

LICENSEE

Advanced Medical Systems, Inc.
Cleveland, Ohio

License No. 34-18909-01
Docket No. 030-16055

HISTORY

- Advanced Medical Systems, Inc. (AMS) has an active NRC license to manufacture cobalt-60 sources for teletherapy and radiography units. The cobalt-60 is received in pellets, and placed inside capsules inside a hot cell.
- AMS utilizes the same facilities that were previously utilized by the Picker Corporation.
- In December 1985, at NRC request, ORAU evaluated contamination problems at the facility at 1020 Lond Road, Cleveland, Ohio. Contamination exists in hot cell, liquid holdup tanks in basement below hot cell, filtration room for hot cell, adjacent areas to hot cell, and waste storage areas.
- As a result of this survey, on 03/07/86, NRC requested AMS submit plans for decontaminating to acceptable levels.
- March 1986 to September 1986 - Correspondence between AMS and NRC regarding plan.
- 09/10/86 - AMS submitted plan with schedules.
- 10/23/86 - NRC amended license requiring AMS to implement plan within 60 days.
- AMS requested 30 year delay in decon of Waste Holdup Tank (WHUT) room.
- NRC requested additional information and allowed delay of WHUT decon until at least September 1988.

DECONTAMINATION SCHEDULE

- 12/23/86 - AMS requested stay of decontamination plan.
- 02/11/87 - NRC declined complete stay and asked AMS for any schedule adjustment.
- 03/87-04/87 - AMS requested NRC relax decontamination plan schedule.
- 07/23/87 - NRC issued Order to AMS to implement decon plan with schedule similar to that proposed in AMS 04/10/87 letter.
- 10/31/87 - NRC modified Order to allow decon plan performed by Nuclear Support Services (NSS), a contractor to AMS, with a schedule dated 10/23/87 to complete decon by July 1988.
- 11/13/87 - AMS request for hearing on Confirmatory Order.

AMS (Cont'd)

- 12/11/87 - NRC authorized additional personnel for NSS to perform decon activities.
- 12/11-14/87 - NRC Inspection of Decon progress. AMS completed decon of change room and areas outside the RCA. AMS completed Items 2, 3 and 4 of Decon. Plan schedule.
- 01/15/88 - AMS 4th status report - completed decon of airlock area.
- 01/22/88 - NRC declined request from AMS (December 1987) to use AMS' staff to manage decontamination.
- 01/27/88 - NRC Inspection of Decon Progress. AMS completed decon of airlock and isotope shop areas, Item 5 of Decon Plan schedule.
- 02/08/88 - AMS request to isolate WHUT room.
- 03/16/88 - Modification to Confirmatory Order to allow new RSO at AMS oversight of decon.
- 05/05/88 - NRC report as followup to contamination found in sewer outside building.
- 05/23/88 - AMS response to report indicating sewer is part of decon plan
- 07/12/88 - AMS response on status of decon plan. AMS completed decontamination of basement area (Item 10 on Decon Plan (Schedule) and initiated decon of hot cell. AMS in progress rerouting ventilation system, deconing ventilation room and stairwell.
- 11/14-18/88 - NRC Region III conducted a routine safety inspection. Two administrative violations (Severity Level IV) were identified. Over 95% of the decontamination project as required in NRC Orders dated July 23 and October 30, 1987, was completed. ORAU personnel performed a confirmatory survey (report pending).
- 12/88 (month of recollection) - AMS latest status of decontamination plan submitted to NRC. All work completed except further cleanup of hot cell. AMS due to let NRC know final decontamination work completed by 01/31/89.

Proposed Action Plan

Review ORAU report and determine whether decontamination sufficient to release licensee from Order. Meeting with licensee is scheduled for February 10, 1989 to determine whether they believe decontamination work will be completed during February 1989, and request a description of their future plans for the site.

LICENSEE

Chemetron Corporation
Division of Chemetron Corp.
Cleveland, Ohio

License No. SUB-1357
Docket No. 040-08724

HISTORY

- NRC issued license to McGean Chemical Co. on 10/08/65.
- Originally, license authorized use of U_3O_8 (100 lbs.) in any form at 2910 Harvard Avenue for storage.
- License subsequently amended to add storage of UF_6 cylinders and intermediate products in production of U_3O_8 from UF_6 . The licensee also used depleted uranium to manufacture a catalyst to be used in manufacturing acrylonitrile. The catalyst was used in Building 21 onsite.
- By letter dated 02/24/72, McGean notified AEC it was terminating production of U_3O_8 from UF_6 as well as its subsequent use in manufacture of a catalyst using depleted uranium.
- License amended for storage only on 03/03/72 due to terminating production of U_3O_8 from UF_6 as well as manufacturing of catalyst.
- During this time, there was an industrial dump site used by Chemetron. Portions of concrete from plant site Building No. 21 where catalyst was manufactured were taken to the dump.
- 06/19/78 - Chemetron notified NRC that all uranium removed from plant site to Barnwell, SC for burial and ownership of property returned to McGean.
- 07/19/78 - Chemetron informed NRC it was decommissioning plant site.

