30246293
Superfund

URGENT LEGAL MATTER
NOTICE OF POTENTIAL LIABILITY
GENERAL NOTICE LETTER
DEMAND FOR PAYMENT
SETTLEMENT AGREEMENT
PROMPT REPLY NECESSARY
CERTIFIED MAIL: RETURN RECEIPT REQUESTED

Mr. William H. Swanson
Chairman and Chief Executive Officer
Raytheon Company
870 Winter Street
Waltham, Massachusetts 02451-1449

RE: General Notice Letter for
Radiation-Standard Products Superfund Site

Dear Mr. Swanson:

The U.S. Environmental Protection Agency ("EPA") has obtained information indicating the presence of hazardous substances, as defined by Section 101(14) of the Comprehensive, Environmental Response, Compensation, and Liability Act, as amended ("CERCLA"), 42 U.S.C. § 9601(14), at the above-referenced Site. These hazardous substances include radium, lead, arsenic, cadmium, mercury, and volatile organic compounds. The Site is located at 650 East Gilbert Street and 920 South St. Francis Street in Wichita, Kansas. It is located in the northwest ¼ of Section 28, Township 27 South, Range 1 East, in Sedgwick County, Kansas. The Site encompasses approximately three acres which includes 650 East Gilbert Street and 920 South St. Francis.

Based on the information collected, EPA believes that Raytheon Company may be liable under Section 107(a) of CERCLA with respect to the Site, as a successor to a current owner and/or operator of the Site for releases of radium- 226, lead, arsenic, cadmium, mercury, and certain volatile organic compounds. EPA has spent, or is considering spending, public funds to investigate and control releases of hazardous substances or potential releases of hazardous substances at the Site.

CONCURRENCE									
OFFICE	PPNS	CNSL	CNSL	PPNS	SUPR				
NAME	SCHADEMANN	ROBERTS	MICINSKI	LININGER	TAPIA				
INITIALS/DATE	4-26-10	4/23/10	4-26-10	4/26/10	4/26/10				

Site Response Activities

To date, the Kansas Department of Health and Environment ("KDHE") and EPA have conducted investigations actions at the Site. Below is a brief description of the actions taken at the Site:

- On July 17 and 27, and August 1 and 6, 2007, a soil survey and ground water sampling was conducted, as reported in an April 2008 Unified Focused Assessment Report by KDHE.

- In March, April, July 28, and 31, 2009, EPA conducted sampling activities, in order to assess risks posed to human health and/or the environment by releases or threatened releases from the Site.

- On July 9, 2010, an action memorandum was signed for a soil removal action at 920 South St. Francis Street; EPA conducted the soil removal at 920 South St. Francis from July 28 to August 11, 2010.

Explanation of Potential Liability

Under CERCLA, specifically Sections 106(a) and 107(a), PRPs may be required to perform cleanup actions to protect the public health, welfare, or the environment. PRPs may also be responsible for past and future costs incurred by EPA in cleaning up the Site, unless the PRP can show divisibility or any of the other statutory defenses. PRPs include current and former owners and operators of a site, as well as persons who arranged for treatment and/or disposal of any hazardous substances found at the site, and persons who accepted hazardous substances for transport and selected the site to which the hazardous substances were delivered.

Based on the information collected, EPA believes that Raytheon Company may be liable under Section 107(a) of CERCLA with respect to the Site, as a successor to operator(s) at the time of disposal. The companies that were operators at the time of disposal are Production Products, Inc., and Standard Products, Inc. Attached is a table showing Raytheon Company's successorship to Production Products, Inc. and Standard Products, Inc.

Demand for Payment

In accordance with CERCLA, EPA has undertaken certain actions, Site Response activities, as explained under the above section, at the Site. These response actions include Site assessments involving sampling and analytical work which confirmed and documented the release and threat of release of hazardous substances at the Site, planning and oversight of the investigation and removal of drums of hazardous substances, and associated enforcement activities. The cost to date is $308,615.49 per the attached cost summary. In accordance with Section 107(a) of CERCLA, demand is hereby made for payment of the above amount plus any and all interest recoverable under Section 107 of CERCLA, or under any other provision of law.

You are potentially liable for additional costs, plus interest if EPA conducts additional activities at the Site.

Negotiations for a Settlement Agreement

Pursuant to Sections 107 and 122(h) of CERCLA, enclosed is a draft Settlement Agreement giving you the opportunity to perform the necessary removal action at this Site. Please contact Denise Roberts, the staff attorney assigned to this matter, at 913-551-7559 within thirty (30) days of receipt of this letter to ask any questions and to indicate your willingness to perform the removal action and enter into negotiations to sign the Settlement Agreement. Attached is a draft Action Memorandum that is the decision document that EPA will issue if you choose not to perform the necessary removal actions.

Administrative Record

Pursuant to CERCLA Section 113(k), EPA must establish an Administrative Record that contains documents that form the basis of EPA's decision on the selection of a response action for a site. The Administrative Record files, which contain the documents related to the response action selected for this Site, will be made available to the public for inspection and comment within sixty (60) days of initiation of on-site activity as required by the National Contingency Plan. However, EPA will provide you with site investigation report(s) upon your request. The primary location is the EPA, Region 7 office at 901 North 5th Street, Kansas City, Kansas 66101.

Please give these matters your immediate attention and consider consulting with an attorney. If you have any questions pertaining to this letter, please contact the staff attorney assigned to this matter, Denise Roberts, at 913-551-7559 or Randy Schademann, On-Scene Coordinator (OSC), with technical questions at 913-551-7331. Thank you for your prompt attention to this matter.

Sincerely,

Cecilia Tapia
Director
Superfund Division

Enclosures

ACTION MEMORANDUM
ENFORCMENT ACTION

SUBJECT: Request for a Removal Action at the Radiation-Standard Products, Sedgwick County, Kansas

FROM: Randy Schademann, On-Scene Coordinator
Planning and Preparedness North Section
Superfund Division

THRU: Don Lininger, Chief
Planning and Preparedness North Section
Superfund Division

TO: Cecilia Tapia, Director
Superfund Division

CERCLIS ID#	KSN000705966
Site ID#	A7N1
Category of Removal:	Time Critical
Nationally Significant/Precedent Setting:	No

I. PURPOSE

The purpose of this Action Memorandum is to request approval and funding for a Potentially Responsible Party (PRP)-lead, time-critical removal action at the Radiation-Standard Products site (Site). Radiation-Standard Products is located at 650 East Gilbert Street, Wichita, Kansas.

As detailed below, the objective of this removal action is to protect public health or welfare or the environment by responding to the release of hazardous substances and pollutants or contaminants into the environment as presented by materials contaminated with radium-226 at 650 East Gilbert Street ("Gilbert Site or the Site"). Contaminated materials that exceed 5 pico Curies per gram (pCi/g) plus background will be excavated, transported, and disposed at a licensed facility.

II. SITE CONDITIONS AND BACKGROUND

A. Site Description

1. Removal site evaluation

The Kansas Department of Health and Environment (KDHE) Bureau of Air and Radiation (BAR) licensed radium dial shops. According to BAR records, Standard Products operated a facility repairing aircraft instruments from approximately 1952 to 1965. By 1965, the facility had relocated to 4105 West Pawnee and changed its name to Standard Precision, Inc.

Radium in luminescent paints was widely used for aircraft dials, gauges, and other instruments. Radium dial repair shops were located in Wichita to upgrade and repair radium-bearing aircraft instruments. During this process, paint containing radium was stripped from the dials with solvent prior to the dials being repaired.

In an ongoing effort to evaluate these facilities, KDHE conducted field work in August, September, and December 2007 to support a Unified Focus Assessment (UFA) Report issued in February 2008. Five groundwater samples and 24 soil samples at 650 East Gilbert were collected for the UFA. Samples were analyzed for radium-226; the eight Resource Conservation and Recovery Act (RCRA) metals (which are lead, arsenic, barium, cadmium, chromium, mercury, selenium, and silver), and volatile organic compounds (VOCs). The UFA identified several areas that had elevated radium-226 concentrations exceeding the standard established at 40 CFR § 192.12 for a cleanup level not to exceed background plus 5 pCi/g. (up to 81,800 pCi/g of radium-226). No samples were taken or field screening conducted at the 920 South St Francis parcel during the KDHE UFA because the assessment was limited to the facility where dial work was thought to have occurred.

EPA conducted field activities for a Removal Site Evaluation (RSE) in March and April of 2009. Field screening with radiation detectors and radiation analysis of soil samples further defined the vertical and aerial extent of contamination. Results of the field screening depicting areas showing radiation above background values are provided in Figure 1.

During the EPA-lead RSE in March 2009, prior to the fund-lead removal action, it was determined that some radium-contaminated material from the Site had been moved to 920 South St. Francis, an adjacent residential parcel, which was the subject of an EPA-lead removal action in July 2009. During that effort, approximately 453,700 pounds of radium-contaminated material was excavated, transported, and disposed at a U.S. Ecology facility in Idaho (EPA Fund-Lead Removal Action, July 9, 2009, and START Removal Action Report, Standard Products, Inc. (Former) – 920 S. St. Francis Parcel, Wichita, Kansas. March 11, 2010).

2. Physical location

The Site consists of three acres—the combined acreage of the 650 East Gilbert and 920 South St. Francis (St. Francis) parcels in Wichita, Sedgwick County, Kansas (Figure 1). Both parcels are located in the Northwest ¼ of Section 28, Township 27 South, Range 1 East. However, the removal action for the 920 South St. Francis parcel was conducted by EPA in July 2009. Adjoining properties include commercial businesses adjacent the property to the south and north. On the east are railroad right-of-ways. Residential homes and a medical clinic are to the west and southwest.

3. Site Characteristics

The Gilbert parcel is largely vacant except for a metal building that is currently utilized for equipment storage by an electric company. The St. Francis parcel has a single family residence. The area surrounding the Site is primarily residential with some light industry and the Guadalupe Clinic, a health clinic, which borders both parcels.

An EPA fund-lead site removal was previously conducted at the 920 South St. Francis property by EPA in the summer of 2009.

4. Release or threatened release into the environment of a hazardous substance, or pollutant, or contaminant

The primary contaminant of concern at this Site is radium-226. EPA and KDHE have documented radium-226 concentrations in soil exceeding 5 pCi/g plus background (up to 81,800 pCi/g on the Gilbert parcel being addressed by this removal action).

Radioluminescent paint—a mixture of a radionuclide, usually radium-226, and a phosphor, usually zinc sulfide—was developed in the early 1900s. The mixture was initially used on watch and clock faces and later adapted for use on instruments, most notably aircraft dials. As part of radium's decay process it emits an alpha particle that can excite the phosphor which eventually releases a photon. The end results are dials that "glow" and can be read at night without light.

Radium has 25 known isotopes, 4 of which occur in nature, with radium-226 and to a lesser extent radium-228 being the most common. Radium-226 has the longest half-life at 1,602 years. Radium is a decay product of uranium and consequently is associated with uranium ores. Radium decays by emitting alpha and beta particles and gamma rays. Radium initially decays into radon, a heavy gas, which itself decays into other radioactive solids including polonium, bismuth, lead, and thallium. Radium in soils does not biodegrade.

The workers at the Gilbert parcel or passersby may be exposed via routes of inhalation or dermal contact from the radium-contaminated material, which is present at numerous areas at or near the surface. It also appears that the radium-contaminated material at the property is a source area for contamination of the area ground water.

Gilbert and a residence is located at 920 South St. Francis Street. The operations of repair and stripping of paint from aircraft dials took place at the 650 East Gilbert Street property.

11. Residential areas and commercial businesses are located to the west and the northwest of the Site. The Guadalupe Center provides medical services to the general public and is on the south side of the Site. Railroad tracks are to the east and north sides of the Site. Gilbert Street is to the south of the Site and South St. Francis Street is on the west side of the Site. See map attached as Attachment 1.

12. On August 16, 2007, the Kansas Department of Health and Environment ("KDHE") collected soil samples at the Site for the February 2008 Unified Focused Assessment Report. Two samples were analyzed for radium-226 and were detected in two soil samples at 81,800 pico Curies per gram (piC/g) and 70,900 pCi/g at depths of 2 ½ and 2 ½ to 2 ¾ feet, respectively.

13. On July 9, 2009, EPA signed an Action Memorandum to remove soils contaminated with radium-226 at the residence located at 920 South St. Francis Street. Concentrations of radium-226 had been detected at the 920 South St. Francis Street property at 495 pCi/g. The cleanup level was set at background plus 5 piC/g, or 6.87 piC/g pursuant to 40 C.F.R. §192.12; this standard was developed pursuant to Section 275 of the Atomic Energy Act, as amended by Section 206 of the Uranium Mill Tailings Radiation Control Act of 1978 and is an applicable and appropriate requirement ("ARAR").

