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# PERU LNG

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**Independent Environmental and Social Monitoring – IESM  
December 18 - 19 / 2008 Monitoring Mission**

**LNG Plant and Marine Facilities Final Report**

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**February, 2009**



**Consultoria e  
Participações Ltda.**

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## **1.0**

### **Introduction**

This Report refers to the IESM Monitoring Mission, conducted at the LNG Plant and Marine Facilities, on December 18 - 19, 2008. It is incorporating comments received from PERU LNG and Lenders, as deemed pertinent.

The scope of inspection included the LNG Plant and the Marine Facilities at Melchorita, where it is important to highlight that not all construction fronts were inspected and focus was placed on areas where most intense construction activity was ongoing and on those that had been the object of previous IESM Team recommendations. The Quarry and access road were inspected on this occasion.

IFI representatives participating in the Mission included:

Leyla Day – Social Specialist - IFC  
Elizabeth Brito – Environmental and Social Specialist - IDB  
Ximena Herbas – Environmental Specialist – IDB

JGP's monitoring team included:

Ana Maria Iversson	Senior Social Specialist
Alessandro Farinaccio	Geologist – Environmental Specialist
Humberto Vera	Local Environmental and Health and Safety Specialist

It is important to mention that PERU LNG issued in October 2008, an Environmental, Social, Health and Safety Quarterly Report, providing information on activities during the third quarter of 2008. Desk review by the IESM Team included information provided in this report.

## **2.0**

### **List of Monitoring Activities**

Activities during the mission included:

#### Thursday 18 December 2008 (Plant):

All participants:

- Presentation of construction status – Marine Facilities and LNG Plant – COLP

Group 1 (Ximena Herbas, Alessandro Farinaccio and Humberto Vera):

- Presentation of Health, Safety and Environment November Activities – Marine Facilities – CDB

- Presentation of Environmental November Activities – LNG Plant – CB&I.
- Inspection of Marine Facilities
- Inspection of CDB main camp
- Inspection of Main Process Area (LNG Plant)

Group 2 (Elizabeth Brito, Leyla Day and Ana Maria Iversson):

- Presentation of social projects and community relations activities – CB&I
- Presentation of social projects and community relations activities - CDB
- Presentation of current status of the Fishermen Compensation Program – COLP
- Presentation of planned PERU LNG Social Investment Programs – COLP
- Social closing meeting

#### Friday 19 December 2008

Participants: Ximena Herbas, Alessandro Farinaccio, Humberto Vera and Ana Maria Iversson

- Inspection of Quarry and Access Road
- Environmental closing meeting – COLP, CDB and CB&I
- Travel to Lima

### **3.0**

#### **Construction Summary**

##### Marine Facilities

At the time of the December mission, the trestle was already completed and a temporary bridge that will be used for transportation of rocks and BCR (Grooved Concrete Blocks) for the breakwater was under construction. Piling complete on bent 94 of temporary bridge. 32 piles of 44 are installed. The roll-off, with 123 m, was complete and the first rock loading operations by “Le Guerrier” vessel was ongoing. Construction of the roll-off breakwater was almost complete. All the rocks were already put in place and BCRs were being put in place using a bridge that connects the roll-off with the breakwater. The level of the rocks is +4 and BCR will be +6 over the average sea level.

At the time of the December Mission, the dredger was not operating at Melchorita. Dredging progressed during the 3<sup>rd</sup> Quarter 2008 and ceased in October as planned. However, a sister dredge vessel is under way to resume dredging in January 2009. The construction of the main breakwater had already begun at the time of the mission with rock loading by “Le Guerrier” vessel.

PERU LNG has already obtained the construction permit from the competent Port Authority - APN (National Port Authority)

### Quarry

Exploitation of the quarry is proceeding at the rate of 2 to 3 primary detonations every week and one secondary detonation every day. At the time of the mission, the exploitation was at 1,030 meters above sea level; it is expected that at the end of quarry operation the level will be at 980 meters. Prefabrication of BCRs at platform K2 to protect the breakwaters was ongoing. More than 1 million tons of rocks were produced at quarry.

Platforms K4 by the marine facilities and K5 near the main entrance of the LNG plant on the other margin of the Pan-American Highway are still active with enough stock of different size of rocks for breakwater construction.

### LNG Plant

At the LNG Plant, work progress at the main train area and the BOG were ongoing. Most of the steel structure of the main train was erected and all main process equipment components were already on site. All air coolers were assembled and three power turbines were supported on their foundations

The fire fighting water tank was already erected and external parts assembly, such as stairs and piping, were ongoing.

At the tank area, the outer shell and roof of the two LNG tanks were completed and the bottom insulation was in progress; later the inner tanks will be built. The fabrication shop and the paint shop were both operating on 24-hour cycles.

Work on the sleeperway down to the coast was still ongoing, and flow lines that connect the plant to marine facilities were being built.

Other ongoing work includes non-destructive testing and x-ray services by SGS and there was significant amount of labor involving electrical installations.

Regarding environmental infrastructure, it was observed that lines that will bring intake seawater to the reverse osmosis (RO) treatment plants and discharge the concentrated brine back to the sea were almost completed. The extended reverse osmosis plant was completed and it is expected that in January 2009 it will be in operation. Current CB&I water intake from wells was reported at 609 m<sup>3</sup> per day, versus the maximum authorized of 673 m<sup>3</sup>, all of which are being extracted from the wells on site. Once the seawater line is complete, pumping from the wells will be discontinued. Both reverse osmosis treatment plants will remain active for the rest of the project.

Operational control of the effluent treatment plant and artificial wetland was reported to be continuously improving, though monitoring results for third quarter show that applicable Project E&S standards for Phosphorus were still being exceeded. The effluent quality, after mixing with the reverse osmosis treatment plant effluent, is reduced to levels below 2 mg/l.

With respect to disposal of the effluents of the wastewater treatment plant and the reverse osmosis plant, it must be noted that the DIGESA Resolution N° 4273/2008/DIGESA/SA, dated October 16, 2008 and Report N° 1718 – 2008/DSB/DIGESA, dated October 3, 2008, that is part of the mentioned Resolution, state the following for the process flow:

- The effluents from the two CB&I sewer treatment plants are to be stored in two tanks of 660 and 440 m<sup>3</sup>. From these tanks, the treated effluents are pumped to tank trucks for transportation to be reutilized.
- Effluents from CB&I sewer treatment plants that exceed reutilization needs are mixed with reverse osmosis treatment plant effluent and discharged to the sea.

According to the documents mentioned above, there is no implicit or explicit permit for discharging reverse osmosis treatment plant effluent, mixed or alone, directly on the soil for dust control or any other purpose. Therefore, it is necessary to confirm with DIGESA that the current use of treated effluents and reject brine is in conformity with the permits and other requirements.

### 3.1

#### **Quarry and Marine Facilities Inspections**

##### Marine Facilities

At CDB campsite all support facilities were inspected, including workshops, car wash installations, warehouses, septic tank, etc. and no non-conformity was observed. All areas manage waste and effluents according to adequate procedures. Perimetrical drain trenches linked to oil-water separator tanks have been installed at the workshop and the car wash area as per applicable requirements.

The environmental conditions related to pollution prevention and work safety were observed at the Marine Facilities construction fronts. All work fronts were clean and orderly. All workers were using the due safety equipment. Safe work procedures were in place and no non-conformities were identified.

##### Quarry

Quarry workers are under close health control for evaluation of lungs and respiratory capacity with spirometry tests and lung radiographies. These procedures exceed legal requirements and until now the results for lung diseases for all personnel have been negative.