DECOMMISSIONING SCHEDULE

- 2/79 - Report of facility surveyed by NL Industries for Chemetron & McGean.
- 3/79 - Decontamination plan submitted.
- May 25, 1979 - letter from McGean to NRC indicated they owned property at Harvard Avenue and gave Chemetron and NL permission to decontaminate per NRC license.
- 6/12/79 - New license issued as SUB-1357 to Chemetron since No. SUB 852 expired. Purpose - to decontaminate depleted uranium and perform surveys at Harvard Avenue facility using March 1979 decontamination plan and NL Industrial Decon. Project McGean Chem. Co. Operating Procedures, dated 08/20/79.
- 02/07/80 - NL requests release of areas C, D, E, and F in Bldg. 21.
- 02/07/80 - 8/80 - Correspondence with NRC regarding release.

Chemetron (Cont'd)

- 06/23/80 - Region III confirmed with McGean that disposal dump fence would be repaired, patrols performed, and Chemetron & McGean would determine source of radioactive material in dumpsite.
- 07/24/80 - NL report of assessment of dumpsite. Found depleted uranium in landfill.
- 08/06/80 - Report by Region III of inspection at Harvard Avenue site. Conclusions: Contamination in form of depleted uranium, no direct radiation problems, non-removable contamination and inaccessible.
- 08/07/80 - Region III informed Chemetron decontamination of dumpsite will be required.
- 10/14/80 - NRC released for unrestricted use, Rooms 21-C, D, E, and F.
- 11/07/80 - Region III notified Chemetron of noncompliance by disposing of depleted uranium waste during first quarter of 1975 at industrial dumpsite at north end of East 27th and 29th Streets, near Bert Avenue, Newburgh Heights, Ohio.
- 11/17/80 - Region III notified Chemetron "o.k." to release facilities for unrestricted use, except for beta contamination problem. Inspection conducted 06/17-18, 09/2-5, and 09/18-19/80. 01/16/81 letter from NRC to Chemetron explained Rooms 21-C, D, E, and F are released.
- 12/08/80 - NL terminated participation in decontamination.
- 12/15/80 - Decon plan by new contractor - RMC submitted to NRC.
- 05/18/81 - Letter and 04/15/81 meeting with Region III, Chemetron requested permit to allow onsite burial of contaminated material from plant site and dumpsite on plant site.
- 05/26/81 - Same request from McGean.
- 05/26/81-08/09/83 - Correspondence with NRC regarding plan to decontaminate Rooms A and B of Bldg. 21 and dumpsite.
- 11/18/83 - Chemetron submitted decontamination plan to NRC.
- 01/06/82 - Region III inspected site and found 100 drums of waste from Bldg. 21.
- 04/84 - Contract signed by licensee with RMC to decontaminate site and dumpsite.
- 07/15/84 - Report by NMSS of onsite visit.
- 07/18/84 - NRC amended license to approve plan, set release limits, and establish schedule.

Chemetron (Cont'd)

- 10/26/84 - Letter from Chemetron (now Allegheny International) submitted results of Confirmatory Survey of dumpsite.
- 01/11/85 - ORAU, contractor to NRC, report of dumpsite. Conclusion: contamination in all but southwest corner and northeast slope of site. Presence of depleted uranium and other low levels of naturally occurring radionuclides (antimony slag with natural uranium and thorium, flyash and fire brick and crucibles with uranium and thorium decay series radionuclides).
- 01/85 - 6/85 - Correspondence with NRC regarding release of site.
- 01/01/85 - NRC agreed to release a portion of dumpsite as requested in 03/26/85 letter from McGean.
- 07/85 - 11/85 - Chemetron and RMC correspondence with NRC regarding movement of waste soil from dump to plant site and some removal to Barnwell, South Carolina and Richland, Washington.
- 10/15/85 - Chemetron requested facilities be released and license terminated.
- 01/29/86 - Letter from ORAU with results of confirmatory survey indicating levels above NRC release criteria at site.
- 03/27/86 - ORAU submitted results of survey of dumpsite with levels above NRC release criteria.
- 10/22/86 and 04/21/87 - Request from McGean to NRC to use northern portion of plant site for a driveway and parking lot.
- 10/01/87 - Northern portion of Harvard Avenue Site released for unrestricted use. The area released is located north of the 100N grid line.
- 12/ /87 - Mayor of Newbergh Heights requested consideration to run a sewer line through the Dump Site.
- 04/08/88 - NRC notified by Chemetron that parent organization (Allegheny International) filed for bankruptcy.
- 04/13/88 - Memo from Norelius to Cunningham recommending NRC issue an order to cause site cleanup.
- 04/19/88 - NRC and State of Ohio site visit - see W. D. Shafer to C. E. Norelius Trip Report dated 5/2/88.

Chemetron (Cont'd)

- 06/13/88 - Letter, Chemetron Corporation from H. L. Thompson transmitting Demand Letter.
- 08/05/88 - Chemetron responded to Demand Letter.
- 08/17/88 - NMSS acknowledged licensee's response and stated they were evaluating the information in three areas.
- 10/14/88 - NMSS transmitted ORAU report on characterization and radiological review of the industrial dumpsite, located at E 28th and 29th Streets at Burt Avenue/Newburgh Heights, Ohio.
- 12/16/88 - NMSS transmitted final report on Harvard Avenue property, Newburgh Heights, Ohio, prepared by ORAU in September 1988.

