

3. 40 CFR 503.13 sets ceiling limits for nine pollutants in sewage sludge that is land applied, and requires pre-notification to EPA and permanent tracking of cumulative pollutant loadings if levels exceed the monthly average pollutant concentration.

4. 40 C.F.R. 503.16 requires that pollutants be monitored at least 4 times per year when between 290 and 1500 dry metric tons are land applied.

5. 40 CFR 503.32 requires that sewage sludge that is land applied meet pathogen reduction requirements, and refers to several methods for demonstrating pathogen reduction. "Class A" pathogen reduction must be met if above ground food crops are grown within one year of application, or in areas where there will be high public access within a year. Class B pathogen reduction must be met if sewage sludge is applied for growing non-food crops, and in areas of low potential for public access. There are several other site and harvesting restrictions if Class B sewage sludge has been applied. 40 CFR 503.12 requires that the preparer (GWA) inform the persons applying the sewage sludge and the land owners where the sewage sludge is applied of all pertinent site and harvesting restrictions.

6. 40 CFR 503.33 requires that sewage sludge meet one of 10 listed vector attraction reduction requirements.

7. 40 CFR 503.14 requires that sewage sludge be applied at an agronomic rate, i.e. a rate designed to provide the amount of nitrogen needed by the crop to be grown, while minimizing the amount of nitrogen passing below the root zone to groundwater.

8. A "Person" is an individual, corporation, partnership, association, State, municipality, commission, or political subdivision of a State, or any interstate body. CWA section 502(5), 33 U.S.C. §1362(5).

9. "Publicly owned treatment works" ("POTW"), is a treatment works treating domestic sewage that is owned by a municipality or a state. 40 CFR 501.2.

10. A "Person who prepares sewage sludge" is either the person who generates sewage sludge during the treatment of domestic sewage in a treatment works or the person who derives a material from sewage sludge. 40 CFR 503.9(r).

11. In its 2006 annual report, GWA reported that it prepared 1046 metric tons of sewage sludge (100% dry weight basis) in 2006.

12. GWA stated in the annual report that 1046 dry metric tons of its sewage sludge had been land applied in 2006, to sites owned by the Archdiocese of Guam, Pete Concepcion, Carlos Atoige, Roque S. Calvo, and Mr. Blas, for fertilizing above ground fruits, trees, and bushes.

13. GWA did not provide any monitoring results for the nine pollutants for which limits are set and monitoring required: arsenic, cadmium, copper, lead, mercury, molybdenum, nickel, selenium, and zinc.

14. GWA did not provide a demonstration of Class B pathogen reduction. To achieve Class B pathogen reduction, generally either anaerobic digestion (for at least 15 days at 95 degrees F), air drying for at least three months, or treatment with lime to raise the pH to greater than 12 for at least two hours is needed. Based on the information in the annual report, none of these methods were used, nor was Class B

demonstrated by showing that the geometric mean of seven fecal coliform samples is less than 2,000,000 mpn/gram, 100% dry weight basis.

15. GWA did not provide a demonstration that Class B site and harvesting restrictions had been met; i.e. that no food crops were grown, no animals were grazed for at least one month following application, and there was no public access to the sites.

16. GWA did not provide a demonstration of Class A pathogen reduction, which is required if food products that can come in contact with the sewage sludge are grown, or if there is access by the general public to the site. Class A is demonstrated by using a Process to Further Reduce Pathogens such as composting for at least 15 days at greater than 131 degrees F or thermophilic anaerobic digestion at specified times and temperatures, and by showing that fecal coliform levels are less than 1000 mpn/g, or by monitoring to show that enteric viruses and viable helminth ova have been reduced to non-detectable levels and that fecal coliform levels are less than 1,000 mpn/gram.

17. GWA did not provide a demonstration of vector attraction reduction. Generally, vector attraction reduction is met by anaerobic digestion to achieve greater than 38% volatile solids reduction, by air drying to achieve greater than 90% solids (in cases where the treatment plant does not have a digester), or incorporating the sewage sludge into the soil within six hours.

18. GWA did not demonstrate that the sewage sludge had been applied at an agronomic rate. GWA did not provide monitoring results for organic nitrogen or ammonium-nitrogen, which are needed in order to calculate plant available nitrogen, did not provide the target plant available nitrogen for the vegetation to be fertilized, and did not provide a calculation of what the agronomic rate for this vegetation would be.

19. GWA is a person under CWA section 502(5), 33 U.S.C. §1362(5).

20. GWA is a "person who prepares sewage sludge," under 40 CFR 503.9(r).

21. By failing to meet the requirements in 40 C.F.R. 503 Subpart B for land application of sewage sludge, Respondent has violated Section 405(e) of the Act, 33 U.S.C. §1345(e).

ORDER

Based on the foregoing FINDINGS OF VIOLATION and pursuant to the authorities of CWA sections 308 and 309(a) of the Act, 33 U.S.C. §§1318 and 1319(a), it is hereby ORDERED:

1. GWA shall cease all land application of sewage sludge and prior to any future land application of sewage sludge, GWA shall submit a plan to EPA for approval. This plan shall include monitoring results for regulated pollutants, description of pathogen reduction, description of vector attraction reduction, calculation of agronomic rate for the crop or vegetation to be grown, and a description of how site and harvesting restrictions will be met.

2. Within five calendar days of receipt of this Order, GWA shall notify the owners of the sites that received sewage sludge in 2006 of the public access restrictions and harvesting restrictions for sewage sludge that has not received Class A pathogen reduction. The owners must be notified in writing, with a

copy of the letter submitted to EPA.

