

Doctor, Wilson E (EFDSW)

From: Lansdale, Lawrence L (EFDSW)
Sent: Thursday, March 28, 2002 5:49 PM
To: Adriana Constantinescu (E-mail) (E-mail); Don Chuck (E-mail); Lee, Alana (E-mail)
Cc: Doctor, Wilson E (EFDSW); Bollo, Nicholas R (EFDSW); Sandy Olliges (E-mail); CO'Rourke (E-mail)
Subject: Site 22 ROD revisions

BCT:

Please find attached modifications to the Moffett Draft Final Site 22 ROD. The changes include additional institutional controls and switching from CCR Title 22 to Title 27 for groundwater monitoring. Note that sections 20380 and 20415 (a), and 20425 (a) were not included since they all deal with applicability, although the section is already included as an ARAR.

Section 9.1, the "No Action" alternative will also be changed to remove monitoring and institutional controls to reflect "no action".

We are in the process of incorporating these substitutions throughout the document. If these changes are not acceptable, please notify me by Monday April 1, 2002. Otherwise we proceed and issue a Final ROD for your signature.



Section 9.2.3.doc



ARARs Table.doc

Regards,
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9.2.3 Institutional Controls

Access restrictions would be developed to protect human health as part of this alternative in coordination with NASA. These restrictions would be included in NASA's land use planning documents and would be designed to maintain the integrity of the biotic barrier and to limit surface excavation that could disturb the refuse. The restrictions would be implemented by NASA per a MOA to be entered into between the DoN and NASA after review and concurrence by EPA. The MOA will be adopted within 1 year of the Final ROD, and will include the following elements:

- Protection of the structural aspects of the landfill cap (biotic barrier)
- Prohibition of alterations to the drainage patterns or modification of surface contours
- Establishment of specific boundaries for the extent of the landfill
- Prohibition of extraction of groundwater from the site
- Prohibition of residential land use
- Requirement of regulatory approval for consideration of alternative land uses
- Indication of the parties responsible for ongoing operations, maintenance, and monitoring activities for the site
- Requirement of annual reporting to EPA regarding the implementation, monitoring and efficacy of the institutional controls
- Reference to how the MOA will be enforced with NASA and with their site-specific tenants
- Requirement that transfer of the site to a non-federal entity includes a restrictive covenant conveying the property with institutional controls as provided in the MOA in place.

TABLE 13

**RESIDENTIAL, OCCUPATIONAL, AND RECREATIONAL RISK AT SITE 22
USING THE EXPOSURE AREA APPROACH**

Exposure Scenario	Range of Noncarcinogenic Risk	Range of Carcinogenic Risk
Residential	8.3E-2 to 2.2E+0	4.9E-7 to 3.1E-7
Occupational	8.2E-3 to 4.8E-1	6.1E-8 to 5.2E-6
Recreational (entire golf course)	<1	1E-7

Notes:

Reference: *Feasibility Study Site 22 Landfill*, Tetra Tech EM, Inc., 1999

TABLE 14

**SUMMARY OF CARCINOGENIC AND NONCARCINOGENIC RISKS
OCCUPATIONAL EXPOSURE SCENARIO, POINT RISK APPROACH**

	Cal/EPA	EPA	COPCs Contributing Significantly to Risk or Hazard
Noncarcinogenic Hazards			
Soil Ingestion	1.6E-1	8.0E-2	Antimony
Dermal Contact with Soil	4.0E-1	4.0E-2	Antimony
Inhalation of Particulates	4.3E-8	9.5E-11	Carbon Disulfide
Inhalation of VOCs	1.2E-6	7.2E-8	Ethylbenzene
Total Hazard Index	5.6E-1	1.2E-2	
Carcinogenic Risks			
Soil Ingestion	6.8E-6	3.2E-6	Aroclor-1260, Aroclor-1254, and Benzo(a)pyrene
Dermal Contact with Soil	7.6E-5	2.1E-5	Aroclor-1260, Aroclor-1254, Aroclor-1242, and Benzo(a)pyrene
Inhalation of Particulates	5.7E-7	7.4E-10	Nickel and Cadmium
Inhalation of VOCs	1.4E-8	2.5E-10	Benzene
Total Cancer Risk	8.3E-5	2.4E-5	

