

NIOSH

Instructions for Completing Special
Cohort Petition — Form B

OMB Number: 0920-0639

Expires: 07/31/2010

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Use of Form B and disclosure of Social Security Number are voluntary. Failure to use Form B or disclose this number will not result in the denial of any right, benefit, or privilege to which you may be entitled.

Instructions on Completing Special Exposure Cohort Petition — Form B

Introduction

The Energy Employees Occupational Illness Compensation Program Act (the Act) authorizes the U.S. Secretary of Health and Human Services (HHS) to consider petitions by classes of current and/or former employees at facilities of either the Department of Energy (DOE) or Atomic Weapons Employers (AWEs) requesting to be added to the Special Exposure Cohort. HHS has issued procedures that explain how such employees, their survivors, or individuals or organizations authorized in writing to represent them, can submit a petition and how the outcome of the petition will be decided. The procedures, titled: "Procedures for Designating Classes of Employees as Members of the Special Exposure Cohort" (federal regulations at 42 CFR Part 83), are available from HHS at the address provided below.

SEC Petition
Office of Compensation Analysis and Support
NIOSH
4676 Columbia Parkway, MS-C-47
Cincinnati, OH 45226

Use this form unless NIOSH has reported to you in writing that it cannot complete the dose reconstruction needed for your cancer claim. If so, use Special Exposure Cohort Petition — Form A. You do not have to use either form to submit a petition. The forms are intended to assist petitioners in providing the complete information required by HHS as efficiently as possible.

Hardcopy Submissions: Submit completed forms to the following address:

SEC Petition
Office of Compensation Analysis and Support
NIOSH
4676 Columbia Parkway, MS-C-47
Cincinnati, OH 45226

For Further Information: If you have questions about these instructions, please call the following NIOSH toll-free phone number and request to speak to someone in toll-free phone number and request to Support about an SEC petition: 1-800-356-4674.

05-17-10P02:56 RCVD

Special Exposure Cohort Petition
under the Energy Employees Occupational
Illness Compensation Act

NIOSH

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health

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IMPORTANT: Petitions **DO NOT** need to be submitted by all potential members of a class of employees ("Class" has a very specific legal meaning under the HHS rule. Petitioners should consider "class" to mean the group of employees who worked at the same DOE or AWE facility and who believe they, as a group, should be added to the Special Exposure Cohort). A single member of a class of employees, the survivor of a member, or an individual or entity authorized in writing by a member or survivor can petition on behalf of the entire class. Petitioners are not required by HHS to contact other members of the class or obtain their consent to submit a petition, although petitioners may wish to obtain information useful to the petition from other members of the class.

Instructions

Please read each of parts A — G in the form and complete only those parts appropriate to you, according to these instructions. A checklist has been provided on the last page of these instructions to help ensure that you have properly completed all of the sections applicable to you. Except for signatures, please **PRINT** all information clearly and neatly on the form.

If there is more than one petitioner, then each petitioner should complete those sections of parts A — C of the form that apply to them. Additional copies of the first two pages of this form are provided at the end of the form for this purpose. A maximum of three petitioners is allowed, but only one petitioner is required. Limiting the number of petitioners to three for each petition does not limit the number of members of the class covered by a petition, but will enable HHS to consider and decide petitions more efficiently.

If you need more space to provide additional information, use the continuation page provided at the end of the form and attach the continuation page(s) to Form B.

Part A

Petitioner Information: Complete Part A if you are an individual or entity authorized by an employee or a survivor to petition on behalf of a class of employees, as provided for under 42 CFR Part 83.7(c).

A.1 — Are you a contact person for an organization (other than a labor union): If you are a contact person for an organization, other than a labor organization, check Yes and go to A.2; if you are not a contact person, check No and go to A.3. *No*

A.2 — Organization Information: If you are a contact person for a legally constituted organization, a firm, or another type of entity, enter the name of the organization and your position as the person who will serve as the principal contact with HHS for this petition. If you are NOT a contact person, leave this entry blank.

A.3 — Name of Petition Representative: Enter your full legal name (or name of the organization if you are an authorized representative of an energy employee or survivor)

A.4 — Address: Enter your current mailing address

A.5 — Telephone Number: Enter the telephone number at which you can be reached from 8:00 am to 5:30 pm Eastern Standard Time as needed. If necessary, include area code.

A.6 — Email Address: (Optional) Enter your email address at work or home. *N/A*

A.7 — Authorization: Check the box and attach the written authorization, as indicated. A separate authorization form, "Petitioner Authorization Form", is available for this purpose.

If you are representing a survivor, go to Part B; if you are representing an employee, go to Part C.

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Part B

Petitioner Information: Complete Part B if you are a survivor of a former Energy Employee. Also complete this Part if you are an individual or entity (other than a labor organization) authorized by an employee or survivor to petition on behalf of a class of employees.

B.1 — Name of Survivor: Enter the full legal name of the survivor

B.2 — Social Security Number: (Optional) Providing a Social Security Number is voluntary. Failure to disclose this number will not result in the denial of any right, benefit, or privilege to which you may be entitled. Personal information, like your social security number, will be protected under the Privacy Act.

Enter the Social Security Number of the survivor. If you are authorized to enter the survivor's Social Security Number

B.3 — Address: Enter the survivor's current mailing address.

If you are authorized to petition by an employee or a survivor under Part A of this form, you do not need to complete this entry.

B.4 — Telephone Number: Enter the telephone number at which the survivor can be reached from 8:00 am to 5:30 pm Eastern Standard Time as needed. If necessary, provide an alternate number.

If you are authorized to petition by an employee or a survivor under Part A of this form, you do not need to complete this entry.

B.5 — Email Address: (Optional) Enter the survivor's email address at work or home.

N/A

If you are authorized to petition by an employee or a survivor under Part A of this form, you do not need to complete this entry.

B.6 — Relationship to Employee: Check the relationship of the survivor to the energy employee.

WIFE

Go to Part C.

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Part C

Petitioner Information: Complete Part C if you are an Energy Employee or a Survivor. Also complete this Part if you are an individual or entity (other than a labor organization) authorized by an employee or survivor to petition on behalf of a class of employees.

This section is to be completed by petitioners who are employees of DOE/AWE facilities or their survivors, or by petitioners authorized by employees or their survivors. This section does not have to be completed by labor organizations submitting a petition (labor organizations should complete Part D).

Please complete all the entries in this section, as applicable. The form allows for as many as three petitioners to provide this complete information if they so desire, but this is not necessary. We only require that a single petitioner provide complete information for this section.

C.1 — Name of Employee: Enter the full legal name of the energy employ

C.2 — Former Name of Employee: If the employee had a different name at the time of employment at the DOE or Atomic Weapons Employer facility (for example, a maiden name), enter that name. *NA*

C.3 — Social Security Number: (Optional) Providing a Social Security Number is voluntary. Failure to disclose this number will not result in the denial of any right, benefit, or privilege to which you may be entitled. Personal information, like your social security number, will be protected under the Privacy Act.

Enter the Social Security Number of the energy employee. If you are a survivor, ensure you have permission to enter the employee's Social Security Number.

C.4 — Address: Enter the current mailing address of the energy employ

If you are authorized to petition by an employee or a survivor under Part A, you must complete this entry.

C.5 — Telephone Number: Enter the telephone number at which the employee can be reached from 8:00 am to 5:30 pm Eastern Standard Time on weekdays. Please specify more limited hours of availability, if necessary.

If you are authorized to petition by an employee or a survivor under Part A of this form, you do not need to complete this entry.

C.6 — Email Address: (Optional) Enter the employee's email address at work or home.

If you are authorized to petition by an employee or a survivor under Part A of this form, you do not need to complete this entry.