NRC Action Plan

1. Region III to monitor licensee's initiation of decontamination activities during spring of 1989.
2. NMSS to review licensee's response (08/05/88) to demand for information and determine future NRC action. ORAU will review the rebuttals offered by the licensee.
3. NRC NMSS acknowledged that decontamination activities have been slowed by winter weather. Hence, plans for a new building are on hold. The licensee is committed to perform decon activity in response to a law suit. To date, no other discussion on law suit.
4. Future activities will include:

<u>Action</u>	<u>Responsible Organization</u>
Cleanup Harvard Avenue Site	Licensee
Perform Closeout Survey	RIII/ORAU
Submit Decon Plan for Dump	Licensee
Review & Approve Decon Plan for Dump	NMSS
Clean up Dump	Licensee
Closeout Survey	RIII/ORAU
Terminate License	NMSS

LICENSEE

Dow Chemical Company
Midland, Michigan

License No. STB-527
Docket No. 040-00017

HISTORY

- Dow was originally given License No. C-2782 by AEC on December 19, 1956 for the purpose of using thorium metal and compounds to prepare thorium-magnesium alloys.
- On January 15, 1962, AEC issued Dow new license (STB-527) for this purpose. The license encompassed Dow's plants at Midland and Bay City, Michigan and Madison, Illinois.
- In January-March 1973, Dow's license was modified to authorize only storage or transfer of metal or process sludge to authorized recipients.
- On March 23, 1979, Dow submitted letter to State of Michigan proposing methods for disposal of the magnesium-thorium slag piles.
- 1979-1980 - Dow and NRC corresponded on issue of whether to renew license or require Dow to dispose of slag.

DECOMMISSIONING SCHEDULE

- 01/16/80 - Dow and NRC discussed plan in meeting. Dow informed NRC that Madison, Illinois site was sold and thorium material transferred to NRC License No. STB-1097.
- 11/71-1/72 - Dow removed thorium from Midland site for burial at Moorehead, Kentucky.
- 08/24/81 - Dow requested removal of Midland site from license based upon survey results indicating levels acceptable by NRC guidelines for unrestricted use.
- 08/24/81 - Dow informed NRC that their results show the Bay City storage pile to have an average thorium concentration of 1,700 picocuries/gram. Also, the pile was graded and compressed to 2.5 feet deep and covered with a tar-based road sealant in 1978. There are ground water monitoring wells around the site and a 7-foot chain link fence securing the site.
- 06/18/82 - Region III performed contamination surveys at the Midland site. Recommendation was not to release site until contaminated soil above NRC criteria is disposed and confirmatory survey is performed by ORAU, an NRC contractor.
- 08/31/82 - Region III documented that packaged soil and debris was removed from the Wellman Foundry in Bay City to the Dow storage site.

Dow Chemical (Cont'd)

- 10/21/82 - Dow submitted a decommissioning plan for Midland site. The plan included transferring residual contamination in soil to the Bay City site.
- 1983-1987 - Correspondence between Dow, State of Michigan, and NRC regarding consolidation of piles at Bay City.
- 05/07/87 - Dow informed NRC that it is now proposing to move the Midland and Bay City waste piles to a State-approved RCRA site on Salzburg Avenue, Midland.
- 12/01/87 - Dow submits Midland Thorium Storage site Relocation/Decommissioning Plan
- 01/12/88 - Dow provided NMSS with draft license application for onsite Thorium disposal at Salzburg Land fill, Midland MI.
- 01/25/88 - Department of Public Health (MI) submits comments on 12/1/87 Dow submittal of Midland Thorium Storage Site Relocation/Decommissioning Plan.
- 03/02/88 - Division of Low Level Waste Management and Decommissioning submits concerns with Dow Proposal to use Salzburg Landfill.
- 03/17/88 - Memo, Shafer to Norelius expressing concern with delay in reviewing Dow proposal.
- 06/28-29/88 - NMSS and Region III Site Visit (See memo dtd 7/7/88 Shafer to Norelius, Trip Report) to meet with licensee and State.

Dow Chemical (Cont'd)

Proposed NRC Action Plan

1. NMSS will contact DOW and request submittal of formal application of licensee's proposal in response to NRC June meeting. Need to prompt licensee as to status during January 1989. Response is to present plan for thorium slag disposal.

