

From: John R. Madera, ^{ETI}
To: JXD1, DIS JDeCicco, NMSS Dserig, NMSS
Date: 9/19/96 8:37am
Subject: ams task list - cleaned up -Forwarded

Forwarded mail received from: MFW1

Dennis and Joe, here is the AMS/Chem Nuclear Contract Task Sheet for your review. Please have our attorney involved with the financial assurance issues (I believe it was Steve Lewis) look at this to see if he sees any major problems. Thanks

JRM

Files: m0 AMSTASKS.WP5

Comments by 10/3/96. Coordinate review with Marian. [Ignore formatting. Did not save to W.P.]

TASK LIST

SUBCONTRACTOR agrees to perform the following services subject to the assumptions and specifications provided herein and in the Agreement:

Task 1: Procedure Development and Permitting for Sealed Sources

} deals with 2 types of sealed sources

Task Description: SUBCONTRACTOR shall provide sufficient consultation services prior to source shipping to ensure on-site activities are efficient and effective. In addition, SUBCONTRACTOR shall prepare all shipping papers and permit forms pursuant to 10 CFR 61 and 71 and all other applicable federal, state and disposal site regulations.

Assumptions:

Please keep OGC (Marian) advised as to status of execution of this contract.

The SUBCONTRACTOR shall utilize this opportunity to identify means for minimizing the number of shipments to the disposal site from AMS, reducing the total disposal volume, and refining the initial cost estimates shown in Exhibit 2 for Tasks 2 and 3.

The sealed sources to be shipped are those described in Tasks 2 and 3.

All labor and expenses are included.

All personnel, procedures, equipment and casks provided by SUBCONTRACTOR shall comply with applicable regulatory agency approved Quality Assurance Programs, licenses and permits.

AMS Responsibilities

In all places where AMS responsibilities are set forth, there are current questions re AMS' ability to perform, based upon [David Cesar (Principal NRC contact) is power leaving AMS]

Provide the name and telephone number of one (1) individual responsible for coordination of services between SUBCONTRACTOR and AMS.

Provide access to all locations within the London Road facility as may be necessary for the SUBCONTRACTOR to develop site-specific procedures.

SUBCONTRACTOR Responsibilities

Provide the name and telephone number of one (1) individual responsible for coordination of services between SUBCONTRACTOR and AMS.

Provide at least 72 hours notice as to when a site visit is desired.

Provide written instructions to AMS in regard to the means by which sources and shipping casks should be prepared and staged.

Provide a variance write-up (change order) for the subcontract between SUBCONTRACTOR and AMS, including a fixed price cost for performing Tasks 2 and 3.

Prepare all applications, permits (including notifications for route-controlled shipments) and other documentation required for shipment of

the sealed sources.

Provide written instructions to AMS on the methodology for submission/execution of applications, permits and other documents that are the responsibility of the generator.

As necessary, participate in communications between AMS and the USNRC in regard to licensing issues.

Period of Performance:

This task shall be completed within 30 days after execution of the Agreement.

Task 2: Receipt, Packaging, Transport and Disposal of "Unpackaged" Sealed Sources

Task Description: SUBCONTRACTOR shall receive, package, transport and dispose of approximately 32,000 curies of sealed sources of 60Co.

Assumptions:

The unpackaged sealed sources of 60Co shall consist of the following:

(1) 100 sources currently located in the Source Garden with a total volume of approximately 9703 cm³ and a curie content of 21989 as of June 14, 1996.

(2) Seven (7) sources currently located in the Hot Cell or Source Garden with a total volume of approximately 679 cm³ and a curie content of 3562 as of June 14, 1996.

(3) Eight (8) sources currently located in source exchange heads or shipping containers with a total volume of approximately 776 cm³ and a curie content of 5604 as of June 14, 1996.

The sources shall be located at 1020 London Road, Cleveland, Ohio, 44110.

The disposal site shall be the Barnwell Low-Level Radioactive Waste Management Facility (South Carolina).

The sources shall be packaged in a shielded transfer container that is suitable for this purpose prior to loading in a shipping cask in preparation for stabilization by cement solidification.

Following the appropriate cure of the solidification matrix, cask closure procedures will proceed in preparation for shipment to the disposal site.

Sources shall be transferred to the disposal site in a single shipment.

All labor and expenses, including state/local taxes, are included.

All personnel, equipment and casks provided by SUBCONTRACTOR shall comply with applicable regulatory agency -approved Quality Assurance Programs, licenses and permits.

AMS Responsibilities:

Provide the name and telephone number of one (1) individual responsible for coordination of services between SUBCONTRACTOR and AMS.

Inventory and load sealed sources into the shielded transfer container

Provide physical characteristics, radiological composition, representative exposure rate and contamination levels or other information as deemed necessary by AMS and SUBCONTRACTOR to satisfactorily specify and perform services.

Transfer the loaded container to a pre-determined staging area within the London Road facility.

Provide work space for packaging and shipment certification service, storage of shipping containers, loading/unloading of shipping containers, administrative work area, and personnel hygiene area.

Operate existing in-house material handling equipment for the loading of packaged material into/on the shipping containers/equipment and, as necessary, to support the packaging and shipment certification service.

Provide radiation protection services and health physics coverage.

Provide up to two (2) AMS employees to render assistance, as needed, for this task.

Provide other radiation protection equipment (e.g., protective clothing, survey instruments, portable shielding, etc.) as may be available at the London Road facility or as specified by SUBCONTRACTOR in advance of on-site work.

SUBCONTRACTOR Responsibilities:

Provide the name and telephone number of one (1) individual responsible for coordination of services between SUBCONTRACTOR and AMS.

Provide a schedule for all activities.

Provide a listing of specialty equipment and services that AMS must supply in advance of on-site work.

Provide, in advance of on-site work, a copy of written procedures and work instructions for AMS approval and for AMS use in preparing a

Radiation Work Permit.

Provide project management for on-site work.