In the access between the Marine Facilities and Quarry, the road conditions were observed, being attentive to care with dust generation by trucks, traffic speed and interference in archaeological sites.

No dust produced by vehicles was observed on the access road to the Marine Facilities or to Quarry because calcium chloride was used for dust control. At the Quarry, roads were adequately watered. All the existing archaeological sites along the route were duly protected with signaling posts and restrictive access fences.

Improvements have been made to the vibrating and static screens, including screening and sprinklers in order to minimize dust emissions. There are no communities close to the Quarry that could be affected and workers are protected with respiratory PPE and applicable safe work procedures are in place, particularly with regards to blasting which is a highly controlled activity.

### **3.2**

#### **PLNG Plant Inspections**

Main construction fronts were inspected at PLNG plant, as well as CDB and CB&I campsites, including their support areas.

The main work fronts inspected correspond to Main Train and BOG areas. At CDB campsite the support areas inspected were mechanic workshop, car wash installations, dangerous waste storage areas and Tertiary Treatment Plant.

Reverse osmosis treatment plants, tertiary treatment plant, and the waste separation and storage area were inspected at CB&I campsite.

In the Main Train, it was observed that workers were following safety procedures, the scaffolds used were standard and well assembled and harness was being used where needed.

At the main camp in the LNG Plant (CB&I), the effluent treatment plant was in operation and treated water is being used for dust control.

In the CDB Camp, three eye washing devices were found with water level below minimum level, impairing equipment performance in case of emergency. CDB immediately replenished the water and changed procedures in order to increase inspections frequency.

At CDB's welding workshop some workers were not using the PPE for ear protection. Recommendations for improvement of signaling were made at the location. An interview with the training supervisor was made to see how worker-training records are kept. Such records were found to be appropriate.

CDB informed that fresh water intake from the Cañete River will end when the new water desalination plant starts operating in January. Notwithstanding, the CDB permit for taking water from Cañete River will be valid until July 2010. The total amount permitted for year 2009 is 145,767 m<sup>3</sup> and for year 2010 is 87,745 m<sup>3</sup>. The EIA and the EIA Amendment provide flexibility on how long Cañete River water will be used, indicating only that this use will be minimized once the desalination plant is operational.

For CB&I total water consumption was 417 m<sup>3</sup>/day and reverse osmosis efficiency of 56 %. This efficiency will decrease when the water intake comes from the sea due to the higher salinity.

CB&I camp population in November was 2,400 plus 73 COLP workers and 64 Orus workers.

Waste generation continues to be rigorously controlled. Solid waste (food and trash) per capita generation amount was decreasing from about 3 Kg/day/person in January to about 1.4 Kg/day/person in November. Total wastes and recyclables hauled offsite ranged between 120 to 180 tons/month for July – November period.

The warehouses (CDB and CB&I) for temporary waste storage are managed according to the Environmental Management Plan and National Regulation Requirements and were in order, following good housekeeping procedures.

At CB&I waste warehouse, it was recommended to relocate the spill kit closer to the dangerous waste area. This was done immediately after the recommendation. The area for sludge and soil bio-remediation was inspected and observed that an impervious geomembrane was adequately in place.

No accidents with lost time were reported for the period since the previous IESM mission. Until November 27, the Total Recordable Incident Rate was 0.68 and the Severity Rate was 0.00. During November, there were 2 First Aid cases (one hand injury and one foot injury; 1 Medical Treatment Case (leg injury) and 5 other incidents (2 near misses, 2 property damage events and 1 wastewater spill).

## **4.0 Monitoring Program Summary**

### **4.1 Internal E&S Assurance**

#### Internal EHS Audits

COLP has continued to supervise construction activity by CB&I, CDB and sub-contractors, as well as all monitoring activities required as per the applicable monitoring programs. Systematic inspections are carried out daily at construction fronts, camp facilities, fabrication shop and other installations.

During the 3Q2008, COLP reported on two environmental requirements set forth in the Quarry ESIP that were not addressed fully in the field due to safety/incident prevention factors. These requirements include the refueling of light machinery using a fixed tank at the machine shop and the need to cover rock loads to prevent dust emissions. Currently, the contractor:



- Uses an authorized refueling tanker to provide fuel to the light towers on the Quarry platforms. This minimizes the risk of spill associated with daily transport of multiple mobile hydrocarbon-bearing equipment.
- Does not cover the loads of the large rocks (from which no dust is emitted) transported from the quarry to the marine facility due to the risk factor of placing covers which would require working at height amongst heavy rock loads at a high frequency day and night.

In both cases, it is thought that the current practices are in line with the principles of pollution prevention and are appropriate when compared to the risk potential.

42 out of 42 key environmental issues were found to be appropriately managed according to the standards set in the ESIA and corresponding ESIPs.

During the quarter only one NCR was issued to CDB (in August) due to failure to undertake daily seawater turbidity monitoring as required by SM-2R of the ESIA.

As reported by COLP, the contractor replied that the samples were not taken due to unsafe sea conditions and maintenance of the survey vessel

In September, the following recommendations relative to Community Safety and Transportation ESIP of the LNG Plant EPC Contractor (CB&I) were issued:

- Improve the communication between its logistics team and PERU LNG Community Affairs teams to make sure appropriate notification to the community is carried out and heavy haul activities are adequately monitored.
- Disseminate more widely the call-in telephone number to better receive information requests or any grievances associated with transportation activities.

COLP's internal auditing performance was assessed through KPI (EPT2), that compares executed vs. planned inspections and audits. During the quarter, the resulting indicator was 100%.

Similarly, COLP assesses contractor response to NCRs, WINs and CARs. KPI (EPT1) establishes that 90% of all such requests for corrective action be complied with within the timeframes set forth by COLP. In July this indicator was 100%. In August it was 0% and in September 50%. These uneven results reflect the small number of requests for corrective action issued during the period and have no statistical significance. Due to this, a recommendation is being set forth in this report for calculating EPT1 both on a month-by-month and on a cumulative basis.

### **Plant and Marine Facility Monitoring**

Environmental monitoring programs required as per the ESIA and/or PERU LNG Commitments Register were analyzed on the basis of monthly reports presented to

OSINERGMIN in August and September 2008, but no on-site verification of associated documentation took place due to the limited time available for the Mission. The main results of ongoing monitoring are summarized below.

### Air Quality

Air quality monitoring activities, relative to fugitive dust continued in July, August and September, based on direct visual inspection. The methodology for monitoring vehicle and heavy machinery emissions is also based on visual observation, coupled with control and verification of the required emission certificates.

With respect to fugitive dust, it was reported that meteorological conditions during the period (presence of morning dew), significantly contributed to limit the problem. Internal road watering at the LNG Plant continued as normal. Wastewater from CDB and CB&I treated effluents were used.

### Noise

Noise monitoring took place at the points established in the EIA noise baseline. Five stations are monitored, with day and night 1 hour Leq(A) measurements.

In August, the NM-2 station presented high values, reaching 76.5 and 75.7 dB(A) during day and night respectively. Stations NM4 and NM5 results were above the Project E&S standard only at night. Noise levels reached 54.6 and 53.6 dBA respectively.

In September, the results obtained showed that there was high noise levels in three stations: NM-2 in both periods, with 75.7 dB(A) (day) and 76.0 dB(A) (night); NM-4 in both periods, with 57.9 dB(A) (day) and 50.6 dB(A) (night) as well as NM-5 where the noise Project E&S standard was exceeded at night, with 54.4 dB(A).

As reported, high noise levels at NM-2 and NM-4, is attributed to traffic on the Pan-American Highway. The value exceeded in NM-5, located at Wakama, is attributed to the sound of waves breaking along the coastline. These monitoring points are not very useful as indicators of project-related noise.

