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IN REPLY REFER TO:
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N40.cs/007
December 16, 2008

Ms. Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento CA 95814

Dear Ms. Townsend

Reference: Comment Letter - Anti-degradation Policy (Resolution 68-16)

We appreciate the opportunity to submit the following comments on behalf of RADM Hering, the U.S. Department of Defense (DoD) Regional Environmental Coordinator for EPA Region IX and the military services in California, in connection with the State Water Resources Control Board's review of the Anti-degradation Policy, Resolution 68-16. The Board announced the policy review and solicited comments in a Notice of Staff Workshop, dated October 16, 2008. DoD provided verbal comments at the workshop on November 17, 2008, through Mr. Baha Zarah, the U.S. Air Force Regional Environmental Officer for the State of California. The purpose of this letter is to supplement those verbal comments.

Our comments below are divided between the surface water aspects of the policy and the groundwater aspects, in keeping with the format of the workshop. The workshop notice included specific questions from the Board for comment. We provide comments on selected questions. The questions to which our comments pertain are set forth below.

SURFACE WATER ASPECTS

Question 2: Should the implementation procedures as contained in APU 90-004 be revised? If so, how should they be revised?

Comment: Implementation procedures for complete anti-degradation analysis, as set forth in APU 90-004, should be revised to include a review of the water quality objectives established to protect the designated beneficial uses of the receiving waters. The first step of the anti-degradation analysis requires a comparison of the receiving water quality to the water quality objectives established to protect designated beneficial uses. If a water quality objective is either too lax or too stringent to protect beneficial uses, the anti-degradation analysis will be skewed. Water quality objectives should be

based on science. A review of the water quality objectives established to protect designated beneficial uses of the receiving water is critical to an accurate anti-degradation analysis.

Question 4: Should the implementation procedures in APU 90-004 be expanded beyond the point source discharge permitting program?

Comment: As described below, we recommend that implementation procedures found in APU 90-004 not be expanded to non-point sources, especially in the context of stormwater. Anti-degradation water quality objectives should continue to be regulated through the application of cost-effective and reasonable best management practices. If the Anti-degradation Policy is revised for non-point sources, the Board should carefully limit its application to protect military ranges and other activities crucial to military readiness. Furthermore, in the context of stormwater, application of the Anti-degradation Policy should not be triggered until it can be demonstrated that water quality objectives have been exceeded and the exceedance can be traced to a particular land-based activity.

Non-Point Source Permits. Although anti-degradation applies to both point and non-point sources, stormwater issues are significantly different from point source issues. Treating stormwater permits in a manner similar to point sources would inappropriately increase permitting complexity, driving up the costs and time involved. Instead, regulation of non-point sources should continue to consist of the application of cost-effective and reasonable best management practices to maintain anti-degradation targets. This would keep such permits manageable, while providing cost-effective protection of water quality and beneficial uses.

Military Ranges and Other Activities. If the Anti-degradation Policy is revised for non-point sources, we recommend that the Board carefully limit the application of anti-degradation in the stormwater context, especially with regard to military ranges and other activities that are crucial to military readiness. For example, stormwater from military ranges may contain trace amounts of munitions constituents that do not cause any impairment of beneficial uses. Nevertheless, if natural background is to be the baseline for anti-degradation, then even minute amounts of munitions constituents washing off a range could violate the policy. Military operations on our ranges far predate the Anti-degradation Policy, in many cases going back at least as far as WWII. These operations do not cause violations of water quality objectives and they should not be affected by the Anti-degradation Policy.

Stormwater: If the Anti-degradation Policy is revised for stormwater, it should be done in such a way that the policy is

not triggered until it can be demonstrated that water quality objectives have been exceeded and the exceedance can be traced to a particular land-based activity. Water quality objectives should not overprotect beneficial uses, but should be set at reasonable levels through the application of sound science. Any application of the Anti-degradation Policy to non-point sources should maintain APU 90-004's provision that complete anti-degradation analysis is not required if reduction in water quality (1) is spatially localized (e.g., confined to the mixing zone), (2) is temporally limited (e.g., ceases after a storm event), or (3) produces minor effects.

GROUNDWATER ASPECTS

Questions 1 and 2: Should the State's Anti-degradation Policy be revised as it applies to groundwater? If so, why should it be revised, and how should it be revised?