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C.7 -- Employment Information Related to Petition: Enter the following employment information about this petition:

C.7a -- Employee Number: Enter the employee number, if you know it. List all employers assigned employee numbers.

C.7b -- Dates of Employment: Enter the dates of employment at the facility (if employment records are unavailable), from start date to end date.

C.7c -- Employer Name: Enter the name of the employer.

C.7d -- Work Site Location: Enter the location of the facility and specific as possible about the work site, naming the specific building or work area if possible, as well as the facility location (e.g., Idaho National Engineering Laboratory). *NORTH IN*

C.7e -- Supervisor's Name: Enter the Super

Part D

Petitioner Information: Complete Part D if you are a labor organization.

This section is to be completed only by labor organizations submitting a petition on behalf of employees they represent or represented. If you are not such a labor organization, you should skip this part.

D.1 -- Labor Organization Information: Enter the name of the labor organization and the position of the person who will serve as the principal contact with HHS for this petition.

D.2 -- Name of Petition Representative: Enter the name of the official who will serve as the principal contact for HHS communications and inquiries regarding this petition.

D.3-D.5 -- Contact Information: Enter the address, telephone number, and e-mail address of the labor official who will serve as the principal contact for HHS.

D.6 -- Period during which labor organization represented employees covered by this petition: Enter dates as indicated. For active facilities at which your labor organization continues to represent employees, enter the date of the petition for the "end date." Please attach related documentation (e.g., relevant pages of labor-management contracts or NLRB certification).

D.7 -- Identity of other labor organizations that may represent or have represented this class of Employees: Enter the names of any other labor organizations who may currently represent some members of the class of employees or have represented members of this class in the past, if you are aware of any. This information may assist HHS in contacting members of the petitioning class for information or to notify them, should HHS add their class to the Cohort.

Go to Part E.

X11054



NORTON COMPANY WORCESTER, MASSACHUSETTS 01606 · AREA CODE 617 853-1000

CITY OF WORCESTER
Chief Wiring Inspector

April 30, 1970

Dear Sir:

This is to certify that _____ has been employed by Norton Company over nine years and in the Electrical Department of the Machine Tool Division for eight years. He has installed Conduits, Fittings, Wiring, and is a wiring trouble-shooter for the department.

Will this qualify him to take the Electrical Examination for a Journeyman's License?

Sincerely yours,

*NORTON PRODUCTS: Abrasives · Grinding Wheels · Machine Tools · Refractories · Pulpstones · Non-Slip Floors
BEHR-MANNING DIVISION, TROY, N. Y.: Coated Abrasives · Sharpening Stones · Pressure-Sensitive Tapes · Floor Maintenance Products
NATIONAL RESEARCH CORPORATION, CAMBRIDGE, MASS.: Vacuum Equipment · Tantalum · Research and Development ·
CLIPPER MANUFACTURING CO., K.C., MO.: Masonry and concrete sawing, drilling and grinding equipment for construction and industry*

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Part E

Proposed Definition of Employee Class Covered by Petition

The information provided in this section will assist HHS in evaluating the petition. Petitioners should note that it is possible that, as HHS conducts its evaluation of a class, it may revise the definition proposed by the petitioner, making the class more expansive or more specific, and possibly combining the classes of several petitions or dividing the class of a single petition into two or more classes. Ultimately, HHS must define classes consistent with the criteria for determining whether or not the class should be added to the Cohort.

E.1 — Name of DOE or AWE Facility: Enter the name of the DOE or AWE facility where the class of employees covered by this petition was employed.

NOTE: Although individual employees may have a petition must be specific to a class of employees at a single facility, as specified by the Act. It is acceptable to file petitions for more than one facility; however, you must file a separate petition for each facility.

E.2 — Locations at the Facility relevant to this petition: Name or describe the location(s) at the facility relevant to this petition; the locations where members of the class were exposed to radiation. If the location does not have a name, such as a building number or floor or room of a building, describe the location by its more specific characteristics, such as the operation or process conducted there, or the equipment, fixtures, or facilities in that location. Be as specific as possible. *NORTON CO ALL BUILDINGS*

E.3 — List job titles and/or job duties of employees included in the class: List the job titles and/or job duties that characterize employees who you believe belong in the class, to the extent necessary to define the class.

Examples:

- If you can define the class by job duties alone, and you believe that anyone with such job duties should be included in the class, listing the job duties would be sufficient.
- If you believe all employees in a location during a period of time should be included in the class, regardless of job title or job duty, enter an "all" here instead of specifying job titles or job duties. *ALL*
- However, if you believe that only persons with certain job duties involved in certain operations or processes should be included in the class, you must specify this. *EMPLOYEES 1960-1972*

The point is to define the class carefully and specifically, so that it includes all employees for whom you believe radiation doses cannot be estimated and whose health could have been endangered, and only such employees. To be certain your definition covers all employees that you intend to include, you may choose to list by name individuals who should be included in the class and who have not already been identified among the petitioners you have listed in this form.

E.4 — Employment Dates relevant to this petition: Enter the approximate or precise dates of the period of employment that applies to the petition. For example, the potential exposures to radiation may have occurred during a period of a certain operation, during a period when certain radiation protection policies were in place, during a period when radiation monitoring was omitted, or during a period for which exposure and monitoring records are lost

*1960-1972 RESIDUAL CONTAMINATION
EXPOSURE MONITORING
RECORDS LOST*

NCBI PubMed

PubMed QUERY

PubMed ?

NDSH

Other Formats: Links: Order this document*Health Phys* 1983;44 Suppl 1:239-51

Mortality among male workers at a thorium-processing plant.

Polednak AP, Stehney AF, Lucas HF

The long-term health effects of exposure to thorium are of interest because of the possible increased use of thorium as an energy source in reactors using ^{232}Th to produce ^{233}U . Mortality is described in a cohort of 3039 men who were employed between 1940 and 1973 at a company involved in the production of thorium and rare earth chemicals from monazite sand. Based on deaths ascertained by the Social Security Administration and mortality rates for U.S. white males, the standardized mortality ratio (SMR) for all causes was 1.05 with 95% confidence limits (95% CL) of 0.96 and 1.15. Much of the excess mortality was attributable to non-occupational motor vehicle accidents (SMR = 1.64; 95% CL = 1.16 and 2.23), but SMRs were also high for lung cancer (1.44; 95% CL = 0.98 and 2.02), pancreatic cancer (2.01; 95% CL = 0.92 and 3.82), and diseases of the respiratory system (1.31; 95% CL = 0.92 and 1.83). In a subgroup of 592 men who worked for at least one year in selected jobs (indicative of highest exposure to thorium and thoron) that was followed up more intensively, the SMR for pancreatic cancer was significantly elevated (i.e. 4.13; 95% confidence limits = 1.34 and 9.63). The SMR for lung cancer was 1.68 (95% CL = 0.81 and 3.09), while that for respiratory diseases was 1.20 (95% CL = 0.52 and 2.37). Information on smoking habits in a sample of survivors suggested that smoking could have explained at least part of the excess mortality from lung and pancreatic cancer and from diseases of the respiratory system. Continued follow-up of the cohort through morbidity and mortality studies is needed to evaluate further the possible long-term effects of exposure to radioactivity and chemicals in the thorium extraction process.

PMID: 6305876, UI: 83237598

the above report in format
documents on this page through Loansome Doc

EX. 2

NIOSH

**KNOWN CARCINOGEN:
THORIUM DIOXIDE (CAS No. 1314-20-1)****CARCINOGENICITY**

There is sufficient evidence for the carcinogenicity of thorium dioxide in experimental animals (CHIP, 1981e; Wegener, 1979). When administered by intravenous injection, thorium dioxide induced hemangioendotheliosarcomas or reticuloendotheliosarcomas of the liver, spleen, and lung in rabbits. The same route of administration induced cholangiocellular carcinomas in hamsters and liver cell adenomas in rats. When administered by subcutaneous injection, thorium dioxide induced local fibrosarcomas in rats and mice. When administered by intraperitoneal injection, thorium dioxide induced polymorphous and fibroplastic sarcomas in rats, mice, hamsters, rabbits, and guinea pigs.