### Water Quality

In August and September, water quality surveys were conducted in the CB&I and CDB camps sites, as well as at the quarry. Samples were collected from drinking water at bathrooms, kitchen etc.; and from purchased bottled water. All analyzed parameters were found to be compliant with the Project E&S standards, with one exception in August, when results showed that the bottled water used by CDB at K2 site presented high Total and Fecal Coliforms and was not compliant. The water was discarded immediately.

It is possible that the bottled water was contaminated at the site when manipulated by a worker with dirty hands. Water produced in CDB and CB&I camps was found compliant.

### Water Quality at Cañete River

During August and September, one sample was taken each month downstream of Clarita Bridge in the Cañete River. Parameters monitored included heavy metals, Cyanide, Sulfides, Nitrates, PCB, TPH, Phenols, DBO<sub>5</sub>, DO, Total and Fecal Coliforms and Phthalates. The results were below the General Water Law limits except for Nitrates. The project has no influence on Nitrates concentration in the Cañete River.

### Treated Effluents

Effluent monitoring at the CB&I treatment plant after the wetland indicated that only Phosphorus exceeded the limits established by Project E&S standard of 2.0 mg/l, reaching a concentration of 4.63 mg/l in August and 9.94 in September. It should be noted that even though all Coliform results since the previous monitoring campaign were in compliance, the pond where this effluent is mixed with the brine from the RO plant was not compliant in August (with 490 NMP/100 ml) and in September, when measured results reached 7,900 MMP/100 ml. Those results may indicate that the CB&I effluent quality is not homogeneous. CB&I believes that birds or polluted hoses could be the cause of the presence of Coliforms. If such variable results continue to occur in the future, a detailed investigation into the causes should be forthcoming.

The effluent, after mixing with the brine from RO plant, was found to be below 2.0 mg/l of Phosphorus in August, but not in September. In both months it was not compliant with Total Coliforms as per the Project E&S standards, but compliant with Peruvian regulations and with the DIGESA permit. Two additional samples were taken in September 18 and September 29, and the latter was compliant with both Phosphorus and Coliforms standards.

Samples were also collected at the CDB and Sipan treatment plants in August. In both cases, values for Phosphorus exceeded Project E&S Standards limit. The results were 4.326 and 9.004 mg/l respectively. It should be noted that in August, CDB did not yet have its permit to treat effluent in the reed-bed at the main camp and was working on operational adjustments of the phosphorus precipitation unit at the Sipan Camp treatment plant.

During the mission, it was verified that CDB had already obtained the DIGESA permit for the addition of the wetland at its main camp sewage treatment plant.

In September, after the permit had been obtained, all parameters monitored were compliant with the Project E&S standards.

### Seawater Quality

Seawater samples were collected on August 19 and 23 and the analyzed parameters were compared to the ESIA baseline (June 2005) and to the Project E&S standards for Turbidity and Arsenic. These follow IFC's EHS Guidelines for Port and Harbor Facilities in the case of Turbidity (200 mg/l), and EPA CCC (1999) and Peruvian regulations (Ley General de Aguas – Decree N° 17752) in the case of Arsenic (0.036 mg/l is the most rigorous).

Other parameters are being compared to Peruvian regulations only. The results obtained showed that all parameters are within the Project E&S standards and/or Peruvian regulatory requirements, with the only exception of dissolved oxygen, which is below 4 mg/l for medium and bottom depths.

The results presented slight differences in relation to the levels registered in the ESIA as a baseline. However, these differences are not significant in relation to the marine ecosystem and may be attributed to the natural conditions of the seawater quality, the season of the year and the marine currents.

There were no seawater monitoring activities in September, except for Turbidity and Arsenic during dredging. The results were in compliance with the project requirements. TSS at dredging sites was 50 mg/l and at the dumping site was 28 mg/l, below the required value of 200mg/l.

Main turbidity monitoring activities performed during dredging is summarized in **Table 4.1.1** below.

**Table 4.1.1**  
**Summary of Turbidity Monitoring Activities**

Monitoring Activity	Frequency	Description / Results
Marine construction (general)  Seawater quality surveys (Marine EPC Contractor)	Quarterly	<ul style="list-style-type: none"> <li>In August, monitoring of 10 established stations in the marine construction area at three depths, totaling 28 samples.</li> <li>Analyzed for physical-chemical parameters, including metals.</li> <li>All values below the maximum permissible limits indicated in the EIA (Class VI of the General Water Law) and Compliance Monitoring Contractor Management Plan (CMP).</li> <li>Only slight variations, within limits, from baseline levels were detected for Dissolved Oxygen, Conductivity, Total Dissolved Solids, Chloride Ions and Sodium. Other results are Consistent with baseline.</li> </ul>
Marine construction (dredging)  Turbidity and Arsenic surveys (Marine EPC Contractor)	Daily / weekly	<ul style="list-style-type: none"> <li>Dredging activities undertaken during 19 days in August, 10 days in September and 4 days in October.</li> <li>Turbidity monitoring undertaken at EIA-defined points in the dredged area and dump area.</li> <li>14 stations, each at 3 depths were sampled</li> <li>On two occasions, sampling did not occur due to severe sea conditions, which made sampling too hazardous.</li> <li>Water samples taken weekly to be analyzed for Arsenic as required by the EIA.</li> <li>Results for turbidity and arsenic within the established maximum permissible limits.</li> </ul>

**Table 4.1.1**  
**Summary of Turbidity Monitoring Activities**

Monitoring Activity	Frequency	Description / Results
Marine Sediment and Ecosystem monitoring (PERU LNG)	Quarterly	<ul style="list-style-type: none"> <li>• Winter Marine surveys (July) were carried out by ERT and Knight Piesold, including strong participatory approach involving a large group of stakeholders. There was also one survey carried out in November.</li> <li>• Monitoring included the sampling of 10 transects including control areas, analyzing water quality, sediment sampling (granulometric and organic matter), macro benthos sampling, fish sampling, plankton sampling, artisanal fishing and palabritas sampling.</li> <li>• Monitoring results indicate that the marine environmental parameters are consistent with baseline conditions.</li> <li>• Results from this sampling event will be compiled in the next Annual Report.</li> </ul>

Source: 3rd Quarterly EHSM

### Solid Waste

During the month of August CB&I activities generated 523 m<sup>3</sup> of non-hazardous solid waste; 62.5 m<sup>3</sup> of hazardous solid wastes; 360 filters and batteries and 495 gallons of used oil. In September, the respective numbers were: 723 m<sup>3</sup> of non-hazardous solid wastes; 54.3 m<sup>3</sup> of hazardous solid wastes; 555 fluorescent lamps, printer ink cartridges, filters and batteries and 688 gallons of used oil.

In August, CDB generated 39,127 kg of non-hazardous solid wastes and 4,226 kg of hazardous solid wastes and 800 gallons of used oil. The activities developed at the quarry generated 1,789 kg of non-hazardous solid wastes and 526 kg of hazardous solid wastes. In September, CDB generated 39,082 kg of non-hazardous solid wastes, 3,559 kg of hazardous solid wastes at the LNG Plant. In September, quarry activities generated 1,895 kg of non-hazardous solid wastes and 101 kg of hazardous wastes.

Waste management procedures in place (both CB&I and CDB) include:

- Segregation at point of origin through color-coded bins;
- Temporary storage in warehouses or yards, with impermeable areas and secondary containment as pertinent;
- Transport by specialized companies to place of disposal and/or treatment;
- Treatment and/or disposal at point of destination;
- Registers and transport manifests with full documentation of the process.

