



407 East Maple Street, Suite 303
Cumming, GA 30040
(678) 513-4565

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Scott Warner
AMEC Environment & Infrastructure
2101 Webster Street, 12th Floor
Oakland, CA 94612-3006

Subject: Comments on the draft Historical Radiological Assessment Supplemental Technical Memorandum dated August 6, 2012.

Scott –

My comments on the Supplemental Technical Memorandum (STM) are below.

General Comments

1. Please clarify how the STM is to be reconciled/integrated with the original HRA or how the two documents are going to be applied to provide consistent guidance for performing radiological investigations on TI. Be as explicit as possible regarding parts of the HRA that may be obsolete, and those parts/conclusions where the STM is more of a compliment or supplement to the HRA.
2. The definition of radiologically impacted and the other information provided in Section 2.3 should be moved to or otherwise restated in the introductory sections of the STM. The conclusion that no imminent threat or substantial risk to human or environmental health was identified should receive particular emphasis. We request that the definitions of “impacted” and “non-impacted” be introduced at the very start of the document and repeated in practical locations thereafter.
3. As discussed under Section 3.2 and elsewhere, there is an potential for anomalous or otherwise unknown discrete sources or associated, localized contamination to be discovered at TI in areas outside the currently known SWDAs. This should be addressed in the Executive Summary, the Conceptual Site Model (Section 5), and the Findings and Recommendations (Section 6).

Specific Comments

1. Section 1.1: Please acknowledge and summarize some of the concerns with the original HRA expressed by CDPH in April 2011. Presently no information is provided as to what prompted the STM to be developed.
2. Section 1.3: Is there a word missing in the first sentence of this section?
3. Page 10: Photos 6 and 7 appear to have inconsistent orientation. Please correct or clarify if so.
4. Section 2.2.2, first paragraph at the top of page 11: Elaborate on the findings from the radiological investigations at the Building 233 site with respect to the discovery of undocumented piping and the fact the (known) sewer line and the surrounding soil were found to be contaminated. Undocumented utility lines or inaccurate location information should be considered in work planning.
5. Section 2.2.6, bottom of page 16: What was the fate of the soil removed from Site 32 to remediate chemical contamination? Are additional actions warranted for that material now that that area has been deemed radiologically impacted?
6. Section 2.2.6 re: the further investigations related to the elevated gross gamma measurements discussed on page 18: How will the findings from these additional investigations be incorporated in the HRA/STM once they are completed?
7. Section 2.2.7: While the results from the gamma walkover surveys performed outside the SWDAs in Site 12 are a good indication there is no widespread radiological contamination, caution should be applied in how those results are interpreted with respect to discrete commodities given that one has already been found. It may be an overreach to say the potential for radioactive material outside the SWDAs is minimized.
8. Section 2.2.7, page 22, second bullet: What was the fate of the soil excavated from the Halyburton and Bigelow Court areas in Site 12?
9. Section 2.2.7, page 24, first bullet: Elaborate on the source of the elevated dose rate readings that prompted expansion of the RCA.
10. Section 4.0: What is meant by work dose “outside” the impacted and non-impacted areas? Shouldn’t all areas be one or the other?
11. Section 4.1: Augment the title to make it clear only the newly-identified radiologically impacted sites are addressed.
12. Section 4.2 et seq.: The STM cites the fact that no “intrusive IRP work” has been done at a number of sites since the original HRA as a basis for deeming those areas as non-impacted rather than a re-evaluation of those areas vis-à-vis the new information and

additional degree of conservatism applied in the STM. This results in an inconsistency with respect to the former pier areas, for instance, where the finding that significant ship repair activities took place on TI would call into question the non-impacted designation given these areas in the HRA. It is recognized those pier areas are long gone, but the associated shoreline areas could still be considered radiologically impacted. There could also be questions about the fate of the materials from the pier demolition actions. The STM should be clear that the non-impacted designations given in Section 4.2 et seq. are based on the original HRA and do not represent a reevaluation of those areas.

13. Section 4.3.2: Recommend including a statement about any public health risk (or lack thereof) associated with the Site 12 recreational area.
14. Section 4.3.4: Same comment as for Section 2.2.2 with respect to the additional utility lines discovered at the Building 233 site.
15. Section 5.0: None of the CSMs appear to address anomalous discrete commodities such as those identified in Site 31 and elsewhere. Given this was one of the drivers for creating the STM in the first place the CSMs ought to address the potential for such sources/types of contaminants.
16. Section 5.0: The CSMs focus on specific buildings and areas rather than types of activities. As with any historical site assessment, the STM/HRA should serve as a general guidance document for all radiological investigations at TI.
17. Section 5.2.1 and Figure 11: It does not seem appropriate to limit disposal (inadvertent or otherwise) of commodities to known salvage yards. Also, suggest revising the transport pathway to read “near-surface disposal.”
18. Section 5.2.1 and Figure 11: Except for the mention of “sanitary sewers” in Section 5.2.1.2, the CSM does not appear to address known or unknown plumbing or drainage systems in or downstream of the area of concern, or potential contamination migration from such systems (either directly or from leakage).
19. Section 5.2.1: With respect to Building 3 and other facilities where similar work was performed, was there reasonable potential for ship repair activities to have involved any surface-contaminated materials or internally-contaminated components such as those that could have originated from vessels involving in nuclear weapons testing operations in the Pacific Proving Grounds? Presently the CSM does not address potential airborne or liquid contamination pathways from routine repair/refurbishment operations (cutting, grinding, shot blasting, cleaning, rinsing, etc.). We recognize that significant time has elapsed (relative to fission and activation product half-lives) since weapons testing activities in the Pacific ceased, but longer-lived fission products could still remain, in addition to potential actinides. We view this as unlikely, but it is a question that could be raised.

20. Sections 5.2.1.4, 5.2.2.4, and 5.2.3.4: Consider augmenting the categories of potentially-exposed individuals (workers, residents, etc.) with types of activities that could result in them becoming exposed.
21. Section 5.2.3: The CSM does not address stormwater runoff, wind dispersal, etc. as contamination transport mechanisms for the contaminated soil removed from Site 12. Has this material always been containerized? Also, there is no mention of wash water or other potential contamination transport mechanisms associated with rinsing or cleaning of vehicles used to transport contaminated soil.
22. Section 6.1.1.1: Same comment as for Sections 2.2.2 and 4.3.4 with respect to the additional utility lines discovered at the Building 233 site.
23. Section 6.1.1.1, second sentence at the top of page 43 reading "... at least some of the building piping is radiologically impacted." Suggest changing "impacted" to contaminated.
24. Section 6.1.2.1: If such areas still exist, consider expanding the scope of the scoping survey for Building 3 to include areas where dusts or liquids could have accumulated during ship repair activities (e.g. behind wall panels, in/on overhead structures or fixtures, in air handling components, blower motor interiors, intake/exhaust points, floor drains, etc.). Ensure that the characterization methods used would be sensitive to legacy fission products or actinides in addition to Ra-226 or Th-232.
25. Section 6.1.2.1: If there's a high potential for contaminated plumbing/piping associated with the optical shop or other activities, it seems inconsistent to then say there's no potential for contaminated subsurface soil or sediment.

Please let me know if you have any questions.

Best regards,



Bob Burns, CHP
NGTS, Inc.