

DRAFT COVENANT DEFERRAL REQUEST

**FOR THE PROPOSED TRANSFER OF
BUILDINGS K-1007, K-1225, K-1330, K-1400, AND K-1580
AT THE EAST TENNESSEE TECHNOLOGY PARK
OAK RIDGE, TENNESSEE**

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Transfer of Buildings K-1007, K-1225, K-1330, K-1400, and K-1580
At the East Tennessee Technology Park, Oak Ridge, Tennessee**

Introduction

The United States Department of Energy (DOE) is proposing to transfer five buildings, including their related real property and land (hereinafter referred to as “the Properties”) designated as K-1007, K-1225, K-1330, K-1400, and K-1580, at the 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, as amended, (CERCLA) 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 Facilities Agreement (FFA). The FFA was entered into by DOE, 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 clean-up of the ORR, and will result in savings to DOE through avoided building demolition costs. Additionally, transfer of these properties will contribute to the reduction of DOE mortgage costs at the ETTP making that money available for other clean-up projects. 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 and are proposed for transfer to CROET for their continued use as office space. The proposed transfer is the first 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 found after the date of the transfer. The deeds transferring the Properties contain numerous restrictions and prohibitions on the use of the Properties. These restrictions and prohibitions are designed to ensure protection of human health and the environment. If the Grantee (CROET) fails to abide by the provisions of the Quitclaim Deed, then DOE will be able to seek enforcement in Federal District court.

CERCLA requires that when the federal government transfers property the deed contains 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)(I)(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)(I)(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 a finding that:

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 transferee 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 assure 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 five office buildings located at the East Tennessee Technology Park (ETTP) (formerly the Oak Ridge Gaseous Diffusion Plant (ORGDP) and later the K-25 Site) including their respective utilities, ancillary fixtures, and land (land lying beneath each building structure, 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 shutdown since the mid-eighties. DOE Oak Ridge Operations (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 industrial park. The five office buildings currently proposed for title transfer are the following: K-1007, including the K-1007-A Canteen; K-1225; K-1330; K-1400; and K-1580. 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 of the Properties will be provided in Attachment B.

1.1 Building K-1007

Building K-1007 is located outside the property protection fence in the southern portion of ETTP, west of the main entrance (Portal 2), off the Oak Ridge Turnpike/Highway 58. K-1007 was built in 1960 with subsequent additions in 1966, 1972, 1974, 1978, and 1984 to create the present facility. It is a two-story, concrete-framed building with over 113,000 square feet of floor space and has been used as an office area for ETTP. Other key operations included micrographics processing and storage of electronic media. A darkroom on the first floor in the north end of the center wing contained specialized equipment for transferring media to microfilm and an associated silver extraction unit. Two satellite accumulation areas were located in the

adjoining room for the accumulation of silver and used fluorescent light bulbs. Portions of the building have been leased since 1998. K-1007-A is a trailer canteen that has been used as a lunchroom. It contains 1,344 square feet, not including the covered walkway from K-1007 to K-1007-A. Numerous warehouses and maintenance buildings occupied the present K-1007 area and were used to support the construction of the ORGDP. These buildings were demolished by the late 1950s, and the area was maintained as a grassy field until the construction of K-1007.

Ancillary fixtures that will be transferred with K-1007 are: dedicated support equipment including two 300 kVA, 13.8 kV-277/480 dry electrical transformers, a 180-ton chiller, a 120-ton chiller, a 75-ton chiller, and a 50-ton chiller located adjacent to the northern areas of the building with other incidental ancillary equipment. All exterior equipment items are mounted on concrete pads. In addition to the land under the building, areas immediately adjacent on the northern and western sides of the building and extending around the dedicated support equipment, to provide clearances for maintenance, are included in the footprint proposed for transfer.

