



DEFENSE LOGISTICS AGENCY
DEFENSE NATIONAL STOCKPILE CENTER
8725 JOHN J. KINGMAN ROAD, SUITE 3229
FT. BELVOIR, VIRGINIA 22060-6223

IN REPLY
REFER TO

DNSC-E

APR 26 2006

US Nuclear Regulatory Commission
Region I, Nuclear Materials Safety Branch
Division of Nuclear Material Safety
ATTN: Elizabeth Ullrich , 610-337-5040
475 Allendale Road
King of Prussia, PA 19406-1415

MS 16
J-6

2006 MAY - 1 PM 1: 18

RECEIVED
REGION 1

Re: License STC-133, Docket No. 04000341, Control No. 137882

SUBJECT: Defense Logistics Agency, Request for Additional Information Concerning
Application for Amendment to License

Dear Ms. Ullrich:

This is in reference to your letter dated April 10, 2006 requesting additional information to continue your review of our application for amendment to NRC License No. STC-133

Attachment 1 provides the requested additional information and is formatted to state the RAI Number, the quote of the RAI, and the Defense National Stockpile Center (DNSC) response. Attachment 2 is a copy of a Memorandum from DNSC's Chief Facilities Management Division noting the future use as indicated by GSA of DNSC depots listed on NRC License STC-133. Attachment 3 is a topographic map in support of RAI Number 2(b). Attachment 4 contains a portion of the Radiation Work Permit procedure. Attachment 5 consists of material analysis reports in support of RAI Number 4.

Should you have any questions regarding this letter, please contact me or Mr. Michael Pecullan of our office. You may also call Mr. Claude Wiblin, CHP, at (410) 923-4653 who is a representative of our contracted decommissioning firm, Chesapeake Nuclear Services, Inc.

Sincerely,

F. KEVIN REILLY
Director, Directorate of Environmental
Management and Safety

Attachments

Federal Recycling Program



Printed on Recycled Paper

137882

NMSS/ROSI MATERIALS-002

**DLA RESPONSE TO NRC RAI
ATTACHMENT 1**

RAI # 1: The license amendment uses the default screening scenario (an adult in a light industrial activity) because, according to page A-1 of the amendment, "the result of a screening group review is consistent with the DandD building occupancy scenario." No additional information is provided on the screening group review. NUREG-1757, Volume 2, Appendix I.6.3.6 states that "(s)cenarios and critical group assumptions should be revisited, and justified, to explore at age-based considerations." (sic) Child (approximately 5 years old) dose factors for the radionuclides involved in this license amendment vary between 3 and 10 times the adult dose conversion factors. DLA states that the assumptions from DandD meet their situation including the assumption that the building will be commercially used after decommissioning. However, DLA does not justify why only adults will be present or how the building is inappropriate to be the site of a childcare center.

Please provide additional justification on the age-based scenario selected for the DCGLs. This could include information on the buildings or comparable analysis to show that adult DCGLs bound the exposure for other age-specific scenarios.

Response to RAI # 1:

Upon release by DLA to the General Services Administration (GSA), the buildings will be managed by the GSA for use and disposition. GSA has indicated to DNS Facility Management that the sites will through deed restriction remain industrial areas (see Attachment 2 for Memorandum from DLA's Chief Facilities Management Division). The following information is provided as discussion of potential possibilities including non-industrial.

- The Somerville site is zoned ED (Economic Development) which includes a variety of uses; however, due to the railroads being in the close proximity of the warehouses, the Township of Hillsborough expects the facility to remain a distribution point for local goods coming in by rail. The history of the Somerville site for previously released buildings include those currently used for light industrial purposes and a U.S. Postal Service warehouse distribution center.

Renovation of an industrial site with existing on-site railroads and a history of storage of various ores, metals and minerals into a childcare center or other common use facility would necessitate various facility upgrades and improvements that would, in effect, further limit or prevent any exposures from residual activity. NJ's regulations contained in Chapter 122 - Manual of Requirements for Child Care Centers make the Somerville site particularly inappropriate for a child care center as they state: "A center shall not be located near or adjacent to areas determined by the Bureau to be hazardous to the physical health and safety of the children." It further states that the Bureau may require a center in a co-located, multi-use building to "... meet any other physical plant, staffing, program or other operational requirements that are deemed necessary to protect the children from serious risk of harm stemming from the co-location."

- Although the Binghamton Depot has a Binghamton mailing address, it is actually in the Town of Fenton which controls the zoning. The Binghamton site is currently zoned Residential "B".
 - The site is an established warehouse distribution center with NYS&W railroad tracks on the northern side and Conrail railroad tracks on the southern side.
 - In 2005, the Town Board sought non-binding input by resident owners for its Comprehensive Plan which included the Depot. The survey provided eight development options for the property: 59% wanted 'Senior Housing', 50% selected 'Parks, open space, walking trails', ~4% wrote in that the site should be used by the Chenango Valley School District, and 60% did not want the Depot used as an industrial Park. Renovation of an industrial site with a history of storage of various ores, metals and minerals into a childcare center was apparently not a popular topic of discussion.
 - No buildings have been released at the Binghamton site but certain areas were used for warehouse functions for a local high school; this service is not expected to continue.
 - In a discussion with our consultant, Chesapeake Nuclear (ChesNuc), a representative of the Broome County Industrial Development Agency indicated that due to the history of the site (storage of ores, metals and minerals) it is improbable that a childcare center would be permitted there.

