SEC Petition Evaluation Report
Petition SEC-00140

Report Rev #: Addendum-1 Report Submittal Date: 05-10-2010

Subject Expert(s):	Chris Miles, Riasp Medora, Joe Guido
Site Expert(s):	N/A

Petitioner Administrative Summary			
Petition Under Evaluation			
Petition #	Petition Type	Petition A Receipt Date	DOE/AWE Facility Name
SEC-00140	83.13	May 18, 2009	University of Rochester Atomic Energy Project

Class Evaluated by NIOSH
All employees of the Department of Energy, its predecessor agencies, and its contractors and subcontractors who worked at the University of Rochester Atomic Energy Project in Rochester, New York, from September 1, 1943 through October 30, 1971.

NIOSH-Proposed Class(es) to be Added to the SEC
All employees of the Department of Energy, its predecessor agencies, and its contractors and subcontractors who worked at the University of Rochester Atomic Energy Project in Rochester, New York, from September 1, 1943 through October 30, 1971, for a number of work days aggregating at least 250 work days, occurring either solely under this employment or in combination with work days within the parameters established for one or more other classes of employees in the SEC.

Related Petition Summary Information			
SEC Petition Tracking #(s)	Petition Type	DOE/AWE Facility Name	Petition Status
None			

Related Evaluation Report Information	
Report Title	DOE/AWE Facility Name
None	

ORAU Lead Technical Evaluator: Chris Miles	**ORAU Review Completed By:** Daniel Stempfley

Peer Review Completed By:	[Signature on file] *Lara Hughes*	5/10/2010 *Date*
SEC Petition Evaluation Reviewed By:	[Signature on file] *J. W. Neton*	5/10/2010 *Date*
SEC Evaluation Approved By:	[Signature on file] *Stuart L. Hinnefeld*	5/10/2010 *Date*

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Addendum to University of Rochester AEP (SEC-00140) Special Exposure Cohort Evaluation Report

NIOSH presented a Special Exposure Cohort (SEC) evaluation report (NIOSH, 2009) regarding the University of Rochester Atomic Energy Project (AEP) to the Presidential Advisory Board on Radiation and Worker Health (the Board) during the Board's regular meeting on October 20-22, 2009. The report evaluated the feasibility of reconstructing radiation doses of all employees of the Department of Energy, its predecessor agencies, and its contractors and subcontractors who worked at the University of Rochester Atomic Energy Project in Rochester, New York, from September 1, 1943 through October 30, 1971. As requested by the Board, NIOSH has made additional efforts to locate and capture data to support internal radiation dose reconstruction for the class under evaluation, which is believed to exist. This evaluation report addendum provides an overview of NIOSH's additional data capture efforts for the University of Rochester AEP.

NOTE: This Evaluation Report Addendum only addresses those sections in the University of Rochester AEP Evaluation Report that require discussion; therefore, the section numbering is not contiguous. The sections requiring additional discussion of data capture efforts begin below.

Petition Evaluation Report Summary

Class Evaluated by NIOSH (in the Evaluation Report)

All employees of the Department of Energy, its predecessor agencies, and its contractors and subcontractors who worked at the University of Rochester Atomic Energy Project in Rochester, New York, from September 1, 1943 through October 30, 1971.

NIOSH-Proposed Class(es) to be Added to the SEC

NIOSH finds that additional data capture efforts have not yielded any information that would support internal dose reconstruction for the class under evaluation. Therefore, NIOSH maintains its recommendation that was presented in the original evaluation report.

3.3 NIOSH-Proposed Class(es) to be Added to the SEC

Based on its full research of the class under evaluation, NIOSH has defined a single class of employees for which NIOSH cannot estimate radiation doses with sufficient accuracy. The NIOSH-proposed class includes all employees of the Department of Energy, its predecessor agencies, and its contractors and subcontractors who worked at the University of Rochester Atomic Energy Project in Rochester, New York, from September 1, 1943 through October 30, 1971, for a number of work days aggregating at least 250 work days, occurring either solely under this employment or in combination with work days within the parameters established for one or more other classes of employees in the SEC. The class under evaluation was accepted (see Section 3.0 below) because internal monitoring data are very limited and insufficient for dose reconstruction purposes.

4.0 Data Sources Reviewed by NIOSH to Evaluate the Class

NIOSH has searched for and captured additional documents related to University of Rochester AEP, based on various sources of information in addition to the due diligence data capture steps that are undertaken with every SEC evaluation. Below is a summary and timeline of the data capture efforts by NIOSH since the October 2009 Board meeting.