Procedures verified on the field are compliant with ESIP 157883-000-HS-PL-0003 Plant Waste Management Environmental and Social Implementation Plan (CDB), and ESIP 157883-000-HS-PL-0003 Revision D1 (CB&I).

During the quarter, there was a significant reduction in the volume of solid wastes sent by CB&I for outside treatment or disposal. This was 145 tons in July, 90 tons in August and 60 tons in September.

Storage of hazardous wastes in the waste warehouses / yards was verified during the September Mission and found to be in conformity with the aforementioned ESIPs. At the CB&I area, the spill containment resources were found to be too far from the hazardous waste area. This recommendation was implemented immediately by CB&I.

#### Ecological Monitoring - Native Plants

Assessment of the population of transplanted Tillandsias showed that the percentage of dead specimens decreased in August slightly and increased slightly in September when compared to the preceding periods. COLP will continue the assessment in order to find the best conditions for Tillandsias survival. A more detailed analysis of these efforts should be included in the next quarter's Compliance Report for verification during the next IESM Mission.

#### Biodiversity Monitoring – Fauna

Wild fauna surveys during August took place in compliance with the ESIA. The main species observed were: *Larus belcheri* (Gaviota Peruana – Band-tailed gull) which were seen only six times; *Cathartes aura* (Gallinazo cabeza roja – Turkey Vulture) seen three times; *Haematopus palliatus* (Ostrero Americano – American Oystercatcher), seen eleven times *Pelecanus occidentalis* (Pelicano Pardo - Brown Pelican) seen seven times, *Sula Variegata* (Piquero – Peruvian Booby) seen once and *Phalacrocora Brasilianus*\_ (Patillo – Neotropical Comorant seen eleven times.

In September, the following species were observed: *Larus belcheri* (Gaviota Peruana - Band-tailed gull) seen two times, *Falco sparverius* (Cernícalo Americano – American Krestel) seen two times, *Cathartes aura* (Gallinazo cabeza roja - Turkey Vulture) seen three times, *Larus Modestus* (Gaviota Gris – Gray Gull) seen four times, *Sula Variegata* (Piquero Peruano – Peruvian Booby) seen once, *Haematopus palliatus* (Ostrero Americano - American Oystercatcher) seen four times, *Pelecanus occidentalis* (Pelicano Pardo - Brown Pelican) seen once and *Phalacrocora Brasilianus*\_ (Patillo – Neotropical Comorant seen eight times.

The results to date indicate no significant variations that can be attributed to the project. A summary of cumulative results should be included in the reports and this is requested for inclusion starting the next quarterly report.

In August and September, remnants of dead animals were found along the coastline next to the project. It is worth noting that this is common in the region and was not interpreted as resulting from project activities.

#### **Quarry Monitoring**

Monitoring at the quarry included monitoring of air quality, environmental noise, and recovery of the vegetation communities.

### Air Quality

In August, PM<sub>10</sub> was monitored at two points, point A-2 once and point A-4 three times. PM<sub>10</sub> results exceeded the applicable Project E&S standard of 150 µg/m<sup>3</sup>. Values ranged between 135.6 µg/m<sup>3</sup> (below standard), and 830.8 µg/m<sup>3</sup>. According with the result, the dust control was improved decreasing the PM<sub>10</sub> concentration between the first and third sample taken. In September, the PM<sub>10</sub> result obtained for point A-2 was compliant, 34.96 µg/m<sup>3</sup>, and in point A-4 was 314.9, not compliant with Project E&S standards. There is no community to leeward of quarry that could be impacted. Workers are protected with respiratory PPE and closely medically monitored for any eventual development of a dust related disease.

Gaseous emissions were monitored at three points during August for Sulfur Dioxide (SO<sub>2</sub>), Carbon Monoxide (CO) and Nitrogen Oxide (NO<sub>x</sub>). Measurements presented values well below the Project E&S standards.

### Noise

During August, environmental noise monitoring continued to be executed. The results obtained showed noise levels were below the standard for industrial zones included in the Project E&S standards. Only one monitoring point (QM1 at the beginning of the Quarry haul road), presented excessive noise during day and night periods (77 and 51 dB(A) respectively). This high level of environment noise is caused by traffic of vehicles on the Panamerican Highway, without any influence of the project. Similar results were reported in September.

### Recovery of Vegetation

According to the Ecological Management Plan - F12254-CDB-W01-HSE-PLA-00105, cacti potentially impacted by Quarry activities were transplanted to an experimental plot. The plan establishes that during the first year following the Quarry development activities, monitoring of these transplanted cacti will consist of calculating the percentage of representative cacti species in the experimental area that survive. Monitoring will be conducted by a qualified internal or external specialist using the same method used in the baseline survey.

Activities on this plan in the quarter took place during August and September and consisted of monitoring of a transplanted cactus species denominated *Neoraimondia arequipensis*, and known as “Gigantón”, in the experimental zone. These specimens were identified as having the highest probability of being affected by the exploitation of rocks in the quarry. Monitoring results identified no variation compared to the preceding quarter.

## 4.2

### External Environmental and Social Audits

#### OSINERGMIN Audits

PLNG informed that OSINERGMIN conducted 7 audits to the plant and quarry as follows: 1 social audit of the plant and marine facilities, 3 environmental audits of the plant, 2 environmental audits of the quarry and 1 environmental audit of environmental dredging monitoring program.

The recommendations issued by OSINERGMIN and their current status is presented in **Table 4.2.1** below.

**Table 4.2.1**  
**Status of OSINERGMIN Recommendations**

Date	Observation	Action Taken	Status as of December 19, 2008
22/07/08	OSINERGMIN informed that PERU LNG is storing rocks on platforms called K5 A, K5 B, K5 C and K5 D. The installation and operations on these platforms had not been considered in the Project's Quarry ESIA, approved by D.R. N° 291-2006-MEM/DGAAE. For this reason, OSINERGMIN requested PERU LNG to update the Environmental Management Plan of the Project's ESIA and submit it to the DGAAE for its evaluation.	On August 26, through letter PLNG-ENV-PT-078-08, PERU LNG clarified that activities carried out in Quarry Haul Road's easement are being executed under the applicable mining regulations and, therefore, the observation is not applicable. Also PERU LNG explained that any potential impacts from this activity were analyzed in the EIA and that for this reason PERU LNG has monitoring stations at the beginning, middle and the end of the Quarry Haul Road. Monitoring did not reveal any additional impacts.	Pending OSINERGMIN response
09/09/08	OSINERGMIN informed that PERU LNG has partially implemented the Environmental Monitoring Program of Total Suspended Solids (TSS) during Dredging activities because the sampling of this parameter is performed only once a week rather than daily. For this reason, PERU LNG must implement its Environment Monitoring Program according to ESIA commitment.	On September 25, through letter PLNG-ENV-PT-090-08, PERU LNG clarified that according to the ESIA's observation N°36, the TSS daily monitoring can be done using turbidity measurements, using a Correlation Curve between TSS-NTU. Daily turbidity measurements are being undertaken and therefore PERU LNG is compliant with this commitment.	Pending OSINERGMIN response