2. Future actions will include:

Action

Responseible Organization

Review and Approve Disposal Plan

NMSS

Resolve Policy Issue Regarding Mixing
of Slag with Hazardous Chemicals

NMSS

Implement Plan

Licensee

Submit Final Survey

Licensee

Perform NRC Closeout Survey

RIII

Terminate License

NMSS

LICENSEE

Remington Arms Company, Inc.
Lake City Army Ammunition Plant
Independence, MO

License No. SUB-1195
Docket No. 040-8303
(Issued to Dept. of Army)
License No. SUB-1380 Docket No.
040-08767

HISTORY

- Lake City Army Ammunition Plant (LCAAP) is a Government-owned, contractor-operated (GOCO) facility. Remington Arms Company, Incorporated, under contract to the U.S. Army, operated the facilities at LCAAP, Independence, Missouri, until November 1985. Operations at LCAAP included the assembly/machining, testing, and demilitarization of ammunition rounds containing depleted uranium (DU). As the operating contractor, Remington was responsible for maintaining the Nuclear Regulatory Commission (NRC) licenses needed to perform operations at the plant. As such, Remington held and maintained NRC License No. SUC-1195.
- NRC issued license to Remington on 04/12/74.
- Facilities at LCAAP were contaminated under the following operations:
 - Development of the 20mm, M101 type cartridge utilizing DU was performed in the early 1980's. Production of the 20mm, M101 cartridge was started at LCAAP in May 1961, and completed in September 1963. An estimated 75,000 rounds were manufactured with each round containing approximately 206 grams of DU. During the production, Buildings 12A and 3A became contaminated, and approximately 1,500 20mm cartridges were fired single shot to ranges of 1,750 and 2,188 yards for determining projectile velocity, accuracy, and functioning characteristics. This firing contaminated areas at the 1,750- and 2,188-yard ranges.
 - Sometime in 1986, the 20mm M101 cartridge was declared to be obsolete. Approximately 44,000 20mm cartridges required demilitarization. These were located at various Army depots in the continental U.S. Since the M101 cartridges contained a fuse designed to function on impact, it was decided that the best method for demilitarization was to fire them into a slug butt and confined sand area with the fuse to function on impact. The approximately 44,000 20mm M101 cartridges were demilitarized by firing into the 600-yard bullet catcher at LCAAP in 1972. In 1986, an additional 40 rounds were demilitarized using the same method. At the time of demilitarization, the sand contained in the bullet catcher was sifted to remove the DU fragments. The DU fragments were then packaged in accordance with current regulations and shipped off site to a radioactive waste burial site. The sand was then moved to a sand storage pile. Recent radiation monitoring indicates the sand storage pile and the areas around the 600-yard ranges are contaminated and still contain DU. Difficulty in retrieving the sand is that over the years, the sand in other bullet catchers at LCAAP was combined with

Remington Arms (Cont'd)

the sand from the 600-yard range. As a result, the sand storage pile contains other hazardous material such as lead and unexploded ordnance in addition to DU.

- Because of a requirement to use areas in Buildings 12A and 3A in Fiscal Year 1985, the Army began plans for cleanup. Funding for the cleanup of the buildings was programmed for Fiscal Year 1986. During the first quarter, Fiscal Year 1986, Remington Arms Company, Incorporated lost the bid as operating contractor and a new urgency developed to clean up areas covered by NRC License No. SUC-1195. The Army attempted to complete the project during Fiscal Year 1986, but due to funding constraints and the realization of additional hazards on the firing range, it was not accomplished.

DECOMMISSIONING SCHEDULE

- By letter dated December 12, 1986, Olin Winchester Group (Army contractor) notified NRC of their intent to replace Remington Arms Company, Inc. as the Army's prime contractor for the operations covered by NRC License No. SUB-1195.
- By letter dated January 10, 1986, Olin Winchester Group was informed that they would have to submit a decommissioning plan for the contaminated facilities operated by Remington Arms Co., Inc. for our review prior to the issuance of the name change amendment.
- By letter dated June 17, 1986, the Department of the Army submitted a decontamination/decommissioning plan necessary for the termination process of the Remington Arms Co., Inc. License No. SUB-1195. Chem-Nuclear Systems, Inc. was commissioned by the Department of the Army to prepare said plan and to carry it out.
- In accordance with letter dated May 8, 1986, License No. SUB-1195 was amended on June 12, 1986, for possession and storage only, incident to decommissioning of facilities.
- After four consecutive extensions of the expiration date of NRC License No. SUB-1195, the licensee allowed the license to expire on September 30, 1986.
- In accordance with the Department of the Army letter dated June 8, 1987, licensed activities under NRC License No. SUB-1195 (Remington Arms Co., Inc.) were transferred to NRC License No. SUC-1380 (Department of the Army). Subsequently, NRC License No. SUB-1195 was terminated.
- Buildings 12A and 3A, to include areas exterior and below grade, have been decontaminated subject to AMCCOM's final survey scheduled for April 1987. Upon completion of AMCCOM's final survey, a copy of the report and a request for removal of the building from the license will be provided to the NRC.