14. On August 16, 2007, KDHE also collected groundwater samples at the Site for the February 2008 Unified Focused Assessment Report. One sample showed a result of 156 pCi/L which exceeds the Maximum Contaminant Level ("MCL") set by the Clean Water Act of 5 pCi/L. at 40 C.F.R. §141.66, an ARAR for the Site.

15. Radium-226 has a half-life of 1,602 years.

16. Workers, residents, and nearby merchants at and near the former Site property may be exposed via routes of inhalation or dermal contact caused by loose soils in the parking areas.

17. Exposure to high levels of radium results in an increased incidence of bone, liver, and breast cancer. Radium, like calcium, is retained in bone tissue; bone cancer is the greatest risk from radium exposure. Death and decreased longevity have been reported as a result of long term exposure. Radium has also been shown to affect the blood (anemia), eyes (cataracts), and teeth (increased broken teeth and cavities). Emitted ionizing radiation from the decay of radium can lead to skin damage, hair loss, birth defects, general illness, and cancer.

V. CONCLUSIONS OF LAW AND DETERMINATIONS

18. Based on the Findings of Fact set forth above, and the Administrative Record supporting this removal action, EPA has determined that:

2. Potential for continued State/local response

Both KDHE and the Sedgwick County Health Department will remain involved in future Site activities.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT AND STATUTORY AND REGULATORY AUTHORITIES

Section 300.415(b) of the National Contingency Plan (NCP) provides that EPA may conduct a removal action when it determines that there is a threat to human health or welfare or the environment based on one or more of the eight factors listed in section 300.415(b)(2). The factors that justify a removal action at the St. Francis parcel are outlined as follows:

300.415(b)(2)(i) – Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, or pollutants, or contaminants.

Analytical results from samples collected by EPA indicate that hazardous substances have been released into the environment. Radium-226 was identified in soils at the Gilbert Site up to 81,800 pCi/g.

Radium is highly radioactive; it is classified by EPA and the National Academy of Science as a known human carcinogen and is listed in 40 CFR § 302.4 as a hazardous substance (as radionuclides). Because radium is similar in structure to calcium, it tends to gravitate to boney tissue. Exposure to high levels of radium results in an increased incidence of bone, liver, and breast cancer. Radium has also been shown to affect the blood (anemia), eyes (cataracts), and teeth (increased broken teeth and cavities). Emitted ionizing radiation from the decay of radium and its daughters (nuclides undergo spontaneous disintegrations that release energy and result in the transformation to a different atom) can lead to skin damage, hair loss, birth defects, general illness, and cancer. The greatest risk to humans from radium is through ingestion of food and water contaminated with radium.

People using the medical clinic and surrounding residents that are within 150 feet of the Gilbert Street property to the west, southwest, and south are exposed to the risks described above by exposure to radium at the Site.

300.415(b)(2)(ii) – Actual or potential contamination of drinking water supplies or sensitive ecosystems.

In the samples collected by the KDHE in the UFA, radium was identified in on-site temporary monitoring well at 156 picoCuries per liter (pCi/L), which is above the Safe Drinking Water Act Maximum Contaminant Level (MCL) of 5 pCi/L. Residents that developed a drinking water well could be exposed to the risks posed by radium.

300.415(b)(2)(iv) – High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate.

Radium has been detected in surface soils up to 81,800 pCi/g. Radium-contaminated soils may migrate via airborne dusts, surface runoff, percolation into groundwater, construction activity, or children transporting soils/dusts into their homes after playing in the affected areas, and foot traffic into residences.

The half-life of radium-226 is 1,602 years. It is highly probably that the Site will undergo physical changes during that time which would allow increased exposure.

The greatest risk to humans from radium is through ingestion of food and water contaminated with radium.

300.415(b)(2)(v) – Weather conditions that may cause hazardous substances, pollutants or contaminants to migrate.

Radium has been detected in surface soils up to 81,800 pCi/g. Radium-contaminated soils may migrate via airborne dusts at the Gilbert Site.

IV. ENDANGERMENT DETERMINATION

The actual release of a hazardous substance at the Gilbert parcel, if not addressed by implementing the response action selected in this Action Memorandum, presents an imminent and substantial endangerment to the health of the public that comes in contact with the Site and to public welfare and the environment.

V. PROPOSED ACTIONS AND ESTIMATED COST

A. Proposed Actions

1. Proposed action description

SOIL/WASTE EXCAVATION, REMOVAL, AND REPLACEMENT

The discussion presented in the following two paragraphs is based upon a February 12, 1998, memorandum from Stephen Luftig, then Director of the Office of Superfund Remediation Technology Innovation (February 12, 1998, Directive number 9200.4-25).

Standards have developed for the cleanup of uranium mill tailings under Section 275 of the Atomic Energy Act, 42 U.S.C. § 2022, as amended by Section 206 of the Uranium Mill Tailings Radiation Control Act of 1978 (UMCTRA), 42 U.S.C. § 7918, and regulations at 40 CFR § 192.12. Pursuant to the above, the purpose of these standards was to limit the risk from inhalation of radon decay products of houses built on land contaminated with tailings and to limit gamma radiation exposure to people utilizing the contaminated land.

herein as Attachment 3 to this Settlement Agreement, and the Statement of Work to be performed incorporated herein as Attachment 2 to this Settlement Agreement.

25. Task One: Removal Site Evaluation

Respondent shall perform an RSE to determine the amount of radium-contaminated material that will require excavation, transport, and disposal. The Kansas Department of Health and Environment (KDHE) and the EPA have performed assessment work at the site. Respondent may proceed directly to the removal action without any further assessment. Respondent shall also characterize impacts of the site-related contaminants to the groundwater. Following EPA approval or modification of the Work Plan for the RSE, Respondent shall implement the provisions of the approved Work Plan to evaluate the Site. Respondent shall provide the RSE Work Plan to the EPA within sixty (60) days of the Effective Date of the Settlement Agreement. At the same time, Respondent shall submit to EPA for review a Health and Safety Plan as described in paragraph 28 and a Quality Assurance Project Plan (QAPP) for EPA review and approval as described in paragraph 27. Field work for the RSE shall be completed within thirty (30) days of EPA approval of the Work Plan. A report shall be generated for the RSE within ninety (90) days of completion of the RSE field work.

26. Task Two: Time-Critical Removal Actions

Respondent shall perform a time-critical removal action that will involve the excavation, transport, and disposal of the radium-contaminated material on the Site. Within sixty (60) days after Respondent submits the report on the RSE findings, Respondent shall submit a Removal Action Work Plan (RAWP) which describes how Respondent will perform the work. Respondent shall also submit an expeditious schedule for all time-critical removal actions necessary to implement the Action Memorandum, attached as Appendix 1 to this Settlement Agreement. At the same time, Respondent shall submit a Work Plan to address sampling issues associated with the removal action.

EPA may approve, disapprove, require revisions to, or modify the draft RAWP in whole or in part. If EPA requires revisions, Respondent shall submit a revised draft RAWP within thirty (30) days of receipt of EPA's notification of the required revisions. Respondent shall implement the RAWP in accordance with the schedule as approved in writing by EPA. Once approved, or approved with modifications, the RAWP, the schedule, and any subsequent modifications shall be incorporated into and become fully enforceable under this Settlement Agreement. Respondent shall not commence any Work except in conformance with the terms of this Settlement Agreement. Respondent shall not commence implementation of the RAWP developed hereunder until receiving written EPA approval. Respondent shall initiate the removal action within thirty (30) days of receiving EPA's written approval.

- Department of Transportation (DOT) Regulations at 49 CFR parts 107 and 171-177, DOT hazardous material transportation regulations, may be relevant and appropriate for transportation of the contaminated soils.

- The CERCLA Off-Site Rule promulgated pursuant to CERCLA section 121(d)(3), 42 U.S.C. § 9621(d)(3), and formally entitled "Amendment to the National Oil and Hazardous Substances Pollution Contingency Plan; Procedures for Planning and Implementing Off-Site Response Action: Final Rule," 58 Fed. Reg. 49200 (Sept. 22, 1993), codified at 40 CFR § 300.440.

- Section 275 of the Atomic Energy Act, 42 U.S.C. § 2022, as amended by Section 206 of the Uranium Mill Tailings Radiation Control Act of 1978 (UMCTRA), 42 U.S.C. § 7918; 40 CFR part 192, as previously described in Section V (Proposed Actions).

- 10 CFR part 61, particularly 10 CFR §§ 61.7(a)(2), -61.41, -61.56, -61.81, Substantive requirements of the Licensing Requirements for Land Disposal of Radioactive Waste

State ARARs

State ARARs will be developed KDHE and evaluated for the Site.

4. Project schedule

Response activities are anticipated to begin within 90 days of the signing of this Action Memorandum. It is anticipated that the project will require approximately 40 days to complete.

B. Estimated Costs

The costs associated with this portion of the Standard Products removal action are estimated as follows:

$700,000

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Delayed action will result in a continued threat to public health or welfare or the environment.

VII. OUTSTANDING POLICY ISSUES

None.

VIII. RECOMMENDATION

This decision document represents the selected removal action for addressing the hazardous substances, pollutants, or contaminants present at the Site. The removal action was developed in accordance with CERCLA, as amended, and is not inconsistent with the NCP. This decision is based on the Administrative Record for the Site.

Conditions at the Site meet NCP section 300.415(b) criteria for a removal action, and I recommend your approval of this proposed removal action.

Approved:

_____ _____

Cecilia Tapia
Director
Superfund Division

Date

Attachments: Figure 1: Site Layout and Gamma Survey Results

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7
901 NORTH 5th STREET
KANSAS CITY, KANSAS 66101

IN THE MATTER OF: RADIATION-STANDARD PRODUCTS, INC. SUPERFUND SITE WICHITA, KANSAS Raytheon Company Respondent Proceeding under Sections 104, 107, and 122 of the Comprehensive Environmental Response, Compensation and Liability Act, as amended, 42 U.S.C. §§ 9604,106, 9607, and 9622.	ADMINISTRATIVE SETTLEMENT AGREEMENT AND ORDER ON CONSENT FOR REMOVAL ACTION Docket No: CERCLA-07-2010-0003

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I. JURISDICTION AND GENERAL PROVISIONS

1. This Administrative Settlement Agreement and Order on Consent (Settlement Agreement) is entered into voluntarily by the United States Environmental Protection Agency (EPA) and Raytheon Company (Respondent). This Settlement Agreement provides for the performance of a Removal Action by Respondent and the reimbursement of certain response costs incurred by the United States at or in connection with the Radiation-Standard Products Superfund Site, (the Site) which consists of approximately three acres at 650 East Gilbert Street and 920 South St. Francis Street in Wichita, Kansas. The Site is located in the Northwest ¼ of Section 28, Township 27 South, Range 1 East.

2. This Settlement Agreement is issued under the authority vested in the President of the United States by Sections 104, 106, 107, and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. §§ 9604, 9606, 9607, and 9622, as amended (CERCLA). EPA has notified the State of Kansas of this action pursuant to Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

3. EPA and Respondent recognize that this Settlement Agreement has been negotiated in good faith to settle certain claims asserted by EPA and to avoid costly litigation between EPA and Respondent. Respondent's participation in this Settlement Agreement and the performance of actions individually or collectively undertaken by or on behalf of Respondent pursuant to this Settlement Agreement does not constitute any admission of any liability or responsibility. Respondent agrees to comply with and be bound by the terms of this Settlement Agreement and further agrees that it will not contest the basis or validity of this Settlement Agreement or its terms.

II. PARTIES BOUND

4. This Settlement Agreement applies to and is binding upon EPA and upon Respondent and its successors and assigns. Any change in ownership or corporate status of Respondent including, but not limited to, any transfer of assets or real or personal property shall not alter Respondent's responsibilities under this Settlement Agreement.

5. Respondent shall ensure that its contractors, subcontractors, and representatives receive a copy of this Settlement Agreement and comply with this Settlement Agreement. Respondent shall be responsible for any noncompliance with this Settlement Agreement.