There is no compelling evidence to indicate that the building function will change; GSA has indicated that it will remain an industrial area for the foreseeable future. The data presented above does indicate that the typical worker in the reasonable and foreseeable future should be what is it today – a materials mover. Data to demonstrate that adult male workers are the largest fraction of this work group is found on the 2005 Bureau of Labor Statistics Current Population survey, a survey of households, for workers at least 16 years of age. In particular, 'laborers and freight, stock, and material movers' consisted of 1,806,000 individuals of which 17.3% were women indicating that 82.7% were men. This data may be viewed at <ftp://ftp.bls.gov/pub/special.requests/lf/aat11.txt>.

As indicated in the RAI, the child dose factors would be very important if a warehouse were converted into a childcare center and if the building were used "as is". As stated, child dose factors for the radionuclides involved in this license amendment vary between 3 and 10 times the adult dose conversion factors. This magnitude of increase is true for FGR Report 11 dose factors; however, the updated dosimetric modeling of FGR Report 13 dose factors is used for the evaluation and the increase varies between 1.5 to 2.1 for the key inhalation exposure radionuclides (Th-232, Th-228, U-238, and U-234). It also fails to recognize that the child inhalation rate is only 71% that of an adult (i.e., 1.4 m³ per hour for adult light industrial versus 1.0 m³ per hour for child light activity (EPA 1997 Exposure Factors Handbook). Furthermore, use "as is" will never occur as the childcare center industry is a highly regulated one with NY regulations requiring that floors be painted, etc. Both States involved, NY and NJ, have extensive permitting requirements for childcare centers. If a building were ever permitted to become a childcare center,

which is not the projected use by GSA, the interior physical attributes of the building would not be what they are today as major renovation is required.

These buildings were constructed to be simple warehouses having railroad distribution capability and truck access. They have no heating, no insulation, and limited plumbing. They have virtually no windows, little electricity distribution, and the primary access is through roll-up doors. Any reuse of the buildings at either site for a different function other than warehousing would require substantial renovation which would cover residual contamination (if any) and renovation would include insulation, floor and wall coverings. This means that with reasonable and normal renovation techniques, a future building occupant would only be exposed to the gamma or external dose component and not exposed to the alpha and beta particles.

As indicated above, any renovation would provide some degree of protection from any residual contamination. The applied insulation, floor, and wall coverings would shield against any removable contamination and greatly reduce the dose from inhalation and secondary ingestion pathways. The following table (copied from DandD results submitted earlier) shows that at least 99.7% of the dose for the adult working male is from the inhalation and secondary ingestion pathways for contamination levels at the requested DCGLs.

Radionuclides	All Pathways Dose (mrem)	External (mrem)	Inhalation (mrem)	Secondary Ingestion (mrem)
Natural Th	2.50E+01	1.92E-02	2.49E+01	3.38E-02
Natural U	2.50E+01	2.14E-03	2.50E+01	2.96E-02

Even without further computer simulations, it is obvious that any potential dose reduction to a male adult provided through renovation shielding material would also reduce the potential dose to a child. This is because the external dose pathway now becomes the dominant pathway for the child also and the need to apply the higher dose factors for a child diminishes, i.e., the inhalation dose and secondary ingestion dose both would be eliminated or reduced to very small levels. As no other reasonable type of occupancy can occur without substantial renovation; only a very small fraction of dose assigned at the requested DCGLs could be assessed to any future occupant, adult or child.

It follows that the dose expected in any scenario other than an adult male in light industrial activity including that for the "Child Care Center" should be a very small fraction, dependent upon the amount of renovation and shielding applied, to that derived for the adult male worker. As such, the current evaluation for the adult male worker without any building renovation is the bounding scenario.

Given the available data as described above, the screening group is a site-independent population, appropriate for use at both sites, which is reasonably expected to receive the greatest exposure given the scenario definition. The result of this screening group review is consistent with the DandD building occupancy scenario; the screening group is expected to consist of full-time adult male workers in light industry. The age based scenario is based upon the type of buildings, site history for building release, expected use and the expected typical worker.

RAI # 2. The documents entitled: "Radiological Historical Site Assessment - Defense National Stockpile Center; Somerville Depot, Hillsborough, NJ", dated January 2006; "Final Status Survey Plan DNSC, Somerville Depot, Hillsborough, NJ", dated February 2006; "Radiological Historical Site Assessment Report, Defense National Stockpile Center, Binghamton Depot, Binghamton, NY, Revision 1", dated February 2006; and "Final Status Survey Plan, DNSC, Binghamton Depot, Binghamton, NY", dated February 2006 were reviewed against the guidance in NURE G-1757, Volume 1, Revision 1, "Decommissioning Process for Materials Licensees" Appendix D, checklist D.2 Decommissioning Plan Checklist. The additional requested information is listed by depot location. After the requested item is the section number in NUREG-1757, Volume 1, Revision 1, where a more detailed description of purpose, acceptance criteria, and evaluation criteria may be found. You may wish to refer to these sections before submitting additional information.

RAI and Response to Request Number 2; Related to Somerville Depot:

RAI # 2(a) The county in which the site is located (16.3.1)

Response to RAI # 2(a) The Somerville Depot is located in the Somerset County of NJ.

RAI # 2(b) A map that shows the detailed topography of the site using a contour interval (16.3.1)

Response to RAI # 2(b) A detailed topography map is included as Attachment 3 for the Somerville site which shows that the land level does not substantially change at the site. The map shows a 90' contour line extending nearly the entire distance along Warehouses 2 and 3. The topographic map is a USGS from the "TopoZone" and is on the smallest usable scale available:

<http://www.topozone.com/map.asp?z=18&n=4487428&e=531033&s=25&size=1&u=5&datum=nad83&layer=DRG25>

RAI # 2(c) A summary of anticipated land uses (16.3.3)

Response to RAI # 2(c) Upon release by DLA to the GSA, the buildings will be managed by the GSA for use and disposition. GSA has indicated to DNS Facility Management that the depots will through deed restriction remain industrial areas (see Attachment 2 for Memorandum from DLA's Chief Facilities Management Division). However, the following information is submitted as discussion of potential possibilities including non-industrial.

