Environmental and Social Monitoring Report

Project Number: 38919
October 2009 – April 2010

INDONESIA: Tangguh Liquefied Natural Gas Project Operator's Environmental, Health and Safety Report

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Tangguh LNG Project Operator

Asian Development Bank

Operator's Environmental, Health and Safety Report
Tangguh LNG Project

October 2009 – April 2010

TANGGUH LNG

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EXECUTIVE SUMMARY

Tangguh LNG construction was essentially completed by end of December 2009 and by Q1 2010 is now approaching end of start up period. Demobilization of KJP workforce continued and by February 2010, majority of KJP workforce had been demobilized from site leaving small number of personnel to complete remaining minor work. At the same time, approximately 1,400 operations personnel are already on site and accommodated at the dormitory A and B and Step 3 camp.

LNG production efficiency was successfully ramped up through the first quarter 2010. Tangguh has delivered 24 LNG cargoes and 6 condensate cargoes to the customer for the period of January-April 2010.

On 25th April 2010 Tangguh issued the AMDAL Implementation report for the period of October 2009 – April 2010) to MOE and related government institutions including the local Government of Bintuni, Ditjen MIGAS and BPMIGAS. This report is developed mainly based on the AMDAL implementation report.

The environmental management and monitoring programmes continue to be implemented in line with the approved AMDAL and relevant permits granted for Tangguh.

Strong focus remains on all HSE aspects. Enhanced Control of Work (CoW) program has started to be implemented. Three Recordable Injuries happened within first Q 2010, directly followed up with investigation and action plan to prevent further occurrences, among others by conducting major Hand & Finger Safety Campaign. No DAFWC during the reporting period.

1. Regulatory Compliance

In October 2009, the Government of Indonesia (GoI) issued new Law no 32 year 2009 regarding the Environmental Protection and Management, replacing Law no 23 year 1997 regarding Environmental Management. This new Law is stricter in term of pollution definition and consequence for non-compliance. The GoI is now developing related implementation regulations which are expected to be finalized within one year after the issuance of the new Law. Tangguh maintains its commitment to comply with the applicable regulatory requirements in Indonesia.

2. Environmental Management Plan

This six-monthly report covers the period of October 2009 – April 2010 which is consistent with Tangguh AMDAL reporting period to the Indonesian Ministry of Environment.

This report has been prepared to fulfil the Borrowers' obligations under: Section 1.12 (Certain Environmental, Involuntary Resettlement and Indigenous Peoples Matters), Paragraph (B) (Regular Reports), sub-paragraph (a)(Environmental and Health and Safety Report) of the ADB Tranche PSC Parties Agreement dated as of 31 July 2006 and Section 1.18 (Certain Environmental, Involuntary Resettlement and Indigenous Peoples Matters), Paragraph (B) (Regular Reports), sub-paragraph (a) (Environmental and Health and Safety Report) of the Japanese Tranche PSC Parties Agreement" dated as of 31 July 2006.

Tangguh E&S project construction activities during the 6 month period from **October 2009 – April 2010** include the following:

2.1. LNG Plant and its Supporting Facilities including Marine Facilities

The construction activity is essentially completed with both trains operational. KJP demobilization is basically completed February 2010, leaving only small number of personnel to complete remaining minor works.

KJP has handed over all temporary facilities required by BP to support operation phase. The facilities include step 3 camp, non hazardous waste incinerators, composter and wood chipper, Reverse Osmosis unit and its associated facilities to supply water to Step 3 camp and landfill as well as new KJP organic waste pit.

Figure 1. LNG Plant and its Supporting Facilities

The Combo Dock is fully operational allowing access to LNG site for loading and unloading equipment and material. The helideck, which is attached to the Combo Dock trestle, is complete and has been certified by DGAC (Directorate General of Air Communication), Transportation Department in March 2008. The helideck will be utilized for emergency purposes only. For non emergency use, the current onshore based helipad will still be used for air transport using the helicopter.

2.1.1. Revegetation

By end of January 2010, the site revegetation work is completed. Total revegetated area is about 116 ha versus original plan of about 285 ha. The original area was bigger than actual as the assumption at the time of revegetation program preparation was that all temporary project facilities will be demolished and revegetated. However the final decision was to leave some temporary facilities such as step 3 camp, ex-KJP subcontractor workshop (Trakindo and TTM workshop), temporary access road at the back of LNG tank 1 and other area within the site for further use by Tangguh LNG operations.