**Table 4.2.1**  
**Status of OSINERGMIN Recommendations**

Date	Observation	Action Taken	Status as of December 19, 2008
09/09/08	OSINERGMIN informed that PERU LNG has partially implemented the Environmental Monitoring Program of Turbidity during dredging activities, because the sampling of this parameter is only performed once a day. For this reason, PERU LNG must implement its Environment Monitoring Program according to ESIA commitment (in Annex 06, Dredging EIA) that indicates “turbidity monitoring will be performed twice a day, at the beginning and in the middle of dredging activity”.	On September 25, through letter PLNG-ENV-PT-090-08, PERU LNG clarified that monitoring of turbidity was established in datasheets SM-2 and SM-2R in the Environmental Management and Monitoring Programs of the original and amended ESIA's, respectively, where it is specified that it should be daily. Therefore, PERU LNG is compliant with its commitments. Furthermore, annex 06, where it says that monitoring should be done at the beginning and at the end of the dredging activity (it does not say twice a day), makes reference to the EIA datasheet SM-2R for specific requirements.	Pending OSINERGMIN response
09/09/08	OSINERGMIN informed that PERU LNG has partially implemented the Environmental Monitoring Program of Turbidity during disposal of dredged material activities, because the sampling of this parameter is only performed once a day. For this reason, PERU LNG must implement its Environmental Monitoring Program according to ESIA commitment (in the dredging ESIA submitted as an appendix) that establishes “the turbidity monitoring will be performed twice a day, at the beginning and in the middle of disposal activity”.		Pending OSINERGMIN response
09/09/08	OSINERGMIN informed that PERU LNG had not submitted Contractor's onsite laboratory accreditation. The laboratory is used for monitoring of dredging activities.	On September 25, through letter PLNG-ENV-PT-090-08, PERU LNG clarified that the only parameter that is measured in Contractor's Laboratory is TSS analysis for the purpose of updating the TSS-NTU correlation curve. However, PERU LNG accepted the recommendation and Contractor will send the TSS samples to a certified laboratory.	Pending OSINERGMIN response
09/09/08	OSINERGMIN informed that PERU LNG had not submitted the calibration certificates for “Mettler 100-800 Oven” and “Sartorius CPA 3235 Analytical balance”, equipment that is used for dredging monitoring being self performed by Contractor.	On September 25, through letter PLNG-ENV-PT-090-08, PERU LNG submitted Oven vendor letter which indicates that this equipment does not need calibration; Additionally the calibration certificate for the analytical balance was attached to close this observation.	Pending OSINERGMIN response
09/09/08	OSINERGMIN informed that PERU LNG had not submitted the Sea Water Monitoring Protocol that is being used by Contractor.	On September 25, through letter PLNG-ENV-PT-090-08, PERU LNG submitted the Dredging Environmental Monitoring Procedure to close this observation.	Pending OSINERGMIN response

Further to recommendations listed above, one previous OSINERGMIN observation remains open since 2007. This observation concerns the need to sign an agreement (Convenio) with the National Police. PERU LNG has informed that a formal agreement with the police of Chincha and Cañete is still pending and under review by governmental parties. This agreement is about security issues and bears no relevance in terms of the project's environmental and health and safety aspects.

#### Independent Environmental and Social Audit

Action taken by PERU LNG upon recommendations set forth by the IESM Team in this Monitoring Report, will be described in the 4Q08 ESHS Quarterly Report.

### **4.3**

#### **Status of Environmental and Social Plans**

This section provides an update of the E&S programs as follows:

- Marine Monitoring Program
- Seabirds and Marine Mammals Monitoring
- Luminosity Monitoring
- Vibrations Monitoring
- Groundwater Monitoring Program (Topara Valley)
- Cultural Heritage Management Plan
- Local Hiring and Purchasing Plan
- Stakeholder Engagement Plan
- Fishermen's Compensation Management Plan
- Investment in Community Development

#### **4.3.1**

##### **Marine Monitoring Program**

Marine monitoring program was performed in July and November 2008 as planned. As PERU LNG informed in the 3rd ESHS Quarterly Report, artisanal fish monitoring from the shore was affected during the July survey by high tides and rough coastal conditions and was therefore undertaken when conditions permitted between mid July and the end of August. November monitoring survey was carried out without any inconveniences. The reports which have been produced as part of this program include progress reports and an annual report of the first year of monitoring with comprehensive information on the characteristics of the marine environment at and near the LNG Plant. The annual report is posted on the PERU LNG web site.

Results obtained during this quarter's monitoring will be presented in the next PERU LNG Quarterly Report. Also Peruvian surf clam or 'palabrita' (*Donax marincovichii*) sampling events (April and July 2008) have their own reports, which are being distributed to the stakeholders involved.

Contractor monitoring of construction activities was undertaken in accordance with EIA and Contractor Management Plan requirements. A summary of marine monitoring activities undertaken by PERU LNG and Contractors, as well as brief overall findings, is included in **Table 4.1.1**, of this section.

#### **4.3.2**

##### **Seabirds and Marine Mammals Monitoring**

No Seabirds and Marine Mammals monitoring was performed during the period. PLNG informed that the next monitoring event will occur in the first quarter of 2009 and will be compared to baseline results. Also, results of the program have been submitted to the National Society of Mining, Oil and Energy (SNMPE) for a Sustainable Development National Contest that SNMPE is sponsoring. Results have not been received yet.

PERU LNG scheduled a workshop on October 24 to present the results of the initial survey and obtain feedback on the proposed upcoming monitoring program from different interested stakeholders.

#### **4.3.3**

##### **Luminosity Monitoring**

As PERU LNG informed in the 3rd ESHS Quarterly Report, to undertake the monitoring, SGS Consultants & Laboratory was engaged. Stations were defined along the coastline, every 25 or 50 meters, covering a total length of 1,500 meters (750 meters to the south and 750 meters to the north).

Results from this survey indicated that luminosity levels become insignificant when compared to background levels at 350 meters to the south and 400 meters to the north of the trestle.

Also, in order to be able to evaluate and compare these results, PERU LNG also, through SGS, carried out an additional luminosity monitoring at three regional piers in which fishing occurs (Cerro Azul, Tambo de Mora and El Chaco piers). According to the results, luminosity levels at the trestle are similar to those at other piers.

These results have been communicated to fishermen associations, government institutions through different workshops and presentations in which these were showed and explained.

#### **4.3.4**

##### **Groundwater Monitoring Program**

During this period, groundwater monitoring took place, including one monthly groundwater monitoring of water levels and field parameters (on July 10) and one quarterly groundwater monitoring, covering water levels, field parameters and physical, chemical and biological analysis (on 19 and 20 August).

Also, at the request of the community to understand more about the quality of their water resources, a “puquiales” (springs) monitoring was done on 20 August, analyzing physical, chemical and biological parameters.

As informed by PERU LNG, results show that, since January 2007, water levels in the eight wells monitored do not show any trend of declining levels. Values for Selenium on wells GWT-8 and GWT-7 and values of Chlorides on well GWT-7 were found to exceed the values set by WHO and Project E&S standards. However, these results cannot be attributed to the project. In effect, the Groundwater Monitoring Program was required exclusively due to fears that vibration from Quarry explosions might alter deep well water levels or well productivity, but not water quality.

PERU LNG scheduled a workshop at Topara on October 24 to present the results of groundwater and springs surveys.

As water levels show no variation, water level monitoring will be undertaken quarterly rather than monthly as from September, including field parameters and complete analysis, with the next monitoring scheduled for November 2008. The next Quarterly Report will have information about the November monitoring.

#### **4.3.5**

##### **Vibration Monitoring**

Two surveys were defined, one in June and one in July. Each survey would measure both a primary and secondary blasting in each of the three stations monitored. PLNG informed that, during this period, the second survey for vibration monitoring at Topara took place on 16 and 21 July, following the same methodology used during the first survey.

Results show that no significant vibrations are being generated by Quarry blasts. All results obtained are below the applicable Project E&S standard of 0.1 m/s. According to the Ministry of Energy and Mines in Peru, values below this level will not adversely affect the underlying rock basement. PERU LNG has scheduled a workshop for October 22 to present the results to the community and interested stakeholders and the results of this will be reported in the next quarterly report.