1.2 Building K-1225

Building K-1225 is located inside the property protection fence, in the southeastern portion of ETP. It was built in 1980 as an office building and has been used for that purpose ever since. It is a two-story structure constructed primarily of reinforced pre-cast concrete on a concrete slab. Total floor area is 23,500 square feet. The building is located in an area where there was a concentration of support facilities during construction of the uranium process buildings in the 1940s and 1950s. Exterior features include a 300 kVA, 13.8 kV-120/208 volt dry transformer mounted on a concrete pad near the northwest corner of the building. In addition to the land under the building, a small area immediately adjacent on the north-northwest corner of the building and extending around the electrical support equipment is included in the transfer footprint.

1.3 Building K-1330

Building K-1330 is located in the southeastern portion of ETP, outside the property protection fence. The building has been used for office space since its construction in 1990. K-1330 has 7,200 square feet of space on each of its two floors for a total of 14,400 square feet. The building exterior is red clay brick and the interior is cinderblock with drywall covering it. During the construction of ORGDP, the area was an undeveloped field and remained as such until Building K-1330 was constructed for office space.

The property proposed for transfer includes a 300 kVA, 13.8 kV-120/208 volt, dry transformer mounted on a concrete pad near the east side of the building. Additionally, a pad-mounted chiller located outside the northwest corner of the building supports the buildings air-conditioning equipment located on the roof. In addition to the land under the building, small areas immediately adjacent on the west-northwest corner and east-southeast corner of the building and extending around the dedicated support equipment are included for transfer.

1.4 Building K-1400

Building K-1400 is located in the eastern central portion of ETTP, inside the property protection fence. It is a 13,000 square feet, "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. Exterior fixtures include a firewater valve house on the northwest corner. In addition to the land under the building, a small area immediately adjacent on the northern side of the building and extending around the firewater valve house is included in the transfer footprint.

1.5 Building K-1580

Building K-1580 is located in the southern portion of ETTP, inside the property protection fence. It is a 38,211 square feet (12,737 square feet on each of the three floors), three-story structure that was built in 1980 as an office building. K-1580 has been used by several site organizations since its construction and continues to be used for offices. During construction of the ORGDP, the area was an undeveloped field outside the perimeter fence and remained as such until Building K-1580 was built. At that time, the perimeter fence was moved to include K-1580.

Included in the proposed transfer are two 300 kVA dry-type electrical transformers (non-oil containing) mounted on concrete pads east of the building. One is 13.8 kV-480 volt and the other transformer is 13.8 kV-120/208 volt. Also, adjacent to the east of the building is a water-cooling tower dedicated to the chilled-water cooling system of the building. In addition to the land under the building, a small area immediately adjacent to the western side of the building and extending around the water-cooling tower and on to the electrical support equipment is included for transfer.

2.0 Nature/Extent of Contamination

In accordance with CERCLA Section 120(h), reviews of government records, title documents, aerial photographs, and visual inspections of the Properties and adjacent properties, and interviews with current and former employees were conducted to identify any areas on the property where hazardous substances and petroleum products were stored for one year or more, known to have been released, or disposed. 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 of this CDR.

2.1 Evaluation of Potential Contamination in the Buildings

The results of each building evaluation are as follows:

