found that the vapor intrusion pathway is not complete for K-1036 or K-1400. In addition, the re-sampling frequency needed to ensure protectiveness for workers in the future was determined to be 20 years for K-1036 and 15 years for K-1400.

5.0 Response/Corrective Action and Operation and Maintenance Requirements

The FFA parties divided the ETTP into two smaller operating units to facilitate site CERCLA decisions. The two operating units are Zone 1 (outside the property protection fence) and Zone 2 (inside the property protection fence). Buildings K-1036 and K-1400 are both located in Zone 2. The Zone 2 ROD is scheduled to be signed between March and May of 2005, and the remedial actions are scheduled to be completed by September 30, 2008.

As stated previously, a review of historical information concluded that no areas of contamination posing unacceptable levels of risk to human health are believed to be within the footprints of the Properties proposed for transfer under this CDR. In addition, because only minimal land areas are being transferred, an extensive soil characterization effort was not necessary. However, future soil characterization activities may uncover areas of contamination in the vicinity of the properties requiring remedial action. Any remedial action determined to be necessary by the FFA parties will be implemented as part of the site's remediation program.

ORO plans to address the key sources to the contaminated groundwater plumes at the site to ensure proper environmental protection of human health and the environment. The actual decision will be made through the CERCLA process. The ETTP Sitewide ROD, which will include groundwater, is scheduled to be signed by September 13, 2006. The measures planned to be taken to address groundwater contamination are not expected to impact the Properties. The remedial action is expected to be completed by September 30, 2013.

In order to ensure the protection of human health by preventing exposure to contaminants present in the groundwater, the deed for the Properties prohibits the extraction, consumption, exposure, or use in any way of the groundwater without the prior written approval of ORO, EPA Region 4, and TDEC. Additional provisions are included to prevent inadvertent exposure to contaminated groundwater and/or any contamination that could possibly be present in the soils. Such provisions include: requiring the Grantee to adhere to the DOE excavation and penetration permit program prior to disturbing soils located 10 feet or less below the ground surface, prohibiting the use of the area of the property below 10 feet without prior written approval by the FFA parties, restricting the use of the property to specific industrial uses, and requiring adherence to applicable Federal, State, and local laws with respect to any development of the property.

Vapor intrusion will be addressed in the ETTP Sitewide ROD that will include groundwater. After the Properties have been transferred, the vapor intrusion pathway may be re-evaluated if the building structure/infrastructure significantly changes, or at a frequency determined as agreed-to between EPA Region 4 and ORO (Section 4.4 of the EBS reports, *Path Forward for Evaluating the Potential for Vapor Intrusion at East Tennessee Technology Park Facilities Targeted for Transfer*), to ensure that protectiveness from the vapor intrusion pathway is maintained until the ROD actions related to vapor intrusion are implemented. If the pre-transfer determination that vapor intrusion does not pose a significant risk changes as a result of such a re-evaluation, ORO will take the necessary actions to ensure protection. Corrective actions such as installation or modification of ventilation systems, installation of engineered containment systems, and removal actions, will be considered in selecting the appropriate remedy.

6.0 Contents of Deed/Transfer Agreement

This section includes the Quitclaim Deed clauses and/or exhibits required to enable EPA's determination that the property is suitable for transfer. The following items are included:

a. Notice – A copy of the notice as required by CERCLA Section 120(h)(1) and (3) and in accordance with regulations set forth at 40 CFR Part 373;

b. Covenant – A copy of the covenant warranting that any additional remedial action found to be necessary after the date of transfer shall be conducted by the United States as required by CERCLA Section 120 (h)(3)(A)(ii)(II);

c. Access – A copy of the clause that reserves the United States access to the property in any case in which an investigation, response, or corrective action is found to be necessary after the date of transfer as required by CERCLA Section 120(h)(3) (A)(iii); and

d. Response Actions Assurances – A copy of the response action assurances that must be included in the deed or other agreement proposed to govern the transfer as required under CERCLA Section 120(h)(3)(C)(ii).

6.1 Quitclaim Deed Conditions

THIS QUITCLAIM DEED, made between the UNITED STATES OF AMERICA, its successors, transferees and assigns, hereinafter referred to collectively as the GRANTOR, acting by and through the Secretary of the Department of Energy, under and pursuant to the powers and authority contained in Section l61g of the Atomic Energy Act of 1954, as amended (42 U.S.C. § 2011 et seq.) and Heritage Center, LLC, a Tennessee non-profit corporation, organized under the laws of the State of Tennessee, its successors, transferees and assigns, hereinafter referred to collectively as the GRANTEE. The GRANTOR and GRANTEE have agreed that in order to assure enforceability of land use restrictions, this Quitclaim deed, including all of its exhibits, shall serve as a Notice of Land Use Restrictions pursuant to TCA 68-212-225, having all the effectiveness and enforceability of such Notice. By acceptance of this Quitclaim Deed or any rights hereunder, the Grantee, for itself, its successors and assigns forever, agrees that the transfer of all the Property transferred by this Deed is accepted subject to all terms, obligations, restrictions, reservations, covenants and conditions set forth in this Quitclaim Deed and all exhibits hereto, and that these terms, obligations, restrictions, reservations, covenants and conditions shall run with the land.

