



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

**OFFICE OF THE
REGIONAL ADMINISTRATOR**

SEP 3 2010

Honorable Jackalyne Pfannenstiel
Assistant Secretary of the Navy
for Energy, Installations and Environment
100 Navy Pentagon
Washington, D.C. 20350-1000

**Subject: EPA comments on the final Environmental Impact Statement (EIS) for the Guam
and CNMI Military Relocation**

Dear Secretary Pfannenstiel:

The U.S. Environmental Protection Agency (EPA) has reviewed the above-referenced document pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act. EPA is a cooperating agency on the project EIS and has worked closely with the Department of Defense (DoD) to review and comment on the project since 2007. As a cooperating agency we have continued to work with DoD on the draft Record of Decision (ROD) for this project and the Civil-Military Coordination Council(Council) draft initial charter (charter). EPA's recommendations outlined below should be incorporated into these documents as they are finalized.

Based on our review of the final EIS, the document identifies processes to address the major concerns EPA raised in our review of the draft EIS. EPA rated the draft EIS as "Environmentally Unsatisfactory – Inadequate Information" because the EIS: 1) did not adequately address the wastewater system capacity limitations and potential water supply shortfall resulting from construction workers and induced population growth, and 2) did not provide sufficient analysis of impacts to coral reefs from the Carrier Nuclear Vessel (CVN) project in Apra Harbor or address an adequate plan to mitigate these impacts. EPA, DoD, and many other agencies worked closely over the last several months to address significant concerns.

As a result of this interagency process, EPA finds that DoD's EIS is adequate for purposes of NEPA because it includes an adequate discussion of environmental impacts and proposes a mitigation plan. Further, if the mitigation proposed in the EIS is successfully implemented, the project will avoid unsatisfactory public health and environmental impacts, making the project environmentally satisfactory. As a result, EPA does not intend to refer the EIS to the Council on Environmental Quality.

For the project to be environmentally satisfactory, however, DoD must ensure that the mitigation plan is implemented successfully. Specifically, DoD commits to three major mitigation measures that are critical in avoiding unsatisfactory environmental impacts: 1) to seek funding for drinking water and wastewater system infrastructure; 2) to manage construction and the arrival of military personnel to not cause significant environmental impacts or exceed existing infrastructure limitations through Adaptive Program Management (APM); and 3) to undertake an additional assessment of coral in Apra Harbor so that a site-specific determination on the location of the CVN berth can be properly informed through a supplemental NEPA process.

The following commitments are necessary to ensure the above measures are implemented successfully:

First, as the EIS stated, \$1.3 billion needs to be secured for the drinking water and wastewater system improvements that are necessary to accommodate the impact of the military build-up over the next five years. DoD is pursuing \$600M in Government of Japan (GOJ) funding to cover a portion of the required \$1.3 billion funding, and has provided leadership via the Economic Adjustment Committee to assess the needs of Guam's infrastructure and identify funding source amongst the federal agencies. To date, no funding has been secured for these upgrades, and failure to secure funding will require DoD to decrease the construction tempo of the military relocation. We expect the ROD to include DoD's commitment to seek funds through all available mechanisms and a reasonable plan for pursuing the remaining \$700 million.

Second, the APM needs to be developed from the concept described in the EIS to an implementable mitigation tool. Monitoring and adaptation are the essential elements of any adaptive management program. DoD's identified APM as the primary approach for mitigating significant environmental impacts during the construction phase, but APM has never before been implemented at this scale. Therefore, successful implementation of the steps DoD laid out in the EIS is key. EPA seeks DoD's commitment to fund additional monitoring, including equipment and installation, identified by the Council as necessary to successfully implement DoD's APM process. DoD should commit to provide resources (e.g., technical assistance and funding) to implement mutually agreed upon actions as environmental and public health conditions approach "tipping points" related to the military expansion. Slowing construction tempo or construction sequencing are extreme measures that may be necessary, but other rapid, interim actions may suffice rather than allowing a situation to approach consideration of slowing construction tempo or construction sequencing. Without monitoring and adaptation, APM will not be successful.