4.5 NIOSH Site Research Database

NIOSH has performed additional data captures for University of Rochester AEP and an additional 162 documents were captured and uploaded into the SRDB, which at the time this report was prepared contained 1158 documents related to the University of Rochester AEP. The various data capture efforts and locations where information was found are summarized below including a timeline of NIOSH's efforts that took place since the October 2009 Board meeting.

4.5.1 New York State Agencies

During the discussion of SEC-00140 evaluation with the Board in October 2009, Board Chairman Dr. Melius indicated that he would like to inquire with some of his contacts at various New York State Agencies whether he could find information where health and safety records from the University of Rochester might be located. In December 2009, Dr. Melius informed NIOSH that he had not obtained any information from New York State agencies that would indicate that those agencies had any records pertaining to the University of Rochester.

In addition, NIOSH has checked its data capture records, which indicated that the following New York State Agencies had been contacted by NIOSH in 2007 as part of their routine checking for records for EEOICPA sites (NIOSH 2007).

- New York State Department of Labor, Division of Safety and Health
- New York State Energy Research and Development Authority
- New York State Department of Environmental Conservation
- Bureau of Environmental Radiation Protection and Environmental Exposure Investigations

No data relevant to internal dose reconstruction were located at these locations by NIOSH at that time and no additional data were captured since October 2009.

4.5.2 Hanford

Board Member Dr. Lockey provided information obtained from one of his contacts at the University of Rochester, that Rochester records might have been transferred to Hanford or Oak Ridge. This information refers to documents that once belonged to Dr. J. Newell Stannard, who spent a large part of his career at the University of Rochester.

A search request by NIOSH to Hanford for University of Rochester keywords yielded approximately 150 pages of search results (NIOSH 2010) and was followed up by NIOSH with a formal data capture request. The request specifically included over 70 boxes containing a collection of records that were given to Hanford by Dr. Stannard and which contained records related to the writing of his book "*Radioactivity and Health: A History*". Hanford had difficulty locating the requested records and indicated that all or part of the collection may have been transferred to other locations, such as the Washington State University (WSU) U.S. Transuranium and Uranium Registries (USTUR) or the Seattle Federal Records Center. Eventually, two boxes of records related to University of Rochester were retrieved by Hanford from the Seattle Federal Records Center. Indications are that a number of boxes were also transferred to WSU as discussed in the following section. After Hanford completed classification review of the documents, NIOSH was able to capture 71 documents related to University of Rochester AEP. The 71 captured document titles are listed in the Appendix. They consist mainly of the following types of documents:

- University of Rochester AEP research and development reports to the AEC (these mainly consist of reports on biological properties and effects of radionuclides on animals and humans and other topics related to the specific Rochester research programs) – (62 documents)
- Box contents and Table of content lists - (5 documents)
- Papers presented at 1959 bioassay symposium at Rochester - (2 documents)
- Unspecified technical reports and papers (2 documents)

None of the documents captured at Hanford were relevant for SEC issues or contained data useful for internal dose reconstruction of University of Rochester AEP claims.

4.5.3 Washington State University U.S. Uranium and Transuranium Registries

Based on information from Hanford, NIOSH contacted WSU directly to locate part of the requested boxes that might have been transferred there by Hanford in the mid-1990's. WSU had trouble matching identifying numbers from Hanford's record transfer sheets because some or all of the collection may have been re-boxed. After interviewing former records personnel, it appears that Hanford did not transfer the entire Newell Stannard collection to WSU, but only part thereof, because of classification concerns. Eventually two boxes were located at WSU that appeared to have been part of the collection. They were reviewed by NIOSH and did not contain any University of Rochester records (they were related to dog studies at the University of California Davis). Additional information also indicated that some of the reports contained in the original boxes may now be located in the collections of the WSU library system. A search of the WSU library catalog yielded some search results and six documents pertaining to the University of Rochester were captured.
The six documents collected are listed in the Appendix. They consist of:

- University of Rochester AEP research and development reports to the AEC (these mainly consist of reports on biological properties and effects of radionuclides on animals and humans and other topics related to the specific Rochester research programs) – (4 documents)
- National Nuclear Energy Series, Division VI, Vol. 3 – (1 document)
- Radiation Resarch Supplement 5, 1964 – (1 document)

None of the documents captured at WSU were relevant for SEC issues or contained data useful for reconstructing internal doses for University of Rochester claims.

