WESTERN PACIFIC REGIONAL FISHERY MANAGEMENT COUNCIL

Environmental Assessment

Fishing Vessel Fuel Storage Project
Manu'a Islands, American Samoa

Sustainable Fisheries Fund
Western Pacific Regional Fishery Management Council

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Abstract:
This Environmental Assessment (EA) analyzes a range of alternatives and resulting potential impacts for the Western Pacific Regional Fishery Management Council's funding of fuel storage facilities in the Manu'a Islands, American Samoa. The Manu'a Islands (Ofu, Olosega, Ta'u) currently lack fuel storage to support local vessels, which restricts fleet range and participation in offshore fisheries. The proposed action would be to fund the procurement of four transportable 500 gallon fuel tanks on Ofu and four transportable 500 gallon tanks on Ta'u.

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Chapter 1: Introduction

1.1 Responsible Agencies

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1.2 Purpose and Need

The Manu'a Islands (Ofu, Olosega, Ta'u) currently lack fuel storage to support local fishing vessels, which restricts fleet range and participation in offshore fisheries. Currently, some Manu'a Islands fishermen transport their own fuel in drums or other small containers on the inter-island ferry between Tutuila and the Manu'a Islands. This practice poses safety hazards and is burdensome for fishery participants. This fuel storage project was identified in the American Samoa Marine Conservation Plan (MCP) as a project to support fisheries development and address the lack of fishing vessel fuel storage in the Manu'a Islands.

1.3. Proposed Action

To support fisheries development in the Manu'a Islands, American Samoa, the Western Pacific Regional Fishery Management Council, in coordination with the American Samoa government, is proposing to use funding from the Sustainable Fisheries Fund to fund the procurement of high quality, transportable fuel storage tanks on Ofu and Ta'u. After procurement and delivery of the fuel tanks to Tutuila, the American Samoa Department of Marine and Wildlife Resources will administer the fueling and transportation of the tanks to and from the Manu'a Islands. The tanks will be stored in fenced, open air shelters owned by the American Samoa government. Fuel dispensation will be conducted by trained DMWR personnel and available only to the fishing community in the Manu'a Islands for vessel fuel only.

1.4 Agencies Consulted, Approvals and Authorizations

The Council has been working in close coordination with the American Samoa government's Department of Marine and Wildlife Resources (DMWR), Department of Public Works, and other government agencies such as the American Samoa Environmental Protection Agency. Approval has been provided by American Samoa's Project Notification Review System board which membership includes the following;

a. American Samoa Coastal Management Program;
b. American Samoa Environmental Protection Agency;
c. American Samoa Historic Preservation Office;
d. American Samoa Power Authority;
e. American Samoa Department of Health;
f. American Samoa Department of Marine and Wildlife Resources;

g. American Samoa Department of Parks and Recreation; and
h. American Samoa Department of Public Works

The ASPNRS board reviews projects for consistency with applicable federal and territory laws and approves/disapproves projects based on this review.

1.5 Background Information

The Manu'a Islands are located approximately 65 miles to the east of Tutuila (Figure 1). The Manu'a Islands (and Swain's Island) are characterized by very different demographic and employment trends than the main island of Tutuila. While the combined population of these islands totals less than three percent of American Samoa's total population, the islands still hold a unique status from the point of view of a "fishing community." On the Manu'a Islands, over forty percent of the population (over 16 years) engages in subsistence fishing activities. Kilarski et al. (2005) found the level of subsistence fishing on Olosega (one of the Manu'a islands) to be the highest of all villages surveyed in their study on American Samoa.

Currently, there are 9 fishing vessels on Ta'u and 5 fishing vessels on Ofu. It is estimated that four transportable 500 gallon gasoline storage tanks will meet the current needs for vessels based at Ta`u (9 active small-scale vessels) and three transportable 500-gallon gasoline storage tanks for vessels based at Ofu (5 active small-scale vessels); however a fourth tank for Ofu is recommended to accommodate any additional vessels. Transportable fuel tanks on trailers are recommended allowing tanks to be filled on Tutuila and delivered back to Ofu or Ta`u on the inter-island ferry.

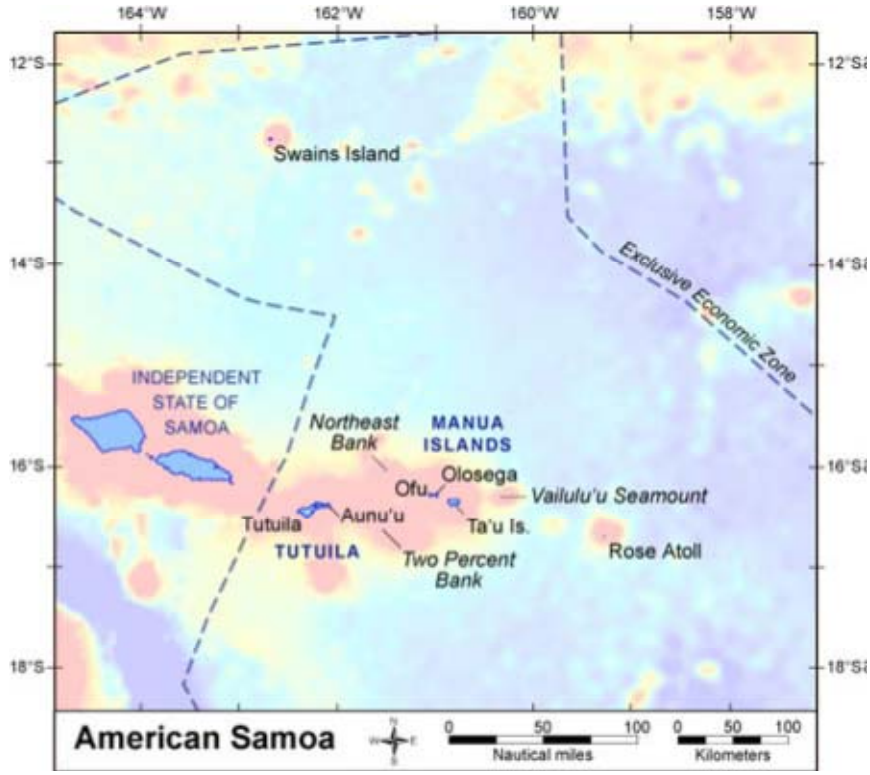

Figure 1: Map of American Samoa
Source: AS Archipelago FEP (WPFMC 2009)

Chapter 2: Description of the Alternatives

2.1 Alternative 1- No Action

Under this alternative, the Council would not fund the procurement of any fuel storage tanks for the Manu'a Islands.

2.2 Alternative 2- Establish Fuel Storage Capacity at Ofu and Ta'u (Preferred)

Under this alternative, the Council would fund the procurement of fuel storage tanks on Ofu and Ta'u. Each location would be equipped with four transportable 500 gallon tanks on trailers and with hand cranked pumps. The tanks will be equipped with the following specifications:

- Tanks are rectangular double wall design
- Air testable 100% secondary containment
- Primary inner tank constructed from Type 1 aluminized steel
- Tanks to have internal anti-surge baffles
- Six (6) NPT-F plugged top openings (5-2" & 1-4")
- Secondary containment tank constructed from carbon steel
- 2" transport padlockable fill cap and 2" flame arrestor (designated normal vent device)
- Factory installed 4" transport type spring actuated emergency pressure relief vent
- Exterior painted two-component white polyurethane top coat
- Labeled in accordance with OSHA & NFPA requirements
- 6" NPT-F PVC plugged inspection/clean-out opening
- Four (4) rotary hand pumps with dial face counter, padlockable handle and male/female KAMLOCKs
    - quick disconnect tank couplings
- Hand crank tongue jack
- Four (4) hold-down lugs
- Two (2) safety chains

All materials used including the tanks, trailer, and pump will be manufactured with appropriate controls to meet National Fire Protection Association (NFPA), US Environmental Protection Agency (EPA), and American Petroleum Institute (API) standards for gasoline storage. See Attachments 1 and 2 for approved operation plan and EPA Spill Prevention, Control, and Countermeasure Plan for this project. The tanks would be stored in secure structures owned by the American Samoa government and accessible to only authorized personnel.

Reasons for Choosing the Preferred Alternative

The reasons for choosing Alternative 2 (Establish Fuel Storage Capacity at Ofu and Ta`u) are that this action could greatly assist local small-vessel fisheries in providing consistent access gasoline in safe environment near the main harbors. Consistent access to fuel may also promote sustained participation in offshore fisheries which is compatible with the present lifestyle of the Manu`a Islands, whereby residents are reliant on locally caught fish for their daily nutrition. Moreover, this project will also promote community resiliency and promote food security in the

Manu'a Islands by facilitating enhanced access to quality fuel, which is a necessity when conducting engine powered offshore fishing.

Figure 2: Sample picture of 500 gallon transportable fuel tank
Source: Safe-T-Tank Inc.

Operation plan under Alternative 2

After manufacture and delivery of the tanks to Tutuila, the tanks will be filled with gasoline at a commercial station near Pago Pago Harbor and transported using the attached trailers by truck to the nearby inter-island ferry terminal. The tanks will be moved on to the inter-island ferry, *MV Sili*, which is 157 foot supply ship that makes weekly trips between Tutuila and the Manu'a Islands. Four tanks will be offloaded in Ofu and trucked approximately 200 yds to a fenced covered shelter area owned by the American Samoa government. On Ta'u, four tanks will be offloaded trucked approximately 200 yds to a fenced covered shelter area owned by the American Samoa government. On both islands, the storage areas will be open air, roofed structures with security fences and accessible only by authorized personnel. Fishermen will provide their fuel containers to authorized, trained personnel for filling. Using a hand drawn rotary pump mounted on the storage tank, individual containers (10-20 gallons) will be slowly filled to 80% capacity over small platform containing sorbent material at its base. It is predicted that one fuel tank per week will be transported from both Ofu and Ta'u to Tutuila and back on the inter-island cargo ferry. During inter-island transit, the tanks will be securely fastened to the deck of the ferry.

Spill PreventionControl and Countermeasure Plan

The US Environmental Protection Agency requires a Spill Prevention, Control, Countermeasure (SPCC) plan that has been approved by the local American Samoa EPA office. In that plan, there are approved contingencies related to a potential spill including:

(1) Specification of an oil discharge response operating team consisting of trained, prepared and available operating personnel.
(2) Predesignation of a properly qualified oil discharge response coordinator who is charged with the responsibility and delegated commensurate authority for directing and coordinating response operations and who knows how to request assistance from Federal authorities operating under existing national and regional contingency plans.
(3) A preplanned location for an oil discharge response operations center and a reliable communications system for directing the coordinated overall response operations.
(4) Provisions for varying degrees of response effort depending on the severity of the oil discharge.
(5) Specification of the order of priority in which the various water uses are to be protected where more than one water use may be adversely affected as a result of an oil discharge and where response operations may not be adequate to protect all uses.
(6) Specific and well defined procedures to facilitate recovery of damages and enforcement measures as provided for by State and local statutes and ordinances.

Alternatives considered but eliminated from further detailed analysis

Establish Fuel Storage in only one location in the Manu'a Islands. This alternative was not considered in further detail because both islands face similar fuel storage needs. In addition, the distance between Ta'u and Ofu is approximately 13 miles, port to port, over a deep channel that is often rough. This distance and variable water conditions is not conducive to regular trips between islands for small vessel refueling.

Chapter 3: Affected Environment

3.1 American Samoa

American Samoa is part of the Samoan Islands chain, located west of the Cook Islands, north of Tonga and south of Tokelau. It is an unincorporated territory of the United States located in the South Pacific Ocean southeast of the sovereign state of Samoa (formerly known as Western Samoa).

Approximately 2,610 miles south of Hawaii, American Samoa is the southernmost of occupied U.S. territories. At latitude 169-170 degrees W, longitude 14 degrees S, American Samoa is comprised of seven islands, five of which are inhabited: Tutuila, Aunu`u, Ofu, Olosega and Ta`u. The island of Tutuila is the territory's center of government and business. The territorial capital is Pago Pago, located on Tutuila. In 2008, the population was estimated at 66,447, 95 percent of whom reside on Tutuila Island. In 2000, 45 percent of the total population of American Samoa was younger than 18. From 1970 to 2008, the population of American Samoa increased by almost 40,000, with the majority of this increase occurring in the western district of Tutuila.

Virtually all of the remaining population lives on the islands of Manu`a. A few people reside on Swains Island. In 2000, 29 percent of the civilian population 16 years of age and over was employed. Of the 9,349 occupied housing units in American Samoa in 2000, 40 percent contained 7 or more persons.

The tropical climate is moderated by oceanic trade winds and frequent rains. Temperatures are remarkably constant throughout the year. Daily lows average about 68 degree F (20 degrees C) and afternoon highs reach about 90 degrees F (32 degrees C). The relative humidity is almost always high. Except for the atolls of Swains and Rose, the islands are rocky, formed from the remains of extinct volcanoes. Central mountain ranges dominate the landscapes of Tutuila and the islands of Manu`a.

Only about one-fifth of the total land area of American Samoa is arable and half of the arable land is under permanent cultivation. Agricultural production is primarily used for domestic consumption. Many food products are imported. Considering that only approximately 30 percent of the land area is suitable for human habitation (< 30 percent slope) and most of that is along the coastline, there is great concern about the effects that increasing population density may have on American Samoa.

Samoan people dominate the population of American Samoa (91.6 percent). The Samoans are part of a Polynesian people, closely related to other Polynesians in the central Pacific. Most Samoans speak English as well as Samoan. People born in American Samoa are American nationals (who may not vote in U.S. presidential elections) but are not American citizens unless one of their parents is a U.S. citizen. Thousands of American Samoa residents have migrated to Hawaii and the continental U.S. However, American Samoans are entitled to free and unrestricted entry into the United States. The primary language spoken in the home is Samoan (90 percent), followed by other languages (8 percent) and English (two percent).

Of the total population, 57 percent were born in American Samoa, 31 percent were born in neighboring Samoa and six percent were born in the United States. The remaining population was born in Tonga, other Pacific islands and Asia. Villages having the highest percentage of American Samoa-born individuals were Leusoalii (91 percent) and Sili (90 percent) in the Manu'a District.

Tuna processing/canning is the most important economic activity in American Samoa. In the 1950s, tuna canneries were built in American Samoa. Since then, tuna canning has dominated the economic life of the territory. In 2004, GDP (Gross Domestic Product) of American Samoa was $500 million. Of this total, $446 million was attributed to two tuna canneries which include canned tuna and by-products such as fish meal and pet food. In 2004, the canneries accounted for 56 percent of the territory's total imports and 93 percent of the territory's total exports.

About 5,000 people from American Samoa, Samoa and Tonga work for the canneries. The tuna canned in American Samoa goes to the U.S. market, where products from American Samoa enter duty-free. For many years, the U.S. government through the "IRS Code Section 936" provided tax credits to the canneries. This exemption was extended until recently.

In 2007, the Fair Minimum Wage Act of 2007 was passed, increasing minimum wage in American Samoa by $0.50 per hour. In response to the minimum wage increase, one of the two major tuna canning plants in American Samoa was shut down in 2009 and 2,000 employees were laid off in the process.

Pago Pago is an important mid-Pacific stopover site for passenger airplanes. The government is financed by local revenues, funding from the U.S. Department of the Interior and special-purpose grants from the U.S. government. The U.S. is the source of the vast majority of imports. The major imports include food, petroleum products, machinery and clothing. Most of the paved and unpaved roads are located on Tutuila. An international airport is located on Tutuila and smaller airports operate from Ta`u and Ofu islands. Pago Pago is a major port.

On September 29, 2009, an 8.0 magnitude earthquake struck off the coast of American Samoa. Four waves were generated in an associated tsunami and at least 150 people were reported to have been killed in American Samoa and Samoa.

It is generally believed that the Samoan Islands were originally inhabited as early as 1000 BC. Samoa was not reached by European explorers until the eighteenth century. The Manu`a Islands of American Samoa have one of the oldest histories of Polynesia, in connection with the Tui Manu`a title, connected with the histories of the archipelagos of Fiji, Tonga, the Cook Islands, Tokelau and elsewhere in the Pacific – all of which had once been under Manu'a`s occupation.

The pre-western history of Eastern Samoa (now American Samoa) is inextricably bound with the history of Western Samoa (now independent Samoa). It can be said that all of the Samoa islands are politically connected through the *fa'amatai* chiefly system and through family connections. This system of the *fa'amatai* and the customs of fa'asamoa originated with two of the most famous early chiefs of Samoa, who were both women and related, Nafanua and Salamasina.