- No chemicals exceeding 1,000 kilograms have been stored and/or used in Buildings K-1007, K-1225, K-1330, K-1400, or K-1580 for one or more years.
- There was no evidence found of a release of hazardous substances or petroleum products in excess of the substances reportable quantity occurring in Buildings K-1007, K-1225, K-1330, K-1400, or K-1580.
- There is no asbestos present in Buildings K-1330 and K-1400. Asbestos is present in Building K-1007 in the form of pipe insulation and is considered to be present in the vinyl floor tiles. The insulation and most of the floor tiles are in good condition. There are a few broken floor tiles in the switchgear room and in the K-1007-A Canteen. Asbestos is present in Building K-1225 in the black tar joint compound on duct joints and is presumed to be in the stair tread adhesive. These asbestos-containing materials are in good condition. In Building K-1580, asbestos is present in 16 linear feet of clay rope-type insulation, and the vinyl floor tiles are assumed to contain asbestos. The floor tiles are in good condition.
- Based on the ages of the buildings, the presence of lead-based paint is considered possible in Buildings K-1007 and K-1400. Based on the ages of K-1330, K-1580, and K-1225, the presence of lead paint is not expected.
- Based on the ages of the K-1007 and K-1400 buildings, it is assumed that the ballasts in some of the older fluorescent lighting fixtures contain low concentrations of polychlorinated biphenyls (PCBs). Due to the relatively recent construction of K-1225, K-1330, and K-1580, it is not suspected that any fluorescent light fixtures in those facilities contain PCBs.
- The building interior, exterior, and furnishings in K-1007, K-1225, K-1330, K-1400, and K-1580 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-1007, K-1225, K-1330, K-1400, and K-1580 study areas had no areas of residual radioactivity present above DOE contamination limits or the DCGL¹ and, therefore, can be released without radiological restrictions.

¹ DCGL: total alpha, 5000 disintegrations per minute (dpm)/100cm²; removable alpha, 1000 dpm/100cm²; total beta-gamma, 5000 dpm/100cm²; and removable beta-gamma, 1000 dpm/100cm².

2.2 ETTP Soil and Groundwater Contamination

There are more than 2,000 acres within the 5,000-acre ETTP site 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 footprints of the buildings proposed for transfer. An extensive soil characterization effort of the Properties was not necessary, since only the land lying beneath the building structure, utility and ancillary fixtures, and a minimal access and maintenance area are being transferred. Full characterization of ETTP soils is not complete. Future soil characterization activities may uncover areas of contamination in the vicinity of the properties. Any such areas will be addressed as part of the site's remediation program as agreed to by the FFA parties.

The site has known contaminated groundwater plumes (consisting mainly of volatile organic compounds (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. Buildings K-1225 and K-1400 are within a hundred linear feet of a contaminated groundwater plume. There are no known contaminated groundwater plumes within a hundred linear feet of buildings K-1007, K-1330, or K-1580. Due to the uncertainty of bedrock flow patterns, it cannot be determined if these buildings are in the potential pathway of a plume.

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 has developed a process to evaluate the potential for vapor intrusion at existing ETTP facilities to be transferred to the private sector under a CERCLA 120(h) CDR. The process is described in detail in Section 4.4, *Evaluation of Potential Vapor Intrusion Exposure Pathway*, of the EBS reports for each building (Attachment A).

In accordance with the agreed-to process, DOE will collect soil vapor samples through the sub-slab, and, if necessary, indoor air samples, in Buildings K-1007, K-1225, K-1330, K-1400, and K-1580 prior to transfer to evaluate the potential vapor intrusion pathway. The results of the evaluation will be included in the Risk Assessment Section of the final CDR. In addition, groundwater samples will be collected to monitor the stability of groundwater conditions after transfer and to ensure that protectiveness is maintained. A follow-up soil-vapor sampling event will be conducted during the summer following transfer to confirm the vapor intrusion pre-transfer determination, and to be used in adjusting interim monitoring requirements if necessary. The results of both the

pre-transfer evaluation and the confirmatory sampling event will be available through the Reindustrialization web-site at <http://www.ettpreuse.com>. The public will have an opportunity to review the pre-transfer results and to provide comments prior to the approval of the CDR by the regulators.

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, such 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) which is owned by the Federal government. As stated previously, the ETTP is on an aggressive environmental clean-up schedule to allow for its conversion to a private industrial park. The Properties are office buildings currently occupied by DOE, and its contractors responsible for clean-up at the site, and/or private entities that have leases with CROET. During the deferral period, the space currently occupied by DOE and its contractors will be leased back from CROET for its continued use as office space. The Properties were designed and constructed as office buildings. Therefore, it is expected that the future use of these facilities will continue to be compatible with their design and infrastructure. Further, based on the results of the risk assessments presented in Section 4 below, the Properties are acceptable for transfer for their intended use as office buildings by the private sector, assuming that the vapor intrusion pathway does not present unacceptable risks (this will be confirmed prior to transfer, and the results of the vapor intrusion investigation will be included in the final CDR submitted to the regulators for approval, and will be available for public review).

