



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION I

J.F. KENNEDY FEDERAL BUILDING, BOSTON, MASSACHUSETTS 02203-2211

JUN 10 1994

Captain Lance Horne, USN
Shipyard Commander
Portsmouth Naval Shipyard
Portsmouth, NH 03803-5000

Re: Soil and Groundwater Media Protection Standards for
Portsmouth Naval Shipyard.

Dear Captain Horne:

Based upon the revised Media Protection Standards (MPSS) Proposal sent to EPA from the Navy on April 8, 1994, EPA is tentatively establishing the soil and groundwater MPSS presented in the attached tables 1-3. As you are aware we will make these standards available for public comment and establish the soil and groundwater media protection standards following this public comment.

Working from the Navy proposal EPA has established the MPS for each hazardous constituent detected at Portsmouth at the level corresponding to the lowest of the 10^{-6} risk for carcinogenic effects (representing 1 additional case of cancer in a population of 1 million people), a hazard index of 1 for non-carcinogenic (hazard index = 1 equals the effects threshold above which we would expect to see noncarcinogenic effects from exposure to the hazardous constituent), or relevant regulatory levels (such as Safe Drinking Water Act Maximum Contaminant Levels or Maine Maximum Exposure Guidelines). Where local background levels of a hazardous constituent (for example arsenic) are higher than the above criteria the MPS is set at the local background level as established by the Navy's background sampling program. In setting MPSS EPA has assumed that undeveloped areas outside the Controlled Industrial Area have the potential for future residential use with the accompanying use of fresh ground water for drinking water while it is assumed industrially developed portions of the island will only have industrial use in the future with no residential use of groundwater.

As EPA has previously noted the role of MPSS in the Corrective Action process is as a statement about the concentrations of hazardous constituents in the environment at a facility that would be protective of human health and the environment. They also identify the areas where corrective measures are necessary.

The Corrective Measures considered during the Corrective Measures Study will be evaluated against their ability to achieve the MPSS



(i.e. their ability to reduce concentrations of hazardous constituents present in the environment to or below the MPSS) as one of nine decision making criteria. It is important to note, however, that the overall objective of the corrective measures is to control exposures to hazardous constituents to a level at or below the MPSS and that the selected corrective measure may or may not clean up the environment to the MPSS (i.e. MPSS may or may not match the final cleanup standards achieved by the selected corrective measures. In fact corrective measures may be containment or institutional controls which prevent exposure to hazardous constituent concentrations in excess of the MPSS).

If you have any questions regarding this letter or its attachment please contact me at (617) 223-5511.

Sincerely,

E - W -

Ernest Waterman
ME, NH, & VT Waste Regulation Section

enclosure

cc: N. Beardsley ME DEP
~~J. Tayon USN PNS~~
J. Tayon USN PNS
E. Waterman EPA

TABLE I
SOIL MEDIA PROTECTION STANDARDS - FUTURE RESIDENTIAL LAND USE

Constituent	MPS (mg/kg)	Basis*
Antimony	31.3	noncarcinogenic risk
Arsenic	48.9	background
Beryllium	1.57	background
Cadmium	4.95	background
Copper	2610	carcinogenic risk
Lead	500	guideline criteria
Mercury	5.50	noncarcinogenic risk
Nickel	1560	noncarcinogenic risk
Zinc	1068	background
Aldrin	.0367	carcinogenic risk
Dieldrin	.0389	carcinogenic risk
4,4-DDD	2.01	carcinogenic risk
4,4-DDE	4.30	background
4,4-DDT	3.09	background
Arochlor 1254	.0625	carcinogenic risk
Benzo(a)anthracene	.0627	background
Benzo(a)pyrene	.919	background
Benzo(b)flouranthene	1.33	background
Benzo(k)flouranthene	.967	background
Bis(2-ethylhexyl)phthalate	44.5	carcinogenic risk
Chrysene	1.29	background
Dibenzo(a,h)anthracene	.224	background
Indeno(1,2,3-cd)pyrene	.488	background

TABLE II
SOIL MEDIA PROTECTION STANDARDS - FUTURE INDUSTRIAL LAND USE

Constituent	Standard (mg/kg)	Basis
Benzo(a)anthracene	9.85	carcinogenic risk
Benzo(a)pyrene	9.86	carcinogenic risk
Benzo(b)fluoranthene	9.84	carcinogenic risk
Benzo(k)fluoranthene	9.85	carcinogenic risk
Lead	1000	guideline criteria

TABLE III
GROUND WATER MEDIA PROTECTION STANDARDS - FUTURE RESIDENTIAL USE

Constituent	Standard (mg/L)	Basis
Aluminum	1.43	regulatory criteria
Antimony	.006	regulatory criteria
Arsenic	.05	regulatory criteria
Beryllium	.004	regulatory criteria
Cadmium	.005	regulatory criteria
Chromium	.100	regulatory criteria
Copper	.130	regulatory criteria
Lead	.015	regulatory criteria
Manganese	.200	regulatory criteria
Nickel	.100	regulatory criteria
Vanadium	.256	noncarcinogenic risk
Zinc	7.29	noncarcinogenic risk
Benzene	.005	regulatory criteria
Methylene chloride	.005	regulatory criteria
4,4-DDD	.000036	carcinogenic risk
4,4-DDE	.000025	carcinogenic risk
Arochlor 1242	.00005	regulatory criteria
Arochlor 1254	.00005	regulatory criteria
1,4-Dichlorobenzene	.027	regulatory criteria
Benzo(a)anthracene	.00003	regulatory criteria
Benzo(a)pyrene	.00003	regulatory criteria
Benzo(b)fluoranthene	.00003	regulatory criteria
Bis(2-ethylhexyl)phthalate	.008	carcinogenic risk
Chrysene	.00003	regulatory criteria