There is sufficient evidence for the carcinogenicity of thorium dioxide in humans (Grampa, 1971; CHIP, 1981e; Kojiro et al., 1985). When administered by intravascular injection, thorium dioxide has been reported to have induced numerous cases of malignant neoplasms. Angiosarcoma of the liver, cholangiocarcinoma, and hepato-cellular carcinoma are the most common liver neoplasms, and the coexistence of two to three different malignant neoplasms in one single patient has also been reported. Some of the other tumors associated with thorium dioxide injection include carcinomas and sarcomas of the renal pelvis and leukemia. A recent case report and review of the literature describes a number of osteosarcomas and related tumors arising in treated patients with a mean latency period of 26 years; also, the latency period was found to be inversely related to the dose. Another recent study suggests an average latency of 36 years between thorium dioxide exposure and onset of angiosarcomas of the liver (Kojiro et al., 1985).

PROPERTIES

Thorium dioxide is a radioactive, heavy, white crystalline powder. It is insoluble in water and alkalis, and soluble in acids, with difficulty. When heated to incandescence, thorium dioxide emits a brilliant white light. It is available in the United States in stocks of different particle sizes (from 1 μm to 12 μm) with purities ranging from 99.9% to 99.99%. The x-ray contrast medium, Thorotrast, is a 25% colloidal thorium dioxide suspension in aqueous dextrin.

USE

Use of thorium dioxide as a radiopaque medium for x-ray imaging in certain medical diagnostic procedures began around 1930, but was practically discarded after 1945 because harmful late effects from its use were noted (Grampa, 1971). Thorium dioxide has also been used as a source of nuclear energy, but consumption for this use has been curtailed in recent years (CHIP, 1981e). It is also used in gas mantles, flame spraying, nonsilica optical glass, thoriated tungsten filaments, welding electrodes, high temperature ceramics and crucibles, and as a catalyst (Sax, 1987; Kirk-Othmer V.22, 1983).

PRODUCTION

Thorium-bearing monazite is recovered domestically by one company in Florida as a by-product of mining zirconium and titanium minerals and by another company in North Carolina as a by-product of mining gold and industrial sands, but production figures are not available. Most likely this material is

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stockpiled, as it is estimated that U.S. consumption of thorium products is met entirely from imports and existing industry and government stocks. Imports of thorium dioxide-equivalents were 30,800 lb in 1988, 68,200 lb in 1987, 44,000 lb in 1986, and 151,800 lb in 1985 (USDIOI, 1990). Imports in 1980 were reported to be 48,000 lb (USDIOI, 1985). The 1979 TSCA Inventory identified three domestic producers with a total production of 555,500 lb and two firms importing a total of 6,000 lb in 1977 (TSCA, 1979). Demand is expected to decline as nonradioactive substitutes are developed (USDIOI, 1987).


EXPOSURE

The primary routes of potential human exposure to thorium dioxide are inhalation, intravenous injection, ingestion, and dermal contact. Occupations at greatest risk of potential exposure are ceramic makers, incandescent lamp makers, magnesium alloy makers, metal refiners, nuclear reactor workers, chemists, and vacuum tube makers. Potential exposure may also occur during the formulation, packaging, preparation, or administration of the compound as a pharmaceutical. OSHA estimated that 128,500 workers were potentially exposed to the compound during its production and use. Approximately 50,000 patients worldwide were exposed to thorium dioxide when it was administered by injection for x-ray imaging purposes from 1930 to 1964 (Wegener, 1979). The injection dosages ranged from 2 to 70 ml of Thorotrast solution, depending on the area to be x-rayed (Saragoca et al., 1972). The Toxic Chemical Release Inventory (EPA) listed two industrial facilities that produced, processed, or otherwise used thorium dioxide in 1988 (TRI, 1990). In compliance with the Community-Right-to-Know Program, the facilities reported releases of thorium dioxide to the environment which were estimated to total 1,330 lb.

REGULATIONS

EPA regulates thorium dioxide under the Superfund Amendments and Reauthorization Act (SARA), identifying it as a toxic chemical and subjecting it to reporting requirements. Under the Food, Drug, and Cosmetic Act (FD&CA), FDA has approved thorium dioxide for use as a radiopaque medium for x-ray imaging where there is limited life expectancy. In March of 1980, the Nuclear Regulatory Commission withdrew authorizations for use and transfer of thorium dioxide for internal or external medicinal use in humans. Authorizations were issued, however, for research, development, educational, commercial, or operational purposes under conditions specified by the Commission; but the use and transfer of the material for these purposes may not exceed 15 lb at any one time or a total of 150 lb in any one calendar year. OSHA regulates thorium dioxide under the Hazard Communication Standard and as a chemical hazard in laboratories.




<http://www.epa.gov/epaosopr/radionuclides/thorium.html>
 Last updated on Monday, February 09, 2009
Radiation Protection

You are here: [EPA Home](#) > [Radiation Protection](#) > [References](#) > [Reference Information](#)
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Thorium

Thorium (chemical symbol Th) is a naturally-occurring radioactive metal found at very low levels in soil, rocks, and water. It has several different isotopes, both natural and man-made, all of which are radioactive. The most common form of thorium is thorium-232, found naturally.

On this page:

The Basics

- Who discovered thorium?
- Where does thorium come from?
- What are the properties of thorium?
- What is thorium used for?

Exposure to Thorium

- How does thorium get into the environment?
- How does thorium change in the environment?
- How are people exposed to thorium?
- How does thorium get into the body?
- What does thorium do once it gets into the body?

Health Effects of Thorium

- How can thorium affect people's health?
- Is there a medical test to determine exposure to thorium?

Protecting People From Thorium

- How do I know if I'm near thorium?
- What can I do to protect myself and my family from thorium?
- What is EPA doing about thorium?

The Basics

Who discovered thorium?

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 - [Cesium-137](#)
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Thorium was discovered in 1828 by the Swedish chemist Jöns Jacob Berzelius. After determining that it was a new element, Berzelius named his discovery after the Norse god of thunder and weather, Thor. Thorium was discovered to be radioactive independently in 1898 by Gerhard Carl Schmidt and by Marie Curie.

Where does thorium come from?

Almost all thorium is natural, but, thorium isotopes can be artificially produced. Thorium occurs at very low levels in virtually all rock, soil, and water, and therefore is found in plants and animals as well. Minerals such as monazite, thorite and thorianite are rich in thorium and may be mined for the metal. Generally, artificial isotopes come from decay of other man-made radionuclides, or absorption in nuclear reactions.

What are the properties of thorium?

Thorium is a soft, silvery white metal. Pure thorium will remain shiny for months in air, but if it contains impurities it tarnishes to black when exposed to air. When heated, thorium oxide glows bright white, a property that makes it useful in lantern mantles. It dissolves slowly in water. Thorium-232 has a half-life of 14 billion (14×10^9) years, and decays by alpha emission, with accompanying gamma radiation. Thorium-232 is the top of a long decay series that contains key radionuclides such as radium-228, its direct decay product, and radon-220. Two other isotopes of thorium, which can be significant in the environment, are thorium-230 and thorium-228. Both belong to other decay series. They also decay by alpha emission, with accompanying gamma radiation, and have half-lives of 75,400 years and 1.9 years, respectively.