EPA believes the operation and structure of the Council needs to be clearly laid out in the charter that will be included in the ROD. In addition, EPA's elevation authority as discussed in the EIS needs to be included in the ROD. Specifically, "if, during the implementation of the project, EPA anticipates that the pace of the movement of construction workers and military personnel and families, and project related induced growth will exceed the availability of needed waste water and/or water supply infrastructure such that unsatisfactory environmental or public health impacts may occur, EPA retains the authority to exercise its responsibility under Section 309 of the Clean Air Act to refer the matter to an appropriate agency in the Executive Office of the President."

The timing and implementation of APM is crucial and should be reflected in the charter. The ROD must reflect this specific statement: "During the development of the final charter for the CMCC, DoD will not implement its realignment construction program in a manner that causes significant environmental impacts or exceeds existing infrastructure limitations on Guam." We expect the ROD to include a schedule for standing-up the Council and implementation of AMP before significant construction is underway. Furthermore, we expect the ROD to clarify who the decision-makers are, whom the Council is advising, and the process for making decisions provided through the Council.

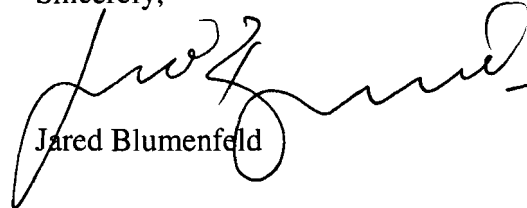
Third, implementation of the June 25, 2010 *Final Scope of Work Elements for Marine Surveys of the CVN Transient Berth Project Area, Potential Mitigation Sites, and Habitat Equivalency Analysis (SOW)* should start this fiscal year. This work will be used to further analyze coral reef impacts and to identify potential mitigation of sufficient scale to result in measurable and maximum benefits to coral reefs. Results from the SOW will be used for supplemental NEPA requirements to support site-specific Clean Water Act permitting. The ROD will need to commit to implement the SOW and to defer selection of a specific location for the CVN berth until adequate supplemental NEPA review is completed. As such, the identification of Polaris Point in the FEIS as the Least Environmentally Damaging Practicable Alternative is premature.

The FEIS includes a new diesel particulate matter analysis that is incomplete. EPA recommends that DOD commit to quantitatively analyze diesel particulate matter emissions before significant construction activities are underway. Emissions could be reduced through successful implementation of a recent bill approved by the Governor of Guam requiring the use of ultra low sulfur diesel (ULSD). However, the military realignment is going to increase emissions in a medically underserved community with a higher percentage of children and could cause adverse public health effects. An accurate analysis that can identify hotspots from construction or increases in traffic volumes in proximity to sensitive communities, especially before island wide ULSD availability, is useful for decision-makers and can guide efforts to reduce these impacts.

The military relocation to Guam is a long-term federal investment. EPA is committed to working with DoD, the Government of Guam, and other federal agencies to ensure the environmental acceptability of this project. EPA appreciates the opportunity to have worked

on this project to collaboratively identify solutions in support of “One Guam.” Considerable work lies ahead of us. EPA will continue engagement on the Clean Water Act and Clean Air Act regulatory issues and processes for this proposed action. Our detailed comments are enclosed. We look forward to our continued coordination with DoD, the Government of Guam, and other federal agencies in this endeavor. If you have any questions, please contact Enrique Manzanilla, Director, Communities and Ecosystems Division at (415) 972-3843 or via email at manzanilla.enrique@epa.gov.

Sincerely,



Jared Blumenfeld

Enclosure
Detailed Comments

cc: Cecilia Munoz, Director, White House Office of Intergovernmental Affairs
Dorothy Robyn, Deputy Under Secretary of Defense, Environment and Installations
David F. Bice, Executive Director, Joint Guam Program Office
Debra Walker, Assistant Secretary of the Air Force Installations, Environment and Logistics
Tony M. Babauta, Assistant Secretary of the Interior for Insular Areas
Victor Vasquez, Deputy Undersecretary for Rural Development, USDA
Robert Nabors, Deputy Director, Office of Management and Budget
Bill Corr, Deputy Secretary, Health and Human Services
Eileen Sobeck, Assistant Secretary for Fish, Wildlife, and Parks, U.S. Fish and Wildlife Service
Michael Enschede, Chief Operations Division, U.S. Army Corps of Engineers
Monica Medina, Deputy Under Secretary for Oceans and Atmosphere, NOAA
Greg Nadeau, Deputy Administrator, Federal Highways Administration
Peggy Gilligan, Associate Administrator, Federal Aviation Administration
Madeleine Z. Bordallo, Congresswoman, Guam
Gregorio Kilili Camacho Sablan, Congressman, CNMI
Felix Camacho, Governor, Guam
Benigno Fitial, Governor, CNMI