1) It is the intent of the GRANTEE to utilize the property conveyed herein for purposes consistent with the mission of economic development for the community. All activities and development of the real property by the GRANTEE shall be consistent with the requirements contained within Exhibits “B”, “D” and “F” to this Quitclaim Deed and be generally consistent with the GRANTEE’s proposals to the GRANTOR which was approved by the GRANTOR on August 27, 2004, for Buildings K-1036 and K-1400.

9) The GRANTEE shall comply with all applicable Federal, State, and local laws and regulations with respect to any present or future development of the property herein conveyed, including, but not limited to, those laws and regulations which govern sewage disposal, facilities, water supply, and other public health requirements. All structures, facilities, and improvements requiring a water supply shall be required to be connected to an appropriate regulatory approved water system for any and all usage. GRANTEE covenants not to extract, consume, expose, or use in any way the groundwater underlying the property or water from any streams or ponds located on the property without the prior written approval of the GRANTOR, the United States Environmental Protection Agency and the Tennessee Department of Environment and Conservation.

10) GRANTOR shall comply with vapor intrusion requirements, until such time that the actions described in the ETTP Sitewide ROD are implemented, as set forth in Section 4.4 of the Environmental Baseline Survey Report issued in December 2004 which are incorporated by reference to this Quitclaim Deed as Exhibit “D”. Said Reports shall be placed within the permanent historical realty audit files of DOE’s Oak Ridge Operations

Office, within the GRANTOR's Oak Ridge Operations Office Information Center, and within the GRANTEE's realty records.

14) The GRANTOR acknowledges that the Oak Ridge Reservation has been identified as a National Priorities List Site under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended. The GRANTEE acknowledges that the GRANTOR has provided it with a copy of the Oak Ridge Reservation Federal Facility Agreement (FFA) effective on January 1, 1992, and relevant amendments entered into by the GRANTOR, Region 4 of the United States Environmental Protection Agency, and the Tennessee Department of Environment and Conservation. The GRANTEE agrees that should any conflict arise between the terms of such agreement as it presently exists or may be amended and the terms of this Quitclaim Deed, the terms of the FFA will take precedence. An Addendum addressing requirements of Section l20(h)(3) and containing response action assurances required by CERCLA Section l20(h)(3)(C) is attached as Exhibit "F" and are made a part of this Quitclaim Deed, and all provisions of that Addendum are fully incorporated herein.

TO HAVE AND TO HOLD the above described premises, subject to the exceptions, reservations, restrictions, covenants, and conditions herein set forth unto the GRANTEE forever.

EXHIBIT "B"
TO QUITCLAIM DEED
BETWEEN
DEPARTMENT OF ENERGY
AND
HERITAGE CENTER, LLC

USES OF REAL PROPERTY

In accordance with the Environmental Assessment dated November 1997, and the Addendum to the Environmental Assessment dated July 2003, the real property may be used for the following activities:

a. Light and heavy manufacturing and processing plants;
b. Research and development facilities;
c. Laboratory services;
d. Waste management, including recycling, waste treatment, and packaging;
e. Warehousing and wholesaling facilities;
f. Public or semipublic utility structure or related use;
g. Offices, excluding any onsite daycare facilities; and
h. Industries related to operation and maintenance of the industrial park.

Grantee covenants that it will not at any time cause or allow any portion of the property to be used for any residential housing, any elementary or secondary school, or any child care facility or children's playground.

EXHIBIT “D”
TO QUITCLAIM DEED
BETWEEN
DEPARTMENT OF ENERGY
AND
HERITAGE CENTER, LLC

ENVIRONMENTAL BASELINE SURVEY REPORTS

For Buildings K-l400 and K-1036, individual Environmental Baseline Survey Reports were issued in December 2004 by the GRANTOR.

Said reports are incorporated by reference to this Quitclaim Deed as noted in Condition No. 10.