Provide the required shielded liner, shipping container, packaging materials, shipping documents, labels, placards and materials/components/procedures in accordance with SUBCONTRACTOR's Quality Assurance Program for packaging and transport of the sealed sources.

Provide exclusive-use transportation of the packaged sources to the disposal site.

Transfer the shipment from the AMS facility to the transport vehicle.

Ensure compliance with all USNRC, DOT, South Carolina and Ohio laws and regulations for loading, shipment and disposal of the materials addressed in this task.

Ensure Barnwell acceptance of the shipment based upon the AMS description of its physical and radiological characteristics.

Provide a receipt of disposal within one week of acceptance of the sources at the disposal site.

Period of Performance:

This task shall be completed within 60 days after AMS authorization to proceed is given.

Task 3: Receipt, Packaging, Transport and Disposal of GE -500 and "Blue" Cask

Task Description: SUBCONTRACTOR shall receive, package, transport and dispose of approximately 19,400 curies of sealed sources and bulk canisters of 60Co.

Assumption:

The sealed sources and bulk canisters of 60Co shall consist of the following:

(1) 28 sources currently located in the GE -500 Cask with a total volume of approximately 2717 cm³ and a curie content of 10,080 as of June 14, 1996.

(2) 18 sources currently located in the "Blue Cask" with a total volume of approximately 1,747 cm³ and a curie content of 9,306 as of June 14, 1996.

The sources shall be located at 1020 London Road, Cleveland, Ohio, 44110.

The disposal site shall be the Barnwell Low -Level Radioactive Waste Management Facility (South Carolina).

No special
transport
cask in to
addition to
the GE-500
needs to be
provided.

The GE-500 will be inspected, verified shippable, sourced to a transport trailer and transported to the disposal site for direct disposal.

The "Blue Cask" will be shipped in a CS -8-120 "B" Cask.

The CNS-8-120 "B" Cask will be preshored, to the greatest extent possible, to accommodate the "Blue Cask" for transport.

The "Blue Cask" will be loaded into the prepared shoring inside the shipping cask, sourced to a transport trailer, and transported to the disposal site for direct disposal.

The GE-500 and the "Blue Cask" shall be transferred to the disposal site in a single shipment.

All labor and expenses, including state/local taxes, are included.

All personnel, equipment and casks provided by SUBCONTRACTOR shall comply with applicable regulatory agency -approved Quality Assurance Programs, licenses and permits.

AMS Responsibilities:

Provide the name and telephone number of one (1) individual responsible for coordination of services between SUBCONTRACTOR and AMS.

Inventory sealed sources.

using in-house handling equipment, assist in loading "Blue Cask" into preshored CNS-8-120 "B" Cask.

Provide physical characteristics, radiological composition, representative exposure rate and contamination levels or other information deemed necessary by AMS and SUBCONTRACTOR to satisfactorily specify and perform services.

Transfer the casks to a pre-determined staging area within the London Road facility.

Provide work space for packaging and shipment certification services, storage of shipping containers, loading/unloading of shipping containers, administrative work area, and personnel hygiene area.

Operate existing in-house material handling equipment for the loading of packaged material into/on the shipping containers/equipment and, as necessary, to support the packaging and shipment certification service.

Provide radiation protection services and health physics coverage.

Provide up to two (2) AMS employees to render assistance, as needed, for this task.

Provide other radiation protection equipment (e.g., protective clothing, survey instruments, portable shielding, etc.) as may be available at the London Road facility or as specified by SUBCONTRACTOR in advance of on-site work.

SUBCONTRACTOR Responsibilities:

Provide the name and telephone number of one (1) individual responsible for coordination of services between SUBCONTRACTOR and AMS.

Provide a schedule for all activities.

Provide a listing of specialty equipment and services that AMS must supply in advance of on-site work.

Provide, in advance of on-site work, a copy of written procedures and work instructions for AMS approval and for AMS use in preparing a Radiation Work Permit.

Obtain all necessary variances for shipment of either cask.

Provide project management for on-site work.

Provide the preshored CNS-B-120 "B" cask, packaging materials, shipping documents, labels, placards and materials/components/procedures in accordance with SUBCONTRACTOR's Quality Assurance Program for packaging and transport of the sealed sources.

Provide exclusive-use transportation of the packaged sources to the disposal site.

Transfer the shipment from the AMS facility to the transport vehicle.

Ensure compliance with all USNRC, DOT, South Carolina and Ohio laws and regulations for loading, shipment and disposal of the materials addressed in this task.

Ensure Barnwell acceptance of the shipment based upon the AMS description of its physical and radiological characteristics.

Provide a receipt of disposal within one week of acceptance of the sources at the disposal site.

Period of Performance

This task shall be completed within 60 days after AMS authorization to proceed is

given.

Task 4 Procedure Development, Permitting and Packaging/Shorting/Banding of
Waste

Task Description: SUBCONTRACTOR shall provide sufficient consultation services prior to shipping to ensure on-site activities are efficient and effective. In addition, SUBCONTRACTOR shall prepare all shipping papers and permit forms pursuant to 10 CFR 61 and all other applicable federal, state and disposal site regulations.

Assumptions:

The waste to be shipped shall be as described in Tasks 5 through 10.

The SUBCONTRACTOR shall utilize this opportunity to identify means of minimizing the number of shipments to the disposal site from AMS, minimizing the total disposal volume (e.g., compaction, supercompaction, incineration) and refining the initial cost estimates shown in Exhibit 2 for Tasks 5 through 10.

The waste to be shipped is the material described in Tasks 5 through 10.

All labor and expenses, including state/local taxes, are included.

All personnel, procedures, equipment and casks provided by SUBCONTRACTOR shall comply with applicable regulatory agency -approved Quality Assurance Programs, licenses and permits.

AMS Responsibilities:

Provide the name and telephone number of one (1) individual responsible for coordination of services between SUBCONTRACTOR and AMS.

Provide access to all locations within the London Road facility as may be necessary for the SUBCONTRACTOR to develop site-specific procedures.