Responding to the Tangguh Lenders' External Panel recommendation raised during the environmental, health and safety compliance monitoring visit in March 2009 and subsequently in November 2009, Tangguh has improved its erosion management in the construction vicinity area where some dying trees at Siripa/Burma creek are found possibly due to sedimentation. KJP has performed site investigation with the help of an external consultant at the end of November 2009 to determine the cause of dying trees. The result of investigation suggested that the main causes are prolonged flooding and sedimentation along the creek due to sediment carried over from the construction site. During site clearance activities, prior to the construction of sediment basins, initial sediment infiltration is unavoidable during the construction phase especially during the

wet season. As the results, that sediment reached the natural drainage system, altering the profile of Siripa Creek, causing subsequent flooding in the upper reaches. The extent of concerned area is contained between the head pond and the project boundary fence. KJP has performed site improvement on erosion management efforts to minimize sedimentation on the drainage as well as nearby downstream area. A bigger sediment pond (5000 m3) had been constructed along with two detention basin to contain sediment and prevent it flowing into the forest. Subsequent cleaning along up stream side of the creek (500 m) has been performed as well to remove debris and dead logs that block the water flow by January 2010. This is to ensure that flooding is not occurred on the area along the creek bank. Revegetation on the creek bank with cover crop was also completed to minimize erosion which will reduce as well the sediment flow into the creek. Natural succession is also already started, as was noticed during the site visit in November 2009. Based on the consultant report, natural succession number is three times higher than the impacted trees.

Figure 2. Newly Improved Sedimentation Pond

Figure 3. Cleaned Siripa/Burma Creek

2.1.2. Solid Waste Management

In line with the completion of the construction phase, the volume of construction waste is also substantially decreasing from about 200 m3/week reported in the last reporting period to about 150 m3/week in average during this period. The waste management has been fully managed under BP Operations. This include the operation of the non-hazardous waste incinerator, wood chipper machine and composter, plastic shredder and can compactor, temporary hazardous waste storage and disposal as well as the

operation of ex-KJP inert landfill and new organic waste landfill. The waste profile generated during this reporting period is presented in Monitoring Section below.

The waste management program at the LNG Plant site continues to improve. The program covers the organic and inorganic waste as well as hazardous waste management, such as, used oil, used batteries, oily sludge and carbon active waste from plant operation etc. The Tangguh Operations Logistic department is now fully responsible to manage the waste generated from Shore Base activities, Dormitory A and B, Administration and Central building activities, including the waste generated from plant activities, as well as small volume of waste generated from the remaining LNG construction activities which is essentially decreasing significantly compared to the previous period.

The Hazardous waste (used oil, oil filters, paint cans, batteries, oily rags, aerosol cans, contaminated soil/materials, etc) generated from Tangguh activities is delivered to Temporary Hazardous Waste Storage prior to shipment to licensed hazardous waste collector (PPLI) in Bogor. Tangguh has a contract in place with PPLI for hazardous waste disposal, including onsite assistance for packaging and labeling of the hazardous waste prior to transportation to Bogor. Regular shipments have been performed to meet the maximum 90 days of storage period per the permit requirement. For the reporting period, there were four shipments of hazardous waste to PPLI since November 2009 with the last shipment in Feb 2010. This Hazardous waste shipment is performed in compliance with the applicable Indonesian regulations, the vessel used for the shipment is provided with Minister of Environment permit and the manifest for each shipment is maintained.

The landfillable waste (damaged cement bags, rock wool, styrofoam boards, small scrap metal & cables, asphalt drums, HDPE-sheets) is disposed into ex-KJP non hazardous inert landfill which is now managed by Tangguh. The landfill has been completed with HDPE liner and proper storm water management to minimize any surface run off flow into the landfill.

Figure 4. Inert Waste Landfill

Reusable waste, such as, used tires, large scrap metal-spools, pipe cutoffs, cable, timber is transported to Central Waste Accumulation Area (CWAA) located next to non hazardous waste incinerator. This waste is available to any contractor that may wish to use it.