What is thorium used for?

Thorium has coloring properties that has made it useful in ceramic glazes. But, it has been most widely used in lantern mantles for the brightness it imparts (though alternatives are replacing it), and in welding rods, which burn better with small amounts of added thorium. Thorium improves the properties of ophthalmic lenses, and is an alloying agent in certain metals used in the aerospace industry. More than 30 years ago, thorium oxides were used in hospitals to make certain kinds of diagnostic X-ray photographs. But, this practice has been discontinued.

Exposure to Thorium

How does thorium get into the environment?

Natural thorium is present in very small quantities in virtually all rock, soil, water, plants and animals. Where high concentrations occur in rock, thorium may be mined and refined,

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producing waste products such as mill tailings. If not properly managed, wind and water can introduce the tailings into the wider environment. Commercial and federal facilities that have processed thorium may also have released thorium to the air, water, or soil. Man-made thorium isotopes are rare, and almost never enter the environment.

How does thorium change in the environment?

As thorium-232 undergoes radioactive decay, it emits an alpha particle, with accompanying gamma radiation, and forms radium-228. This process of releasing radiation and forming a new radionuclide continues until stable lead-208 is formed. The half-life of thorium-232 is about 14 billion years. Two other isotopes of thorium, which can be significant in the environment, are thorium-230 and thorium-228. Both decay by alpha emission, with accompanying gamma radiation, in 75,400 years and 1.9 years, respectively.

How are people exposed to thorium?

Since thorium is naturally present in the environment, people are exposed to tiny amounts in air, food and water. The amounts are usually very small and pose little health hazard. Thorium is also present in many consumer products such as ceramic glazes, lantern mantles, and welding rods.

People who live near a facility that mines or mills thorium, or manufactures products with thorium, may receive higher exposures. Also, people who work with thorium in various industries may receive higher exposures.

How does thorium get into the body?

People may inhale contaminated dust, or swallow thorium with food or water. Living near a thorium contaminated site, or working in an industry where thorium is used, increases your chance of exposure to thorium.

What does thorium do once it gets into the body?

If inhaled as dust, some thorium may remain in the lungs for long periods of time, depending on the chemical form. If ingested, thorium typically leaves the body through feces and urine within several days. The small amount of thorium left in the body will enter the bloodstream and be deposited in the bones where it may remain for many years. There is some evidence that the body may absorb thorium through the skin, but that would not likely be the primary means of entry.

Health Effects of Thorium

NIOSH

How can thorium affect people's health?

The principal concern from low to moderate level exposure is an increased risk of cancer. Studies have shown that inhaling thorium can lead to developing lung cancer, and cancer of the pancreas. Bone cancer risk is also increased because thorium may be stored in bone.

Is there a medical test to determine exposure to thorium?

There are special tests that measure the level of thorium in the urine, feces, and also via exhaled air that can determine if a person has been exposed to thorium. These tests are useful only if taken within a week after exposure. You need special equipment to detect thorium not available in doctors offices or most hospitals. Some federal facilities and specialized laboratories have this capability.

Protecting People from Thorium**How do I know thorium if I'm near thorium?**

You need special equipment to detect thorium, and special training. Health physicists and radiation safety officers are trained to measure thorium.

What can I do to protect myself and my family from thorium?

Most people are not exposed to dangerous levels of thorium. However, people who live near thorium mining areas, or near certain government or industrial facilities may have increased exposure to thorium, especially if their water is from a private well. Analytical laboratories can test water for thorium content. Occasionally, household items may be found with thorium in them, such as some older ceramic wares in which uranium was used in the glaze, or gas lantern mantles. These generally do not pose serious health risks, but may nevertheless be retired from use as a prudent avoidance measure. A radiation counter is required to confirm if ceramics contain thorium.

What is EPA doing about thorium?

EPA protects people and the environment from thorium by establishing standards for the clean-up of contaminated sites, and by setting limits on the amount of thorium (and other radionuclides) that may be released to the air from specific sources, or found in public drinking water.

The standards for the clean-up of existing contaminated sites generally fall under the Comprehensive Environmental Response, Compensation, and Liability Act, commonly called

NIOSH

Superfund. Clean ups must meet all requirements that are applicable, such as state regulations and regulations issued in connection with other environmental laws. When these types of regulations are not applicable, or not protective enough, EPA sets site-specific cleanup levels that limit the chance of developing cancer due to exposure to a site-related carcinogen (such as thorium) to between one in 10,000 and one in 1,000,000.

EPA issued special regulations for cleaning up uranium and thorium mill tailing sites under the "Uranium Mill Tailings Radiation Control Act" (federal regulations are found in 40CFR192, "Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings"). These mills are found mostly in the western states of Colorado, Utah, Arizona and New Mexico.

- Superfund: EPA Radiation Guidances and Reports
This site provides information on radionuclides at Superfund sites.
 - EPA's Superfund Hotline: 1-800-424-9346 or 1-800-535-0202
- Clean Air Act
EPA uses this authority to set limits on the emissions of hazardous air pollutants from specific sources. Hazardous air pollutants include both chemicals and radionuclides that are known or suspected to cause serious health problems. While no air emissions standards list thorium specifically, radionuclides are limited as a group.
 - RadNESHAPS
This site provides information on EPA's National Emission Standards for Hazardous Air Pollutants: Radionuclides.
- Radionuclides in Drinking Water
This site provides information about radionuclides in drinking water and guidance to help states and water systems comply with the standard. EPA uses its Safe Drinking Water Act authority to establish maximum contaminant levels (MCLs) for beta emitters such as thorium in public drinking water. For example the MCL for beta emitters is 4 millirem per year or 8 picoCuries per liter of water.

Understanding Radiation in Your Life, Your World

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Special Exposure Cohort Petition
under the Energy Employees Occupational
Illness Compensation Act

NIOSH

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health

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E.5 — Is the petition based on one or more unmonitored, unrecorded, or inadequately monitored or recorded exposure incidents?

If the petition is based on one or more radiation exposure incidents for which exposures were unmonitored (unplanned events that resulted in radiation exposures, versus routine operations which may also result in radiation exposures), provide the date when the incident(s) began and ended and describe the incident(s) in as much detail as possible. **YES 1960-1962 DAILY JOB DUTIES**
For example, you might describe the source of the radiation exposure or emission, its cause, the response to the incident, and the potential number of employees involved. You should report everything you know about the incident. NIOSH will use this information to identify the event and obtain additional information from the Department of Energy and other sources. If NIOSH finds it cannot confirm the occurrence of the event through information from the Department of Energy or any other sources, it will require that you obtain and provide medical evidence relating to the incident and/or one or more affidavits providing information about the incident, as provided under section 83.9(c)(3) of the Special Exposure Cohort Rule (42 CFR Part 83).

Go to Part F.

Part F

Basis for Proposing that Records and Information are Inadequate for Individual Dose Reconstructions

Complete at least one of the entries under this part. You are not required to complete more than one entry, although you should complete more than one entry when such additional information is available to you. This additional information may assist HHS in evaluating your petition.

F.1: Complete this entry if you are petitioning on the basis that certain radiation exposures and doses to the class were not monitored. By completing this entry, you do not need to establish (through documentation or affidavit) that there was no monitoring whatsoever, of any radiation exposures and doses incurred by the class of employees. You need only establish that some types of radiation exposures and doses incurred by the class were not monitored, or that during certain periods of time, certain operational procedures, or certain exposure incidents, the exposures and doses incurred by the class were not monitored.

For example, if the employees in the class were instructed to remove their radiation dosimetry badges for certain operations involving radiation exposures, this might qualify as unmonitored exposures, despite the fact that the employees might have routinely worn their radiation dosimetry badges during most operations. Similarly, if there was a period of time during an operation when there was no monitoring of internal doses, this might qualify as unmonitored exposures.

