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**FERNALD CLEAN UPDATE - NOVEMBER 1990**

**11/00/90**

**DOE-FN      PUBLIC**  
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**FACT SHEET**

# CleanUpdate

Feed Materials Production Center  
Fernald, Ohio



Issue 1 • November 1990

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## WHAT IS THE CLEANUP UPDATE?

Welcome to the first issue of the **FMPC Cleanup Update**. This publication is designed to meet the information needs of community members living near and interested in cleanup at the Feed Materials Production Center.

The U.S. Department of Energy will publish and distribute this publication periodically throughout the year to inform the community about the environmental studies and cleanup activities at the Feed Materials Production Center - or FMPC.

We will feature objective, timely information about the nature and extent of environmental contamination related to the FMPC. We will report progress on the path to site cleanup, as noted in the Remedial Investigation and Feasibility Study (RI/FS). As information becomes available, the **Cleanup Update** will focus on new findings, near-term cleanup activities known as Removal Actions, and other site cleanup news. Notices about reports available for public review and upcoming meetings will also be included.

**This is your publication. If you want to receive future issues, complete and return the enclosed survey form.**

PUBLIC ENVIRONMENTAL INFORMATION CENTER  
% Westinghouse Mat'l. Co. of Ohio  
P. O. Box 398704  
Cincinnati, Ohio 45239-8704

## EPA APPROVES REMOVAL ACTIONS

DOE is performing a number of removal actions at the FMPC to address some of the more immediate environmental problems. Most recently, DOE announced plans to build a wastewater treatment system by December 1991 to reduce the amount of uranium discharged into the Great Miami River.

The plans are part of an agreement reached by DOE and U.S. EPA to implement three near-term cleanup projects, known as removal actions. The projects focus on controlling uranium in storm water run-off in the waste pit area, in groundwater in part of the aquifer known as the south plume, and in isolated pockets of water (known as "perched" water) beneath the production area.

### WASTE PITS & SOUTH PLUME -

Plans for the waste pit and south plume removal actions are described in individual Engineering Evaluations and Cost Analysis (EE/CA) documents. The EE/CA documents went through formal public comment periods and simultaneous U.S. and Ohio EPA review this summer. DOE's responses to community and U.S. and Ohio EPA comments were published in a responsiveness summary for each EE/CA document. Community workshops were held to discuss the contents of the EE/CAs. The EE/CAs, the responsiveness summaries, U.S. and Ohio EPA comments, and transcripts of comments made during the workshops are available in the Administrative Record.

U.S. EPA, Ohio EPA, and the community expressed concern with DOE's original plans to pump contaminated water from the south plume and the waste pit area and discharge it without treatment. They were also concerned about the total volume of uranium being discharged to the Great Miami river.

Sharing the Ohio and U.S. EPA's and community's concerns, DOE will build an interim advanced water treatment system that will remove uranium from the FMPC waste water discharge. It will be designed to

FMPC waste streams. On average, this will reduce the total amount of uranium being discharged to the Great Miami River by approximately 16 percent, including the water from the three removal actions. South Plume water will be pumped from the leading, or south edge, of the plume to prevent further migration. DOE will also provide alternate water supplies to industries currently using water from the plume and take steps to ensure that water from this area is not used.

**PERCHED WATER** -- The perched water removal action undergoes a simpler review process and is documented in a work plan in the Administrative Record. DOE had been pumping pockets of perched water with high levels of uranium from beneath process area buildings for several months when organic materials were found in a routine water sample. Since then, DOE suspended pumping and did more testing. DOE is planning to install a treatment system which will remove these contaminants prior to discharging this water to the river. Results are expected later this fall.

**K-65 SILOS** -- In September, DOE and U.S. EPA agreed on plans to reduce radon release from the silos, as part of the K-65 Silos Removal Action. Plans call for DOE to add about a one-foot layer of slurry-like material, bentonite, over the top of material inside these two silos.