SUBCONTRACTOR Responsibilities:

Provide the name and telephone number of one (1) individual responsible for coordination of services between SUBCONTRACTOR and AMS.

Provide at least 72 hours notice as to when a site visit is desired.

Provide written instructions to AMS in regard to the means by which each form of waste should be prepared and staged.

Provide a variance write-up (change order) for the subcontract between SUBCONTRACTOR and AMS, including a fixed price cost for performing Tasks 5 through 10.

As necessary, participate in communications between AMS and the USNRC.

in regard to licensing issues.

Prepare all applications, permits and other documentation required for shipment of the waste.

Provide written instructions to AMS on the methodology for submission/execution of applications, permits and other documents that are the responsibility of the generator.

Period of Performance:

This task shall be completed within 30 days after AMS authorization to proceed is given.

Define: Dry Waste?

Task 5: Receipt, Packaging, Transport and Disposal of DAW in Shielded Drums

Task Description: SUBCONTRACTOR shall receive, package, transport and dispose of 18 shielded drums (55-gallon) of dry solid waste containing ^{60}Co .

Assumptions:

A total of 18 drums shall be staged for this task.

The weight of each drum is at least 1,000 pounds.

The drums shall be located at 1020 London Road, Cleveland, Ohio, 44110.

The contact exposure rate on the drums may exceed 1,000 mR per hour, with certain drums exhibiting contact exposure rates in excess of 50 R per hour at isolated locations.

The disposal site shall be the Barnwell Low-Level Radioactive Waste Management Facility (South Carolina).

The drums will be inspected, over-packed as necessary, sourced to a transport vehicle and transported to the disposal site for direct disposal.

The drums shall be transferred to the disposal site in a single shipment along with the items listed in Task 6 through 10.

All labor and expenses, including state/local taxes, are included.

All personnel, equipment and casks provided by SUBCONTRACTOR shall comply with applicable regulatory agency-approved Quality Assurance Programs, licenses and permits.

AMS Responsibilities:

Provide the name and telephone number of one (1) individual responsible

for coordination of services between SUBCONTRACTOR and AMS.

Provide physical characteristics, radiological composition, representative exposure rate and contamination levels or other information as deemed necessary by AMS and SUBCONTRACTOR to satisfactorily specify and perform services.

Transfer the drums to a pre-determined staging area within the London Road facility.

Provide work space for packaging and shipment certification services, storage of shipping containers, loading/unloading of shipping containers, administrative work area, and personnel hygiene area.

Operate existing in-house material handling equipment for the loading of drums into/on the shipping containers/equipment and, as necessary, to support the packaging and shipment certification service.

Provide radiation protection services and health physics coverage.

Provide up to two (2) AMS employees to render assistance, as needed, for this task.

Provide other radiation protection equipment (e.g., protective clothing, survey instruments, portable shielding, etc.) as may be available at the London Road facility or as specified by SUBCONTRACTOR in advance of on-site work.

SUBCONTRACTOR Responsibilities:

Provide the name and telephone number of one (1) individual responsible for coordination of services between SUBCONTRACTOR and AMS.

Provide a schedule for all activities.

Provide a listing of specialty equipment and services that AMS must supply in advance of on-site work.

Provide, in advance of on-site work, a copy of written procedures and work instructions for AMS approval and for AMS use in preparing a Radiation work Permit.

Provide project management for on-site work.

Provide an overpack (as necessary), packaging materials, shipping documents, labels, placards and materials/components/procedures in accordance with SUBCONTRACTOR's Quality Assurance Program for packaging and transport of the drums.

Provide transportation of the drums to the disposal site.

Transfer the shipment from the AMS facility to the transport vehicle.

Ensure compliance with all USNRC, DOT, South Carolina and Ohio laws and regulations for loading, shipment and disposal of the materials addressed in this task.

Ensure Barnwell acceptance of the shipment based upon the AMS description of its physical and radiological characteristics.

Provide a receipt of disposal within one week of acceptance of the waste at the disposal site.

Period of Performance:

This task shall be completed within 60 days after AMS authorization to proceed is given.

Task 6: Receipt, Packaging, Transport and Disposal of Drummed DAW

Task Description: SUBCONTRACTOR shall receive, package, transport and dispose of 113 cubic feet of dry solid waste containing ^{60}Co , packaged in 55-gallon drums.

Assumptions:

A total of 15 drums shall be staged for this task.

The drums shall be located at 1020 London Road, Cleveland, Ohio, 44110.

The contact exposure rate on the drums does not exceed 1,000 mR per hour.

The disposal site shall be the Barnwell Low-Level Radioactive Waste Management Facility (South Carolina).

The drums will be inspected, sourced to a transport vehicle and transported to the consolidation facility, compacted (5-to-1), and packaged for direct disposal.

The waste is assumed to result in "not greater than Class A waste" following compaction.

The drums shall be transferred to the disposal site in a single shipment along with the items listed in Task 5 and 7 through 10.

All labor and expenses, including state/local taxes, are included.

All personnel, equipment and casks provided by SUBCONTRACTOR shall comply with applicable regulatory agency-approved Quality Assurance Programs, licenses and permits.

Seems like the distinction between the waste covered by Tasks 5 & 6 should be more clearly stated for the benefit of the NRC. Presumably the contractor knew the distinction.

AMS Responsibilities:

Provide the name and telephone number of one (1) individual responsible for coordination of services between SUBCONTRACTOR and AMS.

Provide physical characteristics, radiological composition, representative exposure rate and contamination levels or other information as deemed necessary by AMS and SUBCONTRACTOR to satisfactorily specify and perform services.

Transfer the drums to a pre-determined staging area within the London Road facility.

Provide work space for packaging and shipment certification services, storage of shipping containers, loading/unloading of shipping containers, administrative work area, and personnel hygiene area.

Operate existing in-house material handling equipment for the loading of drums and, as necessary, to support the shipment certification service.

Provide radiation protection services and health physics coverage.

Provide up to two (2) AMS employees to render assistance, as needed, for this task.