4.5.4 University of Tennessee Knoxville, Special Collections Library

While researching documents that may have been located at WSU-USTUR, NIOSH noted that the WSU- USTUR National Radiobiology Archives public website indicated that part of the "Stannard collection" that is in possession of WSU was complementing a collection that is located at the University of Tennessee (UT), Knoxville Special Collections Library (Document Archives, 2010). A search of the UT library system confirmed that indeed they possessed a collection of Dr. Newell Stannards papers consisting of 26 boxes. A data capture trip to UT was completed in March 2009 and 51 documents were captured by NIOSH. The documents captured are listed in the Appendix of this document. They consist of the following:

- Scientific Journal and Book Chapter publications (16 documents)
- General technical and other miscellaneous reports (11 documents)
- Handwritten calculations and notes (10 documents)
- Invitations and trip reports (4 documents)
- Lecture and speaking notes transcripts (3 documents)
- Box content lists (2 documents)
- Publication lists (2 documents)
- AEC Research and Development Report abstract (1 document)
- Correspondence and photographs (1 document)
- Interview transcript (1 document)

None of the documents captured at UT Knoxville Special Collections Library were relevant for SEC issues or contained data useful for reconstructing internal doses for University of Rochester claims.

4.5.5 NARA College Park, Maryland

This data capture effort was on-going when the SEC-00140 evaluation report was presented to the Board in October 2009 but it was expected from the finding aids, that the documents located at College Park were unlikely to contain personal monitoring records. Several documents related to the University of Rochester were received from College Park in November 2009 and an additional data capture trip was completed in February of 2010 after a new finding aid was located. Overall 34 documents were captured pertaining to University of Rochester in some form. The documents captured are listed in the Appendix and they consist of the following:

- Correspondence between AEC and University of Rochester AEP – (20 documents)
- Unspecified research reports, progress reports and summaries (6 documents)
- Misc. memoranda and correspondence related to URAEP (6 documents)
- Trip reports (2 documents)

None of the documents captured at NARA College Park, Maryland were relevant for SEC issues or contained data useful for reconstructing internal doses for University of Rochester claims.

4.5.6 Oak Ridge Operations Office Vault

This search was to confirm that no classified information on University of Rochester is contained in records that were formerly located at ORAU. This effort involved a review of 46 boxes of records and some records were found regarding film badge services provided by University of Rochester to other sites. This data was requested by NIOSH and is undergoing classification review at this time and has not yet been received by NIOSH. The reviewers' reports indicated that no data was located that would be relevant to SEC issues or contained data useful for reconstructing internal doses for University of Rochester claims.

4.5.7 Timeline of data capture efforts

Table 4-1: Timeline of NIOSH data capture efforts since Oct. 2009

Date	Action
October 2009	SEC00140 evaluation presented to the Board who decides that further investigation on data availability should be done. Dr. Melius to contact NY state agencies for information.
November 2009	NIOSH receives 18 documents from NARA College Park, Maryland (requested prior to ER completion).
December 2, 2009	Dr. Melius indicated that he has found no information from NY state agencies but received some information from Dr. Lockey who talked to a contact at the University of Rochester, who indicated that records could have been sent to either Oak Ridge or Hanford.
December 3, 2009	NIOSH verifies that Oak Ridge records have been checked for University of Rochester records but that so far data capture efforts have not included Hanford.
December 7, 2009	A preliminary search at Hanford for University of Rochester keywords indicates that Hanford may have records
December 8, 2009	Board conference call: NIOSH provides update to the Board. The Board decides to postpone any discussion to the Feb. 2010 meeting pending data search at Hanford.
December 9, 2009	NIOSH sends email data search request with keywords to Hanford.
December 15, 2009	NIOSH sends formal data request letter to Hanford along with data capture strategy
Dec. 2009-Jan 2010	Weekly follow up with EEOICPA contact at Hanford regarding progress of search
January 26, 2010	NIOSH receives ~ 150 pages of search results from Hanford related to University of Rochester keywords
February 2010	Hanford attempts to locate records requested by NIOSH, indicates that some may have been moved to other locations.
February 7-13, 2010	NIOSH completes data capture trip to NARA College Park, Maryland based on information from a newly located finding aid. Additional documents for University of Rochester were captured.
February 9-11, 2010	NIOSH provides update to the Board during their regular meeting. The Board decided to postpone action pending completion of Hanford data capture

Table 4-1: Timeline of NIOSH data capture efforts since Oct. 2009	
Date	**Action**
February-March 2010	On-going negotiations with Hanford – there are difficulties locating the NIOSH requested documents, indications are that they might have been transferred to WSU
February 26, 2010	Visit to WSU indicates that they have two of the boxes NIOSH is looking for, no University of Rochester data in boxes.
March 15, 2010	NIOSH completes data capture at University of Tennessee, Knoxville, Special Collections Library. 51 Documents captured
March 2010	Additional search of the classified vault at Oak Ridge Operations Office for University of Rochester records. No relevant records located, a few pages of records were requested and are currently in classification review (relevant for other sites for which Rochester provided film badge services).
March 2010	A search of the WSU library system yields a few search hits and 6 documents were captured.
March 31, 2010	NIOSH provides the Board with an update on the data capture efforts during the Board teleconference call. The Board postpones decision pending completion of Hanford data capture.
April 2010	Hanford retrieves two of the boxes from the "Stannard Collection" that were located at the Seattle Federal Records Center. They were reviewed by Hanford staff and some documents relevant to University of Rochester were found. Documents were reviewed for classified material and scanned. Overall 71 documents were captured.
April 29, 2010	NIOSH completes additional data capture efforts for University of Rochester AEP.
May 2010	NOSH to provide SEC evaluation report addendum to the Board.

