



United States
Environmental Protection
Agency

EPA Proposes Cleanup Plan for 2 Areas and Future Situations

Ottawa Radiation Areas Site
Ottawa, Ill.

July 2003

Your comments invited

EPA invites your comments on this proposed cleanup plan for residential areas and for two of the 14 areas in the Ottawa Radiation Areas Superfund Site. Your input is important. EPA may modify its recommendation based on new information and comments from area residents. You may fill out and return the enclosed form, or you may fax or e-mail your comments to Joe Muñoz at EPA. See Page 7 for his contact information.

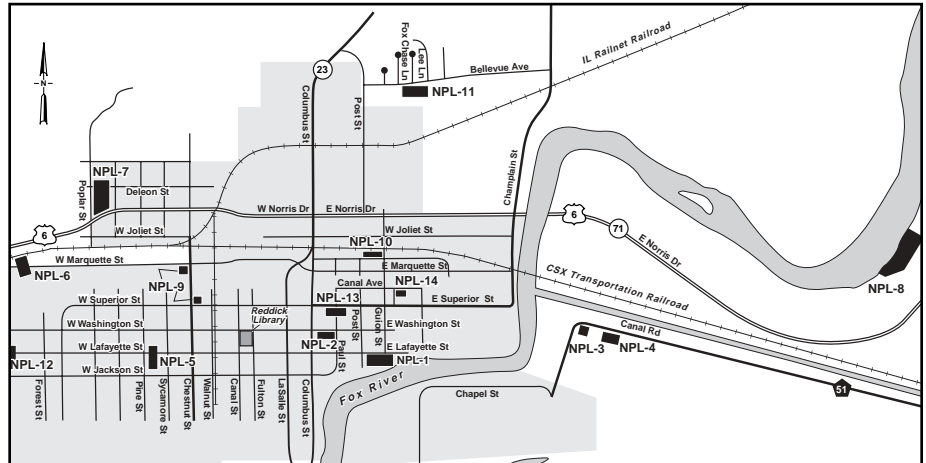
You may also share your views with EPA officials at a public meeting scheduled for:

Date: Wednesday, July 30, 2003
Time: 7 p.m.
Place: Ottawa City Hall
301 W. Madison St.
Ottawa, Ill.

You must submit your statement during the

Public Comment Period
July 18 to August 18, 2003

If you need special accommodations in order to attend this meeting, please contact Joe Muñoz at least two weeks prior to the meeting.



Ottawa Radiation Areas Location Map

A plan proposed by U.S. Environmental Protection Agency Region 5 calls for any radium-contaminated soil found in residential areas of Ottawa to be dug up and replaced with clean dirt. The proposed plan is almost identical to the method previously used to clean up other residential areas. But this plan, once it becomes final, will ensure that if any contamination is discovered in the future, there will be no need to go back through EPA's analysis and evaluation process. That will make any future residential cleanups more efficient and effective.

The first site to benefit from this proposed plan would be a vacant lot that is part of NPL-11 (see map on Page 3). The lot is a grassy area off Bellevue Avenue, between homes where contamination has already been removed. Cleanup under this proposed plan would restore the area to a condition suitable for building private homes. That same standard would apply in any future cleanups of residential areas under this proposal.

EPA is proposing a similar plan for the area known as the NPL-8 frontage property. In this case, however, only the top 10 feet of soil will be removed. By digging up the soil and processing it on the site, EPA can ensure that only contaminated soil is taken to a licensed landfill. EPA will install equipment to monitor and control the release of radon gas from under the ground, and future use of the site will be restricted to commercial and industrial purposes. The approach saves money while protecting human health and the environment.

The plan is not yet final. Ottawa residents will have 30 days in which to comment on EPA's proposal, and the proposed plan could change based on input from the public. One opportunity to comment will be a public meeting, scheduled for July 30 at 7 p.m., in Ottawa City Hall. Comments may also be mailed, e-mailed or faxed to the EPA regional office in Chicago.

¹Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act requires the publication of a notice announcing the proposed plan and a brief analysis. It also requires an opportunity for a public hearing and comment period. This proposed plan summarizes the feasibility study, the technical memorandum and information detailed in other site-related reports available in the administrative record at the Reddick Library and at the EPA office in Chicago.