Remington Arms (Cont'd)

- Prior to any plan for cleanup of the ranges, the Army will need to study further the extent of contamination and better define the areas. Enclosure 1 is a copy of the preliminary radiological survey performed by the Army Environmental Hygiene Agency. This study will be a coordinated effort with explosive safety and explosive ordnance teams, as unexploded ordnance in sand piles and areas around bullet catchers will present an explosive hazard to the radiological monitoring team. In addition, disposal and separation methods must be studied to determine commercial burial site acceptance of waste and methods (if existent) on the separation of sand, explosives, lead, DU, etc., without risk to personnel.
- The firing ranges at LCAAP are fenced in, access is controlled due to explosive hazards involved, personnel are required to sign in and out of the area, and suspected radioactive contaminated areas are marked off.
- 05/01/87 - Department of Army submits final survey report requesting for unrestricted release of affected buildings.
- 03/17/88 - Licensee Amendment #10 issued including a license condition requiring a decommissioning plan for the firing range and storage area to be submitted by 09/01/88.
- 08/29/88 - Licensee submitted formal decommissioning plan for Region III review. Plan calls for the isolation of range site area with strict control from unauthorized entry with no decontamination plan initiation at this time.
- 09/01/88 - Region III completed review of Department of the Army proposed plan and drafted a deficiency letter which requires the licensee to address licensing concerns within 30 days.
- 10/06/88 - Licensee response to deficiency letter.
- 10/11/88 - Licensee changed alternate RSO.
- 10/31/88 - Licensee's request to add the M829E1 depleted uranium round to the license.
- 11/15/88 - Region III requested certification of financial assurance for decommissioning.
- 11/15/88 - Amendment No. 12 approved to allow Army to hold secure the contaminated range site until they can formulate and submit a decommissioning plan at the time of their license renewal.
- 11/28/88 - Amendment No. 13 identifies employees by name who are authorized to supervise use of licensed material.
- 12/02/88 - Amendment No. 14 to NRC License No. SUC-1380 is approved to allow the addition of the M829E1 depleted uranium round.

Remington Arms (Cont'd)

Proposed NRC Action Plan

NRC will review the licensee's Decommissioning Plan which will be submitted at the time of their license renewal in 1993. No further action is anticipated.

LICENSEE

None

SCA, Kawkawlin Landfill

HISTORY

- Landfill was purchased by SCA Services Inc., of Somerville, MA from Hartley and Hartley in 1972.
- 05/16/83 - State of Michigan representatives notify NRC of improperly disposed thorium-magnesium waste material on State of Michigan property and SCA property.
- 12/08/83 - Inspection/Investigation conducted by Region III determines that slag came from Bay City, Michigan site operated by Wellman-Dynamics Corporation. Cover letter states that Region III will contact Wellman-Dynamics after Region III evaluation is completed.
- 05/01/84 and 08/24/84 - Memo, M. Schumacher through C. J. Paperiello to Region III files on SCA Kawkawlin in Michigan discusses proposal for disposition of slag problem.
- 07/11-24/84 - ORAU conducts site survey.
- 07/26/88 - Letter of agreement of radiological monitoring with Michigan Department of Public Health. Sampling projected to continue for 3-years before decision to terminate or reduce sampling frequency.
- 06/17/86 - Sample results for 1985 sent to MDPH.
- 10/06/87 - Sample results for 1986 sent to MDPH.
- 06/28-29/88 - NMSS and RIII site visit (See memo dtd 7/7/88, Shafer to Norelius, Trip Report) to meet with licensee.
- 10/03/88 - Notification to US NRC Region III and State of Michigan Dept. of Health by Waste Management Corporation - for joint annual sampling of surface and groundwater at the Hartley site.
- 10/19/88 - NRC Region III transmitted 1987 sample results to the State of Michigan Dept. of Health and to Waste Management Corporation. Discussed deed restriction for the site (memorandum of restriction on use). Acknowledged the receipt of sampling schedule.

SCA Kawkawlin Landfill (Cont'd)

Proposed NRC Action Plan

1. Region III and the State of Michigan MDPH need to determine the need to continue or stop sampling by June 1989. (To be determined after a review of 1988 sample results.)
2. Future activities will include:

Action

Resolve Slag issue on Hartley and
Hartley Property

Resolve Wellman-Dynamics Involvement

Responsible Organization

Dow will remove if
DNR does not identify
Dow as PRP

RIII

LICENSEE

Shieldalloy Corporation
Cambridge, Ohio

License No. SMB-1507
Docket No. 040-08948

HISTORY

- NRC issued license to Vanadium Corp. of America (STB-850) on 09/15/65. License modified to SMB-850, Docket No. 040-07397 on 11/14/66. Primary purpose was for handling of tin slag containing natural thorium and pyrochlore ore containing natural thorium and uranium to produce ferro columbian metals from 1966-1970.
- The production process produced radioactive slag byproduct. Slag was collected in two main areas, east and west slag piles.
- In 1970, Vanadium Corp. merged with Foote Mineral Co. and license was modified 08/28/70 to reflect name change.
- On 11/06/73 Foote Mineral advised NRC that all pyrochlore ore had been removed from facility.
- In 1987 Foote Mineral notified NRC of its intent to sell facility and site. NRC responded questioning status of contaminated slag piles.
- After meeting with representatives of Foote Mineral and Shieldalloy, NRC issued license to new owner, Shieldalloy for decommissioning of site on 05/24/87.

DECOMMISSIONING SCHEDULE

- 11/27/87 - Shieldalloy submitted decommissioning plan.
- Proposed plan is to construct containment for both slag piles onsite.
- 04/20/88 - NRC and State of Ohio representatives visit site (see Trip Report, Shafer to Norelius, dated 05/02/88)
- 5/31/88 - ORAU submits final report on Shieldalloy Corporation site (radiological survey)
- 07/28/88 - NMSS notifies Shieldalloy of additional concerns regarding decommissioning. Requested licensee respond to each concern.

