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U-003-1005.8

TRANSPORTATION WORKSHOP OPERABLE UNIT 1 - THE WASTE PITS AGENDA AND OVERHEADS

08/09/94

DOE-FN
77
AGENDA

PUBLIC

5825

TRANSPORTATION WORKSHOP

5825

U-003-1005.8

OPERABLE UNIT 1 - THE WASTE PITS

August 9, 1994 • 7 p.m. to 9 p.m.
Alpha Building, Classroom D, 10991 Hamilton-Cleves Hwy.

Agenda

Why are we here . . . . . Dave Lojek

What are the transportation alternatives . . . . . Terry Hagen

What are the routes and logistics . . . . . Gerry Motl

What emergency response/notification plans are in place . . . . . Dave Rast

What comes next . . . . . Bob Fellman

Questions are encouraged

TRANSPORTATION WORKSHOP

OPERABLE UNIT 1 - THE WASTE PITS

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OU1 - THE NEXT STEPS

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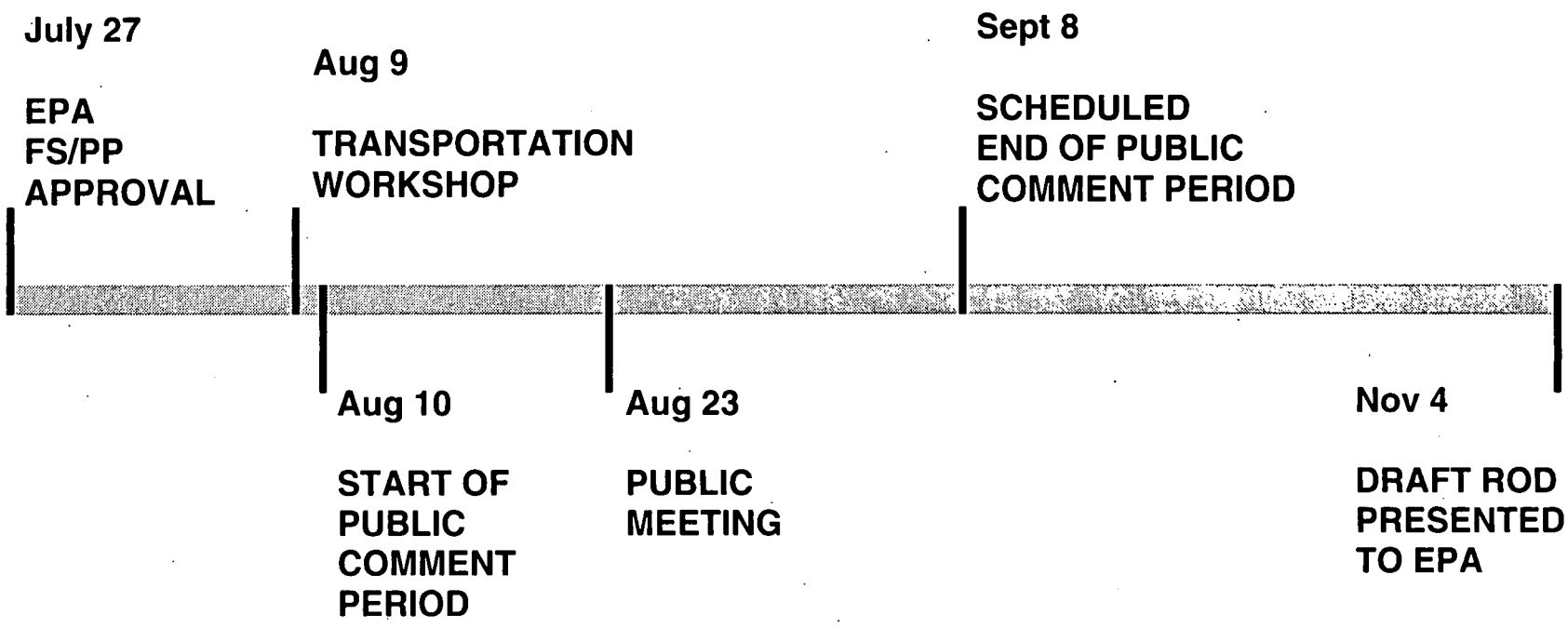

- Use Tonight's Presentation to Develop Questions
- We will Develop Responses; Address these at Public Meeting on August 23
- Need Your Questions to Develop Draft ROD

PHONE/SEND YOUR COMMENTS AND QUESTIONS TO:

GARY STEGNER
Director, Public Information
U.S. DEPARTMENT OF ENERGY
FERNALD AREA OFFICE
P.O. BOX 398705
CINCINNATI, OHIO 45239-8705

(513) 648-3014

or

JIM SARIC
U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION V- 5HRE - 8J
77 WEST JACKSON BLVD.
CHICAGO, IL 60604-3590

(312) 886-0992

THE PUBLIC COMMENT PERIOD STARTS AUGUST 10, 1994

THIS IS THE BEST TIME TO MAKE YOUR VIEWS KNOWN

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WHY THE WASTES HAVE TO GO OFFSITE

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- **Long-Term Groundwater Protection**
  - **Disposal facility siting criteria ARAR**
  - **Onsite disposal facility waste acceptance criteria issues**

- **Technical Implementability More Certain for Offsite Disposal**

WHY RAIL VERSUS TRUCK SHIPMENTS

FERNALD

- **Lower Likelihood of Accident Involving Rail Shipment**
  - **Accident rates per ton-mile five times higher for truck**

- **Safer for Public and Workers**
  - **Less exposure due to fewer number of shipments**
  - **Public in closer proximity to wastes for truck shipments**

- **More Cost Effective**
  - **Ability to ship in bulk results in lower costs**

WE CAN SHIP OPERABLE UNIT 1 WASTES SAFELY

FERNALD

- Transportation Risks Were Evaluated Quantitatively
  - We evaluated cumulative risks for accident-free transportation
  - We evaluated risks in the event of an accident

- Calculated Risks Fall Within U.S. EPA Acceptable Risk Range
  - Above statement true for workers and public for accident-free and accident scenarios

WE WILL COMPLY WITH APPLICABLE REGULATIONS

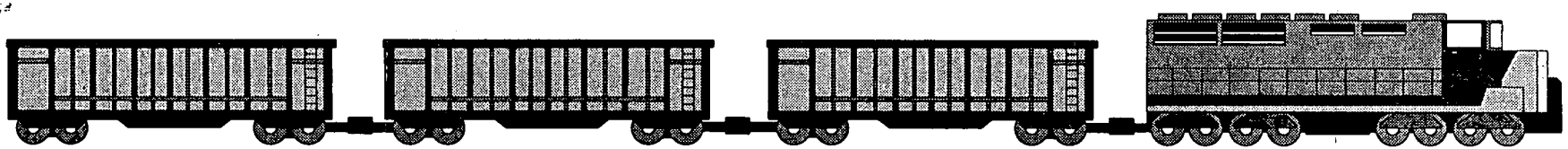
FERNALD

- U.S. Department of Transportation Regulations are Principal Drivers
  - Stipulate waste packaging requirements
  - External radiation limits
  - Waste identification and labeling
  - Training requirements for transporters
- Federal Railroad Administration Regulations
  - Track inspection requirements
- DOE Orders

THE RAIL TRANSPORTATION OPTION

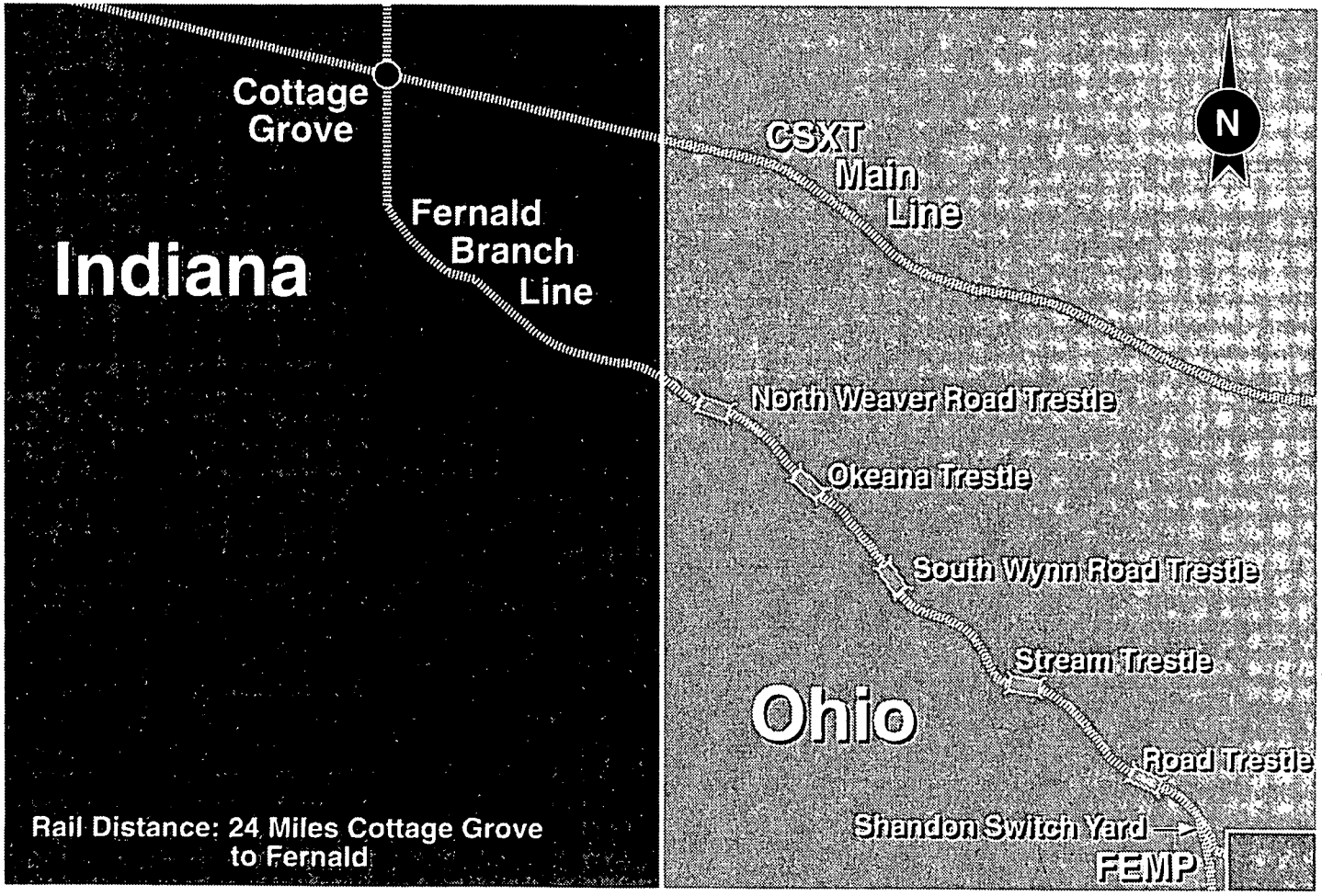
FERNALD

Fernald Operable Unit 1



FERNALD - COTTAGE GROVE, INDIANA BRANCH LINE

FERNALD



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RAIL CAR PLACARD

FERNALD

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Graphics 2853.2 7/94

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RAIL ROUTE TO ENVIROCARE

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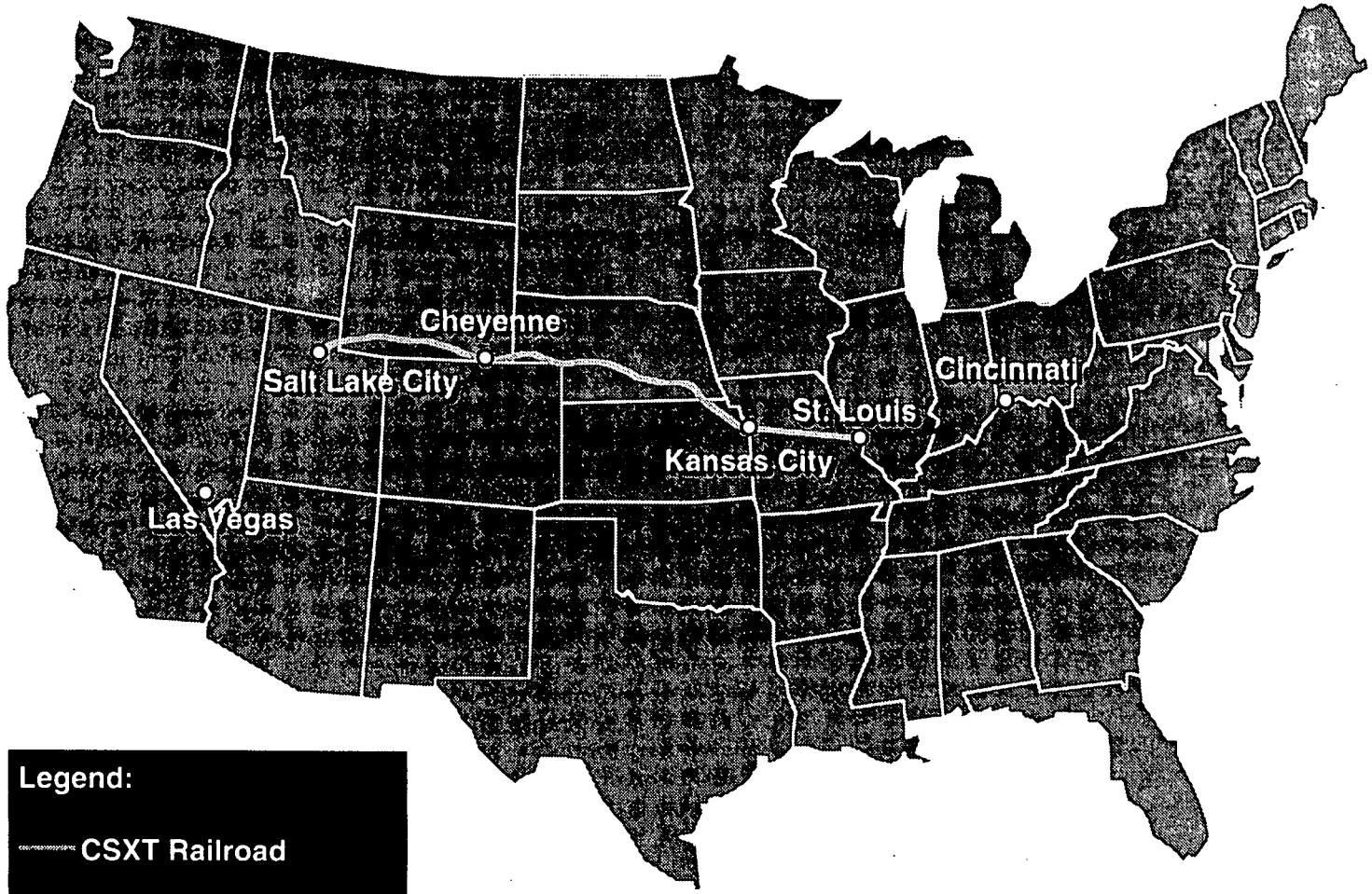