Provide other radiation protection equipment (e.g., protective clothing, survey instruments, portable shielding, etc.) as may be available at the London Road facility or as specified by SUBCONTRACTOR in advance of on-site work.

SUBCONTRACTOR Responsibilities:

Provide the name and telephone number of one (1) individual responsible for coordination of services between SUBCONTRACTOR and AMS.

Provide a schedule for all activities.

Provide a listing of specialty equipment and services that AMS must supply in advance of on-site work.

Provide, in advance of on-site work, a copy of written procedures and work instructions for AMS approval and for AMS use in preparing a Radiation Work Permit.

Provide project management for on-site work.

Provide an overpack (as necessary), packaging materials, shipping documents, labels, placards and materials/components/procedures in accordance with SUBCONTRACTOR's Quality Assurance Program for packaging and transport of the drums.

Provide transportation of the drums to the disposal site.

Transfer the shipment from the AMS facility to the transport vehicle.

Ensure compliance with all USNRC, DOT, South Carolina and Ohio laws and regulations for loading, shipment and disposal of the materials addressed in this task.

Ensure Barnwell acceptance of the shipment based upon the AMS description of its physical and radiological characteristics.

Compact the contents of the drums by a factor of at least five (5) for disposal.

Provide a receipt of disposal within one week of acceptance of the waste at the disposal site.

Period of Performance:

This task shall be completed within 60 days after AMS authorization to proceed is given.

Task 7: Receipt, Packaging, Transport and Disposal of Ion Exchange Resins/Charcoal Media

Task Description: SUBCONTRACTOR shall receive, package, transport and dispose of 450 cubic feet of ion exchange resin containing 60Co, packaged in 55-gallon drums.

Assumptions:

A total of 60 drums shall be staged for this task.

The drums shall be located at 1020 London Road, Cleveland, Ohio, 44110.

The liquid content of each drum is less than 0.5% by volume, each drum is at least 85% full, and each drum is acceptable for transport in accordance with applicable regulations.

The contact exposure rate on the drums does not exceed 1,000 mR per hour.

The disposal site shall be the Barnwell Low-Level Radioactive Waste Management Facility (South Carolina).

The drums will be inspected, sourced to a transport vehicle and transported to the disposal site for direct disposal.

The drums shall be transferred to the disposal site in a single shipment along with the items listed in Task 5, 6 and 8 through 10.

All labor and expenses, including state/local taxes, are included.

All personnel, equipment and casks provided by SUBCONTRACTOR shall comply with applicable regulatory agency -approved Quality Assurance Programs, licenses and permits.

AMS Responsibilities:

Provide the name and telephone number of one (1) individual responsible for coordination of services between SUBCONTRACTOR and AMS.

Provide physical characteristics, radiological composition, representative exposure rate and contamination levels or other information as deemed necessary by AMS and SUBCONTRACTOR to satisfactorily specify and perform services.

De-water and transfer the drums to a pre-determined staging area within the London Road facility.

Provide work space for packaging and shipment certification services, storage of shipping containers, loading/unloading of shipping containers, administrative work area, and personnel hygiene area.

Operate existing in-house material handling equipment for the loading of drums and, as necessary, to support the shipment certification service.

Provide radiation protection services and health physics coverage.

Provide up to two (2) AMS employees to render assistance, as needed, for this task.

Provide other radiation protection equipment (e.g., protective clothing, survey instruments, portable shielding, etc.) as may be available at the London Road facility or as specified by SUBCONTRACTOR in advance of on-site work.

SUBCONTRACTOR Responsibilities:

Provide the name and telephone number of one (1) individual responsible for coordination of services between SUBCONTRACTOR and AMS.

Provide a schedule for all activities.

Provide a listing of specialty equipment and services that AMS must supply in advance of on-site work.

Provide, in advance of on-site work, a copy of written procedures and work instructions for AMS approval and for AMS use in preparing a

Radiation Work Permit.

Provide project management for on-site work.

Provide packaging materials (as necessary), shipping documents, labels, placards and materials/components/procedures in accordance with SUBCONTRACTOR's Quality Assurance Program for packaging and transport of the drums.

Provide transportation of the drums to the disposal site.

Transfer the shipment from the AMS facility to the transport vehicle.

Ensure compliance with all USNRC, DOT, South Carolina and Ohio laws and regulations for loading, shipment and disposal of the materials addressed in this task.

Ensure Barnwell acceptance of the shipment based upon the AMS description of its physical and radiological characteristics.

Provide a receipt of disposal within one week of acceptance of the waste at the disposal site.

Period of Performance

This task shall be completed within 60 days after AMS authorization to proceed is given.

Task 8 Receipt, Packaging, Transport and Disposal of HEPA Filters

Task Description SUBCONTRACTOR shall receive, package, transport and dispose of 30 unpackaged HEPA filters contaminated with 60Co.

Assumptions

A total of 30 HEPA filters (1ft x 2 ft x 2 ft) shall be staged for this task.

The filters shall be located at 1020 London Road, Cleveland, Ohio, 44110.

The contact exposure rate on the filters may be in excess of three (3) R per hour.

The disposal site shall be the Barnwell Low-Level Radioactive Waste Management Facility (South Carolina).

The filters will be inspected, overpacked, sourced to a transport vehicle, transported to the consolidation facility, compacted (2-to-1), and packaged for direct disposal.

The waste is assumed to result in "not greater than Class A waste" following compaction.

The filters shall be transferred to the disposal site in a single shipment along with the items listed in Task 5 through 7, 9 and 10.

All labor and expenses, including state/local taxes, are included.

All personnel, equipment and casks provided by SUBCONTRACTOR shall comply with applicable regulatory agency -approved Quality Assurance Programs, licenses and permits.

AMS Responsibilities:

Provide the name and telephone number of one (1) individual responsible for coordination of services between SUBCONTRACTOR and AMS.

Provide physical characteristics, radiological composition, representative exposure rate and contamination levels or other information as deemed necessary by AMS and SUBCONTRACTOR to satisfactorily specify and perform services.