Shieldalloy Corporation (Cont'd)

Proposed NRC Action Plan

1. Currently awaiting licensee response to NRC request to revise the decommissioning plan. NMSS will contact licensee to determine status during January 1989.

2. Future activities will include:

<u>Action</u>	<u>Responsible Organization</u>
Perform Survey of Areas in City or get a Fly-over	RIII/NMSS
Start Decontamination Plan	Licensee
Periodic Inspections Once Decontamination Plan Implemented	RIII
Perform Closeout Survey	Licensee
Perform NRC Closeout Survey	RIII
Terminate License	NMSS

LICENSEE

Victoreen, Inc.
Cleveland, Ohio

License No. 34-00486-10
Docket No. 030-19594

HISTORY

- The Victoreen license was renewed on August 14, 1985 authorizing the use of sealed sources for research and development, calibration of instruments and distribution of calibrators to licensees. The license also authorizes small amounts of unsealed radionuclides (microcurie and millicurie range) for research and development.
- The license authorized use at Victoreen facilities at 1010 Woodland Avenue, Cleveland, Ohio.
- Region III held a meeting on November 18, 1987 with Victoreen to discuss relocation of its facility from Woodland Avenue and decommissioning of the site.
- Victoreen requested an amendment to its license on December 9, 1987 authorizing relocation. The NRC issued the amendment on January 20, 1988 for relocation of the facility and required Victoreen to submit a decommissioning plan by June 30, 1988 (Condition No. 26).

DECOMMISSIONING SCHEDULE

- 11/17/87 - Region III requested ORAU to perform a confirmatory survey of facility when relocation was complete and Region III receives results of Victoreen closeout survey.
- 03/22/88 - Victoreen Inc., submits proposed decommissioning plan.
- 04/19/88 - NRC and State of Ohio representatives visit site (see Trip Report, Shafer to Norelius, dated 05/02/88).
- 04/20/88 - Licensee submitted preliminary survey of building.
- 06/15/88 - Letter to Victoreen from P. Whiston requesting a revised decom plan and NRC understanding that building will not be sold before license is terminated.
- 09/02/88 - Telecommunications from Victoreen indicated that Applied Health Physics would perform decontamination activities. Sneller Globe Corporation has responsibility for decommissioning the Woodland Avenue site.

Victoreen Inc. (Cont'd)

Proposed NRC Action Plan

1. Review with licensee status of response to NRC request for additional information on decontamination plan. Need to do during month of January 1989.
2. Further activities will include:

<u>Action</u>	<u>Responsible Organization</u>
Review and Approve Decontamination Plan	RIII
Implement Decontamination Plan	Licensee
Perform Periodic Inspections	RIII
Submit Final Survey	Licensee.
NRC Perform Closeout Survey	RIII
Release Building	RIII

LICENSEE

Vistron Corporation
Lima, Ohio

License No. SUB-908
Docket No. 040-07604

HISTORY

- Vistron was a subsidiary of the Standard Oil Co.
- Vistron made a catalyst which contained small amounts of depleted uranium during the period 1963-1971.
- All materials were utilized within the boundaries of the Standard Oil Co.'s chemical plant southwest of Lima, Ohio.
- Vistron requested termination of its license by letter dated January 6, 1977 after contaminated materials disposed and recoverable catalyst placed in storage.
- Catalyst was used in manufacturing process under License No. SUB-746, issued to Standard Oil Co.; this license was incorporated into Vistron's for decommissioning.

DECOMMISSIONING SCHEDULE

- 01/30/77 - NRC requested closeout survey for facility.
- 1977-1979 - NRC and Vistron corresponded on decommissioning plan and extent of contamination onsite.
- 1977 - RMC (Radiation Management Corp.) a contractor for Vistron, performed radiological survey of site.
- 07/12/79 - NRC issued decommissioning license to Vistron.
- 1980 - Vistron shipped low level waste to Barnwell, South Carolina.
- 09/18/80 - Decontamination survey results to NRC.
- 06/12/80 - Decontamination survey results to NRC.
- 07/06/80-09/25/80 - Correspondence regarding acceptable contamination levels at site.
- 07/12-16/82 - NRC contracted with ORAU to perform radiological survey of site to determine contamination levels.
- 1982-1985 - No action at site.
- 07/15/85 - Vistron contracted with NES (Nuclear Energy Services) to perform radiological assessment of site.