Comment: As described below, we recommend a clarification of the Anti-Degradation Policy to incorporate human health and environmental risk into the determination of cleanup levels for groundwater. We also recommend close coordination of the policy with the Board's Water Recycling Policy and the forthcoming General Permit for Landscape Irrigation to ensure the goals of those other policies are achieved.

Environmental cleanup background. A recurring issue for DoD and other property owners is whether the Anti-degradation Policy should be interpreted to require the cleanup of groundwater contamination to natural background levels, or to levels as low as technically and economically feasible. For manmade chemicals like trichloroethylene (TCE), the background level is generally zero. In some areas of the State, some DoD components have experienced that the regional boards, such as the Central Valley Regional Water Quality Control Board, seek cleanup of contaminants to background levels, which can be lower than the State's drinking water levels. The regional boards typically rely upon Resolution 68-16 (the subject of this review), Resolution 92-49 and/or the water quality objectives of the basin plan for this position.

DoD believes that the Resolution 68-16 does not apply to historic releases or further migration of such releases, as compared to current discharges, and has communicated this position to the regional boards. In addition to applicability, a key underlying issue is that the Anti-degradation Policy does not allow for making risk-based decisions, based upon human health and ecological risk assessments. This is contrary to the approach of other state and federal environmental laws, such as the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Resource Conservation and Recovery Act (RCRA), which allow for risk-based cleanup decisions.

Instead, the only relief from the current Anti-degradation Policy requirement is a demonstration that the background level is technically and economically infeasible, as described in Resolution 92-49. This technical and economic feasibility analysis, or TEFA, does not consider the risks posed by site contamination.

Cleanup decisions have important financial consequences. The lower the cleanup level, the longer and more expensive is the cleanup. Environmental cleanup funds are limited. As a policy matter, cleanup to levels below drinking water levels does not seem to be the best expenditure of public resources. It is not necessary to restore groundwater to levels below drinking water levels to enable the groundwater to be used for drinking water. Recognizing and allowing for risk-based decision-making for cleanup of contaminated groundwater enables resources to be focused on higher-risk sites and more efficiently addresses concerns of risk to human health and the environment.

McClellan Air Force Base Example. An example of the application of the Anti-degradation Policy is the groundwater contamination remedy at the former McClellan Air Force Base. *Final Base wide VOC Groundwater Record of Decision* (August 2007) (the "McClellan AFB ROD"). The Air Force and the U.S. Environmental Protection Agency (USEPA) concluded that the appropriate groundwater cleanup level for TCE at the site was 5 parts per billion (5 ppb), which is the federal maximum contaminant level (MCL) for drinking water. Based on Resolution 92-49 and the basin plan, the State advocated for a TCE cleanup level of 2.3 ppb, which is less than half the MCL. In the McClellan AFB ROD, the parties agreed to proceed with the cleanup activities with a TCE cleanup level of 5 ppb. The process for resolving the parties' differences could include invoking the dispute resolution procedures of the Federal Facility Agreement again. McClellan AFB ROD, Sections 1.4, 1.5, 2.11.1, 2.11.6, Attachment 1A. Engaging in a dispute resolution process after drinking water standards are achieved costs considerable time and money with little, if any, demonstrable benefit from a human health or ecological point of view.

Edwards Air Force Base example. The State's standards for TEFAs appear to change and become more stringent over time with the addition of new requirements. This reduces the effectiveness of TEFAs as a method of demonstrating that cleanup levels should not be background levels. At Edwards AFB, the Air Force has completed two TEFAs, for Operable Unit 6 (OU 6) in 2006 and for OU 2 in 2008. The Air Force is currently preparing a third TEFA for OU 1. The State's requirements for the TEFAs have become more complex as the installation has moved from OU 6 to OU 2 and OU 1. Regional board staff expect the TEFA to include a degradation analysis to determine the volume of groundwater that may be degraded (and/or affected by the contaminants of concern)

before the remedy is complete. Risk is not considered in the analysis.

The OU 1 ROD at Edwards AFB will likely provide for in-situ treatment, monitored natural attenuation and land use controls. Cleanup of OU 1 is forecasted to take 173 years and cost about $27 million. The Air Force has complex Feasibility Studies and RODs to prepare for other sites at Edwards AFB. From a human health and ecological risk perspective, funds spent on the TEFA for OU 1 to evaluate more stringent cleanup levels would appear to be better spent on Feasibility Studies and RODs for other sites at Edwards AFB.