EXHIBIT "F"

ADDENDUM TO QUITCLAIM DEED
BETWEEN
DEPARTMENT OF ENERGY AND HERITAGE CENTER, LLC

A. In accordance with CERCLA Section 120(h)(1) and (3) and 40 CFR Section 373, and based on a complete search of agency files, the Grantor provides notice that:

In January 1980, a drum of trichloroethane (TCA) on an unspecified west dock of K-1036 was punctured during handling, resulting in the release of about 30 gallons to the asphalt. The specific TCA isomer was not identified in the spill report. A release exceeding the 40 CFR 373.2 threshold may have occurred if the substance was 1,1,2-TCA. Records indicate that this spill was cleaned up at the time of its occurrence.

Current groundwater plume maps indicate the presence of volatile organic compounds (VOCs) in shallow groundwater beneath Building K-1400. Although the origin of the contamination is believed to be the K-1070-C/D Burial Ground rather than K-1400, the contaminated groundwater is considered a release within the K-1400 footprint. VOCs that have been detected above a Federal drinking water maximum contaminant level (MCL) in the vicinity of K-1400 include 1,2-dichloroethene (1,2-DCE), methylene chloride, tetrachloroethene, and trichloroethene (TCE).

Similarly, a VOC-contaminated groundwater plume extends beneath Building K-1036 on its northeastern side and is considered a release within the K-1036 footprint even though several sources in the K-1070-C/D, K-1414, and K-1035 areas have contributed to this plume rather than activities at K-1036. VOCs that have been detected above a Federal drinking water MCL in the vicinity of K-1036 include 1,2-DCE, TCE, and vinyl chloride.

B. Grantor warrants that any additional response action found to be necessary after the date of transfer for contamination on the property existing prior to the date of this transfer will be conducted by the United States. This warranty will not apply in any case in which any Grantee of the property is a potentially responsible party with respect to the property before the date on which Grantor transferred the property. The obligation of the United States under this warranty will be limited to the extent that a response action is required by an act or omission of any Grantee which either a) introduces new contamination or b) increases the cost or scope of the required response action by negligently managing any contamination present on the property at the time of the initial transfer by the United States.

C. Grantor reserves a right of access to all portions of the property for environmental investigation, remediation, or other corrective action. In the event the Grantor must access the property, the Grantor must provide notice to, and coordinate access with, the Grantee or its successors and any authorized occupants of the property. Any such entry,

including such activities, responses, or remedial actions, shall be coordinated with the Grantee or its successors, assigns, and tenants and shall be performed in a manner which minimizes, to the extent practicable, interruption with the Grantee's activities on the property. The Grantor's right to access the property shall be exercisable in any case in which a response action or corrective action is found to be necessary by the applicable regulatory authority after the date of conveyance of the property, or in which the Grantor determines access is necessary to carry out a response action or corrective action on adjoining property. Pursuant to this reservation, the United States and its officers, agents, employees, contractors, and subcontractors shall have the right (upon reasonable notice to and coordination with the Grantee or the then-owner and any authorized occupant of the property) at the direction of the Grantor to enter upon the property and (1) conduct investigations and surveys, including but not limited to sample collection, drilling, data and record compilation, and other activities related to environmental investigation; and (2) carry out any other response and/or corrective actions as required or necessary under CERCLA and other applicable authorities, including but not limited to installation and operation of groundwater monitoring and/or restoration wells, and any treatment of hazardous substances or materials required under CERLCA and other applicable authorities.

D. Grantee covenants that the property shall not be used or developed in a manner inconsistent with the land use assumptions of "unrestricted industrial use" contained in approved applicable Records of Decision.

E. Grantee covenants that, prior to soil disturbance, it will comply with the Grantor's excavation and penetration permit program. Grantor covenants that it will retain this program until it has been determined that all necessary soil remedial action on the property has been taken. As part of the Grantor's implementation of work under the Federal Facility Agreement (FFA), the Oak Ridge Office of Environmental Management (EM) must approve any permit under this program for disturbance of soil on the property located 10 feet or less below the surface prior to Grantor's issuance of that permit. EM will submit any permit package it proposes to approve to EPA and TDEC for notification no later than 15 business days prior to giving EM's approval for the permit.

F. Grantee covenants that it will not, at any time, cause or allow any other use or disturbance of any portion of the property located more than 10 feet below ground surface level without the prior written approval of the Grantor, the United States Environmental Protection Agency, and the Tennessee Department of Environment and Conservation.

G. Grantee covenants that it will not inhibit or hinder the Grantor from required remedial investigations, response actions, or oversight activities including, but not limited to, properly constructing, upgrading, operating, maintaining, and monitoring any groundwater treatment facilities or groundwater monitoring on the property or adjoining property. Further, Grantee covenants that it will not tamper with or willfully destroy any monitoring wells or other monitoring or remediation systems that may be located in the vicinity of the property.