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F.2: Complete this entry if you are petitioning on the basis that radiation monitoring records for members of the proposed class have been lost, falsified, or destroyed. Documentation or affidavits demonstrating that monitoring records are missing for a class of workers might be sufficient to indicate that the records have been lost or destroyed. Documentation or affidavits demonstrating differences between exposures or monitoring results and the current official records of these exposures or monitoring results might be sufficient to indicate that records might have been falsified. You should note, however, that records can be changed to reflect corrections to faulty monitoring results.

Also complete this entry if there is no information regarding monitoring, source, source term, or process from the site where the members of the proposed class worked.

By completing this entry, you do not need to establish (through documentation or affidavit) that there are no monitoring records whatsoever, for personal or area monitoring that was conducted for the class of employees, or that all the relevant records have been falsified. You need only indicate that the records relating to some types of radiation exposures and doses incurred by the class, or relating to certain periods of time, certain operations, or certain exposure incidents involving the class, have been lost, falsified, or destroyed, or that there is no such information.

F.3: Complete this entry if you are petitioning on the basis of an unpublished expert report addressing record limitations for the class of employees proposed in your petition. You are not required to use this approach to support your petition. Most petitioners are unlikely to be in a position to employ an expert to evaluate the limitations of DOE records on exposures to a particular class of employees. However, this is an option that might be used by some petitioners, particularly organizations. If you are considering this option, we suggest the expert you employ contact NIOSH before completing such an evaluation. NIOSH will ensure that the expert is aware of the availability of relevant information concerning the procedures by which NIOSH estimates radiation doses for cancer claims under the Act, including the HHS regulations on dose reconstruction methods (42 CFR Part 82) and related implementation guidelines.

F.4: Complete this entry if you are petitioning on the basis of a scientific or technical report that was published in a peer-reviewed journal or issued by a government agency of the Executive Branch of Government, or the General Accounting Office, the Nuclear Regulatory Commission, or the Defense Nuclear Facilities Safety Board. Federal agencies most likely to have funded or to fund such studies are DOE and NIOSH. It is possible that state environmental protection agencies might have funded such studies related to AWE facilities. Such reports are likely to have been issued either as scientific or technical reports available directly by request from government agencies or as research reports published in scientific journals.

Go to Part G.

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Part G

Signature of Person(s) Submitting this Petition

Each petitioner should sign and date the petition as i
petition.

Summary of Form Requirements

To ensure that you have completed the required sections of the petition, please refer to the table below:

	Part A	Part B	Part C	Part D	Part E	Part F	Part G
Employee			X		X	X	X
Survivor		X	X		X	X	X
Authorized Representative	X	X (if applicable)	X		X	X	X
Labor				X	X	X	X

Appendix — Petitioner 2

If there is an additional petitioner (not a labor organization), he or she must complete the Appendix —
Petitioner 2 and sign Section G of the original petition. Please refer back to pages 2 — 5 of this instruction
set for more information on completing the appendix.

Appendix — Petitioner 3

If there is a third petitioner (not a labor organization), he or she must complete the Appendix — Petitioner 3
and sign Section G of the original petition. Please refer back to pages 2 — 5 of this instruction set for more
information on completing the appendix.

Appendix — Continuation Page

The Continuation Page is provided for you if you need more space to provide additional information. Please
photocopy as needed, and attach to the petition.

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Public Burden Statement

Public reporting burden for this collection of information is estimated to average 300 minutes per response, including time for reviewing instructions, gathering the information needed, and completing the form. If you have any comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, send them to CDC Reports Clearance Officer, 1600 Clifton Road, MS-E-11, Atlanta GA, 30333; ATTN:PRA 0920-0639. Do not send the completed petition form to this address. Completed petitions are to be submitted to NIOSH at the address provided in these instructions. Persons are not required to respond to the information collected on this form unless it displays a currently valid OMB number.

Privacy Act Advisement

In accordance with the Privacy Act of 1974, as amended (5 U.S.C. § 552a), you are hereby notified of the following:

The Energy Employees Occupational Illness Compensation Program Act (42 U.S.C. §§ 7384-7385) (EEOICPA) authorizes the President to designate additional classes of employees to be included in the Special Exposure Cohort (SEC). EEOICPA authorizes HHS to implement its responsibilities with the assistance of the National Institute for Occupational Safety (NIOSH), an Institute of the Centers for Disease Control and Prevention. Information obtained by NIOSH in connection with petitions for including additional classes of employees in the SEC will be used to evaluate the petition and report findings to the Advisory Board on Radiation and Worker Health and HHS.

Records containing identifiable information become part of an existing NIOSH system of records under the Privacy Act, 09-20-147 "Occupational Health Epidemiological Studies and EEOICPA Program Records. HHS/CDC/NIOSH." These records are treated in a confidential manner, unless otherwise compelled by law. Disclosures that NIOSH may need to make for the processing of your petition or other purposes are listed below.

NIOSH may need to disclose personal identifying information to: (a) the Department of Energy, other federal agencies, other government or private entities and to private sector employers to permit these entities to retrieve records required by NIOSH; (b) identified witnesses as designated by NIOSH so that these individuals can provide information to assist with the evaluation of SEC petitions; (c) contractors assisting NIOSH; (d) collaborating researchers, under certain limited circumstances to conduct further investigations; (e) Federal, state and local agencies for law enforcement purposes; and (f) a Member of Congress or a Congressional staff member in response to a verified inquiry.

This notice applies to all forms and informational requests that you may receive from NIOSH in connection with the evaluation of an SEC petition.

Use of the NIOSH petition forms (A and B) is voluntary but your provision of information required by these forms is mandatory for the consideration of a petition, as specified under 42 CFR Part 83. Petitions that fail to provide required information may not be considered by HHS.

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Special Exposure Cohort Petition — Form B

Use of this form and disclosure of Social Security Number
this number will not result in the denial of any benefit, privilege, or privilege to which you may be entitled.

Voluntary: Failure to use this form or disclose Social Security Number may result in the denial of any benefit, privilege, or privilege to which you may be entitled.

General Instructions on Completing this Form (complete instructions are available in a separate packet):

Except for signatures, please **PRINT** all information clearly and neatly on the form.

Please read each of Parts A — G in this form and complete the parts appropriate to you. If there is more than one petitioner, then each petitioner should complete those sections of parts A — C of the form that apply to them. Additional copies of the first two pages of this form are provided at the end of the form for this purpose. A maximum of three petitioners is allowed.

If you need more space to provide additional information, use the continuation page provided at the end of the form and attach the completed continuation page(s) to Form B.

If you have questions about the use of this form, please call the following NIOSH toll-free phone number and request to speak to someone in the Office of Compensation Analysis and Support about an SEC petition: 1-877-222-8570.

If you are:	<input type="checkbox"/> A Labor Organization,	Start at D on Page 3
	<input type="checkbox"/> An Energy Employee (current or former),	Start at C on Page 2
	<input checked="" type="checkbox"/> A Survivor (of a former Energy Employee),	Start at B on Page 2
	<input type="checkbox"/> A Representative (of a current or former Energy Employee),	Start at A on Page 1

A Representative Information — Complete Section A if you are authorized by an Employee or Survivor(s) to petition on behalf of a class.

A.1 **Are you a contact person for an organization?** Yes (Go to A.2) No (Go to A.3)

A.2 **Organization Information:**

Name of Organization _____

Position of Contact Person _____

A.3 **Name of Petition Representative:**

Mr./Mrs./Ms. First Name Middle Initial Last Name

A.4 **Address:**

Street Apt # P.O. Box

City State Zip Code

A.5 **Telephone Number:** () -

A.6 **Email Address:** _____

A.7 Check the box at left to indicate you have attached to the back of this form written authorization to petition by the survivor(s) or employee(s) indicated in Parts B or C of this form. An authorization

If you are representing a Survivor, go to Part B; if you are representing an Employee, go to Part C.

