

US EPA ARCHIVE DOCUMENT

January 14, 2009

**Fact Sheet on U.S. EPA's Tentative Decision on the renewal of CWA 301(h)  
variance for Tafuna Sewage Treatment Plant**

**I. ACTION**

The U.S. Environmental Protection Agency (USEPA) is issuing a Tentative Decision Document (TDD) to deny an application from the American Samoa Power Authority (ASPA) for renewal of its variance from full secondary treatment under section 301(h) of the Clean Water Act (CWA) for its ocean discharge from the Tafuna Sewage Treatment Plant. USEPA has tentatively concluded this treatment plant does not qualify for a renewed variance. A public comment period on this TDD is being held through March 6, 2009.

**II. FEDERAL WASTEWATER TREATMENT REQUIREMENTS**

Across the United States, municipal wastewater treatment plants receive and treat sewage and other wastewater collected from homes, businesses, and industries. These plants are designed to treat wastewater prior to reuse or discharge to streams, oceans, or the ground. There are two basic stages in the treatment of municipal wastewater: **primary** and **secondary treatment**, although more advanced treatment (known collectively as 'tertiary') is becoming increasingly common.

Primary treatment screens out large objects (such as rags), removes grit (such as cinders, sand and small stones), and allows the wastewater to settle (where objects that float, such as sticks, are skimmed off the surface, and materials that sink are removed from the bottom). When secondary treatment is used, wastewater receives primary treatment and is then exposed to microorganisms (such as bacteria). Different biological treatment techniques allow the microorganisms to consume most of the waste's organic matter. The microorganisms are then removed prior to discharge.

In 1972, Congress passed the Federal Water Pollution Control Act amendments, which required Publicly Owned Treatment Works (POTWs) to achieve secondary treatment by 1977. In 1977, Congress added section 301(h) to the Clean Water Act (CWA), which allowed the USEPA, on a case-by-case basis, to grant variances from secondary treatment requirements to POTWs discharging into marine waters.

The CWA specifies criteria the discharger must meet to receive a variance from secondary treatment under section 301(h) of the CWA. These criteria include requirements to:

- Attain or maintain water quality that allows recreational activities in and on the water;
- Attain or maintain water quality that allows protection and propagation of a balanced indigenous population of shellfish, fish, and wildlife;
- Meet water quality standards (or federal guidance values for pollutants without standards);
- Establish a monitoring program to assess impacts;
- Provide a minimum of primary or equivalent treatment;

- Have an approved pretreatment program and establish toxics controls, and;
- Protect water supplies.

When USEPA concludes that an applicant for a 301(h) variance meets the CWA’s criteria, USEPA may issue a permit that allows an ocean discharge at less than full secondary treatment.

### III. THE TAFUNA SEWAGE TREATMENT PLANT

The Tafuna Sewage Treatment Plant (Tafuna STP) is a primary treatment plant located in Fogagogo on Tutuila Island in American Samoa. The plant receives wastewater from Pago Pago International Airport, a non-industrial business park, and several nearby residential areas within the Tafuna Plains region of the island. The plant currently serves a population of 12,000 people. Future system expansions on the collection system are expected to provide service to approximately 20,000 people in the Tafuna Plains area by 2012.

Map 1: Location of Tafuna STP (also known as Fogagogo Treatment Plant)



The Tafuna STP discharges into the South Pacific Ocean southeast of the airport, through an outfall that ends approximately 1,562 feet offshore and 94.5 feet below the surface. The daily flow through the outfall averaged 1.83 million gallons per day (MGD) in 2003 and roughly 2 MGD in 2005, though flow is projected to increase to an average of 3 MGD by 2011.

The Tafuna STP is currently operating under a permit USEPA issued in September 1999. This permit contained a 301(h) variance allowing for less than full secondary treatment. In May 2004, ASPA applied for a renewal of this permit, including a renewal of the 301(h) variance.

#### IV. USEPA'S REVIEW OF ASPA'S APPLICATION FOR 301(h) VARIANCE RENEWAL

USEPA's review of ASPA's application for a renewed variance from full secondary treatment included examining data provided by ASPA on the actual wastewater discharged. This evaluation took into account ASPA's data on the treated wastewater at the Tafuna STP before it enters the outfall pipe, and ASPA's data collected in the open coastal waters in the vicinity of the Tafuna STP outfall.

Based on its review, USEPA has tentatively concluded that the proposed discharge from the Tafuna STP will not meet several of the CWA 301(h) criteria. USEPA's findings include the following:

- ASPA has not demonstrated that the discharge is consistently able to meet water quality standards that protect recreational activities in and on the water;
- ASPA has not demonstrated that the discharge is consistently able to meet water quality standards that are protective of marine life; and
- The applicant has not developed a program to control toxic pollutants from non-industrial sources.

Some of the most significant issues concerning the Tafuna STP's failure to meet the section 301(h) criteria are described below.

##### A. Failure to Protect Recreational Activities

The water quality standards set by American Samoa Environmental Protection Agency (ASEPA) establish a maximum permissible level of bacteria in water to protect recreational users from gastrointestinal diseases. To evaluate whether the Tafuna STP discharge meets water quality standards supporting recreational activities, USEPA compared levels of bacteria found by ASPA in the vicinity of the outfall to the recreational use criteria set by ASEPA. As the bacteria levels routinely exceed the criteria, USEPA determined the wastewater discharge from the Tafuna STP is not protective of recreational activities, a use designated for protection in this area by ASEPA.

##### B. Failure to Protect Marine Life

USEPA reviewed the data submitted by ASPA on the levels of pollutants in the ocean near the Tafuna STP outfall and found the ocean water often failed to meet water quality standards set by ASEPA to protect marine life, including standards for dissolved oxygen, turbidity, nitrogen, and phosphorus. Marine life 'breathes' oxygen dissolved in the water; the amount in the water often failed to meet the ASEPA standard for dissolved oxygen. Turbidity is a measure of the 'cloudiness' of the water; the water surrounding the outfall often exceeded the ASEPA standard. Nutrients such as nitrogen and phosphorus can stimulate excessive growth of algae. The water surrounding the discharge frequently contained levels of nutrients above ASEPA standards.

USEPA also reviewed data submitted by ASPA on tests conducted on the treated wastewater to determine whether or not release of that wastewater to the ocean could have a toxic effect on marine life. The results showed that toxicity has been observed and is predicted to occur frequently if a variance were issued.

## **V. CONCLUSION AND NEXT STEPS**

USEPA, upon review of ASPA's application for a renewed variance from full secondary treatment at the Tafuna STP, has tentatively concluded the CWA 301(h) criteria have not been met. USEPA's TDD documenting this conclusion can be found on the USEPA Region 9 website <http://www.epa.gov/region09/water/npdes/pubnotices.html>, and is available for public comment through March 6, 2009. USEPA will schedule a public hearing to take comment on this proposed action at a time based on community input. At the completion of this public comment period, USEPA will consider all public comments before making a final decision on whether the Tafuna STP meets the criteria for receiving a renewed variance from full secondary treatment requirements.