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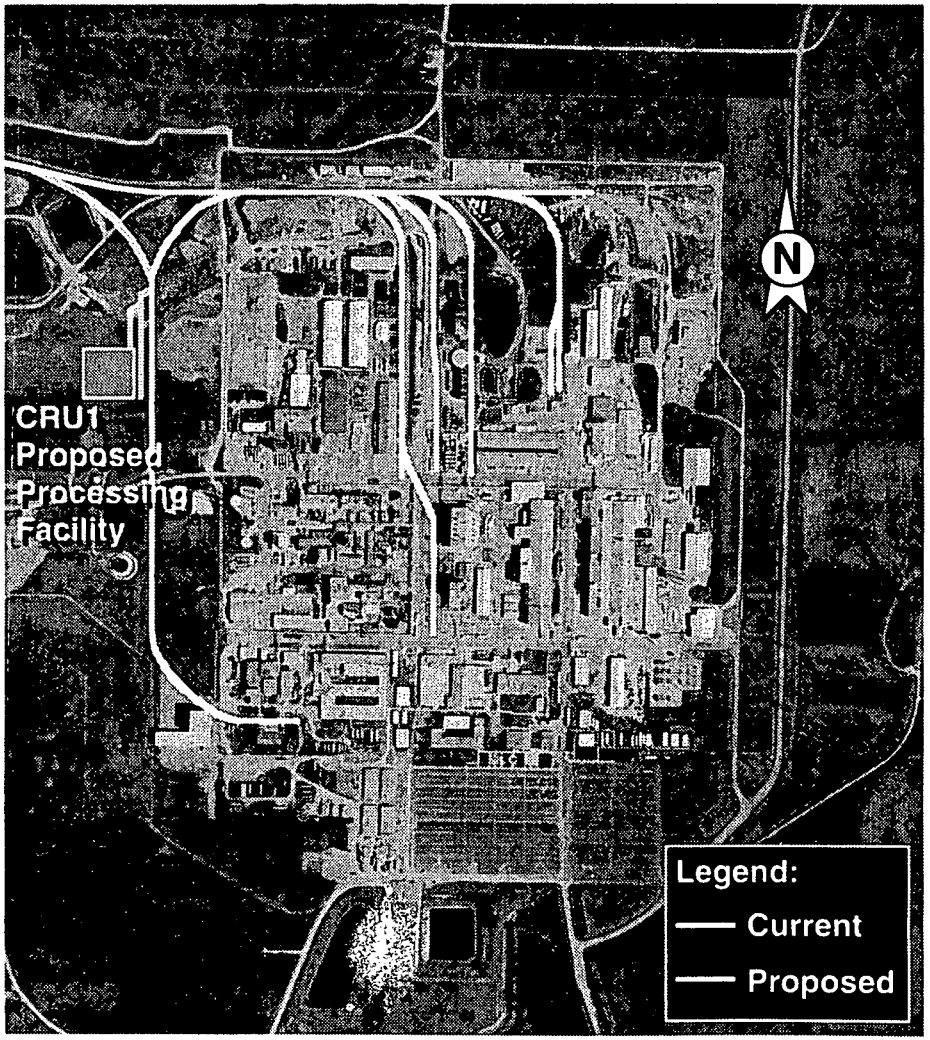
FERNALD SITE RAIL INFRASTRUCTURE

FERNALD



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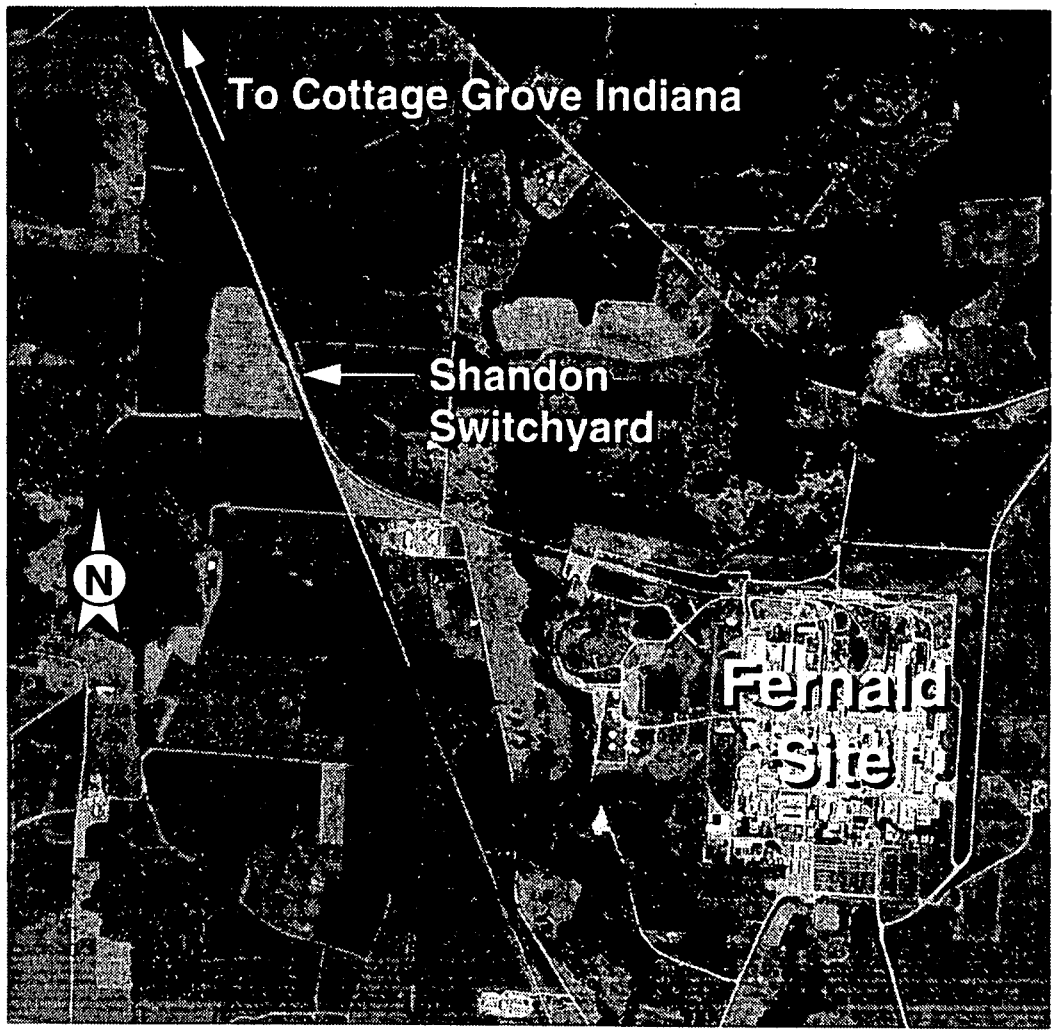
SHANDON SWITCHYARD

FERNALD



RAIL ROUTE TO ENVIROCARE

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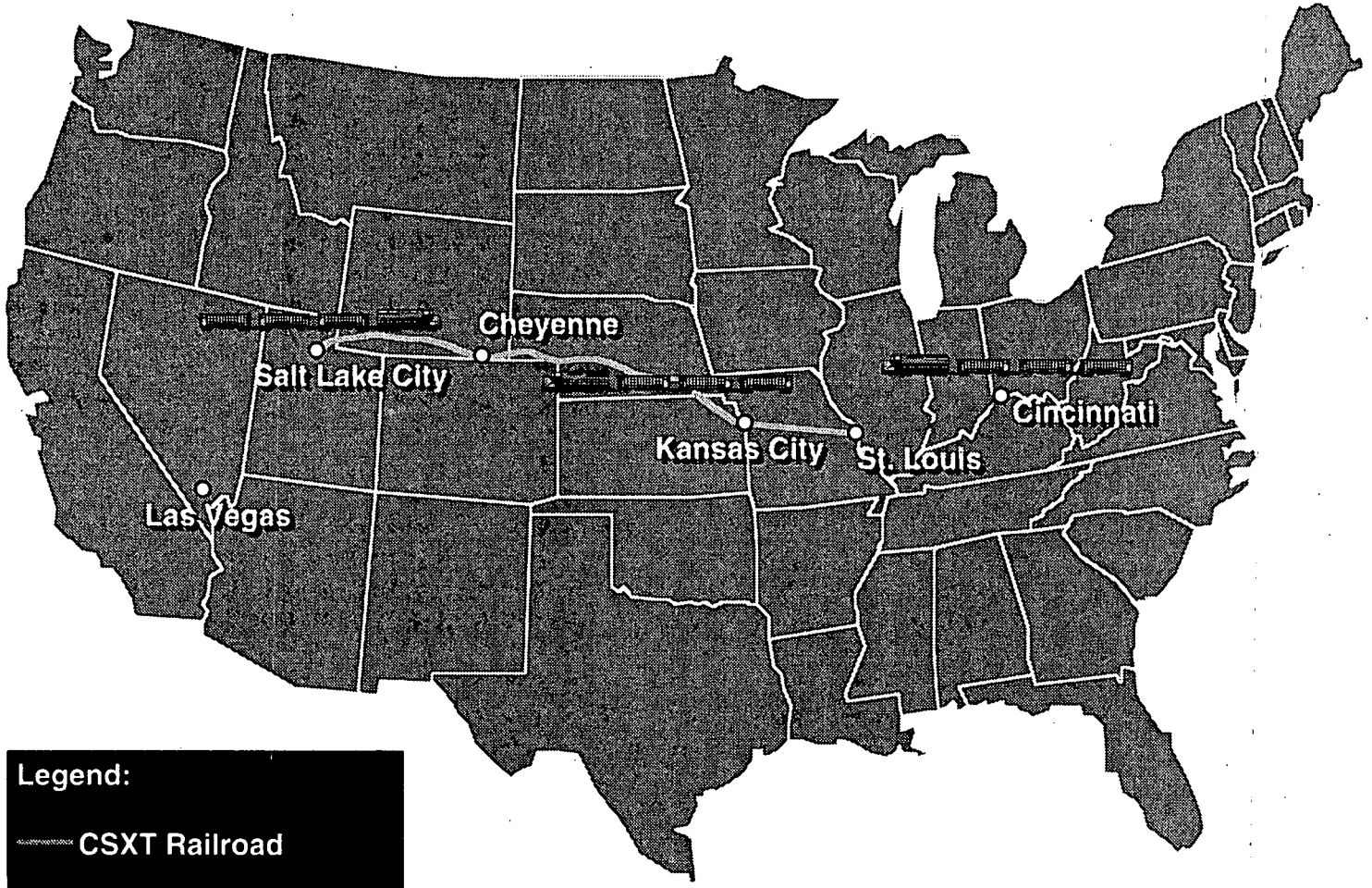

Legend:

CSXT Railroad

Union Pacific Railroad

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THE RAIL TRANSPORTATION CHALLENGE

FERNALD

Transport 1,053,000 tons of Operable Unit One Pit Waste and Soil Material from Fernald to the Envirocare Site in Clive, Utah.

THE RAIL TRANSPORTATION CHALLENGE

FERNALD

Material:	**Operable Unit One Pit Contents**
Quantity:	**1,053,000 tons**
Shipment Point:	**Fernald**
Destination:	**Envirocare Site, Clive, Utah**
Distance:	**1,907 miles**

OPERABLE UNIT 1 WASTE CLASSIFICATION

FERNALD

NRC Material Definition

- "Low Specific Activity (LSA)" - 10CFR71.4

DOT Material Definition

- "Radioactive Material" - 49CFR173.403
- "Low Specific Activity (LSA)" - 49CFR173.403

DOT Hazard Classification

- DOT Hazard Class 7 - 49CFR172.101

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NRC NUCLEAR WASTE CLASSIFICATION

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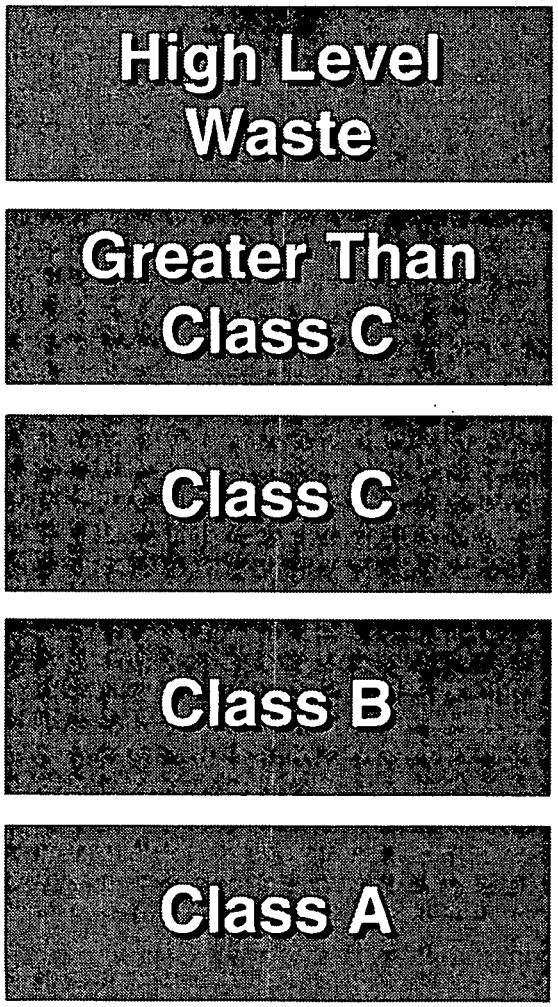

OVERALL OPERABLE UNIT ONE WASTE DISPOSITION PLAN

FERNALD

Excavate the contents of Operable Unit One waste pits, dry the material and transport it by rail to the Envirocare Site west of Salt Lake City, Utah for burial.