The Somerville site is zoned ED (Economic Development) which includes a variety of uses; however, due to the railroads being in the close proximity of the warehouses, the Township of Hillsborough expects the facility to remain a distribution point for local goods coming in by rail. The history of the Somerville site for previously released buildings include those currently used for light industrial purposes and a U.S. Postal Service warehouse distribution center.

Renovation of an industrial site with existing on-site railroads and a history of storage of ores, metals and minerals into a childcare center or other common use facility would necessitate various facility upgrades and improvements that would, in effect, further limit or prevent any exposures from residual activity. NJ's regulations contained in Chapter 122 - Manual of Requirements for Child Care Centers states: "A center shall not be located near or adjacent to areas determined by the Bureau to be hazardous to the physical health and safety of the children." It further states that the Bureau may require a center in a co-located, multi-use building to "... meet any other physical plant, staffing, program or other operational requirements that are deemed necessary to protect the children from serious risk of harm stemming from the co-location."

Regardless of all conjectured uses, the most probable future use for the buildings remains as warehouses as GSA has indicated that the depots will be industrial areas.

RAI # 2(d) A statement acknowledging that circumstances can change during decommissioning, and, if the licensee determines that the surveys cannot be completed as outlined in the schedule, the licensee will provide an updated schedule to NRC (17.1.5)

Response to RAI # 2 (d) DLA acknowledges that if surveys cannot be completed as outlined in the schedule that DLA will provide an updated schedule to the NRC.

RAI # 2(e) A description of the responsibility and authority to ensure that decommissioning activities are conducted in a safe manner and in accordance with approved written procedures (17.2.1)

Response to RAI # 2 (e)

All individuals involved with this project have stop-work authority. The survey team members have been trained in their responsibilities regarding working safely while DLA management have been provided copies of the project-specific safety and health instructions for the works at both depots.

Per the organization chart provided in the FSSP for the Somerville Depot, Mr. Michel J. Pecullan is the DNSC Deputy Manager Occupational Radiation Protection Program and is the DNSC Project Manager for this survey. Mr. James M. Farley is the Somerville Depot Manager and Mary Davidson is the Somerville Depot Radiation Safety Officer. All survey activities will be coordinated with these individuals and each has the responsibility of being knowledgeable of the activities and their relationships to approved written procedures. The responsibilities and authority of these individuals to ensure that work activities are conducted in a safe manner and in accordance with approved written procedures remain as those contained in the DLA license application to the NRC. As indicated in the FSSP, Mr. Farley and Ms. Davidson will also provide expertise on Health and Safety (H&S) issues for the survey process. Somerville Depot has its own H&S Plan which is identifiable through their "I Am the Key" website, (<https://www.dnsc.dla.mil/iamthekey/default.htm>). ChesNuc has developed a project specific H&S Plan for this effort. The ChesNuc H&S Plan incorporates

considerations for workers and the general public. A safety briefing will be part of every Plan-of-the-Day meeting held daily.

The ChesNuc team operates under the supervision of Claude Wiblin, CHP. When on site, Mr. Wiblin has the supervisory role to ensure that activities are conducted in a safe manner and in accordance with approved written procedures. Mr. Wiblin is expected to perform personal reviews in the field of on-going work and make immediate corrections where needed. Daily field measurements of radiological parameters and sample collection will be under the direction of Mr. Jamie K. Doan. Mr. Doan will also direct laboratory services for in-house analyses. Mr. Doan is also expected to perform daily personal reviews in the field of on-going work and make immediate corrections where needed.

All members of the final status survey team are responsible to work safely and in accordance with approved written procedures. The foreman, senior technicians, or junior level technicians may immediately stop work when safety is an issue or when the quality of measurements is questionable. All members of the final status survey team are also encouraged to report any deviation from established procedures through supervision. Deviations may also be reported during the daily briefings as team members desire.

RAI # 2(f) A description of how work performance is evaluated (17.2.2, 17.6.1)

Response to RAI # 2(f)

ChesNuc has established a methodology to manage the development of, review, and maintenance of Radiation Work Permits (RWPs) and Quality Assurance (QA) Program. These programs assure that decommissioning activities are conducted with written, approved procedures. Both of these programs are discussed below.

Radiation Work Permits

Per ChesNuc's Procedure RSP-005, Radiation Work Permits, a RWP is required for any work involving occupational radiation exposure or the potential spread of contamination. Currently, this work is limited to FSS and only one RWP will be issued per site for duration of the work activity pending no changes in contamination levels. If conditions change (greater than DCGL limits), the need for additional RWPs will be evaluated. The RWP shall be voided if either the work scope or the radiological conditions in the work area change significantly. Section 5 of RSP-005 is found as Attachment 4 which presents a description of (1) how individual tasks are evaluated and how the RWPs are developed for each task, (2) how the RWPs are reviewed and approved by the project management organization, (3) how RWPs are managed throughout the project, and (4) how individuals performing the tasks are informed of the procedures in the RWP, including how they are initially informed and how they are informed when an RWP is revised or terminated.

Quality Assurance:

Mr. Michel J. Pecullan is the DNSC Deputy Manager Occupational Radiation Protection Program and is the DNSC Project Manager for this survey. Mr. Pecullan retains the responsibility for the establishment and execution of the overall program.