7.5 Summary of Feasibility Findings for Petition SEC-00140

The original evaluation report evaluated the feasibility for completing dose reconstructions for employees at the University of Rochester AEP from September 1, 1943 through October 30, 1971. NIOSH found that the available monitoring records, process descriptions and source term data available are not sufficient to complete dose reconstructions for the evaluated class of employees.

This addendum to the University of Rochester AEP evaluation report (SEC-00140) outlines the additional data capture efforts by NIOSH to locate data on internal radiation monitoring for workers at the University of Rochester AEP in order to evaluate the feasibility of estimating with sufficient accuracy the doses received from potential exposures for all employees of the Department of Energy, its predecessor agencies, and its contractors and subcontractors who worked at the University of Rochester Atomic Energy Project in Rochester, New York, from September 1, 1943 through October 30, 1971.

Personal monitoring and/or area monitoring data are not always required to bound doses at a given facility. However, if these monitoring data are not available, NIOSH must have detailed source term and process information to develop a sufficiently accurate exposure model. NIOSH has determined that it still does not have adequate internal or external monitoring data for members of the evaluated class from September 1, 1943 through December 31, 1952. Internal monitoring data are insufficient for reconstructing or bounding dose for any of the evaluation period, September 1, 1943 through October 30, 1971. NIOSH has also determined that the available source term and process information are inadequate to bound internal dose in the absence of internal monitoring data. NIOSH has therefore concluded that internal dose reconstruction is not feasible for the University of Rochester AEP from September 1, 1943 through October 30, 1971.

Note: An Appendix follows the References section.

References for This Addendum

Document Archives, 2010, *Document Archives, National Radiobiology Archives,* United States Transuranium and Uranium Registries, March 2010; http://www.ustur.wsu.edu/NRA/DocumentArchives/index.html

NIOSH 2007, Data Capture Completeness Verification for University of Rochester Atomic Energy Project, National Institute for Occupational Safety and Health (NIOSH) August 13, 2007; SRDB Ref ID: 34589

NIOSH 2009, *SEC Petition Evaluation Report for University of Rochester AEP*, National Institute for Occupational Safety and Health (NIOSH); September 9, 2009 ; http://www.cdc.gov/niosh/ocas/pdfs/sec/uraep/uraeper.pdf

NIOSH 2010, *Hanford search results for University of Rochester AEP*, National Institute for Occupational Safety and Health (NIOSH), February 2010; SRDB Ref IDs: 78661, 78664, 78667, 78668, 78928, 78930, 78933, 78934

Appendix

The following tables summarize the additional data that was captured for University of Rochester AEP.

Table A-1: Documents collected from Hanford		
SRDB Ref ID	**SRDB Document Title**	**Type of Document**
80863	A Radiochemical and Autoradiographic Study of the Distribution of Polonium in Rats After Intravenous Administration	AEC Research and Development Report (UR-220)
80869	Distribution and Excretion Studies in Dogs Exposed to an Aerosol Containing Polonium-210	AEC Research and Development Report (UR-566)
80872	The Accumulation of Po-210 in the Rat During Multiple Inhalant Exposures	AEC Research and Development Report (UR-573)
80879	Analytical and Autoradiographic Methods for Polonium-210	AEC Research and Development Report (UR-305)
80883	J. Newell Stannard Collection Inventory for Box 48	Box Inventory
80884	Table of Contents - Volume II	Table of Contents (list of AEC R&D report titles)
80886	Biological Effects of Ionizing Radiation	AEC Research and Development Report (UR-196)
80891	A Comparative Study of the Inhibitory Actions of Mercury and Uranium on Yeast and Yeast Hexokinase	AEC Research and Development Report (UR-252)
80917	Influence of Diet on Survival of Rate Following Whole Body X-Irradiation or Polonium Injection	AEC Research and Development Report (UR-320)
80919	The Effects of a Maintained Body Burden of Polonium in Rats; I. Pilot Distribution and Excretion Experiment	AEC Research and Development Report (UR-329)
80921	A Preliminary Investigation of Some Radiocolloidal Properties of Polonium-210 Using Molecular Filters (UR-363)	AEC Research and Development Report (UR-363)
80923	The Effects of a Maintained Body Burden of Polonium in the Rat; II. Plan of Long Term Experiment; Distribution, Excretion and Retention Data	AEC Research and Development Report (UR-376)
80926	An Improved Aerosol Generator	AEC Research and Development Report (UR-377)
80929	A Survey of the Literature on the Biological Effects of Radon and a Determination of its Acute Toxicity	AEC Research and Development Report (UR-379)
80939	The Acute Toxicity and Retention of Orally Administered Polonium-210 in the Rat	AEC Research and Development Report (UR-392)
80944	The Long Term Retention and Distribution of Polonium-210 in the Rat	AEC Research and Development Report (UR-393)
80945	The Effects of a Maintained Body Burden of Polonium in the Rat; III. Mortality, Life Span, and Growth (UR-395)	AEC Research and Development Report (UR-395)