Risk and CERCLA/RCRA. Under CERCLA and RCRA, risk-based cleanup decision-making is central. This reflects the policy view that resources should be directed to remediate contamination that poses unacceptable risk, not to the cleanup of contamination regardless of risk. All remedial actions under CERCLA must, as a threshold matter, protect human health and the environment from unacceptable risk, and further be appropriate and relevant to the circumstances of a site release. 42 U.S.C. §9621(a)(1) and (d)(1). In quantitative terms, if the cumulative excess cancer risk does not exceed 1 x 10^{-4}, and the non-cancer hazard index is below 1, remedial action generally is not required. However, if MCLs, non-zero MCLGs or chemical-specific standards that define acceptable risk levels are exceeded, action generally may be warranted. EPA OSWER Directive 9355.0-30, *Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions* is available at http://www.epa.gov/ oswer/ riskassessment/ baseline.htm.

If cleanup is required, both CERCLA and the National Contingency Plan (NCP) focus on cleaning up contaminated groundwater, where practicable and achievable within a reasonable timeframe, to a level that will restore the designated uses of the groundwater, not to the lowest level achievable regardless of risk. 42 U.S.C. §9621(d) (2) (B) (i) and 40 C.F.R. §300.430(a) (1) (iii) (F). Under RCRA corrective action, groundwater cleanup levels are established through a risk-based approach similar to CERCLA. As a result, cleanups under either RCRA corrective action or CERCLA generally will substantively satisfy the requirements of both programs. EPA OSWER Publication No. EPA530-R-04-030, *Handbook of Groundwater Protection and Cleanup Policies for RCRA Corrective Action* (April 2004) and EPA OSWER/OECA Memorandum, *Coordination between RCRA Corrective Action and Closure and CERCLA Site Activities* (September 24, 1996) are both available at http://www.epa.gov/ epawaste/ hazard/ correctiveaction/ resources/ index.htm.

Risk and soil contamination. The State allows for the selection of risk-based cleanup levels for soil contamination, where the contamination will not affect surface water or

groundwater. California Health & Safety Code §§25356.1, 25356.1.5. In other words, the State does not require the cleanup of all soil contamination to background levels. In practice, this has led to a two-tiered approach to soil cleanup levels at individual sites: Risk-based cleanup levels for soil contaminants that will not affect surface water or groundwater, and application of the Anti-degradation Policy (which is not risk-based) to soil contaminants that may affect surface water or groundwater. As a policy matter, risk-based cleanup levels should be allowed for all contaminants, regardless of media.

Environmental cleanup request. In order to address these issues, we request that the Board clarify the manner in which the Anti-degradation Policy is applied to environmental cleanup sites. We request a clarification to the current policy to allow for risk-based decisions for cleanup actions. We suggest that the policy be clarified to take human health and environmental risk into account in establishing cleanup levels. This would be in addition to the consideration of MCLs, non-zero MCLGs and chemical-specific standards that define acceptable risk levels. As a matter of policy, this approach would ensure protection of human health and the environment and an appropriate level of expenditure of public funds.

In fiscal year 2008, the Air Force alone spent $92 million on environmental cleanup at sites in California. DoD has actively pursued environmental cleanup in the State of California for over 25 years. DoD remains committed to the cleanup program with a goal to achieve remedy in place at all cleanup sites on active installations by FY14. The Air Force goal is two years earlier, by FY12. We look forward to our continuing good working relationship with the state board and the regional boards to achieve these ambitious goals.

Water Recycling and Irrigation. Any changes to the Anti-degradation Policy should be closely scrutinized for consistency and aligned with the Board's Water Recycling Policy and the forthcoming General Permit for Landscape Irrigation. If the requirements in the Anti-degradation Policy are too stringent as to groundwater water quality objectives (particularly as to nutrients and total dissolved solids), then any additional regulatory flexibility obtained in the water recycling policy will have no practical effect and will not help to increase California's water supply.

Water Rights. Changes to groundwater Anti-Degradation Policy could result in new obstacles to storage and banking of water supply. USEPA's Water Quality Standards Handbook indicates that where there are alternate ways to meet water quality requirements the one least disruptive to quantity allocation should be chosen. Any revision to the Anti-Degradation Policy should maintain this approach.

We appreciate the opportunity to provide these comments. For further information, my points of contact for this Anti-degradation Policy review are Mr. Michael Huber, who may be reached at michael.huber@navy.mil or (619) 532-2303 and Mr. Baha Zarah, who may be reached at baha.zarah@brooks.af.mil or (415) 977-8843.

Sincerely

C.L. STATHOS
By direction