

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

9 January 2006

Mr. Darren Newton
BRAC Environmental Coordinator
Base Realignment and Closure
7040 Trabuco Road
Irvine, California 92618

RE: Response to Comments on the Draft Phase II Remedial Investigation (RI) Report,
Installation Restoration Program (IRP) Site 1, Former Explosive Ordnance Disposal
(EOD) Range, Former Marine Corps Air Station (MCAS) El Toro, California

Dear Mr. Newton:

The EPA has reviewed the subject response to comments (RTCs) and considered the additional discussion and information provided by the Navy during and following the 20 December 2005 conference call. We appreciated the opportunity to discuss the major issues presented in our comments on the Draft RI Report and are available to further discuss these issues in order to expedite delivery of a mutually acceptable Draft Final RI Report.

Attached you will find additional discussion in support of EPA's position on two issues related to the human-health risk assessment presented in the Draft RI Report. We have presented this followup under the general topics discussed on the December conference call. With regard to a third issue from that call – "use structurally similar chemicals as surrogates are not planned" as noted on the conference call agenda – EPA toxicologist Gerald Hiatt has discussed this issue with DTSC toxicologist Riz A. Sarmiento and the issue has been resolved to the regulatory agencies' satisfaction.

If you should have any questions, please feel free to contact me at 415-972-3349.

Sincerely,

Rich Muza

Rich Muza
Remedial Project Manager
Federal Facility and Site Cleanup Branch

received
1/18/06

**SCREENING RISK ASSESSMENT – HUMAN HEALTH
DRAFT PHASE II RI REPORT FOR IRP SITE 1, EOD RANGE,
FORMER MCAS EL TORO, CALIFORNIA**

Cal EPA Toxicity Values Will be Evaluated and Discussed in the Uncertainty Section

OSWER Directive 9285.7-53, Human Health Toxicity Values in Superfund Risk Assessments. In a number of the RTCs, the Navy states that they intend to use Tier 1 (IRIS) values where they exist in preference to any other (Tier 2 or 3) values and cites the Directive as the basis for their decision. This position represents a misunderstanding of the intent of the Directive. An important goal for OSWER in preparing this directive was to specify additional sources of information that can be utilized when the toxicity data in IRIS have been superseded by newer science. Thus, the intent was not only to specify that IRIS should be the first source consulted, but also to note IRIS may not be the only source, especially if better toxicity information is available elsewhere:

The Directive notes "...risk assessors normally need not search further [than IRIS]...", but also notes "...in some cases more recent [than IRIS] credible and relevant data may come to the Agency's attention." It further directs EPA to "...use the best science available on which to base risk assessments."

Therefore, the intent of the Directive is twofold: (1) to reaffirm that IRIS is the first source to which risk assessors should turn in finding toxicity values and (2) to provide guidance on other sources to be used when either there is no toxicity value in IRIS or when newer, better science is available elsewhere in peer-reviewed, publicly available sources. In this regard, it is noteworthy that Cal/EPA toxicity values are specifically identified in the Directive as appropriate Tier 3 toxicity values.

Regarding Cal/EPA's toxicity values, there is a long-standing agreement between Region 9 and Cal/EPA to use the more conservative (i.e., more "health-protective") toxicity value in Superfund risk assessment in cases where both agencies have developed toxicity values and there is a significant difference (usually interpreted to mean more than 4-fold) between those values. In recognition of this policy, this agreement is noted in Section 2.4 of the Background Technical Document for the current Region 9 PRG Table and the table itself contains "Cal-Modified" PRG values for the relevant chemicals.

It is also noted that the issue of primacy of state values was settled by the U.S. EPA Administrator as a result of a Dispute Resolution between Region 9 and DOD regarding Castle AFB. The Administrator determined that States had the right to compel use of more stringent values and environmental standards for facilities within their boundaries.

Furthermore, it is the Region's opinion that the use of the Cal/EPA toxicity values is in DOD's long-term interest in many cases. Since newer Cal/EPA toxicity values often represent more recent, better science, it is likely that U.S. EPA will similarly revise its toxicity values for the same chemicals in the future. When this happens, the revised U.S. EPA toxicity values will be incorporated into the 5 year review process and, if sufficiently more conservative, may prompt a corresponding revision of cleanup levels.

Toxicity Equivalent Factors for Dioxins Congeners

U.S. EPA reiterates its position that a TEQ approach should be used for developing cumulative risk estimates for dioxin congeners and that it is not acceptable to only consider risks posed by only the 2,3,7,8-TCDD congener. U.S. EPA Comment 38 (provided below) is a full discussion of this issue.

38. Section 6.5 & Section 6.6, General (Dioxins Issues) -- For risk assessment purposes, dioxins and furans are not single analytes but rather a suite of closely related congeners, many of which share a common mechanism of toxicity and carcinogenicity, albeit with varying potencies. The current draft risk assessment inherently makes the assumption that only one of the dioxin/furan congeners found at the site -- 2,3,7,8-tetrachlorodibenzodioxin (2,3,7,8-TCDD) -- contributes to cancer risk; this assumption is present in the risk assessment by virtue of the fact that only the 2,3,7,8-TCDD concentrations are compared to risk-based screening levels. This assumption is unreasonable and runs counter to the risk assessment guidance and standard of practice for both EPA and Cal/EPA. It is also counter to the policy of the World Health Organization (WHO) and the consensus of the global scientific community. Regarding assessment of risks from the full spectrum of dioxin-like compounds, the standard of practice for Superfund risk assessment is to calculate a 2,3,7,8-TCDD-equivalent concentration using the WHO Toxicity Equivalence (TEQ) Factors, as endorsed by EPA, and to use this "TEQ concentration" when assessing risks or making comparisons to the dioxin PRG. This approach should be incorporated into the screening and site-specific risk assessments for Site 1. Fortunately, the approach used in the current draft document does not materially affect the conclusions of the risk screening process. Dioxin/furan congeners other than 2,3,7,8-TCDD made a significant contribution to the overall dioxin TEQ concentration in a number of surface soil samples (eg., in some samples 2,3,7,8-TCDD accounted for less than 10% of the total dioxin exposure point concentration as determined by the TEQ concentration). However, even taking the additional congeners into consideration via the TEQ concentration, there was only a single soil sample (ie., 01-T33, Table G-9) which exhibited a TEQ concentration (23.7 ng/kg) greater than the residential soil PRG of 3.9 ng/kg used for risk screening at the site; since this was a subsurface sample, it is not expected to indicate a potentially significant excess cancer risk. It is recommended that these issues be addressed for dioxins in revising the RI Report.

In this regard, it is EPA's understanding that the TEQ approach has been used by Southwest Division for a number of other sites and we suggest that Patricia Underwood, Navy toxicologist, be contacted for details.