Table A-1: Documents collected from Hanford		
SRDB Ref ID	**SRDB Document Title**	**Type of Document**
80946	The Early Fate of Polonium-210 in Cats; I. Gastrointestinal Administration Studies, II. Intravenous Administration Studies	AEC Research and Development Report (UR-396)
80947	Is the Concept of "Critical Organ" Valid in Determining the Maximum Permissible Level for Exposure to Radioactive Materials?	AEC Research and Development Report (UR-402)
80948	The Histopathology of Mice Exposed to Radon	AEC Research and Development Report (UR-411)
80949	The Binding of Polonium by Red Cells and Plasma Proteins	AEC Research and Development Report (UR-414)
80950	The Control and Measuring Systems of an Apparatus for the Study of Respiratory Tract Retention	AEC Research and Development Report (UR-415)
80951	A Note of Precision Plating of Polonium	AEC Research and Development Report (UR-415)
80952	Influences of Injection Solution Treatment on Blood Disappearance Rates and Tissue Distribution of Polonium-210	AEC Research and Development Report (UR-421)
80953	Possible Sex Influences on the Metabolism of Polonium-210 in the Rat	AEC Research and Development Report (UR-427)
80954	Table of Contents - Volume 3	Table of Contents (list of AEC R&D report titles)
80955	The Effect of BAL (British Anti-Lewisite) on Distribution and Excretion of Orally Administered Polonium-210	AEC Research and Development Report (UR-429)
80956	The Metabolism of Polonium-210 Administered by Intratracheal Injection to the Rat (UR-430)	AEC Research and Development Report (UR-430)
80957	The Acute Toxicity and Retention of Intratracheally Administered Polonium-210 in the Rat	AEC Research and Development Report (UR-431)
80958	The Fate of Polonium-210 Colloid and Polonium-210 Tagged Silver Particles Following Intratracheal Administration to Rabbits	AEC Research and Development Report (UR-415)
80959	The Metabolism of Throium-230 (Ionium) Administered by Intratracheal Injection to the Rat	AEC Research and Development Report (UR-480)
80960	Charging and Prescription Characteristics of Sub-Micron Particles in the Rohmann Electrostatic Particle Separator	AEC Research and Development Report (UR-475)
80961	A Study of Some Physical Properties of an Aerosol in Relation to Airborne Decay Products of Radon	AEC Research and Development Report (UR-415)
80962	Autoradiographic Study of Effects of Route of Administration on distribution of Polonium-210	AEC Research and Development Report (UR-447)
80963	Species Differences in the Metabolism of Polonium-210	AEC Research and Development Report (UR-487)
80964	The distribution and Excretion of Polonium-210 After Inhalation	AEC Research and Development Report (UR-495)
80965	A Study of Deposition of a Submicronic Aerosol in Human Subjects	AEC Research and Development Report (UR-504)
80966	Agglutination of Submicronic Dust Particles with a Sodium Chloride Aerosol A Technical Study	AEC Research and Development Report (UR-505)