III. DEFINITIONS

6. Unless otherwise expressly provided herein, terms used in this Settlement Agreement which are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in CERCLA or in such regulations. Whenever terms listed below are used in this Settlement Agreement, the following definitions shall apply:

a. "CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. §§ 9601, *et seq*.

b. "Day" shall mean a calendar day. In computing any period of time under this Settlement Agreement, where the last day would fall on a Saturday, Sunday, or Federal holiday, the period shall run until the close of business of the next working day.

c. "Effective Date" shall be the effective date of this Settlement Agreement as provided in Section XXX.

d. "EPA" shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

e. "Future Response Costs" shall mean all costs, including, but not limited to, direct and indirect costs, that the United States incurs in reviewing or developing plans, reports, and other items pursuant to this Settlement Agreement verifying the Work, or otherwise implementing, overseeing, or enforcing this Settlement Agreement, including, but not limited to, payroll costs, contractor costs, travel costs, laboratory costs, the costs incurred pursuant to Paragraphs 31 (costs and attorneys fees and any monies paid to secure access, including the amount of just compensation), and Paragraph 61 (emergency response).

f. "Hazardous Substance" shall have the same meaning as set forth in 42 U.S.C. § 9601(14).

g. "Interest" shall mean interest at the rate specified for interest on investments of the EPA Hazardous Substance Superfund established by 26 U.S.C. § 9507, compounded annually on October 1st of each year, in accordance with 42 U.S.C. § 9607(a). The applicable rate of interest shall be the rate in effect at the time the interest accrues. The rate of interest is subject to change on October 1st of each year.

h. "National Contingency Plan" or "NCP" shall mean the National Oil and Hazardous Substances Pollution Contingency Plan promulgated pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, codified at 40 C.F.R. Part 300, and any amendments thereto.

i. "Paragraph" shall mean a portion of this Settlement Agreement identified by an Arabic numeral.

j. "Parties" shall mean EPA and Respondent.

k. "Past Response Costs" shall mean all costs, including, but not limited to, direct and indirect costs, that the United States has incurred in investigating the Site and in having reviewed or developed plans, reports, and other items pursuant to this Settlement Agreement.

l. "Respondent" shall mean the Raytheon Company.

m. "Section" shall mean a portion of this Settlement Agreement identified by a Roman numeral.

n. "Site" shall mean the Radiation-Standard Products, Inc. Superfund Site, encompassing approximately three acres, located at 650 East Gilbert Street and 920 South St. Francis Street in the Northwest ¼ of Section 28, Township 27 South, Range 1 East.

o. "State" shall mean the State of Kansas.

p. "Settlement Agreement" shall mean this Administrative Settlement Agreement and Order on Consent and all appendices attached hereto. In the event of conflict between this Settlement Agreement and any appendix, this Settlement Agreement shall control.

q. "Work" shall mean all activities that Respondent is required to perform pursuant to this Settlement Agreement.

IV. FINDINGS OF FACT

7. The Site consists of approximately three acres located at 650 East Gilbert Street and 920 South St. Francis, in Wichita, Kansas in east central Sedgwick County. The legal description is the Northwest ¼ of Section 28, Township 27 South, Range 1 East in east central Sedgwick County, Kansas.

8. From approximately 1952 to 1963, Production Products, Standard Products, Inc., and Standard Precision, Inc. operated at 650 East Gilbert Street. Operations at the Site included the repair and stripping of paint containing radium-226 from aircraft dials and aircraft instruments.

9. Respondent, Raytheon Company, or its predecessors, namely, Production Products, Inc., Standard Products, Inc., and Standard Precision, Inc. operated a facility that repaired and stripped paint from aircraft dials.

10. The Site consists of two properties, 650 East Gilbert and 920 South St. Francis consisting of approximately three acres. A building is located in the southeastern portion of 650 East

Gilbert and a residence is located at 920 South St. Francis Street. The operations of repair and stripping of paint from aircraft dials took place at the 650 East Gilbert Street property.

11. Residential areas and commercial businesses are located to the west and the northwest of the Site. The Guadalupe Center provides medical services to the general public and is on the south side of the Site. Railroad tracks are to the east and north sides of the Site. Gilbert Street is to the south of the Site and South St. Francis Street is on the west side of the Site. See map attached as Attachment 1.

12. On August 16, 2007, the Kansas Department of Health and Environment ("KDHE") collected soil samples at the Site for the February 2008 Unified Focused Assessment Report. Two samples were analyzed for radium-226 and were detected in two soil samples at 81,800 pico Curies per gram (piC/g) and 70,900 pCi/g at depths of 2 ½ and 2 ½ to 2 ¾ feet, respectively.

13. On July 9, 2009, EPA signed an Action Memorandum to remove soils contaminated with radium-226 at the residence located at 920 South St. Francis Street. Concentrations of radium-226 had been detected at the 920 South St. Francis Street property at 495 pCi/g. The cleanup level was set at background plus 5 piC/g, or 6.87 piC/g pursuant to 40 C.F.R. §192.12; this standard was developed pursuant to Section 275 of the Atomic Energy Act, as amended by Section 206 of the Uranium Mill Tailings Radiation Control Act of 1978 and is an applicable and appropriate requirement ("ARAR").

14. On August 16, 2007, KDHE also collected groundwater samples at the Site for the February 2008 Unified Focused Assessment Report. One sample showed a result of 156 pCi/L which exceeds the Maximum Contaminant Level ("MCL") set by the Clean Water Act of 5 pCi/L. at 40 C.F.R. §141.66, an ARAR for the Site.

15. Radium-226 has a half-life of 1,602 years.

16. Workers, residents, and nearby merchants at and near the Site property may be exposed via routes of inhalation or dermal contact caused by loose soils in the parking areas.

17. Exposure to high levels of radium results in an increased incidence of bone, liver, and breast cancer. Radium, like calcium, is retained in bone tissue; bone cancer is the greatest risk from radium exposure. Death and decreased longevity have been reported as a result of long term exposure. Radium has also been shown to affect the blood (anemia), eyes (cataracts), and teeth (increased broken teeth and cavities). Emitted ionizing radiation from the decay of radium can lead to skin damage, hair loss, birth defects, general illness, and cancer.

V. CONCLUSIONS OF LAW AND DETERMINATIONS

18. Based on the Findings of Fact set forth above, and the Administrative Record supporting this removal action, EPA has determined that:

a. The Radiation-Standard Products Superfund Site is a "facility" as defined by Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

b. The contamination found at the Site, Radium-226, is a "hazardous substance" as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

c. Respondent is a "person" as defined by Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

d. Respondent is a responsible party under Section 107(a)(2) of CERCLA, 42 U.S.C. § 9607(a)(2), as the operator at time of disposal as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20), and within the meaning of Section 107(a)(1) of CERCLA, 42 U.S.C. § 9607(a)(1).

e. The conditions described in the Findings of Fact above constitute an actual or threatened "release" of a hazardous substance from the facility as defined by Section 101(22) of CERCLA, 42 U.S.C.§ 9601(22).

f. The action required by this Settlement Agreement is necessary to protect the public health, welfare, or the environment and, if carried out in compliance with the terms of this Settlement Agreement, will be considered consistent with the National Oil and Hazardous Substances Pollution Contingency Plan ("NCP"), 40 C.F.R. Part 300, as provided in Section 300.700(c)(3)(ii) of the NCP.

VI. SETTLEMENT AGREEMENT AND ORDER

19. Based upon the foregoing EPA Findings of Fact, Conclusions of Law and Determinations, and the Administrative Record for this Site, it is hereby Ordered and Agreed that Respondent shall comply with all provisions of this Settlement Agreement, including, but not limited to, any attachments and documents incorporated by reference into this Settlement Agreement.

VII. DESIGNATION OF CONTRACTOR, PROJECT COORDINATOR, AND ON-SCENE COORDINATOR

20. Respondent shall retain one or more contractors to perform the Work and shall notify EPA of the name(s) and qualifications of such contractor(s) within thirty (30) days of the Effective Date. Respondent shall also notify EPA of the name(s) and qualification(s) of any other contractor(s) or subcontractor(s) retained to perform the Work at least thirty (30) days prior to commencement of such Work. EPA retains the right to disapprove of any or all of the contractors and/or subcontractors retained by Respondent. If EPA disapproves of a selected contractor, Respondent shall retain a different contractor and shall notify EPA of that contractor's name and qualifications within thirty (30) days of EPA's disapproval.

21. Within thirty (30) days after the Effective Date, Respondent shall designate a Project Coordinator who shall be responsible for administration of all actions by Respondent required by this Settlement Agreement and shall submit to EPA the designated Project Coordinator's name, email address, street address, telephone number, and qualifications. To the greatest extent possible, the Project Coordinator shall be present on Site or readily available during Site work. EPA retains the right to disapprove of the designated Project Coordinator. If EPA disapproves of the designated Project Coordinator, Respondent shall retain a different Project Coordinator and shall notify EPA of that person's name, email address, street address, telephone number, and qualifications within thirty (30) days following EPA's disapproval. Receipt by Respondent's Project Coordinator of any notice or communication from EPA relating to this Settlement Agreement shall constitute receipt by Respondent.

22. EPA has designated Randy Schademann of EPA Region 7, Emergency Response and Removal Branch, Superfund Division, as its On-Scene Coordinator (OSC) and Project Coordinator. Except as otherwise provided in this Settlement Agreement, Respondent shall direct all submissions required by this Settlement Agreement to:

Randy Schademann
Preparedness and Prevention North Section
EPA Region 7
901 North 5th Street
Kansas City, Kansas 66101
Telephone: 913-551-7331
Facsimile: 913-551- 7151
Schademann.randy@epa.gov.

23. EPA and Respondent shall have the right, subject to Paragraph 21, to change their respective designated RPM or Project Coordinator. Respondent shall notify EPA thirty (30) days before such a change is made. The initial notification may be made orally, but shall be promptly followed by a written notice.

VIII. WORK TO BE PERFORMED

24. Respondent shall perform, at a minimum, all actions necessary to implement the requirements of this Settlement Agreement. This Settlement Agreement requires Respondent to perform additional characterization activities to determine the amount and location of radium-contaminated materials that require excavation, transportation, and disposal and to determine the impacts to the groundwater from site-related contaminants (through a Removal Site Evaluation [RSE]). This Settlement Agreement also requires Respondent to perform a time-critical removal action to address threats to public health, welfare or the environment caused by the release or threatened release of hazardous substances, pollutants or contaminants from the site. The scope, substance and timing of the removal actions and characterization activities to be performed by Respondent are set forth in this Settlement Agreement, the Action Memorandum incorporated

herein as Attachment 3 to this Settlement Agreement, and the Statement of Work to be performed incorporated herein as Attachment 2 to this Settlement Agreement.

25. Task One: Removal Site Evaluation

Respondent shall perform an RSE to determine the amount of radium-contaminated material that will require excavation, transport, and disposal. The Kansas Department of Health and Environment (KDHE) and the EPA have performed assessment work at the site. Respondent may proceed directly to the removal action without any further assessment. Respondent shall also characterize impacts of the site-related contaminants to the groundwater. Following EPA approval or modification of the Work Plan for the RSE, Respondent shall implement the provisions of the approved Work Plan to evaluate the Site. Respondent shall provide the RSE Work Plan to the EPA within sixty (60) days of the Effective Date of the Settlement Agreement. At the same time, Respondent shall submit to EPA for review a Health and Safety Plan as described in paragraph 28 and a Quality Assurance Project Plan (QAPP) for EPA review and approval as described in paragraph 27. Field work for the RSE shall be completed within thirty (30) days of EPA approval of the Work Plan. A report shall be generated for the RSE within ninety (90) days of completion of the RSE field work.

26. Task Two: Time-Critical Removal Actions

Respondent shall perform a time-critical removal action that will involve the excavation, transport, and disposal of the radium-contaminated material on the Site. Within sixty (60) days after Respondent submits the report on the RSE findings, Respondent shall submit a Removal Action Work Plan (RAWP) which describes how Respondent will perform the work. Respondent shall also submit an expeditious schedule for all time-critical removal actions necessary to implement the Action Memorandum, attached as Appendix 1 to this Settlement Agreement. At the same time, Respondent shall submit a Work Plan to address sampling issues associated with the removal action.

EPA may approve, disapprove, require revisions to, or modify the draft RAWP in whole or in part. If EPA requires revisions, Respondent shall submit a revised draft RAWP within thirty (30) days of receipt of EPA's notification of the required revisions. Respondent shall implement the RAWP in accordance with the schedule as approved in writing by EPA. Once approved, or approved with modifications, the RAWP, the schedule, and any subsequent modifications shall be incorporated into and become fully enforceable under this Settlement Agreement. Respondent shall not commence any Work except in conformance with the terms of this Settlement Agreement. Respondent shall not commence implementation of the RAWP developed hereunder until receiving written EPA approval. Respondent shall initiate the removal action within thirty (30) days of receiving EPA's written approval.

27. Quality Assurance Project Plan

All draft Work Plans (a single QAPP may be prepared for the RSE, the RAWP, and removal sampling activities) shall require preparation of a Quality Assurance Project Plan ("QAPP"). The QAPP should be prepared in accordance with "EPA Requirements for Quality Assurance Project Plans (QA/R-5)" (EPA/240/B-01/003, reissued May 2006), "Guidance on Choosing a Sampling Design for Environmental Data Collection for Use in Developing a Quality Assurance Project Plan, EPA (QA/G-5S)"(EPA/240/R-02/005, December 2002), and "Guidance for Quality Assurance Project Plans (QA/G-5)" (EPA//R-02/009, December 2002) and subsequent amendments to such guidance upon notification by EPA to Respondent of such amendment. The QAPP shall be provided to the EPA within sixty (60) days of the Effective Date.