Vistron (Cont'd)

- 09/04/85 - Vistron submitted new decommissioning plan to begin dismantle of No. 1 acrylonitrile plant with other buildings and areas onsite to follow. Site contains contaminated buildings, soil, holdup and deep well ponds.
- 10/15/85 - NRC meeting with Vistron to discuss decommissioning schedule for site.
- 10/01/86 - Vistron submitted new, revised decommissioning plan.
- 05/22/87 - Plan approved by NRC in license and license expiration date set at May 31, 1992.
- 10/12/87 - NRC inspection of decontamination activities onsite.
- 03/30/88 - NES submits release survey for Catalyst plant.
- 04/15/88 - Meeting memorandum discussing decontamination effort at Vistron plant.
- 04/21/88 - NRC and State of Ohio representatives visit site (see 05/02/88 Trip Report, Shafer to Norelius).
- 06/15/88 - NES submits supplement 1 to release survey on Catalyst plant.
- 07/27/88 - ORAU confirmatory survey submitted in final.
- 08/17/88 - NMSS submitted ORAU survey data to licensee.
- 08/22/88 - Allegation regarding disposal of depleted uranium by Vistron.
- 08/22/88 - RIII internal memorandum concerning allegation review.
- 09/08/88 - RIII internal update on allegation investigation.
- 11/17/88 - ORAU review of NES survey data recommending remedial action.
- 12/05/88 - Inspection report allegation - incineration of uranium. Onsite investigation September 7/8, 1988.
- 12/22/88 - NMSS released catalyst plant warehouse and allied components for unrestricted use.

Vistron Corporation (Cont'd)

Proposed NRC Action Plan

1. NMSS will contact licensee to request submittal of plan for decommissioning of holdup ponds. Licensee needs to submit one.
2. Future activities will include:

Action

Responsible Organization

Approve Decon Plan for Holdup Ponds

NMSS

Cleanup Ponds

Licensee

Submit Closeout Survey of Ponds

Licensee

Perform NRC Closeout Survey

RIII/ORAU

Terminate License

NMSS

LICENSEE

Wellman Dynamics
Bay City, Michigan

License No. STB-136
Docket No. 040-01790

HISTORY

- In 1961, Wellman Bronze and Aluminum Co. (Wellman Dynamics) took over the Bay City Operation from Dow Chemical (Licensed under License No. STB-527). Wellman Dynamics was issued AEC License No. STB-136 for this purpose.
- Operations to make thorium-magnesium alloys were ceased in April 1972 and Wellman requested termination of its license. The request indicated material had been transferred to Wellman's facility in Iowa or buried per 10 CFR 20.304 if low levels
- AEC terminated the license on May 17, 1972.

DECOMMISSIONING SCHEDULE

- May 1982 - Region III performed survey at site to determine extent of any residual contamination. Levels above NRC criteria for release for unrestricted use were found.
- Dow Chemical, current owner of property, removed and consolidated contaminated soil with other thorium wastes at Dow's other Bay City plant.
- The NRC performed a confirmatory survey of the site and determined that levels of thorium were below NRC criteria for release. The license status was then reclosed.
- 05/05/88 - Please reference SCA Kawkawlin file.

LICENSEE

Westlake Landfill, St. Louis County, Docket No. for Landfill: 040-08901
Missouri
(Cotter Corp., Latty Avenue, Hazelwood, Missouri)

HISTORY

- Between 1943 and 1946, Mallinckrodt Chemical Co., St. Louis, Missouri processed ores containing uranium under contract with the AEC as part of the Manhattan Project.
- When the contracts were terminated, process wastes were stored at a site adjacent to the St. Louis Airport.
- In 1966, the AEC sold some of the wastes at the airport to Continental Mining and Milling Co. (CMMC). CMMC was issued AEC License No. SMA-852 to process the wastes at 9200 Latty Avenue, Hazelwood, Missouri.
- In late 1966, CMMC went into receivership and the Commercial Discount Corp. (CDC), Chicago, Illinois was issued AEC License No. SMC-907 for the removing of moisture from the wastes onsite. The wastes were then to be shipped to the Cotter Corp., Canon City, Colorado.
- AEC issued License No. SUB-1022 to the Cotter Corp. on December 29, 1969 to possess the wastes, dry them and ship to its Colorado plant site.
- From 8/70 to 11/70 the material was transferred to the Colorado site. Remaining material at site encompassed 10,000 tons of Colorado raffinate and 8,700 tons of leached barium sulphate raffinate.

DECOMMISSIONING SCHEDULE

- Region III inspected the Latty Avenue site in April 1973. The inspector learned that the sulphate raffinates were diluted with 39,000 tons of soil and deposited in the Westlake landfill during decommissioning of the site.
- The landfill is located on St. Charles Pock Road (200 acre site). Hazardous waste is also known to be found at the landfill. There are perimeter monitoring wells.
- May 1974 - The Cotter Corp. submitted a closeout survey for the site and requested termination. The AEC terminated License No. SUB-1022 in November 1974 without performing a confirmatory survey.
- 05/76 - St. Louis Post-Dispatch printed story regarding the dumping of waste at the landfill from Latty Avenue.
- 08/76 - Region III surveyed Latty Avenue site to determine effectiveness of decontamination by Cotter Corp. in response to media interest. Results indicated residual contamination levels greater than the NRC criteria for unrestricted release.
- 06/77-08/77 - ORNL surveyed Latty Avenue site per contract with the NRC.