Traditional village politics of the Samoa islands, the *fa`amatai* and *fa`asamoa* continues in American Samoa and in independent Samoa, which interact across the current national boundaries. The Fa`asamoa" is the language amd customs and the "Fa`amatai" the protocols of the *fono* (council) and the chiefly system. The Fa`amatai and the Fono take place at all levels of the Samoan body politic, from the family, to the village, to the region, to national affairs. The *matai* (chiefs) are elected by consensus within the fono of the extended family and villages concerned. The matai and fono (which is itself made of matai) decide on the distribution of family exchanges and tenancy of communal lands. The majority of lands in American Samoa and independent Samoa are communal. A matai can represent a small family group or a great extended family that reaches across islands and to both American Samoa and independent Samoa.

During World War II, the Samoan islands acquired strategic importance and infrastructure projects were undertaken. Roads, airport, docks and medical facilities were built.

After World War II, the U.S. Department of the Interior sponsored an attempt to incorporate American Samoa that was defeated in Congress, primarily through the efforts of Samoan chiefs, led by Tuisasosopo Mariota. These chiefs' efforts led to creation of a local legislature, the American Samoa Fono. In time, the Navy-appointed governor was replaced by a locally elected one. Although technically considered "unorganized," in that the U.S. Congress has not passed an Organic Act for the territory of American Samoa.

3.2 Manu`a Islands

The three islands that formed the volcanic Manu`a group are Ofu (7 sq. km), Olosega (5 sq. km) and Ta'u (46 sq. km). The Manu`a islands are situated 110 km (70 mi) east of Tutuila. These are high islands, volcanic remnants rising out of the sea. The population of these islands has been decreasing steadily for decades. In the 1930s, some 20 percent of American Samoa lived in the Manu`a Islands. By the 1980s, only 6 percent were located there. Emigration is the consequence of a lack of economic opportunities and a desire of young people to participate in the more modern lifestyle offered on Tutuila (Office of Tourism 2005). Populations in the three villages there are small (505 people total) and declining (-1 percent/year (ASDOC 2005), as villagers move to Tutuila for jobs or schooling. Lifestyles in the outer islands remain somewhat more traditional than on Tutuila. The islands are serviced by small aircraft and a weekly supply boat. All of the land on Manu`a is owned by Samoan families of Manu`a. Even the National Park lands are communally owned by Samoan families and only leased to the U.S. National Parks system.

Many families of Manu`a continue to rely on income from family members working in Tutuila and in the United States. The local diet is generally healthier than in Tutuila, with less reliance on imported American and New Zealand tinned foods and a greater reliance on local fishing and farming.

Fishing by villagers consists primarily of shore-based activities by individuals or groups. The few operating boats are used for nearshore and offshore bottomifsh and pelagic fishing. As

common in the South Pacific, men conducted most fishing activities but women participated in gleaning the reef (hand-picking invertebrates) and fish weir efforts.

History of Manu`a Islands

In ancient times, Manu`a was a center of a vast Polynesian empire stretching from Wallis and Futuna, Fiji, Tonga to Niue, Tokelau and Cook Islands. At the realm of this western Polynesian sphere was the powerful Tui Manu`a ruler who was proclaimed to have divine status, being the son of the supreme god Tagaloa. Eventually, after many power struggles, the influence of the Tui Manu`a would only be confined to the Samoan archipelago. The people of Manu`a speak the Samoan language and utlize the "t," pronouncing it in the traditional manner, almost like a "d," sometimes spelling it with a d."

The traditional capital of Manu`a is the village of Ta`u on the island of Ta`u. The Manu`a Group was ceded to the U.S, in a Deed of Cession, signed by the Tui Manu`a on July 16, 1904 (Office of the Governor 2004). Cession followed the Tripartite Convention in 1899 that partitioned the eastern islands of Samoa (including Tutuila and the Manu`a Group) from the western islands of Samoa (including `Upolu and Savai`i).

The history of Manu`a is said in Samoan oratory to contain the origins of Samoan and Polynesian culture and the genealogy of Polynesians east of Samoa is said to have originated in Manu`a. The traditional belief the sun rises over Samoa at Saua on the island of Ta`u and it sets at Falealupo, the westernmost village on the island of Savai`I in Samoa. This journey of the sun is strongly related to traditional beliefs and defines Samoa Sasae and Samoa Sisifo.

American Samoa became an unorganized U.S. territory in 1900. International treaties in the latter half of the 19th century were settled by an 1899 treaty in which Germany and the U.S. divided the Samoan archipelago. The U.S. Navy secured a Deed of Cession of Tutuila in 1900 and a Deed of Cession of Manu`a in 1904. The last governor of Manu`a, the Tui Manu'a Elisala, was forced to sign a Deed of Cession of Manu`a following a series of U.S. Naval trials, known as the "Trial of the Ipu."

The last Tui Manu`a was TuiManu'a`a Elisara of the early 20th century. This Tui Manu`a died on July 2, 1909. The title Tui Manu`a technically still exists, although there is no titleholder. The titles and estates of the Tuimanu`a remain under the custody of the Anoalo clan (male side of the Tuimanu`a line).

The title *Tui Manu`a* is considered the oldest chiefly title of the Samoa Islands and Polynesia.

The title Tu`i Manu`a is derived from the Manu`a Islands, three islands in the eastern part of the U.S. Territory of American Samoa, which according to the oral traditions of Samoa and archaeological evidence were the first islands settled in Polynesia. The Commandant and Naval Judge obtained a Cession of Tutuila from the chiefs almost immediately. However, the fonu of Manu`a and Tuimanu`a refused to immediately sign a Deeds of Cession for Manu`a. After Manu`a and Samoan ceremonial law was made subject to a U.S. Naval court, these trials effectively asserted U.S. sovereignty of the Tui Manu`a and Deeds of Cession were signed.

Ta`u, the largest and easternmost island of Manu`a, lies about 11 km southeast of Olosega, with a submarine volcano between the two. Eons ago, the south side of Ta`u collapsed, leaving dramatic 500-meter-high cliffs that rise directly from the southern sea. The entire southeast corner of Ta`u is included in the National Park of American Samoa, the largest of the park's three units. The land area of Ta`u Island is 44.31 sq. km (17.aa sq mi) and it had a population of 873 persons as of the 2000 census.

The island is the eroded remnant of a "hotspot" shield volcano with a caldera complex or collapse feature (Liu Bench) on the south face. The summit of the island, called Lata Mountain, is at an elevation of 931 m (3,054 ft), making it the highest point in American Samoa. The last known volcanic eruption in the Manu`a Islands was in 1866 on the submarine ridge that extends west-northwest towards Ofu-Oolsega.

Ofu, Olosega

The island of Ofu, about 3 square miles (7.7 sq km) in area (U.S. Army Engineer Division, Pacific Ocean. 1973) is the westernmost of the Manu`a Group and lies about 65 miles (100 km) east of Tutuila. The three islands of the Manu`a Group are separated from Tutuila by ocean depths exceeding 10,000 feet (3000 m) (Stice and McCoy 1968).

Both Ofu and the adjacent Olosega Island are the deeply-dissected remnants of what was once a single volcanic island, about 4 miles (6.5 km) wide from north to south and 6 miles (9.5 km) long from west to east. Ofu is roughly triangular in shape with steep terrain dipping to the coast. The sister islands resulted from a complex of volcanic cones subsequently buried by lava flows from two merging volcanic shields. One shield is centered at A`ofa on the northern coast of Ofu. Ofu and Olosega are separated by a shallow, 500-foot (150 m) wide strait (Asaga Strait) spanned by a bridge and causeway (Stice and McCoy 1968).

Ofu and Olosega are parts of a volcanic doublet in the Manu`a Group of the Samoa Islands. The twin islands, formed from shield volcanoes, have a combined length of 6 km. They are geographic volcanic remnants separated by the narrow 137 m wide Asaga strait, a natural bridge of shallow coral reef. Before 1970, one had to wade between the two islands at low tide. Now, a single-lane road bridge over the strait connects the villages on Ofu island with those on Olosega.

The highest peak on Ofu is Mt. Tumutumu (491 m), also referred to as Tumu and the highest elevation on Olosega is Mt. Piumafua (629 m). The most recent volcanic eruption took place in 1866, 3 km east of Oolosega.

Archaeology field work carried out in the 1980s yielded pre-historic evidence including ceramics, adzes, shell and bone which have been significant in furthering understanding of the ancient history of the Samoa Islands and Polynesia. This work focused on a site called To`aga, a 2 km coastal stretch on the south coast of Ofu. The results showed continuous human habitation of about 3,000 years.

Ofu is the western part of the volcanic outcrop of Ofu-Olosega islands. The main village of Ofu is located on the western shore, protected behind an offshore islet (eroded tuff tone) known as Nu`utele. Ofu has a small airport and a boat harbor that serve the population on Ofu and Olosega. Before regular airline service was discontinued in 2009, the flight from Pago Pago took about half an hour.

This island has a land area if 7.215 sq. km and an official population of 289 persons as of the 2000 census.

Situated on the south coast of the island is To`aga lagoon, which has a high diversity of coral and

Ofu Village

Ofu Village is the only settlement on Ofu Island. The principal mode of transportation to and from Ofu is by boat or small airplane. Previously, passengers and cargo had to be transferred from interisland vessels to small longboats in order to cross the fringing reef and reach shore. Salt water damage to cargo was frequent and lives were occasionally lost when longboats overturned. However, a harbor for small boats was completed north of Ofu Village. A small, government-owned airfield is located at the southwestern tip of the island. It was constructed by private interests in 1974 to serve light aircraft. A bridge was constructed across Asaga Strait to permit vehicular traffic between Ofu and Olosega (U.S. Army Engineer District, Honolulu, 1977. Road development is limited. The main road is an elementary, one-lane dirt road running parallel to the shoreline from Ofu Harbor around the southwestern tip of the island and along the southern coast to Fa`ala`aga Village. From here, the road crosses to the north coast and parallels the shoreline for a short distance to Asaga Strait (M&E Pacific 1978). The remainder of the northern coast is inaccessible by vehicle (Sea Engineering Services, Inc./R.M. Towill Corp.,1980). Sections of the road, especially between the airstrip and the village of Ofu, are subject to erosion and landslides during heavy rains (M&E Pacific 1978).

Ofu Harbor

Ofu Harbor, located north of Alaufau, is protected by a revetment (Sea Engineering Services, Inc./R.M. Towill. 1980). The floor of the basin and inner channel of Ofu Harbor is covered with fine, white sediment and clumps of fleshy algae. Marine life, especially corals, rapidly colonized harbor structures in the years following construction. Outer channel walls consist of coral limestone.

Visibility underwater is about 25 feet (8 m) inside the harbor, improving outside the harbor. Sediment accumulation appears to be confined to the harbor basin floor with little noticeable impact on adjacent reef flat areas (Wass 1979a).

Ofu Harbor allows shallow-draft vessels to land at Ofu. The entrance channel has a depth of 18 feet (5.5 m). Facilities include a berthing area for small craft and a large landing (Sea Engineering Services, Inc./R.M. Towill. 1980). The lighted basin and wharf are heavily used for night fishing by residents. Commonly caught within the basin at night are malau (squirrelfish)

and atule (bigeye scad) (Wass 1979a). Pole and line fishing takes place from the rocky harbor walls. Spearing is undertaken seaward of the harbor entrance.

Figure 2: Ofu Harbor

Olosega Island

Olosega Island is a remnant of the Sili shield volcano, the caldera of which may lie submerged off the north shore. The volcanic eruption of 1866 was actually 3 km east of Olosega on a submarine ridge that extends east southeast to nearby Ta`u.

This island has a land area of 5.163 sq. km (1.993 sq. mi) and had an official population of 216 persons as of the 2000 census.

There are two villages on Olosega: Olosega and Sili. Sili, situated on the northwestern-facing shore, now consists of one standing inhabited residence after much of the village was destroyed by cyclones and subsequently abandoned. Almost all the population of Olosega now resides in Olosega village along the southwestern-facing shore. Olosega village has the Olosega Elementary School with instruction through grade 9 for children on both Ofu and Olosega islands.

Ta`u Island

Ta`u Island, largest of the Manu`a Group, is about 6.5 miles (10 km) southeast of the sister islands of Ofu and Olosega. The island d is the northern half of the Mt. Lata shield volcano. The southern half and the original caldera have been entirely eroded away by waves and possibly by faulting. Ta`u covers an area of about 17 square miles (44 sq. km). The roughly rectangular-shaped island measures 6 miles (10 km) wide and 8 miles (13 km) long. Mt. Lata is over 3,000 feet high (Stice and McCoy 1968).

The summit of the original volcanic shield collapsed to form a caldera, and subsequent explosive eruptions from cinder cones within the caldera and on the northern flanks of the volcano continued to build up the island. The lavas forming Ta`u are believed to be relatively recent in age and are exposed in a spectacular 1,400-foot (425 m) high escarpment along the southern side of the island. This cliff was formed by the collapse of the caldera. Two, almost inaccessible, sloping plateaus are associated with this cliff-lined coast (Stice and McCoy 1968).

Ta`u Villages

Three settlements on the island of Ta`u include the Ta`u village complex extending from Lua to Fusi along the western coast, the village of Faleasao on the northwestern tip of the island, and Fitiuta on the northeastern tip (Sea Engineering Services, Inc./R.M. Towill Corp. 1980). The principal means of transportation to and from Ta`u is by inter-island vessel. A harbor to serve light-draft vessels was built near Matavai Point, close to the village of Fusi on the western coast of Ta`u harbor. (M&E Pacific 1978; U.S. Army Engineer District, Honolulu, 1974). A boat launching ramp is part of this harbor (MKGY/Yamamoto Inc. 1980).

A landing strip to accommodate light aircraft was constructed by private interests at an elevation of 185 feet (47 m) inland and north of the village of Luma in 1973 (MKGY/Yamamoto Inc. 1980; U.S. Army Engineer District, Honolulu, 1974). Road development is minimal on Ta`u, with a few miles of unpaved road connecting villages along the northwestern coast with Fitiuta at the northeastern corner of the island (U.S. Army Engineer District, Honolulu, 1974). An unimproved one-lane road provides vehicular transportation from Vaitele Point northward to Faleasao Village along the western coast of Ta`u. Access south of Vaitele Point is by foot only. Another road runs along the northern coast of the island from Ta`u and Si`ufaga Villages to Fitiuta amd Saua on the eastern coast. The road ends at Saua, but coastal areas to the south are accessible by a trail across coral rubble. Improvement of the road on the eastern side of Ta`u is expected to extend it to a point on the southern coast. Here, the road bed consists of crushed coral deposited by a tsunami in 1946 (M&E Pacific 1978). Sections of this road are subject to landslides and washouts (Haydon 1971).

Figure 3: Ta’u Harbor

3.3 Protected Species in American Samoa

Sea Turtles

The information regarding sea turtles in American Samoa has come from opportunistic tagging of turtles and from dead (stranded) turtles. Hawksbill and green turtles are the most common species found in local waters. There is one record of a leatherback turtle that was incidentally captured about five kilometers south of Swains Island and three records of olive ridleys (two dead and one live sighting; Utzurrum 2002). Hawksbill and green turtle populations have declined precipitously in American Samoa (Grant et al. 1997). Despite federal and territorial laws prohibiting the killing of sea turtles and an extensive education program, some sea turtles and eggs were harvested illegally in American Samoa (Grant et al. 1997). In addition to direct take of turtles and eggs, degradation of nesting habitat by coastal construction, environmental contaminants, and increased human presence are viewed as the major problems to the recovery of green and hawksbill turtle populations. Beach mining and beach erosion are also detrimental because the islands of American Samoa have very few beaches suitable for turtle nesting habitat. American Samoa's human population is one of the fastest growing of the Pacific Islands (USFWS and NMFS 1998a, 1998b), and the people of the Samoan Archipelago have traditionally harvested sea turtles for food and the shell. On the basis of recent surveys, the total number of nesting female sea turtles (hawksbill and green turtle species combined) is estimated to be approximately 120 (Utzurrum 2002).

Green Sea Turtle

The life cycle of the green sea turtle involves a series of long-distance migrations back and forth between their feeding and nesting areas (Craig 2002). In American Samoa, their only nesting area is at Rose Atoll. When they finish laying their eggs there, the green turtles leave Rose Atoll and migrate to their feeding grounds elsewhere in the South Pacific. After several years, the turtles will return to Rose Atoll to nest again. Every turtle returns to the same nesting and feeding areas throughout its life, but that does not necessarily mean that all turtles nesting at Rose Atoll will migrate to exactly the same feeding area.