#### **4.3.6**

##### **Cultural Heritage Management Plan**

PERU LNG reported that main activities related to this program in the period related to two chance findings that occurred in August 31, near the Quarry Haul Road. They were found during fencing reinstallation works around existent archaeological polygons, not affecting any work area.

The first chance finding, in an area of approximately 6 square meters, contained fragments of ceramics. This site was signaled and fenced and INC was notified.

The second chance finding, located around 10 meters from the first one, presented larger pieces of broken pottery. In this case, PERU LNG's archaeologist rescued fragments to be submitted to the inventory at the INC. The area was signaled and fenced.

The necessary diligences regarding communication to the INC were undertaken and follow-up will be reported in the next Quarterly Report.

#### **4.3.7**

##### **Local Hiring and Purchasing Plan**

During the reporting period, local workforce represented almost 38% of the total Peruvian total workforce (2,271 for July, 2,549 for August and 3,038 for September). Personnel was hired in the 3<sup>rd</sup> Quarter, which amounted to 2,975 persons (July 859, August 951, and September 1,165), in equal proportions between Chincha and Cañete, in order to fulfill the project's commitment.

Local procurement, mainly through construction contractors, included construction materials and supplies, food, lodging, fuel and services in general, totaling US\$ 924,886 in the quarter.

#### **4.3.8**

##### **Stakeholder Engagement Plan**

COLP's offices at Cañete and Chincha are supporting community relations activities of both Plant and Coast Pipeline. In the 3<sup>rd</sup> Quarter, there were 338 visitors registered at Cañete's office and 631 at Chincha, in this latter case with demands referring to both Plant and Pipeline. Most inquiries at these offices refer to local employment opportunities. Another frequent reason for consultation in the 3<sup>rd</sup> Quarter was relative to the Fishermen's Compensation Program, which was the object of 49 consultations, mainly in the Cañete Office, until September 2008.

According to information updated during the Mission, 38 new requests for inclusion in the Fishermen's Compensation Program were received in both offices. They were all carefully analyzed and answered. None of these demands fulfilled the established criteria for participation in the Program.

One aspect that deserved close verification during the Mission was the absence of records on claims and grievances between the end of 2007 and the 3<sup>rd</sup> Quarter of 2008. As explained during the Mission, although the Disclosure and Grievance Procedure was in operation since the beginning of construction, review of some aspects was underway in order to assure there are no gaps between CB&I and CDB procedures and the Lender approved Grievance Procedure established for the project.

COLP has allocated a member of the community relations team to act as coordinator in charge of registering and following up on all demands and reviewing ensuing actions. COLP has a standard form to register claims and grievances, available at both the Chincha and Cañete offices, that is being used since the beginning of construction, and which also

may be filled in by the interested parties when presenting their claim, or by the office attendants in case of claimants who are not able to write properly. Although the form is being used, the consolidation of all registries in a centralized databank is still being improved.

Disclosure of the Grievance Procedure is also being reinforced through distribution of pamphlets. These pamphlets are available at the Chinchá and Cañete offices.

In the desk review during the Mission, it was observed that three complaints had been filed in the months of October and November, indicating that the procedure is operational. All three had already been replied to. Two referred to complaints involving labor issues with contractors, and the other referred to an incident involving a service vehicle that provoked small fence damage, which had already been repaired.

It should furthermore be noted that, as previously agreed, all demands related to the Fishermen's Compensation Program that are received in these offices are registered, but not classified as grievances, even when they involve a request for inclusion in the program. Notwithstanding, all such requests are formally replied to.

Similarly, visits made to Chinchá and Cañete offices by people interested in information about jobs or about the project in general (such as school children working on projects for their schools, for example), are all registered under one specific category. As a result of this, the consolidated statistics presented in the 3Q08 ESHS Quarterly Report, despite having registered 631 visits and consultations of interested parties in both offices, do not classify any of the subject matters dealt with as claims or grievances.

A revision of the categories used to classify visits to the Chinchá and Cañete offices in order to guarantee effective reporting of the Program is recommended as part of the ongoing revision process of the claims and grievances registry procedure.

#### **4.3.9**

##### **Fishermen's Compensation Management Plan**

After completion of the social baseline study and disclosure of the list of eligible fishermen and associations, PERU LNG started negotiation and execution of the two types of compensation that had been established under the Fishermen Compensation Plan: compensations to fishermen associations and individual fishermen in the form of projects which are meant to create a continuous source of alternative income, or direct social assistance to individual fishermen in the form of scholarships, insurance bonuses, food tickets, school fee tickets, and similar financial support.

Financing of projects will be funded through a trust fund. An account will be opened for each Association and a general account will be opened for the independent fishermen. The trust fund will be administered by an independent entity ("*La Fiduciaria*").

During the Mission, COLP reported on progress with implementation of the Fishermen Compensation Plan up to December. The Plan in execution, contemplates a total of 10 fishermen associations with 579 associates and 284 independent fishermen. It must be pointed out that in the implementation phase of the plan, some slight changes in the social baseline study were perceived. From the original 310 independent fishermen that were eligible for compensation in the social baseline study, 26 registries were excluded due to inexistent addresses, registry duplication in Cañete and Chincha files, or due to death of the entitled person.

COLP reported that by December, agreements had been reached with seven fishermen associations and 204 independent fishermen. Three remaining associations, two in Chincha and one in Cañete, were still reluctant to accept the concept of compensation in productive projects, insisting in the payment of cash values. The APARCHPC Association from Chincha (63 members) is one of them. PERU LNG's goal is to conclude remaining negotiations by February 2009.

All preparatory activities proposed in the plan were 100% complete by December. They included:

- 17 meetings for compensation plan presentation to the fishermen;
- Preparation of a sample of examples of productive projects to show the fishermen about possible applications of the compensation funds;
- Hiring of SwissContact and Recursos SAC to provide technical assistance and institutional strengthening to associations and groups of fishermen in the process of developing business ideas and projects;
- Definition of two agreement models to be applied to associations and individuals;
- Definition of the scope and contract term for the establishment of the trust fund where the fishermen compensation funds will be deposited. The scope was completed and a contract was signed with “La Fiduciaria” for its administration.

As for the implementation activities in process, those starting after the signing of the above mentioned agreements included:

- Opening of bank accounts for the Associations and a global account for all independent fishermen;
- Identification of business ideas or projects and development of business plans for 5 associations and 4 groups of independents. With this activity in course, market studies and evaluation of the possibility of success of the business plan must be concluded as soon as possible in order to confirm feasibility of the plans.

In the coming months, the effectiveness of the technical assistance and institutional strengthening support will be crucial for the implementation and sustainability of the projects, since positive results of investment projects will facilitate further agreements with other fishermen associations. Key indicators should be selected and should be used as the basis for disclosure of results. These should focus on economic performance of projects supported by the Fishermen's Compensation Management Plan, particularly in relation to

income generated for the beneficiaries (i.e. wages paid and profits distributed). Generated income should be compared to capital invested by the Plan on each project, and the corresponding multiplier effect should be calculated. These calculations may be based on projections of income generation to be based on the projects' initial performance. The IESM Team will discuss with Swiss Contact and Recursos S.A.C. the way in which these or other project performance indicators will be implemented.

As for new demands related to the Fishermen's Compensation Management Plan updated during the Mission up to December, 2008, a total of 54 requests were presented by independent fishermen for inclusion in the plan. All requests were analyzed, and as they did not fulfill the inclusion requirements, this fact was informed to all candidates. Thirty five letters with requests were also presented by Fishermen Associations.