28. Health and Safety Plan

Within sixty (60) days after the Effective Date, Respondent shall submit for EPA review and comment a Health and Safety Plan ("HASP") that ensures the protection of the public health and safety during performance of on-Site work under this Settlement Agreement. This plan shall be prepared in accordance with EPA's Standard Operating Safety Guide (PUB 9285.1-03, PB 92-963414, June 1992). In addition, the plan shall comply with all currently applicable Occupational Safety and Health Administration ("OSHA") regulations found at 29 C.F.R. Part 1910. If EPA determines that it is appropriate, the plan shall also include contingency planning. Respondent shall incorporate all changes to the plan recommended by EPA and shall implement the plan during the pendency of the RSE and the removal action. Respondent may submit a single HASP for all activities or submit separate HASPs for the RSE and the removal action. If separate HASPs are developed, the schedule remains the same for the RSE (Respondent shall submit that HASP within sixty [60] days of the Effective Date). If a separate HASP is developed for the removal action, that HASP shall be submitted with the RAWP (within sixty [60] days of the submission of the RSE report).

29. Quality Assurance and Sampling

a. All sampling and analyses performed pursuant to this Settlement Agreement shall conform to EPA direction, approval, and guidance regarding sampling, quality assurance/quality control (QA/QC), data validation, and chain of custody identifications. Respondent shall ensure that the laboratory used to perform the analyses participates in a QA/QC program that complies with the appropriate EPA guidance. Respondent shall follow, as appropriate, "Quality Assurance/Quality Control Guidance for Removal Activities: Sampling QA/QC Plan and Data Validation Procedures" (OSWER Directive No. 9360.4-01, April 1, 1990), as guidance for QA/QC and sampling. Respondent shall only use laboratories that have a documented Quality System that complies with ANSI/ASQ E-4 2004, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs", and

"EPA Requirements for Quality Management Plans (QA/R-2) (EPA/240/B-01/002, reissued May 2006)," or equivalent documentation as determined by EPA. EPA may consider laboratories accredited under the National Environmental Laboratory Accreditation Program ("NELAP") as meeting the Quality System requirements.

b. Upon request by EPA, Respondent shall have such a laboratory analyze samples submitted by EPA for QA monitoring. Respondent shall provide to EPA the QA/QC procedures followed by all sampling teams and laboratories performing data collection and/or analysis.

c. Upon request by EPA, Respondent shall allow EPA or its authorized representatives to take split and/or duplicate samples. Upon request, EPA shall allow Respondent to take split or duplicate samples of any samples it takes as part of its oversight of Respondent's implementation of the Work.

30. Reporting

a. Respondent shall submit a written progress report to EPA concerning actions undertaken pursuant to this Settlement Agreement every 30th day after the Effective Date until termination of this Settlement Agreement, unless otherwise directed in writing by the OSC. These reports shall describe all significant developments during the preceding period, including the actions performed and any problems encountered, analytical data received during the reporting period, and the developments anticipated during the next reporting period, including a schedule of actions to be performed, anticipated problems, and planned resolutions of past or anticipated problems.

b. Respondent shall submit three copies of all plans, reports or other submissions required by this Settlement Agreement, the Statement of Work, or any approved work plan. Upon request by EPA, Respondent shall submit such documents in electronic form.

c. Respondent shall, at least thirty (30) days prior to the conveyance of any interest in real property at the Site, give written notice to the transferee that the property is subject to this Settlement Agreement and written notice to EPA of the proposed conveyance, including the name and address of the transferee. Respondent also agrees to require that its successors comply with the immediately preceding sentence and Sections IX (Site Access) and X (Access to Information).

IX. SITE ACCESS

31. If the Site, or any other property where access is needed to implement this Settlement Agreement, is owned or controlled by Respondent, Respondent shall, commencing on the

Effective Date, provide EPA and its representatives, including contractors, with access at all reasonable times to the Site, or such other property, for the purpose of conducting any activity related to this Settlement Agreement.

32. Where any action under this Settlement Agreement is to be performed in areas outside of the Site, and owned by or in possession of someone other than Respondent, Respondent shall use its best efforts to obtain all necessary access agreements within thirty (30) days of the Effective Date, or as otherwise specified in writing by EPA's Project Coordinator. Respondent shall immediately notify EPA if after using its best efforts it is unable to obtain such agreements. For purposes of this Paragraph, "best efforts" include the offering of reasonable compensation in consideration of access. Respondent shall describe in writing its efforts to obtain access. EPA may then assist Respondent in gaining access, to the extent necessary to effectuate the response actions described herein, using such means as EPA deems appropriate. Respondent shall reimburse EPA for all costs and attorney's fees incurred by the United States in obtaining such access, in accordance with Section XV (Payment of Response Costs).

33. Notwithstanding any provision of this Settlement Agreement, EPA retains all of its access authorities and rights, including enforcement authorities related thereto, under CERCLA or any other applicable statutes or regulations.

X. ACCESS TO INFORMATION

34. Respondent shall provide to EPA, upon request, copies of all documents and information within its possession or control or that of their contractors or agents relating to activities at the Site or to the implementation of this Settlement Agreement, including, but not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information related to the Work. Respondent shall also make available to EPA, for purposes of investigation, information gathering, or testimony, their employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.

35. Respondent may assert business confidentiality claims covering part or all of the documents or information submitted to EPA pursuant to this Settlement Agreement to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and 40 C.F.R. § 2.203(b). Documents or information determined to be confidential by EPA will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies documents or information when they are submitted to EPA, or if EPA has notified Respondent that the documents or information are not confidential under the standards of Section 104(e)(7) of CERCLA or 40 C.F.R. Part 2, Subpart B, the public may be given access to such documents or information without further notice to Respondent.

36. Respondent may assert that certain documents, records, and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If Respondent asserts such a privilege in lieu of providing documents, it shall provide EPA with the

following: (a) the title of the document, record, or information; (b) the date of the document, record, or information; (c) the name and title of the author of the document, record, or information; (d) the name and title of each addressee and recipient; (e) a description of the contents of the document, record, or information; and (f) the privilege asserted by Respondent. However, no documents, reports or other information created or generated pursuant to this Settlement Agreement shall be withheld on the grounds that they are privileged.

37. No claim of confidentiality shall be made with respect to any data, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, or engineering data, or any other documents evidencing conditions at or around the Site.

XI. RECORD RETENTION

38. Until ten (10) years after Respondent's receipt of EPA's notification, pursuant to Section XXVIII (Notice of Completion of Work), that Respondent has fully performed its obligations under this Settlement Agreement, Respondent shall preserve and retain all non-identical copies of records and documents (including records or documents in electronic form) now in its possession or control or which come into its possession or control that relate in any manner to the performance of the Work or the liability of any person under CERCLA with respect to the Site, regardless of any corporate retention policy to the contrary. Until ten (10) years after Respondent's receipt of EPA's notification, pursuant to Section XXVIII (Notice of Completion of Work), that Respondent has fully performed its obligations under this Settlement Agreement, Respondent shall also instruct its contractors and agents to preserve all documents, records, and information of whatever kind, nature or description relating to performance of the Work.

39. At the conclusion of this document retention period, Respondent shall notify EPA at least ninety (90) days prior to the destruction of any such records or documents, and, upon request by EPA, Respondent shall deliver any such records or documents to EPA. Respondent may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If Respondent asserts such a privilege, it shall provide EPA with the following: (a) the title of the document, record, or information; (b) the date of the document, record, or information; (c) the name and title of the author of the document, record, or information; (d) the name and title of each addressee and recipient; (e) a description of the subject of the document, record, or information; and (f) the privilege asserted by Respondent. However, no documents, reports or other information created or generated pursuant to this Settlement Agreement shall be withheld on the grounds that they are privileged.

40. Respondent certifies that to the best of its knowledge and belief, after thorough inquiry, that is has not altered, mutilated, discarded, destroyed or otherwise disposed of any records, documents or other information (other than identical copies) relating to its potential liability regarding the Site and that it has fully complied with the EPA's requests for information pursuant to Section 104(e) of CERCLA, 42 U.S.C. § 9604(e).

XII. COMPLIANCE WITH OTHER LAWS

41. Respondent shall perform all actions required pursuant to this Settlement Agreement in accordance with all applicable local, state, and federal laws and regulations except as provided in Section 121(e) of CERCLA, 42 U.S.C. § 6921(e), and 40 C.F.R. §§ 300.400(e) and 300.415(j). In accordance with 40 C.F.R. § 300.415(j), all on-Site actions required pursuant to this Settlement Agreement shall, to the extent practicable, as determined by EPA, considering the exigencies of the situation, attain applicable or relevant and appropriate requirements (ARARs) under federal environmental or state environmental or facility siting laws.

XIII. EMERGENCY RESPONSE AND NOTIFICATION OF RELEASES

42. In the event of any action or occurrence during performance of the Work which causes or threatens a release of hazardous substances, pollutants or contaminants from the Site that constitutes an emergency situation or may present an immediate threat to public health or welfare or the environment, Respondent shall immediately take all appropriate action. Respondent shall take these actions in accordance with all applicable provisions of this Settlement Agreement, including, but not limited to, the Health and Safety Plan (HSP), in order to prevent, abate or minimize such release or endangerment caused or threatened by the release. Respondent shall also immediately notify EPA's Project Coordinator of the incident, or in the event of his unavailability, Respondent shall report the incident to EPA's Regional Spill Line at 913-281-0991. In the event that Respondent fails to take appropriate response action as required by this Paragraph, and EPA takes such action instead, Respondent shall reimburse EPA all costs of the response action not inconsistent with the NCP pursuant to Section XV (Payment of Response Costs).

43. In addition, in the event of any release of a hazardous substance, pollutant or contaminant from the Site, Respondent shall immediately notify EPA's Project Coordinator at 913-551-7331, and the National Response Center at 800-424-8802. Respondent shall submit a written report to EPA within seven (7) days after each release, setting forth the events that occurred and the measures taken or to be taken to mitigate any release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release. This reporting requirement is in addition to, and not in lieu of, reporting under Section 103 of CERCLA, 42 U.S.C. § 9603, and Section 304 of the Emergency Planning and Community Right-To-Know Act of 1986, 42 U.S.C. § 11004, *et seq.*

XIV. AUTHORITY OF EPA'S PROJECT COORDINATOR

44. EPA's Project Coordinator shall be responsible for overseeing Respondent's implementation of this Settlement Agreement. EPA's Project Coordinator shall have the authority vested in an On-Scene Coordinator/Remedial Project Manager by the NCP, including the authority to halt, conduct, or direct any Work required by this Settlement Agreement, or to

direct any other removal action undertaken at the Site. The absence of EPA's Project Coordinator from the Site shall not be cause for stoppage of work unless specifically directed by EPA's Project Coordinator.

XV. PAYMENT OF RESPONSE COSTS

45. Payment for Past Response Costs.

a. Within thirty (30) days after the Effective Date and upon receipt of a SCORPIOS billing Respondent shall pay to EPA for Past Response Costs. Payment shall be made to EPA by Electronic Funds Transfer ("EFT") in accordance with current EFT procedures to be provided to Respondent by EPA Region 7, and shall be accompanied by a statement identifying the name and address of the party making payment, the Site name, the EPA Region and Site/Spill ID Number A7N1, and the EPA docket number for this action.

b. At the time of payment, Respondent shall send notice that such payment has been made to:

Denise L. Roberts
Senior Assistant Regional Counsel
U.S. EPA, Region 7
901 North 5th Street
Kansas City, Kansas 66101

Randy Schademann
On-scene Coordinator
U.S. EPA, Region 7
901 North 5th Street
Kansas City, Kansas 66101.

c. The total amount to be paid by Respondent pursuant to Paragraph 45(a) shall be deposited in the Radiation-Standard Products Special Account to be retained and used to conduct or finance response actions at or in connection with the Site, or to be transferred by EPA to the EPA Hazardous Substance Superfund.

46. Payments for Future Response Costs.

a. Respondent shall reimburse EPA for all Future Response Costs not inconsistent with the NCP. On a yearly basis, EPA will send Respondent a bill requiring payment that includes a cost summary, which includes direct and indirect costs incurred by EPA and its contractors. Respondent shall make all payments within thirty (30) days of receipt of each bill requiring payment.

b. Respondent shall make all payments required by this Paragraph by check made to the order of "Hazardous Substance Response Fund" and shall be forwarded to:

U.S. Environmental Protection Agency
Superfund Payments
Cincinnati Finance Center
Post Office Box 979076
St. Louis, Missouri 63197-9000.