The survey team consists of four or less individuals at any time and the QA staff provided by ChesNuc will consist of one person. Delegation of the overall authority and responsibility for ChesNuc's portion of the QA program is to a QA officer whose work responsibilities are otherwise separate from those of the survey team. Mr. J. Stewart Bland, CHP, will serve as the QA officer and will, in that capacity, coordinate all interface requirements during the survey process. Reviews and audits of work performance are conducted in accordance with ChesNuc's Quality Assurance procedures. Any changes or alterations to procedures require review and management approval prior to implementation. The Organization Chart for Final Status Survey Activities from the FSSP indicates the one person assigned for the work and the level of authority.

The first line of quality assurance (that closest to the work performed) will be implemented through paragraph 2.1, "Inspection" of the ChesNuc Quality Assurance Plan which is presented here:

"A program for inspection of activities affecting quality shall be established and executed by or for the organization performing the activity to verify conformance with the documented instructions, procedures, and drawings for accomplishing the activity. Such inspection shall be performed by individuals other than those who performed the activity being inspected. Examinations, measurements, or tests of material or products processed shall be performed for each work operation where necessary to assure quality. If inspection of processed material or products is impossible or disadvantageous, indirect control by monitoring processing methods, equipment, and personnel shall be provided. Both inspection and process monitoring shall be provided when control is inadequate without both. If mandatory inspection hold points, which require witnessing or inspecting by the applicant's designated representative and beyond which work shall not proceed without the consent of its designated representative are required, the specific hold points shall be indicated in appropriate documents.

All data shall be reviewed and checked to verify that they meet project requirements. For radiological measurements, quality control inspections will be performed by the Project Manager or designee. The quality control inspections will consist of randomly verifying survey techniques and survey meter results.

The Project Manager or designee will be responsible for completing the Daily Quality Control Checklist Form. The checklist is designed to account for Project Detailed Work Plan activities that pertain to project tasks and radiation protection concerns. Unsatisfactory items will be immediately rectified to bring the item to a satisfactory condition. The checklist is to be completed at the end of each shift for that day's activities. "

ChesNuc has developed operating procedures and Quality Assurance procedures that implement this above described requirements.

RAI and Response to Request Number 2; Related to Binghamton Depot:

RAI # 2(g) A summary of anticipated land uses (16.3.3)

Response to RAI # 2(g)

Upon release by DLA to the GSA, the buildings will be managed by the GSA for use and disposition. GSA has indicated to DNS Facility Management that the depots will through deed restriction remain industrial areas (see Attachment 2 for Memorandum from DLA's Chief Facilities Management Division). However, the following information is submitted as discussion of potential possibilities including non-industrial.

Although the Binghamton Depot has a Binghamton mailing address, it is actually in the Town of Fenton which controls the zoning. The Binghamton site is currently zoned Residential "B".

- The site is an established warehouse distribution center with NYS&W railroad tracks on the northern side and Conrail railroad tracks on the southern side.
- In 2005, the Town Board sought input by resident owners for its Comprehensive Plan which included the Depot. The survey provided eight development options for the property: 59% wanted 'Senior Housing', 50% selected 'Parks, open space, walking trails', ~4% wrote in that the site should be used by the Chenango Valley School District, and 60% did not want the Depot used as an industrial Park. Renovation of an industrial site with a history of storage of various ores, metals and minerals into a childcare center was apparently not a popular topic of discussion as a request for one was not made.
- No buildings have been released at the Binghamton site but certain areas were being used for warehouse functions for a local high school; this service is not expected to continue.
- In a discussion with our consultant, ChesNuc, a representative of the Broome County Industrial Development Agency indicated that due to the history of the site (storage of ores, metals and minerals) it is improbable that a childcare center would be permitted there.

Regardless of all conjectured uses, the most probable future use for the buildings remains as warehouses as GSA has indicated that the depots will be industrial areas.

RAI # 2(h) A statement acknowledging that circumstances can change during decommissioning, and, if the licensee determines that the surveys cannot be completed as outlined in the schedule, the licensee will provide an updated schedule to NRC (17.1.5)

Response to RAI # 2(h) DLA acknowledges that if surveys cannot be completed as outlined in the schedule that DLA will provide an updated schedule to the NRC.

RAI # 2(i) A description of the responsibility and authority to ensure that decommissioning activities are conducted in a safe manner and in accordance with approved written procedures (17.2.1)

Response to RAI #2(i)

All individuals involved with this project have stop-work authority. The survey team members have been trained in their responsibilities regarding working safely while DLA management have been provided copies of the project-specific safety and health instructions for the works at both depots.

Per the organization chart provided in the FSSP for the Binghamton Depot, Mr. Michel J. Pecullan is the DNSC Deputy Manager Occupational Radiation Protection Program and is the DNSC Project Manager for this survey. Mr. William Guiton is the Binghamton Depot Manager and Mary Davidson is the Binghamton Depot Radiation Safety Officer. All survey activities will be coordinated with these individuals and each has the responsibility of being knowledgeable of the activities and their relationships to approved written procedures. The responsibilities and authority of these individuals to ensure that work activities are conducted in a safe manner and in accordance with approved written procedures remain as those contained in the DLA license application to the NRC. As indicated in the FSSP, Mr. Farley and Ms. Davidson will also provide expertise on Health and Safety (H&S) issues for the survey process. Binghamton Depot has its own H&S Plan which is identifiable through their "I Am the Key" website, (<https://www.dnsc.dla.mil/iamthekey/default.htm>).

ChesNuc has developed a project specific H&S Plan for this effort. The ChesNuc H&S Plan incorporates considerations for workers and the general public. A safety briefing will be part of every Plan-of-the-Day meeting held daily.