Material not meeting Envirocare Waste Acceptance Criteria will be shipped either by rail/truck or truck to the Nevada Test Site, 65 miles northwest of Las Vegas.

U.S. CLASS 1 RAILROADS

FERNALD

Railroad	Operating Revenue $/Millions
Union Pacific Railroad Company	4,789
Burlington Northern Railroad Company	4,630
CSX Transportation	4,434
Norfolk Southern Corporation	3,777
Consolidated Rail Corporation	3,208
Southern Pacific Transportation Company	2,385
Atchison Topeka & Sante Fe Railroad Company	2,252
Chicago and North Western Transportation Company	816
Soo Line Railroad Company	577
Illinois Central Railroad Company	547
Kansas City Southern Railway Company	336
Denver & Rio Grande Western Railroad Company	335
Grand Trunk Western Railroad Company	246

TRAIN CONFIGURATION

FERNALD

Train type:	**Unit train**
Number of trains:	**3**
Train length:	**47 cars**
Shipment period:	**5 years**
Departure frequency:	**every 9 days**

UNIT TRAIN ADVANTAGES

FERNALD

- Faster transit time
- En-route delays minimized
- Rail car utilization under DOE control
- Rail car position tracking is simplified
- Lower overall cost
- Lower number of train shipments
- Safer than regularly scheduled freight service

RAIL CAR SELECTION

FERNALD

Gondola cars were selected as the railcar of choice in the Operable Unit One Feasibility Study because of:

- **Ease in loading**
- **Low cost per unit payload**
- **Availability of roll-over facility at Envirocare**

RAIL TRANSPORTATION ROUTING

FERNALD

- Local
  - On-site
  - Shandon Switchyard

- Regional
  - Branch line between Fernald and Cottage Grove, Indiana
  - Main line from Cottage Grove to Cincinnati

- National
  - Main line from Cincinnati to Utah via CSXT and Union Pacific

WASTE DISPOSAL SITE
WASTE ACCEPTANCE CRITERIA

FERNALD

	Radioactive	Hazardous	Mixed
Envirocare	Yes[1] (Low Activity Rad Waste Only)	Yes[1]	Yes[1]
Nevada Test Site	Yes	No	No

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RAIL VS. TRUCK SHIPMENTS

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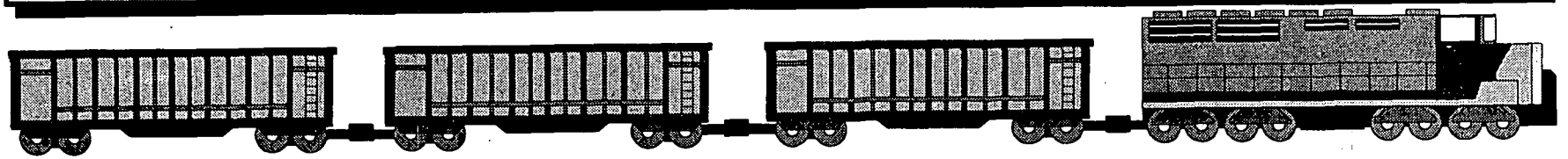

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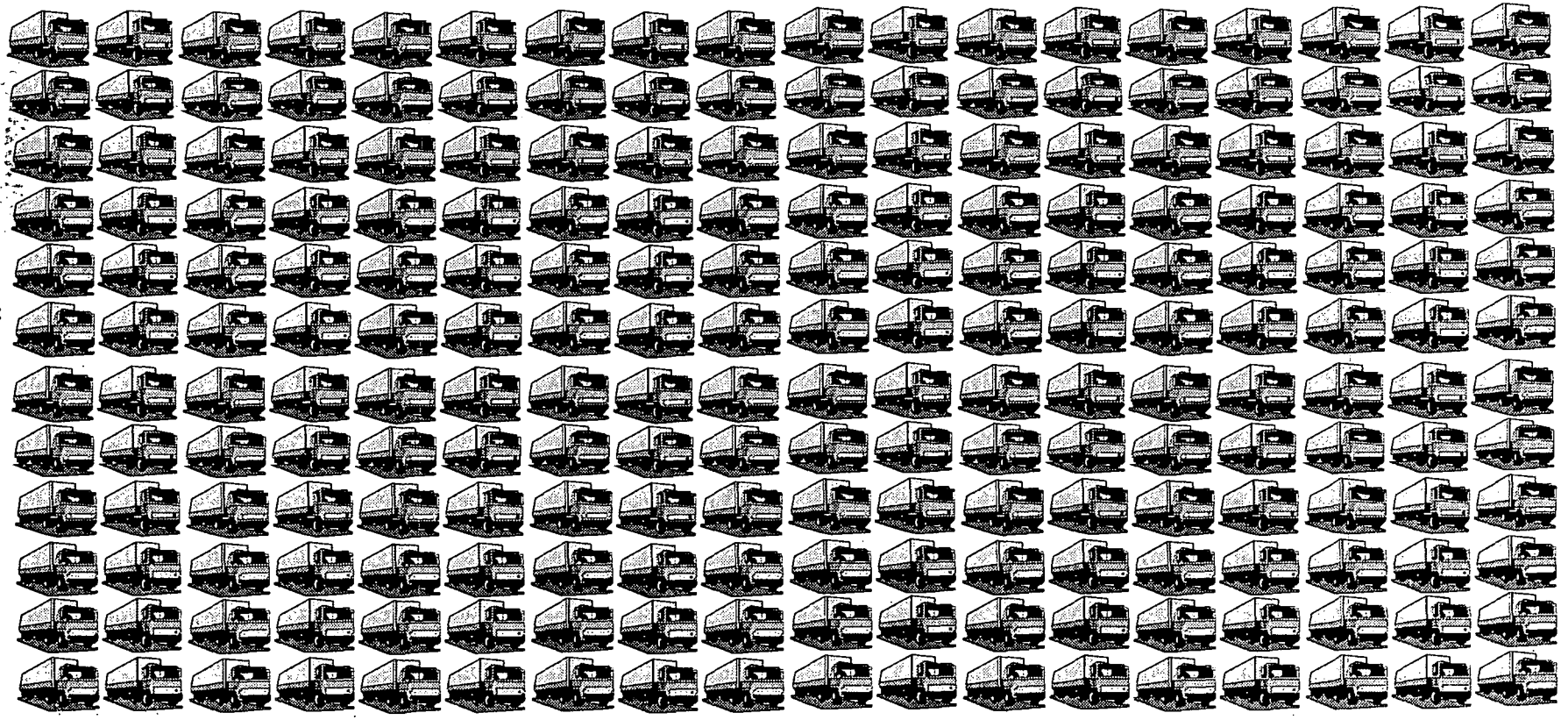

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RAIL VS. TRUCK SAFETY

FERNALD

" Railroads are nearly five times safer in terms of accidents per ton-mile than competing trucks when carrying hazardous materials."

American Association of Railroads
1993

RAILROAD EMERGENCY RESPONSE SUB-CONTRACTORS

FERNALD

CSXT

- OH Materials
- Heritage Environmental
- Chemical Waste Management

Union Pacific

- OH Materials
- IT Corporation
- Reidel Environmental Services
- EmTech Environmental Services
- Radian Corporation

EMERGENCY RESPONSE INFRASTRUCTURE

FERNALD

DOE Radiological Assistance Team

Fernald Emergency Response Organization

Railroad Emergency Response Organization

Train Crew

State Emergency Response Organization

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CSX UNIT TRAIN

FERNALD

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CSX CENTRAL DISPATCH CENTER
JACKSONVILLE, FLORIDA

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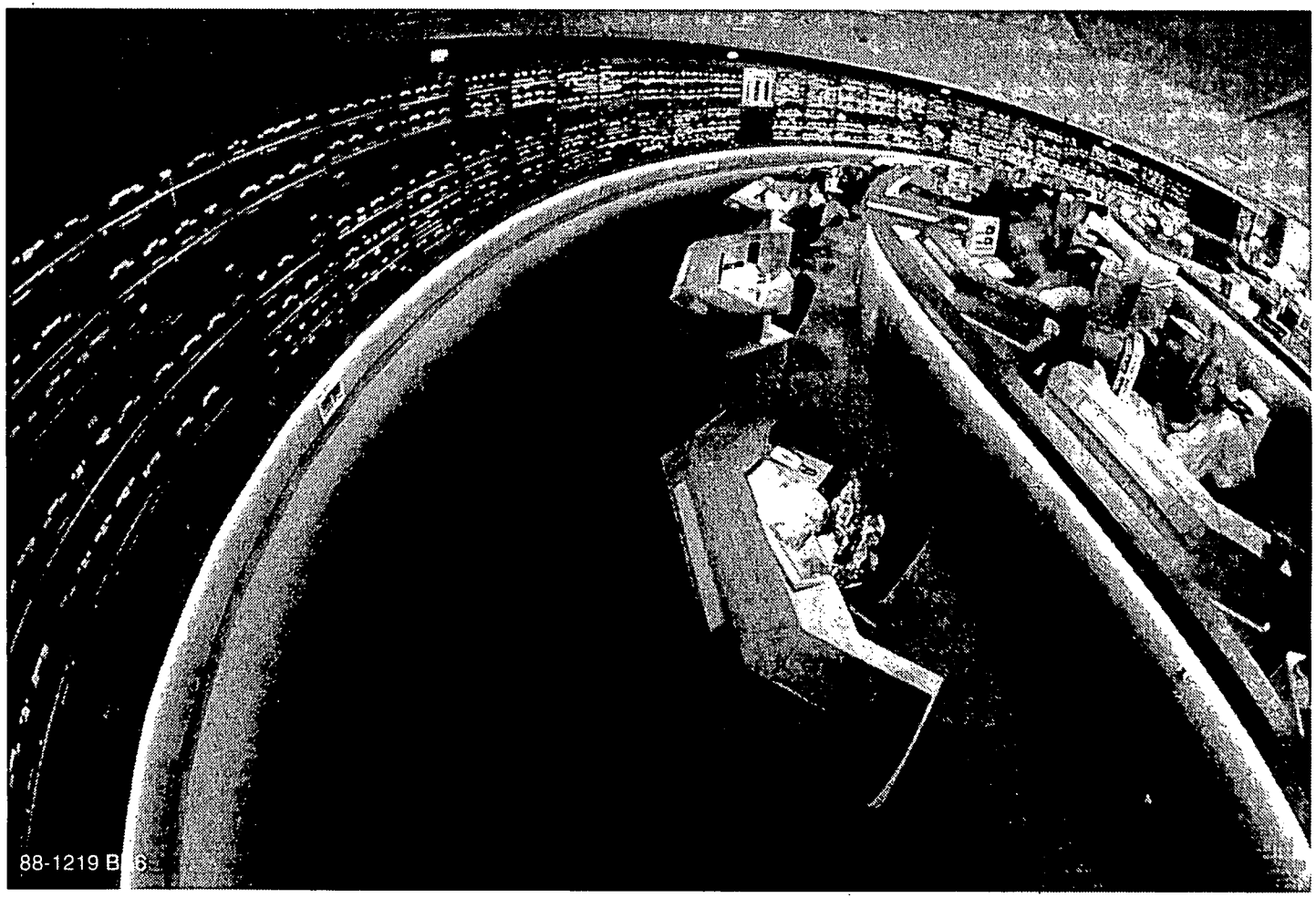

OKEANA TRESTLE

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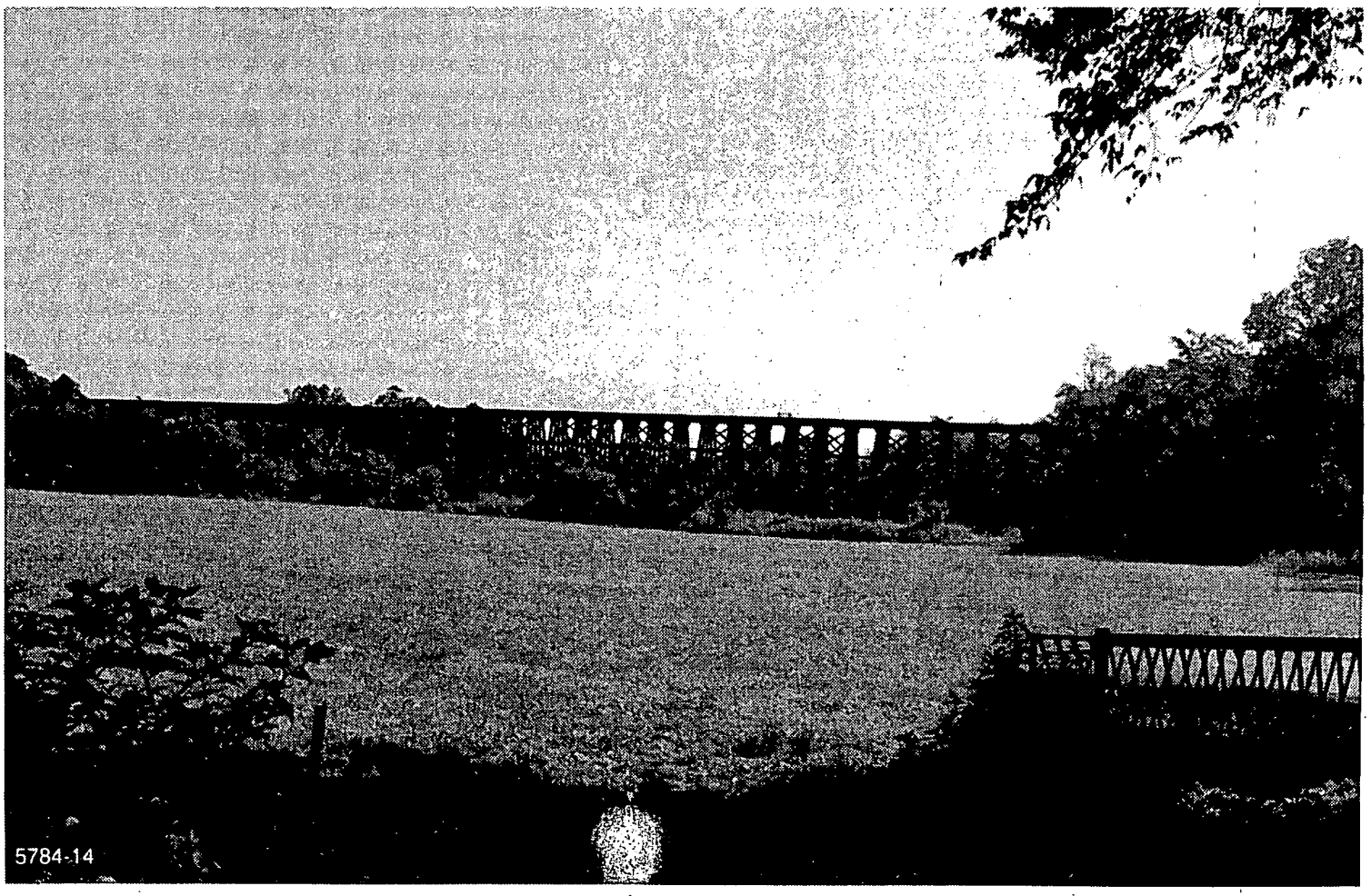