#### 4.3.10

##### **Investment in Community Development (Additionality)**

PERU LNG is investing in two community development projects, one of which targets agricultural promotion and the other supply chain management.

*Agroprogreso*, a three-year program that began in February 2008, intends to increase the income of 300 small agricultural producers in the provinces of Chincha and Cañete. The program works with a local partner in the delivery of specialized technical assistance, training, commercialization assistance and access to funds, in order to improve the skills of selected beneficiaries from the local communities. *Agroprogreso* was initiated through a contract with CIED – *Centro de Investigación y Educación para el Desarrollo*. However, following an in depth evaluation of program deliverables and achieved targets, it was decided that a reformulation of the program was needed.

Following termination of the contract with CIED, a new bidding process is under way in order to select a new implementing partner for the program. The new partner is expected to start work in February 2009. During the two-month transition phase, PERU LNG will give continuity to specific ongoing tasks, such as technical training, in order to ensure that beneficiaries' interests and expectations are not jeopardized.

It will be important to ensure that adequate baseline statistics on initial production and productivity levels of all beneficiaries are registered so as to have a background against which to measure the program's results.

A second community development project is the *Local Supplier Development Project*, which aims at benefitting 100 small local businesses. It will be implemented jointly with IFC through IFC's Linkages Program. The project is planned to last 2 years, with part of the budget provided by PERU LNG and part by IFC. It contemplates the selection of qualified small to medium enterprises (SMEs) that will be assisted with development of management plans and other improvements, including training and guidance on how to establish lasting supply relations with large companies. Capacity building of selected SMEs will include all key business areas, including financing, management, marketing and quality assurance.



The cooperation agreement between IFC and PERU LNG is expected to be signed in January 2009. Selection of the local implementation partner was concluded in November in favor of a consortium between the Swiss Agency of Cooperation (SwissContact) and Recursos S.A.C. Initial implementation activities, including meetings with selected small businesses and setting up the consortium's local office in Cañete, were in progress by December. Also, a kick-off meeting with participation of the IFC Procurement Coordinator and COLP's key managers and technical team, had already taken place.

As in the case of the *Agroprogreso* program, baseline data on all SMEs included in the *Local Supplier Development Project* will be vital for continuous assessment of project results.

#### **4.4 Key Performance Indicators – KPI**

Both environmental and social KPI's achieved their performance targets.

In order to better analyze indicators relative to contractor response to requests for corrective action, it would be better to calculate the corresponding KPI (EPT1) not only on a month-by-month basis, but also cumulatively as suggested earlier in this report.

#### **5.0 Community Relations and Social Investment Summary**

CB&I's and CDB's community relations teams implement several social projects in the communities of Chinchá and Cañete, which can be classified as follows:

- Social projects, including:
  - Disclosure and Grievance Response
  - Public Health and Safety
  - Support to Local Municipalities
- Economic Projects
- Cultural Projects (including support to schools and other educational institutions, as well as sports promotion).

Some of these projects may have continuity after the project construction phase is completed and opportunities for this are being analyzed by PERU LNG.

#### **CB&I Social Projects**

Activities currently been developed by CB&I include, regarding public Health and Safety, support to public health campaigns, mainly through supply of transportation logistics to the

local institutions responsible for health campaign implementation. Another public health initiative consists of training at popular Community Kitchens (“*comedores populares*”). This training covers hygiene, health and nutritional issues with the teams responsible for Community Kitchens in Chincha and Cañete.

With regards to municipal support projects, CB&I reported that it continues assisting the municipality of Cañete with development of its Concerted Development Plan (Plan de Desarrollo Concertado) and corresponding Participatory Budget.

Among economic programs, CB&I has a local supplier development program. This involves procurement procedures that favor local businesses. Thanks to this program, three suppliers of uniforms and clothing from Chincha have joint-ventured among themselves and are currently supplying not only to CB&I, but also to other local industries and are being considered as potential suppliers to COLP. Clothing manufacturers from Cañete are also supplying to CB&I, but have not formed a joint venture.

In Cañete, a restaurant and a bakery that regularly supply CB&I have received technical assistance and the improvements resulting from this technical assistance are being evaluated. Local purchase of agricultural products is also a priority and CB&I’s social team engages with the canteen’s concessionaire to ensure that local producers are favored whenever possible.

Cultural and educational projects promoted by CB&I are very diverse. A project that deserves highlighting is an earthquake response training program at local schools. This program involves several other institutions (INDECI, the Ministry of Health, Public medical centers of Chincha and Cañete, UGEL, the local Fire Department, CARE and the local Police Department). CB&I also support a program for health promotion at local schools which involves training in nutrition, hygiene, solid waste management and traffic safety. Other cultural initiatives include sports training and support to diverse cultural events. CB&I community relations team has 9 professionals allocated to this area.

The project’s Strategic Plan initiative is being reviewed by PERU LNG Top Management.

#### CDB Social Programs:

Social Programs by CDB follow much the same line as those by CB&I.

Public health initiatives by CDB include a cooperation agreement with MIMDES (Ministerio de la Mujer y Desarrollo Social) in order to promote actions against family and sexual violence.

In the communities of Topara and Urbanito Cruz, a social survey to identify community needs was executed.

CDB is also promoting local capacity-building workshops. These have recently included a seminar to develop local straw handicrafts and seminars about merchandising goods and textile stamping.

Also with regards to supplier development, CDB's quality team provided technical assistance to *Técnicas Metálicas*, a subcontractor in Lima that is supplying steel fabrication services. This assistance resulted in progress towards ISO 9000 certification.

Cultural and educational projects by CDB include support in the implementation of local modular libraries, nutritional and health training.

CDB is maintaining two schools: Dance School (CDB Afro) to strengthen the cultural identity of children and/or teenagers in the districts of the Direct Area of Influence in Chíncha and Cañete through the learning and valuing of music and practice of local dances.

Likewise, the intervention considers the artistic training of children and/or teenagers through workshops of preventive health and comprehensive medical checkups developed under strategic alliance with MINSA.

Soccer School (CDB Sport), which currently trains 100 students, practicing soccer and teaching moral values and making sure coordination with the parents is carried out to ensure that the children are supported.

The human resources allocated include 4 community relations professionals and two teachers (soccer and dance).

## 6.0

### Incidents

No environmental or social incident was reported in the quarter.

An incident motivated by a legal issue, causing a short blockade of the Quarry haul road, was mentioned during the Mission. The incident was triggered by a claimant over the mining rights of an area located near the access road, who alleged the access was impeding the exploitation of the area. As the claimant did not present any evidence or documentation for the alleged mining rights, PERU LNG did not acknowledge the compensation claim, and as a result, to exert pressure, there was a temporary blockade of the Quarry haul road by the claimant. The opening of the access was successfully negotiated by the negotiation team with the claimant, who is also the owner of other areas in Chíncha which are crossed by the pipeline. Classified as a legal issue, the incident was notified to the Intercreditor Agent.

It is the position of the IESM Team that all issues that result in social unrest or otherwise induce stakeholder opposition to the project are social matters and are to be reported as such. The situation described in this section should be a follow up item for the next Mission

## 7.0

### Current Compliance Status

Project implementation at the LNG Plant and the Marine Facilities was found to be fully compliant with EIA requirements and with PERU LNG environmental, social and health and safety commitments.

During the field inspection, the only shortcomings identified referred to minor health and safety issues at CDB's main camp. Some of these shortcomings were corrected before the inspection was concluded.