The Check shall be accompanied by a statement referencing Respondent's name and address, the Site name, Radiation-Avenue Superfund Site, and the Site/Spill identifier "A7N1", and the EPA docket number for this action CERCLA-07-2010-0003.

c. At the time of payment, Respondent shall send a copy of the check to EPA's Project Coordinator.

d. The total amount to be paid by Respondent pursuant to Paragraph 45(a) shall be deposited in the Standard Products Superfund Site Special Account within the EPA Hazardous Substance Superfund, and may be transferred by EPA to the EPA Hazardous Substance Superfund.

47. In the event that payments for Future Response Costs are not made within thirty (30) days of Respondent's receipt of a bill, Respondent shall pay Interest on the unpaid balance. Interest on Future Response Costs shall begin to accrue on the date of the bill and shall continue to accrue until the date of payment. Payments of Interest made under this Paragraph shall be in addition to such other remedies or sanctions available to the United States by virtue of Respondent's failure to make timely payments under this Section, including but not limited to, payment of stipulated penalties pursuant to Section XVIII.

48. Respondent may dispute all or part of a bill submitted under this Settlement Agreement, if Respondent alleges that EPA has made an accounting error, or if Respondent alleges that a cost item is inconsistent with the NCP. If any dispute over costs is resolved before payment is due, the amount due will be adjusted as necessary. If the dispute is not resolved before payment is due, Respondent shall pay the full amount of the uncontested costs to EPA as specified in Paragraph 46 on or before the due date. Within the same time period, Respondent shall pay the full amount of the contested costs into an interest-bearing escrow account. Respondent shall simultaneously transmit documentation for this escrow account to EPA's Project Coordinator. Respondent shall ensure that the prevailing party in the dispute shall receive the amount upon which they prevailed from the escrow funds plus interest within ten (10) days after the dispute is resolved.

XVI. DISPUTE RESOLUTION

49. Unless otherwise expressly provided for in this Settlement Agreement, the dispute resolution procedures of this Section shall be the exclusive mechanism for resolving disputes arising under this Settlement Agreement. The Parties shall attempt to resolve any disagreements concerning this Settlement Agreement expeditiously and informally.

50. If Respondent objects to any EPA action taken pursuant to this Settlement Agreement, including without limitation billings for Future Response Costs, it shall notify EPA in writing of its objections within fourteen (14) days of such action, unless the objections have been resolved informally. The Parties shall have thirty (30) days from EPA's receipt of Respondent's written objections to resolve the dispute through negotiations (the Negotiation Period). The Negotiation Period may be extended at the sole discretion of EPA.

51. Any agreement reached by the Parties pursuant to this Section shall be in writing and shall, upon signature by both parties, be incorporated into and become an enforceable part of this Settlement Agreement. If the Parties are unable to reach an agreement within the Negotiation Period, the Director of EPA Region 7's Superfund Division will issue a written decision on the dispute to Respondent. EPA's decision shall be incorporated into and become an enforceable part of this Settlement Agreement. Notwithstanding the foregoing, said incorporation shall not constitute a waiver of Respondent's right to contest, in any proceeding brought by EPA to enforce the terms of this Settlement Agreement, any alleged unlawfulness of EPA's decision or that EPA's decision is otherwise outside of the scope of the requirements of this Settlement Agreement. Unless otherwise agreed to by the EPA, Respondent's obligations under this Settlement Agreement shall not be tolled by submission of any objection for dispute resolution under this Section. Following resolution of the dispute, as provided by this Section, Respondent shall fulfill the requirement that was the subject of the dispute in accordance with the agreement reached or with EPA's decision, whichever occurs.

XVII. FORCE MAJUERE

52. Respondent agrees to perform all requirements of this Settlement Agreement within the time limits established under this Settlement Agreement, unless the performance is delayed by a *force majeure*. For purposes of this Settlement Agreement, a *force majeure* is defined as any event arising from causes beyond the control of Respondent, or of any entity controlled by Respondent, including but not limited to its contractors and subcontractors, which delays or prevents performance of any obligation under this Settlement Agreement despite Respondent's best efforts to fulfill the obligation. *Force majeure* does not include financial inability to complete the Work, or increased cost of performance.

53. If any event occurs or has occurred that may delay the performance of any obligation under this Settlement Agreement, whether or not caused by a *force majeure* event, Respondent shall notify EPA orally within forty-eight (48) hours of when Respondent became aware that the

event might cause a delay. Within seven (7) days thereafter, Respondent shall provide to EPA a written explanation and description of the reasons for the delay, the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; Respondent's rationale for attributing such delay to a *force majeure* event if you intend to assert such a claim; and a statement as to whether, in Respondent's opinion, such event may cause or contribute to an endangerment to public health, welfare or the environment. Failure to comply with the above requirements shall preclude Respondent from asserting any claim of *force majeure* for that event for the period of time of such failure to comply and for any additional delay caused by such failure.

54. If EPA agrees that the delay or anticipated delay is attributable to a *force majeure* event, the time for performance of the obligations under this Settlement Agreement that are affected by the *force majeure* event will be extended by EPA for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the *force majeure* event shall not, of itself, extend the time for performance of any other obligation. If EPA does not agree that the delay or anticipated delay has been or will be caused by a *force majeure* event, EPA will notify Respondent in writing of its decision. If EPA agrees that the delay is attributable to a *force majeure* event, EPA will notify Respondent in writing of the length of the extension, if any, for performance of the obligations affected by the *force majeure* event.

XVIII. STIPULATED PENALTIES

55. Respondent shall be liable to EPA for stipulated penalties in the amounts set forth in Paragraphs 56 and 57 for failure to comply with the requirements of this Settlement Agreement specified below, unless excused under Section XVII (*Force Majeure*). "Compliance" by Respondent shall include completion of the activities under this Settlement Agreement or any plan approved under this Settlement Agreement identified below in accordance with all applicable requirements of law, this Settlement Agreement, and any plans or other documents approved by EPA pursuant to this Settlement Agreement and within the specified time schedules established by and approved under this Settlement Agreement.

56. Stipulated Penalty Amounts - Work. The following stipulated penalties shall accrue per violation per day for failure to perform any Work, including the payment of Future Response Costs, required hereunder in a timely or adequate manner, or for failure to submit to EPA any submittal required by this Settlement Agreement (except the penalties for progress reports called for in Paragraph 29) hereof in a timely or adequate manner:

Penalty Per Violation Per Day	Period of Noncompliance
$1,000	1st through 7th day
$2,000	8th through 30th day
$5,000	31st day and beyond

57. Stipulated Penalty Amounts - Reports. The following stipulated penalties shall accrue per violation per day for failure to submit to EPA the progress reports required pursuant to Paragraph 30, in a timely or adequate manner:

Penalty Per Violation Per Day	Period of Noncompliance
$500	1st through 7th day
$1,000	8th through 30th day
$2,500	31st day and beyond

58. All penalties shall begin to accrue on the day after the complete performance or payment is due or the date that notification of a violation is issued by EPA, and shall continue to accrue through the final day of the correction of the noncompliance or completion of the activity. However, stipulated penalties shall not accrue: (a) with respect to a deficient submission under Section VIII (Work to be Performed), during the period, if any, beginning on the 31st day after EPA's receipt of such submission until the date that EPA notifies Respondent of any deficiency following which Respondent shall have fifteen (15) days to cure any deficiency during which fifteen (15) day period stipulated penalties will not accrue; and (b) with respect to a decision by the Director of EPA Region 7's Superfund Division, pursuant to Paragraph 51 of Section XVI (Dispute Resolution), during the period, if any, beginning on the 21st day after the Negotiation Period begins until the date that the EPA management official issues a final decision regarding such dispute. Nothing herein shall prevent the simultaneous accrual of separate penalties for separate violations of this Settlement Agreement.

59. Following EPA's determination that Respondent has failed to comply with a requirement of this Settlement Agreement, EPA will give Respondent written notification of the failure and describe the noncompliance. EPA may send to Respondent a written demand for payment of the penalties. However, penalties shall accrue as provided in the preceding Paragraph regardless of whether EPA has notified Respondent of a violation.

60. All penalties accruing under this Section shall be due and payable to EPA within thirty (30) days of Respondent's receipt from EPA of a demand for payment of the penalties, unless Respondent invokes the dispute resolution procedures under Section XVI (Dispute Resolution). Respondent shall make all payments required by this Paragraph by check or certified check made to order of "Hazardous Substance Response Fund" and shall be forwarded to:

U.S. Environmental Protection Agency
Superfund Payments
Cincinnati Finance Center
P.O. Box 979076
St. Louis, Missouri 63197-9000

The Check shall be accompanied by a statement referencing Respondent's name and address, the Site name, Radiation-Standard Products Superfund Site, and the Site/Spill identifier "A7N1", and the EPA docket number for this action CERCLA-07-2010-0003.

61. The payment of penalties shall not alter in any way Respondent's obligation to complete performance of the Work required under this Settlement Agreement.

62. Penalties shall continue to accrue during any dispute resolution period, but need not be paid until fifteen (15) days after the dispute is resolved by agreement or by receipt of EPA's decision.

63. If Respondent fails to pay stipulated penalties when due, EPA may institute proceedings to collect the penalties, as well as Interest. Respondent shall pay Interest on the unpaid balance, which shall begin to accrue on the date of demand made pursuant to Paragraph 60. Nothing in this Settlement Agreement shall be construed as prohibiting, altering, or in any way limiting the ability of EPA to seek any other remedies or sanctions available by virtue of Respondent's violation of this Settlement Agreement or of the statutes and regulations upon which it is based, including, but not limited to, penalties pursuant to Sections 106(b) and 122(*l*) of CERCLA, 42 U.S.C. §§ 9606(b) and 9622(*l*), and punitive damages pursuant to Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3). Provided, however, that EPA shall not seek civil penalties pursuant to Section 106(b) or 122(*l*) of CERCLA or punitive damages pursuant to Section 107(c)(3) of CERCLA for any violation for which a stipulated penalty is provided herein, except in the case of a willful violation of this Settlement Agreement. Notwithstanding any other provision of this Section, EPA may, in its unreviewable discretion, waive any portion of stipulated penalties that have accrued pursuant to this Settlement Agreement.

XIX. COVENANT NOT TO SUE BY EPA

64. In consideration of the actions that will be performed and the payments that will be made by Respondent under this Settlement Agreement, and except as otherwise specifically provided in this Settlement Agreement, EPA covenants not to sue or to take administrative action against Respondent pursuant to Sections 106 and 107(a) of CERCLA, 42 U.S.C. §§ 9606 and 9607(a), for the Work, and Future Response Costs. This covenant not to sue is conditioned upon the complete and satisfactory performance by Respondent of its obligations under this Settlement Agreement, including, but not limited to, payment of Future Response Costs pursuant to Section XV. This covenant not to sue extends only to Respondent and does not extend to any other person.

XX. RESERVATION OF RIGHTS BY EPA

65. Except as specifically provided in this Settlement Agreement, nothing herein shall limit the power and authority of EPA or the United States to take, direct, or order all actions necessary to protect public health, welfare, or the environment or to prevent, abate, or minimize an actual

or threatened release of hazardous substances, pollutants or contaminants, or hazardous or solid waste on, at, or from the Site. Further, nothing herein shall prevent EPA from seeking legal or equitable relief to enforce the terms of this Settlement Agreement, from taking other legal or equitable action as it deems appropriate and necessary, or from requiring Respondent in the future to perform additional activities pursuant to CERCLA or any other applicable law.

66. The covenant not to sue set forth in Section XIX above does not pertain to any matters other than those expressly identified therein. EPA reserves, and this Settlement Agreement is without prejudice to, all rights against Respondent with respect to all other matters, including, but not limited to:

a. claims based on a failure by Respondent to meet a requirement of this Settlement Agreement;

b. liability for costs not included within the definition of Future Response Costs;

c. liability for performance of response action other than the Work;

d. criminal liability;

e. liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessments;

f. liability arising from the past, present, or future disposal, release or threat of release of hazardous substances outside of the Site; and

g. liability for costs incurred or to be incurred by the Agency for Toxic Substances and Disease Registry related to the Site.

XXI. COVENANT NOT TO SUE BY RESPONDENT

67. Respondent covenants not to sue and agrees not to assert any claims or causes of action against the United States, or its contractors or employees, with respect to the Work, Future Response Costs, or this Settlement Agreement, including, but not limited to:

a. any direct or indirect claim for reimbursement from the Hazardous Substance Superfund established by 26 U.S.C. § 9507, based on Sections 106(b)(2), 107, 111, 112, or 113 of CERCLA, 42 U.S.C. §§ 9606(b)(2), 9607, 9611, 9612, or 9613, or any other provision of law;

b. any claim arising out of response actions at or in connection with the Site, including any claim under the United States Constitution, the Tucker Act, 28 U.S.C. § 1491, the Equal Access to Justice Act, 28 U.S.C. § 2412, as amended, or at common law; or

c. any claim against the United States pursuant to Sections 107 and 113 of CERCLA, 42 U.S.C. §§ 9607 and 9613, relating to the Site.