Transfer the filters to a pre-determined staging area within the London Road facility.

Provide work space for packaging and shipment certification services, storage of shipping containers, loading/unloading of shipping containers, administrative work area, and personnel hygiene area.

Operate existing in-house material handling equipment for the loading of filters and, as necessary, to support the shipment certification service.

Provide radiation protection services and health physics coverage.

Provide up to two (2) AMS employees to render assistance, as needed, for this task.

Provide other radiation protection equipment (e.g., protective clothing, survey instruments, portable shielding, etc.) as may be available at the London Road facility or as specified by SUBCONTRACTOR in advance of on-site work.

SUBCONTRACTOR Responsibilities:

Provide the name and telephone number of one (1) individual responsible for coordination of services between SUBCONTRACTOR and AMS.

Provide a schedule for all activities.

Provide a listing of specialty equipment and services that AMS must

supply in advance of on-site work.

Provide, in advance of on-site work, a copy of written procedures and work instructions for AMS approval and for AMS use in preparing a Radiation Work Permit.

Provide project management for on-site work.

~~Provide an overpack, packaging materials,~~ shipping documents, labels, placards and materials/components/procedures in accordance with SUBCONTRACTOR's Quality Assurance Program for packaging and transport of the filters.

Provide transportation of the filters to the disposal site.

Transfer the shipment from the AMS facility to the transport vehicle.

Ensure compliance with all USNRC, DOT, South Carolina and Ohio laws and regulations for loading, shipment and disposal of the materials addressed in this task.

Ensure Barnwell acceptance of the shipment based upon the AMS description of its physical and radiological characteristics.

Compact the filters by a factor of at least two (2) for disposal.

Provide a receipt of disposal within one week of acceptance of the waste at the disposal site.

Period of Performance:

This task shall be completed within 60 days after AMS authorization to proceed is given.

Task 9: Receipt, Packaging, Transport and Disposal of Boxed DAW

Task Description: SUBCONTRACTOR shall receive, package, transport and dispose of 1.150 cubic feet of dry solid (paper) waste containing ^{60}Co , packaged in 10 B-25 boxes and three (3) B-12 boxes.

Assumptions:

A total of 13 boxes shall be staged for this task.

The boxes shall be located at 1020 London Road, Cleveland, Ohio, 44110.

The contact exposure rate on the boxes does not exceed 1.000 mR per hour.

The disposal site shall be the Barnwell Low-Level Radioactive Waste Management Facility (South Carolina).

The boxes will be inspected, sourced to a transport vehicle, transported to the consolidation facility, compacted (5-to-1), and packaged for direct disposal.

The waste is assumed to result in "not greater than Class A waste" following compaction.

The boxes shall be transferred to the disposal site in a single shipment along with the items listed in Task 5 through 8, and 10.

All labor and expenses, including state/local taxes, are included.

All personnel, equipment and casks provided by SUBCONTRACTOR shall comply with applicable regulatory agency -approved Quality Assurance Programs, licenses and permits.

AMS Responsibilities:

Provide the name and telephone number of one (1) individual responsible for coordination of services between SUBCONTRACTOR and AMS.

Provide physical characteristics, radiological composition, representative exposure rate and contamination levels or other information as deemed necessary by AMS and SUBCONTRACTOR to satisfactorily specify and perform services.

Transfer the boxes to a pre-determined staging area within the London Road facility.

Provide work space for packaging and shipment certification services, storage of shipping containers, loading/unloading of shipping containers, administrative work area, and personnel hygiene area.

Operate existing in-house material handling equipment for the loading of boxes and, as necessary, to support the shipment certification service.

Provide radiation protection services and health physics coverage.

Provide up to two (2) AMS employees to render assistance, as needed, for this task.

Provide other radiation protection equipment (e.g., protective clothing, survey instruments, portable shielding, etc.) as may be available at the London Road facility or as specified by SUBCONTRACTOR in advance of on-site work.

SUBCONTRACTOR Responsibilities:

Provide the name and telephone number of one (1) individual responsible

for coordination of services between SUBCONTRACTOR and AMS

Provide a schedule for all activities.

Provide a listing of specialty equipment and services that AMS must supply in advance of on-site work.

Provide, in advance of on-site work, a copy of written procedures and work instructions for AMS approval and for AMS use in preparing a Radiation Work Permit.

Provide project management for on-site work.

Provide packaging materials (as necessary), shipping documents, labels, placards and materials/components/procedures in accordance with SUBCONTRACTOR's Quality Assurance Program for packaging and transport of the boxes.

Provide transportation of the boxes to the disposal site.

Transfer the shipment from the AMS facility to the transport vehicle.

Ensure compliance with all USNRC, DOT, South Carolina and Ohio laws and regulations for loading, shipment and disposal of the materials addressed in this task.

Ensure Barnwell acceptance of the shipment based upon the AMS description of its physical and radiological characteristics.

Compact the contents of the boxes by a factor of at least five (5) for disposal.

Provide a receipt of disposal within one week of acceptance of the waste at the disposal site.

Period of Performance:

This task shall be completed within 60 days after AMS authorization to proceed is given.

Task 10: Receipt, Packaging, Transport and Disposal of Water Treatment Vessels

Task Description: SUBCONTRACTOR shall receive, package, transport and dispose of two water treatment vessels that are internally contaminated with ^{60}Co .

Assumptions:

A total of two (2) vessels shall be packaged and staged for this task.

The vessels are constructed of stainless steel with nominal cylindrical

dimensions of two (2) feet by four (4) feet (e.g., a volume of approximately 18 ft³ per vessel).

The vessels shall be located at 1020 London Road, Cleveland, Ohio, 44110.

The contact exposure rate on the vessels is less than 40 mR per hour.

The disposal site shall be the Barnwell Low-Level Radioactive Waste Management Facility (South Carolina).

The packaged vessels will be inspected, sourced to a transport vehicle, and transported for disposal.

The waste is assumed to result in "not greater than Class A waste" following compaction.