The ChesNuc team operates under the supervision of Claude Wiblin, CHP. When on site, Mr. Wiblin has the supervisory role to ensure that activities are conducted in a safe manner and in accordance with approved written procedures. Mr. Wiblin is expected to perform personal reviews in the field of on-going work and make immediate corrections where needed. Daily field measurements of radiological parameters and sample collection will be under the direction of Mr. Jamie K. Doan. Mr. Doan will also direct laboratory services for in-house analyses. Mr. Doan is also expected to perform daily personal reviews in the field of on-going work and make immediate corrections where needed.

All members of the final status survey team are responsible to work safely and in accordance with approved written procedures. The foreman, senior technicians, or junior level technicians may immediately stop work when safety is an issue or when the quality of measurements is questionable. All members of the final status survey team are also encouraged to report any deviation from established procedures through

supervision. Deviations may also be reported during the daily briefings as team members desire.

RAI # 2(j) A description of how work performance is evaluated (17.2.2, 17.6.1)

Response to RAI #2(j) DLA has established a methodology to manage the development of, review, and maintenance of Radiation Work Permits (RWPs) and Quality Assurance (QA) Program. These programs assure that decommissioning activities are conducted with written, approved procedures. Both of these programs are discussed below.

Radiation Work Permits

Per ChesNuc's Procedure RSP-005, Radiation Work Permits, a RWP is required for any work involving occupational radiation exposure or the potential spread of contamination. Currently, this work is limited to FSS and only one RWP will be issued per site for duration of the work activity pending no changes in contamination levels. If conditions change (greater than DCGL limits), the need for additional RWPs will be evaluated. The RWP shall be voided if either the work scope or the radiological conditions in the work area change significantly. Section 5 of RSP-005 is found as Attachment 4 which presents a description of (1) how individual tasks are evaluated and how the RWPs are developed for each task, (2) how the RWPs are reviewed and approved by the project management organization, (3) how RWPs are managed throughout the project, and (4) how individuals performing the tasks are informed of the procedures in the RWP, including how they are initially informed and how they are informed when an RWP is revised or terminated.

Quality Assurance:

Mr. Michel J. Pecullan is the DNSC Deputy Manager Occupational Radiation Protection Program and is the DNSC Project Manager for this survey. Mr. Pecullan retains the responsibility for the establishment and execution of the overall program.

The survey team consists of four or less individuals at any time and the QA staff provided by ChesNuc will consist of one person. Delegation of the overall authority and responsibility for ChesNuc's portion of the QA program is to a QA officer whose work responsibilities are otherwise separate from those on the survey team. Mr. J. Stewart Bland, CHP, will serve as the QA officer and will, in that capacity, coordinate all interface requirements during the survey process. Reviews and audits of work performance are conducted in accordance with ChesNuc's Quality Assurance procedures. Any changes or alterations to procedures require review and management approval prior to implementation. The Organization Chart for Final Status Survey Activities from the FSSP indicates the one person assigned for the work and the level of authority.

The first line of quality assurance (that closest to the work performed) will be implemented through paragraph 2.1, "Inspection" of the ChesNuc Quality Assurance Plan which is presented here:

"A program for inspection of activities affecting quality shall be established and executed by or for the organization performing the activity to verify conformance with the documented instructions, procedures, and drawings for accomplishing the activity. Such inspection shall be performed by individuals other than those who performed the activity being inspected. Examinations, measurements, or tests of material or products processed shall be performed for each work operation where necessary to assure quality. If inspection of processed material or products is impossible or disadvantageous, indirect control by monitoring processing methods, equipment, and personnel shall be provided. Both inspection and process monitoring shall be provided when control is inadequate without both. If mandatory inspection hold points, which require witnessing or inspecting by the applicant's designated representative and beyond which work shall not proceed without the consent of its designated representative are required, the specific hold points shall be indicated in appropriate documents.

All data shall be reviewed and checked to verify that they meet project requirements. For radiological measurements, quality control inspections will be performed by the Project Manager or designee. The quality control inspections will consist of randomly verifying survey techniques and survey meter results.

The Project Manager or designee will be responsible for completing the Daily Quality Control Checklist Form. The checklist is designed to account for Project Detailed Work Plan activities that pertain to project tasks and radiation protection concerns. Unsatisfactory items will be immediately rectified to bring the item to a satisfactory condition. The checklist is to be completed at the end of each shift for that day's activities. "

ChesNuc has developed operating procedures and Quality Assurance procedures that implement this above described requirements.

RAI #3. Both the Somerville and Binghamton Depots survey plans calibrate the alpha instrument for fixed point and alpha scans using a 2-inch diameter source. The sizes of the probes for these instruments are approximately 83 to 100 square centimeters. According to NUREG-1507, "Minimum Detectable Concentrations with Typical Radiation Survey Instruments for Various Contaminants and Field Conditions", Table 4.8, Minimum Detectable Concentration for Various Source to Detector Distances for Alpha Emitters, shows that the efficiency of an alpha meter is reduced approximately 20% when calibrated by a distributed source instead of a disk. In section 4.4, Source Geometry Factors, it states, "if the contamination can be characterized by relatively large uniform areas of activity, then the detector should be calibrated to a distributed or extended source." Please discuss the reasons for not using a large distributed source or confirm that you'll perform calibration with a distributed source.

Response to RAI # 3:

There are two different approaches to the calibration; either or both may be applied to this work.

- Calibration will be performed by a licensed vendor at their calibration facility with appropriate distributed, size and type of source. Field checks for proper calibration will be made with a disk.
- Calibration will be performed by the FSSP contractor, Chesapeake Nuclear Services, Inc., with a distributed source either at the site or prior to the team's deployment. Field checks for proper operation may be made with a disk or a distributed source.

Data collected during the characterization phase will be revised accordingly to any reductions of efficiency indicated by distributed source calibrations.