68. These covenants not to sue shall not apply in the event that the United States brings a cause of action or issues an order pursuant to the reservations set forth in Paragraph 66(b), (c), and (e) - (g), but only to the extent that Respondent's claims arise from the same response action, response costs, or damages that the United States is seeking pursuant to the applicable reservation.

69. Nothing in this Settlement Agreement shall be deemed to constitute approval or preauthorization of a claim within the meaning of Section 111 of CERCLA, 42 U.S.C. § 9611, or 40 C.F.R. § 300.700(d).

XXII. OTHER CLAIMS

70. By issuance of this Settlement Agreement, the United States and EPA assume no liability for injuries or damages to persons or property resulting from any acts or omissions of Respondent. The United States or EPA shall not be deemed a party to any contract entered into by Respondent or its directors, officers, employees, agents, successors, representatives, assigns, contractors, or consultants in carrying out the Work.

71. Except as expressly provided in Section XIX (Covenant Not to Sue by EPA), nothing in this Settlement Agreement constitutes a satisfaction of or release from any claim or cause of action against Respondent or any person not a party to this Settlement Agreement, for any liability such person may have under CERCLA, other statutes, or common law, including but not limited to any claims of the United States for costs, damages and interest under Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606 and 9607.

72. No action or decision by EPA pursuant to this Settlement Agreement shall give rise to any right to judicial review, except as set forth in Section 113(h) of CERCLA, 42 U.S.C. § 9613(h).

XXIII. CONTRIBUTION

73.

a. EPA and Respondent agrees that this Settlement Agreement constitutes an administrative settlement for purposes of Section 113(f)(2) of CERCLA, 42 U.S.C. § 9613(f)(2), and that Respondent is entitled, as of the Effective Date, to protection from contribution actions or claims as provided by Sections 113(f)(2) and 122(h)(4) of CERCLA, 42 U.S.C. §§ 9613(f)(2) and 9622(h)(4), for "matters addressed" in this Settlement Agreement. The "matters addressed" in this Settlement Agreement are the: (a) Work; and (b) Future Response Costs. Nothing in this Settlement Agreement precludes the United States or Respondent

from asserting any claims, causes of action, or demands against any persons not parties to this Settlement Agreement for indemnification, contribution, or cost recovery.

b. EPA and Respondent agree that this Settlement Agreement constitutes an administrative settlement for purposes of Section 113(f)(3)(B) of CERCLA, 42 § 9613(f)(3)(B), pursuant to which Respondent has, as of the Effective Date, resolved their liability to the United States for the Work, and Future Response Costs.

XXIV. INDEMNIFICATION

74. Respondent shall indemnify, save and hold harmless the United States, its officials, agents, contractors, subcontractors, employees and representatives from any and all claims or causes of action arising from, or on account of, negligent or other wrongful acts or omissions of Respondent, their officers, directors, employees, agents, contractors, or subcontractors, in carrying out actions pursuant to this Settlement Agreement. In addition, Respondent agrees to pay the United States all costs incurred by the United States, including but not limited to attorneys' fees and other expenses of litigation and settlement, arising from or on account of claims made against the United States based on negligent or other wrongful acts or omissions of Respondent, their officers, directors, employees, agents, contractors, subcontractors and any persons acting on their behalf or under their control, in carrying out activities pursuant to this Settlement Agreement. The United States shall not be held out as a party to any contract entered into by or on behalf of Respondent in carrying out activities pursuant to this Settlement Agreement. Neither Respondent nor any such contractor shall be considered an agent of the United States.

75. The United States will give Respondent notice of any claim for which the United States plans to seek indemnification pursuant to this Section and will consult with Respondent prior to settling such claim.

76. Respondent waives all claims against the United States for damages or reimbursement or for set-off of any payments made or to be made to the United States, arising from or on account of any contract, agreement, or arrangement between Respondent and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays. In addition, Respondent shall indemnify and hold harmless the United States with respect to all claims for damages or reimbursement arising from or on account of any contract, agreement, or arrangement between Respondent and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays.

XXV. INSURANCE

77. At least seven (7) days prior to commencing any on-Site work under this Settlement Agreement, Respondent or the contractors on behalf of Respondent, shall secure, and shall maintain for the duration of this Settlement Agreement, comprehensive general liability insurance and automobile insurance with limits of three million dollars ($3,000,000) combined single limit. Within the same time period, Respondent shall provide EPA with certificates of such insurance. In addition, for the duration of the Settlement Agreement, Respondent shall satisfy, or shall ensure that its contractors or subcontractors satisfies, all applicable laws and regulations regarding the provision of worker's compensation insurance for all persons performing the Work on Respondent's behalf in furtherance of this Settlement Agreement. If Respondent demonstrates by evidence satisfactory to EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering some or all of the same risks but in an equal or lesser amount, then Respondent need provide only that portion of the insurance described above which is not maintained by such contractor or subcontractor.

XXVI. FINANCIAL ASSURANCE

78. Within thirty (30) days of the Effective Date, Respondent shall establish and maintain financial security in the amount of $1,000,000 for the estimated cost of performing the Work in one or more of the following forms:

a. A surety bond guaranteeing performance of the Work;

b. One or more irrevocable letters of credit equaling the total estimated cost of the Work;

c. A trust fund;

d. A guarantee to perform the Work by one or more parent corporations or subsidiaries, or by one or more unrelated corporations that have a substantial business relationship with Respondent; or

e. A demonstration that Respondent satisfies the requirements of 40 C.F.R. § 264.143(f).

79. If Respondent seeks to demonstrate the ability to complete the Work through a guarantee by a third party pursuant to Paragraph 78(a) of this Section, Respondent shall demonstrate that the guarantor satisfies the requirements of 40 C.F.R. § 264.143(f). If Respondent seeks to demonstrate their ability to complete the Work by means of the financial test or the corporate guarantee pursuant to Paragraph 78(d) or (e) of this Section, they shall resubmit sworn statements conveying the information required by 40 C.F.R. § 264.143(f) annually, on the anniversary of the Effective Date. In the event that EPA determines at any time that the financial

assurances provided pursuant to this Section are inadequate, Respondent shall, within thirty (30) days of receipt of notice of EPA's determination, obtain and present to EPA for approval one of the other forms of financial assurance listed in Paragraph 78 of this Section. Respondent's inability to demonstrate financial ability to complete the Work shall not excuse performance of any activities required under this Settlement Agreement.

80. If, after the Effective Date, Respondent can show that the estimated cost to complete the remaining Work has diminished below the initial estimated amount set forth in Paragraph 78, Respondent may, on any anniversary date of the Effective Date, or at any other time agreed to by the Parties, reduce the amount of the financial security provided under this Section to the estimated cost of the remaining Work to be performed. Respondent shall submit a proposal for such reduction to EPA, in accordance with the requirements of this Section, and may reduce the amount of the security upon approval by EPA. In the event of a dispute, Respondent may reduce the amount of the security in accordance with the written decision resolving the dispute.

81. Respondent may change the form of financial assurance provided under this Section at any time, upon notice to and approval by EPA, provided that the new form of assurance meets the requirements of this Section. In the event of a dispute, Respondent may change the form of the financial assurance only in accordance with the written decision resolving the dispute.

XXVII. MODIFICATIONS

82. EPA's Project Coordinator may make modifications to any plan or schedule in writing or by oral direction providing that such modification is consistent with the objectives of this Settlement Agreement and RSE Work Plan. Any oral modification will be memorialized in writing by EPA promptly, but shall have as its effective date the date of her oral direction. Any other requirements of this Settlement Agreement or the agreed upon scope of work may be modified in writing by mutual agreement of the Parties.

83. If Respondent seeks permission to deviate from any approved plan or schedule, Respondent's Project Coordinator shall submit a written request to EPA for approval outlining the proposed modification and its basis. Respondent may not proceed with the requested deviation until receiving oral or written approval from EPA's Project Coordinator pursuant to Paragraph 81.

84. No informal advice, guidance, suggestion, or comment by EPA's Project Coordinator or other EPA representatives regarding reports, plans, specifications, schedules, or any other writing submitted by Respondent shall relieve Respondent of its obligation to obtain any formal approval required by this Settlement Agreement, or to comply with all requirements of this Settlement Agreement, unless it is formally modified.

XXVIII. NOTICE OF COMPLETION OF WORK

85. When EPA determines that all Work has been fully performed in accordance with this Settlement Agreement, with the exception of any continuing obligations required by this

STATEMENT OF WORK

FOR TIME CRITICAL REMOVAL ACTION INVOLVING
THE RADIATION—STANDARD PRODUCTS
WICHITA, KS
CERCLIS ID#: KSN000705966
SITE ID#: A7N1

I. PURPOSE

The purpose of this project is to perform a Removal Site Evaluation ("RSE") and to perform a time-critical removal action under the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA") as amended, at the Radiation—Standard Products Site ("Site"). The purpose of this Statement of Work ("SOW") for Raytheon ("Respondent") is to define the tasks, standards and guidelines which shall be followed by Respondent to conduct an RSE and to remove and properly dispose of radium-contaminated surface / subsurface material from the commercial yard at 650 East Gilbert Street, Wichita, Kansas 67211. Other actions, not specified in this SOW, may be required based upon the findings of the RSE.

In accomplishing the above purpose, Respondent shall comply with the provisions of the corresponding Settlement Agreement between the United States Environmental Protection Agency ("EPA") and Respondent, this SOW, CERCLA, the National Contingency Plan ("NCP") and EPA guidance (including, but not limited to the guidance documents referenced in this SOW). Where there is any discrepancy between the Settlement Agreement and this SOW, the SOW takes precedence.

II. GENERAL REQUIREMENTS

For purpose of this SOW, the words "The Respondent shall" means the firm, company or individual who operated at the Site, that will, in accordance with applicable laws, regulations, guidance and policies, furnish fully trained personnel, services, materials, equipment, property, facilities, knowledge, and expertise to successfully complete the tasks required under this SOW. Respondent shall ensure that any and all services or products shall be delivered and provided under this contract in compliance with all applicable federal, state, and local laws, regulations, guidance and policies and any changes to those laws which become effective after the effective date of this contract.

A. Task 1- Removal Site Evaluation (RSE)

1. Within 60 days after the Effective Date (the date the Settlement Agreement is signed by the EPA's Superfund Director), a Work Plan shall be prepared for EPA review and approval and will be required for the RSE which describes the estimated number, type, and location of samples to be collected at the Site. If it is determined by Respondent that additional characterization of the radium-contaminated material is required before initiating the removal action, that sampling effort will be described within the same Work Plan. The Work Plan shall

also provide a description of how Respondent proposes to characterize the lithology of the soils at and beneath the Site, including soil type, unit thickness, and hydraulic properties and the installation of temporary or permanent groundwater monitoring wells to provide data to evaluate the spatial extent of groundwater that has been contaminated by Site-related contaminants. The Work Plan shall include a description of proposed sampling and analytical procedures, including field screening and laboratory methods, to be conducted on soil groundwater and air samples collected. The Work Plans shall be written in accordance with the "EPA Compendium of ERT Field Analytical Procedures - Office of Emergency and Remedial Response, Publication 9360.4-04, May 1992" and the "EPA Compendium of ERT Waste Sampling Procedures - Office of Solid Waste and Emergency Response, EPA/540/P-91/008, January 1991".

Respondent shall include provisions for split samples provided to EPA, its contractors, or the State of Kansas. No less than forty-eight (48) hours notice shall be given to EPA prior to collecting samples for each individual sampling event. This notice is necessary to allow EPA, Kansas Department of Health and Environment ("KDHE"), or their contractors to prepare for the collection of split samples. The plan shall also include the types of analyses to be conducted for each sample and a brief rationale for collecting the sample and performing the analysis.

Field work for the RSE shall be completed within thirty (30) days of EPA's approval of the Work Plan. A report of the RSE's findings shall be submitted to the EPA within ninety (90) days of completing the field work.

2. A Quality Assurance Project Plan ("QAPP") shall be prepared for EPA review and approval, which describes policy, organization, and functional activities and the data quality objectives and measures necessary to achieve adequate data for use in planning and documenting the RSE and removal action. The QAPP shall be written in accordance with "EPA Requirements for Quality Assurance Project Plans (QA/R-5)" (EPA/240/B-01/003. March 2001), and "EPA Guidance for Quality Assurance Project Plans (QA/G-5)" (EPA/240/R-02/009, December 2002). Respondent can provide two QAPPs, one for the RSE and one for the removal action, or combine them into a single QAPP. If two QAPPs are submitted, the RSE QAPP will be required within sixty (60) days of the Effective Date. The QAPP for the removal action will be submitted with the Removal Action Work Plan (RAWP).

