NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
FACT SHEET

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Permitted Facility and Address:	1118 Cabras Highway Piti, Guam 96925
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NPDES Permit No.:	GU0020079

PART I - STATUS OF PERMIT

South Pacific Petroleum Corporation (hereinafter, the "permittee") has applied for renewal of its National Pollution Discharge Elimination System ("NPDES") permit pursuant to U.S. Environmental Protection Agency ("EPA") regulations set forth in Title 40, U.S. Code of Federal Regulations ("CFR"), Part 122.21, for the discharge of treated effluent from its petroleum bulk storage and distribution facility to Category M-3 marine waters of Apra Harbor. These regulations require any person who discharges or proposes to discharge pollutants from a point source into waters of the U.S. to submit a complete application for a NPDES permit, including a renewal of a permit. The permittee is currently discharging to Apra Harbor under the NPDES permit No. GU0020079, which became effective on September 13, 2006, and expired on September 13, 2011. On August 9, 2011, the permittee submitted an application for renewal of its NPDES permit.

PART II - DESCRIPTION OF FACILITY

The permittee owns and operates a bulk petroleum storage and wholesale distribution facility (the "facility") that is located at 1118 Cabras Highway on Cabras Island in Piti, Guam. The facility consists of six aboveground storage tanks ("ASTs") that store gasoline and diesel and three ASTs for that store other petroleum products such as gasoline additives and residual jet fuel. The facility has a combined total storage capacity of over seven million gallons of petroleum products. All ASTs are located within secondary containment. Petroleum products are received from ships through four underground pipelines that connect the facility to a dock on Apra Harbor. The facility is approximately 1,500 feet from the shoreline of Apra Harbor. Petroleum products are stored in ASTs and distributed throughout the island via tanker trucks.

The applicant also indicated in their application that tank bottom draws are sent to an oil/water separator and the water is then sent to an evaporation pond in the northwest corner of the bermed area

for outfall 001. However a recent inspection indicated that the due to problems with operation of the oil/water separator the permittee is transporting all tank bottom water draws to the nearby Guam Power Authority power plant for treatment and disposal. The permit prohibits discharge from outfall 001 unless the oil/water separator is operating properly.

PART III - DESCRIPTION OF RECEIVING WATER

Guam Environmental Protection Agency ("GEPA")), GEPA classifies Apra Harbor as a Category M-3 ("Fair" quality) marine water in the vicinity of Outfall 001 and 002, according to *Guam Water Quality Standards, 2001 Revision* (Public Law 26-113, June 18, 2002, Guam Environmental Protection Agency). Guam's water quality standards state that "water in this category is intended for general, commercial and industrial use, while allowing for protection of aquatic life, aesthetic enjoyment and compatible recreation with limited body contact. Specific intended uses include the following: shipping, boating and berthing, industrial cooling water, and marinas." During facility operations, the permittee discharges to Apra Harbor through the following discharge outfalls:

Discharge Outfall No.	Latitude	Longitude	Outfall Description
001	13° 27 '42" N	144° 39' 49" E	Drainage from bulk storage area and Pipeline Receipt and Transfer Manifold Area
002	13° 27' 42" N	144° 39' 48" E	Drainage from Tank Truck Loading Area

PART IV - DESCRIPTION OF DISCHARGE

The permittee stores and distributes a variety of petroleum products to on-island facilities and/or companies. Effluent discharges from Discharge Outfall No. 001 include tank bottom water draws, which originate at the lowest inner part of a petroleum storage tank where liquid drains from the interior spaces as a result of rainwater accumulation and water condensation from the petroleum product itself; ship to shore transference spills and leaks; and storm water runoff from the storage tank farm area. For Discharge Outfall No. 002, effluent discharges include storm water runoff from the tank truck loading area. All facility discharges are treated by an oil and water separator prior to release from the two discharge outfalls described above. The estimated maximum flow rate of Discharge Outfall Nos. 001 and 002 is 0.0035 and 0.0063 million gallons per day ("MGD"), respectively, based on the permittee's NPDES permit application, EPA Form 3510-2C, dated July 27, 2011. No mixing zone has been authorized for either outfall. Table 1 summarizes the characteristics of the discharge based on summaries of monthly Discharge Monitoring Report ("DMR") forms from the period of January 2007 to April 2011 and the permittee's NPDES permit application dated July 27, 2011. NOTE: Permittee has not submitted "official" DMR forms to EPA.

