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MCAS EL TORO
SSIC #5090.3

County of Orange
California

Gary Simon
Executive Director

MCAS El Toro
Local Redevelopment
Authority

February 26, 2001

Mr. Dean Gould
BRAC Environmental Coordinator
MCAS El Toro
P.O. Box 51718
Irvine, CA 92619-1718

Subject: Draft Radiological Release Report - Hangar 296 and 297

Dear Mr. Gould:

Enclosed please find the MCAS El Toro Local Redevelopment Authority's (LRA) comments on the subject matter. The comments were prepared on behalf of the LRA by GeoSyntec Consultants. Obtaining a response to these comments will help us in understanding the ongoing environmental work and planning reuse of MCAS El Toro.

Thank you for the opportunity to provide comments. Should you have any questions, please feel free to call Polin Modanlou of my staff at (714) 834-3156.

Sincerely,

Gary Simon, Executive Director
MCAS El Toro Local Redevelopment Authority

Encl.

cc: Members, Board of Supervisors
Michael Schumacher, Ph.D., CEO
Triss Chesney, DTSC
Steve Sharp, LEA
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M E M O R A N D U M

TO: Polin Modanlou, MCAS El Toro Master Development Program

FROM: Bertrand S. Palmer, Ph.D., P.E., GeoSyntec Consultants

DATE: 26 February 2001

SUBJECT: **Preliminary Review**
Draft Radiological Release Report
Hanger 296 and Hangar 297
Marine Corps Air Station, El Toro
Orange County, California

In January 2001, the Department of Navy/United States Marine Corps (DON/USMC) issued the "Draft Radiological Release Report" (Draft Report) for Hangar 296 and Hangar 297 at Marine Corps Air Station, El Toro, California (MCAS El Toro). The Draft Report describes the radiological surveys conducted by DON/USMC between January 1998 and July 1999 at Hangar 296 and Hangar 297. On the basis of this work, DON/USMC concluded in the Draft Report that Hangar 296 and Hangar 297 could be radiologically released for unrestricted reuse.

GeoSyntec performed a preliminary review of the Draft Report. Based on this review, GeoSyntec identified a number of questions and issues related to the work presented by DON/USMC in the Draft Report. This memorandum presents a summary of these questions and issues. Obtaining a response to these questions and issues would allow the Local Redevelopment Authority to better plan for future reuse of MCAS El Toro.

- On Page 5 of the Draft Report, DON/USMC states: "The residual radioactivity associated with radium was removed to below the removable Limits of Reference (2.1), Regulatory Guide 1.86." Yet,

in the next paragraph, DON/USMC states: "The residual ^{226}Ra found was only slightly above the Limits of Reference (2.1) maximum limit of 300 dpm/100 cm^2." These two statements raise several questions. First, is the second statement intended for pre- or post- remediation conditions? Second, these two statements seem to contradict each other and, therefore, need to be clarified. Third, DON/USMC needs to explain the significance of exceeding the Limits of Reference (2.1) maximum limit of 300 dpm/100 cm^2 in terms of potential impacts on health and safety and the environment.

- On Page 6 of the Draft Report, DON/USMC states that the ventilation system servicing the radium room was dismantled and removed from the room area. However, no information is provided regarding the ultimate fate of this ventilation equipment. Has any of this ventilation equipment been reused or recycled at MCAS El Toro, or was it disposed in one of the on-site landfills? DON/USMC needs to provide information regarding the ultimate fate of this ventilation equipment and should consider an additional investigation to evaluate the impact of the potential presence of that equipment if it is located anywhere at MCAS El Toro.

- On page 6 of the Draft Report, DON/USMC states that the hangar roof has been re-surfaced and was not radiologically surveyed. However, since the ventilation system may have been exhausting potentially radioactive material on the roof, the roof material may contain radioactive material exceeding the Limits of Reference (2.1). If so, the roof material could represent a threat to health and safety and the environment, or require special handling when the hangar roof is replaced or when the hangar is demolished. DON/USMC needs to address this issue in more detail. Similarly, would other

areas or materials in the hangar require similar special handling in the future?