Recycleable waste, such as, food/drink cans, plastic bottles, glass bottles cardboard/carton is stored in the CWAA for further process (shredding and compacting) prior to regular shipment to the non hazardous waste collector at Sorong. Recycling of these wastes is performed to some extent in this Sorong facility.

The wood chipper machine is operating on continuous basis to chip the timber waste. The wood chip is utilized for covering the organic waste pit and later for new organic landfill, as well as for composting and revegetation program. BP through the logistic contractor provides a dedicated team to operate and segregate the timber waste for chipping.

The Lenders External Panel monitoring visit has resulted in recommendation to improve the practice on the food waste management. KJP has engaged with PPLI as their waste management consultant. Per the input from PPLI, KJP has constructed a new organic waste landfill. During this reporting period, the new landfill has been completed and the organic waste from the old waste pits has been moved into the new landfill. The old organic waste area has been closed and revegetated by December 2009. The new landfill 6 monitoring wells, in line with AMDAL requirement. Initial plan is to close the new organic landfill once KJP complete the removal of the organic waste from waste pits into the landfill, however as there is still remaining space available for use by BP operations, then the landfill was handed over to BP Operation for further use in early 2010.

Figure 5. New Organic Waste Landfill

Figure 6. Old Organic Waste Pit that has been remediated and revegetated

It is estimated that the landfill can be used up to Q3 2011 when the BP long term sanitary landfill will be ready to operate. Currently BP is in the process to develop the

program for provision of long term sanitary landfill for operation phase and optimization of the solid waste management to extent the use of the current landfill. Detail design and preparation for bidding process is ongoing. The construction of the landfill is expected be finalized by Q4 2011.

The composter has been operating under BP since 1st September 2009 to compost food and organic waste generated from construction as well as from the dormitories and office complex operated by the Tangguh. The composter produces approximately 15,000 kg/month of compost to be used for revegetation and landscaping program as planting media and fertilizer.

Combustible waste (paper, carton, wood chips etc) is transported to non hazardous waste incinerator for burning.

2.1.3. Wastewater Management

Wastewater generated from the site activities consists of sewage from camps and dormitories, brine water reject from the Reverse Osmosis (RO-desalination) and desalination units, and waste water from plant operation (chemically contaminated water, oily water and produced water). The treated wastewater from the five streams is discharge through -13 m LAT discharge point.

Wastewater	Actual Flowrate Average (m3/day)	Maximum Flowrate Permitted (m3/day)*
Sewage	165	504
Brine water	1213	11544
Produced water	430	1992
Oily contaminated water	0	2400
Chemically contaminated water	345	3600

** MoE Wastewater Discharge Permit no 222/2008*

In addition, Tangguh is maintaining the Reverse Osmosis units and the Sewage Treatment Plant in the step 3 camp from the construction phase for the operation phase. Based on the waste water discharge permit no 562 of 2007 (valid for 5 years), maximum flowrate for the RO units are 5904 m3/day, while actual flowrate is about 3300 m3/day in average. For the STPs in step 3 camp, maximum flowrate is 2000 m3/day while the actual average is about 720 m3/day.

Sewage
Sewage from dormitory A and B as well as from Admin building and Main Control Building is processed in the permanent STP, while two STPs in Step 3 treat sewage from Step 3 Camps and other construction related buildings. One STP (Zone B) has been dedicated solely to treat produced water from plant. The treated waste water from both construction STP and permanent STP is discharged to -13m LAT outfall line at the LNG jetty.

Since last reporting period the BOD levels of treated sewage effluent from the accommodation camps has been continuously maintained within the standard of 100mg/l consent level as required by the MoE regulation no 112 Year 2003.

Brine water
The permanent desalination facility is operated to supply water to dormitories and office complex (administration, central, warehouse, fire office and workshop) while the RO unit supplies the water to step 3 camp. Average volume of water generated from desalination plant is approximately 600 m3/day and average brine discharge of 1213 m3/day.

KJP has handed over the operation of the onshore Reverse Osmosis (RO) desalination facility to BP. The facility produces an average of 1,000 m^3/day of desalinated water with about 3,300 m3/day brine discharge.