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SOUTH WYNN ROAD TRESTLE

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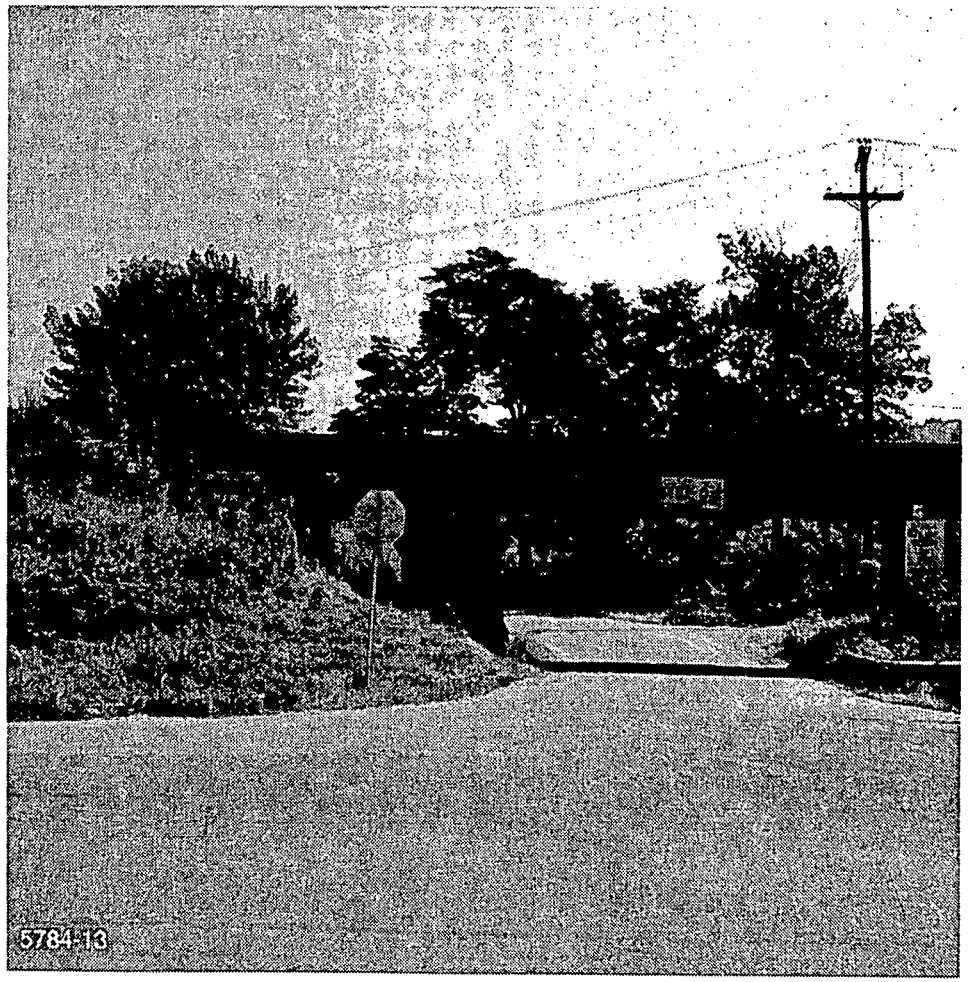

NORTH WEAVER ROAD TRESTLE

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FERNALD SITE RAIL ACCESS

FERNALD

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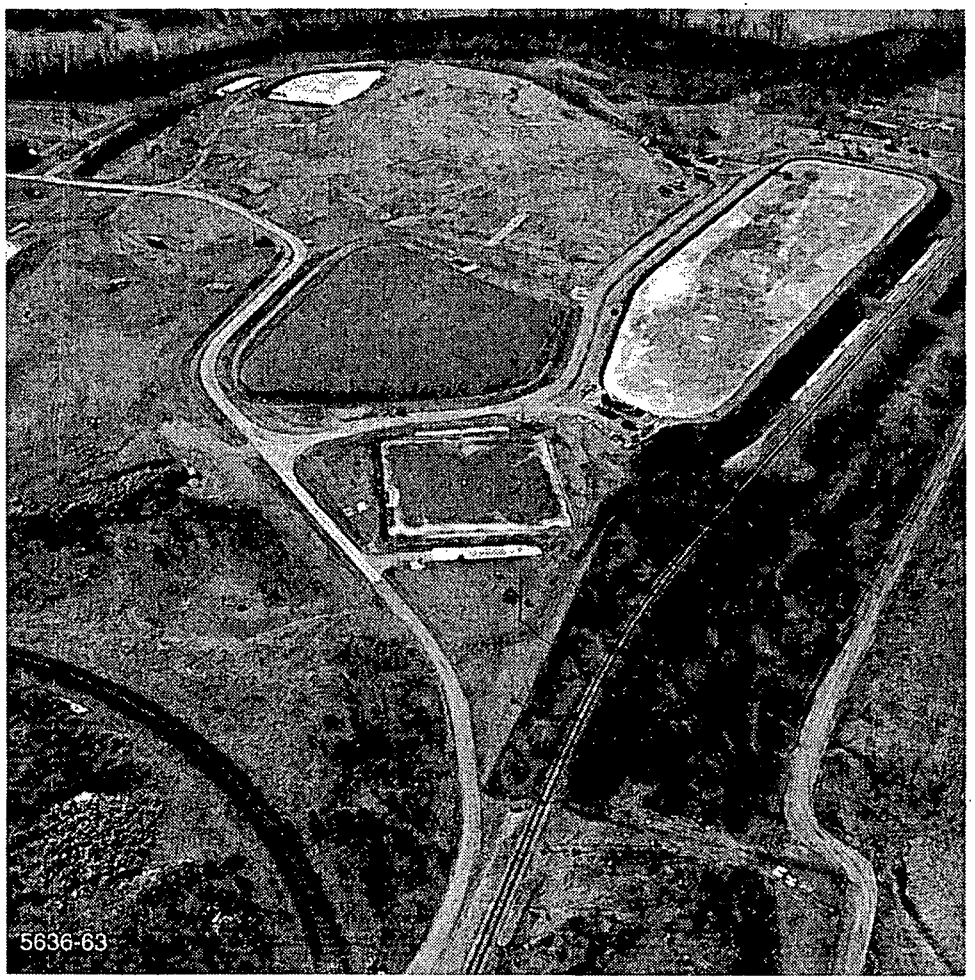

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OPERABLE UNIT ONE WASTE VOLUME

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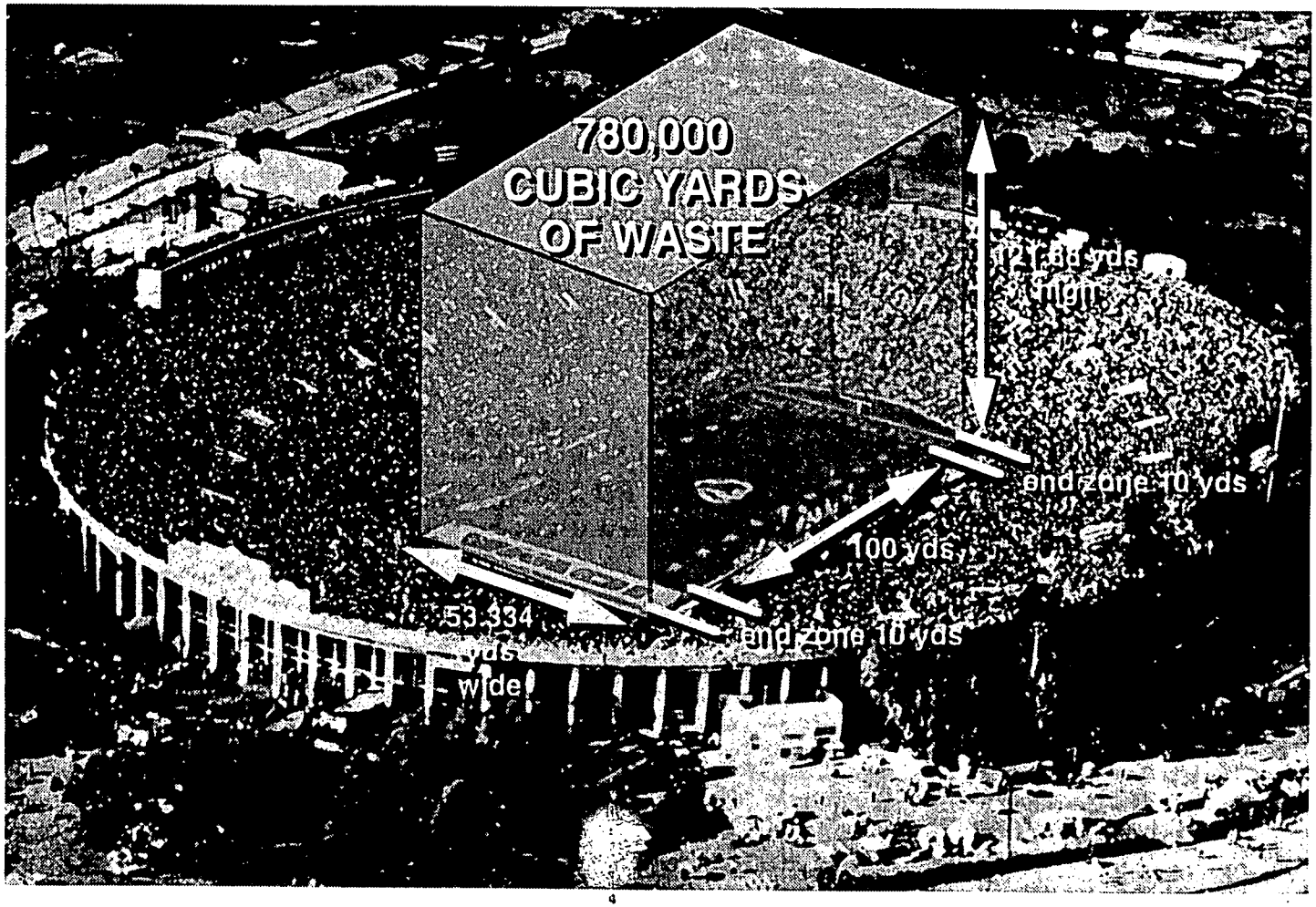

EMERGENCY RESPONSE REGIONAL RESPONSE LOCATIONS

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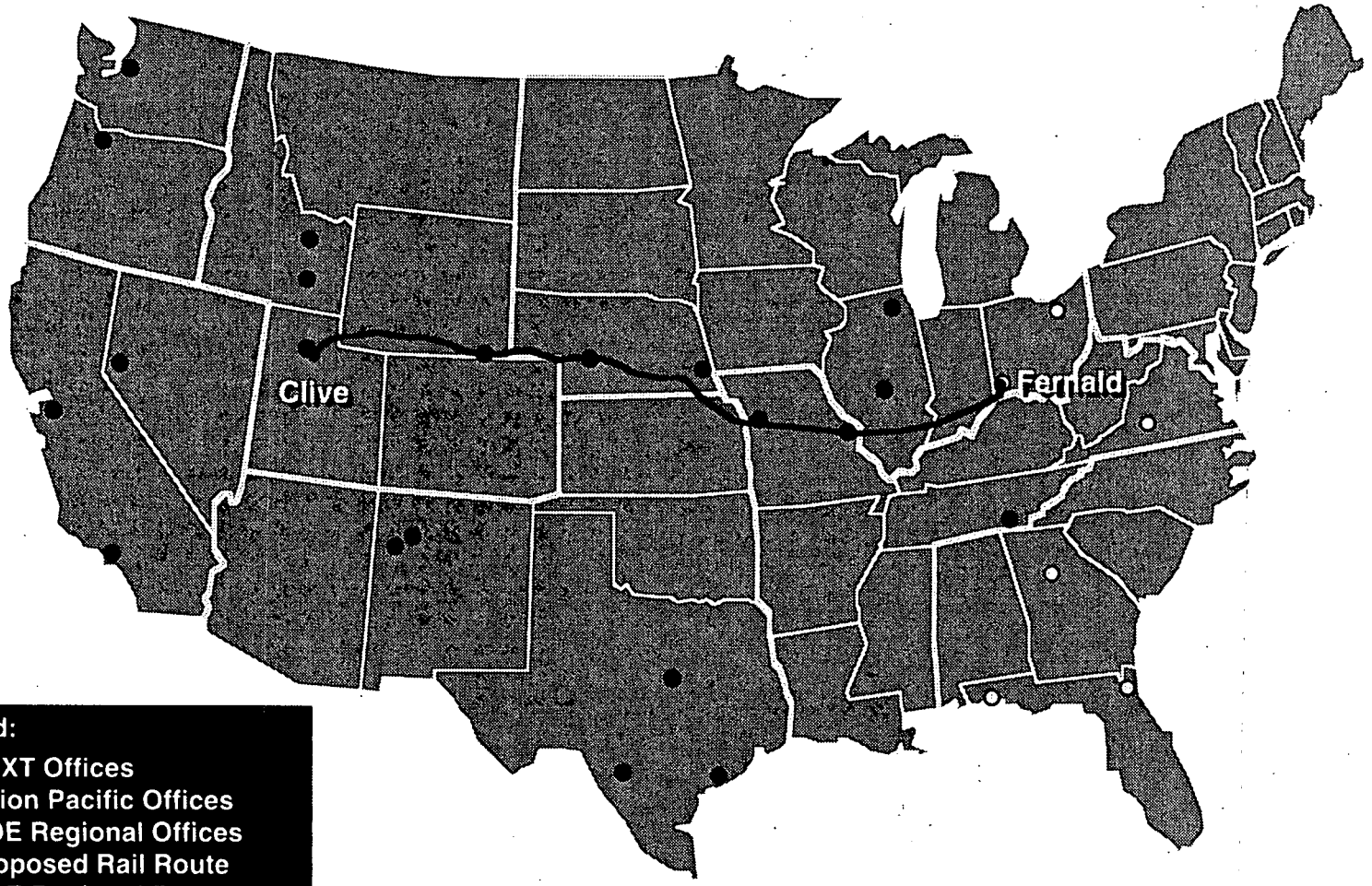