Two green turtles with tagged flippers, and three that were tracked by satellite after nesting at Rose Atoll, were recovered in Fiji (Balazs et al. 1994). In addition, a green turtle with tagged flippers from Rose Atoll was found dead in Vanuatu less than one year later (G. H. Balazs 1994, cited in Grant et al. 1997).

Hawksbill Sea Turtle

Hawksbill turtles are most commonly found at Tutuila and the Manua Islands. They are known to nest at Rose Atoll and Swains Island (Utzurrum 2002).

Leatherback Sea Turtle

In 1993, the crew of an American Samoa government vessel engaged in experimental longline fishing pulled up a small freshly dead leatherback turtle about 5.6 kilometers south of Swains Island. This is the first leatherback turtle seen by the vessel's captain in 32 years of fishing in the waters of American Samoa. The nearest known leatherback nesting area to the Samoan Archipelago is the Solomon Islands (Grant 1994).

Olive Ridley Sea Turtle

Olive ridley turtles are uncommon in American Samoa, although there have been at least three sightings. Necropsy of one recovered dead olive ridley found that it was injured by a shark, and may have recently laid eggs, indicating that there may be a nesting beach in American Samoa (Utzurrum 2002).

Loggerhead Sea Turtle

In 2006, there were two interactions observed between loggerhead turtles and American Samoa-based longline fishing gear. This indicates that they do exist in the pelagic environment of the EEA around American Samoa. There are no records of loggerhead nesting in American Samoa.

Marine Mammals and Seabirds

Southern Pacific Humpback whales have been observed around Fagatele Bay National Marine Sanctuary between June and September. Moreover, sperm whales are occasionally seen in the Sanctuary and around Tutuila as well. Several species of dolphins also frequent the sanctuary waters. In addition, there are anecdotal observations of both false killer whales and short-finned pilot whales occasionally stealing bait and fish from American Samoa-based longline gear. There are no pinnepeds (i.e., seals and sea lions) known to occur in American Samoa.

Seabirds

Table 3-3 presents the seabirds found in American Samoa. Twelve species of migratory seabirds reside on Rose Atoll. The bristle-thighed curlew (*Numenius tahitiensis*) is a migratory species listed by the IUCN Red List Category as "Vulnerable" because of a small, declining population (estimated to be 7,000 birds worldwide). The primary threat is predation occurring on wintering grounds (BirdLife International 2009). This migratory shorebird resides on Rose Atoll in American Samoa. In addition, the Newell's shearwater is regarded as a visitor to American Samoa.

Table 1: Seabirds Known to Be Present Around American Samoa.

Common Name	Scientific Name
Resident Seabirds (breeding birds):	
Puffinus pacificus	Wedge-tailed shearwaters
Puffinus lherminieri	Audubon's shearwater
Puffinus nativitatis	Christmas shearwater
Pseudobulweria rostrata	Tahiti petrel
Pterodroma heraldica	Herald petrel
Pterodroma brevipes	Collared petrel
Sula sula	Red-footed booby
Sula leucogaster	Brown booby
Sula dactylatra	Masked booby
Phaethon lepturus	White-tailed tropicbird
Phaethon rubricauda	Red-tailed tropicbird
Fregata minor	Great frigatebird
Fregata ariel	Lesser frigatebird
Sterna fuscata	Sooty tern
Anous stolidus	Brown noddy
Anous minutus	Black noddy
Procelsterna cerulea	Blue-gray noddy
Gygis alba	Common fairy-tern (white tern)
Visitors/Vagrants	
Puffinus tenuirostris	Short-tailed shearwater
Pterodroma inexpectata	Mottled petrel
Pterodroma alba	Phoenix petrel
Fregetta grallaria	White-bellied storm petrel
Nesofregetta fuliginosa	Polynesian storm petrel (Pratt considers this a resident)
Larus atricilla	Laughing gull
Sterna sumatrana	Black-naped tern

Chapter 4: Environmental Impacts

4.1 Impacts to Physical Environment and Habitat

Alternative 1 (No Action) would maintain existing limited opportunities for small vessel gasoline engine refilling at Ofu and Ta`u Harbors. The current practice is for fishermen to individually transport fuel from Tutuila in drums and other containers. This poses safety risks and hazards. It is likely that small scale spills occur when transferring fuel from drums into containers for refueling onboard the vessels. It is also likely that occasional small-scale gasoline spills occur while refueling on board vessels as well. The occurrence and persistence of these minor spills are undocumented, therefore the impacts from these small spills on the physical environment are unknown, but are not believed to significant.
The proposed project (Alternative 2: Establish Fuel Storage Capacity at Ofu and Ta`u) would allow small-boat fishermen to obtain gasoline directly from fuel tanks based in Ofu and Ta`u. This would involve filling small containers (10-20 gallon) directly from on-shore fuel storage tanks located approximately 200 yards from the harbors. Fuel dispensation from a master 500-gallon tank to smaller containers would be through a hand operated rotary transfer pump (10 gallons per 100 hand revolutions). Spills are unlikely during this process because a dispenser counter would exactly measure gasoline dispensation, which would be relatively small volume. Small spills are more likely to occur later in the process as small gasoline tanks are carried onto small-scale vessels and oil is added to the gasoline to achieve the proper mix of gasoline and oil for propulsion. The process of transferring gasoline to outboard engines already occurs on a small scale at Ofu and Ta`u Harbors before the launching of small vessels based at those harbors. There is no information to suggest that the existing fueling and refueling on small vessels has resulted in impacts to the physical environment on Ofu and Tau. While, alternative 2 may slightly increase the amount of refueling and fueling as more fuel for fishing will be available on the island, there is no indication that this increase will have any impact on physical environment.

The 500 gallon transported fuel tanks would be stored on trailers with wheels. When empty, they would be moved to an inter-island ferry vessel at Ofu or Ta`u Harbors for refilling on the island of Tutuila and then moved back to Ofu and Ta`u. The transportable fuel tanks will be built materials manufactured with appropriate controls to meet National Fire Protection Association (NFPA), US Environmental Protection Agency (EPA), and American Petroleum Institute (API) standards for gasoline and diesel storage and transportation. These include double wall construction and secondary containment and anti-surge baffles. For a list of complete specifications, see Section 2.2. These tanks are much safer than opposed to the current practice of transporting fishing vessel fuel from Tutuila to Manu’a Islands.

Preliminary estimates predict a need for 4 x 500-gallon gasoline storage tanks for vessels based at Ta`u (9 active small-scale vessels) and 3 x 500-gallon gasoline storage tanks for vessels based at Ofu (5 active small-scale vessels). The preliminary schedule for movement of large 500-gallon tanks calls for approximately 1.4 tanks per week at Ta`u and one tank per week at Ofu. To avoid any gasoline shortage due to weather delays of the inter-island vessel, four 500-gallon moveable tanks should be established at Ta`u and three 500-gallon tanks should be established at Ofu (U. Faasili 2011). This storage capacity would provide sufficient gasoline reserve to

accommodate weather delays in inter-island shipping and a small buildup (2-3 vessels) of the fishing fleets at Ofu and Ta`u.

The need for gasoline, rather than diesel fuel, is because the small-vessel fleets based at Ofu and Ta`u are gasoline-powered vessels. Two off-island vessels that are active in small-scale fishing on Tutuila are also powered by gasoline. The latter could possibly move to Ofu or Ta'u to achieve a limited buildup of the small-vessel fleets in those areas. The larger, monohull vessels engaged in the American Samoa longline fishery use diesel fuel.

The 500-gallon storage tanks would be situated on cemented surfaces. There would be no drainage or discharge lines near the 500-gallon gasoline storage facilities that could receive any spillage. Outreach materials and instructional signage would be developed to advise fishermen and fuel operators about the importance of preventing gasoline spills. Access to the tanks will be for authorized personnel only and a training program will be provided to the authorized persons that oversee fuel dispensation at the facility.

Gasoline would never be disposed down the drain, into surface water, onto natural ground or in the trash. If a small spill occurs, saw dust, absorbent towels or flour can be used to soak it up. No amount of spill is likely to reach a drainage ditch, runoff channel or the ocean shore.

The procurement of specially- built 500-gallon gasoline storage tanks and wheeled carriages for ground transport to and from an inter-island vessel is crucial to prevent accidental gasoline spillage. Gasoline evaporates readily, is very flammable and can form explosive mixtures in air. Typical gasoline contains about 150 different chemicals, including benzene, toluene, ethyl benzene and xylene, which are also known as the BTEX compounds. Gasoline also may contain chemicals such as lubricants and anti-rust agents that are added to improve car performance. These chemicals are usually only present in very small amounts. Before the 1980s, lead was commonly used in gasoline as an anti-knocking agent. The use of lead has been stopped in the U.S.A. due to air pollution and the possibility of adverse health effects. The most common additive used in gasoline is methyl tertiary-butyl ether (MTBE). It is added to increase octane and oxygen levels and reduce pollution emissions.

Spilled gasoline can impact the environment through evaporation into the air, diffusion into the soil and releases into drainage. The environmental impacts of improper handling, storage and disposal of gasoline largely stem from sloppy filling of small engines, using inappropriate containers, overfilling containers, storing gasoline in open containers or disposing of excess gasoline improperly. Improperly stored gasoline can cause an explosion and, if anything other than an approved gasoline container is used to store gasoline, leakage is more likely. The users of the proposed Ofu and Ta`u facilities would be required to use proper containers with closed caps. Plans call for placement of 500-gallon gasoline storage tanks on cemented areas, with no drainage channels nearby.

Furthermore, the US Environmental Protection Agency requires a Spill Prevention, Control, Countermeasure (SPCC) plan that has been approved by the local American Samoa EPA office. In that plan, there are approved contingencies related to a potential spill including:

(1) Specification of an oil discharge response operating team consisting of trained, prepared and available operating personnel.
(2) Predestination of a properly qualified oil discharge response coordinator who is charged with the responsibility and delegated commensurate authority for directing and coordinating response operations and who knows how to request assistance from Federal authorities operating under existing national and regional contingency plans.
(3) A preplanned location for an oil discharge response operations center and a reliable communications system for directing the coordinated overall response operations.
(4) Provisions for varying degrees of response effort depending on the severity of the oil discharge.
(5) Specification of the order of priority in which the various water uses are to be protected where more than one water use may be adversely affected as a result of an oil discharge and where response operations may not be adequate to protect all uses.
(6) Specific and well defined procedures to facilitate recovery of damages and enforcement measures as provided for by State and local statutes and ordinances.

The proposed action (Alternative 2) would not cause vessels to change fishing operations or catch rates of target and non-target fish species. Even if the proposed action results in more vessel based fishing, hook and line gear is the only gear used for bottomfish and pelagic fishing. Typically hook-and-line fishing results in the occasional loss of hooks and small amounts of monofilament line while fishing. Fishermen try to recover all gear and are normally successful. Lost hooks are unlikely to have a major impact to the physical environment, being composed of steel. Depending on quality, the hooks will corrode, although hooks on the deep set bed in water just above freezing will corrode more slowly, and stainless steel hooks will corrode at a slower rate than non-stainless steel hooks. Fishing operations associated with Alternative 1 and 2 would not be expected to result in a substantial increased gear loss above existing conditions or any additional impacts to marine habitats from vessel operation.

4.2 Impacts to Target and Non-Target Fish Species

Neither Alternative 1 (No Action) nor Alternative 2 (Establish Fuel Storage Capacity at Ofu and Ta`u) would be expected to significantly change existing fishing methods, gear or catch rates.

The 500-gallon gasoline storage tanks would provide sufficient access to accommodate the existing small vessel fleet on Ofu and Ta'u plus a few more. There are presently only two small-scale vessels on the island of Tutuila that might be available to relocate to Ofu or Ta`u to take advantage of a new gasoline reserve. Other larger vessels use diesel fuel, rather than gasoline, as their propellant. Thus, the potential for additional fleet build-up is currently limited.

The target species of boat-based fishing are bottomfish and pelagic species, most of which are targeted based on the locations where hooks are set and using specific fishing methods. Nine small vessels based at Ta'u spend approximately 40 percent of their time bottomfishing and 60 percent of their time pelagic fishing. The average catch is 40 to 60 lbs of bottomfish in three to four hours of fishing carrying 5-6 crew per vessel and using 10 gallons of gasoline. When

trolling, the Ta'u-based vessels catch an average of 210 lb of yellowfin and skipjack tuna in 5-6 hours using 3-4 crew, while consuming an average of 20 gallons of gasoline. At Ofu, five vessels engage in fishing using 40 hp outboard engines. They catch an average of 50-60 lbs of bottomfish in 3-4 hours using an average of 5 crew per vessel and consuming an average of 10 gallons per vessel. When trolling, the Ofu-based vessels catch 15 to 40 lbs of yellowfin and skipjack tuna using 3 crew while consuming an average of 20 gallons of gasoline (U. Faasili, 2011).

More than 10.5 million pounds of pelagic unit management species were landed in American Samoa during 2009 with tuna species, particularly albacore tuna, accounting for about 95 percent of the total landings (WPFMC 2011). Few of these landings occurred at Ofu and Ta`u, however. Relatively low troll and bottomfish effort is expected to continue off Ofu and Ta`u under both Alternative 1 (No Action) and Alternative 2 (Establish Fuel Storage Capacity at Ofu and Ta`u). Bottomfish and pelagic stocks are considered healthy in the American Samoa Archipelago (P. Dalzell 2011).

Most fishing off Ofu and Olosega is a shore-based activity occurring in backreef moats, reef flats and upper reef slopes. On average, 2.7 villagers were observed fishing during a standardized one-hour survey, which equates to only one fisher per 7 km of shoreline at any one time. Nonetheless, this continued level of fishing (except on Sundays when fishing is generally prohibited) adds up to 65 fishing hours/day or 30,285 hours/year on the reefs of Ofu and Olosega (Craig et al. 2008).

Fishing gears used and species caught are diverse. There are no full-time subsistence fishermen. Fishing is a steady activity throughout the year with additional effort for seasonally available species. It is a predominantly a shore-based activity during the day with occasional use of boats. Brief periods of fishing activity target seasonally available species, including *palolo* polychaetes one or two nights per year and large recruitment events of juvenile goatfish and striped bristletooth surgeonfish. Bigeye scad occasionally are caught in large abundance. Catching this species involves a coordinated effort as 50-100 villagers wade onto the reef flat and herd schools of fish through a stone weir into a large hand-woven mat. Men conducted most fishing activities but women participated in gleaning the reef (hand-picking invertebrates) and fish weir efforts (Craig et al 2008).

Most inshore catch and effort off Ofu and Olosega was made by four gear types. Rod and reels caught bigeye scad, groupers, jacks and soldierfish. Spears caught parrotfish, groupers, surgeonfish, soldierfish, octopus and lobsters. Bigeye scad were caught by weir on the back reef and by angling. Gleaning involved handpicking the reefs at low tide primarily for octopus, giant clams and turban snails. Catch rates by gear type ranged from 0.7 to 4.8 kg/hour, with highest rates observed in the pulse fisheries for bigeye scad, *palolo* and juvenile recruits of goatfish and surgeonfish. The survey methods are detailed in Craig et al. (2008).

Only about five percent of the fishing observed in surveys off Ofu and Olosega was conducted in deeper waters using boats. Most fishing occurred near village sites. Only 20 percent of fishing effort occurred within two marine protected areas, where subsistence fishing is permitted (Craig et al. 2008). These patterns are probably similar inshore fisheries off the island of Ta`u. A

separate survey (Levine 2008) of 78 elder fishermen throughout Tutuila and the Manu`a Islands in 2007-2008 found that perceptions of heavy fishing were more pronounced on Tutuila than on the Manu`a Islands. In Manu`a, 50 percent of the fishermen interviewed stated that the status of reef fishing has not changed since they were young, where 50 percent stated that reef fishing had become worse, particularly *atule* fishing in Manu`a, where *palolo* and giant clam populations were not perceived as declining over time, as off Tutuila.

Neither Alternative 1 (No Action) nor Alternative 2 (Establish Fuel Storage Capacity at Ofu and Ta`u) is expected to increase inshore fishing at Ofu or Ta`u. The proposed action (Alternative 2) would not cause vessels to change fishing operations or catch rates of offshore target and non-target fish species. This proposed action could add some additional offshore fishing effort if off-island small-scale vessels join the local fleets at Ofu and Ta`u.