~~Would steel
vessels be
actually be
compact?~~
Yes, see
next page

The vessels shall be transferred to the disposal site in a single shipment along with the items listed in Task 5 through 9.

All labor and expenses, including state/local taxes, are included.

All personnel, equipment and casks provided by SUBCONTRACTOR shall comply with applicable regulatory agency-approved Quality Assurance Programs, licenses and permits.

AMS Responsibilities:

Provide the name and telephone number of one (1) individual responsible for coordination of services between SUBCONTRACTOR and AMS.

Provide physical characteristics, radiological composition, representative exposure rate and contamination levels or other information as deemed necessary by AMS and SUBCONTRACTOR to satisfactorily specify and perform services.

Transfer the vessels to a pre-determined staging area within the London Road facility.

Provide work space for packaging and shipment certification services, storage of shipping containers, loading/unloading of shipping containers, administrative work area, and personnel hygiene area.

Operate existing in-house material handling equipment for the loading of vessels and, as necessary, to support the shipment certification service.

Provide radiation protection services and health physics coverage.

Provide up to two (2) AMS employees to render assistance, as needed, if

or this task.

Provide other radiation protection equipment (e.g., protective clothing, survey instruments, portable shielding, etc.) as may be available at the London Road facility or as specified by SUBCONTRACTOR in advance of on-site work.

SUBCONTRACTOR Responsibilities:

Provide the name and telephone number of one (1) individual responsible for coordination of services between SUBCONTRACTOR and AMS.

Provide a schedule for all activities.

Provide a listing of specialty equipment and services that AMS must supply in advance of on-site work.

Provide, in advance of on-site work, a copy of written procedures and work instructions for AMS approval and for AMS use in preparing a Radiation Work Permit.

Provide project management for on-site work.

Provide packaging materials, shipping documents, labels, placards and materials/components/procedures in accordance with SUBCONTRACTOR's Quality Assurance Program for packaging and transport of the vessels.

Provide transportation of the vessels to the disposal site.

Transfer the shipment from the AMS facility to the transport vehicle.

Ensure compliance with all USNRC, DOT, South Carolina and Ohio laws and regulations for loading, shipment and disposal of the materials addressed in this task.

Ensure Barnwell acceptance of the shipment based upon the AMS description of its physical and radiological characteristics.

Compact the vessels by a factor of at least two (2) for disposal.

Provide a receipt of disposal within one-week of acceptance of the waste at the disposal site.

Period of Performance:

This task shall be completed within 60 days after AMS authorization to proceed is given.

Date: 10/15/96

AMS' "Strategic Plan for the London Road Facility" ("Plan")

As part of license compliance efforts, AMS is faced with numerous tasks ranging from very involved (license renewal application, underground drainage remediation, etc.), to routine surveys and reports. Due to limited personnel assets and financial resources, the tasks are prioritized and scheduled accordingly to effect the maximum cost/benefits in a timely and efficient manner. This Plan is AMS' outline to accomplish this, and updates have been submitted quarterly.

The following Plans and revisions have been issued:

Initial Plan	October 11, 1995
Revision 1	January 15, 1996
Revision 2	April 11, 1996
Revision 3	July 10, 1996

The Plan divides the actions into high, intermediate, lower priority and on-going actions. (High priority has action planned in the next 12 months; intermediate priority has 1 - 3 years planning; low priority has 3 - 5 years planning) The following information is the update as of the lasted revision listed above:

High Priority Actions

Complete the Remediation Report

This action included remediating the large amounts of water that infiltrated into the basement of the facility when the lateral was plugged by NEORSD, remove the Co-60 from that water, remediate the foundation drains, isolate the manhole and lateral, and remediate the NEORSD interceptor.

The Co-60 has been removed from the water from the basement, which is being stored in four 25,000 gallon bladders; the 100,000 gallons has about 40 microcuries (calculated), which gives around 100 picocuries per liter, less than the EPA drinking water standard for Co-60. Disposition of this water has not been determined.

In the remediation of the foundation drains, which were replaced, there was contaminated soil that was isolated, piled in an lined wooden structure that still needs final dispcsion, but is part of the surveillance plan. The surveillance plan for residual activity outside the AMS building around the abandon foundation drains and lateral connector has been deferred, as per license amendment 43.

The disposition of the water in the WHUT room is still undetermined. AMS is investigating a stabilizing material called STERGO™, which is a cross-linked polymer that absorbs and retains large amounts of water. AMS IS WAITING FOR NRC TO

10/3/98

RESPOND TO TASK 3 OF THEIR "BUILDING RECOVERY PROJECT", A PROPOSAL TO STABILIZE THE RADIOLOGICAL CONDITION IN THE BASEMENT AND WHUT ROOM TO REDUCE IMPACT OF WATER INCURSION.

"..., for reasons that are beyond AMS' control, remediation of the London Road Interceptor may be delayed significantly."

License Renewal Application

Initial renewal application in early 1995 was determined to be cumbersome and unmanageable; a significantly revised application was submitted on 10/30/95.

After a deficiency letter was sent by NRC on 12/5/95, AMS responded with copies of requested procedures on 1/3/96, 2/13/96, and 3/8/96. AMS HAS RECEIVED NO ADDITIONAL RESPONSE FROM THE NRC RE THESE UPDATES.

Emergency Plan

Initial EP was submitted with renewal application. Because of extensive problems, a revised EP was resubmitted on 8/22/95, consistent with Reg Guide 3.67. NRC sent comments on 2/28/96; AMS response were forwarded 3/22/96, along with comments to first responders. On 3/12/96, AMS received a report on the structural integrity inspection; responses to items pertinent to the EP was submitted to NRC on 6/7/96. Latest comments from RIII to AMS dated 6/16/96; latest response from AMS dated 8/14/96. Possibility of revisiting the EP post disposal of bulk and sealed Co-60 (about 45,000 curies)

Decommissioning Funding Plan

Initial DFP submitted with the renewal. Initial cost estimates were low for decontamination. AMS then submitted a Conceptual Decommissioning Funding Plan that was based on SAFSTOR. In January 8, 1996, NRC accepts a decommissioning financial assurance based on January 1995 cost estimates. In June, 1996, AMS submits a "Building Recovery Project, that proposes a large reduction in inventory, and a reduction in the letter of credit to do this inventory lowering. This credit reduction is submitted as an amendment and approved by the NRC in license amendment 44.