RAI # 4. For the Somerville Depot, confirm that you will add Warehouse 1, Section D, Bay 22 as a class 3 location. In a DNSC inspection report entitled, Notification of Stockpile Inspection, dated December 8, 1998, documented Tungsten Concentration, type C, Wolframite Lots W139E/143A a total of 138 steel drums and Tungsten Concentration Wolframite Lot No 161R1 being stored in Warehouse 1, Section D, Bay 22, Row 4 & 5. This material is source material and the area it was located would be considered an impacted area.

Response to RAI # 4:

Post the referenced inspection of 1998, the material was tested in 2001 and determined to not be source material. Certificates of analysis with the weight percentages are found as Attachment 5. The area is considered non-impacted and no survey is planned.

DLA RESPONSE TO NRC RAI ATTACHMENT 2

Memorandum from DLA's Chief Facilities Management Division



DEFENSE LOGISTICS AGENCY
DEFENSE NATIONAL STOCKPILE CENTER
8725 JOHN J. KINGMAN ROAD, SUITE 3229
FT. BELVOIR, VIRGINIA 22060-6223

IN REPLY
REFER TO DNSC-OF

April 17, 2006

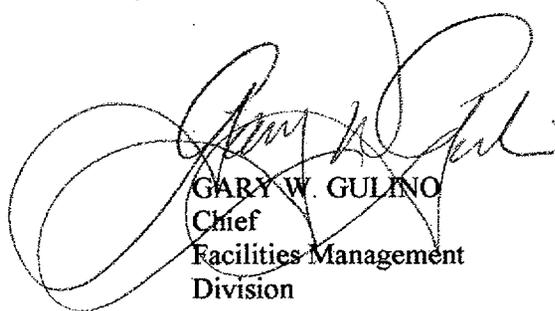
MEMORANDUM FOR DNSC-EE

SUBJECT: Disposition of DNSC Occupied Properties that Hold Active Nuclear
Regulatory Commission (NRC) Licenses

The Defense National Stockpile Center (DNSC) holds an NRC license for storage and handling of radio active materials at six operational locations. All of these properties are owned by the General Services Administration (GSA). DNSC occupies various building and specific outdoor storage locations under occupancy agreements with the GSA. All of the materials stored at these locations are excess to the needs of the Department of Defense and are being liquidated. The GSA has determined that these properties are excess to the needs of the Federal Government once the DNSC mission is complete and is pursuing disposal options.

Disposal will be accomplished on a site by site basis. In each instance the Government will remediate the property or characterize it for transfer it under the Early Transfer Program. In either scenario appropriate restrictions will be annotated in the deed limiting subsequent use to industrial activities only.

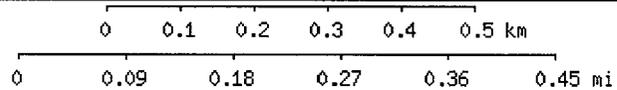
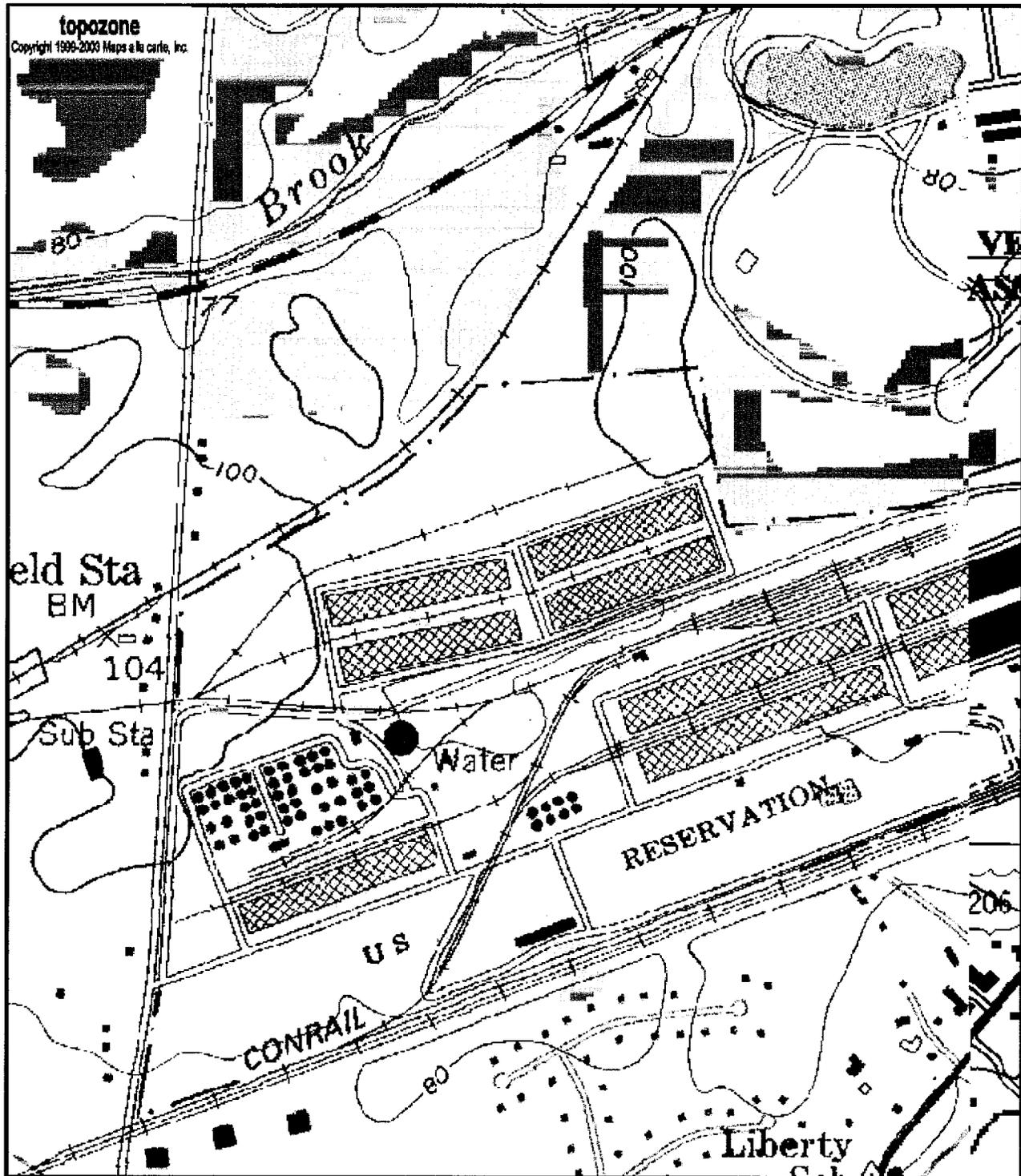
Please contact me if you have any additional questions.