The No Action Alternative would not alter catches or effort levels and thus would not result in a substantial change in impacts to target or non-target offshore species from current levels of harvest. American Samoa fisheries would be expected to continue targeting currently harvested offshore fish species. They would be expected to continue to harvest other non-target fish species, including yellowfin, skipjack, bigeye tunas, wahoo and other pelagic management unit species. Virtually all of the non-tuna non-target offshore fish species are distributed for food use. These catches and an almost zero level of discard are expected to continue under both Alternatives 1 and 2. Although Alternative 2 is not expected to significantly increase fishing effort, boat based fishing away from the reef will help reduce pressure on coral reef stocks in the Manu’a Islands.

4.3 Impacts to Protected Species

Under both Alternatives (No 1: No Action; No. 2: Establish Fuel Storage Capacity at Ofu and Ta`u), fishing operations are not expected change. For example, existing vessel-based fishing is believed to only involve hook and line gear for bottomfish and pelagic species. No vessels in the Manu’a Islands are currently permitted to use longline fishing gear. There is no information that protected species interactions occurr in the Manu’a Islands troll and bottomfish fisheries; however, hook and line troll and bottomfish fisheries are not believed to interact in with protected species in American Samoa. Alternative 2 may slightly increase the number bottomfish and pelagic fishing trips as fuel availability will no longer be limited; however this increase is not expectant to be significant.

NMFS evaluates the potential impact of existing fisheries and future potential fishery actions that may affect species listed as threatened or endangered under the Endangered Species Act (ESA), and considers the impacts to marine mammals and seabirds. By law, fishery activities within the U.S. EEZ that affect listed species cannot jeopardize the continued existence of that species. All fishery management actions are reviewed for compliance with the provisions of the ESA, through a Section 7 consultation, and the impacts to listed species are articulated in the resultant biological opinion or other determination. Fishery management actions are also reviewed for compliance with the Marine Mammal Protection Act.

In a March 18, 2002 Biological Opinion, NMFS determined that the American Samoa bottomfish fisheries were not likely to adversely affect listed marine mammal and sea turtle populations (NMFS 2002a). A March 7, 2002 informal consultation under the ESA determined that the American Samoa coral reef fisheries were not likely to adversely affect endangered species or their critical habitat (NMFS 2002b). Similarly, NMFS determined that the crustacean fisheries are not likely to adversely affect any ESA-listed species or critical habitat in American Samoa (NMFS 2007b). Following consultations under section 7 of the ESA, NMFS has determined that the precious coral fisheries will not adversely affect any ESA-listed species or critical habitat in American Samoa (NMFS 1978, NMFS 2008c). NMFS has also determined that the Pelagic fishing in American Samoa are not adversely affecting any ESA-listed species nor marine mammals and seabirds (NMFS 2011).

The locations of the fuel storage tanks are several hundred yards from the ocean and within secured facilities. The operation and transportation the fuel tanks will follow best practices and safeguards to avoid minor spills. The fuel tanks will be made of individually sealed double-wall steel construction that significantly enhances tank integrity. These built-in safeguards will promote safe handling and operation that will reduce potential impacts to protected species.

4.4 Impacts to Public Health and Safety

Alternative 1 (No Action) would maintain limited small vessel gasoline engine refilling opportunities at Ofu and Ta`u Harbors. Occasional small-scale gasoline spills could continue to occur during the refueling process. Individual vessel owners would continue to transport fuel in drums on an ad-hoc basis using the inter-island ferry, which based on the condition of the fuel drum, continuing this practice poses safety risks.

The establishment of gasoline storage capacity near Ofu and Ta`u Harbors (Alternative 2) is not believed to increase the risk of adverse effects to public health and safety as it would likely eliminate the ad-hoc fuel drum if there is an increase in accidental fuel leaks. The most common exposure of people to gasoline occurs by breathing vapors when filling gas tanks. Gasoline also can be absorbed through skin during contact, such as when pumping gas or cleaning up a gasoline spill.

Many adverse health effects of gasoline are due to individual chemicals in gasoline, mainly BTEX, that are present in small amounts. Breathing small amounts of gasoline vapors can lead to nose and throat irritation, headaches, dizziness, nausea, vomiting confusion and breathing difficulties. Some effects of skin contact with gasoline include rashes, redness and swelling. Being exposed to large amounts of gasoline can lead to coma or death.

A great deal of effort has gone into studying the health impacts of gasoline and its additives but many questions remain about the risks associated with various types of exposure. Research has produced variable, often conflicting results. The variability of the composition of gasoline has complicated efforts to measure its safety. Additionally, the composition of a given gasoline changes over time, possibly impairing the accuracy and reliability of relevant data. Methodological flaws, such as failure to control for possible confounders, have further limited

the usefulness of many studies, producing a confusing array of contradictory findings. Nonetheless, a collection of animal studies, human case studies and human epidemiological studies has yielded important information about the health effects of gasoline.

Certain groups, including people who live near transfer or storage facilities face higher levels of gasoline exposure because of location. The most common form of exposure to gasoline among the general population is through inhalation of volatile fumes or combustion byproducts. The type and degree of gasoline-related health impacts depend greatly upon the mode and duration of exposure (The Center for Health and the Global Environment 2002).

Chronic exposure to gasoline and its additives pose different health threats than do acute exposure. The illnesses associated with chronic exposure develop over a longer period of time and may present themselves with more subtle clinical findings. The intervening time between exposure and outcome may obscure their relation, impeding the identification of the specific toxic agent or component of gasoline as the cause of the health outcome. Efforts to identify the causal link between gasoline and chronic outcomes have been challenged by limitation of study designs and the presence of confounders. Nonetheless, research has produced data implicating gasoline and certain additives in the pathogenesis of several illnesses. For example, epidemiological studies have demonstrated an increased risk of leukemia among groups with occupational exposure to gasoline, including marine based distribution, workers. The etiologic agent is presumed to be benzene (The Center for Health and the Global Environment 2002).

Due to the boat-by-boat individual character of transfer of gasoline from the proposed Ofu and Ta`u 500-gallon storage tanks (Alternative 2), it is presumed that there will be occasional incidents of minor spillage, probably by fishermen carrying small containers to vessels awaiting fuel. Small gasoline spills may not always require major cleanup, since by the time responders can get to the spill scene most of the product has evaporated or dissolved. The response often deals solely with mitigating the toxic and flammable hazards of this type of incident rather than an actual product removal.

The health effects of being exposed to gasoline over long periods of time are not well known. This is because people exposed to gasoline are usually exposed to many other things that also can cause health effects. At very high levels, some of the chemicals in gasoline, such as benzene, are known to cause cancer. Current evidence, however, does not show that exposure to low levels of gasoline causes cancer in humans. Since gasoline can be smelled at low levels, the source can usually be found and controlled (The Center for Health and the Global Environment 2002).

The No Action Alternative (No. 1) would not change the manner in which small-boat fisheries off Ofu and Ta'u operate. Alternative 2 (Establish Fuel Storage Capacity at Ofu and Ta`u) could increase the frequency of fueling operating with an associated potential for minor gasoline spills whereby the fuel would likely evaporate. The highly safe 500-gallon gasoline storage containers that would be moved on and off the Ofu and Ta`u storage sites to Tutuila for refilling would prevent larger spills, however.

Neither Alternative 1 nor Alternative 2 would be expected to change the general operation of small-boat fisheries offshore of Ofu and Ta'u. The proposed action would not cause vessels to travel farther or in adverse conditions.

4.5 Impacts to Fishing Community

American Samoa is listed a fishing community pursuant to the Magnuson-Stevens Act. The Western Pacific Regional Fishery Management Council has develop fishery ecosystem plans that recognize the importance of community-based management approaches (WPFMC 2005). This distinguishes that responsible actions by citizens and communities are necessary for long-term wise use of marine resources. The Council's fishery ecosystem plans are focused on community collaboration, participation and partnerships (WPFMC 2005). In American Samoa, where village-level systems still maintain a strong level of influence over fishing and marine resource use, the involvement of local communities in natural resource management is critical (Levine and Allen (2009).

Alternative No. 1 (No Action) would not have a significant impact on the fishing communities of Ofu or Ta`u, which would continue to rely on existing sources of fuel to power gasoline-driven small vessels. However, existing practices to store vessel fuel in the Manu'a Islands involves individual transport of fuel stored in drums and other containers. This poses safety risks to fishery participants and is burdensome.

Alternative No. 2 (Establish Fuel Capacity at Ofu and Ta`u) could have positive impacts on those fishing communities. Gasoline is presently very expensive in the Manu`a Islands – over $5.20 per gallon from one supplier on Ta'u and commercially unavailable on Ofu. Under Alternative 2 (Establish Fuel Storage Capacity at Ofu and Ta`u), consistent access to fuel may encourage fisheries development and promote sustained opportunities to conduct boat-based bottomfish and pelagic fishing. Furthermore, two fishermen's cooperatives are forming in the Manu'a Islands (one on Ofu/Olosega and other on Ta'u) to take advantage of these fisheries development opportunities.

It is important to understand the role of cash to the fishermen and the receivers of fish in American Samoa. Conventional Western economic notions of business transactions do not fit well in the cultural context of Ofu and Ta`u, since profit is less a motive than participation in ways that benefit the collective in one's *aiga* (extended family). The continued flow of fresh and even frozen fish into customary exchange is central to the perpetuation of *Fa`a Samoa* or Samoan cultural identity. Continued flow of the unsold portion of the local fish catch will contribute to a variety of cultural distributions and customary exchanges that are culturally acceptable and appropriate and that support the valued cultural continuity and solidarity that is symbolized in *Fa`a Samoa* (WPFMC 2011).

Traditionally, all village work, including fishing, was organized at the village and family level. The village *fono* decided, according to season, what sort of community fishing should take place. The *Ta'utai*, or master fisherman, of the village was a key decision maker who was awarded higher status than other *matai* (who might otherwise outrank him) when it came to matters of fishing. Fishing and canoe making were important skills that could improve village status and

prestige. Customarily, and still today, the village controls rights of access to nearshore marine resources. A non-village member must gain permission from the mayor or village council to fish in an area adjacent to a village. Each village is also able to establish its own restrictions on fishing and access for the entire community. Community-specific restrictions on use of marine resources have been formalized in some cases through the government's Community-based Fisheries Management Program.

Commercial fishing activity has undergone several cycles over time. The Dory Project in the early 1970s initiated an era of modern fishing technology in American Samoa by providing easy credit and loans to fishermen to develop offshore fisheries. The project developed a boat-building facility that produced 23 vessels over a 3-year period. In the 1980s, dories were replaced by larger, more powerful vessels that could stay several days at sea. These *alia* catamarans, usually 28 to 32 ft long and powered by an outboard-engine, used primarily trolling and bottomfishing gear. In 1995, some *alia* captains began using horizontal longline gear, which quickly became the largest fishery in American Samoa based on total landed weight of the catch. In the early 2000s, bigger, monohulled longline vessels entered the fishery, resulting in greatly increased landings – over 15 million pounds in 2002, compared to less than 2 million pounds in 2002.

Current issues facing American Samoa as a fishing community include: the status of the canneries in the face of increasing labor costs; the status of the government's no-take Marine Protected Area (MPA) program and other management regimes including Fagatele Bay National Marine Sanctuary (and the planned Sanctuary expansion program) and the recently designated Rose Atoll Marine National Sanctuary; the status of Community-based Fisheries Management Program; trends in nearshore fishing activity and fish consumption; habitat protection and management; and population trends in the Manu'a Islands (Levine and Allen 2009).

Archaeological evidence and interviews on Ofu and Olosega indicate that historic and prehistoric nearshore fish catches were similar in composition to present-day catches, indicating some consistency in (and sustainability of) this small-scale, largely subsistence fishery over the past 1000 to 3000 years (Craig et al. 2008).

The Manu`a Islands have very different demographic and employment trends than the main island of Tutuila. While the combined population of these islands (plus Swains Island) totals less than 3 percent of American Samoa's total population, more than 40 percent of the population on the Manu'a Islands (over 16 years of age) engages in subsistence activities for a living (Levine and Allen 2009). Kilarski et al. (2006) found the level of subsistence fishing on Olosega (one of the Manu'a Islands) to be the highest of all islands surveyed in that study. Unlike the youthful structure of the population on Tutuila, the population of the Manu'a Islands is characterized by a high proportion of older persons. This is largely caused by out-migration from the smaller islands to Tutuila or other locations for secondary schooling and employment opportunities (Levine and Allen 2009).

Fish and fishing play a stronger and more central role in the Manu`a Islands than on the main island of Tutuila. While local fish may not contribute much to the diet of most islands on Tutuila, they remain a significant source of food to Manu`a islanders. Manu`a residents continue

to rely on nearshore fish as a substantial portion of their diet, as transportation limitations make store-bought food harder to come by and more expensive than on Tutuila. Demographic trends also differ dramatically in the Manu`a Islands, where the population has aged and decreased significantly over recent years. These factors allow the lifestyle of Manu`a islanders to more closely resemble the islands' traditional past, with local residents more reliant on nearshore marine resources for subsistence, while restraining fishing impacts. Manu`a islanders continue to use some traditional fishing gear and techniques that are now rare or lost in Tutuila. Per capita fishing effort in Manu`a is also higher, but due to its remote location, there is less detailed information about many of the Manu`a fisheries than on Tutuila.

The proposed action would facilitate consistent access to fuel that may provide opportunities for resident fishermen to continue boat-based fishing. This would help Manu`a to continue a lifestyle that is dependent on fishing and seafood, thus, Alternative 2 could be more beneficial than Alternative 1 in perpetuating community resilience and food security.

4.6 Impacts to Biodiversity and Ecosystem Function

Fishing is already conducted offshore of Ofu and Ta`u Islands. Neither Alternative 1 (No Action) nor Alternative 2 (Establish Fuel Storage Capacity at Ofu and Ta`u) is expected to adversely impact biodiversity or ecosystem function. Custom manufacturing and safeguards associated with Alternative 2 would likely prevent any large spills of gasoline in the transport of fuel tanks as well as the operation to fill small containers from the fuel tanks on shore Small spills may occur occasionally while fishermen are moving small gas containers from the refueling sites to their boats or while they are refueling their vessels. This potential impact discussed in detail under "Impacts to Physical Environment and Habitat." Because these potential impacts are so small, they are estimated to have impacts on biodiversity and ecosystem function.

Handline, troll and longline fishing around American Samoa primarily targets pelagic fish and bottomfish (by handline method). The establishment of fuel storage capacity at Ofu and Ta`u (Alternative 2) may increase offshore fishing somewhat but this increase is not expected to impact biodiversity or ecosystem function. Catches are made using hook and line gear not sold commercially.

Offshore fishing already exists although it could increase somewhat with greater availability of gasoline capacity at Ofu and Ta`u. Significant changes in biodiversity and ecosystem function are not anticipated.

A range of possible effects could theoretically impact the ecological environment if there were a relatively large gasoline spill the proposed action (Alternative 2: Establish Fuel Storage Capacity at Ofu and Ta`u).

- Physical and chemical alteration of natural habitats, including possible incorporation of gasoline into the substratum if gasoline were to leak for a long distance;
- Physical smothering effects on flora and fauna;
- Lethal or sub-lethal toxic effects on flora and fauna;

- Changes in biological communities resulting from gasoline effects on key organisms.

None of these possible negative impacts are expected to occur on a large scale because of precautions that will be taken in the locating and small-scale use (10 gallons per container). The special manufacture of 500-gallon tanks will allow them to be moved to an inter-island vessel on wheeled carriages, hauled to the island of Tutuila for refilling and moved back to Ofu and Ta`u on an inter-island vessel to resume positions to dispense gasoline on a small scale.

Cleanup is normally the first step in the recovery process. The proposed tanks are planned to be installed on cemented surfaces near Ofu and Ta`u Harbors. Filling small containers from the storage tanks will be done over small platform with sorbent materials at its base. Potential small scale spills during its transfer to outboard-powered vessels would be small scale if the transfer is conducted using approved small gasoline storage containers (10 gallons). Impacts would probably be confined to the immediate land area where the gasoline tanks are stored.

Shorelines can be exposed to the effects of gasoline spills. The degree of retention by a shore considerably affects the short-term impact and duration of possible damage. Retention depends on the condition of the oil product and beach type. More viscous oils tend to be retained in greater quantities as surface accumulations than less viscous oils. Uneven and gentling sloping shorelines can hold more possible gasoline spill than steep, smooth shores with a small tidal range.