Legend:
- • CSXT Offices
- ○ Union Pacific Offices
- DOE Regional Offices
- Proposed Rail Route
- — DOE Regional Boundaries

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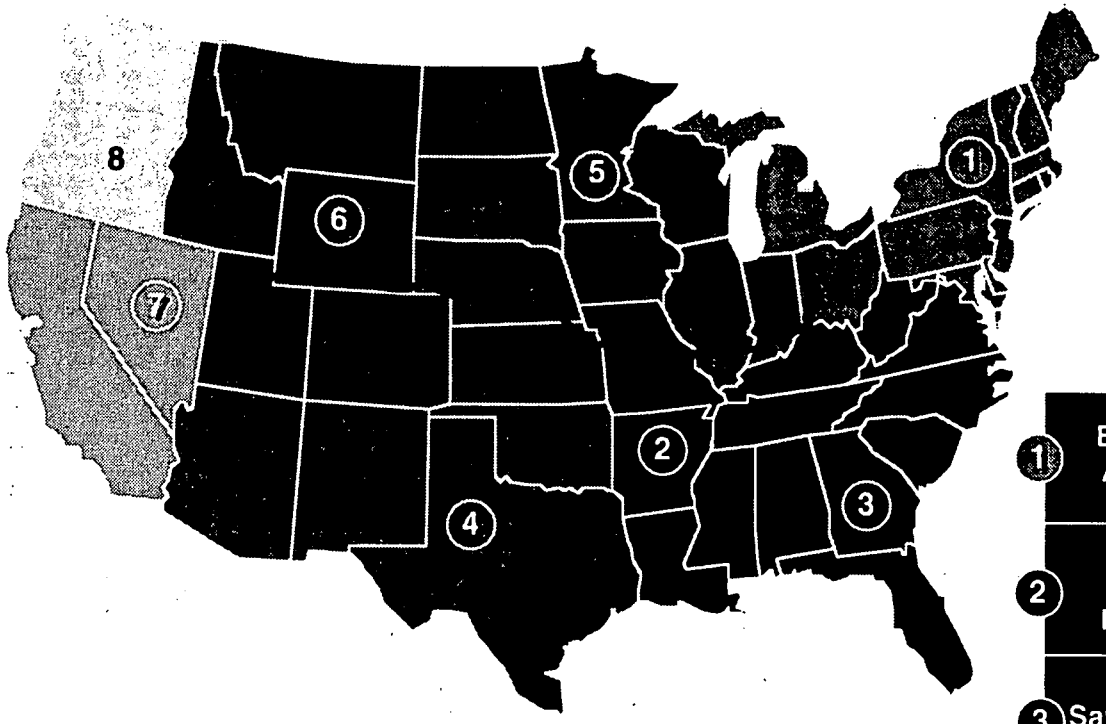
DOE RADIOLOGICAL ASSISTANCE TEAM REGIONAL LOCATIONS

FERNALD



Regional Coordinating Office

1 Brookhaven Area Office	5 DOE Chicago Field Office
2 DOE Oak Ridge Field Office	6 DOE Idaho Field Office
3 DOE Savannah River Field Office	7 DOE San Francisco Field Office
4 DOE Albuquerque Field Office	8 DOE Richland Field Office

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GONDOLA CAR MEMBRANE

FERNALD

Gondola car waste material will be "wrapped" in an 18 mil polyethylene membrane to mitigate accident impacts and prevent or reduce rail car internal contamination.

EMERGENCY NOTIFICATIONS

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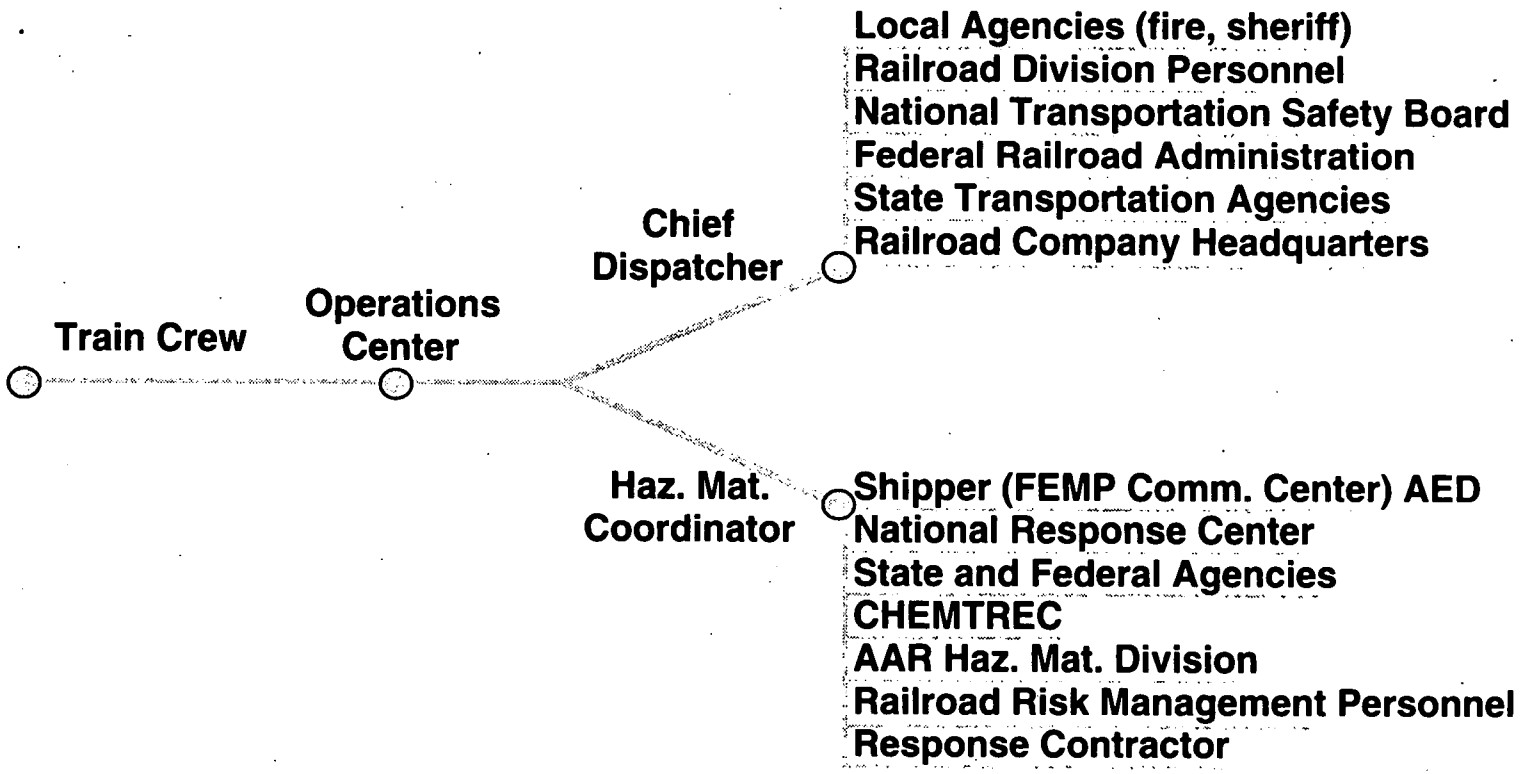

EMERGENCY NOTIFICATIONS (Cont'd)

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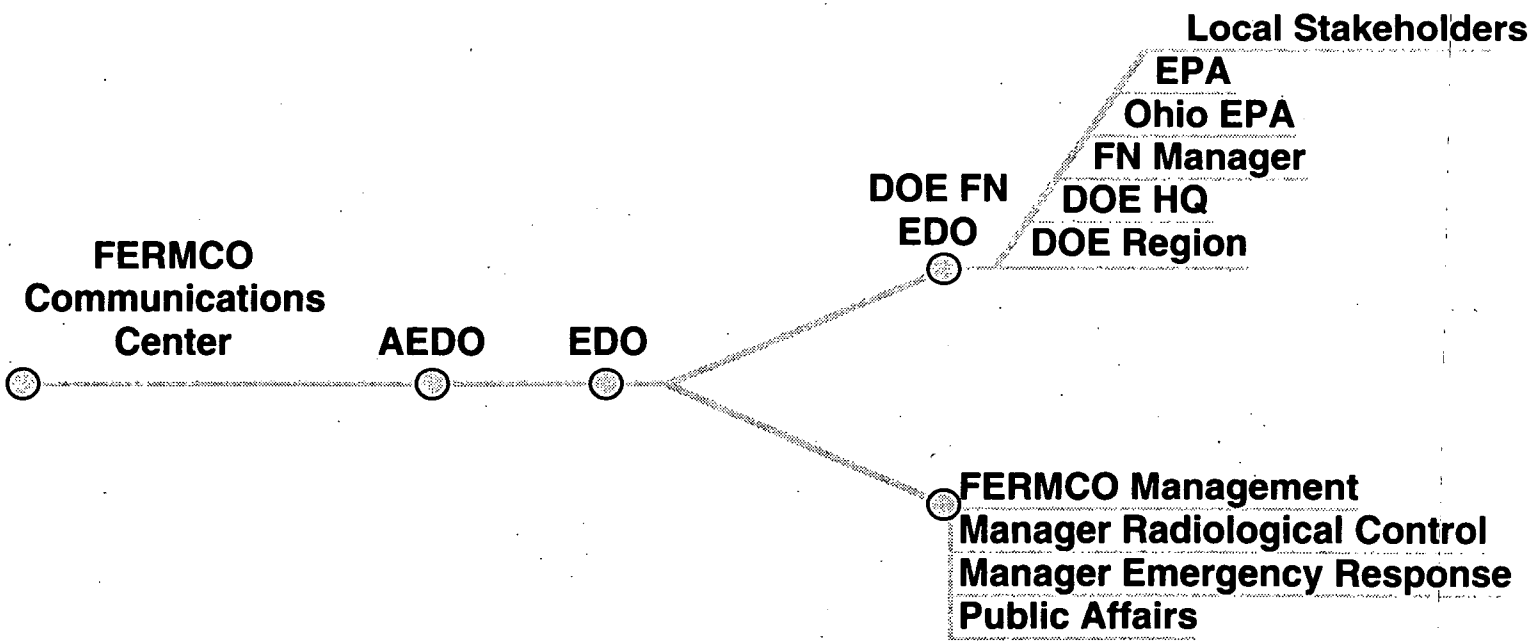

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ENVIROCARE OF UTAH
SITE OVERVIEW