At the request of EPA, the permittee submitted additional monitoring information on between January 2006 and April 2011, to supplement the original application. In response to EPA's request on March 8, 2006, the permittee submitted limited wet weather effluent data on BOD, COD, TOC, TSS, ammonia, temperature, and pH for consideration in the permit renewal process. EPA has considered the data for these other parameters in its reasonable potential analysis. EPA requests the permittee continue to monitoring for these other parameters and upon receipt of this new information, EPA will consider it as part of the permit renewal process.

B. Monitoring Data and Inspection Report Results

EPA reviewed the latest DMR data (2007-2010) which indicates two parameters exceeded the effluent limit or monitoring limit, during the previous permit cycle. Specifically, the pH limit has been exceeded numerous times and the total lead limit has been exceeded 8 of 20 times; these exceedences occurred at both outfalls. There was one exceedence of benzene in discharge from outfall 001. Inspection report (2010) identified several other inconsistencies and potential violations which are summarized here and outlined below. The permittee does not have any effluent flow monitoring devices and there was uncertainty regarding how permittee makes estimates of flow discharge. Also, the permittee had not developed a Pollution Prevention Plan nor a Quality Assurance manual and both had not been submitted during the previous permit cycle as required by the permit. The inspection report also noted the permittee could reduce pollutants from mixing with effluent by enhancing BMPs to address stormwater runoff on slop fuel buckets, used oil filters and leaking pipes.

Table 1 – Comparison of effluent limitations from the previous permit period (2006-2011) and effluent data from the Monthly Discharge Monitoring Report ("DMR") forms and permit application.

Pollutant/ Parameter	Daily Max. Allowable Effluent Limit from 2006 Permit	Daily Maximum Concentration from DMR Forms	
		Discharge Outfall No. 001	Discharge Outfall No. 002
Flow Rate (MGD)[1]	NA[2]	0.3590	0.3590
pH (Std. Units)[3]	6.5/8.5	7.1/9.3	8.3/9.3
Oil and Grease (mg/l)	15	4.9	12.3
Lead (mg/l)	0.0081	0.032	0.029
Benzene (mg/l)	0.071	0.099	ND[4]
Toluene (mg/l)	NA	2.19	0.041
Ethylbenzene (mg/l)	NA	0.057	0.006
Xylene (mg/l)	NA	1.05	0.023
BOD (mg/l)	NA	8.4	9.7
COD (mg/l)	NA	116	71
Ammonia (mg/l)	NA	ND[4]	ND[4]
TSS (mg/l)	NA	189	7.7

[1]MGD means million gallons per day.
[2]Not applicable since no effluent limit was established for the pollutant or parameter in the 2006 permit.
[3]pH effluent limits and concentrations reported as the minimum and maximum values.
[4]The permittee reported that the concentration is less than the laboratory's practical quantitation limit.

PART V – DETERMINATION OF NUMERIC EFFLUENT LIMITATIONS

As federal guidelines have not been promulgated for bulk oil storage and transfer facilities, limitations were established using:

1. Guam water quality standards, revised and approved by Guam on June 18, 2002;
2. National Recommended Water Quality Criteria, December 2004; and
3. Best Professional Judgment

The Guam water quality standards categorize the marine waters of Apras Harbor as M-3.

When determining effluent limitations, EPA must consider limitations based on the technology available to treat the pollutant(s) (i.e., technology-based limitations) and limitations that are protective of water quality standards (i.e., water quality-based limitations). In accordance with 40 CFR Parts 122.44 and 125.3 and Guam water quality standards, technology and water quality-based effluent limitations for the draft permit are proposed using daily maximum limits.

