



Centers for Disease Control and Prevention (CDC) Atlanta GA 30333

December 29, 1995

Mr. Bob McLeod
U.S. DOE Richland Operations
P.O. Box 550
MSIN HA-83
Richland, Washington 99352



Dear Mr. McLeod:

The U.S. Department of Energy (DOE) has sent the Agency for Toxic Substances and Disease Registry (ATSDR) proposed plans for remediation of two of the operable units of the 300 Area. The documents request comments on the plan by January 17, 1996. In addition, DOE letters dated April 21, 1992, and May 11, 1992, requested that ATSDR review proposed actions prior to key milestones, such as records of decision, to verify that the proposed actions will be protective of public health. In response to those requests, ATSDR scientists reviewed the Proposed Plan for the 300-FF-1 and 300-FF-5 Operable Units (DOE/RL-95-88) and the 300 Area Process Trenches Modified Closure/Postclosure Plan (DOE/RL-93-73 Revision 1). ATSDR will provide a more detailed review of the 300 Area, including these operable units, as part of the agency's public health assessment. For the present, ATSDR offers the enclosed comments.

If you have any questions regarding those comments, please contact Jo A. Freedman, PhD., DABT, at (404)639-6034, or Michael D. Brooks, CHP, at (404)639-6019. As indicated, the agency will provide a more detailed review of operable units in the 300 Area as part of the agency's public health assessment.

Sincerely yours,

Jo A. Freedman, PhD., DABT
Hanford Health Assessor
Energy Section A
ATSDR/DHAC/FFAB

Michael D. Brooks, CHP
Health Physicist
Energy Section A
ATSDR/DHAC/FFAB

Enclosures: 2

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DOE-RL / DCC

cc:

Mr. Rick Blancq

Ms. Susan Yurasevecz

Mr. David Einan, EPA, Richland

Mr. Greg Thomas, ORO-Region X

Mr. Steve Hanes, ORO-Region X

Dr. Jo A. Freedman, DABT, FFAB

Mr. Michael D. Brooks, CHP, FFAB

PERISB - Hanford 300 NPL Site File

FFAB File (Hanford - Consultation)

**COMMENTS on the PROPOSED PLAN FOR THE 300-FF-1 AND THE 300-FF-5
OPERABLE UNITS and the 300 AREA PROCESS TRENCHES MODIFIED
CLOSURE/POSTCLOSURE PLAN**

The proposed remediation goals for soil and groundwater assume the "likely future use of the 300 Area is industrial (1,2)." Clean-up objectives are to prevent "future exposure to contaminated soils (and groundwater) and debris at levels that may pose an unacceptable risk in an industrial scenario (1,2)." The preferred alternative, P-3, would involve excavating soil not meeting the [industrial use] cleanup level. Although the proposal states, "No additional institutional controls . . . are required for this alternative (1,2)" after the soils are excavated, ATSDR has been informed that the Richland Operations Office of the Department of Energy (DOE) "intends to maintain institutional controls on the 300-FF-1 [Operable Unit] indefinitely . . . and will maintain institutional controls on the 300-FF-5 [Operable Unit] until the groundwater meets remediation goals (3)".

DOE's commitment to long-term institutional controls to maintain industrial use of these 300 Area operable units is important for long-term public health. Although industrial use of the 300 Area is likely as long as this land is under Department of Energy (DOE) management, plans for land use after transfer to other parties, in the absence of institutional controls, are unclear, because it is uncertain who (Native American tribes, the state, private owners, or other parties) will hold the land in the future. If remediation goals are not suitable for uses other than industrial, institutional controls must be maintained indefinitely to protect public health. ATSDR supports DOE's plans for a "graded approach to the level of required institutional controls," so that an "alternative that would leave waste in place with a soil cover such as alternative 2a and 2b, would require a higher level of institutional controls than an excavation and removal option. The leave in place option would require such things as routine soil cover inspection and maintenance, groundwater monitoring, fences, signs, and deed restrictions," and an "excavation and removal alternative such as P-3 for the 300-FF-1 Operable Unit would require a lower level of institutional controls such as deed restrictions for industrial use of the land and restrictions against removal of soil from the property (3)."

DOE's commitment to institutional controls has significant public health relevance because the clean-up concentration for soil uranium associated with a 15 mrem/year dose will differ depending on whether future use is industrial or residential. ATSDR scientists believe that the clean-up level of 350 pCi/g (uranium and its decay products) in soils is not protective of public health without institutional controls limiting future use to industrial uses.

Without institutional controls, the clean-up level for the 300-FF-1 and 300-FF-5 operable units would have to be established using a residential scenario. The DOE RESRAD model using a residential scenario contaminated with uranium predicts that a uranium-238 concentration of 7.8 pCi/g or a natural uranium total concentration of 13.3 pCi/g would result in an effective dose equivalent of 15 mrem/year.

The Environmental Protection Agency and the Nuclear Regulatory Commission (in coordination with DOE and the Department of Defense) are developing compatible regulations for clean-up levels for sites contaminated with radionuclides. EPA's regulations are at 40 CFR Part 195 and NRC's regulations are at 10 CFR Part 20, Subpart E. Their proposals, like preferred alternative P-3, are based on 15 mrem/year dose from residual contamination. However, risk managers must also consider the non-radiological effects associated with uranium. In accordance with an NRC branch technical paper which takes into account renal toxicity, the NRC has been using residual contamination limits (for unrestricted land use) of 10 pCi/g for natural uranium (with decay products), 30 pCi/g for enriched uranium, and 35 pCi/g for depleted uranium. Therefore to protect public health, DOE's selection of 350 pCi/g as a clean-up level for soil uranium must be (as DOE maintains it will be) supported by indefinite extension of institutional controls.