Introduction

EPA rated the Draft Environmental Impact Statement (DEIS) as “Environmentally Unsatisfactory – Inadequate Information” because the DEIS: 1) did not adequately address the wastewater treatment capacity limitations and potential water supply shortfall resulting from construction workers and induced population growth, and 2) did not provide sufficient analysis of impacts to coral reefs from the Carrier Nuclear Vessel (CVN) project in Apra Harbor or address an adequate plan to mitigate these impacts. Because of the severity of the potential environmental impacts and the inadequacy of the information in the DEIS, EPA identified this project as a candidate for referral to the Council on Environmental Quality (CEQ).

EPA, DoD, and many other agencies worked closely over the last several months to address EPA’s significant concerns are listed below.

Drinking Water Infrastructure

Since the DEIS was published, EPA, DoD, and GWA have collaboratively developed approaches to address the potential drinking water shortfalls. EPA believes the general mitigation approach identified in the FEIS has the potential to help address the likely scenario of water shortages. However, DOD’s mitigation to address the direct and indirect impacts of the military relocation hinges on the Government of Japan (GOJ) financing and funding from other federal agencies. Failure to secure funding would have significant direct and indirect impacts on the Guam Waterworks Authority’s (GWA) drinking water delivery and wastewater treatment and collection systems if the military relocation was allowed to move forward without necessary infrastructure improvements.

Recommendations for the ROD:

- We expect the ROD will include the following commitments: 1) indicate that the requested Government of Japan (GOJ) financing (\$580 million) has been secured, if possible, 2) indicate that DoD will continue to take steps to secure funding for the remaining portion of \$1.3 billion identified for water and wastewater infrastructure improvement needs through DoD’s interagency efforts with CEQ and the Economic Adjustment Committee, 3) if there is failure to secure GOJ financing, seek Congressional authority to fund water and wastewater upgrades, 4) DoD will ensure that capacity is developed to produce sufficient excess water in a timely manner and must make firm commitments to provide the water to GWA as necessary, and 5) DoD will integrate and analyze the three data sets (existing groundwater data from Guam utility and other local, federal and academic organizations, pilot well data from the DoD’s well development effort for the proposed 22 new DOD wells, and interim data generated by the 3 year USGS study), and share the information with the Guam groundwater joint management team and advisory group to ensure a sustainable Northern Guam Lens Aquifer ground water management strategy is developed and implemented.

Wastewater Treatment Infrastructure

Since the DEIS was published, EPA, DoD, and GWA have collaboratively developed approaches to address the wastewater treatment limitations. EPA believes the mitigation approach identified in the FEIS has the potential to help address necessary improvements. However, as with the drinking water infrastructure, we expect the ROD will specify that, once

funding is secured, the necessary upgrades, including secondary treatment, will be made to both Northern District and Hagatna Wastewater Treatment Plants and related collections systems to address wastewater treatment needs resulting from construction workers and induced population growth.

Impacts to Wetlands and other Waters of the U.S.

EPA believes that, as part of the additional site-specific information (and jurisdictional determination) that may be required as part of the CWA permitting process (Vol. 10), it is highly likely that, in almost all cases, a field level analysis will be necessary to verify any remote sensing work for CWA 404 permitting.