A. Technology-based Effluent Limitations

The draft permit contains a technology-based effluent limit for oil and grease since oil and grease are common components of oily wastewater, and was found to be in the effluent discharge at a concentration that exceeded the technology-based effluent limit of 15 mg/l in the previous permit. The effluent limit for oil and grease is based on EPA's Best Professional Judgment ("BPJ") as part of developing technology-based effluent limits since there are no applicable effluent limitation guidelines and performance standards for oil and grease. Section 402(a)(1) of the Clean Water Act ("CWA") provides for the establishment of BPJ-based limits when specific national effluent guidelines are not available for a pollutant of concern.

The proposed BPJ daily maximum discharge limit for oil and grease is 15.0 mg/l. This limit is consistent with other similar facilities that treat oily wastewater and facility storm water in Guam. In addition to this technology-based numeric limit, the narrative water quality-based limit for oil and grease, such as prohibiting visible sheening, are included in the draft permit.

B. Water Quality-Based Effluent Limitations

In accordance with 40 CFR 122.44(d), the draft permit proposes water quality-based effluent limits for several pollutants or parameters since EPA has determined, based on effluent data provided by the permittee and the nature of the discharge, that the effluent discharged from the facility causes, has the reasonable potential to cause, or contributes to an exceedance of Guam water quality standards. When determining whether an effluent discharge causes, has the reasonable potential to cause, or contributes to an excursion above a narrative or numeric criteria within a State (or Territory) water quality standard, the permitting authority, such as EPA, shall use procedures which account for

existing controls on point and nonpoint sources of pollution, and the variability of the pollutant or parameter in the effluent. Such procedures include a Reasonable Potential Analysis ("RPA"), which was conducted for each potential pollutant or parameter below, except pH. The RPA was based on statistical procedures outlined in EPA's *Technical Support Document for Water Quality-based Toxics Control,* Second Printing (EPA/505/2-9-001). These statistical procedures result in the calculation of the potential maximum effluent concentration-based on monitoring data provided by the permittee. Due to the limited monitoring data available (n=20) and the high degree of effluent variability, maximum effluent concentrations were estimated using a coefficient of variation of 0.6 and the 99 percent confidence interval of the 99th percentile based on an assumed lognormal distribution of daily effluent values (*Technical Support Document for Water Quality-based Toxics Control,* Second Printing, Sections 3.3.2 and 5.5.2, EPA/505/2-9-001). The maximum effluent concentration was then compared to the Guam water quality standard to determine reasonable potential. Table 2 provides a detailed RPA for each pollutant or parameter that causes, has the reasonable potential to cause, or contributes to an exceedance of Guam water quality standards.

For all parameters or pollutants that show a reasonable potential based on the statistical approach, numeric water quality-based effluent limits were included in the draft permit and are described below (40 CFR 122.44(d)(1)). Water quality-based effluent limits were established without consideration of a mixing zone. In addition, for all reissued permits, section 402(o) of the CWA and 40 CFR 122.44(l) require permit limitations and conditions to be as stringent as the previous permit unless specific exceptions apply. The draft permit contains no specific exceptions. Table 3 provides a summary of effluent limitations, monitoring frequency, and sample types for each pollutant or parameter in the draft permit that was shown reasonable potential to cause, or contribute to an exceedance of Guam water quality standards.

Table 2 – Comparison of water quality-based effluent limit ("WQBEL") from the 2006 NPDES permit or Guam Water Quality Standard and the estimated maximum concentration of the pollutant or parameter using Reasonable Potential Analysis ("RPA"). Sample number, *n*, is based on data reported on the Discharge Monitoring Report ("DMR") forms.

Pollutant/ Parameter	**Guam Water Quality Standard**	**Daily Max. Concentration from DMRs**	***n***	**RPA Multiplier**	**Statistically Estimated Max. Concentration**	**Exceeds Standard?**
Oil and Grease (mg/l)	15	12.3	20	2.3	28.3	Yes
Lead (mg/l)	0.0081	0.032	20	2.3	0.074	Yes
Benzene (mg/l)	0.0071	0.099	20	2.3	0.228	Yes
Toluene (mg/l)	200	2.19	20	2.3	5.04	No
Ethylbenzene (mg/l)	2.1	0.057	20	2.3	0.131	No
Xylene (mg/l)	NA	1.05	20	2.3	2.42	NA
TSS (mg/L)	40	189	20	2.3	435	Yes
BOD (mg/L)	45	9.7	20	2.3	22.3	No
COD	NA	116	20	2.3	267	NA
NH3 (mg/L)	8.40	ND	20	2.3	ND	NA
TOC	NA	21	20	2.3	48.3	NA

[1]NA means not applicable since no water quality-based standard has been established for the pollutant or parameter.
[2]ND means the concentration is less than the laboratory's practical quantitation limit
[3]Based on a comparison of statistically-estimated maximum concentration only; reasonable potential exists for ethylbenzene and xylene based on their presence in refined products the facility stores and distributes and their detection in the effluent.