The Quitclaim Deed for each property proposed for transfer prohibits its use 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. In addition, the deed specifies allowable real property uses that are 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 semipublic uses, including any municipal, state, or federal use; public utility structure; or related use; 7) offices; and 8) service industries.

In order to ensure protection of human health from exposure to contaminants in groundwater plumes throughout the site, the deeds for the Properties include restrictions

prohibiting the transferee from extracting, consuming, or using in any way the groundwater underlying the Properties without the prior written approval of DOE, after regulatory approval via the FFA process. In addition, the Quitclaim Deed requires the transferee to comply with ETTP site procedures for obtaining excavation and penetration permits, and prohibits the construction of basements on the Properties.

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. DOE will address the potential for vapor intrusion in the ETTP Groundwater Record of Decision (ROD) 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.

The interim measures to be implemented are described in Section 4.4, *Evaluation of Potential Vapor Intrusion Exposure Pathway*, of the EBS reports for each building (Attachment A) and are included in the Quitclaim Deed for each Property proposed for transfer. A summary of the interim measures is as follows: 1) DOE, through its contractors and/or subcontractors, will collect soil-vapor samples through the building sub-slab, and if necessary, air samples inside the building during the summer of 2004 to confirm the pre-transfer determination that the vapor intrusion pathway does not pose a significant risk to human health and that protectiveness is being maintained; 2) in the event that DOE fails to obtain such confirmation, DOE will make physical modifications to the facility as necessary to ensure protection of public health in accordance with CERCLA (actions to be considered include: installation of engineered containment systems, installation or modification of ventilation systems, removal actions, etc.); 3) otherwise, DOE will monitor the stability of groundwater conditions on an annual basis; 4) in the event that groundwater conditions at the site are determined to have changed in a way that might create a significant risk of exposure through the vapor intrusion pathway, DOE will conduct a re-evaluation of the building; 5) if the results of the re-evaluation indicate that the vapor intrusion pathway poses a significant risk to human health, DOE will take the necessary actions to ensure protectiveness; 6) comprehensive changes to the building structure or infrastructure (e.g., installation of a negative-pressure heating ventilation air conditioning system) that have the potential to alter previous conclusions may require re-evaluation of the vapor intrusion pathway. If such changes are made CROET will notify DOE and if necessary, DOE will re-evaluate to ensure that the pre-transfer determination has not changed.

4.0 Results from Risk Assessment

A risk analysis addressing the exposure to potential site contaminants 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: 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 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. 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, it is unlikely that heavy industrial activities would be compatible with their infrastructure. 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 days/year, and
- The worker spends the entire 8-hour 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 6.3 of each risk analysis (Attachment C). As stated previously; the results of both the vapor intrusion pre-transfer evaluation will be available through the Reindustrialization web-site. The public will have an opportunity to review the pre-transfer results and to provide comments prior to the approval of the CDR by the regulators.

4.2 Roving Worker Scenario

The “roving worker” exposure scenario assumes that the industrial worker spends two hours per day moving around accessible areas of the plant prior to completion of cleanup activities.

For workers in Buildings K-1007 and K-1330, which are located *outside* the property protection fence, the risk to the roving worker was 8×10^{-6} , 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 (PAHs). The calculated hazard for the roving worker who can access only areas outside the fence was 0.2, which is below the EPA acceptable level of 1.0.

For workers in Buildings K-1225, K-1400, and K-1580, 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 PAHs. 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

The process for evaluating the vapor intrusion pathway is described in Section 4.4, *Evaluation of Potential Vapor Intrusion Exposure Pathway*, of the EBS reports for each building. The following is a summary of that process with a focus on the Properties proposed for transfer under this CDR.