H. Grantor shall submit on an annual basis, through established channels, appropriate budget requests to the Director of the Office of Management and Budget that adequately address those agreed-upon schedules for investigation and completion of all necessary response actions required by the FFA until such time that all necessary remedial action has been taken. The actual amount available for such activities is subject to congressional authorizations and appropriations.

I. When all response actions necessary to protect human health and the environment with respect to any substance remaining on the property on the date of transfer have been taken, the United States shall execute and deliver to the transferee an appropriate document containing a warranty that all such response actions have been taken.

J. After notice and coordination with the Grantee as set forth in Item C. above, any response actions taken by the Grantor will be in accordance with schedules developed and included in Appendix J of the FFA for the Oak Ridge Reservation, approved by the Grantor, Region 4 of the Environmental Protection Agency, and the Tennessee Department of Environment and Conservation. Grantor will take all necessary action to remediate the East Tennessee Technology Park (ETTP), including groundwater contamination, where applicable. The schedule for completion of the remedial action activities addressing Zones 1 and 2 of ETTP and the groundwater is set forth in the following milestones, which are subject to adjustment through amendment pursuant to *Chapter XVIII. Scoping Work Priorities of the FFA*:

<u>Zone 2</u> (Buildings K-1036 and K-1400)

Record of Decision – Scheduled for March–May 2005 timeframe
Completion of Remedial Action – September 30, 2008

<u>ETTP Sitewide Record of Decision</u>

Record of Decision – September 13, 2006
Completion of Remedial Action – September 30, 2013

7.0 Responsiveness Summary

This CDR was issued in draft form for regulator review and comment from December 15th, 2004 until February 2nd, 2005. ORO had extensive interaction with EPA Region 4 and TDEC in preparation of the draft CDR package, and this section presents responses to comments received from the regulators on the Draft CDR. Comments were received from EPA Region 4 on January 31, 2005. Also, included in the cover letter was a request that once the comments below are addressed, the draft CDR will be fully satisfactory for public comment. EPA Region 4 also requested a copy of the draft CDR issued for public comment along with the public notice announcing the availability of the draft; these requested items will be provided. In addition, notice was received from TDEC on January 26, 2005, that they would not have comments.

7.1 Regulator Comments

Covenant Deferral Request

1. Section 2.1, page 5: Identify "the report" referred to in the third bulleted item's last sentence.

   RESPONSE: The words "spill incident" have been inserted before the word "report" to identify the report.

2. Section 2.1, Bullet 4, Page 5: The text notes that there was no friable asbestos identified in Building K-1036, but the vinyl flooring may contain asbestos. The EBS report for Building K-1036 also mentions that the roof is an asbestos-cement tile. This bullet should also include that the roof is an asbestos-containing material. The bullet also notes that lead-based paint is possible in both structures. The EBS report for Building K-1036 [states that the building] will require periodic surveillance to ensure that the asbestos-containing materials are maintained in good condition. The EBS reports also note that maintenance of lead-based paint may need to be conducted in accordance with applicable regulations. The CDR should include mention of these future environmental requirements.

   RESPONSE: The text for Section 2.1, Bullet 4 has been revised to include the requested information.

3. Section 2.1, Bullet 5, Page 5: The text states that PCBs are a possibility in the fluorescent light fixtures, then in the following sentence it states that it is not. Please clarify.

   RESPONSE: The text has been changed to note that PCBs are a possibility in the K-1400 light fixtures but that the K-1036 light fixtures do not contain PCBs.

4. Section 5.0, page 12: In the first paragraph's last sentence, replace "December 17, 2004," with the date by which the ETTP Zone 2 ROD signature is currently anticipated.

   RESPONSE: The text has been changed to note that the Zone 2 ROD signature is anticipated in the March-to-May 2005 timeframe.

5. Exhibit F, Addendum to Quitclaim Deed, page 20: In deed condition J, replace "December 17, 2004" with the date by which the ETTP Zone 2 ROD is currently anticipated.

   RESPONSE: The text has been changed to note that the Zone 2 ROD signature is anticipated in the March-to-May 2005 timeframe.

Environmental Baseline Survey Report for the K-1400 Building

1. Executive Summary Conclusions, last word in the last paragraph: please change the word "release" to "possible ongoing source for contamination by vapor intrusion."

   RESPONSE: During a meeting with EPA Region 4 held on August 17th, 2004, DOE received instructions from EPA Counsel that a groundwater plume such as that found below K-1400 is considered a "release" and should be noted that way per 40 CFR 373 reporting. For this reason, the text has not been changed. However, should EPA wish to modify the language based on additional considerations, DOE would be open for discussion, ideally incorporating the proposed revision into the final (concurrence) version of the report.

7.2 Public Comments

This section has been included as a placeholder for the final CDR and will include ORO's responses to written comments received during the public comment period.