ATSDR finds the proposed alternative, P-3, protective of human health, given DOE's strong commitment to maintain these operable units in an industrial use scenario through indefinite extension of institutional controls.

REFERENCES

1. US Department of Energy. Proposed Plan for the 300-FF-1 and 300-FF-5 Operable Units. 1995 Nov; DOE/RL-95-88 Rev 0.
2. US Department of Energy. 300 Area Process Trenches Modified Closure/Postclosure Plan. 1995 Nov; DOE/RL-93-73 Revision 1.
3. McLeod RG. Letter from Robert G. McLeod, Project Manager, 300 Area Remedial Actions Project, Richland Operations Office, US Department of Energy to Jo A. Freedman, PhD, DABT, Hanford Health Assessor and Michael D. Brooks, CHP, Health Physicist, both of Energy Section A, Federal Facilities Assessment Branch, Division of Health Assessment and Consultation, ATSDR. 1995 Dec 20.

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Freedman, Jo Ann S.

DEC 27 3 08 PM '95

From: Robert_G_Bob_McLeod
To: Freedman, Jo Ann S.
Subject: Institutional controls
Date: Monday, December 18, 1995 16:24
Priority: High

PER...HAC
ATSDR

<<File Attachment: ATSDRPPN.W51>>

Jo, sorry it took me so long to get back to you. I am attaching a response to the draft comments on the proposed plan. (The response is in wordperfect 5.1; please let me know if you have problems printing it out.)

Bob

Received: by ccm1 from fep1.rl.gov
From jsf4@atsdto1.em.cdc.gov@fep0
X-Envelope-From: jsf4@atsdto1.em.cdc.gov@fep0
Received: by fep1.rl.gov (5.51/5.17.rl-1)
id AA07306; Thu, 14 Dec 95 10:10:51 PST
Received: from SmtOut.em.cdc.gov by mmail (5.0/SMI-SVR4)
id AA23452; Thu, 14 Dec 1995 13:09:21 -0500
Received: by SmtOut.em.cdc.gov with Microsoft Mail
id <30CFE952@SmtOut.em.cdc.gov>; Thu, 14 Dec 95 13:07:30 EST
From: "Freedman, Jo Ann S." <jsf4@atsdto1.em.cdc.gov@fep0>
To: "McLeod, Bob (300 Area)" <Robert_G_Bob_McLeod%ccmail@fep1.rl.gov>
Cc: "Brooks, Michael" <MDB7@atsdto1.em.cdc.gov>, "Ford, Rita" <RXF4@atsdto1.em.cdc.gov>, "Collins, Richard" <RYC4@atsdto1.em.cdc.gov>
Subject: Institutional controls
Date: Thu, 14 Dec 95 13:05:00 EST
Message-Id: <30CFE952@SmtOut.em.cdc.gov>
Return-Receipt-To: <jsf4@atsdto1.em.cdc.gov@fep0>
Encoding: 13 TEXT
X-Mailer: Microsoft Mail V3.0
Content-Length: 484

Hi Bob,

Your E-mail about institutional controls/industrial use hasn't come yet. I thought you might have lost my last E-mail with its return address. Here's a new E-mail with my address in the header to help you reach me, maybe with luck, before the government shuts down. How's that headcold?

Jo Freedman, PhD, DABT
Energy Section A
Federal Facilities Assessment Branch
Division of Health Assessment and Consultation
ATSDR

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The following is an attached File item from cc:Mail. It contains eight bit information which had to be encoded to insure successful transmission through various mail systems. To decode the file use the **UUDECODE** 08 PM '95 program.

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PER: AC

This uuencoded part of the message containing the file ATSDRPPN.W51 has been decoded and converted into an attachment.

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PERL DHAC
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Jo A. Freedman, PhD., DABT
Hanford Health Assessor
Energy Section A
ATSDR/DHAC/FFAB

Michael D. Brooks, CHP
Health Physicist
Energy Section A
ATSDR/DHAC/FFAB

Dear Messrs: Freedman and Brooks:

Subject: DRAFT COMMENT ON THE 300-FF-1 AND 300-FF-5 PROPOSED PLAN

Reference: Memo, J. A. Freedman and M. D. Brooks, ATSDR to R. G. McLeod, RL, CCN 023285, dated December 6, 1995.

DOE/RL appreciates the timely review and response with draft comments on the Proposed Plan for the 300-FF-1 and 300-FF-5 Operable Units. The main issue raised in the draft comments relates to the proposed plan alternative, P-3 which is the preferred alternative that states "No **additional** institutional controls ... are required for this alternative." Although it is not clearly stated in the proposed plan, DOE/RL intends to implement institutional controls for all of the 5 industrial land use alternatives. A graded approach to the level of required institutional controls is planned. For instance, alternatives that would leave waste in place with a soil cover such as alternative 2a and 2b, would require a higher level of institutional controls than an excavation and removal option. The leave in place option would require such things as routine soil cover inspection and maintenance, groundwater monitoring, fences, signs and deed restrictions. An excavation and removal alternative such as P-3 for the 300-FF-1 Operable Unit would require a lower level of institutional controls such as deed restrictions for industrial use of the land and restrictions against removal of soil from the property. Therefore, DOE/RL agrees with ATSDR recommendation (1) and intends to maintain institutional controls on the 300-FF-1 OU indefinitely at the appropriate level and will maintain institutional controls on the 300-FF-5 OU until the groundwater meets remediation goals.

If you have any questions please give me a call on (509) 372-0096.

Sincerely,

R. G. McLeod