Three other removal actions focus on the production area. They include: (1) **SOIL AND CONSTRUCTION RUBBLE STABILIZATION** -- to contain contaminated construction materials in an environmentally protected area. It is proposed that the dirt pile will be seeded with grass and covered. (2) **PLANT 1 PAD** -- (where low-level radioactive wastes are stored prior to final processing and shipment) is being enlarged & improved, contaminated soils next to the west side of the pad will be removed, and curbing will be added to contain run-off. (3) **SOILS REMOVAL** -- where contaminated soil west of the lab was identified, removed, and boxed for future treatment or shipment.

## WHAT DO YOU THINK?

The U.S. Department of Energy would like to know your feelings about how we communicate with you concerning cleanup at the Feed Materials Production Center, and other issues related to site cleanup. Please complete and return this survey. Let us know how we can meet your FMPC information needs.

~~PUBLIC ENVIRONMENTAL INFORMATION CENTER (PEIC) -- See Article on p. 3~~

Do you know the PEIC has materials about FMPC cleanup?	YES _____	NO _____
Is the location convenient?	YES _____	NO _____
Are the hours convenient?	YES _____	NO _____
Have you used the new center?	YES _____	NO _____
Do you plan to use the new center?	YES _____	NO _____

### COMMUNITY MEETINGS, ROUNDTABLES, WORKSHOPS, SITE TOURS

1. Have you attended any meetings about cleanup at the FMPC?  
 YES \_\_\_\_\_ NO \_\_\_\_\_ (If yes, check those you have attended.)

RI/FS Community Meetings _____	Site Tours _____
Community Roundtables _____	FMPC Open House _____
Workshops _____	Other _____

2. What do you like about these activities now? (Check all that apply.)

Small Meetings _____	Comments by EPA and FRESH _____
Large Meetings _____	Opportunity to Ask Questions _____
Meetings about One Subject _____	Videotapes _____
Meetings about Many Subjects _____	Written Information _____
DOE Presentations _____	Other _____

3. If you don't attend meetings, could you suggest a change or improvement to make them more attractive for attendance? \_\_\_\_\_

4. Would you like to attend a Community Roundtable? YES \_\_\_\_\_ NO \_\_\_\_\_  
 If yes, check any of the following subjects that you would like addressed:

Groundwater Contamination _____	Production Area (OU 3) _____
Radiation _____	K-65 Silos (OU 4) _____
Stored Waste _____	Environmental Media (OU 5) _____
Air Emissions _____	Removal Actions _____
Waste Pits (OU 1) _____	Environmental Impact Statements _____
Solid Waste Units (OU 2) _____	Other _____

5. What day and time are most convenient for future meetings?  
 DAY \_\_\_\_\_ TIME \_\_\_\_\_

COMMENTS:

**EDUCATION AND TRAINING**

Are you interested in opportunities to get a broader background in environmental issues that relate to the FMPC? Check any that apply.

- FMPC Speakers to Address Your Organization \_\_\_\_\_
- Site Tour \_\_\_\_\_
- Written Materials \_\_\_\_\_
- Courses in Environmental Law, \_\_\_\_\_
- Regulations, Waste Management, etc. \_\_\_\_\_
- Other \_\_\_\_\_

YES \_\_\_\_\_ I would like to receive future issues of *The FMPC Cleanup Update!*  
YES \_\_\_\_\_ Please call me to participate in a Community Roundtable.

Name \_\_\_\_\_ Phone \_\_\_\_\_

Street Address \_\_\_\_\_

City & State \_\_\_\_\_ Zip \_\_\_\_\_

(FOLD & STAPLE) \_\_\_\_\_

U.S. DEPARTMENT OF ENERGY  
FEED MATERIALS PRODUCTION CENTER  
P. O. Box 398705  
CINCINNATI, OHIO 45239

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P. O. Box 398705  
Cincinnati, Ohio 45239

Questionnaire Enclosed

## DOE OPENS LOCAL PUBLIC INFORMATION CENTER

DOE has established a Public Environmental Information Center to make it easier for the community to learn more about cleanup at the Feed Materials Production Center (FMPC). This facility is located in the JAMTEK Building at 10845 Hamilton-Cleves Highway (about one mile south of the FMPC).