Train First Responders in Emergency Plan Provisions

Within 60 days of the approval of the emergency plan.

Stage emergency Exercise in Emergency Plan Provisions

Within 60 days of after training of the first responders.

Intermediate Priority Actions

Recover Hot Cell Capabilities

Cross contamination was a concern because of the levels of contamination in the hot cell. After an evaluation, improved lighting and a source transfer mechanism was all that was needed to make the cell operational by the end of 1995.

Return NPI Sources

In July 1996, there were 34 sealed sources (? activity) at AMS that belonged to NPI. As sources are bought from NPI to delivery to an AMS client, AMS sends a shipping container to NPI, now with a source in it for return to NPI. NPI will allow only one source per shipment.

Identify a Market for Remaining Sources and Bulk Material

Originally attempting to sell or give source to any market that AMS could find. This has been abandoned, and AMS is disposing of the bulk and sealed sources at Barnwell via Chem-Nuclear as broker; a contract is in place, and AMS is awaiting the approval of the safety procedures. This is part of the Building Recovery Project, is begin addressed now, and should be under the high priority.

Lower Priority Action

Removal of Plug in the Hot Cell

About 4,000 curies of sealed Co-60 are located in a storage well in the hot cell, but the hot cell plug is stuck, precluding a physical inventory. A contract for removal of the plug has been let(?). Once decision (?) made and permits approved, the project will begin.

Decontamination of Hot Cell

AMS plans to decontaminate the Hot Cell to levels necessary to support planned future operations.

Complete/Confirm the Physical Inventory and Transfer/Ship Remaining Sources

To be done after plug is removed from well. Intends to ask for an amendment to condition 14.c., requesting an exemption from physical inventory until after plug removed. (at the moment, they are in violation of their license condition)

Disposition of Solid Waste at the Facility

About 3,000 cubic feet (400 fifty-five gallon drums) exist and stored at AMS. Looking

at disposal at same time as the bulk and sealed Co-60. AMS waiting for NRC procedure approval and is attempting negotiations with different brokers for disposal. This is addressed in the Building Recovery Project, being addressed now, and should be under high priority.

Disposition of Treated Water in Collapsible Storage Tank

Water from the basement flood was treated using sub-micron filtration and reverse osmosis to reduce cobalt-60 to below drinking water levels; presently 100,000 gallons of treated water are being stored in storage tanks. AMS has EPA approval to evaporate, but that has become too expensive for 100,000 gallons. Not a radiological hazard; they are pursuing other options for disposal.

On-Going Actions

Audit/Assessment of Radiation Protection Program

AMS intends to perform a series of audits of its radiation protection program to compare it with the standards that are out there. There is a litany of topics to be considered listed in the Plan. "Immediately after renewal..., the Radiation Safety Committee will set the audit schedule."

Upgrade of Standard Operating Procedures

Nineteen Radiation Safety Procedures (RSP) are listed in the document, to be implemented upon license approval.

Housekeeping Improvements

Includes waste consolidation, equipment decontamination, and facility surveys. Expanded information in the Building Recovery Project.

Community Relations

Purpose is to acquaint various officials and members of the print and broadcast media to what AMS does.

Reconnection of Sewer System to London Road Interceptor

AMS is not connected to a sanitary sewer system. There is no sanitary discharge from the facility, but groundwater accumulates in the manhole and is pumped to tanks, analyzed before discharge to the environment (the water flows across a parking lot, to a storm sewer catch basin). AMS is attempting to characterize, and to remediate the interceptor line, eventually to connect back to the sewer system. AMS has also requested authorization to discharge from manhole directly to catch

basin, and not collect and analyze, because the collected water has all proven to be free of insoluble Co-60 in the past. AMS will still need the court to rescind their order not to discharge directly.

Date: 10/16/96

Subj: Building Recover Project

Task 1, Disposal of Sealed and Bulk Co-60 at Commercial Low-Level Waste Burial Site. Task describes the proposal to contract a broker to dispose of the 44,000 curies at Barnwell. The major impact of this proposal effects the Letter of Credit of the Decommissioning Financial Assurance for the DFP. AMS wishes to use some of the money tied up in the Letter of Credit to dispose of the Co-60, and this would need NRC approval. NRC has approved this money adjustment in Amendment 44. The safety procedures have been approved and RIII is about to give the go ahead for Chem-Nuclear to proceed with the disposal shipment.

Task 2, Disposal of the Dry Solid Waste Stored at the Facility. This task is in conjunction with Task 1, with the same monetary provision. At present, AMS is still trying to negotiate with another waste broker besides Chem-Nuclear to procure a best price for the disposal. There is about 3,000 cubic feet of dry solid waste to be disposed (400 fifty-five gallon drums).

Task 3, Radiological Stabilization of the Basement. The task is the decontamination of the basement area for unrestricted release of the basement, outside of the Waste Hold Up Tank (WHUT) room, and the stabilization of the radioactive material in the WHUT room, to ensure that liquids do not enter or exit the room for the duration of the safe storage period. It is recommended that this task be pursued (decontamination of basement and stabilizing material in WHUT room); however, the evaluation of the feasibility of decontaminating and decommissioning the WHUT room should be made by AMS.

Task 4, Hydrological Stabilization of the Basement. This task addresses the issue of water collecting in the underground drains and flowing to the new manhole which is presently isolated from the area sewer system. AMS presently collects this water in hold-up tanks, analyses the water for cobalt-60, then discharges it to a catch basin if the analysis shows no cobalt-60 content. There is presently a separate request from AMS, dated June 25, 1996, requesting authorization to discharge directly from the manhole to the catch basin with no hold-up for analysis, and sampling the water once a week from the manhole instead, to verify that the water from the underground drain is not contaminated from the soil surrounding the underground drain. This issue is being addressed in a separate TAR, expected to be completed by early September.