3. All sample collection and analysis shall be performed in compliance with EPA approved methods, including the timing of analyses and documentation of sample collection, handling and analyses. Any proposed sampling schemes shall generally conform to the following EPA guidance documents:

- Compendium of ERT Field Analytical Procedures – Office of Emergency and Remedial Response, publication 9360.4-04, May 1992.

- Compendium of ERT Waste Sampling Procedures - Office of Solid Waste Sampling Procedures - Office of Solid Waste and Emergency Response, EPA/540/P-91/008, January 1991.

• QA/QC Guidance for Removal Activities: Sampling QA/QC Plan and Data Validation Procedures – Office of Emergency and Remedial Response, EPA/540/G-90/004, April 1990.

• Removal Program Representative Sampling Guidance, Volume 1: Soil – Office of Emergency and Remedial Response, Publication 9360.4-10, November 1991.

• Compendium of ERT Soil Sampling and Surface Geophysics Procedures - Office of Solid Waste and Emergency Response, EPA/540/P-91/006, January 1991.

• Multi-Agency Radiation Survey and Site Inspection Manual (MARSSIM), Revision 1, Chapter 7 (EPA 402-R-97-016 (August 2000)

All samples shall be analyzed by a laboratory that participates in a qualified assurance/qualify control program equivalent to that specified in, "U.S. EPA Contract Laboratory Program Statement of Work for Inorganic Analysis:, Exhibit E, EPA SOW No. 788, July 1988.

4. EPA has conducted a site evaluation and a removal action for radium-contaminated material at the Site. Respondent shall review the following documents to evaluate procedures utilized in those efforts:

- EPA QAPP (Removal Site Evaluation) for the LaRay Dial, Standard Products, and Standard Precision Sites, Sedgwick County, Kansas. February 25, 2009.
- START Removal Site Evaluation Trip Report, Revision 1, Radiation—Standard Products, Inc. (Former), Wichita, Kansas. August 17, 2009.
- START QAPP for Removal Action at the Radiation—Standard Products, Inc. (Former), Wichita, Kansas. July 17, 2009.
- START Removal Action Report, Standard Products, Inc. (Former) – 920 S. St. Francis Parcel, Wichita, Kansas. March 11, 2010.

B. Task 2- Removal Action

Within ninety (90) days of completion of the RSE field work, Respondent shall prepare and submit to EPA for review and approval, a RAWP that shall describe in detail the proposed tasks and schedules associated with excavation, removal and off-site disposal of radium-contaminated surface / subsurface material from the commercial yard at 650 East Gilbert Street, Wichita, Kansas 67211. At a minimum, Respondent shall perform the tasks set forth below in designing and implementing the work required for the Site:

1. Mobilization - Respondent shall mobilize to the Site with all necessary personnel, equipment and supplies necessary to complete the removal action within ten (10) days of receipt of EPA's approval of its Removal Action Work Plan. The purpose of such mobilization is to begin, perform, and complete the removal.

2. Excavation and Cleanup Goals - Provide a detailed description of the method for soil excavation. Provide a map of the precise aerial extent of the proposed excavation. Respondent shall excavate until soils are at or below the cleanup goal of 6.87 piC/g. Additionally, Respondent shall ensure the design and implementation of the chosen remedy meets or exceeds the EPA's performance standards, specifications and applicable or relevant and appropriate requirements (ARARs) as stated in the draft Action Memorandum enclosed.

3. Dust Control - During excavation, stockpiling, or any other handling of contaminated soil, Respondent shall provide dust control measures to prevent migration of significant quantities of hazardous substances and contaminated dust. To prevent dust migration, any stockpiled material must be completely covered or treated at all times when personnel are not on site and dust control measures are not being used. If water is used as a dust control measure, then appropriate care must be taken to ensure that water does not run off-site or from contaminated areas to clean areas.

4. Materials handling – Any material temporarily stockpiled at the Site must be stockpiled in a known contaminated area. The stockpiled material must be completely covered or treated at all times when loading or stockpiling activities are being conducted in order to prevent dust migration. No clean areas are to be contaminated as a result of transporting soil. If on-site storage of contaminated materials is necessary at any time during the removal activity, such material must be stored in such a manner as to prevent migration of contaminants.

5. State the location of the disposal facility, steps taken to ensure the facility is licensed to accept the material excavated, and the process for transportation. Excavated materials that are to be hauled off site and transported in accordance with the Off-Site Rule to a facility permitted to accept radium – contaminated waste exceeding 5 piC/g shall be packaged in accordance with the requirements of 10 C.F.R. § 61.56. The permitting facility must be licensed and in compliance with 10 C.F.R. § 61.7(a)(2), -61.41, and -61.81. At a minimum, Respondent will notify the OSC at least two days prior to when off-site shipments are to be made.

6. Backfilling - Respondent shall provide backfill material for all areas of excavation required in this SOW. All areas that are excavated shall be restored to the original condition with clean soil. Complete site restoration activities as directed by the OSC to include backfill, grading, sodding (if necessary), or rock. Respondent shall complete a site walk with the OSC.

Within ninety (90) days of completion of the RSE field work, Respondent shall prepare a separate Work Plan for EPA review and approval that provides details on how to confirm when removal of contaminated materials that exceed the action levels has been achieved and air sampling to be conducted to ensure that fugitive dust emissions are controlled. The Work Plan shall follow the requirements identified with Sections II.A.1, II.A.2, and II.A.3 of this SOW.

C. Health and Safety Plan

1. Within sixty (60) days of the Effective Date of this Settlement Agreement, Respondent shall prepare a Health and Safety Plan ("HASP") shall be prepared for EPA review and be in accordance with all applicable OSHA requirements at 29 CFR § 1910. Respondent will provide it to the On-Scene Coordinator (OSC) prior to commencement of work on the Site. In addition to the requirements addressed in these regulations, this plan shall generally follow the guidelines established in EPA's "Standard Operating Safety Guides", Office of Emergency and Remedial Response, publication 9285.1-03, June 1992. The plan shall detail the procedures to be followed should a release of hazardous substances or an accident occur at the Site. This plan should also include a provision to notify the OSC in addition to other regulatory notifications. This plan should be made available to and signed by all personnel conducting characterization and/or removal actions at the Site.

Respondent can submit a single HASP for all activities or submit separate HASPs for the RSE and the removal action. If separate HASPs are developed, the schedule remains the same for the RSE (Respondent shall submit that HASP within sixty [60] days of the Effective Date of the Settlement Agreement. If a separate HASP is developed for the removal action, that HASP shall be submitted with the RAWP (within sixty [60] days of the submission of the RSE report).

III. INSPECTIONS

A. Prefinal Inspection: Upon preliminary completion of the removal action, Respondent shall contact EPA for the purpose of scheduling and conducting a prefinal Site inspection with EPA. The prefinal inspection shall consist of a walk-through inspection of the entire project Site with the OSC. During the prefinal inspection, the Respondent shall outline the actions required to resolve all outstanding removal action work and shall propose a schedule to complete these items and certify that all other removal work has been completed in a manner sufficient to meet the requirements of the approved SOW.

B. Final Inspection: Upon completion of any outstanding removal action work, the Respondent shall notify EPA for the purpose of scheduling a final Site inspection. The final inspection shall consist of a walk-through inspection of the entire project Site by EPA and the Respondent. The purpose of the final inspection will be to determine whether the removal action work has been completed consistent with the approved SOW and Removal Action Plan.

IV. REPORTS/DELIVERABLES

A number of deliverables, required prior to the initiation of field activities, have been specified in the Settlement Agreement and this SOW. For clarity, those deliverables are summarized below:

1. A Work Plan for the RSE.
2. A Work Plan for sampling activities to confirm that the removal action limit has been achieved during the removal action.
3. A RAWP that describes the actions that will be taken to excavate, transport, and dispose of the radium-contaminated material and restore the Site.
4. A QAPP that can describes the quality assurance procedures to be utilized in activities 1, 2, and 3 above.
5. A HASP. The Respondent may produce separate HASPs for the RSE and the removal action or combine them into one.

In addition, Respondent shall submit a written progress report to EPA concerning actions undertaken pursuant to this Settlement Agreement every 30th day after the Effective Date of the Settlement Agreement until termination of this Settlement Agreement, unless otherwise directed in writing by the OSC. These reports shall describe all significant developments during the preceding period, including the actions performed and any problems encountered, analytical data received during the reporting period, and the developments anticipated during the next reporting period, including a schedule of actions to be performed, anticipated problems, and planned resolutions of past or anticipated problems.

In addition, two reports will be required upon completion of activities identified in this SOW and the Action Memorandum:

A. Within ninety (90) days after completion of the RSE, Respondent shall submit for EPA's review and approval a Final Report summarizing the results of the actions taken to comply with the Supplemental Agreement and the SOW. The aforementioned report--START Removal Site Evaluation Trip Report, Revision 1, Radiation—Standard Products, Inc. (Former), Wichita, Kansas. August 17, 2009—provides a template for the report. The report shall contain, at a minimum, the following elements:

1. A summary of actions that have been taken to comply with the Supplemental Agreement and the SOW.

2. Copies of results of sampling and tests and all other data received by the Respondent.

3. Maps depicting sampling locations and analytical and/or field screening results. Analytical results will also be provided in a table format.

B. Within sixty (60) days after the completion of the removal action, Respondent shall submit for EPAs review and approval a Final Report summarizing the actions taken to comply with the Supplemental Agreement, the Action Memorandum, and the SOW. The Final Report shall conform, at a minimum, with the requirements set forth in 40 CFR § 300.165 of the NCP entitled "OSC Reports." The report shall contain, at a minimum, the following elements:

1. A summary of actions which have been taken to comply with the Supplemental Agreement, the Action Memorandum, and the SOW.

2. Copies of results of sampling and tests and all other data received by Respondent.

3. Summaries of all contacts with representatives of the local community, public interest groups, state and federal governments during the removal action time period.

4. Copies of any photographs taken of the Site.

5. Copies of the Waste Manifests.

6. A map that displays areas and depths excavated and approximate volume removed for each area.

7. A map that provides graphic representation of where samples were collected to determine that the removal action limit had been met. A discussion of how those sample locations and numbers were determined will also be in the report.

8. A summary of the costs associated with the removal action.

ACTION MEMORANDUM
ENFORCMENT ACTION

SUBJECT: Request for a Removal Action at the Radiation-Standard Products, Sedgwick County, Kansas

FROM: Randy Schademann, On-Scene Coordinator
Planning and Preparedness North Section
Superfund Division

THRU: Don Lininger, Chief
Planning and Preparedness North Section
Superfund Division

TO: Cecilia Tapia, Director
Superfund Division

CERCLIS ID#	KSN000705966
Site ID#	A7N1
Category of Removal:	Time Critical
Nationally Significant/Precedent Setting:	No

I. PURPOSE

The purpose of this Action Memorandum is to request approval and funding for a Potentially Responsible Party (PRP)-lead, time-critical removal action at the Radiation-Standard Products site (Site). Radiation-Standard Products is located at 650 East Gilbert Street, Wichita, Kansas.

As detailed below, the objective of this removal action is to protect public health or welfare or the environment by responding to the release of hazardous substances and pollutants or contaminants into the environment as presented by materials contaminated with radium-226 at 650 East Gilbert Street ("Gilbert Site or the Site"). Contaminated materials that exceed 5 pico Curies per gram (pCi/g) plus background will be excavated, transported, and disposed at a licensed facility.

DRAFT

II. SITE CONDITIONS AND BACKGROUND

A. Site Description

1. Removal site evaluation

The Kansas Department of Health and Environment (KDHE) Bureau of Air and Radiation (BAR) licensed radium dial shops. According to BAR records, Standard Products operated a facility repairing aircraft instruments from approximately 1952 to 1965. By 1965, the facility had relocated to 4105 West Pawnee and changed its name to Standard Precision, Inc.

Radium in luminescent paints was widely used for aircraft dials, gauges, and other instruments. Radium dial repair shops were located in Wichita to upgrade and repair radium-bearing aircraft instruments. During this process, paint containing radium was stripped from the dials with solvent prior to the dials being repaired.

In an ongoing effort to evaluate these facilities, KDHE conducted field work in August, September, and December 2007 to support a Unified Focus Assessment (UFA) Report issued in February 2008. Five groundwater samples and 24 soil samples at 650 East Gilbert were collected for the UFA. Samples were analyzed for radium-226; the eight Resource Conservation and Recovery Act (RCRA) metals (which are lead, arsenic, barium, cadmium, chromium, mercury, selenium, and silver), and volatile organic compounds (VOCs). The UFA identified several areas that had elevated radium-226 concentrations exceeding the standard established at 40 CFR § 192.12 for a cleanup level not to exceed background plus 5 pCi/g. (up to 81,800 pCi/g of radium-226). No samples were taken or field screening conducted at the 920 South St Francis parcel during the KDHE UFA because the assessment was limited to the facility where dial work was thought to have occurred.