Table 3 - Proposed effluent limitations, monitoring frequency, and sample type for each pollutant or parameter for Discharge Outfall Nos. 001 and 002.

Pollutant/Parameter	Daily Max. Allowable Effluent Limitation	Monitoring Requirements	
		Monitoring Frequency	Sample Type
Flow Rate (MGD)[1]	NA[2]	Continuous	Metered
pH (Std. Units)[3]	6.5/8.5	Once/Month	Grab
Oil and Grease (mg/l)	15	Once/Month	Grab
Lead (mg/l)	0.0081	Once/Month	Grab
Benzene (mg/l)	0.071	Once/Month	Grab
Toluene (mg/l)	NA[2]	Once/Month	Grab
Ethylbenzene (mg/l)	NA[2]	Once/Month	Grab
Xylene (mg/l)	NA[2]	Once/Month	Grab
TSS (mg/L) [4]	40	Once/Month	Grab

[1]MGD means million gallons per day.
[2]NA means not applicable since no numerical effluent limits are established for the pollutant or parameter; only monitoring and reporting is required for the duration of the permit.
[3]pH effluent limits reported as minimum/maximum concentrations; pH shall be measured at the time of sampling.
[4] TSS effluent limit is new in 2011, whereas all other effluent limits are same as in 2006

1. *pH* - The range of pH values is based on Guam's water quality standards, which require that all marine waters, including Category M-3 marine waters, maintain a pH range of 6.5 to 8.5. Therefore, the proposed pH range for the effluent is 6.5 to 8.5.

2. *Oil and Grease* - As previously described, a numerical technology-based effluent limit is proposed for oil and grease (15 mg/L). In addition, a narrative water quality-based effluent limit is proposed since it is commonly found in wastewater and storm water from bulk petroleum storage facilities and, based on the RPA, has a reasonable potential to cause, or contributes to an exceedance of Guam water quality standards. The narrative effluent limit for oil and grease is based on Guam's water quality standards and includes the prohibition of visible sheening (see PART VI (D)).

3. *Lead* - The analysis showed reasonable potential for lead, thus an effluent limit is proposed for lead. Also, lead is commonly found in fuel oil and oily wastewaters and has been shown to occur in wastewater and storm water effluent from similar facilities in Guam. The proposed discharge limit for lead is 0.0081 mg/l and is based on Guam water quality standards for aquatic life protection (i.e., Criteria Maximum Concentration for marine waters). The limit is based on total recoverable metal and the potential for acute exposure of lead to aquatic life.

4. *Benzene* - An effluent limit is proposed for benzene since it is a common component of gasoline and other petroleum products and, based on the RPA, has the reasonable potential to cause, or contributes to an exceedance of Guam's water quality standards. The proposed discharge limit for benzene is 0.071 mg/l. The limit is based on the human health risk (1×10^{-6} carcinogenic risk) of the consumption of aquatic organisms only (in contrast to consumption of water and aquatic organisms). Where aquatic life protection is included as a water quality standard, as is the case with Category M-3 marine waters, fish consumption criteria is applied to all aquatic life uses.

5. *Toluene, Ethylbenzene, and Xylene* – Although the statistical approach of the RPA did not show a reasonable potential, based on best professional judgment, monitoring and reporting requirements are proposed for toluene, ethylbenzene and xylene since these pollutants are commonly present in refined oil products and have been shown to be present in the effluent and in effluent at similar facilities in Guam. At this time, there is no numeric water quality-based effluent limit proposed for toluene, ethylbenzene, or xylene.