Name or Social Security Number of First Petitioner: _____

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Special Exposure Cohort Petition

B Survivor Information — Complete Section B if you are a Survivor or representing a Survivor

B.1

First Name

Mi

WOLCOWSKI

B.2 Social Security Number of Survivor:

B.3 Address

Street

P.O. Box

City

State

B.4 Telephone Number of Survivor:

B.5 Email Address of Survivor:

B.6 Relationship to Employee:

Spouse

Son/Daughter

Parent

Grandparent

Grandchild

Go to Part C

C Employee Information — Complete Section C UNLESS you are a labor organization.

C.1 Name of Employee:

Last Name

C.2 Former Name of Employee (e.g., maiden name/legal name change/other):

Mr./Mrs./Ms. First Name

Mi

C.3 Social Security Number of Employee:

C.4 Address of Employee (if living):

DECEASED

Street

Apt #

City

State

Zip Code

C.5 Telephone Number of Employee:

C.6 Email Address of Employee:

C.7 Employment Information Related to Petition

C.7a Employee Number (if known):

C.7b Dates of Employment:

Start

1960

End

1972

C.7c Employer Name:

NORTON CO

C.7d Work Site Location:

*1 NEW BOND ST
WORCESTER MA*

C.7e Supervisor's Name:

Go to Part E

Name or Social Security Number of First Petitioner: _____

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Special Exposure Cohort Petition –

D Labor Organization Information ONLY if you are a labor organization.

D.1 Labor Organization Information:

Name of Organization _____

Position of Contact Person _____

D.2 Name of Petition Representative:

D.3 Address of Petition Representative:

Street _____ Apt # _____ P.O. Box _____

City _____ State _____ Zip Code _____

D.4 Telephone Number of Petition Representative: (____) _____

D.5 Email Address of Petition Representative: _____

D.6 Period during which labor organization represented employees covered by this petition
(please attach documentation): Start _____ End _____

D.7 Identity of other labor organizations that may represent or have represented this class of employees (if known):

Go to Part E

Name or Social Security Number of First Petitioner: _____

NIOSH

WORCESTER TELEGRAM & GAZETTE

Worcester Pam. Coll.

JAN 23 1991

Public Library

Norton nuclear dump scantily documented

By John J. Monahan

to be buried in a 30-year-old industrial dump, now covered by interstate 190 in Worcester, are the remains of a virtually forgotten nuclear fuels production plant operated by Norton Co. in the 1950s.

While known primarily for making grinding wheels and sandpaper, the firm's largest employer was

shutting down in 1962.

few public records exist regarding the operation.

Nuclear Regulatory Commission officials investigating the buried waste said they have only found sketchy information about the operations in Norton Co. atomic license files, recently retrieved from a federal records warehouse.

One of the only available descriptions of the manufacturing operations, as in a Sept. 22, 1957, Worcester Sunday Telegram feature

ECY LICENSES

That account, said Norton Co., under a contract with the Argonne National I Ill., and uranium from the U. mission, the fuels plant in the Greendale complex in the 1950s. Records on file with the Nuclear Regulatory Commission show the Greendale plant

also held a "special nuclear materials license" to produce material for Atomic Energy Canada Ltd.

A Telegram reporter, the late Joseph H. Gauthier, wrote that the project, billed as "part of the peaceful use of the atom program," produced fissionable uranium pellets for Argonne, under the direction of Frank B. Huke, then Norton's "Manager for Atomic Products Sales." Huke had been hired by Norton Co. from the Atomic Energy Commission in 1955.

These pellets convert mass to energy. Huke told Gauthier of the pellets being manufactured at the plant by workers wearing radiation exposure badges and protective plastic suits.

Although fuel elements such as these pellets are a new product, Norton has been making reactor control rods of boron carbide for five years, and for 10 years has

Turn to NO ACTION/Next Page

retrieved federal records and a Sunday Telegram article from the late '50s.

NEWSPAPER ARTICLE

The production line of Norton's "Atomic Products" division supplied uranium pellets and fuel rods for some of the world's first commercial nuclear reactors before

N105H

No action expected on nuclear dump

Continued From Previous Page
been making special high purity refractory products used in the processing of atomic fuel," Gauthier wrote.

FEW DETAILS

Company officials said two months ago that they were not certain what manufacturing processes were involved in generating an estimated 20 tons of material contaminated with up to 25 pounds of uranium 238 and thorium, that the Telegram & Gazette learned had been buried on a site now covered by the Mountain Street exit ramps from I-190.

Since then, company spokesman Francis Doherty confirmed information from a state health official investigating the buried wastes that the company did manufacture uranium fuel pellets for commercial reactors prior to 1962 in Greendale. But Doherty could provide few details about the operation.

As part of their investigation into the buried waste, Nuclear Regulatory Commission officials have retrieved old Atomic Energy Commission nuclear materials license files from warehouses.

John D. Kinneman, NRC Region 1 Chief of the Nuclear Material Safety Section, had said it was hoped that files would show what materials were used by Norton Co.; whether the AEC conducted closure inspections or filed closure reports on the operation when the licenses were terminated; and perhaps most importantly what types of wastes might have been disposed of on the company property.

'NOTHING ABOUT DISPOSAL'

Kinneman said recently, however, that the license files have provided only "sketchy" and incomplete information about the materials licenses held by Norton Co. and the nature of its operations.

The old AEC license files, Kinneman said, show "nothing about dis-

posal" of wastes from the operations; do not describe the nuclear pellet manufacturing plant, and do not mention the one known burial site on property formerly owned by Norton Co., and taken in 1975 by the state Department of Public Works for the highway.

The records, Kinneman said, "Do not preclude that there wasn't another burial" of radioactive wastes on the property.

FILES APPEAR INCOMPLETE

The files contain some letters about various licenses held by the company, but Kinneman said the files appear incomplete. "There were destruction schedules on some records," Kinneman said. "They may have been miscataloged, or destroyed."

NRC officials have said burial of radioactive wastes by licensed material users was allowed under federal law until 1981, and required no special permits, markings, public monitoring or public recording of such burials.

Also Kinneman said, the AEC license records indicate that there probably was never any government inspection of the Norton plant and property when it was closed down in the early 1960s; that might have ensured that the plant was properly decontaminated or identified how or where radioactive wastes might have been disposed.

DECONTAMINATION EFFORTS

A city Health Department inventory of the materials buried in 1962 at the landfill, now under the highway, indicate decontamination efforts were undertaken to some degree.

Robert T. Watkins, radiation specialist for the state Department of Public Health, said among the contaminated equipment and materials disposed of in the landfill were industrial oven liners, flooring and equipment that had been contami-

nated with uranium.

A surface scan of the highway ramp area, believed to be 50 feet above where the radioactive materials are buried, showed no surface levels of radiation, Watkins said, and city officials have determined there are no nearby drinking water wells.

WASTES LONG-LIVED

Kinneman has notified city officials that so far, NRC officials have determined "there is no need for immediate action regarding this material" buried under the highway, even though uranium and thorium wastes remain radioactive for billions of years.

Kinneman said he doesn't expect at this point that the NRC will require any remedial action concerning the buried waste. He said the new highway use for the land ensures the property will remain stable and undisturbed for some time, and the wastes are not believed to be readily soluble in water.

So far, Kinneman said, "We haven't done an extensive investigation" into the site. But he said it is uncertain whether further studies might be undertaken by the NRC.