Another compliance issue refers to registration and documentation aspects of the existing Grievance and Complaints procedure. As commented before, final consolidation of grievance and complaint tracking tables should be improved and this should result in a clearer presentation in future Quarterly Reports. Periodically, PERU LNG should verify whether stakeholders continue to be adequately aware of the means and procedures for submittal of complaints or grievances, since disclosure of information on how to proceed may require periodic repetition.

## 8.0

### Key Issues and Main Concerns

There is some concern regarding whether a permit is required for the reutilization of reverse osmosis brine from the CB&I Reverse Osmosis Plant.

Also, the recurrent absence of grievances or complaints reported by COLP and EPCs in the last months raised concern on the effectiveness of the implementation of the procedure. The grievance and complaints routines were verified, and some flaws were identified in the classification of the claims and documentation and follow-up of the registries. COLP has been working in aligning CB&I and CDB's Grievance Procedures with the Lender approved procedure, including reinforcement of data collection management. Reinforcement of distribution of promotional material about the way to submit grievances or complaints was already ongoing in December.

The implementation of the Fishermen Compensation Plan in course is achieving good results, reaching 70% of the Association agreements signed in December and 72% of the agreements signed with the independent fishermen, indicating that the compensation proposed by PERU LNG is gaining acceptance, overcoming initial resistance. There still are agreements being negotiated, and agreements are being reached, validating the acceptance of compensation based on social projects rather than cash payments.

Simultaneously, with the Technical Assistance of SwissContact and Resources SAC, business plans are already being developed, scheduled to start execution as from January 2009. It still is essential to ensure that social projects which have been agreed upon show

early signs of success and have an illustrative effect, facilitating agreement with associations which are still reluctant to reach agreement on the basis of social projects as proposed.

## 9.0

### New Recommendations

According to the methodology adopted in the last Mission, quarterly periodicity of IESM inspections requires focus of the IESM Team on a more general assessment of project environmental, social and health and safety management, and on formulating recommendations in this regard.

Recommendations set forth herein can be classified into three main categories:

- Recommendations affecting COLP's ongoing environmental and social procedures and/or programs (i.e. Complementary Monitoring Requests, improved reporting, other).
- Recommendations requiring COLP to request corrective action from CB&I and/or CDB.
- Recommendations for future action in view of perceived environmental and social upcoming risks (i.e. recommendations for preventive action with regards to future works, rather than for corrective action on past or ongoing performance).

New recommendations resulting from the December Mission are presented below and in the tracking table in **Annex 1.0**.

#### Recommendations Relative to COLP's Environmental and Social Procedures:

1. In order to obtain a more clear analysis of the KPI for contractor response on corrective action requests (EPT1), it is recommended that the indicator be calculated not only on a month-by-month basis but also cumulatively.
2. Continue to revise routines and to improve tracking tables and the documentation process of the Grievance and Complaints Procedure, revising categories in use and presenting detailed information in the next Quarterly Report.
3. Incorporate specific KPIs to evaluate results of the AgroProgreso and Supply Chain Management social investment programs.
4. Present a summary of cumulative results of fauna observations executed to date as part of the Ecological Monitoring Plan and include it in the next quarterly report.
5. Present a more detailed analysis of efforts to date to improve survival rate of transplanted Tillandsias and include it in the next quarterly report.

Recommendations requiring COLP to request corrective action from CB&I and/or CDB:

1. With regard to blending wastewater effluents and reverse osmoses (RO) rejected brine for reutilization, COLP should request CB&I to ask DIGESA for the corresponding permit and, in the meantime, reuse only the wastewater effluent when it meets the standards.
2. Request CDB to improve signaling regarding usage of ear protection PPE at workshop.
3. Request CDB to improve inspection and signaling procedures in order to always maintain eye-washing devices full of water.

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**São Paulo, February – 2009.**

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**ANNEX 01**  
**Recommendation Tracking Table**

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**ANNEX 01 - Recommendation Tracking Table****Recommendations Relative to COLP's Environmental and Social Procedures:**

Recommendations	Subject	Risks	Status
1. In order to obtain a more clear analysis of the KPI for contractor response on corrective action requests (EPT1), it is recommended that the indicator be calculated not only on a month-by-month basis but also cumulatively.	KPI- Performance (NCR's, CAR, WIN)	Misleading evaluation of results and performance of the non-compliance management system	Waiting for accomplishment (next report).
2. Continue to revise routines and to improve tracking tables and the documentation process of the Grievance and Complaints Procedure, revising categories in use and presenting detailed information in the next Quarterly Report.	Grievance Register	Reputation and Legal Risk	Waiting for accomplishment
3. Incorporate specific KPIs to evaluate results of the AgroProgreso and Supply Chain Management social investment programs.	Social investment programs-KPI	Reputation Risk	In progress. Subject to review.
4. Present a summary of cumulative results of fauna observations executed to date as part of the Ecological Monitoring Plan and include it in the next quarterly report.	Ecological Monitoring Plan	Risk of biotic integrity decrease	Waiting for accomplishment in the next quarterly report.
5. Present a more detailed analysis of efforts to date to improve survival rate of transplanted Tillandsias and include it in the next quarterly report.	Tillandsias Monitoring	Risk of lowering Tillandsias density	Waiting for accomplishment in the next quarterly report.

**Recommendations Requiring COLP to Request Corrective Action from CB&I and CDB:**



Recommendations	Subject	Risks	Status
1. With regard to blending wastewater effluents and reverse osmoses (RO) rejected brine for reutilization, COLP should request CB&I to ask DIGESA for the corresponding permit and, in the meantime, reuse only the wastewater effluent when it meets the standards.	Wastewater effluents permits	Legal Risk	Waiting for accomplishment
2. Request CDB to improve signaling regarding usage of ear protection PPE at workshop.	Health and Safety-PPE Signaling	Risk for workers' security and health	Waiting for accomplishment
3. Request CDB to improve inspection and signaling procedures in order to always maintain eye washing devices full of water.	Health and Safety	Risk for workers' security and health	Waiting for accomplishment




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**ANNEX 02**  
**Photographic Records of Mission Observations**




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	<p>INDEPENDENT ENVIRONMENTAL &amp; SOCIAL MONITORING</p> <p>PHOTOGRAPHIC RECORD OF AUDITS</p>	  Rev. 01    18/12/08
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	<p><b>SITE:</b> CDB Campsite</p>
	<p><b>OBSERVATION:</b> Water level below minimum. Containers were replenished before the end of the mission.</p>

	<p><b>SITE:</b> CDB Workshop</p>
	<p><b>OBSERVATION:</b> Workers in a noisy place not using ear protection PPE.</p>

	<p><b>SITE:</b> CB&amp;I Solid Waste Warehouse</p>
	<p><b>OBSERVATION:</b> Facilities were in good order.</p>

	<p><b>SITE:</b> CB&amp;I SOLID WASTE WAREHOUSE</p> <p><b>OBSERVATION:</b> Dangerous Waste Storage Area. Implementation of an anti-spill kit in case of occasional emergencies was recommended.</p>
	<p><b>SITE:</b> Roads at Quarry</p> <p><b>OBSERVATION:</b> Roads very well watered for dust control.</p>
	<p><b>SITE:</b> Roads at Quarry</p> <p><b>OBSERVATION:</b> Access road watering for dust control.</p>

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	<p><b>SITE:</b> Quarry Campsite</p> <hr/> <p><b>OBSERVATION:</b> Workshop and car wash area. Observe cunette / drain trench for collection of occasional spills linked to oil-water separator tank.</p>
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	<p><b>SITE:</b> Quarry Campsite</p> <hr/> <p><b>OBSERVATION:</b> Effluent oil-water separator tank for workshop and car wash area.</p>
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