None of the coastal areas near the proposed fuel capacity storage sites are usually exposed to wave action or strong currents. Small spills would immediately damage vegetation near the spill sites. Recovery could be achieved in a few years but complete re-establishment of a small coastal area damaged by a gasoline spill could take many years if the spill is not repeated frequently.

If sediments are penetrated by gasoline, the larger quantities could be held for a short time and long-term impacts could increase. This outcome is less likely with gasoline than more viscous crudes. Fine sediments may be especially sensitive to gasoline spills. While gasoline can exert immediate toxic effects, penetration to deeper layers is rare. However, in cases where gasoline penetrates into animal burrows beneath the surface, damage is more widespread and natural recovery can be delayed. Wetlands near a small gasoline spill could take longer to recover if damaged by spills.

In many cases, the predicted natural cleaning times may be acceptable, either because they are short or because, even if long, no net environmental benefit can be predicted by major human intervention other than judicious clean-up. While it may be possible to help restore damaged vegetation, animals are generally a more difficult problem. In some cases, enhanced protection of a natural breeding population at a nearby site may be warranted to help cover gasoline spill related losses. The appropriate clean-up and restorative response would therefore always depend on the environment in question and the nature and extent of the impact.

Under the proposed Alternative 2, the 500-gallon gasoline tanks would be specially manufactured to achieve a high level of safety when the tanks are moved back and forth from

Ofu and Ta`u to Tutuila island for refilling. The possibility of a larger spill is, therefore, very small. While small spills may occur when small volumes of gasoline (10 gallons per container) are being transported to small-scale vessels, larger spills are highly unlikely. No adverse impacts to biodiversity or ecosystem function are currently observed in the current status quo (Alternative 1) as result of small infrequent spills.

4.7 Impacts to Management and Enforcement

The Western Pacific Regional Fishery Management Council has previously taken a series of management actions to avoid gear conflicts in waters close to American Samoa, to protect species and habitats and to facilitate the continuation and emergence of small-scale localized fishing effort in various island areas under the Council's jurisdiction. Neither Alternative 1 (No Action) nor Alternative 2 (Establish Fuel Storage Capacity at Ofu and Ta`u) is expected to immediately generate a need for further fishery management rule changes.

The establishment of gasoline storage capacity at Ofu and Ta`u (Alternative 2) could provide some incentive to increase local offshore fishing effort. If capacity is sized to fit the needs of the resident fishing fleet, with some additional reserve to allow for some build up of new vessels (2) and for delays in inter-island transportation of fuel, the need for additional fishery management should not increase significantly. Neither of the proposed alternatives is expected to significantly increase or change small-vessel fishing operations off Ofu or Ta'u. Nonetheless, NOAA and the USCG will likely be improving their fisheries enforcement presence due to the 2009 establishment of the Rose Atoll Marine National Monument, whereby its westernmost boundary is approximately 25 nm from Ta'u. In addition, Fagatele Bay National Marine Sanctuary is currently proposing to establish a site on the southern shore of Ta'u that restricts fishing practices.

4.8 Cumulative Impacts

Cumulative impacts must be considered pursuant to the Council of Environmental Quality (CEQ) regulations 40 CFR 1508.7, which define cumulative impacts as the impact on the environment which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.

People have been living and fishing in the Manu'a Islands for over 3,000 years. For the most part, the people currently living in the Manu'a islands live a more traditional lifestyle than people living on Tutuila, including more reliance on subsistence fishing and farming. The status of fish stocks around the Manu'a Islands are believed to be in healthy condition, despite their continual harvest for nearly 3,000 years. Pelagic stocks are highly migratory, and there is no doubt that the pelagic stocks in the Western and Central Pacific have seen increased fishing pressure in the last 50 years. The WCPO is now the world's largest and most valuable tuna fishery. Yellowfin and bigeye tuna are fully exploited in the WCPO, while skipjack tuna is considered to be fished at levels above those that produce MSY. Southern albacore tuna is heavily exploited but not in an

overfished or overfishing condition. The extent that the major WCPO tuna fisheries have changed the ability of Manu'a Islands to catch tunas and other pelgaics is not documented, but it is known that the heavy purse seine and longline fishing in the WCPO has reduced fish biomass on stocks such as yellowfin, bigeye, and albacore tuna.

There are wide-ranging factors (that change over time) that affect fishing participants as well as fishing communities. Current factors in American Samoa include high fuel costs, increased seafood imports and restricted access to traditional fishing grounds. High fuel costs affect fishing participants in that it is simply increasingly expensive to go fishing. The effect is that fishery participants reduce fishing trips, switch to less fuel-intensive fisheries or simply do not go fishing at all.

Fishing effort is expected to increase a little over current levels as a result of the proposed gasoline storage facilities at Ofu and Ta`u. (Alternative 2). However this vessel based fishing will mostly occur for bottomfish and pelagic stocks. Therefore, significant impacts are not anticipated to result to these stocks the potential minor increase in fishing as a result of the proposed action. If anything, the minimal amount of potential increases in bottomfish and pelagic fishing may help take pressure off nearshore stocks fished from shore.

The availability of less expensive gasoline on both Ofu and Ta`u islands could stimulate the development of non-fishing small businesses that consume gasoline if any extra gasoline is available for non-fishing uses.

Other related Council actions expected in the foreseeable future in fisheries occurring in waters around American Samoa include amendments to the Pacific Pelagics Fishery Ecosystem Plan (FEP), including any that could manage American Samoa longline vessels within the bigeye tuna catch limits for Pacific Islands Territories; modify the American Samoa limited entry longline permit system; and exclude purse seine vessels from operating within 75 nm around American Samoa. There are under consideration alternatives to combine vessel size classes within the American Samoa longline limited entry program; however, none of the proposed actions in and of themselves would enable the longline fishery in American Samoa to expand beyond the maximum number of permits (60) delineated in the limited entry program. There is also a Pelagics FEP amendment to add restrictions on shallow-water longline gear setting to reduce accidental interactions with protect green sea turtles. These actions may result in impacts to the human environment or to communities which would be analyzed in the respective FEP amendment documents if and when they are produced.

In addition, there is a proposal to enlarge sanctuary waters around American Samoa through expansion of Fagatele Bay National Marine Sanctuary. These areas may add further protection to various marine resources through restricting human activities; however, this action may also change fishermen's behavior by forcing fishing in smaller areas, potentially increasing fishing pressure on some stocks, reducing catch rates, and also displacing fishermen to more dangerous open areas.

4.8.1 Climate Change Impacts

In a 2007 report, the Intergovernmental Panel on Climate Change (IPCC) states that: "Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice and rising global average sea level (IPCC 2007)." Climate change and potential sea level rise may affect target and non-target fish species, protected species, human communities, marine ecosystems, essential fish habitat and other habitats found in and around American Samoa. Climate change would not, however, impact the effectiveness of Alternatives 1 or 2 or the impacts of these proposed alternatives.

Fish stocks and sea turtle populations would continue to be monitored in American Samoa through logbook reports and longline vessel observer coverage, as well as through international efforts to monitor some marine populations. Neither Alternative 1 (No Action) nor 2 (Establish Fuel Storage Capacity at Ofu and Ta`u) would result in a change to the fishery that would affect climate change by substantially changing the consumption of energy or release of greenhouse gases by the fishery participants. The major ways climate change will affect marine life and habitats are; 1) changes in reproductive potential; 2) loss of habitat due to sea level rise; 3) alterations to foraging habitats and prey resources; 4) changes in phenology and reproductive capacity that correlate with fluctuations in sea surface temperature; and 5) potential changes in migratory pathways and range expansion.

Climate change resulting in sea level rise may affect some marine populations, however many creatures have survived differing climactic conditions through the course of history. Other potential impacts could be a shift in nesting beaches of sea turtle populations with sea level rise, changes in food (though not readily understood) due to acidification of seawater; and changes in ocean currents that could affect foraging or migratory activities. Under natural conditions, beaches can move landward or seaward with fluctuations in sea level. Contamination from effluent discharges and runoff has degraded some shallow marine habitats. It may not be possible to distinguish climate change impacts on marine life in the near term, therefore it is important to document existing conditions over time to understand possible effects on marine life.
The proposed gasoline storage facilities at Ofu and Ta`u under proposed action Alternative 2 would slightly increase vessel gasoline consumption in the Manu`a Islands, which would have a slightly negative effect on the desire to reduce overall gasoline use and related climate change globally. However, improving access to vessel fuel could held the Manu'a Islanders respond to natural disasters that are believed to increase in climate change scenarios.

4.9 Other Resource Categories and Issues

Regulations implementing the National Environmental Protection Act (NEPA) indicate that the following additional issues are considered when evaluating impacts of a proposed action:

Degree to which effects on the human environment are highly controversial

The effects of the proposed action are not controversial. The American Samoa PNRS board has provided its approval. This board is comprised the following agencies:

a. American Samoa Coastal Management Program;
b. American Samoa Environmental Protection Agency;
c. American Samoa Historic Preservation Office;
d. American Samoa Power Authority;
e. American Samoa Department of Health;
f. American Samoa Department of Marine and Wildlife Resources;
g. American Samoa Department of Parks and Recreation; and
h. American Samoa Department of Public Works

Degree to which effects are highly uncertain or involve unique or unknown risks

The use of fuel tanks is not a novel project nor does it involve unique or unknown risks. Fixed as well as transportable fuel tanks are commonly used globally, therefore the potential effects of fuel tank storage project does not involve unknown risks.

Degree to which proposed action affects unique areas, historic and cultural resources, park land, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.

The fuel storage tanks will be located on public land owned by the American Samoa government in adjacent to Ofu and Ta'u harbors. The areas where the tanks will be securely stored are not believed to be unique or ecologically critical areas. The tanks will be secured in a fenced shelter area located approximately 200 yards from the Ofu and Ta'u. The American Samoa government's Project Notification Review System board reviewed and approved the land use permits for these areas.

Degree to which proposed action affects districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places.

Neither of the fuel tank storage locations affects districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places. The American Samoa government's Project Notification Review System board reviewed and approved the land use permits for these areas. In that review and approval, historic places were considered and none were found at the project site.

Degree to which proposed action could be expected to result in the introduction or spread of a nonidigenous species.

The fuel tanks will be transported between Tutuila and the Manu'a Islands using the interisland ferry system. The ferry service occurs regularly, and the fuel storage will not increase ferry trips between islands nor lead to introduction or spread of non-indigenous species.

Degree to which proposed action is likely to establish precedent for future actions with significant effects or represent a decision in principle about a future consideration.

The fuel storage tanks will not result in automatic approval of future storage tanks as these projects are evaluated on a case by case basis and on the needs identified by the American Samoa government and the Western Pacific Regional Fishery Management Council.

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Appendix 1- Operation Plan: Fishermen Fuel Storage Facilities in Manu'a

Operational Plan
Fishermen Fuel Storage Facilities in Manu'a (Tau and Ofu)

Introduction

Manu'a fishermen have encountered difficulty in accessing fuel for fishing boats. To assist Manu'a fishermen, 2 fuel facilities are to be established for Manu'a, (Tau and Ofu) under the assistance of Western Pacific Regional Fishery Management Council (WPRFMC). Each facility will have 4 x 500 gal. fuel storage tanks. Fuel tanks will be manufactured at Seattle with specifications to meet US-EPA and AS-EPA requirements. Tank specifications are listed Table 1. The type of fuel tanks to be manufactured is illustrated in Diagram 1. Wheels will be installed on the tanks so that they can be easily transported to Pago Pago for refill and brought back to Manua through the ferry boat.

Fishermen with fishing boats commonly use outboard motors with forty horse power (40hp). Fuel storage facilities will solely be used to provide fishermen with outboard motor fuel. Outboard fuel tanks are within the average of 5 gal each. Fishermen may need 8 gal fuel containers for spare fuel.

Fishermen would normally go out fishing at early morning. Fueling therefore would normally take place at late afternoon to prepare fishermen for early morning fishing. There are 7 fishing boats in Tau and 5 in Ofu. Fueling for fishermen therefore is not an 8-hourly operation. It will take an hour the most every day to serve fishermen in each facility.

Table 1: Fuel storage tank specifications

1. Tanks are rectangular double wall design.
2. Air testable 100% secondary containment.
3. Tanks to have internal anti-surge baffles.
4. Six (6) NPT-F plugged top openings (5-2" & 1-4").
5. One (1) NPT-F bottom threaded opening with 1" brass ball valve.
6. Labeled in accordance with OSHA & NFPA requirements.
7. 2" transport padlocable fill cap and 2" flame arrestor (designated normal vent device).
8. Factory installed 4" transport spring actuated emergency pressure relief vent.
9. Constructed entirely from pickled and boiled carbon steel.
10. Exterior painted two-component white polyurethane top coat.
11. Labeled in accordance with OSHA & NFPA requirements.
12. 15 MPH maximum non-highway (not registerable), low center of gravity design.
13. Two-component epoxy applied to tank floor, sides and underside of tank roof.
14. 6" NPT-F PVC plugged inspection/clean-out opening.
15. Four (4) rotary hand pumps with dial face counter, padlockable handle and male/female KAMLOCK quick disconnect tank couplings..
16. Trailer type – straight frame.
17. Wheel locations - outboard.
18. 18. Tire type – pneumatic.

Diagram 1: Fuel storage tank designed for Manu'a

Basic steps to follow

Storage and removal of 500 gal fuel storage tanks

1. Storage tanks will be stored in open fuel shelters as illustrated in Diagram 4 to allow constant circulation of air for the tanks to be kept at the normal room temperature.
2. Tanks will be towed away on ferry boat for refill from Pago Pago when they are empty, and be returned to storage facilities in the next trip of ferry boat.
3. In case of flood, tanks will be easily towed away to higher ground.

Fueling arrangement and operation

1. The arrangement illustrated in Diagram 2 will be employed during fueling operation. The fisherman's container will be placed over the drip pan, while the drip pan sits on the 4 square feet platform of sand.
2. A rotary manual pump as illustrated in Diagram 3 will be used by each facility instead of an electric pump. This will minimize the flow of fuel drawn from the fuel tank into the fisherman's container to eliminate fuel spill.
3. During the fueling process, the rotary pump will be mounted at the fuel storage tank.
4. Fuel will be slowly drawn and regulated from the fuel tank into the fisherman's container using the rotary pump until the container is 80% full.
5. By applying steps 1, 2, 3, and 4, it greatly reduces the probability of fuel spill happening and provides almost 100% guarantee that any fuel spill which may incur during the fueling process due to negligence does not reach the facility floor or outside ground.
6. Should any fuel spill do occur during fueling process, the contents of the platform will be discharged using the Best Management Practice (BMP).
7. Training of the fuel facility operators and fishermen will be carried out before the facilities are permitted for use.

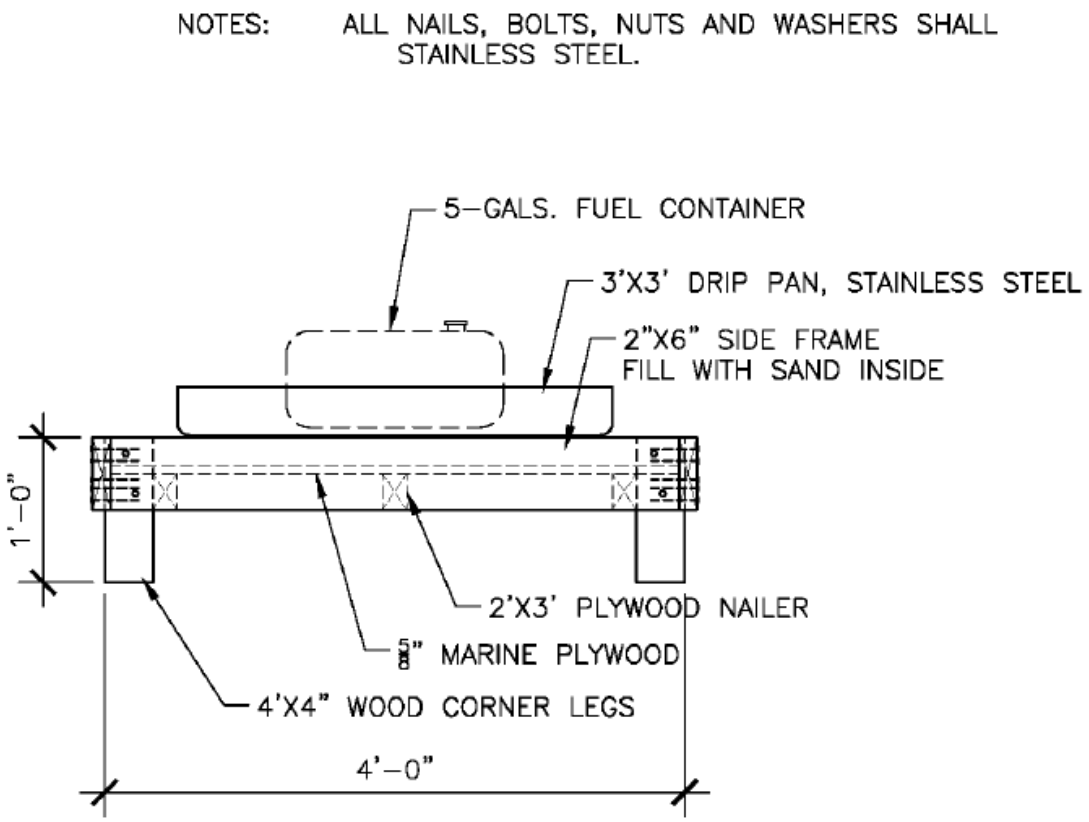

Diagram 2: Fuel Spill Prevention Pad

Safety instructions

1. Improper use or installation of rotary pump as part of the fuel storage facility operation can cause serious injury.
2. Do not use smoke near pump or use pump near an open flame when pumping outboard fuel. Fire could result
3. A filter should be used on pump outlet to ensure that no foreign material is transferred to the outboard fuel tank.
4. Use Teflon tape or thread sealant on all threaded joints to avoid leakage of fuel
5. To minimize static electricity build-up, keep nozzle in contact with container being filled.