NOT UNUSUAL

Kinneman said that while some of the work done by Norton may have involved classified secrets, it was not unusual for little to be known about such atomic operations in the communities where they were located during the 1950s.

During that era, Kinneman said, companies doing certain work under Atomic Energy Commission licenses and classified contracts were required to put in place security plans at each plant, as a condition of the contract.

"At the time it might not have been truly classified," Kinneman said of the Norton operations. "But it might have been a situation of 'Don't talk about it.'"

NITSH

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NOV 19 1990

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WORCESTER TELEGRAM & GAZETTE

Norton buried 18-20 tons of waste under I-190 ramp

By John J. Monahan
Staff Reporter

T-6-110-1589
City officials yesterday found a detailed inventory of radioactive wastes buried by the Norton Co. in 1962 on property that was later used for construction of the West Mountain Street exit ramp from Interstate 190 in Worcester.

Norton Co. records on file with the city Department of Public Health show about 18 to 20 tons of material that contained or had come into contact with radioactive thorium and uranium were buried 30 feet below grade during a three-day operation at the site.

The inventory notes that of the 18 to 20 tons of materials, "the actual amount of radioactive mate-

rials present is 15 pounds of thorium and 25 pounds of uranium."

OWNED BY NORTON

The property was owned at the time by Norton Co. and was taken in the mid-1970s by the state for highway construction.

Nuclear Regulatory Commission officials have said the buried waste poses no immediate threat to the public and that radiation from the materials could not penetrate the surface of the roadway.

Nonetheless, NRC officials said they will conduct a review of the disposal site to determine the radioactivity of the waste and whether it could pose a threat to groundwater.

Turn to NORTON/Page A4

EPA taking closer look at I-190 ramp waste site

By John Staff Rep

A federal official yesterday said the Agency has been aware for seven years of hazardous wastes disposed of in a dump now covered by an Interstate 190 exit ramp in Worcester, but only learned recently that radioactive wastes were also buried there.

Nancy Smith of the EPA Superfund hazardous waste program said environmental site assessments that were already being performed by Superfund consultants on the highway dump will be revised to also evaluate radioactive wastes buried there.

That process will include a site inspection

and possibly the taking of environmental samples, she said.

Once that assessment is performed, Ms. Smith said, she is sure the site will be recommended for further evaluation to determine whether it would qualify for the federal Superfund hazardous waste cleanup program.

LENGTHY PROCESS

She said that will be a lengthy process and it may be up to two years before eligibility is determined.

The landfill was used by Norton Co. for disposal of various hazardous solvents for many years before the highway was built in the late 1970s, and the company also disposed of radioactive wastes and contaminat-

ed materials in a 20-by-30-foot section of the dump in 1962, according to company and city records.

An EPA assessment in 1984 had produced a low priority designation for remedial action at the site, she said, "but it looks like we did not know anything about radioactive wastes at the site" at that time.

Nuclear Regulatory Commission experts have said the radioactive wastes are buried deep enough so that they pose no threat of emitting any radiation to the surface. City and state officials have said no drinking water would be affected.

Ms. Smith said that the Superfund site evaluations will eventually address ques-

tions of whether the hazardous or radioactive wastes could affect groundwater in the area.

"It is beyond the scope of the (ongoing) assessment to do deep sampling, which is really required to find out what is down there, and whether it may be leaking," Ms. Smith said. But she said such site testing could be required in the next phase of investigation in the Superfund program.

"I am sure we will recommend the site go on in the Superfund process to the next step," which would require a "listing site inspection," she said. That will involve studies to rank the site on a scale of 1 to 100 to deter-

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EPA

Continued From Page One

mine if it would be placed on a list, along with several hundred other sites in New England, for remedial action.

NO ACTION BY DEP

Meanwhile, state Department of Environmental Protection officials yesterday clarified previous statements that no action would be taken by that agency regarding the site.

DEP will send a formal notice to the state Department of Public Works, which now owns the property, that the disposal site believed to lie 30 to 60 feet below the West Mountain Street exit ramp surface will be included in the state hazardous waste site program.

Cornelius J. O'Leary, regional director of the state Department of Environmental Protection, said yesterday that the formal notification to Department of Public Works will require the state agency to have a consultant investigate the hazardous waste buried at the site.

O'Leary said, while the DEP has no jurisdiction over radioactive wastes, it requires such assessments of all suspected hazardous waste sites in the state. O'Leary said it remains unclear why the DEP did not notify the state Department of Public Works and require a site assessment since 1982, when Norton Co. notified DEP about the hazardous wastes there.

NO IMMEDIATE THREAT

O'Leary added, however, that he believes the radioactive wastes pose no immediate threat to the public. O'Leary said he believes Norton Co. took precautions to protect the public from any exposure paths when the wastes were buried deep in the ground, and that both city and state health officials also took precautions to make sure the materials were not disturbed when the highway was built in 1972.

"Whether or not some other course of action should be taken now, is another question," O'Leary said.

Since the existence of the radioactive dump was publicly disclosed this week, U.S. Nuclear Regulatory Commission officials have also begun making inquiries about the site to evaluate it for any possible environmental or health threats.

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Norton waste detailed in city inventory

Continued From Page One

Also, state and city environment and health officials have said there are no private drinking wells in the area and no public water supply sources nearby that could be affected.

Norton Co. records also show that quantities of other industrial hazardous wastes, including a variety of solvents, toluene, creosote and tri-chloroethylene, were also disposed of at the site, which was used as an industrial landfill for many years before the highway began in the mid-1970s.

SITE NEVER TESTED

Norton Co. officials said they reported the site as a hazardous waste disposal location to state and federal officials in 1983, but that groundwater at the site has never been tested for possible contamination.

State Department of Environmental Protection spokesman Miles Brown yesterday said the state has never investigated the disposal area as a hazardous waste site.

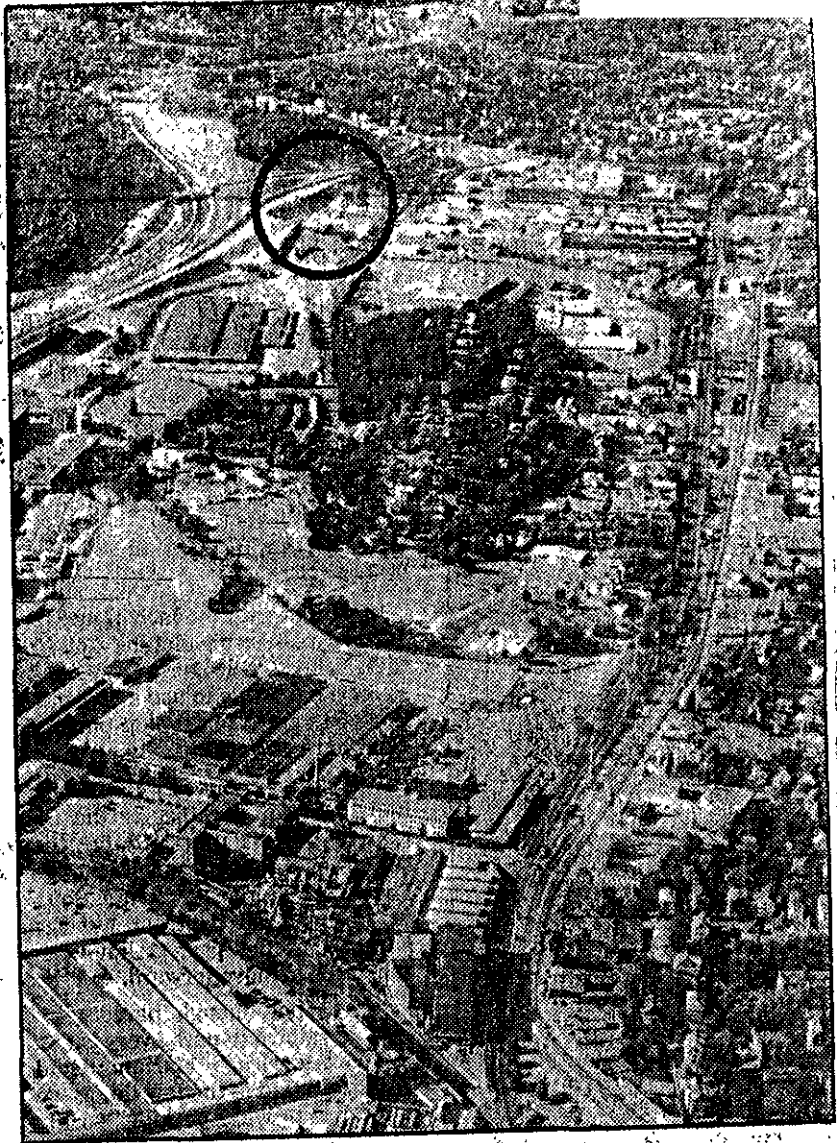
Brown dismissed concern about the disposal site, saying DEP planned to take no action, and, "It does not pose any threat to public health or the environment."