Notes:Reference: *Feasibility Study Site 22 Landfill*, Tetra Tech EM, Inc., 1999

Cal/EPA - California EPA

COPC - chemical of potential concern

EPA - U.S. Environmental Protection Agency

VOC - volatile organic compound

TABLE 15

**SUMMARY OF NONCARCINOGENIC AND CARCINOGENIC RISKS
RECREATIONAL EXPOSURE SCENARIO, POINT RISK APPROACH**

	Cal/EPA	EPA	COPCs Contributing Significantly to Risk or Hazard
Noncarcinogenic Hazards			
Soil Ingestion	2.0E-2	1.3E-2	Antimony and Aroclor-1260
Dermal Contact with Soil	4.6E-1	5.4E-2	Antimony and Aroclor-1260
Inhalation of Particulates	3.2E-7	4.4E-10	Endrin Aldehyde
Inhalation of VOCs	1.4E-7	4.5E-8	Ethylbenzene
Total Hazard Index	4.8E-1	6.7E-2	
Carcinogenic Risks			
Soil Ingestion	7.9E-7	4.9E-7	Aroclor-1242, Aroclor-1254, Aroclor-1260, and Benzo(a)pyrene
Dermal Contact with Soil	6.5E-5	1.2E-5	Aroclor-1260
Inhalation of Particulates	7.1E-8	9.6E-11	Nickel and Cadmium
Inhalation of VOCs	1.8E-9	1.6E-10	Benzene
Total Cancer Risk	7.7E-5	1.3E-5	

Notes:Reference: *Feasibility Study Site 22 Landfill*, Tetra Tech EM, Inc., 1999

Cal/EPA - California EPA

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TABLE 16
FINAL FEDERAL AND STATE ARARs*

Citation	Requirement	ARAR Determination	Rationale
Location-Specific ARARs			
Coastal Zone Management Act San Francisco Bay Plan McAteer-Petris Act, California Government Code Sections 66600 et seq.	Activities within a coastal zone must be consistent with approved state management programs. The approved state management plan for San Francisco Bay consists of the McAteer-Petris Act and the San Francisco Bay Plan, developed pursuant to the act.	Relevant and appropriate	Site 22 is located within the coastal zone.
Migratory Bird Treaty Act 16 USC 701-715	This act prohibits the taking, killing, or possessing of migratory birds.	Relevant and appropriate	Site 22 is home to the burrowing owl, which is protected under this act. It is not applicable because the federal government is exempt from liability. However, the act is relevant and appropriate due to the presence of the burrowing owl.
Action- and Chemical-Specific ARARs			
Waste Characterization and Disposal from Landfill Reconfiguration			
22 CCR, Sections 66261.24(a)(2) and (3)	Requires the characterization (hazardous waste determination) of waste to determine appropriate off-site disposal options.	Relevant and appropriate	If drums or containers or other potentially hazardous waste items are discovered during reconfiguration or excavation of the landfill, or waste is generated (i.e., drill cuttings, used oil), the waste will be analyzed in accordance with these requirements.