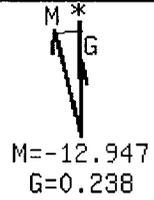
GARY W. GULINO
Chief
Facilities Management
Division

DLA RESPONSE TO NRC RAI ATTACHMENT 3

Topography Map of Somerville Depot



Map center is 40.5370°N, 74.6336°W (WGS84/NAD83)
Raritan quadrangle
Projection is UTM Zone 18 NAD83 Datum



DLA RESPONSE TO NRC RAI ATTACHMENT 4

Text of Paragraph 5 of ChesNuc's RSP-005, Radiation Work Permits

Text of Paragraph 5 of ChesNuc's RSP-005, Radiation Work Permits:

- 5.0 PROCEDURE
- 5.1 General Requirements
 - 5.1.1 A RWP is required for any work involving occupational radiation exposure or the potential spread of contamination. All work performed in the RCA shall be performed under the direction of an approved procedure, work instruction, and/or a RWP.
 - 5.1.2 Each RWP shall be approved by the following individuals or their delegated representative:
 - The Operations Manager or shift supervisor responsible for the work activity;
 - The Radiation Safety Officer;Telephone approval is authorized if documented on the RWP.
 - 5.1.3 The typical RWP is issued for duration of the work activity. The RWP shall be voided if either the work scope or the radiological conditions in the work area change significantly.
 - 5.1.4 A Standing RWP may be approved for a maximum period of one year. The Standing RWP is applicable to situations where the hazards have been well characterized and the radiological conditions are relatively stable. This includes routine activities such as tours and inspections, radiological surveys, and flight work activities.
 - 5.1.5 A documented pre-job ALARA briefing shall be held prior to beginning work performed under a plan, procedure, work instruction, and/or RWP. Items discussed shall include the following:
 - Work scope;
 - Radiological conditions;
 - Dosimetry and protective clothing requirements;
 - Limiting conditions;
 - Emergency actions.
 - 5.1.6 All personnel performing work under the conditions of a RWP shall sign the RWP ALARA Briefing Form to indicate an understanding of the information contained in the briefing. All personnel entering an area under a RWP shall sign in and out on an RWP Sign-In/Out log to document stay time and SRD readings as appropriate.
 - 5.1.7 A copy of the approved RWP, briefing sheets, and sign-in/out logs shall be maintained at the primary control point for the RCA until the RWP is terminated, at which time the work package will be transferred to the records file.
 - 5.1.8 The RSO shall maintain an indexed RWP log. The log shall include the unique RWP # (i.e. 01-001), date of issuance, date of termination, and reason for the RWP (work scope).
- 5.2 Initiating the RWP
 - 5.2.1 A RWP can be requested by anyone. The shift supervisor or manager, responsible for the work activity shall provide following information:
 - The exact location of the work activity;

- The nature of the work activity. And for special RWPs:
 - Expected duration of the work activity;
 - Names of the personnel that will perform the work activity;
 - The written procedure(s) that will govern the planned work.
- 5.2.2 The assigned RST shall perform pre-job surveys and calculations where applicable, to determine the following and enter the information on the RWP:
- Radiation levels in and around the work area;
 - Surface contamination levels in the work area;
 - Airborne radioactivity levels in the work area;
 - Requirements for protective clothing and equipment;
 - Workplace and worker monitoring requirements;
 - Limiting conditions and stay-times;
 - Special precautions and instructions that are required by the job;
 - Current radiation exposure for the individuals involved.
- 5.2.3 After the information indicated above has been entered, the RST shall forward the RWP to the RSO for review and approval.
- 5.2.4 The RSO will review the RWP and verify that the information and the prescribed conditions are adequate to insure personnel safety. If satisfied, the RSO will approve the RWP and forward to the Operations and Quality Managers for review.
- 5.2.5 The approved RWP shall be added to the indexed RWP log, and the original document maintained on file.
- 5.2.6 A copy of the original approved RWP will be forwarded to, and maintained at the primary access control point, where the pre-job ALARA briefing can be performed by the RST.
- 5.2.7 The RST shall insure appropriate personnel protective equipment and monitoring devices are available and issued to the personnel performing the work activity and/or installed at the workplace.
- 5.3 Distribution of Approved RWPs
- 5.3.1 The approved RWP shall be distributed at a minimum to each of the following individuals/locations:
- Original - retained in the RWP file by the RSO;
 - One copy - retained at the entrance/exit to the work area (usually the primary access control point).
- 5.4 Review and Evaluation of Active RWPs
- 5.3.1 Active Special RWPs that extend over a period of time shall be reevaluated each day when used, by the assigned RST. This evaluation will consist of reviewing the work, with regard to existing radiological conditions, to insure that none of those conditions have changed. This generally requires a radiological survey of the work-site.
- 5.3.2 Active Standing RWPs shall be reviewed, re-written where necessary, and re-approved on an annual basis. This evaluation shall consist of a review of routine surveillance and monitoring data, process and facility design changes, and ongoing work activities and plans.
- 5.4 Terminating an RWP.