EPA conducted field activities for a Removal Site Evaluation (RSE) in March and April of 2009. Field screening with radiation detectors and radiation analysis of soil samples further defined the vertical and aerial extent of contamination. Results of the field screening depicting areas showing radiation above background values are provided in Figure 1.

During the EPA-lead RSE in March 2009, prior to the fund-lead removal action, it was determined that some radium-contaminated material from the Site had been moved to 920 South St. Francis, an adjacent residential parcel, which was the subject of an EPA-lead removal action in July 2009. During that effort, approximately 453,700 pounds of radium-contaminated material was excavated, transported, and disposed at a U.S. Ecology facility in Idaho (EPA Fund-Lead Removal Action, July 9, 2009, and START Removal Action Report, Standard Products, Inc. (Former) – 920 S. St. Francis Parcel, Wichita, Kansas. March 11, 2010).

2. Physical location

The Site consists of three acres—the combined acreage of the 650 East Gilbert and 920 South St. Francis (St. Francis) parcels in Wichita, Sedgwick County, Kansas (Figure 1). Both parcels are located in the Northwest ¼ of Section 28, Township 27 South, Range 1 East. However, the removal action for the 920 South St. Francis parcel was conducted by EPA in July 2009. Adjoining properties include commercial businesses adjacent the property to the south and north. On the east are railroad right-of-ways. Residential homes and a medical clinic are to the west and southwest.

3. Site Characteristics

The Gilbert parcel is largely vacant except for a metal building that is currently utilized for equipment storage by an electric company. The St. Francis parcel has a single family residence. The area surrounding the Site is primarily residential with some light industry and the Guadalupe Clinic, a health clinic, which borders both parcels.

An EPA fund-lead site removal was previously conducted at the 920 South St. Francis property by EPA in the summer of 2009.

4. Release or threatened release into the environment of a hazardous substance, or pollutant, or contaminant

The primary contaminant of concern at this Site is radium-226. EPA and KDHE have documented radium-226 concentrations in soil exceeding 5 pCi/g plus background (up to 81,800 pCi/g on the Gilbert parcel being addressed by this removal action).

Radioluminescent paint—a mixture of a radionuclide, usually radium-226, and a phosphor, usually zinc sulfide—was developed in the early 1900s. The mixture was initially used on watch and clock faces and later adapted for use on instruments, most notably aircraft dials. As part of radium's decay process it emits an alpha particle that can excite the phosphor which eventually releases a photon. The end results are dials that "glow" and can be read at night without light.

Radium has 25 known isotopes, 4 of which occur in nature, with radium-226 and to a lesser extent radium-228 being the most common. Radium-226 has the longest half-life at 1,602 years. Radium is a decay product of uranium and consequently is associated with uranium ores. Radium decays by emitting alpha and beta particles and gamma rays. Radium initially decays into radon, a heavy gas, which itself decays into other radioactive solids including polonium, bismuth, lead, and thallium. Radium in soils does not biodegrade.

The workers at the Gilbert parcel or passersby may be exposed via routes of inhalation or dermal contact from the radium-contaminated material, which is present at numerous areas at or near the surface. It also appears that the radium-contaminated material at the property is a source area for contamination of the area ground water.

Exposure to high levels of radium results in an increased incidence of bone, liver, and breast cancer. Radium, like calcium, is retained in bone tissue; bone cancer is the greatest risk from radium exposure. Death and decreased longevity have been reported as a result of long term exposure. Radium has also been shown to affect the blood (anemia), eyes (cataracts), and teeth (increased broken teeth and cavities). Emitted ionizing radiation from the decay of radium and its daughters can lead to skin damage, hair loss, birth defects, general illness, and cancer.

Radium-226 is a hazardous substance, as defined by section 101(14) of the CERCLA, and is listed at 40 CFR part 302.4 as radionuclides.

5. NPL status

The Site is not currently on NPL, nor is it proposed for listing on NPL.

6. Maps, pictures, and other graphic representations

Figure 1 (Site layout and screening results) is attached.

B. Other Actions to Date

1. Previous actions

Activities pertaining to the Site include:

- 1953-55, 1959, and 1962 – Kansas State Board of Health inspections.
- 2007 – KDHE UFA.
- 2009 – US EPA RSE.
- 2009 – US EPA Fund-Lead Removal at the St Francis parcel.

There has been no known EPA or KDHE response action at the Gilbert parcel to reduce the risks posed by radium contamination.

2. Current actions

There are no current actions being undertaken at the site.

C. State and Local Authorities' Roles

1. State and local actions to date

On November 20, 2008, KDHE referred this Site to EPA for a response action. EPA is closely coordinating Site activities with KDHE and the Sedgwick County Health Department. EPA requested that KDHE identify state ARARS on June 3, 2009, and KDHE responded on June 15, 2009. The Sedgwick County Health Department has volunteered to coordinate Site activities with the local governing bodies.

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2. Potential for continued State/local response

Both KDHE and the Sedgwick County Health Department will remain involved in future Site activities.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT AND STATUTORY AND REGULATORY AUTHORITIES

Section 300.415(b) of the National Contingency Plan (NCP) provides that EPA may conduct a removal action when it determines that there is a threat to human health or welfare or the environment based on one or more of the eight factors listed in section 300.415(b)(2). The factors that justify a removal action at the St. Francis parcel are outlined as follows:

300.415(b)(2)(i) – Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, or pollutants, or contaminants.

Analytical results from samples collected by EPA indicate that hazardous substances have been released into the environment. Radium-226 was identified in soils at the Gilbert Site up to 81,800 pCi/g.

Radium is highly radioactive; it is classified by EPA and the National Academy of Science as a known human carcinogen and is listed in 40 CFR § 302.4 as a hazardous substance (as radionuclides). Because radium is similar in structure to calcium, it tends to gravitate to boney tissue. Exposure to high levels of radium results in an increased incidence of bone, liver, and breast cancer. Radium has also been shown to affect the blood (anemia), eyes (cataracts), and teeth (increased broken teeth and cavities). Emitted ionizing radiation from the decay of radium and its daughters (nuclides undergo spontaneous disintegrations that release energy and result in the transformation to a different atom) can lead to skin damage, hair loss, birth defects, general illness, and cancer. The greatest risk to humans from radium is through ingestion of food and water contaminated with radium.

People using the medical clinic and surrounding residents that are within 150 feet of the Gilbert Street property to the west, southwest, and south are exposed to the risks described above by exposure to radium at the Site.

300.415(b)(2)(ii) – Actual or potential contamination of drinking water supplies or sensitive ecosystems.

In the samples collected by the KDHE in the UFA, radium was identified in on-site temporary monitoring well at 156 picoCuries per liter (pCi/L), which is above the Safe Drinking Water Act Maximum Contaminant Level (MCL) of 5 pCi/L. Residents that developed a drinking water well could be exposed to the risks posed by radium.

300.415(b)(2)(iv) – High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate.

Radium has been detected in surface soils up to 81,800 pCi/g. Radium-contaminated soils may migrate via airborne dusts, surface runoff, percolation into groundwater, construction activity, or children transporting soils/dusts into their homes after playing in the affected areas, and foot traffic into residences.

The half-life of radium-226 is 1,602 years. It is highly probably that the Site will undergo physical changes during that time which would allow increased exposure.

The greatest risk to humans from radium is through ingestion of food and water contaminated with radium.

300.415(b)(2)(v) – Weather conditions that may cause hazardous substances, pollutants or contaminants to migrate.

Radium has been detected in surface soils up to 81,800 pCi/g. Radium-contaminated soils may migrate via airborne dusts at the Gilbert Site.

IV. ENDANGERMENT DETERMINATION

The actual release of a hazardous substance at the Gilbert parcel, if not addressed by implementing the response action selected in this Action Memorandum, presents an imminent and substantial endangerment to the health of the public that comes in contact with the Site and to public welfare and the environment.

V. PROPOSED ACTIONS AND ESTIMATED COST

A. Proposed Actions

1. Proposed action description

SOIL/WASTE EXCAVATION, REMOVAL, AND REPLACEMENT

The discussion presented in the following two paragraphs is based upon a February 12, 1998, memorandum from Stephen Luftig, then Director of the Office of Superfund Remediation Technology Innovation (February 12, 1998, Directive number 9200.4-25).

Standards have developed for the cleanup of uranium mill tailings under Section 275 of the Atomic Energy Act, 42 U.S.C. § 2022, as amended by Section 206 of the Uranium Mill Tailings Radiation Control Act of 1978 (UMCTRA), 42 U.S.C. § 7918, and regulations at 40 CFR § 192.12. Pursuant to the above, the purpose of these standards was to limit the risk from inhalation of radon decay products of houses built on land contaminated with tailings and to limit gamma radiation exposure to people utilizing the contaminated land.

Subpart B of 40 CFR 192.12 lists two standards as cleanup levels for surface and subsurface soils. The cleanup level is not to exceed background level, plus the following:

(1) 5 pCi/g of radium-226 for surface soils which is a health-based standard. The basis for the standard is the health risk caused by exposure to gamma radiation.

(2) 15 pCi/g of radium-226 for subsurface soils which is not a health-based standard, but rather was developed for use in field measurements, rather than laboratory analyses, to determine when buried tailings had been detected.

Because the soil contamination on the Gilbert parcel is relatively shallow, mimicking the mill waste for which UMTRCA was developed, the 5 pCi/g plus the background concentration will be used throughout the Site. A background concentration of 1.87 piC/g was developed as the mean of samples collected by KDHE and EPA for an action level of 6.87 piC/g.

All site-sampling activities for comparison to the action levels will be conducted in accordance with an approved Quality Assurance Project Plan.

After removing the soils from the affected area, the excavated soils will be replaced with clean soils. Clean soils are soils that have been analyzed for radium, with results indicating that the concentration is at or below the background and that all other hazardous substances, pollutants, or contaminants are below residential soil screening levels as determined by EPA, or as referenced in the Region 9 Preliminary Remediation Goal tables found at *http://www.epa.gov/Region9/waste/sfund/prg/index.htm*, or as outlined in the KDHE RSK Manual, Version 4, 2007.

The excavated material will transported and disposed of at a licensed facility in accordance with all applicable local, state, and federal requirements.

At this time, no post removal Site control will be necessary.

2. Contribution to remedial performance

The PRP-lead actions proposed in this Action Memorandum should not impede any future remedial plans or other response.

3. Applicable or relevant and appropriate requirements (ARARs)

The following specific ARARs have been identified for this action:

Federal ARARs

- Occupational Safety and Health Act (OSHA) Standards at 29 CFR part 1910 will be applicable to all actions.

- Department of Transportation (DOT) Regulations at 49 CFR parts 107 and 171-177, DOT hazardous material transportation regulations, may be relevant and appropriate for transportation of the contaminated soils.

- The CERCLA Off-Site Rule promulgated pursuant to CERCLA section 121(d)(3), 42 U.S.C. § 9621(d)(3), and formally entitled "Amendment to the National Oil and Hazardous Substances Pollution Contingency Plan; Procedures for Planning and Implementing Off-Site Response Action: Final Rule," 58 Fed. Reg. 49200 (Sept. 22, 1993), codified at 40 CFR § 300.440.

- Section 275 of the Atomic Energy Act, 42 U.S.C. § 2022, as amended by Section 206 of the Uranium Mill Tailings Radiation Control Act of 1978 (UMCTRA), 42 U.S.C. § 7918; 40 CFR part 192, as previously described in Section V (Proposed Actions).

- 10 CFR part 61, particularly 10 CFR §§ 61.7(a)(2), -61.41, -61.56, -61.81, Substantive requirements of the Licensing Requirements for Land Disposal of Radioactive Waste

State ARARs

State ARARs will be developed KDHE and evaluated for the Site.

4. Project schedule

Response activities are anticipated to begin within 90 days of the signing of this Action Memorandum. It is anticipated that the project will require approximately 40 days to complete.

B. Estimated Costs

The costs associated with this portion of the Standard Products removal action are estimated as follows:

$700,000

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Delayed action will result in a continued threat to public health or welfare or the environment.

VII. OUTSTANDING POLICY ISSUES

None.

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VIII. RECOMMENDATION

This decision document represents the selected removal action for addressing the hazardous substances, pollutants, or contaminants present at the Site. The removal action was developed in accordance with CERCLA, as amended, and is not inconsistent with the NCP. This decision is based on the Administrative Record for the Site.

Conditions at the Site meet NCP section 300.415(b) criteria for a removal action, and I recommend your approval of this proposed removal action.

Approved:

_____ _____

Cecilia Tapia Date
Director
Superfund Division

Attachments: Figure 1: Site Layout and Gamma Survey Results

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