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Citation	Requirement	ARAR Determination	Rationale
22 CCR, Section 66268.7(a)	Requires generators to determine if hazardous waste is subject to land disposal restrictions (LDRs).	Relevant and appropriate	If waste materials requiring off site disposal are determined to be hazardous waste, the waste will be evaluated to determine the applicability of LDRs.
27 CCR, Sections 20200(c) and Section 20210	Requires generators to properly characterize waste and to dispose of designated waste at Class I or II units.	Relevant and appropriate	If drums or containers are discovered during reconfiguration of the landfill, or waste is produced (i.e., drill cuttings, used oil) the contents will be analyzed in accordance with these requirements to select the appropriate off-site disposal requirements.
Groundwater Monitoring			
27 CCR, Section 20385 (a)(1), (a)(2), (a)(3), (c); Section 20420; Section 20425 (b), (c), (d)(1-2), (e), (f), (g), (h), (i)	Establishes groundwater monitoring program requirements for waste management units.	Relevant and appropriate	Establishes a groundwater detection monitoring program to demonstrate effectiveness of the selected remedy, and an evaluation monitoring program to assess the nature and extent of a release, if discovered.
27 CCR, Section 20415 (b)(1)(A-C), (e)	Provides general water quality monitoring and system requirements for the post-remedial action groundwater monitoring program.	Relevant and appropriate	A sufficient number of background points and monitoring points will be used for the monitoring.
27 CCR, Section 20390 (a); Section 20395 (a); Section 20400 (a), (d), (g)	Discusses requirements for the development of a water quality protection standard and establishment of the constituents of concern and concentration limits.	Relevant and appropriate	Applies to the development and selection of interim concentration limits and to the establishment of concentration limits greater than the background for constituents of concern.
Chapter 2, Water Quality	Presents beneficial uses of groundwater	Applicable	Applies to groundwater beneath the site. Due to

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FINAL FEDERAL AND STATE ARARs*

Citation	Requirement	ARAR Determination	Rationale
<p>Control Plan¹ (San Francisco Bay Regional Water Quality Control Board)</p> <p>Chapter 3, Water Quality Control Plan¹ (San Francisco Bay Regional Water Quality Control Board)</p>	<p>and surface waters.</p> <p>Establishes water quality objectives (WQOs) for protecting those beneficial uses.</p>	<p>Relevant and appropriate</p>	<p>elevated salinity, the groundwater beneficial use is industrial service supply. The beneficial uses for surface water near the site are fresh-water/estuarine habitat and wildlife habitat.</p> <p>Applies to surrounding surface waters near the site that come into hydrological contact with groundwater beneath the site. WQOs for nearby surface water uses will be compared to the interim concentration limits at the projected point of exposure to surface water receptors (subject to any appropriate dilution and attenuation factors) for any releases of chemicals of concern developed pursuant to Title 27 CCR, Section 20395 (a), Section 20400 (a), (d), (g), and Section 20420.</p>
Gas Monitoring			
<p>27 CCR, Section 20921 (a)(1)(2)(3)</p>	<p>Establishes requirements for gas monitoring and control for waste management units.</p>	<p>Relevant and appropriate</p>	<p>Gas monitoring will be implemented to ensure methane concentrations do not exceed 5 percent by volume at landfill boundaries.</p>
Landfill Capping and Construction			
<p>40 CFR, Parts 122, 123, and 124</p>	<p>Contains requirements to control stormwater discharges associated with construction activities exceeding 5 acres in size.</p>	<p>Relevant and appropriate</p>	<p>The DoN will undertake measures necessary to minimize stormwater discharges over the seven acre area during construction of the biotic barrier.</p>

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Citation	Requirement	ARAR Determination	Rationale
Post-Remedial Action Monitoring			
40 CFR, Part 258.61(a)(3) and (4) and 27 CCR, Section 20385 (a)(1), (a)(2), (a)(3), (c)	Requires gas and groundwater monitoring.	Relevant and appropriate	Monitoring programs will be established for gas and groundwater.

Notes:

* To the extent that the cited provisions contain administrative requirements, those requirements are not ARARs; only the substantive provisions within the requirements are ARARs.

1 Denotes a chemical-specific ARAR

ARAR - applicable or relevant and appropriate requirement

CCR - California Code of Regulations

CFR - Code of Federal Regulations

DON - Department of the Navy

LDR - Land disposal restriction

RCRA - Resource Conservation and Recovery Act

USC - United States Code

WQO - water quality objective