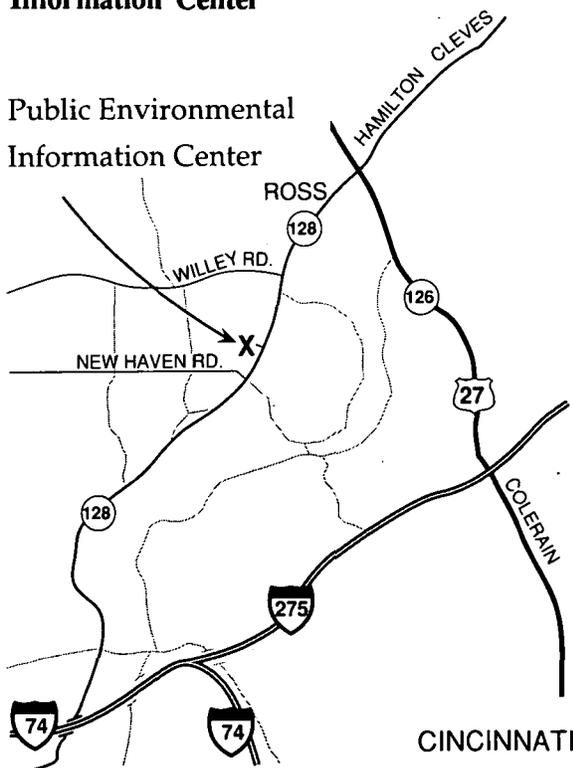
This facility also includes the Administrative Record which previously was located at the Lane Public Library in

Hamilton. The Administrative Record consists of the documents used to make decisions in the FMPC's long-range cleanup program.

As an integral part of the Remedial Investigation and Feasibility Study, known as the RI/FS, the Administrative Record includes background studies, raw data, analyses, and evaluations for each of the RI/FS study areas, called operable units, and for all removal actions. The Administrative Record also contains general documents that apply to the entire site.

### Map to Public Environmental Information Center

Public Environmental Information Center



As new documents are added to the Administrative Record, the public is informed through notices published in local newspapers. The Public Environmental Information Center has reference books, videotapes related to the FMPC, and other information. Staff is available to assist you in finding specific documents or in copying materials. Photocopying is free.

### Information Center Hours

Mon & Thurs 9 am - 8:00 pm  
Tue, Wed, Fri\* 9 am - 4:30 pm  
Sat 9 am - 1:00 pm

\* The center will remain open until 7 p.m. on evenings when public meetings or workshops are held.

### WHAT DO YOU THINK?

DOE would like your opinion about how we are communicating with you. Take a moment to fill out and return the enclosed survey. Be sure to let us know if you would like to receive the FMPC Cleanup Update regularly in the future.

## RI/FS NEWS: ALTERNATIVES REPORTS ISSUED

The FMPC Cleanup Update will discuss progress in the FMPC's major environmental study, the Remedial Investigation and Feasibility Study, known as the RI/FS. Reports identifying the first stage of screening remedial alternatives have been issued for all five RI/FS study areas, known as operable units (OU). Each screening report evaluates strategies (including the required "no action" which restricts access to the waste) that may be used for final cleanup. Here's the status through October:

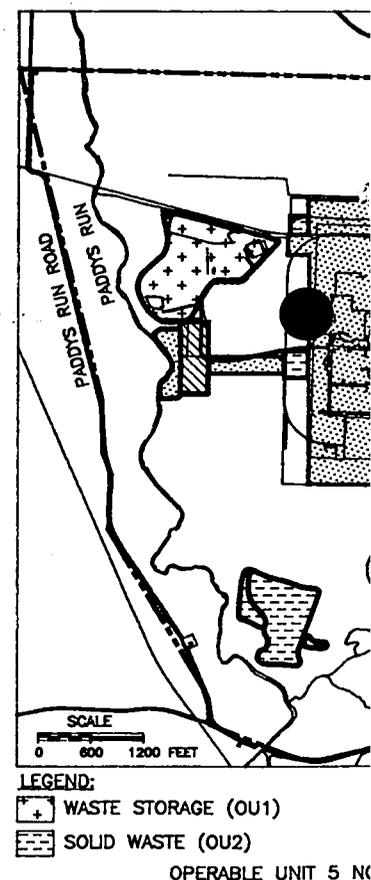
WASTE STORAGE AREA (OPERABLE UNIT 1) includes the waste pits 1 through 6, the burn pit and the clearwell. The pits contain uranium, thorium and other wastes. The Initial Screening of Alternatives report, released July 23, eliminated three alternatives and recommended the following as potential remediation strategies for the waste area. These are: removing the waste and treating the sludge with on or off-site disposal; and stabilizing the waste in place by building a slurry wall and capping the waste. The most immediate concern related to this OU is controlling stormwater runoff in the waste pit area. The Waste Pit Area Storm Water Removal Action is underway to address this concern in advance of final remediation (see page 2).