FERNALD

NEVADA TEST SITE
AREA 3

FERNALD

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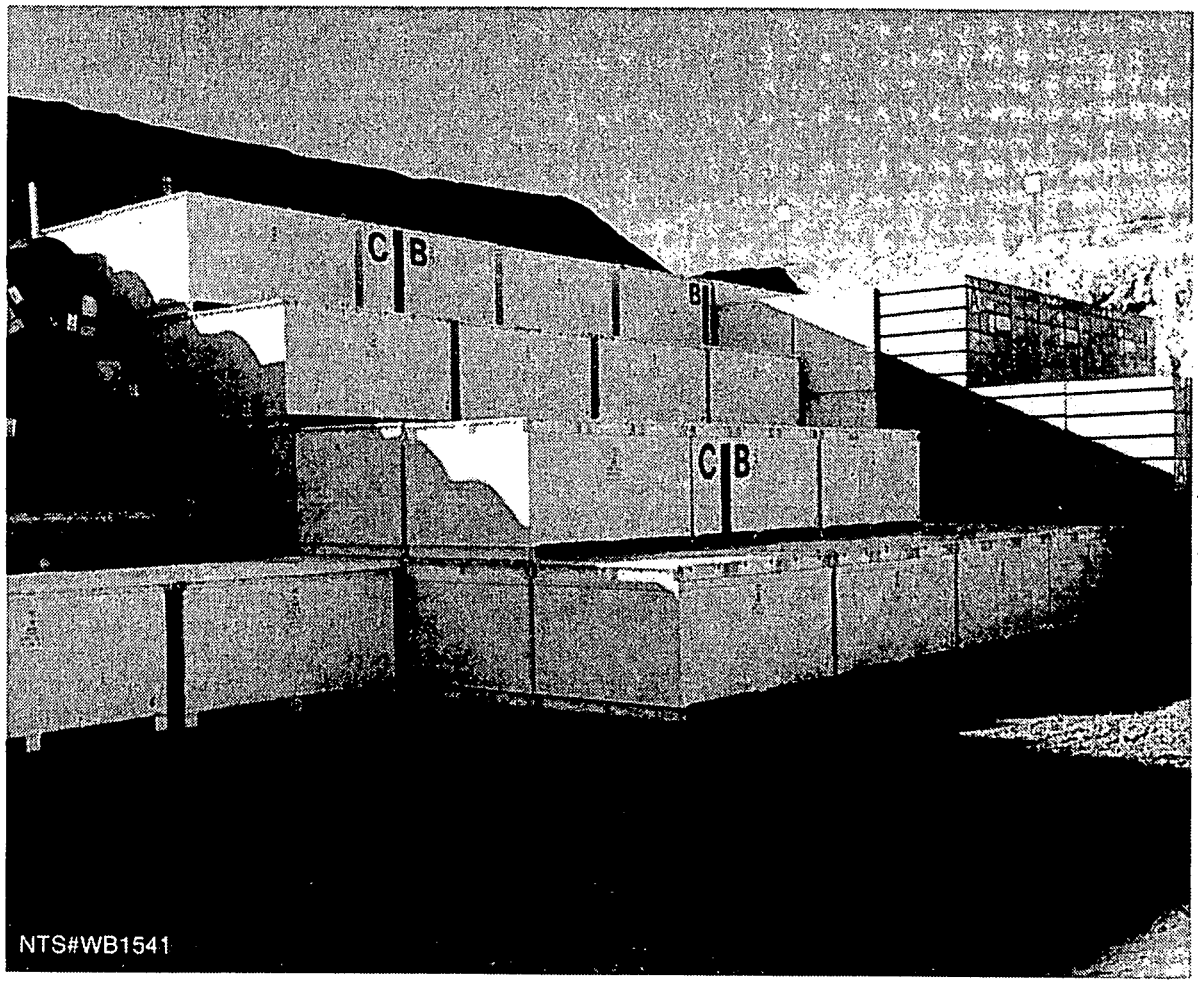
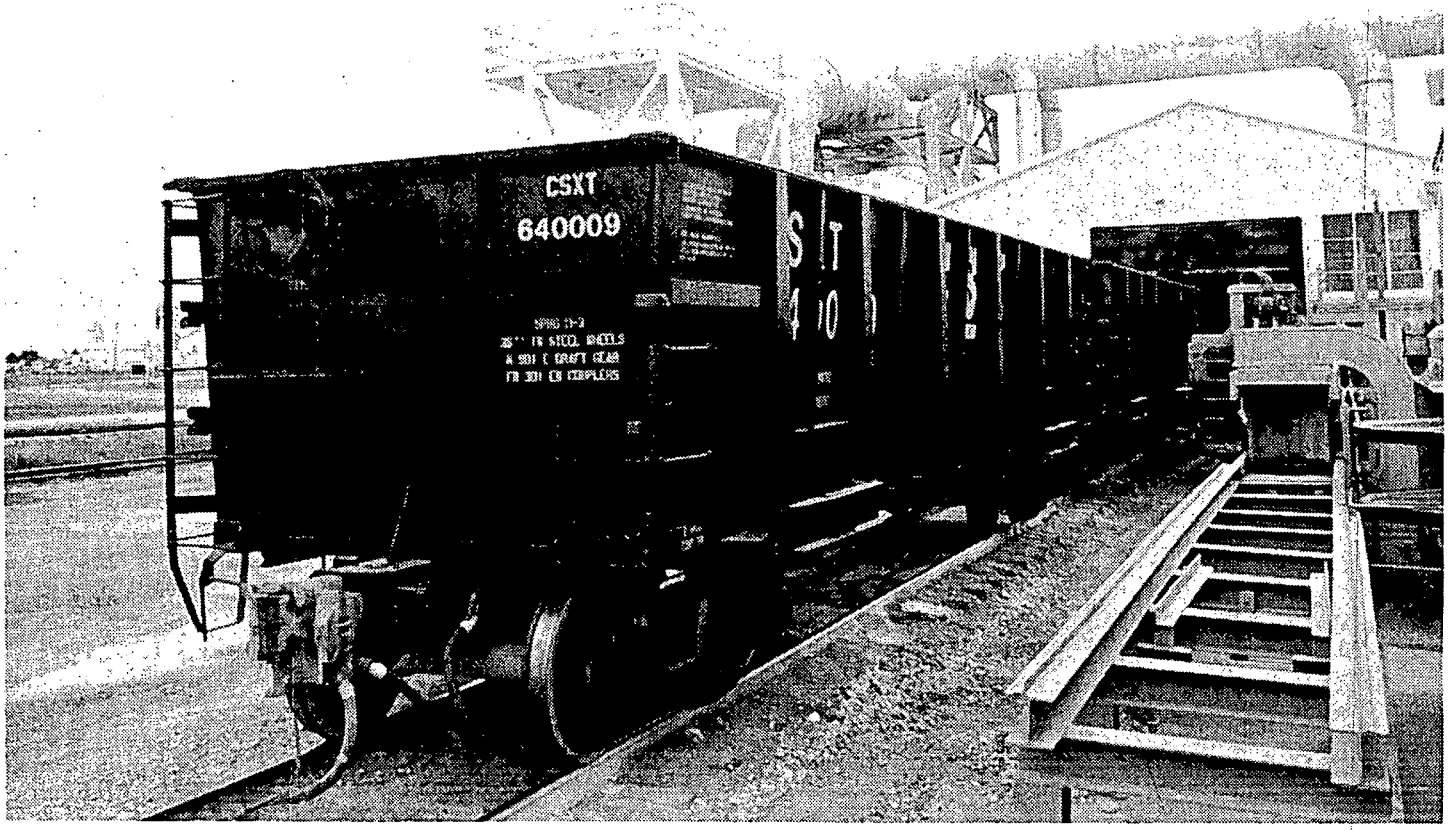
NEVADA TEST SITE
AREA 5

FERNALD



GONDOLA CAR

FERNALD



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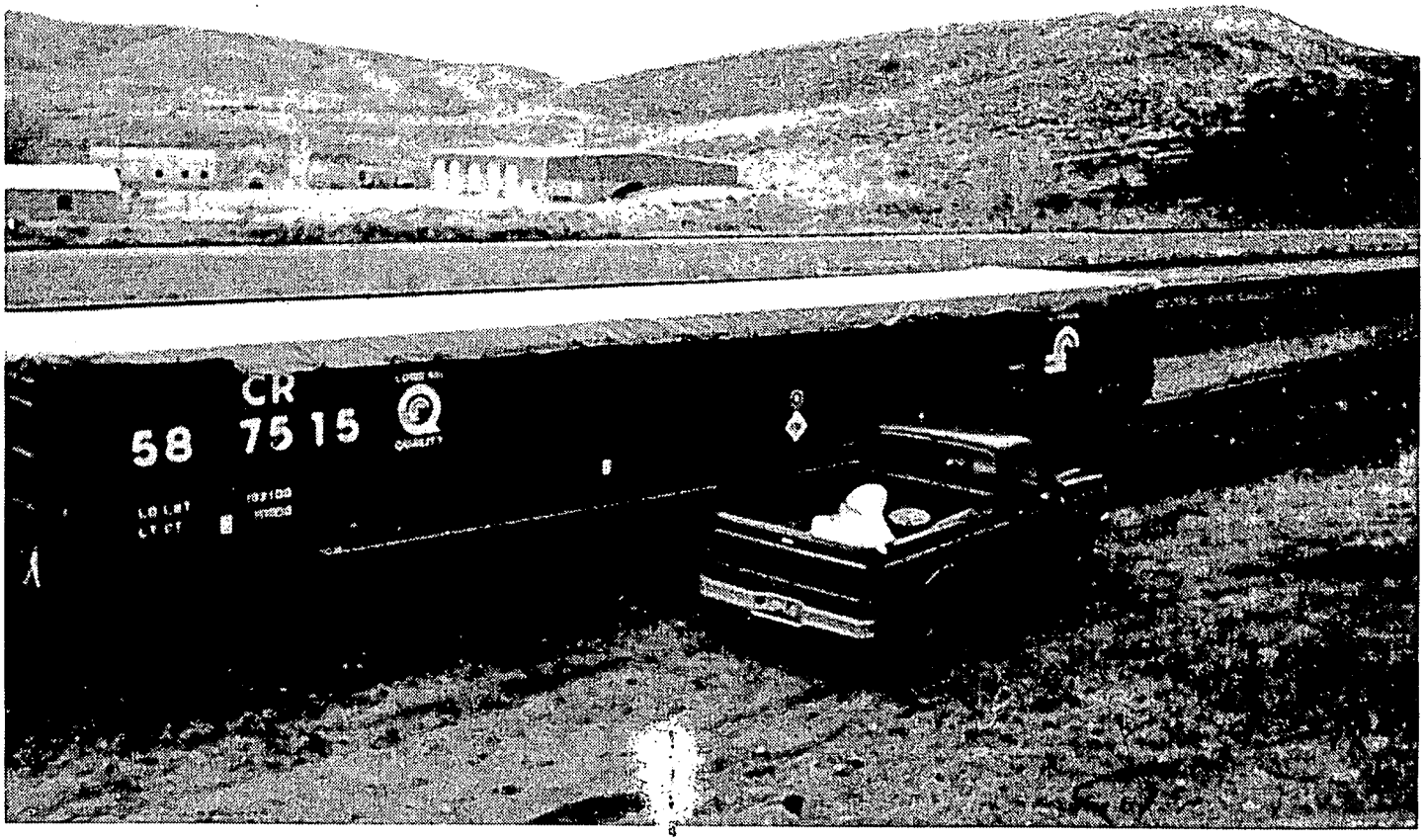
GONDOLA CAR WITH TARP COVER

FERNALD



ENVIROCARE CAR ROLLOVER

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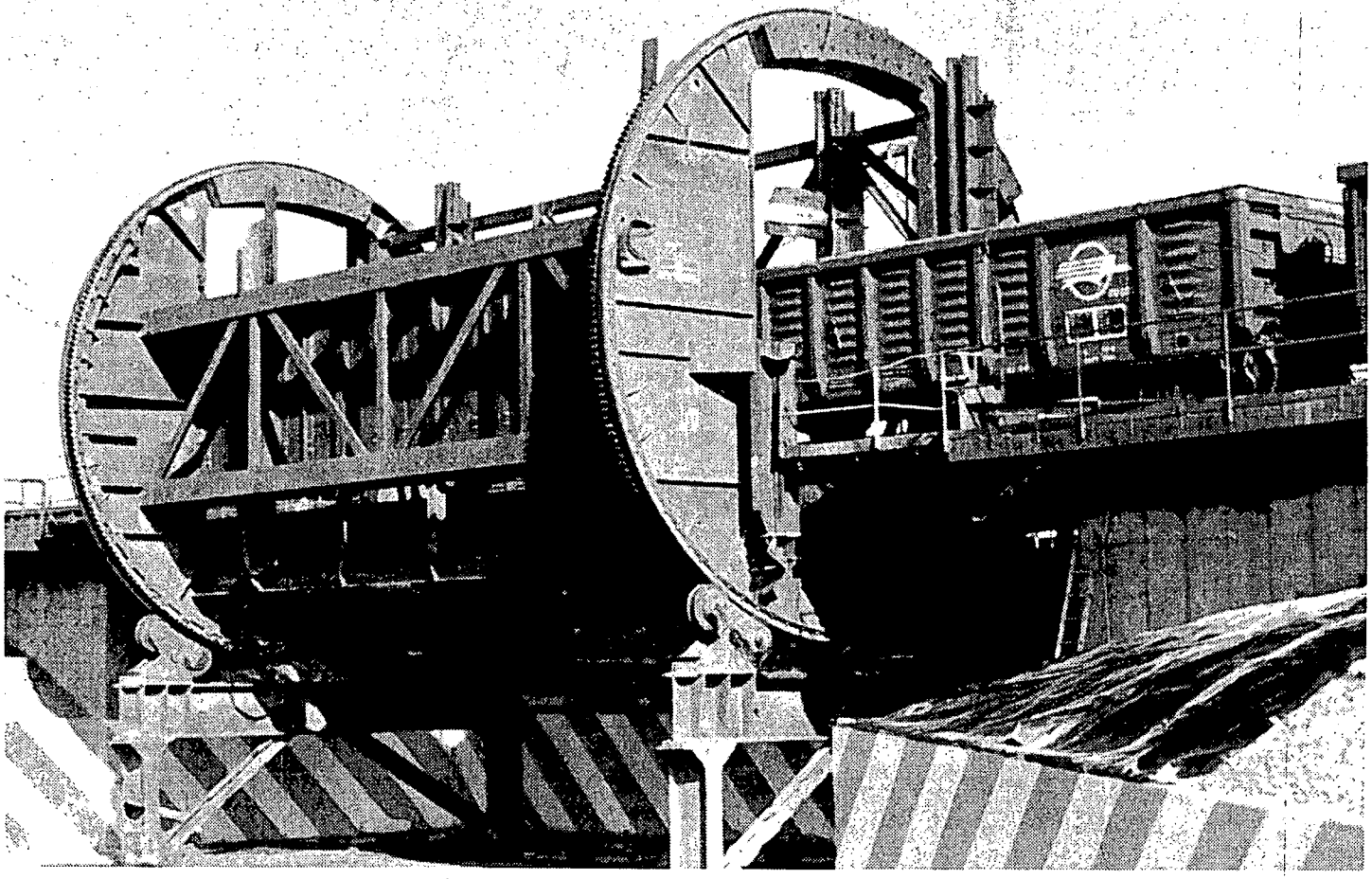