Mobile Source Impacts, including Diesel Particulate Matter

EPA does not agree with the conclusion that “there would be no significant carcinogenic or non-carcinogenic impacts at any of the locations” for mobile source air toxics (MSATs) (Vol. 7, p. 3-15). The new analysis included in the FEIS does not quantify the likely increase in diesel particulate matter (PM) concentrations, and we believe DoD’s conclusion that the PM_{2.5} emissions are overestimated is likely inaccurate (FEIS Addendum). Our disagreements with the analysis include the following:

- The MOBILE 6.2 model used in the analysis does not consider diesel sulfur contents above 3500ppm, while the diesel fuel currently used in the civilian fleet is in the range of 3800 to 5000ppm. Ultimately, with the successful and prompt adoption of Guam Bill 414 instituting ultra low sulfur diesel fuel use in Guam, the PM_{2.5} emissions will decrease, but the MOBILE6.2-predicted emissions with the current fuel are not overestimates.
- The risk characterization procedure used for carcinogens underestimates the potential impacts. This scaling approach used (a 30 year exposure duration over a 70 year lifetime) is not the recommended EPA procedure to evaluate air toxics impacts and is not commonly used under the Clean Air Act;
- Analysis assumes that PM_{2.5} impacts will be lower because project construction may occur over a longer period of time than analyzed. While this may reduce the impact in any single year, the overall impacts of the emissions over the life of the project will be the same;
- Analysis cites the limitations of the MOBILE 6.2 and MOVES models to quantify diesel PM emissions for hot spot analysis as reasons for not conducting quantitative analyses, however EPA routinely uses them effectively and can provide advice on their use.
- Any analysis that does not at least characterize the ambient concentration change in diesel particulate matter throughout the project area is likely to underestimate potential impacts. EPA classifies diesel exhaust as a likely human carcinogen, because of concerns about potential lung cancer impacts. Since the construction of the Guam roadway network alone is expected to lead to an increase in 25 tons/year in PM_{2.5}, and the total increase in mobile source-related PM_{2.5} emissions due to the project is likely in

excess of 87 tons/year¹, the proposed project would be expected to increase PM mortality risk² among the population in Guam.

An accurate analysis that can identify hotspots from construction or increases in traffic volumes in proximity to sensitive receptors is useful for decision-makers and can guide efforts to reduce these impacts, such as adjusting the location of haul routes away from sensitive populations (e.g., schools, day care or senior centers, hospitals), or to include buffers from roadways. Such targeted pollutant exposure avoidance should be aggressively pursued during the construction phase, as well as the adoption of precautionary mitigation measures. One effective mitigation measure would be the utilization of ultra low sulfur diesel (ULSD), which is now more likely with the adoption and successful implementation of Guam Bill 414³. DoD's commitment to the issues outlined below would address the significant public health impacts from project-related diesel PM emissions.

Recommendations:

- DOD complete a full, quantitative diesel PM_{2.5} analysis that provides PM_{2.5} concentration contours throughout Guam, including PM_{2.5} emissions from project construction, aircraft, marine vessel, and on-road vehicle emissions, and baseline conditions, using peak and ultimate build years. It should include a quantitative local microscale analysis of locations where there will be a substantial increase of MSAT emissions during the construction phase of the proposed build-up, and the analysis should quantitatively consider the impacts of the project with and without ULSD conversion.
- The MSAT and diesel PM_{2.5} analyses should include a similar quantitative local microscale analysis of locations where there will be a substantial increase of MSAT emissions during the construction phase of the proposed build-up. Even for pollutants of long-term (i.e. "chronic") concern, the magnitude of the increase over even short periods is potentially significant and should be evaluated⁴. To the extent that impacts during the construction phase are potentially significant, the lead agencies should explore all possible mitigation options, including changes in traffic routes, use of cleaner engines and alternative fuels, and alternatives for temporary housing locations.
- DoD use ULSD in all DoD construction and operation activities and a requirement for DoD contractors to use ULSD once it becomes available on island.

¹ Total mobile source-related PM_{2.5} emissions are estimated to be 87 tons/year based on extracting PM_{2.5} emissions information from Volumes 2, 4, 5, and 6, and include emissions from construction, aircraft and marine vessel operations, and on-roadway motor vehicles. This number may be an overestimate, since comparable years were not always available in the FEIS, so peak years were chosen, where available. Similarly, this number may be an underestimate, since the FEIS does not quantify peak on-road activity during the build years.