Produced water
The short term plan has been implemented in which temporary filtration units have been installed, combined with aeration pit and biological treatment in STP zone B at step 3 camp. Currently this temporary facility has been working well and in general, the treated effluent has met the standard as with the start of production, the produced water rate was still fluctuating about 20 m3/hr or less. During the earlier operation of the facility, some deviations from the standard limit occurred as the bacteria in the biological unit needed to be acclimatized. The system is rigorously monitored to prevent deviation for extended period. After the ramp up of LNG production rate, current temporary treatment unit was not able to handle increase of produced water generated from the system to about 35 m3/hr. A temporary holding pond with capacity of about 12,000 m3 was used, however, by the end of January, more than 80% capacity has been reached. This triggered the urgent need of off site treatment.

Tangguh is committed to conduct maximum efforts to avoid discharge of wastewater that still exceed the permitted concentration. Option to send the produced water for further process to permitted wastewater treatment in Bogor has been prepared and tested. The first shipment of 1,250 m3 produced water was conducted in February 2010 and the second by end of April 2010 for about 4,000 m3 produced water.

Several options to reduce the produced water rate have been reviewed. Reroute of steam condensate from train from produced water system has been done in April. This flow is sent to neutralization pit as this does not have hydrocarbon content. Reduction of about 2-3 m3/hr has been achieved, which lessen the risk of sending produced water for off site treatment. Further initiatives to improve current temporary system are on going, among others by addition of the filtration unit. This is expected to be done in June 2010.

For the long term, a permanent produced water treatment unit is being designed and planned to be constructed starting from mid 2010. Detail design is currently ongoing and it is expected that the unit will be finalized by end of 2011.

Progress update is provided to MoE, BPMIGAS and MIGAS on a quarterly basis.

Oily contaminated wastewater
The oily contaminated wastewater is treated in the CPI (Corrugated Plate Interceptor) to remove hydrocarbon content up to permitted level as per MoE permit no 222/2008, prior to discharge to the -13 m LAT discharge point. However, the oily contaminated sewer also receives wastewater from production system such as from Amine unit, causing high level of COD, hence from CPI can not be discharged directly to the sea. The wastewater is currently put into the produced water tank to be treated with the produced water.

Chemically contaminated wastewater
The chemically contaminated wastewater is treated in the neutralization pit to normalize the pH level between 6-9 as per MoE permit no 222/2008 and then discharge through the -13m LAT discharge point. The average discharge from this source is about 500 m3/day.

2.1.4. Air Emission

As part of start-up process, some gas has to be flared. Several initiatives have been taken such as to minimize the amount of plant trips to minimise the flaring. However, despite efforts to manage start-up activities, some technical issues are still experienced resulted in higher volume of flaring than initially estimated. Communication to MoE has been regularly maintained. Another re-estimation was provided to MoE at the end of October 2009 which increases the maximum amount of the flare during the start up period to be 41,470 MMSCF and responded by MoE in December 2009 with recommendation to continue to implement efforts to optimize flaring activities. The efforts to minimize flaring are ongoing and with the end of start up period approaching, the number of flare also reduces. The results of the flaring volume monitoring since mid 2008 until end of March 2010 can be seen below.