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FERNALD RAIL ACCESS

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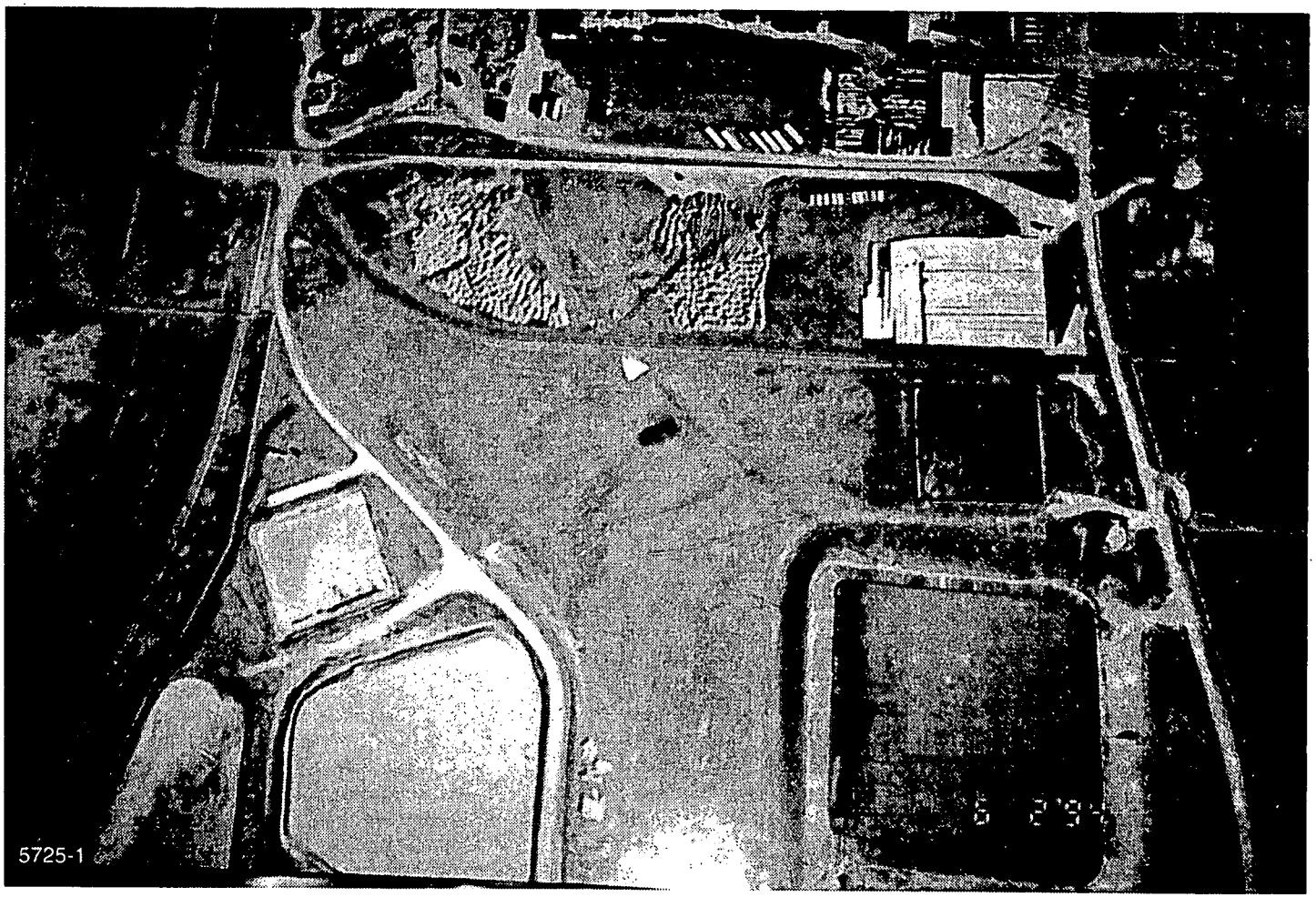

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DOE RAIL TRESTLE OVER PADDY RUN CREEK

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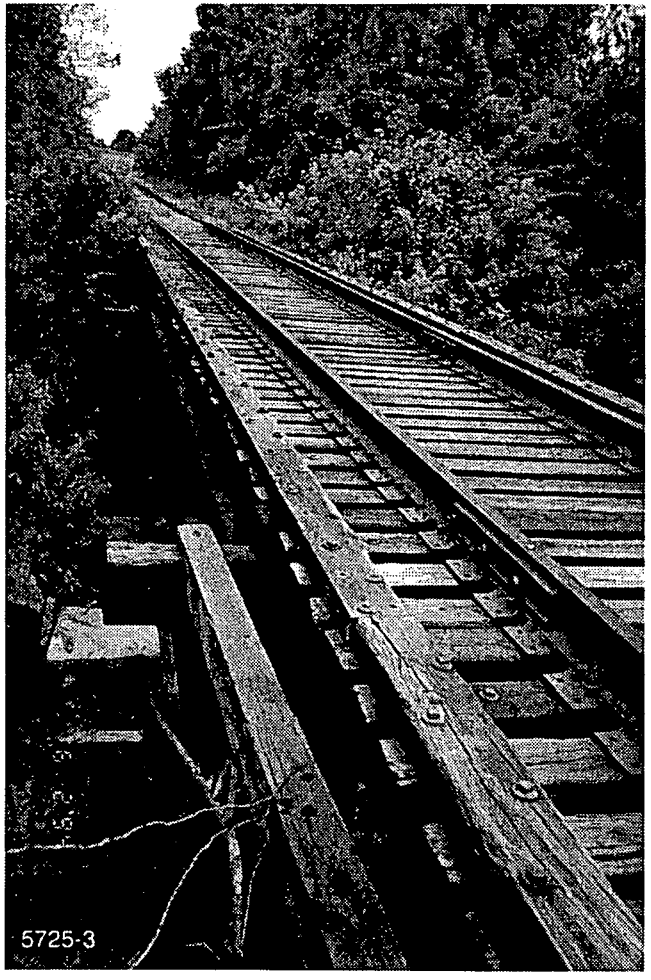

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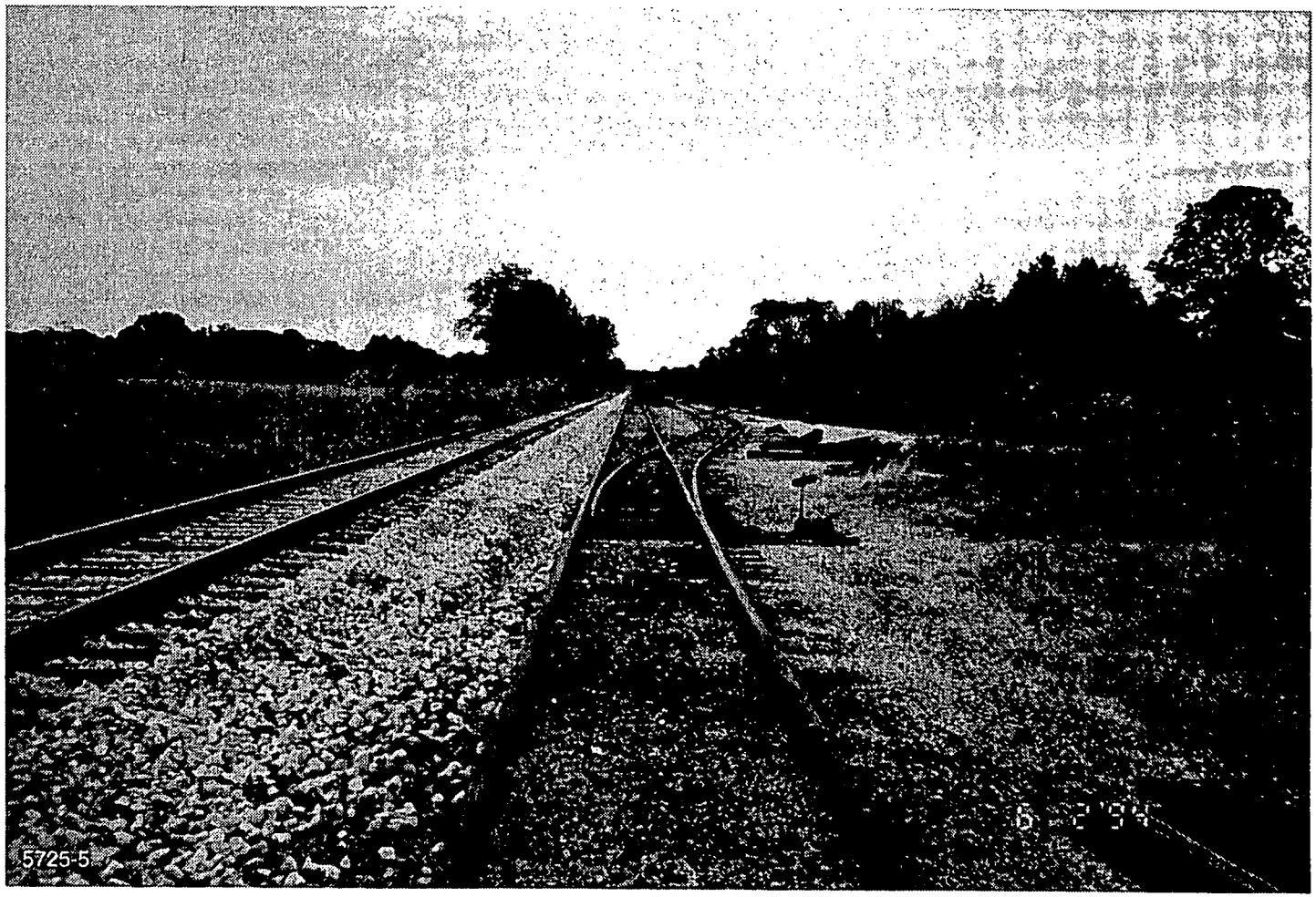
SHANDON SWITCHYARD

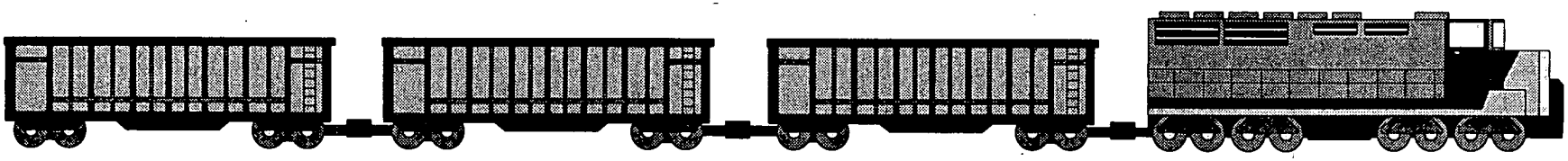
FERNALD



RAIL EMERGENCY RESPONSE AND PRE-NOTIFICATION

FERNALD

Fernald Operable Unit 1



ACCIDENTS CAN HAPPEN!

FERNALD

- In 1991, railroads generated 65.9 billion hazardous cargo ton-miles with 65 accidents or derailments involving a release of hazardous material

- The possibility for accidents exists

- The use of unit trains should substantially reduce the accident probability

CINCINNATI HAZARDOUS MATERIAL CARGO

FERNALD

CSXT reports that 31,000 carloads of hazardous material pass through Cincinnati annually.

Based upon current projections, Fernald shipments would increase the number of hazardous material shipments by 6.1%.

EMERGENCY RESPONSE INFRASTRUCTURE

FERNALD

An emergency response infrastructure is in place in the United States to handle any rail incident involving hazardous material.

SIX LEVELS OF RAIL EMERGENCY RESPONSE

FERNALD

1. Train Crew
2. Railroad Emergency Response Organization/Emergency Response Subcontractors
3. Local Authorities - On Scene Commander
4. State Emergency Response Organizations
5. DOE Regional Radiological Assistance Teams
6. Fernald Emergency Response Organization

1. TRAIN CREW EMERGENCY RESPONSE

FERNALD

Train crews are trained in accordance with DOT regulations to respond in accordance with the DOT Emergency Response Guidebook. In general, train crews will stabilize the situation and provide initial incident notification.

2. RAILROAD EMERGENCY RESPONSE ORGANIZATION

FERNALD

Rail emergency response organizations will make additional notifications and dispatch railroad emergency response personnel to the scene of the accident to support the on-scene commander. Both CSXT and Union Pacific have specially-trained personnel dispersed geographically to ensure rapid response.

If required, railroad emergency response personnel will mobilize pre-positioned contractors that are experts in spill response and cleanup.

3. LOCAL AUTHORITIES

FERNALD

Local authorities will always assume the role of on-scene commander at the scene of an accident. All other emergency response organizations support the on-scene commander.

4. STATE EMERGENCY RESPONSE ORGANIZATION

FERNALD

All states have emergency response organizations in place to respond to rail emergencies. This includes radiological response capability.

5. DOE REGIONAL RADIOLOGICAL ASSISTANCE TEAMS

FERNALD

DOE has eight Radiological Assistance Teams in place across the United States to provide on-scene commanders with radiological monitoring, communications and information coordination during an emergency. These teams are made up of DOE and contractor personnel with expertise in health physics, public information and communications.

6. FERNALD EMERGENCY RESPONSE ORGANIZATION

FERNALD

The Fernald Communications Center, manned 24 hours per day, will be activated in the event of a rail emergency. Fernald will provide technical and communications personnel as required to the scene of the accident to help mitigate accident conditions and support subsequent cleanup.

EMERGENCY RESPONSE SUMMARY

FERNALD

The emergency response infrastructure is in place to respond to any rail emergency.

A project specific procedure will be put in place to detail specific responsibilities before rail shipments are initiated.

PRIOR NOTIFICATION REGULATIONS

FERNALD

Department of Transportation regulations do not require pre-notification for the shipment of low-level radioactive material.

FERNALD NOTIFICATION PLAN - LOCAL

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Fernald will provide the public, local Ohio authorities and FRESH with the overall rail shipment plan before shipments are initiated. There are no secrets.

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FERNALD NOTIFICATION PLAN - STATES

FERNALD

In addition, prior to the initiation of shipments, Fernald personnel will contact and/or meet with transit states to brief emergency response organizations on the nature and frequency of Fernald hazardous material shipments.

TRANSPORTATION WORKSHOP

OPERABLE UNIT 1 - THE WASTE PITS

EVALUATION FORM

Thank you for coming to tonight's meeting. We'd like your opinion of DOE's proposal for Operable Unit 1 wastes to be shipped by rail to an off-site disposal facility after treatment and other aspects of the meeting. Please complete this evaluation form before you leave.

---

1. How well do you understand DOE's proposed plan to clean up Operable Unit 1, the Waste Pit Area?

_____	Very well	_____	Not very well
_____	Well	_____	Not at all

If not, why?