Table A-1: Documents collected from Hanford		
SRDB Ref ID	**SRDB Document Title**	**Type of Document**
80967	Metabolism of Indium II, The Distribution and Excretion of Indium-114m Administered to the Rat by Subcutaneous Injection	AEC Research and Development Report (UR-507)
80968	Fate of Indium Sesquioxide and of Indium-114 Trichloride Hydrolysate Following Inhalation in Rats	AEC Research and Development Report (UR-508)
80969	The Acute Toxicity and Retention of Intrperitoneally Administered Polonium-210 in the Rat	AEC Research and Development Report (UR-519)
80970	Some In vitro Studies of Polonium-210 Binding by Blood Constituents	AEC Research and Development Report (UR-541)
80971	Field Studies of Fission Product Inhalation, Part I, Fission Product Inhalation Following an Experimental In-File Meltdown	AEC Research and Development Report (UR-544)
80972	Field Studies of Fission Product Inhalation, Part II, Mobile Field Facilities	AEC Research and Development Report (UR-545)
80973	Deposition, Retention and Fate of Inhaled Polonium-210 in Rats	AEC Research and Development Report (UR-552)
80985	Autoradiographic Study of Lung Clearance and Distribution of Polonium-210 After Intratracheal Injection	AEC Research and Development Report (UR-540)
80989	Table of Contents - Volume 4	Table of Contents (List of AEC R&D report titles)
80991	Some Physical and Physiological Factors Controlling the Fate of Inhaled Substances, I. Deposition	Paper presented at Bioassay meeting at Rochester in 1959
80993	Mechanism of Clearance of Inhaled Particulates from the Lung	Paper presented at Bioassay meeting at Rochester in 1959
80995	Acute Effects of Inhalation of Fallout Debris and Associated Hazards	Draft Paper by Dr. Stannard, 1959
80997	Distribution and Excretion of Indium-114m After Multiple Intramuscular Injection to the Rat	AEC Research and Development Report (UR-554)
80998	Field Studies of Fission Product Inhalation Part III: Fission Product Field Release Test Series One (FPFRT-I) (UR-555)	AEC Research and Development Report (UR-555)
80999	Distribution and fate of Ir-192 Following Inhalation, A Preliminary, Interim Report	Unspecified report to AEC
81000	Autoradiographic Observations Following the Inhalation of Polonium-210 in Rats	AEC Research and Development Report (UR-557)
81001	The Toxicity of Indium	AEC Research and Development Report (UR-558)
81002	Deposition of a Radioactive Aerosol in Excised Guinea Pig Lungs	AEC Research and Development Report (UR-560)
81003	Toxicology of Beryllium: A Bibliography	AEC Research and Development Report (UR-570)
81004	Table of Contents - Volume 5	Table of Contents (list of AEC R&D report titles)
81005	Biliary Excretion of Radium in Dogs	AEC Research and Development Report (UR-415)

Table A-1: Documents collected from Hanford		
SRDB Ref ID	**SRDB Document Title**	**Type of Document**
81006	A Four-Channel Continuously Recording Monitor for Air-Borne Alpha-Activity	AEC Research and Development Report (UR-576)
81011	Distribution and Excretion of Niobium-95 in Rats Following Daily Administration in the Food and Drinking Water	AEC Research and Development Report (UR-584)
81012	Distribution and Excretion of Thorium with Emphasis Upon Route of Injection and Amount of Carrier Present	AEC Research and Development Report (UR-592)
81013	The Effect of Inhaled Radon on the Survival, Body Weight and Hemogram of the Mouse Following Single Exposures July 14, 1961	AEC Research and Development Report (UR-593)
81014	A Unit for Exposure of Animals to Radioactive Mercury Vapor	AEC Research and Development Report (UR-594)
81015	Outline of Courses in the Department of Radiation Biology and Atomic Energy Project, University of Rochester	AEC Research and Development Report (UR-600)
81016	The Separation and Determination of Plutonium in Diverse Biological Samples	AEC Research and Development Report (UR-606)
81018	Liquid Scintillation Counting of Plutonium-239 From Biological Samples	AEC Research and Development Report (UR-607)
81019	The Effect of Inhaled Radon on the Survival, Body Weight and Hemogram of the Mouse Following Single Exposures March 27, 1964	AEC Research and Development Report (UR-624)
81020	The Chemical Toxicity of Thorium Dioxide Following Inhalation by Laboratory Animals	AEC Research and Development Report (UR-562)
81022	Bibliography on the Biological Effects of Thorium	AEC Research and Development Report (UR-563)
81023	Solid Homogeneous Aerosol Production by Electrical Atomization	AEC Research and Development Report (UR-652)

Table A-2: Documents collected from WSU		
SRDB Ref ID	**SRDB Document Title**	**Type of Document**
80260	A Device for Measurement of Thoron in the Breath	AEC Research and Development Report (UR-619)
80261	The Fate of Radon Ingested by Man	AEC Research and Development Report (UR-648)
80262	Evaluation of a Rem Responding Neutron Detector for Use Around the University of Rochester's 20 Mev Emperor Tandem Van De Graff Accelerator	AEC Research and Development Report (UR-49-903)
80263	Thorium Inhalation Studies	AEC Research and Development Report (UR-605)
80264	Biological Studies with Polonium Radium and Plutonium vol.3	National Nuclear Energy Series, Division VI, Vol 3, 1950
80265	Metabolism and Biological Effects of an Alpha Emitter Polonium-210	Radiation Research Supplement V, 1964