3. GWA shall develop a representative sampling plan for monitoring the North District Sewage Treatment Plant dewatered sewage sludge to determine current quality of sludge generated at the plant with respect to the nine pollutants regulated in 40 CFR 503. The plan should also include sampling of any sludges from other wastewater treatment plants that are received by the Northern plant for processing and distribution. The plan shall be submitted to EPA within 30 calendar days of receipt of this order, and upon approval, sampling shall be performed and results reported to EPA within 60 calendar days of receipt of the approval. Analyses must be performed using the methods in SW-846, and all results reported on both a wet-weight basis and 100% dry weight basis.

4. GWA shall develop a representative sampling plan for monitoring the North District Sewage Treatment Plant sewage sludge for fecal coliform. The plan shall be submitted to EPA within 30 calendar days of receipt of this letter and upon approval, sampling shall be performed and results reported to EPA within 30 calendar days of receipt of the approval. Analyses must be performed using the methods in Standard Methods 9221E, and results reported on both a wet-weight basis and 100% dry weight basis. Samples must be analyzed within six hours of being collected.

5. GWA shall submit a representative sampling plan for monitoring Total Kjeldahl nitrogen and ammonium nitrogen in the dewatered sewage sludge. The plan shall be submitted to EPA within 30 calendar days of receipt of this letter, and upon approval, sampling shall be performed and results reported to EPA within 60 calendar days of receipt of this letter.

6. GWA shall submit a report to EPA within 30 calendar days of receipt of this letter with the following information:

- a) the dates on which sewage sludge was land applied in 2006, and any dates in prior years, between 1993 and 2006, on which sewage sludge was land applied,
- b) the location of each site where sewage sludge was applied in 2006 or earlier years, including a street address and a map showing the location,
- c) the size in acres of each site to which sewage sludge was applied in 2006 or earlier years,
- d) the person(s) who applied the sewage sludge,
- e) the volume of sewage sludge applied to each site (in tons, on wet-weight basis and 100% dry weight basis),
- f) the method of application, i.e. what equipment was used, whether the sewage sludge was spread on the surface or incorporated,
- g) the crop or vegetation grown on each of the sites receiving sewage sludge, with dates and volumes of harvests if the crops were harvested,
- h) a statement from the Guam agricultural commissioner on what is the target plant available nitrogen for the vegetation grown on this site,
- i) a calculation of the plant available nitrogen applied to each of these sites,
- j) a description of likelihood for public access to each of these sites, and what public access restrictions are in place,
- k) any changes in influent sources or sewage sludge processing changes that would change the quality of the sewage sludge with respect to pollutants or pathogens between the beginning of 2006 and the sampling dates of the sampling performed pursuant to items 3, 4, and 5 above, and
- l) any payments received from, or made to, the land owners and/or farmers who received the sewage sludge for land application and the person(s) who applied the sewage sludge.

7. All submissions required by this Order shall be mailed to:

U.S. Environmental Protection Agency
Attn: Michael Lee
Office of Pacific Islands (CED-6)
75 Hawthorne St.
San Francisco, CA 94105-3901

8. All submittals required under this Order shall include the following certification signed by Respondent or Respondent's duly authorized representative:

I certify under penalty of law that this document and all attachments were prepared by direct supervision or in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of those who manage the system or are directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

9. This Order is not a permit under the CWA, and does not waive or modify Respondent's obligations and responsibility to ascertain and comply with all applicable federal, state or local laws, regulations, ordinances, permits or licenses.

10. EPA has promulgated regulations to protect the confidentiality of the business information it receives at 40 C.F.R. Part 2, Subpart B. A claim of business confidentiality may be asserted in the manner specified by 40 C.F.R. 2.203(b) for part or all of the information requested. EPA will disclose business information covered by such a claim only as authorized under 40 C.F.R. Part 2, Subpart B. If no such claim accompanies the business information at the time EPA receives it, EPA may make it available to the public without further notice. Respondent may not withhold from EPA any information on the grounds that it is confidential business information.

11. This requirement of information is not subject to review by the Office of Management and Budget ("OMB") under the Paperwork Reduction Act because it is not a "collection of information" within the meaning of 44 U.S.C. §§3502(3). It is directed to fewer than ten persons and is an exempt investigation under 44 U.S.C. §3518(c)(1) and 5 C.F.R. 1320.4(a)(2).

12. This Order shall be binding upon Respondent, and Respondent's officers, directors, agents, servants, employees, heirs, successors and assigns.

13. Issuance of this Order shall not be an election by EPA to forego any remedies available to it under the law, including without limitation any administrative, civil, or criminal action to seek penalties, fines, or other appropriate relief under the Act. EPA reserves all rights and remedies, legal and equitable, available to enforce any violation cited in this Order and to enforce this Order.

14. CWA Section 309(a), (b), (d) and (g), 33 U.S.C. § 1319(a), (b), (d) and (g), provides

administrative and/or civil judicial relief for failure to comply with the CWA. Section 309(c) of the Act, 33 U.S.C. §1319(c), provides criminal sanctions for in the negligent or knowing violations of the CWA, and for knowingly making false statements

15. This Order shall become effective upon the date of receipt by Respondent.

April 6, 2007

Date

**<Original signed by
Nancy Woo for>**

Alexis Strauss, Director
Water Division
U.S. Environmental Protection Agency
Region IX