- In different parts of the Draft Report, DON/USMC states that there are a number of uncertainties regarding the use of radiological material at MCAS El Toro. For example, DON/USMC states that a detailed history of some areas of the radium room area is unavailable (see, for example, Page 7 of Draft Plan). DON/USMC needs to discuss or explain the impact of these uncertainties on DON/USMC's confidence in the results and conclusions provided in the Draft Report. Likewise, to the extent possible, DON/USMC should quantify such uncertainties. Can additional work be conducted at each hangar to reduce these uncertainties? If so, DON/USMC needs to explain why such work is not being performed.

- DON/USMC classified the radioactive material storage areas of Hangar 297 as Class 3 (see page 13 of Draft Report). Because radioactive material was stored in this area, it seems reasonable to expect that this area may have been radiologically impacted. As such, this area should have been classified and investigated as a Class 1 or 2 area.

- On page 14 of the Draft Report, DON/USMC refers to "records" regarding refinishing luminous dials. No reference is given for these "records." DON/USMC should provide references or citations for previous work or research cited in the Draft Report and used for the radiological release of the hangars.

- On various pages of the Draft Report (including pages 20 and 22, for example), DON/USMC states that material was shipped off station to an appropriate disposal facility or a licensed disposal facility.

However, no specific disposal facility is identified in the Draft Report. DON/USMC should document in the Draft Report the disposal facilities to which radioactive and non-radioactive wastes generated as part of this work were shipped.

- DON/USMC indicates that parts of the hangars (such as the radium room) were remediated (see pages 21 and 22 of Draft Plan). However, little information is provided regarding the remediation methods, survey data, and documentation of remediation activities for the various remediated areas of the hangars. DON/USMC should provide this information (including Reference 2.6) to the LRA for review.

- Section 5.1.2 of the Draft Plan presents the "Radiological Status and Release of the Former Radium Room" (see Page 21 of Draft Report). DON/USMC concludes this section by referring the reader to Figures 8 and 8A. However, DON/USMC does not discuss in detail the survey data obtained for the radium room and their significance with regards to release of the hangar. DON/USMC needs to discuss the significance of the data presented in Figures 8 and 8A.

- DON/USMC indicates that slightly elevated alpha readings were discovered in the southwest corner of Room 221. However, DON/USMC did not perform remediation in Room 221 (see page 35 of the Draft Report). DON/USMC needs to explain the technical rationale why no remediation is being conducted.

- DON/USMC infers that elevated radioactivity levels in the enclosed manholes (S1, S2, IW1, and IW2) are due to natural radioactivity contained in concrete and brick (see pages 38 and 39 of Draft Plan). DON/USMC needs to provide back-up information regarding natural

radioactivity contained in concrete and brick and compare this data to radioactivity levels measured in the enclosed manholes (S1, S2, IW1, and IW2).

- DON/USMC states that elevated radioactivity levels in the lower level work areas adjacent to the hangar bays are considered to be from natural radioactivity contained in concrete (see page 40 of Draft Plan). DON/USMC asserts that such natural radioactivity is originating from ^{40}K. To substantiate this assumption, DON/USMC needs to perform a survey of natural radioactivity in concrete used at MCAS El Toro. This survey should be used to establish background radioactivity levels for MCAS El Toro. Alternatively, background levels at MCAS El Toro have been established at Hangar 296 for the purpose of this Draft Report. The noted elevated radioactivity levels in the lower level work areas adjacent to the hangar bays should be compared to Hangar 296 background levels and should not be considered to originate from natural radioactivity.

- Radioactivity levels above investigation levels were found in the interior stairs and the storage areas for aircraft equipment containing radioactive material (see page 41 of Draft Report). DON/USMC states that these exceedances are attributable to naturally occurring radioisotopes in concrete and in the non-slip surface attached to the stair steps. As stated above, DON/USMC needs to provide evidence of the presence of radioisotopes as background in concrete and in the non-slip surface attached to the stair steps.

- In Section 3.6.2, DON/USMC indicates that the center mezzanine of Hangar 296 was used as the background reference area for the surveys conducted. Radionuclides were used in various areas of Hangar 296. Therefore, while the area used as background reference

area in Hangar 296 may not have been used directly for storage of radionuclides, it could have been impacted by radionuclides stored or used in the vicinity of the area. Thus, the center mezzanine of Hangar 296 may not be representative of a "true" background. DON/USMC needs to select a location that does not have the potential to have been exposed to radionuclides related to MCAS El Toro activities and use that location as its measure of background levels of radioactivity.

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