6. *TSS* – The statistical approach of RPA showed a reasonable potential for total suspended solids. The proposed discharge limit is based on Guam's water quality standards, which require that all marine waters, including Category M-3 marine waters, maintain TSS concentrations less than 40 mg/L for aquatic life protection.

D. Anti-Backsliding

Section 402(o) of the CWA prohibits the renewal or reissuance of an NPDES permit that contains effluent limits less stringent than those established in the previous permit, except as provided in the statute. The permit does not establish any effluent limits less stringent than those in the previous permit and does not allow backsliding.

E. Anti-degradation Policy

EPA's anti-degradation policy at 40 CFR 131.12 and Guam WQS Section 5101.B. require that existing water uses and the level of water quality necessary to protect the existing uses be maintained. As described in this document, the permit establishes effluent limits and monitoring requirements to ensure that all applicable water quality standards are met. The permit does not include a mixing zone; therefore, these limits will apply at the end of pipe without consideration of dilution in the receiving water. Due to the low levels of toxic pollutants present in the effluent, treatment prior to discharge, and water quality based effluent limitations, it is not expected that the discharge will adversely affect receiving water bodies.

NARRATIVE WATER QUALITY-BASED EFFLUENT LIMITS

Sections 5103 and 5104 of Guam water quality standards contain narrative water quality effluent limits that apply to Category M-3 marine waters and that are applicable to the effluent. The draft permit proposes narrative water quality-based effluent limits consistent with those included within the Guam water quality standards.

PART VI – MONITORING AND REPORTING REQUIREMENTS

The draft permit requires the permittee to continue to monitor for pollutants or parameters with technology-based effluent limits (i.e., oil and grease) and water quality-based effluent limits (i.e., pH, lead, TSS and benzene) in the effluent for the duration of the draft permit. Pollutants or parameters with water quality-based effluent limits shall be monitored once per month with grab sampling methods. The draft permit also requires toluene, ethylbenzene and xylene to be monitored for once per month using the same methodology. Additional monitoring is required for the following other parameters: total organic carbon (TOC), biological oxygen demand (BOD), chemical oxygen demand (COD), and ammonia.

In accordance with federal regulations, the permittee must conduct a Priority Toxics Pollutants scan during the fourth year of permit cycle, so effluent results can be reviewed prior to next permit cycle and to ensure the discharge does not contain toxic pollutants in concentrations that may cause violation of water quality standards. If the scan results indicate that a limit has actually been exceeded or there is a reasonable potential for such a limit to be exceeded, then during next cycle, this permit may include appropriate numeric limits for those parameters with exceedances.

The draft permit also requires photo documentation of the discharged effluent once per quarter. This is a new requirement. All monitoring, sampling, and analyses shall be performed as described in the most recent edition of 40 CFR 136, unless otherwise specified in the draft permit. All monitoring data must be reported on monthly DMR forms and submitted quarterly to EPA and the Guam Environmental Protection Agency ("Guam EPA"), as specified in the draft permit.

PART VII - SPECIAL CONDITIONS

Permits issued by EPA require State review and certification under Section 401 of the Clean Water Act (CWA) ensures that the permit will comply, not only with applicable Federal standards under the CWA, but also with State water quality standards. On May 22, 2012, Guam EPA issued CWA Section 401(a)(1) certification to this facility with authorization to discharge from outfalls with the following conditions:

1. The permittee is required to conduct a study to identify potential contributors of pH and Lead exceeding allowable effluent limits.

2. The permittee must continue to adhere to the established effluent limitations and monitoring requirement as to pH, Oil and Grease, Lead, Benzene, Toluene, Ethlybenzene and Xylene, as well as reporting on flow and location of discharge, since two discharge sites are approved.
3. The permittee shall not discharge to coral spawning areas during mass coral spawning. The applicant shall consult with the University of Guam's Marine Lab or the Guam Department of Agriculture, DAWR on coral spawning periods.
4. The permittee shall implement Best Judgment and Best Management Practices to prevent or minimize water quality degradation.
5. The permittee shall execute corrective actions or engineering measure to address non-compliances of the Guam Water Quality Standards that may or has result in water degradation and/or environmental problems and notify the Guam Environmental Protection Agency within 24 hours.