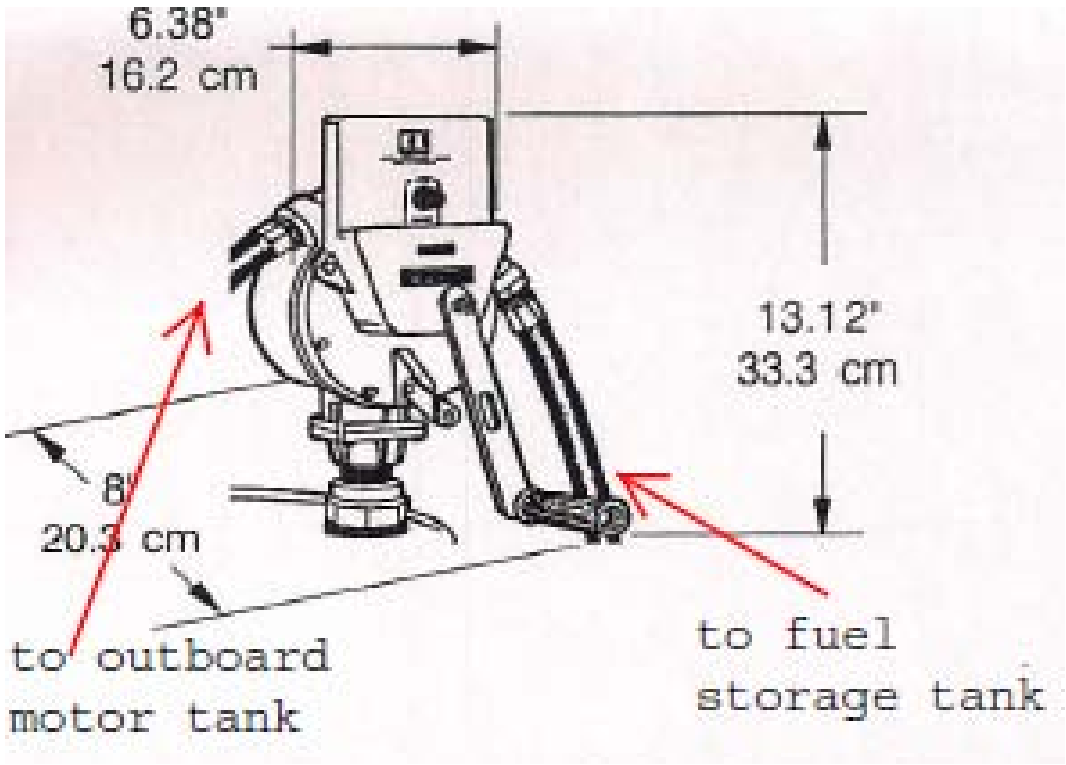

Diagram 3: Arrangement of Rotary Hand Pump

Other necessities

Each facility will hold:

1. Spill Kit , and
2. Prevention, Control and Countermeasure (SPCC) plan for use should any emergency does occur

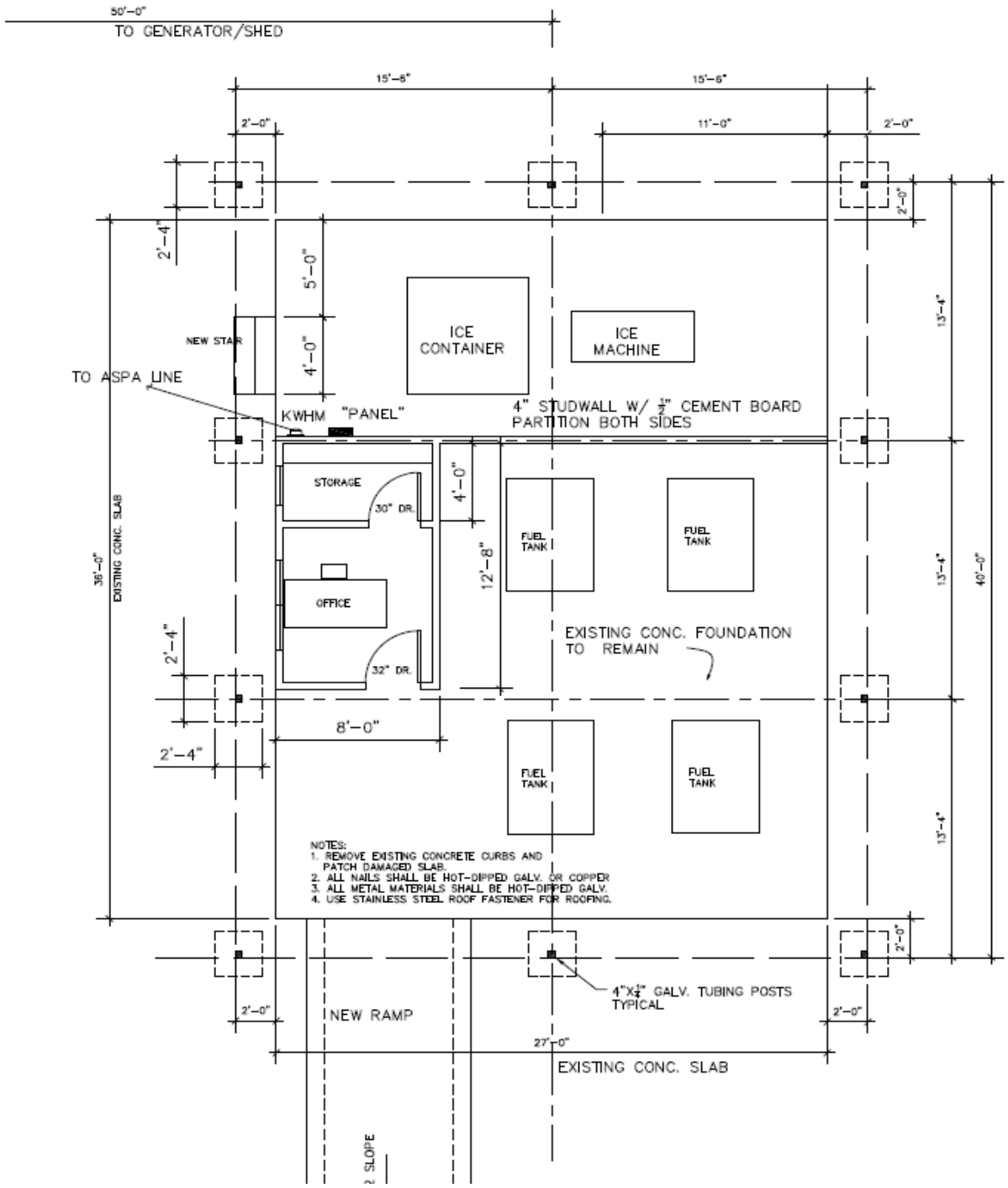

Diagram 4: Arrangement and storage of tanks in facility

Appendix 2- EPA Spill Prevention, Control, and Countermeasure Plan

U.S. ENVIRONMENTAL PROTECTION AGENCY
TIER I QUALIFIED FACILITY SPCC PLAN TEMPLATE

Instructions to Complete this Template

This template is intended to help the owner or operator of a Tier I qualified facility develop a self-certified Spill Prevention, Control, and Countermeasure (SPCC) Plan. To use this template, your facility must meet all of the applicability criteria of a Tier I qualified facility listed under §112.3(g)(1) of the SPCC rule. This template provides every SPCC rule requirement necessary for a Tier I qualified facility, which you must address and implement.

You may use this template to comply with the SPCC regulation or use it as a model and modify it as necessary to meet your facility-specific needs. If you modify the template, your Plan must include a section cross-referencing the location of each applicable requirement of the SPCC rule and you must ensure that your Plan is an equivalent Plan that meets all applicable rule requirements of 40 CFR 112.6(a)(3).

You may complete this template either electronically or by hand on a printed copy. This document is a reformatted version of the template found in Appendix G of 40 CFR part 112.[a] No substantive changes have been made. Please note that a "Not Applicable" ("N/A") column has been added to both Table G-10 (General Rule Requirements for Onshore Facilities) and Table G-11 (General Rule Requirements for Onshore Oil Production Facilities). The "N/A" column should help you complete your self-certification when a required rule element does not apply to your facility. Use of the "N/A" column is optional and is not required by rule.

All Tier I qualified facility self-certifiers must complete Sections I, II, and III. Additionally, the owner or operator of an:

- Onshore facility (excluding production) must complete Section A.
- Onshore oil production facility (excluding drilling and workover facilities) must complete Section B.
- Onshore oil drilling and workover facility must complete Section C.

Complete and include with your Plan the appropriate attachments. You should consider printing copies of the attachments for use in implementing the SPCC Plan (e.g. Attachment 3.1 - Inspection Log & Schedule;
Attachment 4 - Discharge Notification Form).

To complete the template, check the box next to the requirement to indicate that it has been adequately addressed. Either write "N/A" in the column or check the box under the "N/A" column to indicate those requirements that are not applicable to the facility. Where a section requires a description or listing, write in the spaces provided (or attach additional descriptions if more space is needed).

Below is a key for the colors used in the section headers:

Sections I, II, and III:	Required for all Tier I qualified facilities
Section A:	Onshore facilities (excluding production)
Section B:	Onshore oil production facilities (excluding drilling and workover facilities)
Section C:	Onshore oil drilling and workover facilities
Attachments:	1 - Five Year Review and Technical Amendment Logs 2 - Oil Spill Contingency Plan and Checklist 3 - Inspections, Dike Drainage and Personnel Training Logs 4 - Discharge Notification Form

After you have completed all appropriate sections, certify and date your Plan, and then implement it by the compliance date. If your facility was in operation before August 16, 2002, and you do not already have a Plan, then implement this template immediately. Conduct inspections and tests in accordance with the written procedures that you have developed for your facility. You must keep with the SPCC Plan a record of these inspections and tests, signed by the appropriate supervisor or inspector, for a period of three years.

Do not forget to periodically review your Plan (at least once every five years) or to update it when you make changes to your facility. You must prepare amendments within six months of the facility change, and implement them as soon as possible, but not later than six months following preparation of any amendment.

In the event that your facility releases oil to navigable waters or adjoining shorelines, immediately call the National Response Center (NRC) at 1-800-424-8802. The NRC is the federal government's centralized reporting center, which is staffed 24 hours per day by U.S. Coast Guard personnel.

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[a] Please note that the use of this template is not mandatory for a Tier I qualified facility. You may also meet the SPCC Plan requirement by preparing a satisfactory Tier II qualified facility Plan, preparing a satisfactory Plan that is certified by a Professional Engineer, or by developing an equivalent Plan for a Tier I qualified facility. Further information on the requirements of these methods can be found in 40 CFR part 112.6(a)(1). If you use any of these alternative methods you must include a cross reference in your Plan that shows how the equivalent Plan meets all applicable 40 CFR part 112 requirements.

Tier I Qualified Facility SPCC Plan

This template constitutes the SPCC Plan for the facility, when completed and signed by the owner or operator of a facility that meets the applicability criteria in §112.3(g)(1). This template addresses the requirements of 40 CFR part 112. Maintain a complete copy of the Plan at the facility if the facility is normally attended at least four hours per day, or for a facility attended fewer than four hours per day, at the nearest field office. When making operational changes at a facility that are necessary to comply with the rule requirements, the owner/operator should follow state and local requirements (such as for permitting, design and construction) and obtain professional assistance, as appropriate.

Facility Description

Facility Name	Fishermen Fuel Storage Facilities in Manua (Ta`u and Ofu)				
Facility Address	Ta`u (Near Ta`u Harbor); Ofu (Near Ofu Harbor)				
City	Ta`u and Ofu	State	American Samoa	ZIP	96799
County	American Samoa	Tel. Number	(684) 633 - 4456		
Owner or Operator Name	American Samoa Dept. of Marine and Wildlife Resources				
Owner or Operator Address	P.O. Box 3730				
City	Pago Pago	State	American Samoa	ZIP	96799
County	American Samoa	Tel. Number	(684) 633 - 4456		

I. Self-Certification Statement (§112.6(a)(1))

The owner or operator of a facility certifies that each of the following is true in order to utilize this template to comply with the SPCC requirements:

I Ray Tulafono certify that the following is accurate:

1. I am familiar with the applicable requirements of 40 CFR part 112;
2. I have visited and examined the facility;
3. This Plan was prepared in accordance with accepted and sound industry practices and standards;
4. Procedures for required inspections and testing have been established in accordance with industry inspection and testing standards or recommended practices;
5. I will fully implement the Plan;
6. This facility meets the following qualification criteria (under §112.3(g)(1)):
   a. The aggregate aboveground oil storage capacity of the facility is 10,000 U.S. gallons or less; and
   b. The facility has had no single discharge as described in §112.1(b) exceeding 1,000 U.S. gallons and no two discharges as described in §112.1(b) each exceeding 42 U.S. gallons within any twelve month period in the three years prior to the SPCC Plan self-certification date, or since becoming subject to 40 CFR part 112 if the facility has been in operation for less than three years (not including oil discharges as described in §112.1(b) that are the result of natural disasters, acts of war, or terrorism); and
   c. There is no individual oil storage container at the facility with an aboveground capacity greater than 5,000 U.S. gallons.
7. This Plan does not deviate from any requirement of 40 CFR part 112 as allowed by §112.7(a)(2) (environmental equivalence) and §112.7(d) (impracticability of secondary containment) or include any measures pursuant to §112.9(c)(6) for produced water containers and any associated piping;
8. This Plan and individual(s) responsible for implementing this Plan have the full approval of management and I have committed the necessary resources to fully implement this Plan.

I also understand my other obligations relating to the storage of oil at this facility, including, among others:

1. To report any oil discharge to navigable waters or adjoining shorelines to the appropriate authorities. Notification information is included in this Plan.
2. To review and amend this Plan whenever there is a material change at the facility that affects the potential for an oil discharge, and at least once every five years. Reviews and amendments are recorded in an attached log [See Five Year Review Log and Technical Amendment Log in Attachments 1.1 and 1.2.]
3. Optional use of a contingency plan. A contingency plan:
    a. May be used in lieu of secondary containment for qualified oil-filled operational equipment, in accordance with the requirements under §112.7(k), and;
    b. Must be prepared for flowlines and/or intra-facility gathering lines which do not have secondary containment at an oil production facility, and;
    c. Must include an established and documented inspection or monitoring program; must follow the provisions of 40 CFR part 109; and must include a written commitment of manpower, equipment and materials to expeditiously remove any quantity of oil discharged that may be harmful. If applicable, a copy of the contingency plan and any additional documentation will be attached to this Plan as Attachment 2.

I certify that I have satisfied the requirement to prepare and implement a Plan under §112.3 and all of the requirements under §112.6(a). I certify that the information contained in this Plan is true.