Table A-3: Documents collected from UT Knoxville		
SRDB Ref ID	**SRDB Document Title**	**Type of Document**
79998	A Five-Year Inhalation Study With Natural Uranium Dioxide (UO-2) Dust - I. Retention and Biologic Effect in the Monkey, Dog and Rat	Publication in Health Physics, 1970
79995	A Review of Radon Inhalation Studies in Animals with Reference to Epidemiological data	Battelle report prepared for American Mining Congress, 1984
79955	Appendix D, Internal Dosimetry	Appendix of unspecified document
79969	Biomedical Aspects of Plutonium (Discovery, Development, Projections)	Reprint of Chapter 81 of Handbook of experimental Pharmacology, 1973
79954	Box 7 Contents List	Box content list
80005	Box Contents List	Box content list
80013	Calculation of Po Permissible Body Content	Handwritten notes
79971	Collected Publication - J. Newell Stannard Volume 3, 1982 - 1991	List of Dr. Stannard's publications
79958	Collected Publication - J. Newell Stannard Volume I, 1934 - 1964	List of Dr. Stannard's publications
79994	Comparative Particle Sizing Study Phase I - Revised Summary - June 1963	Summary of HASL report
80010	Computation of Cumulative Environmental Dose Commitment from the Discharges of Toxic Substance	Unspecified report, 1975
79992	Concluding Comments on Biological Effects of Alpha-Particle Emitters in Soft Tissue as Exemplified by Experiments with Polonium-210	Publication in Radiation Research, 1964
80007	Current Ideas on Tolerance to Radioactive Materials Entering the Body	Handwritten notes
79956	Distribution and Excretion of Polonium-210, III. Long-Term Retention and Distribution in the Rat	Reprint from Radiation Research Supplement V, 1964
79965	Distribution and Excretion of Polonium-210, VI. After Intratracheal Administration in the Rat	Reprint from Radiation Research Supplement V, 1964
80002	Excretory Methods for Bio-Assay	Handwritten notes
79984	Health Risks of Radon and Other Internally Deposited Alpha-Emitters	BEIR IV Chapter on Polonium
80012	Histopathology of Alpha Radiation from Internally Administered Polonium	AEC Research and Development Report – UR-201 – Abstract only
79961	Human Radiobiology, 1969 Fundamental Nuclear Energy Research Report to Congress	Excerpts of Nuclear Energy Research Report to Congress, 1969
79976	Inhalations Studies Group Meeting Program	Invitation and Event Schedule
79989	Internal Emitter Course Notes	Handwritten notes and excerpts of various printed materials
79991	Internal Emitter Research and Standard Setting	Draft report and presentation notes
79963	Is the Concept of "Critical Organ" Valid in Determining the Maximum Permissible Level for Exposure to Radioactive Materials?	Unspecified book chapter or journal reprint of article by Dr. Stannard
80006	Metabolism of Fission Products	Unspecified report
79967	Mortality, Life Span, and Growth of Rats with a Maintained Body Burden of Polonium	Reprint from Radiation Research Supplement V, 1964
79997	MPC Course Lecture Notes	Largely Handwritten lecture notes

Table A-3: Documents collected from UT Knoxville		
SRDB Ref ID	**SRDB Document Title**	**Type of Document**
79964	Photographs of the Atomic Energy Project Provided by Ron Kathren	Correspondence and photographs
80001	Plutonium Bioassay Lecture Notes	Handwritten notes
79974	Plutonium in the Environment	Reprint of Chapter 15 of Handbook of experimental Pharmacology, 1973
80009	Polonium Research Notes	Handwritten notes
80011	Problems in Establishment of Maximum Permissible Exposure Levels to Radioactive Materials	Unspecified Draft Report
80000	Pu - Basis for Present MPBB Occupational	Handwritten notes
80008	Radiation Biology Seminar, The Polonium Multiple Dose Experiment	Handwritten notes
79968	Radiation Toxicity Lecture Notes	Unspecified draft report
79980	Report on Visit to Fission Product Inhalation Laboratories Lovelace Foundation Albuquerque, New Mexico, October 3 - 5, 1963	Trip report by Dr. Stannard
79973	Report on Visit to Lovelace Foundation, Albuquerque, New Mexico, January 26 and 27, 1962	Trip report by Dr. Stannard
79970	Review of Visit to the Department of Industrial Medicine and Hygiene, College of Medicine, Wayne State University	Trip report by Dr. Stannard
79993	Some Characteristics of Polonium Solutions of Importance in Biological Experiments	Reprint from Radiation Research Supplement V, 1964
79983	Standards for the Transuranic Elements	Part of EPA Pu Standards Hearing, 1974
79962	The Binding of Polonium by Red Cells and Plasma	Abstract from Radiation Research Article, 1954
79999	The Clearance of Uranium Dioxide Dust From the Lungs Following Single and Multiple Inhalation Exposures	Article in Health Physics, 1966
79986	The Concepts of Critical Organ and Radiation Dose as Applied to Plutonium	Article in Health Physics, 1975
80003	The FRC Approach to Radiation Standards	Handwritten notes
79966	The Shorter-Term Biological Hazards of a Fallout Field	Symposium report, 1956
79982	Toxicity of the Transuranium Elements with Special Emphasis on Plutonium	HASL 291 report, 1975
79977	Toxicology of Radionuclides	Article in Ann. Rev. Pharmacol. 1973
79975	Uranium and Man	General Report by Dr. Stannard, possibly lecture transcript
79996	Uranium and Man	Keynote Address for Colloquium on Biokinetics and Analysis of Uranium in Man
79959	Uranium-Plutonium Transplutonic Elements, Data on Man	Chapter 4 in Uranium, Plutonium, Transplutonic Elements, 1973
79979	Vignettes of Early Radiation Workers (Transcripts of the Videotape Series)	Transcript of interview with Dr. Stannard