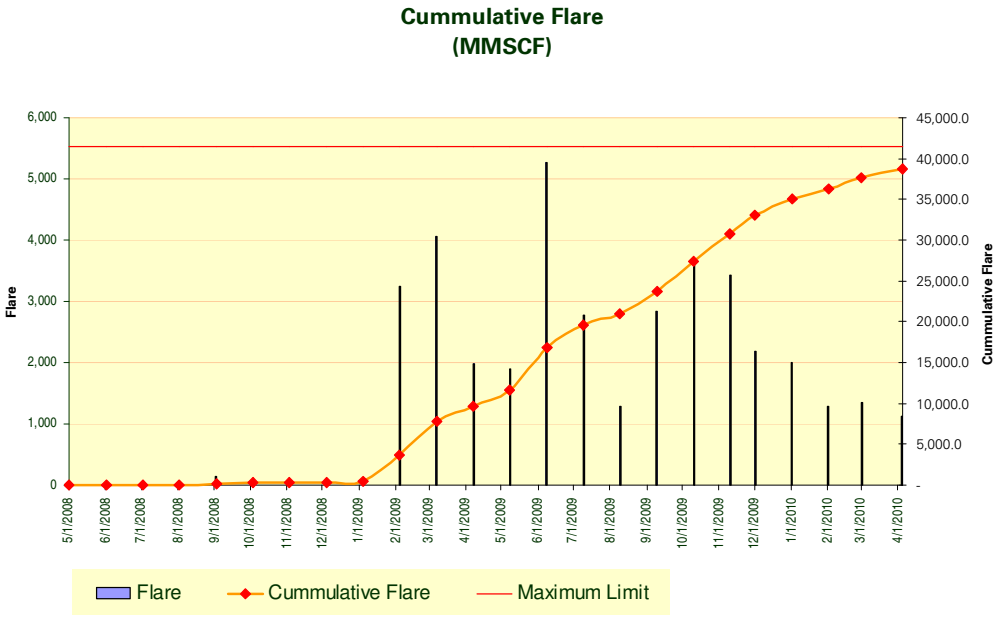

Figure 7. Flaring during Start Up Period

During the year 2009, Tangguh emitted close to 2.5 million tonnes of CO2. The source of emission is mainly from plant operation and flaring during start up, with smaller amount of emission from supporting activities including Babo activities, vehicle and vessel emission. The CO2 emission estimate for 2010 is close to 6 million tonnes for 2010 as the plant ramping up its production. The emission is calculated based emission from the LNG plant operation (flaring, turbines, boilers, Acid Gas Incinerator, etc) and smaller portion from internal combustion engine emission calculated based on fuel consumption used for vehicle, boat, vessel and other equipments using diesel/gasoline fuel. The CO2 emission is expected to be lower during stable operations.

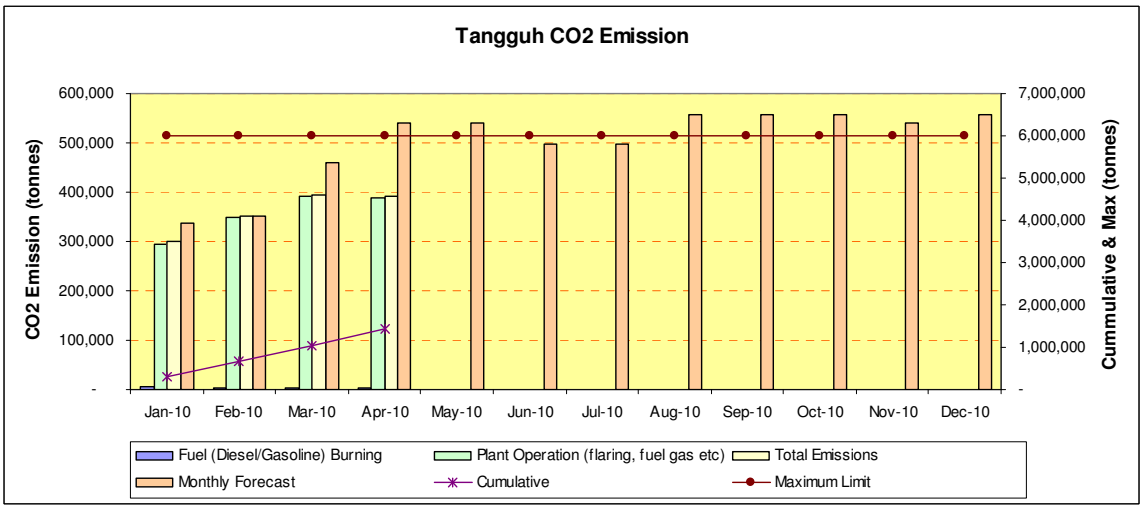

Figure 8. CO2 Emission Estimate for 2010 and Actual up to April 2010

2.1.5. Water Management

Fresh water supplies required for project activities are secured from several sources including bottled water, temporary RO facility and the permanent desalination facility. The average water production of the RO is 1000 m3/day while the permanent desalination facility is 600 m3/day which gives the total production of 1600 m3/day.

Drinking water is treated by a filtration system of sand and sometimes carbon filters and chlorination. Drinking water in bottle and gallon is also used.

2.1.6. Fuel Management

Fuel is managed according to the procedure to prevent spill. Any deficiency found within operation activities will be directed to relevant department within Tangguh.

Detailed records are maintained of any spills, however minor. The frequency and volume of spills due to fuel handling and storage activities has decreased and any occurrences are immediately cleaned up and recorded. Any spill is recorded and reported every 6 months to Ditjen Migas for spill less than 15 bbls. Immediate notification to Ditjen Migas will be prepared for spill more than 15 bbls. No spill more than 15 bbls happened during this reporting period.