Risks to the people and the environment

The risk at NPL-11 is primarily to residents, construction workers and people walking through the area. They can be exposed to contamination by inhaling radon gas escaping from the ground, or by touching radium-contaminated soil. They can also get small particles of contaminated soil in their mouths by casual hand-to-mouth contact. EPA estimates that one out of 10,000 could develop cancer. The study did not include risk to the environment because the area is small and highly developed, with no habitat for wildlife.

At the NPL-8 frontage property, the risk for residents is as high as one case of cancer in every 1,000 exposures. For people who walk through the site occasionally, the risk is as high as one case in every 10,000 exposures. EPA evaluated the risks for several uses, but EPA expects this area to remain a commercial/industrial site. People coming to a recreation area or playground built in this area would have a risk as high as four cases of cancer in every 10,000 exposures, while people working at new businesses in the area would have a risk as high as five cancer cases in every 10,000 exposures. Construction workers building any new facilities would have a risk of seven cancer cases in every million exposures. In all three cases, exposure would be primarily from direct contact with the soil. EPA found that plants and wildlife in this area would not be affected by the contamination.

About the Ottawa Radiation Areas Site

Both NPL-11 and the NPL-8 frontage property are part of the Ottawa Radiation Areas Site. A total of 14 separate areas in and around Ottawa are contaminated with radium-226. Some areas also have heavy metal contamination. The radium, and probably the heavy metals, came from two Ottawa companies that used radium sulfate paint in making glow-in-the-dark watch dials. Radium Dial Co. operated from 1920 to 1932, and Luminous Processes Inc. from 1932 through 1978.

EPA's cleanup priority in Ottawa was residential property and properties near residential areas, because they posed immediate and substantial danger to people. From 1995 to 1997, EPA removed more than 40,000 tons of radium-contaminated soil from 12 of the 14 areas, and replaced it with clean soil.

NPL-11 is on Bellevue Avenue in the northeast side of Ottawa, with Goose Creek on the south and homes east and west. EPA removed 4,176 tons of contaminated soil from three residential properties in 1996, but an investigation in 2000 revealed some contamination remained in the vacant lot. Fill material containing contaminated waste from both companies may have been deposited in the area. After the cleanup, the site will be suitable for private homes.

The NPL-8 frontage property is about four acres, 1/4-mile east of Ottawa. The NPL-8 area itself is north and west of the property. There is a car dealership on the southwest, water-filled clay pits on the northeast, and State Route 71 on the southeast. This area provided access to NPL-8. It was originally considered part of NPL-8, but EPA placed the frontage property in a separate category during an investigation last year. EPA expects the frontage property to remain as a commercial/industrial site.

Evaluation criteria

Cleanup plans are evaluated against these nine criteria:

1. Overall Protection of Human Health and the Environment addresses whether an alternative adequately protects both human health and the environment. This criterion can be met by reducing or eliminating the contaminant, or by reducing exposure to it.
2. Compliance with Applicable or Relevant and Appropriate Requirements assures that each project complies with federal, state and local laws and regulations.
3. Long-Term Effectiveness and Permanence evaluates how well an option will work in the long term, including how safely remaining contaminants can be managed.
4. Reduction of Toxicity, Mobility or Volume Through Treatment addresses how well the option reduces the toxicity, movement and amount of contaminants.
5. Short-Term Effectiveness is how quickly the project achieves protection, as well as its potential to be harmful to human health and the environment while it's being constructed and operating.
6. Implementability addresses how well the alternative can be implemented. It evaluates the technical feasibility and whether materials and services are available to carry out the project.
7. Cost includes estimated capital or startup costs, such as the cost of buildings, treatment systems and monitoring wells. The criterion also considers costs to implement the remedy and operate and maintain it over time. Examples include laboratory analysis, repair costs and personnel costs. Inflation, interest, etc., are factored into cost estimates for work to be done in the future.
8. State Acceptance is whether the state, in this case Illinois Department of Nuclear Safety, agrees with, opposes or has no comment on EPA's recommended alternative. This criteria addresses how well the option complies with state laws and regulations.
9. Community Acceptance evaluates how well the community near the site accepts the option. EPA evaluates community acceptance after it receives and evaluates public comments on its recommended alternative.