SOLID WASTE STORAGE AREA (OPERABLE UNIT 2) includes the sanitary landfill, lime sludge ponds, inactive fly ash disposal area active fly ash pile and the southfield area. These areas were used to store or dispose of FMPC solid wastes. Uranium is the primary contaminant, but DOE is checking to see if some toxic chemicals are present. The Initial Screening of Alternatives report was issued October 16, nearly two weeks ahead of schedule. The report eliminated two alternatives and recommended the following (as well as "no action") for further consideration: capping the waste in place; and removing, bulk packaging, and disposing of the waste on or off site, and removing perched groundwater.

PRODUCTION AREA & ADDITIONAL SUSPECT AREAS (OPERABLE UNIT 3) includes the 136-acre like the scrap metal piles and the plant's effluent line to the river. The Initial Screening of Alternatives report, issued September 24, reflects the complexity of this study area. Of the original 14 alternatives studied, ten (including "no action") were recommended for further evaluation. The remaining alternatives include combinations of the following: mechanically removing above-ground contaminants; temporary and long-term capping of waste in place; perched groundwater extraction, treatment, monitoring, and discharge; erection of a subsurface barrier; limited facility removal; and on or off-site disposal. All removal alternatives include treatment. The most immediate concern related to this OU is removing uranium-laden perched water from isolated pockets beneath the production area. The Perched Water Removal Action is underway to address this concern in advance of final remediation (see page 2).

ENVIRONMENTAL MEDIA (OPERABLE UNIT 5) examines the remaining water, soil, air and sediment at the FMPC and private property nearby. The Initial Screening of Alternatives report, issued August 27, recommends further study of eight of the 11 remedial alternatives originally identified. The eight include combinations of the following (including "no action"): pumping, treating, and discharging groundwater; capping, or excavating, treating, and disposing of sediments/soils on or off of FMPC property. The most immediate concern related to this OU is uranium-laden groundwater in the Great Miami Aquifer beneath private land south of the FMPC. The South Plume Removal Action is underway to address this concern in advance of final remediation (see page 2).

## FMPC C Study A



## SILO SAMPLING BEGINS

**SILOS (OPERABLE UNIT 4)** Have you wondered about the crane near the silos since late summer? It is being used in the latest RI/FS round of K-65 silo sampling, expected to conclude later this fall. The K-65 field crew obtained their first sample on October 25. Neighbors and the media were notified in advance. DOE plans to take approximately 30 samples during this round of sampling.

The samples are collected through four environmentally protective entryways in each of the domes of Silos 1 and 2, which contain K-65 wastes. A specially designed sampling tool, the Vibra-Corer, is suspended above the manway; a long tube descends into the silo through a plastic-encased entryway, collects a sample of the silo contents and forces it up into the tube. The material in the tube is then sectioned to provide appropriate quantities for testing. This activity is conducted according to a health and safety plan that is designed to protect the sampling crew, neighbors, and the nearby environment from exposure to silo contents during sampling.

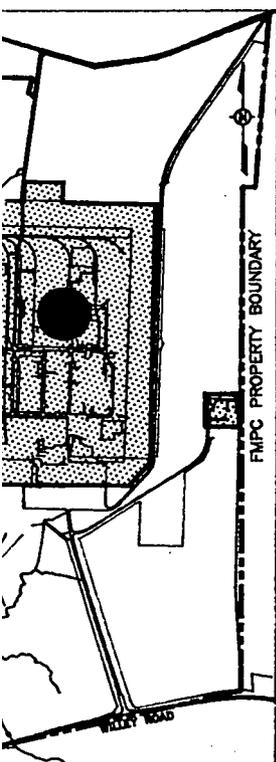
Some K-65 silo samples were taken in 1989. The new samples are needed to provide more information about the material in these two silos. This information will be used in the RI/FS Operable Unit 4 reports. (Operable Unit 4 includes all four storage silos, two of which hold the K-65 waste, one has dry metal oxides, and one is empty.) Sampling of the silo contents is one aspect of the overall silo sampling and analysis program in the RI/FS. For example, Silo 3 sampling is complete. Other sampling and testing activities, which will begin after this round of sampling K-65 silo contents is complete, include:

**TREATABILITY STUDIES** -- Samples of silo contents will be subjected to various chemicals to determine how the volume of the total waste in the silos may be reduced as part of the final cleanup; **SOLIDIFICATION TESTS** -- Solidification agents will be added to some samples, to produce a concrete-like material that will show how the waste will respond to solidification as a means of reducing the toxicity and mobility of the waste in long-term storage; and **SLANT BORINGS AND BERM SAMPLING** -- Soil samples will be taken vertically and at a slight angle in several locations in the berm and beneath the K-65 silos, to determine if any silo contaminants have possibly migrated to the surrounding soil and groundwater.

Other activities related to the silos include preparation of RI/FS reports that are submitted to the U.S. EPA and available for public review. The Remedial Investigation and Risk Assessment report (RI/RA) for Operable Unit 4, was issued on August 27. The RI portion of this report stated that contamination of water, soil and sediments in the area cannot be attributed to the silos; the report also recommended verification by additional sampling. The baseline risk assessment in

the report identified three exposure pathways or ways that a hypothetical person near the silos may become exposed to silo contents, and discussed cancer risks related to penetrating radiation and radon exposure during a person's lifetime now and more than 100 years into the future. The draft Feasibility Study Report, which will build upon the Initial Screening of Alternatives report (originally issued June 4), is scheduled to be issued on November 25. The proposed plan, which will recommend a preferred alternative for silo remediation, is scheduled to be issued January 16, 1991. A 30-day public comment period will be held January 16-February 14, 1991. The most immediate concern related to this OU is prevention of radon emissions from the aging silos. The K-65 Silos Removal Action is underway to address this concern in advance of final remediation (see page 2).

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PRODUCTION AREA (OU3)  
SILOS (OU4)  
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## DOE OPENS THE FMPC DOORS

Recently, local residents have had the opportunity to see firsthand progress in the environmental cleanup at FMPC, through an Open House and a number of site tours.

The next community meeting is scheduled for Tuesday evening, December 11, at The Plantation Restaurant in Harrison.

**OPEN HOUSE** -- Approximately 2,500 persons attended the second FMPC Open House on September 22. About 900 people took the hour-long tour of the site -- including the Production Area, silos, and waste pit area. Nearly 40 exhibits in the parking lot focused on cleanup and other activities at the plant. An exhibit about the RI/FS featured short videotapes about the study areas, known as operable units, and staffing by the operable unit technical managers from DOE; Advanced Sciences, Inc. (ASI) and International Technology (IT) -- the RI/FS contracting team; Westinghouse Materials Company of Ohio; and Parsons -- the recently selected remedial design contractor.

**COMMUNITY MEETING** -- Approximately 50 community members participated in a community meeting on September 25, in The Plantation Restaurant in nearby Harrison. Andy Avel, DOE's deputy site environmental manager, conducted the meeting. This was the first meeting where updates on each of the RI/FS operable units were presented on videotapes, which made their debut at the open house. The videotapes and the full RI/FS exhibit were featured

in a 1-1/2-hour informal session before the meeting. Additional exhibits were staffed by the Parsons remedial design team. The community meeting was originally scheduled as part of the open house. DOE changed the date and location in response to Fernald Residents for Environment Safety and Health (FRESH) and the U.S. EPA and decided to hold a public meeting away from the FMPC.

**SITE TOURS** -- Site tours may be arranged by calling Andy Avel, DOE's Deputy Environmental Manager at the FMPC - at 738-6161, weekdays.

**VIDEOTAPES AVAILABLE** -- The videotapes prepared for the fall community meeting are available for public viewing and checkout at the FMPC Public Environmental Information Center. Each tape is 5 to 10 minutes long, features operable unit location shots, and is narrated by the DOE operable unit technical manager.