ORO will collect building sub-slab soil-vapor samples in the buildings and will proceed as follows: 1) samples will be collected during the winter months prior to transfer; 2) individual sample results will be compared to pre-established trigger levels for soil vapor that will be developed using a Hazard Index (HI) of 0.1 and a risk value of 10^{-5} ; 3) if the soil-vapor analytical results are below the trigger levels, then no further action in the building will be necessary unless site or building conditions change; 4) if the soil vapor analytical results are above the trigger levels, discussions will be held with EPA to determine if indoor air samples should be collected to determine whether the vapor intrusion pathway is complete; 5) if air samples are collected, the results will be compared to the 25-year industrial preliminary remediation goals (PRGs). If the results yield unacceptable risks (i.e., the results are greater than the PRGs), the vapor intrusion pathway will be considered complete and ORO will consult with the transferee to determine if they are still interested in transfer of the building. If the transferee desires the building, it will be retrofitted as necessary to eliminate or reduce the risk to acceptable levels, and confirmatory sampling will be conducted; 6) if the indoor air samples do not result in an unacceptable risk the building will be transferred, and annual indoor air sampling will be conducted to ensure that the vapor intrusion pathway has not become complete due to any changed conditions in the integrity of the building structure; 7) ORO will conduct a follow-up sub-slab sampling event for these five buildings in the

summer of 2004 to confirm protectiveness after transfer following the same process described above. If the results of the evaluation indicate that vapor intrusion poses an unacceptable risk to human health, ORO will take the necessary actions to ensure protectiveness (actions to be considered include: installation of engineered containment systems, installation or modification of ventilation systems, removal actions, etc.); 8) after the follow-up summer sampling, re-evaluation of the vapor intrusion pathway will only be conducted if site conditions and/or building use changes in a way that could alter previous conclusions.

4.4 Risk Summary

The risk analyses indicate that all risks and doses evaluated are considered within acceptable levels of EPA's target risk range (10^{-4} to 10^{-6}) and that the calculated hazard for the industrial worker is below the EPA acceptable level of 1.0. The analyses indicate a low likelihood of adverse health effects to an industrial worker that is working in the office buildings proposed for transfer under this CDR. It should be noted that the risk assessment does not currently include the evaluation of risks from the potential vapor intrusion pathway, since such evaluation has not yet been completed. Therefore, assuming no unacceptable risk from vapor intrusion the facilities are considered acceptable for transfer for their intended use as office buildings for the private sector.

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 main fence) and Zone 2 (inside the main fence). Buildings K-1007 and K-1330 are located within Zone 1. The Zone 1 Interim ROD includes remedial actions for contaminated soil, material, and buried waste that are planned to be completed by September 30, 2008. Although a full characterization of ETTP soils has not been completed, Buildings K-1007 and K-1330 are not within areas identified for remedial action in the Zone 1 Interim ROD.

Buildings K-1225, K-1400, and K-1580 are located within Zone 2. The Zone 2 ROD is scheduled to be signed by June 6, 2004, and the remedial actions are scheduled to be completed by September 30, 2008.

As stated previously, a review of historical information concluded that there were no areas of contamination believed to be within the footprints of the buildings proposed for transfer. Since only the land lying beneath the building structure, utility and ancillary fixtures, and a minimal access and maintenance area 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 the groundwater. Due to the plan to

address key sources, the remedial action for groundwater is currently assumed to be a passive approach such as monitored natural attenuation. The actual decision will be made through the CERCLA process. The CERCLA Groundwater ROD for the site is scheduled to be signed by September 13, 2006 (proposed date). The measures planned to be taken to address groundwater contamination are not expected to impact the Properties proposed for transfer. The remedial action is expected to be completed by September 30, 2013.