2.2. Gas Production Facilities and Gas Transmission (GPF)

Both platforms and wells have been in service already to supply gas to LNG plant onshore. The platforms are normally unattended platform, however, routine monitoring/maintenance visit are ongoing.

Two offshore subsea pipelines, one from each platform, have been installed to transport the multiphase flow from the VR-A and VR-B to the LNG plant onshore. These two pipelines will ensure reliability of supply, which is a critical consideration for Tangguh and its customers. Both gas transmission pipelines have been brought into service. The onshore GPF activities are completed. There is essentially no more construction activity on the GPF area.

2.3. Drilling Activities

Drilling activity was completed in Q2 2009 as outlined in the previous reporting. The remaining hazardous waste from the drilling activities has been shipped off site to PPLI during this reporting period. Shore base facility has been handed over to BP Operation including the hazardous waste incinerator previously operated by drilling contractor. The permit extension for the hazardous waste incinerator is still in progress with the

Ministry of Environment. The incinerator is currently not in operation. All the hazardous waste is currently collected and stored temporarily for later disposal to PPLI. Once the permit extension is granted from MoE, then the incinerator will be utilized for burning hazardous waste as listed in the permit such as used oil, contaminated rags, medical waste and other hazardous waste suitable for incineration.

There is no drilling activity on going during the reporting period.

2.4. Environmental Management System

The ISO 14001 EMS development continues with the implementation of Environmental Management program, Internal Audit, Management Review as well as series of training on ISO 14001. Two internal audits, one trial audit by EMS consultant and one Management Review have been completed with some findings and inputs for further improvement. Review of aspect and impact followed with development of Environmental Management Program for 2010 have been completed as well, marking a significant achievement for 2010 ISO14001 implementation. The EMS implementation is on track to achieve certification target by end of Q1 2011.

3. Environmental Monitoring Plan

The objective of environmental monitoring program is to ensure that environmental management has been performed effectively and to ensure compliance with AMDAL's requirements and applicable environmental regulations.

BP has secured environmental monitoring contract with a certified external Indonesian laboratory to perform regular monthly and quarterly sampling and laboratory analysis in line with AMDAL and permitting requirements. In addition, starting in September 2009 BP has also started operation of internal site laboratory to conduct regular day-to-day internal sampling and monitoring programs onsite, which is previously performed by KJP onsite laboratory.

3.1.1. Revegetation

Monitoring of slope stabilization and revegetation is continuing. The revegetation progress is tremendous. About 116 ha area have been completely revegetated. The revegetation has proven to be an effective measure to prevent erosion and further sedimentation on drainage and water ways. Monitoring of turbidity on surface water within the site shows that the level is consistent with the baseline condition and currently it is in the range of 5-10 NTU. Continuous monitoring is performed on the drainage system to ensure that blockages and sediment are cleaned regularly.

3.1.2. Solid Waste Monitoring

Monitoring continues on BP Operation waste management including also on subcontractor's temporary waste storage facilities to ascertain regular collection of

waste, collection place and disposal at the organic waste pits or inorganic waste collection place to be later sent to waste collector outside project area. Documentation for waste transportation, including waste manifests, are assessed as part of monitoring process. Routine monitoring is also carried out in CWAA, landfill, STP and incinerator.

3.1.3. Wastewater Monitoring

Sewage

The treated effluent from Sewage Treatment Plants is monitored prior to discharge into the seawater. The effluent discharge and receiving ambient sea water are assessed weekly and measured against the prevailing Indonesian regulations KEP-112/MENLH/2003 and KEP 51/2004 respectively as stipulated in AMDAL and applicable Indonesian regulation and MOE permit No 222/2008.

All treated waste water from permanent STP, STP Zone A and STP Zone C in step 3 camp was in general consistent within the consent level as stipulated in the standard. Since January 2010, STP zone B is now exclusively used as Produced Water (PW) treatment facility. The BOD level which was previously a concern due to elevated levels above the maximum limit of 100 mg/l as stipulated in the standard, is now consistently in the range of 5 - 82 mg/l. Only the pH value is occasionally dropped below the minimum limit of 6. Intensive effort was put in place to improve the pH value which is mainly due to maintenance issue with regard to regular vacuuming of the sludge from the STP.