Task 5, Modifying Conceptual Decommissioning Plan and Decommissioning Funding Plan. This task discusses the resubmittal of the Conceptual Decommissioning Plan and a subsequent Decommissioning Funding Plan in light of the decrease in inventory and the unrestricted release of parts of the London Road facility. Pursuant to the completion of disposal of the 40,000 curies or so of bulk and sealed cobalt-60 sources, and of the low-level waste generated from decontamination of the facility, the estimates of cost for decommissioning of the facility should be readdressed. However, in all the correspondence to date, AMS has emphasized and requested approval for SAFSTOR methodology for its cost estimates; all correspondence from Headquarters addressing this issue have indicated why SAFSTOR would not be an option, and that the Generic

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Environmental Impact Statement (GEIS), NUREG-0586, intends SAFSTOR to be an allowed use of a safe storage for a few days to a few months for material licensees. This continues to be our position. In addition, in a letter from Kevin Null to David Cesar dated August 5, 1996, condition number 24 was added to AMS' license to require that AMS submit to NRC for review a revised Conceptual Decommissioning Plan (CDP) and cost estimate not later than August 30, 1996, and, assuming NRC approval of the CDP, a revised Decommissioning Funding Plan that will contain a description of a new decommissioning financial instrument not later than September 15, 1996. NRC will review this new plan upon its arrival.

Task 6, Free Release Remainder of Building. This task discusses the characterization and remediation of the London Road facility, similar to Task 3 but referring to decommissioning the areas outside of the basement. After decontamination, surveys pursuant to NUREG-5849, "Manual for Conducting Radiological Surveys in Support of License Termination," will be performed by AMS, submitted to the NRC, with a request for confirmatory surveys for all but the WHUT room, Hot Cell, and the ventilation room. This task is approved.

Task 7, Request Exemption from Physical Inventory. This task discusses AMS intention to request an exemption from the inventory license condition and discusses the reasons for this request. Because the plug to the storage well has become lodged, physical inventory of the sources in the well is not possible. A license condition (14.c.) requires that an inventory be performed by June 1, 1993, and every 60 months thereafter. At present, the licensee is in violation of that condition, as noted in a letter to AMS dated August 13, 1993, although attempts have been made to remove the plug. Review and determination by the NRC will be made with the information that is provided when the exemption request is submitted. In the meantime, the determination of what should be in the well should be established from past inventories. There is a large variation in the quantity of material that AMS has estimated to be present in the well, depending on which piece of correspondence is read (June 10, 1996 BRP letter indicates approximately 3000 curies of cobalt-60, while July 10, 1996, Revision 3 of Strategic Plan estimates 4000 curies of cobalt-60).

Task 8, Request Exemption from Emergency Plan Requirements. This task discusses the requirement for an Emergency Plan in accordance with 10 CFR 30.32 in light of the large possession limit authorized in the license. After completion of Tasks 1 and 2 of the BRP, license quantity limit requirements should be significantly reduced, from maximum amounts of 150,000 curies of solid metal and 135,000 curies of sealed cobalt-60 in AMS' present license, to a maximum of 10,000 curies, including the cobalt-60 in the plug well. AMS also indicates that the cobalt-60 will be sealed, non-dispersible material. After disposition of all disposable material, AMS should first submit an amendment to modify the possession limit on the license (see task 10), and, after receiving a lower possession limit, submit either an Emergency Plan in accordance with 10 CFR 31.32, using Regulatory Guide 3.67, "Standard Format and Content for Emergency Plans of Fuel Cycle and Material Facilities," and NUREG-1140, "A Regulatory Analysis on Emergency Preparedness for Fuel Cycle and Other Radioactive Material Licensees," as guidance, or, in accordance with Title 10 CFR 30.32(i)(1), an evaluation that indicates that a dose of 1 rem effective dose equivalent or 5 rem to thyroid could not be delivered to a member offsite (which AMS indicates it could show).

Task 9, Request Extension of Safe Storage Period for WHUT Room. This task describes the desire of the licensee to continue the WHUT room in a storage capacity based on personnel exposure and waste volume considerations. Revisiting the WHUT room evaluation of whether to continue existing storage of the room, or decontaminate, should be performed at least as often as a license renewal, taking into consideration As Low As Reasonably Achievable analyses. AMS should be reminded that the longer the storage of the WHUT room, the longer its remediation will need to be considered in the estimation of decommissioning costs, and the higher the cost of the decommissioning funding instrument, coupled with the rising cost of waste disposal and inflation. Consideration of continued storage will be based on the information provided in AMS' request for storage extension.

Task 10, Request Reduction in License Limit. This task will request a reduction in the licensed maximum possession limit of radioactive material. As indicated in the Task 8 discussion, this should be accomplished by AMS as soon as possible after Tasks 1 and 2 are completed. The decommissioning funding plan is based on the quantity of material the licensee is authorized to possess, and therefore, the funding plan complexity and liability coverage might be reduced by a reduction of the possession limit. Although the "quantity" criteria for having to consider an emergency plan is still exceeded, the development and analysis of the plan, and the demonstration of the potential of exposing an offsite individual to less than 1 rem effective dose equivalent would be easier to complete.

Task 11, Submit Long-Range Strategic Plan. This task discusses AMS' on-going plan to issue subsequent revisions to its Strategic Plan. AMS submitted its latest revision dated July 10, 1996. AMS should continue to submit the plan since it provides information on progress made by AMS to resolve identified issues.

Task 12, Perform Routine Operations and Meet Regulatory Commitments. This task discusses AMS' intention to track outstanding regulatory and compliance issues along with the above 11 tasks. Although this task does not generate a deliverable item except the task list of the BRP, the NRC can review this present list in the future to monitor progress of activities at AMS.