Table A-3: Documents collected from UT Knoxville		
SRDB Ref ID	**SRDB Document Title**	**Type of Document**
79987	What Was Going On Elsewhere in the Internal Emitters Program	Chapter from Health Physics – A backward glance, 1980

Table A-4: Documents collected from NARA College Park		
SRDB Ref ID	**SRDB Document Title**	**Type of Document**
76033	Radon Breath Sample Results	Correspondence to AEC, 1947
76061	Shipping Memorandums and Requests	Shipping Memoranda and requests
76067	Classification status of report written by Drs. Duncan and Diere	AEC Correspondence
76073	Classification memos of University of Rochester, Technical Information Division	AEC correspondence
76076	Operating Budget and Program from Research Contract W-7401-eng-49 for Fiscal Year 1948	AEC correspondence
76083	Health Hazard Survey at the Norton Company	AEC correspondence
76097	Progress Reports and distribution Sheets	AEC correspondence
76106	Life Insurance Issues	AEC correspondence
76112	Analysis and Film Bagde Results	AEC correspondence
76121	Research and Development Reports, Jan 15-31, 1948	AEC correspondence
76123	Product 25 and Product 49 Reports	AEC correspondence
76126	Source Accountability	AEC correspondence
76131	Proposed Research Program and Budget for Rochester Project	AEC correspondence
76135	Request for U-233 for Rochester Sub-Area	AEC correspondence
76138	Information regarding Rochester Ion-Meter	AEC correspondence
76173	Index Sheet Synopsis	Document cover page
76176	Transmittal of the Effect of Chronic Neutron Radiation on the Blood Counts of Dogs, Rabbits and Rats	AEC correspondence
79501	Progress Report of AEC Postdoctoral Fellow in the Medical Sciences, Chauncey C. Bly	Progress report by post-doc
79502	Progress Report of AEC Postdoctoral Fellow in the Medical Sciences John W. Colgan	Progress report by post-doc
79504	Meeting of Joint Panel Medical Aspects of Atomic Warfare Research and Development Board	Rochester summary of work, 1951
79506	Investigation of Plasma Proteins with Isotopes – Request for Extensions	Misc. Correspondence
79510	Outline of Polonium Work done throughout the years at University of Rochester	AEC correspondence
79511	Outline of Inhalation Experiment - Rochester	Report outline
79513	Discussion of max permissible concentration for Thorium Exposure	Misc. Correspondence

Table A-4: Documents collected from NARA College Park		
SRDB Ref ID	**SRDB Document Title**	**Type of Document**
79515	Cross Circulation Studies on the irradiated Dog	Unspecified research report
79518	Results of Blood Studies on Hanson Blatz	AEC correspondence
79523	Report of Thermal Biology Task Unit	AEC correspondence
79524	The future role of the Atomic Energy Commission Laboratories	Report to the joint committee on atomic energy
79525	Research support of aircraft reactors and nuclear powered flight designs	Unspecified correspondence
79526	Thorium toxicity studies and analytical chemical research at University of Rochester Atomic Energy Project	Unspecified correspondence
79527	Visit to University of Rochester Atomic Energy Project, August 21 and 25, 1959	Memorandum – trip report
79528	Visit to University of Rochester Atomic Energy Project, April 4, 1959	Memorandum – trip report
80712	NCRP Fertile Women Recommendation	Report to AEC (not Rochester specific)
80753	AFC visit to University of Rochester with related reports	Rochester program summary to AEC, 1974