Produced Water

The short term plan has been implemented in which temporary filtration units have been installed, combined with aeration pit and biological treatment in STP zone B at step 3 camp. Currently this temporary facility has been working well and in general, the treated effluent has met the standard as with the start of production, the produced water rate was still fluctuating about 20 m3/hr or less. During the earlier operation of the facility some deviations from the standard limit was occurred as the bacteria in the biological unit needs to be acclimatized. The system is rigorously monitored to prevent deviation for extended period.

After the ramp up of LNG production rate, current temporary treatment unit was not able to handle increase of produced water generated from the system to about 35 m3/hr. The temporary produced water system only able to treat about 20 m3/hr and the rest is temporary stored at a temporary holding pond. The produced water that is treated on site showed good improvement, in which based on external monitoring result, the COD during this reporting period is decreasing below the maximum limit as required in the standard while the pH is maintained within 6-9. There were few times when NH3 parameters are higher than the limit caused by addition of fertilizer for the bacteria. The addition of fertilizer is being reviewed to seek optimum dose. During the reporting period, other parameters are generally within the required limit.

Coordination with MoE and BPMIGAS is maintained on a regular basis.

Brine
Monitoring was also conducted on the discharge point of the permanent desalination facility as well as the RO unit. The results indicate that the discharged brine water meets the requirements in the permit. The salinity within 30 m radius from discharged point is already the same with the ambient seawater salinity. The ambient salinity measured is in the average value of 26.1-26.8 ppt and the salinity within compliance point (30 m radius from discharge point) is in the average value of 26.2-26.8 ppt.

Oily Contaminated Wastewater
As mentioned in the management section, after treatment in the CPI (Corrugated Plate Interceptor) to remove hydrocarbon content, the oily contaminated water is routed to the Produced Water Tank to treat the high level of COD. No direct discharge from the CPI unit.

Chemically contaminated wastewater
The results of the monthly monitoring showed that the quality of the chemically contaminated wastewater is consistently meeting the standard as per MoE Permit no 222/2008.

3.1.4. Air Emission

The result of emission and ambient air monitoring activities conducted in Feb 2010 shows that all parameters were in compliance with relevant Indonesian regulation (Kep-13 of 2009 for emission air and PP 41/1999 for ambient air) as well as Tangguh standard as stipulated in the AMDAL. BP contracted external laboratory to perform sampling on boilers, acid gas incinerator stack, gas turbine, gensets, solid waste incinerators, and several points within the site including offshore platforms.

3.1.5. Water Management

Monitoring is continuing at drainage outlet within the site. Regular surface water sampling shows that pH values on majority of the site conform to its baseline of 5-9, except for shorebase area where recently the pH is decreasing again to 4.52 compare to previous reporting period of above 5. This is suspected as natural phenomenon as there is no more bare soil in the vicinity of the area which was previously suspected as the cause of low pH water. All bare soil on the vicinity of the shorebase has been completely revegetated which prevent exposure of acid soil to air. There was no earthwork activity on the area that can possibly expose the acid soil. Water sampling is ongoing to monitor the cause of the low pH.

3.1.6. Fuel Management

The management of fuel and chemical used onsite is robust and in compliance with AMDAL and the Indonesian regulations. The number and volumes of spills were significantly reduced compared to previous period of the project. During this reporting period, there were 8 spills with total around 17 bbls, compared to 11 spills with total of

31 bbls in previous period. Actions were immediately taken to handle all spill. The waste from the spill, including the contaminated soil/gravel is handled as hazardous waste, to be later disposed to PPLI. Regular spill drill and training were performed to ensure the readiness of response team in handling oil/chemical spill. Regular inspection and socialization was also conducted on the storage area with particular focus on the storage for chemicals and oil.

During the period of reporting, no significant hydrocarbon spill incident of more than 15 barrel.

3.2. Gas Production Facilities and Gas Transmission (GPF)

The GPF construction activities are completed and the monitoring of the GPF area is part of the whole BP Operation activities as outlined in the previous section of LNG and its supporting facilities.

3.3. Drilling Activities

The Drilling activities are completed and the monitoring of the shorebase area is part of the whole BP Operation activities as outlined in the previous section of LNG and its supporting facilities.