Cleanup alternative – Residential Areas

EPA evaluated three alternatives for residential areas, including:

Alternative 1 – No Action

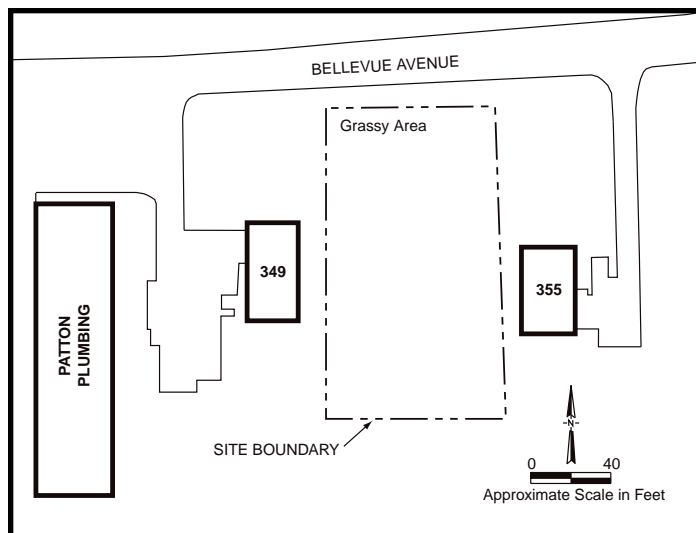
EPA always includes "No Action" as an alternative. The estimated cost for NPL-11 and other residential areas is \$0.

Alternative 2 – Excavation, Backfill, Off-Site Disposal of Soil Contaminated with Radium-226 and Perched Water Collection (if necessary)

This would consist of digging up contaminated soil and disposing of it in a licensed landfill. Clean dirt would then replace what was removed.

In addition, pockets of underground water (called "perched water") would be treated and removed.

Estimated cost is \$200,000 for the NPL-11 vacant lot.



NPL-11 Site Layout

Comparison of Cleanup Alternatives for Residential Areas			
Evaluation of Criteria	Alternative 1	Alternative 2*	Alternative 3
1. Overall protection of human health and the environment	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2. Compliance with ARARs	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3. Long-term effectiveness and permanence	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4. Reduction of toxicity, mobility or volume through treatment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Short-term effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
6. Implementability	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
7. Cost (estimated)	\$0	—	—
NPL-11	\$0	\$200,000	N/A
8. State acceptance	Will be evaluated after public comment period		
9. Community acceptance	Will be evaluated after public comment period		

Fully meets criteria
 Partially meets criteria
 Does not meet criteria
 * EPA's recommended alternative
 N/A = Not applicable

This table provides a comparison of the cleanup alternatives for NPL-11. The No Action alternative does not meet the criteria. Alternatives 2 and 3 provide the best balance of nine criteria. EPA cannot select an alternative unless it is fully protective of human health and the environment and compliant with the applicable or relevant and appropriate requirements.

Alternative 3 – Excavation, Backfill, Volume Reduction, Off-Site Disposal of Soil Contaminated with Radium-226 and Perched Water Collection (if necessary)

This would be essentially the same as Alternative 2, but the soil would be processed so that a reduced amount of soil would be disposed of in a licensed radioactive waste landfill. NPL-11 was not evaluated for this alternative, because the volume of contaminated soil was too small for consideration.

Recommended Alternative – Chosen Cleanup Plan for Residential Areas: Alternative 2

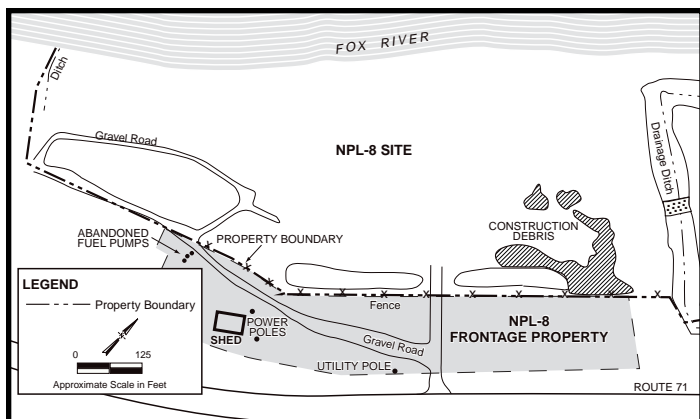
Excavation of contaminated soil, backfill, perched water

(if necessary) and off-site disposal as a chosen cleanup plan for soil in residential areas. The plan provides for the option for volume reduction (Alternative 3) depending on the evaluation in the technical memorandum.

A technical memorandum will be used to make the determination as to whether a site meets certain criteria or "plugs into" the record of decision for implementation of the chosen cleanup plan at the residential area.