DOE Site Manager Jerry Westerbeck also met with community leaders in September to share views on how DOE and the local community communicate about cleanup issues.

### Do You Have Questions About Cleanup?

Call the DOE OU Managers:

OU1 & OU2	O. Vincent	738-6937
OU3 & OU5	C. Fermaintt	738-6157
OU4	J. Craig	738-6159

or

Call Andy Avel, Deputy  
Environmental Manager 738-6161

## CALENDAR

Recent and planned milestones at the FMPC are listed below. Mark your calendars:

### November

- 15 FMPC Cleanup Update published

### December

- 11 RI/FS Community Meeting; The Plantation Restaurant, near Harrison; 6:30 p.m.
- 17 Operable Unit 4 Feasibility Study Report due

### January 1991

- 16 Proposed Plan for Operable Unit 4 due
- 16 Public Comment Period for Proposed Plan for OU4 begins; Public Comment Period ends February 14

The FMPC Cleanup Update is published throughout the year by Advanced Sciences, Inc. (ASI) for the U.S. DOE to inform the community about progress in cleanup at the Feed Materials Production Center (FMPC) near Fernald, Ohio.

## ADMINISTRATIVE RECORD ADDITIONS

### Added since July 1990:

**Initial Screening of Alternatives Report for Operable Unit 1 (Waste Pits) (July 1990)**  
**Environmental Restoration and Waste Management Site Specific Plan (July 1990)**  
**Engineering Evaluation/Cost Analysis (EE/CA) for South Plume (August 1990)**  
**Engineering Evaluation/Cost Analysis (EE/CA) for South Plume -- Responsiveness Summary (August 1990)**  
**Engineering Evaluation/Cost Analysis (EE/CA) for K-65 Silos (August 1990)**  
**Engineering Evaluation/Cost Analysis (EE/CA) for Waste Pit (August 1990)**  
**Engineering Evaluation/Cost Analysis (EE/CA) for Waste Pit -- Responsiveness Summary (August 1990)**  
**RI/FS Community Relations Plan (August 1990)**  
**RI Report and Risk Assessment for Operable Unit 4 (August 1990)**  
**Initial Screening of Alternatives Report for Operable Unit 5 (Environmental Media) (August 1990)**  
**Initial Screening of Alternatives Report for Operable Unit 3 (September 1990)**  
**Initial Screening of Alternatives Report for Operable Unit 2 (October 1990)**  
**Transcript, September 25, 1990 RI/FS Community Meeting (October 1990)**  
**Engineering Evaluation/Cost Analysis (EE/CA) for K-65 Silos -- Responsiveness Summary (October 1990)**

Documents that support cleanup decisions in the RI/FS and removal action process are added to the Administrative Record for public review when they are delivered to the U.S.EPA. The index is updated monthly.

**Public Environmental Information Center**  
**JAMTEK Building**  
**10845 Hamilton-Cleves Highway**  
**Harrison, Ohio 45030**  
**(513) 738-0164/0165**

## GROUNDWATER FINDINGS ANNOUNCED

DOE has expanded its understanding of the presence of uranium in local groundwater by interpreting recent groundwater sampling results from 18 locations in the Remedial Investigation underway at the FMPC. Eleven sampling locations are on private land. Two monitoring wells, located on private land along South Paddys Run Road, showed uranium levels of 106 and 144 parts of uranium per billion parts of water (ppb).

These levels were expected because the wells are within the area known as the South Plume. The other nine monitoring wells on private land showed uranium levels below 30 -- the standard agreed upon between the U.S. Department of Energy and the U.S. EPA.

The highest reading of wells located at the Feed Materials Production Center was 461 ppb in a well in the south field on FMPC property; this level was higher than the previous sample. One new well near the K-65 silos showed 68.9 ppb of uranium. This is a new finding; geologists are now working to define the vertical extent of contamination. Other wells on FMPC property were below 30 ppb.

Some of the recent results confirm earlier conclusions that uranium contamination is confined to the upper part of the aquifer north of the FMPC firing range and at two locations near the southern boundary of the plant.

*FMPC Cleanup Update*

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Addressee

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