4. Environmental Studies

During the reporting period of October 2009 and April 2010, no environmental related study is conducted. Flora and fauna and marine mammal monitoring update study is planned for the second half of 2010.

5. Health and Safety

Control-of-Work process implementation has now been started across the site and will be in full compliance with BP system by mid 2010. Majority of key role-holders have now completed training/testing/certification process.

Key indicators on safety performance are presented in the table below.

	2010 Apr	YTD	Target	2009 Actual
Fatality [Number of incidents]	0	0	0	0
High Potential Incidents [Number of incidents]	0	0	Monitor	0
Day Away From Work Frequency [Frequency per 200,000 hours]	0	0	0	0
Recordable Injury Frequency [Frequency per 200,000 hours]	0	0.22 (3)	0.10 (6)	0.07 (4)

Three Recordable Injuries happened within first Q 2010, which are two medical treatment cases both related to finger injuries happened in January 2010 and one in March related to foot injury. Immediate investigation and action plan to prevent further occurrences are conducted, among others by major Hand & Finger Safety Campaign.

Monthly HSE meeting with Tangguh management is also conducted to ensure HSE targets are achieved. Contractor Senior Management HSE Meeting with the BP Tangguh Operations Senior Management has been conducted on 20 April 2010 in Jakarta, and will be continued on a 6-monthly basis.

6. Status of Non Compliances

6.1. Level-1 Non Compliances

One Level-1 non compliance was raised in the Lenders' External Panel Compliance Monitoring visit report in November 2009 regarding trees issue in Burma creek. Remediation of sedimentation issue on Siripa/Burma creek was completed in January 2010. Cleaning of the creek was performed to remove sediment and dead logs that restrict the water flow. One big (5000 m3) sediment pond along with two sediment traps has been constructed at the upstream side of the creek to prevent sedimentation along the downstream side. Revegetation with cover crop was also performed on creek bank to prevent erosion and sediment carried over into the creek.

Level-1 non compliance raised Lenders' External Panel Compliance Monitoring visit in march 2009 regarding management of solid waste, in particular related to organic waste pits has been closed. A new properly lined organic waste pit was constructed by KJP and the organic waste from the old pits has been removed and disposed into the new organic pit. The old pits were completely remediated and revegetated by December 2009.

6.2. Level-2 Non Compliances

There were no environmental incidents categorised as Level 2 Non Compliance during this reporting period.

7. Additional Information

By mid of 2009, Tangguh started to export LNG and condensate load using tankers. This activity has been managed safely without environment, safety nor security incident. Once the tanker reaches mouth of Bintuni Bay, security boat will guide the tanker into and from the jetty to maintain 'rolling' safety exclusion zone around the tanker. The purpose of the Safety Exclusion Zone around the moving ships is to prevent collisions with other vessels including small fishing boats.

8. Evaluation Results

There were continuous improvements in the environmental management practices across the Tangguh LNG activities both for remaining construction and start up phase during the reporting period. The challenge is to maintain consistency and continuous implementation of the environmental management programs.

Tangguh LNG environmental team conducts regular discussions with other departments as well as with the operations' contractors to review any issues that potentially lead to a non-compliance to AMDAL and relevant regulations. Actions to prevent the non compliance incident is discussed, agreed and be followed up with the relevant team. A weekly Tangguh Compliance Tracking Matrix is maintained.

Management of non hazardous and hazardous waste is improving. An improved waste facility capacity including additional environmental resources have been provided. The transition process from KJP to BP also ran smoothly with no major disruption to the existing waste management program onsite.

Major concern during this reporting period related to wastewater is the management of produced water. The fluctuation of produced water quality from the plant during the end of the start up phase can now be minimized. The effluent from produced water treatment has been in compliance for the last two months towards the end of the reporting period and every effort was put in place to maintain it. It is expected that once the permanent produced water treatment facility in operation, the effluent will consistently meet the requirement as stipulated in the permit.

The ISO14001 Environmental Management System implementation is continuing. Two internal audits, one trial audit by ISO14001 consultant along with Management Review session have been completed in this reporting period, marking significant achievement in the ISO14001 implementation cycle. The audit findings and recommended actions closure have been followed up to improve the ISO14001 implementation onsite. Rigorous environmental training and coaching are continuing for BP operations personnel and contractors to improve the environmental knowledge as well as site environmental performance.