Signature _____ Title: American Samoa Government Director, Dept. Marine and Wildlife Resources

Name Ray Tulafono Date: / /

II. Record of Plan Review and Amendments

Five Year Review (§112.5(b)):

Complete a review and evaluation of this SPCC Plan at least once every five years. As a result of the review, amend this Plan within six months to include more effective prevention and control measures for the facility**,** if applicable. Implement any SPCC Plan amendment as soon as possible**,** but no later than six months following Plan amendment. Document completion of the review and evaluation, and complete the Five Year Review Log in Attachment 1.1. If the facility no longer meets Tier I qualified facility eligibility, the owner or operator must revise the Plan to meet Tier II qualified facility requirements, or complete a full PE certified Plan.

Table G-1 Technical Amendments (§§112.5(a), (c) and 112.6(a)(2))	
This SPCC Plan will be amended when there is a change in the facility design, construction, operation, or maintenance that materially affects the potential for a discharge to navigable waters or adjoining shorelines. Examples include adding or removing containers, reconstruction, replacement, or installation of piping systems, changes to secondary containment systems, changes in product stored at this facility, or revisions to standard operating procedures.	X☐
Any technical amendments to this Plan will be re-certified in accordance with Section I of this Plan template. *[§112.6(a)(2)]* **[See Technical Amendment Log in Attachment 1.2]**	X☐

III. Plan Requirements

1. Oil Storage Containers (§112.7(a)(3)(i)):

Table G-2 Oil Storage Containers and Capacities		
This table includes a complete list of all oil storage containers (aboveground containers[a] and completely buried tanks[b]) with capacity of 55 U.S. gallons or more, unless otherwise exempt from the rule. For mobile/portable containers, an estimated number of containers, types of oil, and anticipated capacities are provided.		☐
Oil Storage Container *(indicate whether aboveground (A) or completely buried (B))*	**Type of Oil**	**Shell Capacity (gallons)**
8 (A)	gasoline	500

Total Aboveground Storage Capacity [c] 4000 gallons
Total Completely Buried Storage Capacity _____ gallons
Facility Total Oil Storage Capacity 4000 gallons

[a] Aboveground storage containers that must be included when calculating total facility oil storage capacity include: tanks and mobile or portable containers; oil-filled operational equipment (e.g. transformers); other oil-filled equipment**,** such as flow-through process equipment. Exempt containers that are not included in the capacity calculation include: any container with a storage capacity of less than 55 gallons of oil; containers used exclusively for wastewater treatment; permanently closed containers; motive power containers; hot-mix asphalt containers; heating oil containers used solely at a single-family residence; and pesticide application equipment or related mix containers.

[b] Although the criteria to determine eligibility for qualified facilities focuses on the aboveground oil storage containers at the facility, the completely buried tanks at a qualified facility are still subject to the rule requirements and must be addressed in the template; however, they are not counted toward the qualified facility applicability threshold.

[c] Counts toward qualified facility applicability threshold.

2. Secondary Containment and Oil Spill Control (§§112.6(a)(3)(i) and (ii), 112.7(c) and 112.9(c)(2)):

Table G-3 Secondary Containment and Oil Spill Control	
Appropriate secondary containment and/or diversionary structures or equipment[a] is provided for all oil handling containers, equipment, and transfer areas to prevent a discharge to navigable waters or adjoining shorelines. The entire secondary containment system, including walls and floor, is capable of containing oil and is constructed so that any discharge from a primary containment system, such as a tank or pipe, will not escape the containment system before cleanup occurs.	**X**

[a] Use one of the following methods of secondary containment or its equivalent: (1) Dikes, berms, or retaining walls sufficiently impervious to contain oil; (2) Curbing; (3) Culverting, gutters, or other drainage systems; (4) Weirs, booms, or other barriers; (5) Spill diversion ponds; (6) Retention ponds; or (7) Sorbent materials.

Table G-4 below identifies the tanks and containers at the facility with the potential for an oil discharge; the mode of failure; the flow direction and potential quantity of the discharge; and the secondary containment method and containment capacity that is provided.

Table G-4 Containers with Potential for an Oil Discharge					
Area	Type of failure (discharge scenario)	Potential discharge volume (gallons)	Direction of flow for uncontained discharge	Secondary containment method[a]	Secondary containment capacity (gallons)
Bulk Storage Containers and Mobile/Portable Containers[b]					
Portable, transportable fuel containers, 8	Small-scale spills associated with filling 5-8 gallon approved containers from portable fuel containers (500 gallons capacity)	Small from portable transportable fuel containers of 500-gallon capacity	Small scale, contained near location of 500-gallon capacity portable transportable containers	Air-testable 100% secondary containment in each portable transportable fuel container of 500 gallons capacity	500 per portable transportable fuel container
Oil-filled Operational Equipment (e.g., hydraulic equipment, transformers)[c]					
N/A	N/A	N/A	N/A	N/A	N/A
Piping, Valves, etc.					
N/A	N/A	N/A	N/A	N/A	N/A
Product Transfer Areas (location where oil is loaded to or from a container, pipe or other piece of equipment.)					
Portable, transportable fuel containers of 500 gallon capacity moved to and from cemented areas with equipment to minimize small spills	Small-scale spills associated with filling 5-8 gallon approved containers	Small-scale from portable, transportable containers of 500-gallon capacity	Small scale, contained near location of 500-gallon capacity portable, transportable containers	Air-testable 100% secondary containment in each portable, transportable container of 500 gallons capacity	500 per portable, transportable container

Other Oil-Handling Areas or Oil-Filled Equipment (e.g. flow-through process vessels at an oil production facility)					
N/A	N/A	N/A	N/A	N/A	N/A

[a] Use one of the following methods of secondary containment or its equivalent: (1) Dikes, berms, or retaining walls sufficiently impervious to contain oil; (2) Curbing; (3) Culverting, gutters, or other drainage systems; (4) Weirs, booms, or other barriers; (5) Spill diversion ponds; (6) Retention ponds; or (7) Sorbent materials.
[b] For storage tanks and bulk storage containers, the secondary containment capacity must be at least the capacity of the largest container plus additional capacity to contain rainfall or other precipitation.
[c] For oil-filled operational equipment: Document in the table above if alternative measures to secondary containment (as described in §112.7(k)) are implemented at the facility.

3. Inspections, Testing, Recordkeeping and Personnel Training (§§112.7(e) and (f), 112.8(c)(6) and (d)(4), 112.9(c)(3), 112.12(c)(6) and (d)(4)):

Table G-5 Inspections, Testing, Recordkeeping and Personnel Training	
An inspection and/or testing program is implemented for all aboveground bulk storage containers and piping at this facility. *[§§112.8(c)(6) and (d)(4), 112.9(c)(3), 112.12(c)(6) and (d)(4)]*	**X**
The following is a description of the inspection and/or testing program (e.g. reference to industry standard utilized, scope, frequency, method of inspection or test, and person conducting the inspection) for all aboveground bulk storage containers and piping at this facility: Fuel service provider (to be specified) designated by the American Samoa Department of Marine and Wildlife Resources will conduct monthly inspections to ensure that fuel is provided according to the following plan: 1. The fisherman's container, approximately 5-8 gallons capacity, will be placed over the drip pan (see Figure), while the drip pan sits on a 4 square foot platform of sand. 2. A rotary manual pump, as illustrated in Figure , will be used by each facility instead of an electric pump. This will minimize the flow of fuel drawn from the portable, transportable fuel storage container (500 gallon capacity) into the fisherman's container and reduce potential for fuel to spill.. 3. During the fueling process, the rotary pump will be mounted at the fuel storage tank. 4. Fuel will be slowly drawn from 500-gallon capacity portable, transportable fuel container into small approved containers (5-8 gallons capacity) and regulated from the fuel container into the fisherman's container using the rotary pump until the container is 80 percent full. 5. The 500-gallon portable, transportable fuel storage container from which fuel will be drawn into small approved containers each have air testable 100 percent secondary containment. The designated person to operate the fueling facility and to be responsible for inspections will be trained according to industry standard practices suited to the fuel storage facility sites at Ta`u and Ofu. This training procedure would be under the direction of William Sword, manager of Pacific Petroleum Company in American Samoa.	
Inspections, tests, and records are conducted in accordance with written procedures developed for the facility. Records of inspections and tests kept under usual and customary business practices will suffice for purposes of this paragraph. *[§112.7(e)]*	X☐
A record of the inspections and tests are kept at the facility or with the SPCC Plan for a period of three years. *[§112.7(e)]* **[See Inspection Log and Schedule in Attachment 3.1]**	X☐
Inspections and tests are signed by the appropriate supervisor or inspector. *[§112.7(e)]*	X☐
Personnel, training, and discharge prevention procedures [§112.7(f)]	
Oil-handling personnel are trained in the operation and maintenance of equipment to prevent discharges; discharge procedure protocols; applicable pollution control laws, rules, and regulations; general facility operations; and, the contents of the facility SPCC Plan. *[§112.7(f)]*	X☐
A person who reports to facility management is designated and accountable for discharge prevention. *[§112.7(f)]* Name/Title: Add name of designated person To be added when designated	X☐
Discharge prevention briefings are conducted for oil-handling personnel annually to assure adequate understanding of the SPCC Plan for that facility. Such briefings highlight and describe past reportable discharges or failures, malfunctioning components, and any recently developed precautionary measures. *[§112.7(f)]* **[See Oil-handling Personnel Training and Briefing Log in Attachment 3.4]**	X☐

4. Security (excluding oil production facilities) §112.7(g):

Table G-6 Implementation and Description of Security Measures	
Security measures are implemented at this facility to prevent unauthorized access to oil handling, processing, and storage area.	X☐
The following is a description of how you secure and control access to the oil handling, processing and storage areas; secure master flow and drain valves; prevent unauthorized access to starter controls on oil pumps; secure out-of-service and loading/unloading connections of oil pipelines; address the appropriateness of security lighting to both prevent acts of vandalism and assist in the discovery of oil discharges: The buildings where portable, transportable fuel containers (500 gallon capacity) would be stored would be protected by security fencing. In addition, rotary hand pumps with padlockable handles would be mounted at the fuel storage containers 24 hours per day to provide security for the proposed 500-gallon transportable fuel containers.	

5. Emergency Procedures and Notifications (§112.7(a)(3)(iv) and 112.7(a)(5)):

Table G-7 Description of Emergency Procedures and Notifications
The following is a description of the immediate actions to be taken by facility personnel in the event of a discharge to navigable waters or adjoining shorelines *[§112.7(a)(3)(iv) and 112.7(a)(5)]*: Small spillage during transfer from portable transportable fuel containers (500 gallons capacity) to small gasoline containers by individual fishermen would be minimized by using a rotary pump mounted over a drip pan with a side frame filled with sand. This would provide almost a 100% guarantee that any fuel spill which may occur during its transfer to small containers due to possible negligence would not reach the facility floor or outside ground, including nearby harbor areas.

6. Contact List (§112.7(a)(3)(vi)):

Table G-8 Contact List	
Contact Organization / Person	**Telephone Number**
National Response Center (NRC)	1-800-424-8802
Cleanup Contractor(s) Add designated person To be added when designated	Add telephone for designated person To be added when person is designated
Key Facility Personnel	
Designated Person Accountable for Discharge Prevention: To be added when person is designated	Office: To be added when person is designated
	Emergency: To be added when person is designated
	Office:
	Emergency:
	Office:
	Emergency:
	Office:
	Emergency:
State Oil Pollution Control Agencies American Samoa Environmental Protection Agency, Tino Sauaga	633 2394
Other State, Federal, and Local Agencies American Samoa Department of Port Administration Ta`u – Tei Taufaasee Ofu—Simo Tolo	677 3570 655 1246
Local Fire Department Ta`u – Saena Moliga Ofu – Pao Tautala	677 3111 655 1300
Local Police Department Refer above	
Hospital Ta`u – Dr. Malo Tuiolosega fu – Dr. Tuiolosega; Nurse Gertrude Lesa	677 36513 655 1176

Other Contact References (e.g., downstream water intakes or neighboring facilities) AS-DOC – Coastal Zone Management Program Aukusitino Mao	633 5155

7. NRC Notification Procedure (§112.7(a)(4) and (a)(5)):

Table G-9 NRC Notification Procedure	
In the event of a discharge of oil to navigable waters or adjoining shorelines, the following information identified in Attachment 4 will be provided to the National Response Center immediately following identification of a discharge to navigable waters or adjoining shorelines **[See Discharge Notification Form in Attachment 4]**: *[§112.7(a)(4)]*	X☐
• The exact address or location and phone number of the facility; • Date and time of the discharge; • Type of material discharged; • Estimate of the total quantity discharged; • Estimate of the quantity discharged to navigable waters; • Source of the discharge; • Description of all affected media; • Cause of the discharge; • Any damages or injuries caused by the discharge; • Actions being used to stop, remove, and mitigate the effects of the discharge; • Whether an evacuation may be needed; and • Names of individuals and/or organizations who have also been contacted.	

8. SPCC Spill Reporting Requirements (Report within 60 days) (§112.4):

Submit information to the EPA Regional Administrator (RA) and the appropriate agency or agencies in charge of oil pollution control activities in the State in which the facility is located within 60 days from one of the following discharge events:

A single discharge of more than 1,000 U.S. gallons of oil to navigable waters or adjoining shorelines or
Two discharges to navigable waters or adjoining shorelines each more than 42 U.S. gallons of oil occurring within any twelve month period

You must submit the following information to the RA:

(1) Name of the facility;
(2) Your name;
(3) Location of the facility;
(4) Maximum storage or handling capacity of the facility and normal daily throughput;
(5) Corrective action and countermeasures you have taken, including a description of equipment repairs and replacements;
(6) An adequate description of the facility, including maps, flow diagrams, and topographical maps, as necessary;
(7) The cause of the reportable discharge, including a failure analysis of the system or subsystem in which the failure occurred; and
(8) Additional preventive measures you have taken or contemplated to minimize the possibility of recurrence
(9) Such other information as the Regional Administrator may reasonably require pertinent to the Plan or discharge

* * * * *

NOTE: Complete one of the following sections (A, B or C) as appropriate for the facility type.

A. Onshore Facilities (excluding production) (§§112.8(b) through (d), 112.12(b) through (d)):

The owner or operator must meet the general rule requirements as well as requirements under this section. Note that not all provisions may be applicable to all owners/operators. For example, a facility may not maintain completely buried metallic storage tanks installed after January 10, 1974, and thus would not have to abide by requirements in §§112.8(c)(4) and 112.12(c)(4), listed below. **In cases where a provision is not applicable, write "N/A".**

Table G-10 General Rule Requirements for Onshore Facilities		N/A
Drainage from diked storage areas is restrained by valves to prevent a discharge into the drainage system or facility effluent treatment system, except where facility systems are designed to control such discharge. Diked areas may be emptied by pumps or ejectors that must be manually activated after inspecting the condition of the accumulation to ensure no oil will be discharged. *[§§112.8(b)(1) and 112.12(b)(1)]*	☐	X☐
Valves of manual, open-and-closed design are used for the drainage of diked areas. *[§§112.8(b)(2) and 112.12(b)(2)]*	☐	X☐
The containers at the facility are compatible with materials stored and conditions of storage such as pressure and temperature. *[§§112.8(c)(1) and 112.12(c)(1)]*	X☐	☐
Secondary containment for the bulk storage containers (including mobile/portable oil storage containers) holds the capacity of the largest container plus additional capacity to contain precipitation. Mobile or portable oil storage containers are positioned to prevent a discharge as described in §112.1(b). *[§112.6(a)(3)(ii)]*	☐	X☐
If uncontaminated rainwater from diked areas drains into a storm drain or open watercourse the following procedures will be implemented at the facility: *[§§112.8(c)(3) and 112.12(c)(3)]*		
• Bypass valve is normally sealed closed	☐	X☐
• Retained rainwater is inspected to ensure that its presence will not cause a discharge to navigable waters or adjoining shorelines	☐	X☐
• Bypass valve is opened and resealed under responsible supervision	☐	X☐
• Adequate records of drainage are kept **[See Dike Drainage Log in Attachment 3.3]**	☐	X☐
For completely buried metallic tanks installed on or after January 10, 1974 at this facility *[§§112.8(c)(4) and 112.12(c)(4)]*:		
• Tanks have corrosion protection with coatings or cathodic protection compatible with local soil conditions.	☐	X☐
• Regular leak testing is conducted.	☐	X☐
For partially buried or bunkered metallic tanks *[§112.8(c)(5) and §112.12(c)(5)]*:		
• Tanks have corrosion protection with coatings or cathodic protection compatible with local soil conditions.	☐	X☐
Each aboveground bulk container is tested or inspected for integrity on a regular schedule and whenever material repairs are made. Scope and frequency of the inspections and inspector qualifications are in accordance with industry standards. Container supports and foundations are regularly inspected. **[See Inspection Log and Schedule and Bulk Storage Container Inspection Schedule in Attachments 3.1 and 3.2]** *[§112.8(c)(6) and §112.12(c)(6)(i)]*	X☐	☐
Outsides of bulk storage containers are frequently inspected for signs of deterioration, discharges, or accumulation of oil inside diked areas. **[See Inspection Log and Schedule in Attachment 3.1]** *[§§112.8(c)(6) and 112.12(c)(6)]*	X☐	☐
For bulk storage containers that are subject to 21 CFR part 110 which are shop-fabricated, constructed of austenitic stainless steel, elevated and have no external insulation, formal visual inspection is conducted on a regular schedule. Appropriate qualifications for personnel performing tests and inspections are documented. **[See Inspection Log and Schedule and Bulk Storage Container Inspection Schedule in Attachments 3.1 and 3.2]** *[§112.12(c)(6)(ii)]*	X☐	☐