Brown said he did not know why the site, now owned by the state Department of Public Works, has never been investigated as a hazardous waste disposal site. Even though Norton Co. officials said they reported the disposal of hazardous wastes there to state and federal hazardous waste officials in 1983, Brown said it is not on the state's list of known hazardous waste disposal sites.

The city records show 1,510 pieces of radioactive material were buried during a three-day operation between Oct. 8 and 10, 1962, and that extreme care was taken to measure the materials for radioactivity, document the quantities being buried, and to mark the boundaries of the disposal site with concrete markers.

LANDFILL EXPANDED

Norton Co. spokesman Francis Doherty said company records show the markers bounded an area about 30 feet by 20 feet. He said the



FILE PHOTO
A 1977 aerial photograph shows Interstate 190 under construction in the upper left part of the picture. The area in the circle is where Norton Co. radioactive waste is buried. The road at right is West Boylston Street.

landfill was later expanded to a larger size and used for disposal of non-radioactive hazardous wastes.

Scott Pickard, spokesman for the state DPW, said state highway officials did not know about the radioactive wastes and could find no record of the waste site in records last week. In the last two days, however, Pickard said department officials have found records of the waste site in state archives and are reviewing them to determine how the waste site was dealt with when the road was built.

On file with the city is a March 25, 1975, letter from Cornelius J. O'Leary, then director of the state department of Public Health Bureau of Environmental Radiation, to C.E. Maguire and Associates, the firm that designed the roadway. In

the letter, O'Leary notified the firm that the radioactive wastes were buried on the site planned for highway construction.

In reviewing the plans, O'Leary wrote, "One consideration was that the physical properties of the containers cannot be known with any certainty. Another was the problem associated with removal of the material, only to having to dispose of it somewhere else."

"The Department's opinion is that the radioactive material remain undisturbed," O'Leary wrote in the letter. He also recommended that any excavation near the waste material "should be done in a manner that will ensure that the radioactive waste material be confined to its present location."

Special Exposure Cohort Petition
under the Energy Employees Occupational
Illness Compensation Act

NIOSH

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health

Number: 0920-0639

Expires: 07/31/2010

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Special Exposure Cohort Petition — Form E

F.3 I/We have attached a report from a health physicist or other individual with expertise in radiation dose reconstruction documenting the limitations of existing DOE or AWE records on radiation exposures at the facility, as relevant to the petition. The report specifies the basis for believing these documented limitations might prevent the completion of dose reconstructions for members of the class under 42 CFR Part 82 and related NIOSH technical implementation guidelines.

(Attach report to the back of the petition form.)

F.4 I/We have attached a scientific or technical report, issued by a government agency of the Executive Branch of Government or the General Accounting Office, the Nuclear Regulatory Commission, or the Defense Nuclear Facilities Safety Board, or published in a peer-reviewed journal, that identifies dosimetry and related information that are unavailable (due to either a lack of monitoring or the destruction or loss of records) for estimating the radiation doses of employees covered by the petition.

(Attach report to the back of the petition form.)

Go to Part G.

G Signature of Person(s) Submitting this Petition — Complete Section G.

All Petitioners should sign and date the petition. **Three persons may sign the petition.**

Signature _____

4/26/10
Date

Date

Signature _____

Date

Notice: Any person who knowingly makes any false statement, misrepresentation, concealment of fact or any other act of fraud to obtain compensation as provided under EEOICPA or who knowingly accepts compensation to which that person is not entitled is subject to civil or administrative remedies as well as felony criminal prosecution and may, under appropriate criminal provisions, be punished by a fine or imprisonment or both. I affirm that the information provided on this form is accurate and true.

Send this form to:
SEC Petition
Office of Compensation Analysis and Support
NIOSH
4676 Columbia Parkway, MS-C-47
Cincinnati, OH 45226

If there are additional petitioners, they must complete the Appendix Forms for additional petitioners. The Appendix forms are located at the end of this document.

Name or Social Security Number of First Petitioner: _____

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Special Exposure Cohort Petition —

Public Burden Statement

Public reporting burden for this collection of information is estimated to average 300 minutes per response, including time for reviewing instructions, gathering the information needed, and completing the form. If you have any comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, send them to CDC Reports Clearance Officer, 1600 Clifton Road, MS-E-11, Atlanta GA, 30333; ATTN:PRA 0920-0639. Do not send the completed petition form to this address. Completed petitions are to be submitted to NIOSH at the address provided in these instructions. Persons are not required to respond to the information collected on this form unless it displays a currently valid OMB number.

Privacy Act Advisement

In accordance with the Privacy Act of 1974, as amended (5 U.S.C. § 552a), you are hereby notified of the following:

The Energy Employees Occupational Illness Compensation Program Act (42 U.S.C. §§ 7384-7385) (EEOICPA) authorizes the President to designate additional classes of employees to be included in the Special Exposure Cohort (SEC). EEOICPA authorizes HHS to implement its responsibilities with the assistance of the National Institute for Occupational Safety (NIOSH), an Institute of the Centers for Disease Control and Prevention. Information obtained by NIOSH in connection with petitions for including additional classes of employees in the SEC will be used to evaluate the petition and report findings to the Advisory Board on Radiation and Worker Health and HHS.

Records containing identifiable information become part of an existing NIOSH system of records under the Privacy Act, 09-20-147 "Occupational Health Epidemiological Studies and EEOICPA Program Records. HHS/CDC/NIOSH." These records are treated in a confidential manner, unless otherwise compelled by law. Disclosures that NIOSH may need to make for the processing of your petition or other purposes are listed below.

NIOSH may need to disclose personal identifying information to: (a) the Department of Energy, other federal agencies, other government or private entities and to private sector employers to permit these entities to retrieve records required by NIOSH; (b) identified witnesses as designated by NIOSH so that these individuals can provide information to assist with the evaluation of SEC petitions; (c) contractors assisting NIOSH; (d) collaborating researchers, under certain limited circumstances to conduct further investigations; (e) Federal, state and local agencies for law enforcement purposes; and (f) a Member of Congress or a Congressional staff member in response to a verified inquiry.

This notice applies to all forms and informational requests that you may receive from NIOSH in connection with the evaluation of an SEC petition.

Use of the NIOSH petition forms (A and B) is voluntary but your provision of information required by these forms is mandatory for the consideration of a petition, as specified under 42 CFR Part 83. Petitions that fail to provide required information may not be considered by HHS.

Name or Social Security Number of First Petitioner: _____

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