In order to ensure the protection of human health from exposure to contaminants present in the groundwater, the Quitclaim Deeds for the Properties prohibit the extraction, consumption, exposure, or use in any way of the groundwater without the prior written approval of DOE (and DOE must obtain the prior written approval of EPA and TDEC). Additional provisions are included to prevent inadvertent exposure to contaminated groundwater and/or any contamination that could potentially be present in the soils. Such provisions include: requiring adherence to site procedures for obtaining excavation and penetration permits, prohibiting the construction of basements, prohibiting the use of the area of the property below 10 feet, restricting the use of the property to 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 groundwater ROD. After the Properties have been transferred, groundwater samples will be collected to monitor the stability of groundwater conditions 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 a re-evaluation prompted by interim monitoring results, DOE 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

As required by CERCLA Section 120(h)(3), DOE shall include the following language in the Quitclaim Deed.

6.1 Notice

In accordance with CERCLA Section 120(h)(3)(A)(i) and 40 CFR 373, notice is provided that, based upon a complete search of agency files, the attached summary listed as Attachment 1 to Exhibit "E" provides notice of: (1) the type and quantity of hazardous substances that were known to have been released or disposed of or stored for one year or more on the property; (2) the date such storage, release or disposal took place; and (3) the description of remedial action taken, if any. (Note: Exhibit "E" and its attachments are part of the Quitclaim Deed and are not part of this CDR. However, all the conditions specified in Exhibit "E" are included in this section of the CDR.)

6.2 Covenant

GRANTOR warrants that it shall take any additional response action found to be necessary after the date of this conveyance regarding hazardous substances located on the property. This covenant shall not apply in any case in which: (1) GRANTEE or any successor in interest to the property or part thereof is a potentially responsible party (PRP) with respect to the property; or (2) any additional response action found to be necessary is the result of an act or failure to act of the GRANTEE, its successors, or any party in possession after the date of this conveyance that: (a) results in a release of a hazardous substance that was not located on the property on the date of this conveyance; or (b) exacerbates the release of a hazardous substance, the existence of which was known and identified to the GRANTEE as of the date of this conveyance. For purposes of this covenant, GRANTEE and its successors shall not be considered a PRP with respect to the property solely due to the purchase or ownership of the property or part thereof that is effective with or subsequent to the execution of this deed.

6.3 Access

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 GRANTEE's activities on the property. 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 the conveyance of the property, or in which 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) 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) to 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 CERCLA and other applicable authorities.

6.4 Response Actions Assurances

As of the date of this transfer, an environmental condition report shall be jointly accomplished by representatives of the GRANTOR and GRANTEE to reflect the

then present condition of the property. This report shall be used to establish a baseline on which to address any future indemnification claims by the GRANTEE. When signed by both parties the report 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.

The 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 the Record of Decision for Interim Remediation of Contaminated Soil, Material, and Buried Waste in Zone 1, East Tennessee Technology Park (ETTP). Accordingly, use of the area of the property below 10 feet will be prohibited.

In accordance with the Environmental Assessment for Lease of Land and Facilities within the East Tennessee Technology Park, dated November 1997, and the Addendum to the Environmental Assessment, dated June 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 uses, including any municipal, state, or federal use; public utility structure; or related use;
- g. Offices;
- h. Service industries.

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 Facilities 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 120 (h)(3)(C) and containing response action assurances required by CERCLA Section 120(h)(3)(C) is attached as Exhibit "E" and made a part of the Quitclaim Deed and all provisions of that Addendum are fully incorporated herein

The GRANTEE shall comply will 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 the GRANTOR'S 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. GRANTEE and GRANTOR acknowledge that the GRANTOR must obtain prior written approval from the Environmental Protection Agency and the Tennessee Department of Environment and Conservation for use of the groundwater.

The GRANTOR will ensure that the vapor intrusion pathway (i.e., *the migration of volatile organic compounds (VOCs) in contaminated groundwater and/or soil to indoor air*) does not contribute to an unacceptable risk to human health due to exposure to VOCs that may remain on the property, in accordance with the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), together with the Environmental Protection Agency's (EPA's) Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (EPA530-F-02-052), and/or other appropriate EPA guidance. The GRANTOR will address the potential for vapor intrusion in the East Tennessee Technology Park Groundwater Record of Decision (ROD) currently 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.