Pursuant to 40 CFR 122.44(k), EPA may impose Best Management Practices ("BMPs") which are "reasonably necessary…to carry out the purposes of the Act." The pollution prevention requirements or BMPs in the permit operate as technology-based limitations on effluent discharges that reflect the application of Best Available Technology and Best Control Technology. Therefore, the permit requires the permittee to develop (or update) and implement a Pollution Prevention Plan with the appropriate pollution prevention measures or BMPs designed to prevent pollutants from entering Apra Harbor and other surface waters while maintaining, transporting, and storing petroleum products or other potential pollutants at the facility.

PART VIII – OTHER CONSIDERATIONS UNDER FEDERAL LAWS

A. Endangered Species Act

The discharge is to land which may then sheet flow into a channel and then eventually flow into Apra Harbor and therefore the US Fish and Wildlife Service is the federal agency with jurisdiction. EPA obtained a list of threatened and endangered species from the US Fish and Wildlife Service. The list includes twelve animal species and one plant species as follows: Little Marianas Fruit Bat (*Pteropus tokudae*), Marianas Fruit Bat or Marianas Flying Fox (*Pteropus marianus marianus*), Mariana Crow (*Corvus kubaryi*), Guam Micronesian Moorhen (*Gallinula chloropus guam*), Guam Rail (*Rallus owstoni*), Green Sea Turtle (*Chelonia mydas*), Hawksbill Sea Turtle (*Eretmochelys imbricate*), Leatherback Sea Turtle (*Dermochelys coriacea*), Loggerhead Sea Turtle (*Caretta caretta*), Mariana Gray Swiftlet (*Aerodramus vanikorensis bartschi*), Bridled White-eye (*Zosterops conspicillatus conspicillatus*), and the Hyun Lagu (*Serianthes nelsonii*).

EPA provided the Services with copies of this fact sheet and the draft permit during the public notice period; no comments were received from the Services.

The permit is a reissuance of a permit for an existing facility. No new construction, new pipelines, land, habitat, or hydrology alterations are associated with the permit reissuance. The

effluent limitations in this reissued permit are all as stringent as or more stringent than those in the previous permit. The effluent limits in the permit will not result in acute or chronic exposures to contaminants that would affect federally listed threatened and endangered species, or impair any designated critical habitat. The effluent limits and monitoring requirements in the permit are designed to be fully protective of the beneficial uses of the receiving waters. Thus, EPA believes that this permit reissuance will not affect any federally listed threatened and endangered species under the NOAA National Marine Fisheries or US Fish and Wildlife Services jurisdictions that may be present in the area of discharge. If, in the future, EPA obtains information or is provided information that indicates that there could be adverse impacts to federally listed species, EPA will contact the appropriate agency or agencies and initiate consultation, to ensure that such impacts are minimized or mitigated.

B. Impact to Coastal Zones

The Coastal Zone Management Act (CZMA) requires that Federal activities and licenses, including Federally permitted activities, must be consistent with an approved state Coastal Management Plan (CZMA Sections 307(c)(1) through (3)). Section 307(c) of the CZMA and implementing regulations at 40 CFR 930 prohibit EPA from issuing a permit for an activity affecting land or water use in the coastal zone until the applicant certifies that the proposed activity complies with the State (or Territory) Coastal Zone Management program, and the State (or Territory) or its designated agency concurs with the certification.

C. Impact to Essential Fish Habitat

The 1996 amendments to the Magnuson-Stevens Fishery Management and Conservation Act (MSA) set forth a number of new mandates for the National Marine Fisheries Service (NMFS), regional fishery management councils and other federal agencies to identify and protect important marine and anadromous fish species and habitat. The MSA requires Federal agencies to make a determination on Federal actions that may adversely impact Essential Fish Habitat (EFH) in marine environments. EPA sent the draft permit and factsheet to NMFS for their review during the public comment period; no comments were received.

D. Impact to National Historic Properties

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to consider the effect of their undertakings on historic properties either listed on, or eligible for listing on, the National Register of Historic Places. Pursuant to federal requirements of NHPA and 36 CFR 800.3(a)(1), EPA has determined that the permit does not have the potential to affect any historic or cultural properties.