² A paper by scientists at EPA's Office of Air Quality Planning and Standards has predicted that for every 18 tons/year increase in mobile source-related PM_{2.5} in the United States, there would be a corresponding increase in 1 death/year and a wide range of other adverse health impacts, such as heart attacks, chronic bronchitis, and asthma attacks. See Fann et al., *Air Qual. Atmos. Health* 2:169-176 (2009), <http://www.aqmd.gov/prdas/matesIII/MATESIIIFinalReportSept2008.html>; In that paper, 1 ton/year of mobile source carbon is associated with \$550,000 in health impacts under typical conditions nationally.

³ With the adoption of Guam Bill 414, ultra low sulfur diesel fuel use could begin January 1, 2011, allowing for a phase-in period to delete the on-island inventory.

⁴ These sites should be identified using the criteria described in our February 9, 2010 comments.

- DoD participates in the traffic management plan being developed by FHWA and the Government of Guam. Further, applicable aspects of this plan should be extended to the broader military build-up project and not solely limited to off-base roadway projects (See Vol. 7, proposed mitigation measure TR-4).

Air Quality Mitigation that Should Occur Regardless of ULSD Conversion

EPA does not agree that air quality impacts are less than significant. Reasonable mitigation measures should accompany all project proposals since they are consistent with NEPA's purposes and goals to reduce environmental impacts. This is especially important due to the health impacts associated with the current use of higher sulfur fuels in Guam and the presence of medically underserved communities with a higher percentage of children.

Recommendations: We recommend DoD commit to the following mitigation measures described in the FEIS:

- Mitigation measures identified in the DEIS⁵ for anti-idling requirements for construction vehicles; operational agreements that reduce or redirect work or shift times to avoid community exposures when sites are in proximity to vulnerable populations (e.g., schools); and technological improvements to equipment, such as off-road dump trucks and bulldozers, particulate matter traps, oxidation catalysts, and other exhaust after-treatment devices.
- Develop project-related construction traffic and parking management plan that minimizes traffic interference and maintains traffic flow.
- Create buffer zones between new or expanded road alignments and areas of vulnerable populations (children, elderly, infirm, medically underserved) and locate construction equipment and staging zones away from both these populations and fresh air intakes to buildings and air conditioners.
- Whatever the status of the ultra low sulfur diesel phase-in, DoD should acquire the cleanest fuel possible for on-highway and nonroad vehicles and encourage the use of ULSD by DoD contractors.

Air Quality Permitting and Power Supply

The power supply estimates have changed in the FEIS⁶. The FEIS currently does not identify sufficient reliable power for the total plus transient demand, which is anticipated to occur as early as 2015, when all planned facilities would be in service and operational (Vol. 6, p. 2-6). Adequate power for the project and for the Guam population depends upon reconditioning the required combustion turbines (CTs) to restore the system capacity to current rated capacity, and on upgrade of the Transmission and Distribution (T&D) systems⁷. These upgrades are necessary

⁵ These measures were removed from the FEIS.

⁶ It now appears that only 20 MW of additional supply from GPA will be available (from renewable sources) estimated for 2017 (Vol. 6, p. 2-10), which is a change from the DEIS which predicted 80 additional MW by 2015 (DEIS Vol. 6, Table 3.2-1). The excess supply shown in Table 3.2-1 to be available for year 2015 through 2019 ranges from 12.62 to 36.56 MW, well below the maximum required for the CVN, which would be operational in 2015 (Vol. 4, p. 2-1) and require over 39 MW (Vol. 6, p. 2-8).

⁷ Funding for GPA's upgrades of the T&D system to accommodate housing for the construction workforce is uncertain, and the FEIS simply states that DoD would help GPA develop strategies to obtain funding to implement the necessary improvements.

so that the population of Guam will not experience occasional power brownouts or blackouts during times of peak power demand. Reconditioning the CTs will require Prevention of Significant Deterioration (PSD) permitting from EPA⁸. Because of the uncertainty regarding available power supply and funding for necessary T&D system improvements, we do not agree that potential impacts to the power system are less than significant.

Recommendations: DoD should commit to early coordination with EPA and Guam Power Authority (GPA), including sharing the CT study as soon as possible, so that potential PSD permitting requirements can be identified and the permitting process commenced to ensure reliability of the island-wide power system.