The interim measures to be implemented by the Grantor are described in Section 4.4 of the Environmental Baseline Survey Reports for Buildings K-1007, K-1225, K-1330, K-1400, and K-1580 and are summarized as follows: 1) the Grantor, through its contractors and/or subcontractors, will collect soil-vapor samples through the building sub-slab, and possibly air samples inside the building during the summer of 2004 to confirm the pre-transfer determination that the vapor intrusion pathway does not pose a significant risk to human health; 2) in the event that the Grantor fails to obtain such confirmation, the Grantor will make physical modifications to the facility as necessary to ensure protection of human health in accordance with CERCLA; 3) otherwise, the Grantor will monitor the stability of groundwater conditions on an annual basis using data from the nearest active well to the building. If more than one active well exists, then the one with the highest average concentration of Trichloroethane (TCE) and its degradation products will be used. In the absence of a suitable well, the Federal Facilities Agreement (FFA) parties will determine the best approach to evaluation of these conditions; 4) in the event that groundwater conditions at the site are determined to have changed in a way that might create a significant risk of exposure through the vapor intrusion pathway, the Grantor will conduct a re-evaluation of the building that will consist of additional soil vapor samples beneath the building sub-slab and indoor-air samples, as necessary based on a comparison of the soil vapor results to established trigger levels; 5) if the results of the re-evaluation indicate that the vapor intrusion pathway

poses a significant risk to human health, the Grantor will take the necessary actions to ensure protectiveness; 6) comprehensive changes to the building structure or infrastructure (e.g., installation of a negative-pressure heating ventilation air conditioning system) that have the potential to alter previous conclusions may require re-evaluation of the vapor intrusion pathway. If such changes are made the GRANTEE will notify the GRANTOR and if necessary, the GRANTOR will re-evaluate to ensure that the pre-transfer determination has not changed.

For as long as DOE retains its ETTP site procedures for obtaining excavation and penetration permits, GRANTEE covenants that it will comply with those requirements for development. Thereafter, said parties will comply with provisions of Condition 10 of the Quitclaim Deed in this matter. It is expressly understood that construction of basements is prohibited. (Condition 10 can be found in this CDR Section 6.4, paragraph # 5.)

In the event the GRANTEE desires to use or take action on the property for any use prohibited in paragraphs D. and E. above, it shall delay doing so until such time as any environmental restoration activities necessary to remediate the prohibited use as required by law and the regulatory authorities have been performed and the Grantee or its successors or assigns has/have complied with all laws, rules, regulations and ordinances pertaining to said use, including but not limited to applicable zoning requirements. All costs associated with any such environmental restoration necessary for remediating the prohibited use shall be the sole responsibility of the GRANTEE. (Conditions D and E can be found in this CDR Section 6.4, paragraphs # 2 and # 3, respectively.)

The GRANTEE covenants and that a party occupying the property shall not disrupt or prevent 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.

The 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. The actual amount available for such activities is subject to congressional authorizations and appropriations.

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.

After notice and coordination with the GRANTEE as set forth in paragraph C above, any response actions taken by the GRANTOR will be in accordance with the

schedules developed and included in Appendix J of the Federal Facilities Agreement 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. The schedule for completion of the remedial action activities addressing Zone 1 and Zone 2 of the 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:

Zone 1

Completion of Remedial Action, 9/30/08

Zone 2

Record of Decision, 6/30/04

Completion of Remedial Action, 9/30/08

Site-wide Groundwater

Remedial Investigation/Feasibility Study Report, 3/16/06 (Proposed)

Record of Decision, 9/13/06 (Proposed)

Completion of Remedial Action, 9/30/13

7.0 Responsiveness Summary

This section is been included as a placeholder for the final CDR and will include ORO's responses to the written comments received during the public comment period, including comments received from the regulators on this draft CDR.