Table G-10 General Rule Requirements for Onshore Facilities		N/A
Each container is provided with a system or documented procedure to prevent overfills for the container. Describe: Portable, transportable 500-gallon fuel storage containers would only be emptied at Ta`u and Ofu, never filled, so overfills of these containers are not possible at transportable tank storage sites at Ta`u and Ofu.	☐	X☐
Liquid level sensing devices are regularly tested to ensure proper operation **[See Inspection Log and Schedule in Attachment 3.1]**. *[§112.6(a)(3)(iii)]*	☐	X☐
Visible discharges which result in a loss of oil from the container, including but not limited to seams, gaskets, piping, pumps, valves, rivets, and bolts are promptly corrected and oil in diked areas is promptly removed. *[§§112.8(c)(10) and 112.12(c)(10)]*	X☐	☐
Aboveground valves, piping, and appurtenances such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces are inspected regularly. **[See Inspection Log and Schedule in Attachment 3.1]** *[§§112.8(d)(4) and 112.12(d)(4)]*	X☐	☐
Integrity and leak testing are conducted on buried piping at the time of installation, modification, construction, relocation, or replacement. **[See Inspection Log and Schedule in Attachment 3.1]** *[§§112.8(d)(4) and 112.12(d)(4)]*	☐	X☐

B. Onshore Oil Production Facilities (excluding drilling and workover facilities) (§112.9(b), (c), and (d)):

The owner or operator must meet the general rule requirements as well as the requirements under this section. Note that not all provisions may be applicable to all owners/operators. **In cases where a provision is not applicable, write "N/A".**

Table G-11 General Rule Requirements for Onshore Oil Production Facilities		N/A
At tank batteries, separation and treating areas, drainage is closed and sealed except when draining uncontaminated rainwater. Accumulated oil on the rainwater is returned to storage or disposed of in accordance with legally approved methods. *[§112.9(b)(1)]*	☐	☐
Prior to drainage, diked areas are inspected and *[§112.9(b)(1)]*:		
• Retained rainwater is inspected to ensure that its presence will not cause a discharge to navigable waters	☐	☐
• Bypass valve is opened and resealed under responsible supervision	☐	☐
• Adequate records of drainage are kept **[See Dike Drainage Log in Attachment 3.3]**	☐	☐
Field drainage systems and oil traps, sumps, or skimmers are inspected at regularly scheduled intervals for oil, and accumulations of oil are promptly removed **[See Inspection Log and Schedule in Attachment 3.1]** *[§112.9(b)(2)]*	☐	☐
The containers used at this facility are compatible with materials stored and conditions of storage. *[§112.9(c)(1)]*	☐	☐
All tank battery, separation, and treating facility installations (except for flow-through process vessels) are constructed with a capacity to hold the largest single container plus additional capacity to contain rainfall. Drainage from undiked areas is safely confined in a catchment basin or holding pond. *[§112.9(c)(2)]*	☐	☐
Except for flow-through process vessels, containers that are on or above the surface of the ground, including foundations and supports, are visually inspected for deterioration and maintenance needs on a regular schedule. **[See Inspection Log and Schedule in Attachment 3.1]** *[§112.9(c)(3)]*	☐	☐
New and old tank batteries at this facility are engineered/updated in accordance with good engineering practices to prevent discharges including at least one of the following: i. adequate container capacity to prevent overfill if regular pumping/gauging is delayed; ii. overflow equalizing lines between containers so that a full container can overflow to an adjacent container; iii. vacuum protection to prevent container collapse; or iv. high level sensors to generate and transmit an alarm to the computer where the facility is subject to a computer production control system. *[§112.9(c)(4)]*	☐	☐
Flow-through process vessels and associated components are:		
• Are constructed with a capacity to hold the largest single container plus additional capacity to contain rainfall. Drainage from undiked areas is safely confined in a catchment basin or holding pond; *[§112.9(c)(2)]* and	☐	☐
• That are on or above the surface of the ground, including foundations and supports, are visually inspected for deterioration and maintenance needs on a regular schedule. **[See Inspection Log and Schedule in Attachment 3.1]** *[§112.9(c)(3)]*	☐	☐
Or		
• Visually inspected and/or tested periodically and on a regular schedule for leaks, corrosion, or other conditions that could lead to a discharge to navigable waters; and	☐	☐
• Corrective action or repairs are applied to flow-through process vessels and any associated components as indicated by regularly scheduled visual inspections, tests, or evidence of an oil discharge; and	☐	☐
• Any accumulations of oil discharges associated with flow-through process vessels are promptly removed; and	☐	☐
• Flow-through process vessels are provided with a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation within six months of a discharge from flow-through process vessels of more than 1,000 U.S. gallons of oil in a single discharge as described in §112.1(b), or a discharge more than 42 U.S. gallons of oil in each of two discharges as described in §112.1(b) within any twelve month period. *[§112.9(c)(5)] (Leave blank until such time that this provision is applicable.)*	☐	☐

Table G-11 General Rule Requirements for Onshore Oil Production Facilities		N/A
All aboveground valves and piping associated with transfer operations are inspected periodically and upon a regular schedule. The general condition of flange joints, valve glands and bodies, drip pans, pipe supports, pumping well polish rod stuffing boxes, bleeder and gauge valves, and other such items are included in the inspection. **[See Inspection Log and Schedule in Attachment 3.1]** *[§112.9(d)(1)]*	☐	☐
An oil spill contingency plan and written commitment of resources are provided for flowlines and intra-facility gathering lines **[See Oil Spill Contingency Plan and Checklist in Attachment 2 and Inspection Log and Schedule in Attachment 3.1]** *[§112.9(d)(3)]*	☐	☐
or Appropriate secondary containment and/or diversionary structures or equipment is provided for flowlines and intra-facility gathering lines to prevent a discharge to navigable waters or adjoining shorelines. The entire secondary containment system, including walls and floor, is capable of containing oil and is constructed so that any discharge from the pipe, will not escape the containment system before cleanup occurs.	☐	☐
A flowline/intra-facility gathering line maintenance program to prevent discharges from each flowline has been established at this facility. The maintenance program addresses each of the following:	☐	☐
• Flowlines and intra-facility gathering lines and associated valves and equipment are compatible with the type of production fluids, their potential corrosivity, volume, and pressure, and other conditions expected in the operational environment;	☐	☐
• Flowlines, intra-facility gathering lines and associated appurtenances are visually inspected and/or tested on a periodic and regular schedule for leaks, oil discharges, corrosion, or other conditions that could lead to a discharge as described in §112.1(b). The frequency and type of testing allows for the implementation of a contingency plan as described under part 109 of this chapter.	☐	☐
• Corrective action and repairs to any flowlines and intra-facility gathering lines and associated appurtenances as indicated by regularly scheduled visual inspections, tests, or evidence of a discharge.	☐	☐
• Accumulations of oil discharges associated with flowlines, intra-facility gathering lines, and associated appurtenances are promptly removed. *[§112.9(d)(4)]*	☐	☐
The following is a description of the flowline/intra-facility gathering line maintenance program implemented at this facility:		

C. Onshore Oil Drilling and Workover Facilities (§112.10(b), (c) and (d)):

The owner or operator must meet the general rule requirements as well as the requirements under this section.

Table G-12 General Rule Requirements for Onshore Oil Drilling and Workover Facilities	
Mobile drilling or worker equipment is positioned or located to prevent discharge as described in §112.1(b). *[§112.10(b)]*	☐
Catchment basins or diversion structures are provided to intercept and contain discharges of fuel, crude oil, or oily drilling fluids. *[§112.10(c)]*	☐
A blowout prevention (BOP) assembly and well control system was installed before drilling below any casing string or during workover operations. *[§112.10(d)]*	☐
The BOP assembly and well control system is capable of controlling any well-head pressure that may be encountered while the BOP assembly and well control system are on the well. *[§112.10(d)]*	☐

ATTACHMENT 1 – Five Year Review and Technical Amendment Logs

ATTACHMENT 1.1 – Five Year Review Log

I have completed a review and evaluation of the SPCC Plan for this facility, and will/will not amend this Plan as a result.

Table G-13 Review and Evaluation of SPCC Plan for Facility			
Review Date	Plan Amendment		Name and signature of person authorized to review this Plan
	Will Amend	Will Not Amend	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	

ATTACHMENT 1.2 – Technical Amendment Log

Any technical amendments to this Plan will be re-certified in accordance with Section I of this Plan template.

Table G-15 Description and Certification of Technical Amendments

Review Date	Description of Technical Amendment	Name and signature of person certifying this technical amendment

ATTACHMENT 2 – Oil Spill Contingency Plan and Checklist

An oil spill contingency plan and written commitment of resources is required for:

- Flowlines and intra-facility gathering lines at oil production facilities and
- Qualified oil-filled operational equipment which has no secondary containment.

An oil spill contingency plan meeting the provisions of 40 CFR part 109, as described below, and a written commitment of manpower, equipment and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful is attached to this Plan.	X☐

Complete the checklist below to verify that the necessary operations outlined in 40 CFR part 109 - Criteria for State, Local and Regional Oil Removal Contingency Plans - have been included.

Table G-15 Checklist of Development and Implementation Criteria for State, Local and Regional Oil Removal Contingency Plans (§109.5)[a]	
(a) Definition of the authorities, responsibilities and duties of all persons, organizations or agencies which are to be involved in planning or directing oil removal operations.	X☐
(b) Establishment of notification procedures for the purpose of early detection and timely notification of an oil discharge including:	
(1) The identification of critical water use areas to facilitate the reporting of and response to oil discharges.	X☐
(2) A current list of names, telephone numbers and addresses of the responsible persons (with alternates) and organizations to be notified when an oil discharge is discovered.	X☐
(3) Provisions for access to a reliable communications system for timely notification of an oil discharge, and the capability of interconnection with the communications systems established under related oil removal contingency plans, particularly State and National plans (e.g., NCP).	X☐
(4) An established, prearranged procedure for requesting assistance during a major disaster or when the situation exceeds the response capability of the State, local or regional authority.	X☐
(c) Provisions to assure that full resource capability is known and can be committed during an oil discharge situation including:	
(1) The identification and inventory of applicable equipment, materials and supplies which are available locally and regionally.	X☐
(2) An estimate of the equipment, materials and supplies which would be required to remove the maximum oil discharge to be anticipated.	X☐
(3) Development of agreements and arrangements in advance of an oil discharge for the acquisition of equipment, materials and supplies to be used in responding to such a discharge.	X☐
(d) Provisions for well defined and specific actions to be taken after discovery and notification of an oil discharge including:	
(1) Specification of an oil discharge response operating team consisting of trained, prepared and available operating personnel.	X☐
(2) Predesignation of a properly qualified oil discharge response coordinator who is charged with the responsibility and delegated commensurate authority for directing and coordinating response operations and who knows how to request assistance from Federal authorities operating under existing national and regional contingency plans.	X☐
(3) A preplanned location for an oil discharge response operations center and a reliable communications system for directing the coordinated overall response operations.	X☐
(4) Provisions for varying degrees of response effort depending on the severity of the oil discharge.	X☐
(5) Specification of the order of priority in which the various water uses are to be protected where more than one water use may be adversely affected as a result of an oil discharge and where response operations may not be adequate to protect all uses.	X☐
(6) Specific and well defined procedures to facilitate recovery of damages and enforcement measures as provided for by State and local statutes and ordinances.	X☐

[a] The contingency plan must be consistent with all applicable state and local plans, Area Contingency Plans, and the National Contingency Plan (NCP)

ATTACHMENT 3 – Inspections, Dike Drainage and Personnel Training Logs

ATTACHMENT 3.1 – Inspection Log and Schedule

Table G-16 Inspection Log and Schedule

This log is intended to document compliance with §§112.6(a)(3)(iii), 112.8(c)(6), 112.8(d)(4), 112.9(b)(2), 112.9(c)(3), 112.9(d)(1), 112.9(d)(4), 112.12.(c)(6), and 112.12(d)(4), as applicable.

Date of Inspection	Container / Piping / Equipment	Describe Scope (or cite Industry Standard)	Observations	Name/ Signature of Inspector	Records maintained separately [a]
					☐
					☐
					☐
					☐
					☐

[a] Indicate in the table above if records of facility inspections are maintained separately at this facility.

ATTACHMENT 3.2 – Bulk Storage Container Inspection Schedule – onshore facilities (excluding production):

To comply with integrity inspection requirement for bulk storage containers, inspect/test each shop-built aboveground bulk storage container on a regular schedule in accordance with a recognized container inspection standard based on the minimum requirements in the following table.

Table G-17 Bulk Storage Container Inspection Schedule

Container Size and Design Specification	Inspection requirement
Portable containers (including drums, totes, and intermodal bulk containers (IBC))	Visually inspect monthly for signs of deterioration, discharges or accumulation of oil inside diked areas
55 to 1,100 gallons with sized secondary containment	Visually inspect monthly for signs of deterioration, discharges or accumulation of oil inside diked areas plus any annual inspection elements per industry inspection standards
1,101 to 5,000 gallons with sized secondary containment and a means of leak detection[a]	
1,101 to 5,000 gallons with sized secondary containment and no method of leak detection[a]	Visually inspect monthly for signs of deterioration, discharges or accumulation of oil inside diked areas, plus any annual inspection elements and other specific integrity tests that may be required per industry inspection standards

[a] Examples of leak detection include, but are not limited to, double-walled tanks and elevated containers where a leak can be visually identified.

ATTACHMENT 3.3 – Dike Drainage Log

Table G-18 Dike Drainage Log

Date	Bypass valve sealed closed	Rainwater inspected to be sure no oil (or sheen) is visible	Open bypass valve and reseal it following drainage	Drainage activity supervised	Observations	Signature of Inspector
	☐	☐	☐	☐		
	☐	☐	☐	☐		
	☐	☐	☐	☐		
	☐	☐	☐	☐		
	☐	☐	☐	☐		
	☐	☐	☐	☐		
	☐	☐	☐	☐		
	☐	☐	☐	☐		

ATTACHMENT 3.4 – Oil-handling Personnel Training and Briefing Log

Table G-19 Oil-Handling Personnel Training and Briefing Log		
Date	**Description / Scope**	**Attendees**

ATTACHMENT 4 – Discharge Notification Form

In the event of a discharge of oil to navigable waters or adjoining shorelines, the following information will be provided to the National Response Center **[also see the notification information provided in Section 7 of the Plan]**:

Table G-20 Information provided to the National Response Center in the Event of a Discharge			
Discharge/Discovery Date		Time	
Facility Name	Fishermen Fuel Storage Facilities in Manua (Ta`u and Ofu)		
Facility Location (Address/Lat-Long/Section Township Range)	Near Ta`u and Ofu Harbors		
Name of reporting individual	To be designated by ASMWR	Telephone # To be designated by ASMWR	
Type of material discharged	Gasoline	Estimated total quantity discharged	Gallons/Barrels
Source of the discharge	Transportable 500-gallon capacity fuel storage containers	Media affected	☐ Soil ☐ Water (specify) ☐ Other (specify)
Actions taken			
Damage or injuries	☐ No ☐ Yes (specify)	Evacuation needed?	☐ No ☐ Yes (specify)
Organizations and individuals contacted	☐ National Response Center 800-424-8802 Time		
	☐ Cleanup contractor (Specify) Time		
	☐ Facility personnel (Specify) Time		
	☐ State Agency (Specify) Time		
	☐ Other (Specify) Time		