- 5.4.1 An RWP shall be terminated as follows:
- By the RST or other responsible individual - when an unanticipated change in radiological conditions occurs. Under such conditions, the RWP shall be suspended, the radiological conditions reevaluated, and a new RWP initiated, in accordance with 5.2 above;
 - By the Shift Supervisor/OM - at the conclusion of work or in the event of a significant change in work scope;
 - By the Shift Supervisor/OM, or RSO - at expiration of the RWP, (i.e. one year for a Standing RWP or see above for a Special RWP).
- 5.4.2 The person responsible for terminating the RWP will sign the RWP form and return the control point copy, with supporting documentation to the RSO.

DLA RESPONSE TO NRC RAI ATTACHMENT 5

Certificates of Analyses

ALEX STEWART (ASSAYERS) INC.

472 WESTFIELD AVENUE
CLARK, NJ 07066

TEL: 732-827-0656
FAX: 732-827-0567
e-mail: assainc@compuserve.com



November 15, 2001

Defense Logistics Agency
Defense National Stockpile Center
Director
Directorate of Strategic Materials Management
8725 John J. Kingman Road, Suite 4528
Ft. Belvoir, VA 22060-6223

CERTIFICATE OF ANALYSIS

Assay Number: 17014
Commodity: Tungsten Ores & Concentrates
Form: Wolframite, Type-C
Sample Number: EQSO-WOL-W161R1-016
Lot Number: W161-R1
Analysis Date: November 14, 2001
Name of Analyst: Alex Stewart (Assayers) Inc.
Contract Number: SPO833-99-M-0187

We have analyzed the above sample(s) and would report as below:

Tungsten Oxide (WO ₃):	71.84%	Molybdenum (Mo):	<0.01%
Aluminum (Al):	0.04%	Sodium (Na):	<0.01%
Arsenic (As):	0.01%	Niobium/Columbium (Nb/Cb):	0.29%
Barium (Ba):	<0.01%	Nickel (Ni):	<0.01%
Beryllium (Be):	<0.01%	Phosphorus (P):	<0.01%
Bismuth (Bi):	0.06%	Lead (Pb):	0.20%
Calcium (Ca):	0.53%	Sulfur (S):	0.25%
Cadmium (Cd):	<0.01%	Antimony (Sb):	<0.01%
Cobalt (Co):	<0.01%	Silicon (Si):	0.69%
Chromium (Cr):	<0.01%	Tin (Sn):	0.12%
Copper (Cu):	0.04%	Tantalum (Ta):	0.09%
Iron (Fe):	6.02%	Titanium (Ti):	0.08%
Potassium (K):	0.02%	Vanadium (V):	<0.01%
Magnesium (Mg):	0.02%	Zinc (Zn):	0.05%
Manganese (Mn):	11.51%	Thorium (Th):	0.002%
Moisture (H ₂ O):	0.11%	Uranium (U):	0.005%

Dry State

For ALEX STEWART (ASSAYERS) INC.

Shirley Bove
Shirley Bove

ALEX STEWART (ASSAYERS) INC.

472 WESTFIELD AVENUE
CLARK, NJ 07066

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FAX: 732-827-0567
e-mail: asainc@compuserve.com



November 15, 2001

Defense Logistics Agency
Defense National Stockpile Center
Director
Directorate of Strategic Materials Management
8725 John J. Kingman Road, Suite 4528
Ft. Belvoir, VA 22060-6223

CERTIFICATE OF ANALYSIS

Assay Number: 17015
Commodity: Tungsten Ores & Concentrates
Form: Wolframite, Type-C
Sample Number: EQSO-WOL-139E/143A-017
Lot Number: 139E/143A
Analysis Date: November 14, 2001
Name of Analyst: Alex Stewart (Assayers) Inc.
Contract Number: SPO833-99-M-0187

We have analyzed the above sample(s) and would report as below:

Tungsten Oxide (WO ₃):	64.66%	Molybdenum (Mo):	0.19%
Aluminum (Al):	0.42%	Sodium (Na):	<0.01%
Arsenic (As):	0.10%	Niobium/Columbium (Nb/Cb):	0.21%
Barium (Ba):	0.05%	Nickel (Ni):	<0.01%
Beryllium (Be):	<0.01%	Phosphorus (P):	0.05%
Bismuth (Bi):	0.16%	Lead (Pb):	0.31%
Calcium (Ca):	2.87%	Sulfur (S):	0.39%
Cadmium (Cd):	<0.01%	Antimony (Sb):	<0.01%
Cobalt (Co):	<0.01%	Silicon (Si):	1.72%
Chromium (Cr):	<0.01%	Tin (Sn):	1.16%
Copper (Cu):	0.05%	Tantalum (Ta):	0.05%
Iron (Fe):	10.44%	Titanium (Ti):	0.39%
Potassium (K):	0.04%	Vanadium (V):	<0.01%
Magnesium (Mg):	0.06%	Zinc (Zn):	0.09%
Manganese (Mn):	4.87%	Thorium (Th):	0.017%
Moisture (H ₂ O):	0.31%	Uranium (U):	<0.001%

Dry State

For ALEX STEWART (ASSAYERS) INC.

Shirley Bove
Shirley Bove