Implementation of Integrated Solid Waste Management Plan

The DoD should commit to full implementation of the integrated solid waste management plan (ISWMP) that is being developed⁹, including construction and operation of all necessary solid waste collection, recycling, storage, transfer, and processing facilities, obtaining appropriate permits, and developing all necessary programs and training, to achieve waste-related goals. The ROD should commit to a “central processing facility” for construction and demolition (C&D) waste, and the additional infrastructure needed to process and manage the estimated 535,000 tons of greenwaste anticipated from the large-scale land clearing. The ROD should commit DoD to appropriate testing and management of building materials for PCBs¹⁰, as well as the required reporting to EPA under the Toxic Substances Control Act (TSCA). EPA is available to consult with DoD on appropriate testing protocols.

The APM plans should include monitoring of waste streams and solid waste facilities to ensure these facilities are not exceeding their capacity, which could lead to illegal management practices. If monitoring of these facilities shows that they are exceeding their capacity, EPA expects the APM program to adjust the construction schedule to remedy this situation.

Recommendations:

- Add the following language to three areas of the draft ROD (pp. 4, 25, and 28) that mentioned the preferred alternative (i.e., Layon and Navy landfills): "The DoD is developing an integrated solid waste management plan (ISWMP), compliant with EO 13514, that will reflect how DoD's solid waste will be managed now and in the future, including source reduction, and waste diversion and recycling."
- 2) Include the mitigation measures for solid waste in the FEIS (UI/SW-1 through 5) in the ROD, and

⁸ We believe that the refurbishment of a turbine at the Dededo facility would trigger PSD permitting. The refurbishment of turbines at the Marbo, Yigo, or Macheche might not trigger PSD permitting in light of the promulgation of the Greenhouse Gas Tailoring Rule on May 13, 2010, if the refurbishment commences prior to July 1, 2011 and certain other permitting requirements are satisfied. We urge DOD and GPA to contact the Region 9 Air Permits Office as soon as possible to obtain more detailed information on the permitting process. The Air Permits Office point of contact is Roger Kohn, who can be reached at 415-972-3973 or kohn.roger@epa.gov.

⁹ The ISWMP will include plans for the various waste streams that are not allowed at the Layon MSWLF, the Navy dump, or other existing facilities.

¹⁰ There is potential for PCB (polychlorinated biphenyls) contamination of caulks, paints and other building materials that would require special handling and that could interfere with material reuse goals and affect the scope, schedule and cost of many projects.

- 3) Add the following measures:
 - * "UI/SW-6: Construct, obtain appropriate permits for, and operate infrastructure needed for construction and demolition debris and greenwaste." and
 - * "UI/SW-7: Implement the ISWMP to achieve at least 50% diversion by weight."

Hazardous Materials/Waste Minimization

Recommendations: The ROD should include a commitment to develop a pollution prevention plan and assessment with specific pollution prevention activities, equipment, and process changes to eliminate, where possible, and reduce hazardous materials. The ROD should commit to testing alternatives to toxic substances for the construction and operation phase. We also recommend that Leadership in Energy and Environmental Design (LEED) certification credits to reduce the use of hazardous materials in building construction be pursued.

Sustainability

Recommendation: The ROD should include a commitment to developing a sustainability implementation program, as recommended in its sustainability report¹¹. The sustainability report indicated that for a minor additional premium, LEED-Gold can be achieved (Appendix N, p. 41), and we encourage DoD to pursue this higher certification standard since the additional effort is minor.

Noise Impacts

Additional mitigation may be needed for the significantly impacted homes¹² near the Route 15/Anderson South firing ranges.

Recommendation: The ROD should commit to exploring the additional mitigation identified in the FEIS, including limiting the hours or number of days the .50 caliber is fired. DoD should maintain a noise complaint management program and actively engage local communities in land use planning in areas subject to high levels of operational noise and a high potential for noise complaints. Because of proximity to residential land use, we recommend that DoD explore all possible means of mitigating impacts to off-base residences.

¹¹ *Guam Joint Military Master Plan Sustainability Program Summary Report*. Appendix N.

¹² The FEIS indicates that 250 homes would fall within Zone II noise contours, which is incompatible with residential land use.