Recommended Alternative for NPL-11: Alternative 2

Excavation of contaminated soil, backfill and off-site disposal.



NPL-8 Site Layout

Cleanup alternatives – NPL-8

These are the alternatives for the NPL-8 Frontage Property:

Alternative 1b – No Action

EPA always includes "No Action" as an alternative. The estimated cost is \$0.

Alternative 2b – Excavation, Backfill, Off-Site Disposal of Soil Contaminated with Radium-226 and Perched Water Collection

In this alternative, all contaminated soil would be removed and disposed of in a licensed radioactive waste landfill and replaced with clean dirt. In addition, pockets of underground water would be treated or removed. The estimated cost is \$9.1 million.

Alternative 3b – Excavation, Backfill, Volume Reduction, Off-Site Disposal of Soil Contaminated

with Radium-226 and Perched Water Collection

This would be essentially the same as Alternative 2b, but the soil would be processed so that a reduced amount of soil would be disposed of in a licensed radioactive waste landfill. The estimated cost is \$10.6 million.

Alternative 4b – Institutional Controls, Excavation of Contaminated Soil to a Depth of 10 Feet Below Ground Surface, Off-Site Disposal and Perched Water Collection

Similar to Alternative 2b, but future use would be restricted to commercial/industrial uses with a system to control radon gas. The estimated cost is \$5.8 million.

Alternative 5b – Institutional Control, Excavation of Contaminated Soil to a Depth of 10 Feet Below Ground Surface, Volume Reduction, Off-Site Disposal and Perched Water Collection

Similar to Alternative 3b, but future use would be restricted to commercial/industrial uses with a system to control radon gas. The estimated cost is \$6.6 million.

Recommended Alternative for NPL-8 Frontage/ Alternative 4b

Excavation of contaminated soil to a depth of 10 feet, off-site disposal and perched water collection, institutional controls with the option of using volume reduction or the segmented gate system (Alternative 5b) if treatability studies show that it is effective and if the remedial action for the Frontage Property and NPL-8 landfill could be conducted at the same time.

Comparison of Cleanup Alternatives for NPL-8					
Evaluation of Criteria	Alternatives				
	1b	2b	3b	4b*	5b
1. Overall protection of human health and the environment	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2. Compliance with ARARs	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3. Long-term effectiveness and permanence	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Reduction of toxicity, mobility or volume through treatment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Short-term effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
6. Implementability	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
7. Cost (estimated)	\$0	\$9,100,000	\$10,650,000	\$5,820,000	\$6,600,000
8. State acceptance	Will be evaluated after public comment period				
9. Community acceptance	Will be evaluated after public comment period				

Fully meets criteria
 Partially meets criteria
 Does not meet criteria
* EPA's recommended alternative

This table provides a comparison of the cleanup alternatives for the Frontage Property. The No action alternative does not meet the nine criteria. Many of the other alternatives were equivalent when evaluated against the criteria. EPA eliminated alternatives 2b and 3b because the additional cost did not provide significantly more benefits in the form of protection of health and land use. In addition, the greater long-term effectiveness of complete removal in Alternatives 2b and 3b could be offset by engineering controls and other long-term operation and maintenance measures. EPA believes that Alternative 4b or 5b would protect human health while providing for fairly unrestricted use, except for a few small areas where buildings could not be located without radon reduction equipment being installed. EPA cannot select an alternative unless it is fully protective of human health and the environment and compliant with applicable or relevant and appropriate requirements.

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Soil is excavated at NPL-8 to initiate the treatability study.



The segmented gate system is loaded with soil from NPL-8. The system detects contamination and sorts the soil per cleanup standards.



Equipment for the segmented gate system is set-up on-site.

For more information

If you have questions or would like additional information about the Ottawa Radiation Areas Superfund Site, please write or call:

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The next step

EPA will consider all public comments submitted during the comment period before choosing a final plan for these sites. EPA will provide a written response to comments in its final cleanup decision, called a record of decision. EPA will announce the decision in a newspaper ad in local newspapers.

EPA Web site


This fact sheet, previous fact sheets and other site documents can be found on the following EPA Web site:

<http://epa.gov/region5/sites/ottawa/>

Information repository

If you would like to learn more about EPA's proposed cleanup, or about the Ottawa Radiation Areas Site in general, please see the site files in the information repository, located at the Reddick Library, 1010 Canal St., Ottawa.

OTTAWA RADIATION AREAS: Cleanup Plan Proposes Options for 2 Areas

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