2. DOE has proposed to clean up the Waste Pit Area by excavating the contents of the waste pits, treating the materials by thermal drying, and shipping by rail to an off-site disposal facility. What concerns, if any, do you have with this proposed action?

3. How satisfied are you with the answers given to questions?

_____	Very satisfied	_____	Satisfied
_____	Somewhat satisfied	_____	Not satisfied
		_____	Very dissatisfied

Why?

4. Did you find the exhibits and/or handouts informative?

_____ Yes

_____ No

If no, why?

5. How did you learn about tonight's meeting?

_____ Newspaper story

_____ Newspaper ad

_____ Flyer

_____ Friend or neighbor

_____ Television story

_____ From a Fernald employee

_____ From a Fernald envoy

_____ Letter or other announcement from DOE

_____ Personal contact or telephone call

_____ From the Fernald newsletter

_____ Other: _____

6. In order to gain a better understanding of how well we communicate with all of our stakeholders, please check all of the following that apply.

_____ Area resident

_____ Member of FRESH

_____ Member of Fernald Citizens Task Force

_____ Fernald employee

_____ DOE employee

_____ Member of another organization (please specify):

_____ Local government

_____ Other:

7. What did you like the most about the meeting?

TRANSPORTATION WORKSHOP

5825

OPERABLE UNIT 1 - THE WASTE PITS

Transportation Issues

1. **What are the U.S. Department of Transportation (DOT) regulations governing rail transport?**

   All DOT regulations are contained in 49 Code of Federal Regulations, Parts 200-268; also Parts 171, 172, 173, 174, 177, and 178. These regulations comprise about three volumes and address such things as types of containers, monitoring, notifications and marking, routes and speeds, length of trains, and duties and responsibilities.

2. **What training is required by rail crews when they handle radioactive waste?**

   DOT regulations require an emergency response and management program, which includes appropriate training for personnel. The rail carriers also have training programs that address the issues associated with transporting radioactive and hazardous waste. In addition, DOE has issued orders establishing procedures and responsibilities for the transportation of radioactive materials.

3. **Will DOE look at the condition of the tracks along the proposed route? What is the condition of the tracks? Who is responsible for maintaining the tracks in safe condition?**

   The condition of the rail line, particularly between the site and Cottage Grove, Indiana, where the regional branch line starts, will be carefully inspected. The Federal Railroad Administration has regulations requiring such inspection and corrective action when necessary to support shipments. The railroad is responsible for compliance with the regulations.

4. **How does rail transport compare with trucking in terms of safety?**

   Accident statistics indicate that there is a five times greater likelihood of experiencing an accident per ton-mile for truck shipment than for rail.

5. **Will DOE look at the potential risks if the train sits in a rail yard for days?**

DOE did consider the potential risks of having cars on a regularly scheduled freight train sit in rail yards. The risk assessment concluded that associated risks fall within the range considered to be acceptable by the U.S. Environmental Protection Agency. DOE has proposed, however, to use "unit trains," which are dedicated to one cargo and will even further reduce this risk. A unit train, which would operate much like an "express bus," would run directly between Fernald and the permitted commercial disposal facility. The only stop, other than to change crews as required by U.S. Department of Transportation (DOT) regulations, would be in East St. Louis for the administrative purposes of changing transportation responsibility from CSX to Union Pacific. This decision would effectively eliminate significant rail yard siding time.

6. **Would the trains be dedicated to hauling only Fernald wastes?**

Yes. DOE is proposing to ship using a "unit train," which is dedicated to one cargo.

7. **How many trains are projected for Fernald shipping?**

It is estimated that Operable Unit 1 waste will require 3 unit trains of approximately 47 cars each. A train is anticipated to leave Fernald every nine days under current projections.

8. **How will trains be decontaminated? Will they haul cargo on the return trip?**

After unloading at the permitted commercial disposal facility, the cars will be monitored and, if necessary, decontaminated. The trains will return to Fernald empty. At Fernald, the train cars will be monitored during loading to ensure that the waste material is contained in the synthetic membrane liner. The cars also will be loaded and monitored. Cars will be decontaminated if required.

9. **How is waste packaged for truck and rail transport? Are trains marked to indicate that they carry radioactive cargo?**

Packaging and labeling requirements are set forth in DOT and DOE regulations. Waste shipped by truck or rail must be transported in storage containers that are designed to meet rigid standards for impact resistance. As proposed, Operable Unit 1 waste would be loaded into lined gondola cars containing synthetic liners.

10. Will DOE notify the people who live along the rail route about the trains carrying radioactive waste?

Local stakeholders will be notified of shipments as part of DOE's regular monthly notification program. In accordance with state requirements and prudence, key emergency response organizations located along the route will be notified of the shipments.

11. What exactly is examined in a transportation risk assessment? Do these evaluations consider the proximity of people to the tracks?

The transportation risk assessment evaluates risks for three groups of people under two scenarios. The three groups are the general public, transportation workers (i.e., train crews and truck drivers), and waste handling workers. The two scenarios are transportation over the life of the project with no accidents and a scenario in which an accident occurs. These analyses evaluate risks to the general public in the immediate vicinity of the transportation routes, including roads and railway. The risk assessment concluded that risks for all the evaluated groups and scenarios are within the range considered acceptable by the U.S. Environmental Protection Agency.

12. If there is an accident, who cleans it up? Will a DOE team ride with/follow the train?

In addition to local and state officials, there are regional emergency response teams on call 24-hours a day, 365 days a year in case of an accident. If there is an accident, the train crew takes the first steps to stabilize the situation by shutting down the train and making the initial notifications of an accident. A "deadman's switch" alerts the national tracking centers that there is a problem in the event that the train crew is unable to respond. The rail carriers have contracts with emergency response contractors, and DOE also has special response teams that will be dispatched to the scene of an accident to support the on-scene commander. At this time, there are no plans to have a DOE team ride with or follow the Fernald trains.

13. Why is shipping by rail less expensive than truck transport?

Rail transport provides economy of scale because rail cars permit large volumes to be shipped at a less expensive cost. The availability of direct rail service to the permitted commercial disposal facility makes the rail option cost-effective.

14. Is DOE going to build a rail spur to the Nevada Test Site?

At present, there are no plans to build a rail spur to the Nevada Test Site.

15. What are the possible routes for shipment?

Trains traveling from Fernald to the permitted commercial disposal facility will travel this route:

- Fernald to the Shandon Switch Yard
- Shandon to Cottage Grove, Indiana
- Cottage Grove to Cincinnati
- Cincinnati to East St. Louis
- East St. Louis to Salt Lake City, Utah
- Salt Lake City to the permitted commercial disposal facility near Clive, Utah

16. What is the extent of DOE's responsibility for the cargo? Is it DOE's responsibility?

DOE retains responsibility for the cargo, from point of origination to departure. The railroads, as carriers, also are responsibility for the cargo.

17. How fast can trains go at the crossings in Morgan?

Trains on the Fernald Branch line can travel at a maximum speed of 25 miles per hour according to guidelines established by the American Association of Railroads.

Proposed Plan for Remedial Action Operable Unit 1 - The Waste Pit Area

This fact sheet provides a brief discussion of the U.S. Department of Energy's (DOE) proposal for the management of contaminated materials in the area designated as Operable Unit 1 at the Fernald Environmental Management Project. This fact sheet also describes how the public can participate in the selection of, or modification to, the final cleanup remedy and explains how to obtain additional information.

Operable Unit 1, the Waste Pit Area, is a well-defined 37.7-acre area located in the northwest portion of the Fernald site. Operable Unit 1 consists of the following site facilities and their associated environmental media:

- *Waste Pits 1 through 6 and their contents*
- *Burn Pit and its contents*
- *Clearwell and its contents*
- *Miscellaneous structures and facilities such as berms, liners, concrete pads, underground piping, utilities, and fencing*

Since the beginning of uranium production operations in 1951, on-site facilities have been used for the storage of low-level radioactive wastes generated by chemical and metallurgical processes. Specifically, much of these wastes have been deposited in one of the six waste pits or the Clearwell, or burned in the Burn Pit. The majority of the wastes disposed in the pits includes general sump sludge, neutralized raffinates, and magnesium fluoride.

In all, there are more than 600,000 cubic yards of contaminated material associated with the waste pits.

Q: Why do we need to clean up Operable Unit 1?

A: A baseline risk assessment concluded that the wastes of Operable Unit 1 present an unacceptable long-term risk to human health and the environment.

While there is a potential for increased risk associated with direct contact exposures, a principal potential threat is associated with exposure to groundwater contaminated by the waste pits. Large volumes of contaminated pit materials are in very close proximity to the geologic formation of the Great Miami Aquifer. This aquifer is the sole source of drinking water in the area and has been recognized as such by the U.S. Environmental Protection Agency. In addition, significant portions of the waste pits' contents are wet (some are saturated), which means that there is a large pool of contaminated leachate that could migrate into the aquifer.

While radiological contaminants are the principal sources of risk, there are also potentially unacceptable risks associated with volatile and semi-volatile organic chemicals and heavy metals. Elevated concentrations of these contaminants are found in each of the waste pits. In general, however, the waste is not hazardous as classified by the U.S. Environmental Protection Agency Resource Conservation and Recovery Act (RCRA) program.

Q: What is DOE's proposal to clean up the waste pit area?

A: DOE's proposal is to excavate the wastes, treat them, and dispose of them off-site. Specifically, the wastes would be excavated, treated by drying and then shipped by rail to a permitted commercial disposal facility. At present, the only permitted commercial disposal facility that could handle the volume of wastes in Operable Unit 1 is a facility located near Clive, Utah.

After excavation, the waste pits will be filled with clean soil and a protective layer -- some kind of cap -- will be placed over the area.

Q: What if some of the wastes can't be disposed at the permitted commercial disposal facility?

A: If, and only if, after sampling, it is discovered that isolated pockets of waste do not meet the waste acceptance criteria of the waste disposal facility, some waste may be disposed of at the Nevada Test Site as long as it meets the Nevada Test Site waste acceptance criteria. It is believed that no more than 10 percent of the total waste volume in Operable Unit 1 would be disposed of at Nevada Test Site under this contingency plan.

Q: What is the estimated cost of this cleanup proposal?

A: The estimated cost of this cleanup proposal is about $513 million. The U.S. Department of Energy estimates that it will take about 8 years to complete this project.

Q: What other cleanup remedies were considered for Operable Unit 1?

A: The remedial action objectives focus on eliminating or reducing to acceptable levels human and ecological exposure to the contaminated media of Operable Unit 1. In light of these objectives, a wide range of potential remedial technologies and process options were identified; these were then screened against the criteria of effectiveness, implementability, and cost. On the basis of this screening, five remedial alternatives were considered in the detailed analysis. These five alternatives included:

1. **No Action**
   Under this alternative, no further action would be taken at Operable Unit 1. The No-Action Alternative was retained to provide a baseline for comparison of alternatives.

2. **Excavation, Treatment, and On-Property Disposal**
   - Vitrification
     Under this alternative, wastes would be turned into a glass-like matrix and placed in an engineered disposal cell at the Fernald site

- Cement Solidification
  Under this alternative, the waste would be cement solidified and placed in an engineered disposal cell at the Fernald site

3. **Excavation, Treatment Consisting of Thermal Drying, and Off Site Disposal**
   - Offsite Disposal at the Nevada Test Site
     Under this alternative, the waste would be excavated, treated by drying to meet waste acceptance criteria, and forwarded to the Nevada Test Site for disposal

   - Offsite Disposal at a Permitted Commercial Disposal Facility
     Under this alternative, the waste also would be excavated and treated by drying to meet waste acceptance criteria, then shipped by rail to a permitted commercial disposal facility

Q: How was the preferred remedial alternative developed?

A: The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) requires that potential remedial alternatives be evaluated against specified criteria, most notably protection of human health and the environment and compliance with applicable or relevant and appropriate requirements.

The preferred alternative was judged to be more effective over the long-term in protecting human health. This is primarily due to the fact that the sole source Great Miami Aquifer is beneath the site and there is a large residential population in the immediate vicinity of the Fernald Environmental Management Project.

Q: How can I participate in the decision-making process for Operable Unit 1?

A: DOE encourages public participation in the selection of the preferred alternative for the cleanup of Operable Unit 1. When the Proposed Plan for Operable Unit 1 is available for public review and comment, it will be distributed to Nevada stakeholders through DOE officials in the Nevada office. The public comment period is anticipated to begin August 10, 1994.

Stakeholder comments on the proposed cleanup remedy and other alternatives will be evaluated and documented as part of the subsequent Record of Decision. Based on public comments or new information, DOE may modify the preferred alternative or select another.

Following the public comment period, and after accounting for public comments on the preferred alternative, DOE and the U.S. Environmental Protection Agency will sign a Record of Decision for Operable Unit 1. The Record of Decision will describe the selected remedial action and include responses to comments received during the public comment period. After the document is signed, a design plan for performing the remedial action will be prepared.

Q: Are there any other plans to ship Operable Unit 1 wastes to the Nevada Test Site?

A: DOE has proposed a pilot study to excavate the waste materials from Waste Pit 6. Waste Pit 6 is the smallest of the pits; it contains an estimated 9,600 cubic yards of waste. (Less than 2 percent of the overall volume.)

Funding has been approved for preliminary work to begin this fall, and waste could be excavated beginning in the first half of fiscal year 1996.

Once the materials have been excavated from Waste Pit 6, they will be treated by thermal drying and shipped to either the Nevada Test Site or a permitted commercial waste disposal facility for disposal.

It is currently estimated that the majority of these wastes could be disposed of at a permitted commercial waste disposal facility, with the remainder going to the Nevada Test Site.

Q: How do I get more information?

A: To obtain more information, or to get answers to questions, contact Dave Lojek, DOE's manager of Operable Unit 1, at (513) 648-3127.

Or you can get more information about Operable Unit 1 in the Public Environmental Information Center (PEIC), 10845 Hamilton-Cleves Highway, Harrison, Ohio, 45030. You can call the PEIC at (513) 738-0164.