Westlake Landfill (Cont'd)

- 08/23/88 - NUREG-1308 Revision 1 issued
- Cotter Corp. committed to NRC to decommission site but no site identified to accept waste.
- In 1978, Mr. Jarboe, new owner of site, initiated decommissioning efforts with the NRC. Decontamination began in 1978 and in August 1979, buildings and surrounding areas were released for unrestricted use.
- Contaminated soil from decommissioning was placed in piles on one portion of the property.
- 1978 - ARMS flight was performed by DOE for the NRC and indicated levels of radioactivity at the landfill.
- 08-11/80 and spring/summer 81 - The landfill was surveyed by Radiation Management Corp. (RMC) per contract with the NRC. The results indicated levels above NRC criteria for release and potential for groundwater contamination, although no evidence of significant contamination of groundwater.
- 1984 - Latty Avenue site was directed by Congress to be part of DOE FUSRAP program. Westlake landfill not part of the program.
- 1986 sampling of perimeter monitoring wells showed one well to contain 17 pCi/l gross alpha (EPA is 15 pCi/l). Six other wells had readings of 10 pCi/l.
- 1988 - Landfill is part of the radiological evaluation budget for NRC in FY88.
- 05/05/88 - NUREG-1308 describing Westlake Landfill problems issued.
- 08/03/88 - NUREG-1308 was distributed to the Mayor, Bridgeton, MO, other regulatory agencies and the licensee.
- November 1988 - NMSS visited site.

Westlake Landfill (Cont'd)

Proposed NRC Action Plan

Region III and NMSS need to hold meeting with State Department of Natural Resources, the regional EPA office, DOE and the property owner to determine who will lead resolution of cleanup of this site.

NMSS will issue letter.

LICENSEE

Wright Patterson Air Force Base
(WPAFB)
Dayton, Ohio

License No. (Air Force) 42-23539-01AF
WPAFB Permit: 34-00472-02AFP
USAF Docket No. 030-28641

HISTORY

- WPAFB was first issued an AEC/NRC license on July 19, 1956. The current license is of broad scope.
- The license was under NRC, Region III authority until June 26, 1985. At that time, NRC issued a broad license to Air Force, Brooks Air Force Base, Texas, to issue permits to WPAFB without prior NRC approval.
- The WPAFB NRC license was officially terminated on December 18, 1985.
- The NRC license and subsequent Air Force Permit for WPAFB only authorized sealed forms of americium-241.
- On 09/18/86, Building 4060 on WPAFB was contaminated with unsealed americium-241.
- On 10/31/86, the Air Force modified the WPAFB permit for possession of americium-241 contamination and waste in connection with Building 4060.

DECOMMISSIONING SCHEDULE

- 10/02-06/86 - WPAFB personnel performed some decontamination in building.
- 10/30-11/18/86 - WPAFB had its contractor perform decontamination and removal of contaminated waste from Building 4060. Small amount of material as fixed contamination was left within building.
- 09-12/87 - Chem-Nuclear and WPAFB personnel and NRC performed surveys for residual contamination surrounding Building 4060.
- 10/27/86 - ORAU, as contractor for NRC, arrived at WPAFB and performed surveys to determine extent of residual contamination in Building 4060 and surrounding areas.
- 11/25-1/13/87 - ORAU submitted results of this survey to Region III.
- 9/87-12/87 - WPAFB, with its contractor Chem-nuclear, dismantled Building 4060 and any materials with activity above NRC guidelines were packaged as radioactive waste.
- 09/87 - Chem-Nuclear submitted the decommissioning plan to the NRC for review.
- 09/08/87 - Air Force amended the WPAFB permit to incorporate the Chem-Nuclear decommissioning plan.

Wright-Patterson (Cont'd)

- 12/87 - Chem-Nuclear performed closeout survey after decommissioning of Building 4060 and surrounding areas.
- 11/23-12/8/87 - ORAU, NRC contractor, performed confirmatory surveys of decommissioning areas and an onsite boy scout area. Results included in letter dated 12/17/87. Conclusion - area is within NRC guidelines for release for unrestricted use.
- 02/01/88 - NRC awaiting closeout results from WPAFB to include Chem-Nuclear's survey and recent issue with possible contaminated fish in Bass Lake on WPAFB.

Proposed NRC Action

Obtain formal closeout survey results from Air Force during January 1989 so we can remove from list.

Document Name:
NRCRMP OP (

Requestor's ID:
ROSE

Author's Name:

Document Comments:
Give to Gallien; Personnel Action Tracking System 1/30/89

REGION III SITES UNDERGOING DECOMMISSIONING*

<u>Site</u>	<u>Licensing Responsibility</u>	<u>Pages</u>
Advanced Medical Systems (34-18909-01)	Region III	1-2
Chemetron (McGean Chemical Co.) (SUB-1357)	NMSS	3-6
Dow Chemical Co. (STB-527)	Region III	7-9
Remington Arms Company (Dept. of the Army) (SUB-1380)	Region III	10-13
SCA, Kawkawlin (No License)	Region III	14-15
Shieldalloy (SMB-1507)	Region III	16-17
Victoreen Inc. (34-00486-10)	Region III	18-19
Vistron Corp. (SUB-908)	NMSS	20-22
Wellman Dynamics (STB-136)	Region III	23
Westlake Landfill (No License)	NMSS	24-26
WPAFB (42-23539-01AF)	Region III	27-28

*This report does not include fuel facilities.