LNG Plant with construction well advanced

Steep slope along pipeline ROW (KP59)

Hauling heavy equipment from Komo to HGCP

REPORT OF THE:

INDEPENDENT ENVIRONMENTAL & SOCIAL CONSULTANT

ENVIRONMENTAL & SOCIAL COMPLIANCE MONITORING

PAPUA NEW GUINEA LNG PROJECT

Site Visit: June – July 2013

Prepared for

Export-Import Bank of the United States

Export Finance and Insurance Corporation

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D'APPOLONIA

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Prepared by: D'Appolonia S.p.A.
Via San Nazaro, 19
16145 Genova, Italia
www.dappolonia.it

Monitoring Team Members:
Giovanni De Franchi – Team Lead - Environmental Specialist
William J. Johnson – Earth Scientist/Cultural Heritage Specialist
Kerry Connor – Social Development Specialist
Louise Johnson – Biodiversity and Natural Resource Management Specialist
Mark Pedersen – Marine and Freshwater Ecological Management Specialist (not present)

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ACRONYMS

API	American Petroleum Institute
BD	Business Development
BMP	Biodiversity Monitoring Plan
BOD	Biological Oxygen Demand
BODP	Biodiversity Offset Delivery Plan
Borealis	The Project's Information Management Platform
BSA	Benefits Sharing Agreement
CBD	Convention on Biological Diversity
CBI	Chicago Bridge and Iron
CBIC	Chicago Bridge and Iron & Clough JV (EPC4)
CCJV	Clough Curtain Brothers JV (C1)
CEA	Cumulative Effects Analysis
CHMP	Cultural Heritage Management Plan
CI	Conservation International
CIC	Contractor Interface and Compliance
CIC	Community Issues Committee (at EPC5B)
CIP	Contractor Implementation Plan
CJJV	Chiyoda JGC JV (EPC3)
CLS	Core Labor Standards or "Enabling Rights"
COD	Chemical Oxygen Demand
CP	Cathodic Protection
CPF	Central Processing Facility (Kutubu – OSL)
CPUE	Catch per Unit Effort
CRP	Communal Resource Plan
CSS	Community Support Strategy
CSSAP	Community Support Strategy Action Plan
CTA	Common Terms Agreement
CTF	Construction Training Facility
DEC	Department of Environment and Conservation
DLIR	Department of Labor and Industrial Relations
DLPP	Department of Land and Physical Planning
DPE	Department of Petroleum and Energy
EHL	Esso Highlands Limited
EIS	Environmental Impact Statement
ELC	Environmental Law Centre
EMDC	ExxonMobil Development Company
EMP	Environmental Management Plan
EMPC	ExxonMobil Production Company
EPC	Engineering – Procurement - Construction
EPT	Ephemeroptera (mayfly), Plecoptera (stonefly), and Trichopera (caddisfly)
ESIA	Environmental and Social Impact Assessment
ESMP	Environment and Social Management Plan
ESMS	Environmental and Social Management System
FOC	Fiber Optic Cable
GFE	Gobe Field Engineering
CIC	Community Issues Committee
GoPNG	Government of PNG
HDD	Horizontal Directional Drilling
HGCP	Hides Gas Conditioning Plant
HH	Highlands Highway
HRM	Human Resource Management

HWMA	Hides Waste Management Area
IBBM	Institute of Banking and Business Management
ICT	Information and Communication Technology
IESC	Independent Environmental and Social Consultant
IFC	International Finance Corporation
iHDSS	Integrated Health Demographic Surveillance System
ILG	Incorporated Land Groups
ILO	International Labor Organization
ILO 1998 Declaration	ILO Declaration on Fundamental Principles and Rights at Work (1998)
ILS	International Labor Standards
IMR	Papua New Guinea Institute of Medical Research
iPi Catering	integrity…Proactive…innovative Catering
IR	Industrial Relations
IPIECA	International Petroleum Industry Environmental Conservation Association
IWSF	Interim Waste Storage Facility
KP	Kilometer Point
KPI	Key Performance Indicator
LBBSA	License-Based Benefit Sharing Agreement
LBSA	License Area Benefits Sharing Agreement
L&CA	Land and Community Affairs
LR	Livelihood Restoration
MCH	Maternal and Child Health
MCJV	McConnell Dowell CC Group JV (EPC5B)
MOC	Management of Change
MOF	Marine Offloading Facility
MOH	Medicine &Occupational Health
MoU	Memorandum of Understanding
MSDS	Material Safety Data Sheet
MTPA	Million Tons per Annum
MWMA	Mobile Waste Management Areas
NAQIA	National Agriculture Quarantine and Inspection Authority
NBSAP	National Biodiversity Strategy and Action Plan
NCD	National Capital District
NCDC	National Capital District Commission
NGO	Non-Governmental Organization
NLB	Northern Logistics Base
OCN	Other Country National
OGP	International Association of Oil and Gas Producers
OIMS	Operations Integrity Management System
OSL	Oil Search Limited
Para.	Paragraph
PCS	Pre-Construction Survey
PMA	Program Monitoring Activity
PNG LNG	Papua New Guinea Liquefied Natural Gas Project
PNG TUC	Papua New Guinea Trade Union Congress
POEA	Philippines Overseas Employment Agency
PoO	Point of Origin
PIG	Project Infrastructure Grant
PS	Performance Standard
PVT	Personal Viability Training
Q	Quarter
QMP	Quarantine Management Program

RAP	Resettlement Action Plan
RoW	Right-of-Way
RPF	Resettlement Policy Framework
RPNGC	Royal Papua New Guinea Constabulary
SELCA	Socio-Economic, Land & Community Affairs
SMP	Social Management Plan
SoL	Standard of Living
SSH&E	Safety, Security, Health and Environmental
STI	Sexually Transmitted Infections
TOR	Terms of Reference
TSHD	Trailing Suction Hopper Dredger
TSS	Total Suspended Solids
UBSA	Umbrella Benefits Sharing Agreement
UNEP-WCMC	United Nations Environmental Program – World Conservation Monitoring Centre
U-PNG	University of PNG
WAA	Waste Accumulation Area
WAP	Workplace Assistance Program
WMA	Wildlife Management Area
WPAR	Well Pad Access Road
WWF	World Wildlife Fund
WWTP	Wastewater Treatment Plant
YTD	Year to Date

EXECUTIVE SUMMARY AND CONCLUSIONS

This report represents the ninth post-financial close field visit to Papua New Guinea (PNG) made by D'Appolonia S.p.A. of Genoa, Italy serving in the role of the Independent Environmental and Social Consultant (IESC) for the Papua New Guinea Liquefied Natural Gas (PNG LNG) Project with Esso Highlands Limited (EHL) as the Operator (a subsidiary of ExxonMobil Corporation) on behalf of Export Credit Agencies (ECAs) and commercial banks providing Project financing (Lenders). The purpose of this visit has been to monitor conformance with Project environmental and social commitments made during actual Project development. This visit was conducted from June 24 – July 4, 2013 in PNG.

The commitments made by the Project for environmental and social management are defined in three documents. The Environmental and Social Management Plan (ESMP) is the main document defining EHL's environmental and social commitments. An additional document termed the Lender Environmental and Social Requirements (LESR) was prepared to supplement the ESMP and provides a single point of reference to all information and documents that do not form part of the ESMP, but are required to demonstrate compliance with Lender Group requirements. At the time of Financial Close in February 2010, it was not practical for EHL to fulfill all of the Lender requirements to finalize aspects of environmental and social management. Therefore, a third document termed Environmental and Social Milestones (Milestones Schedule) was prepared as Appendix H3 to the Common Terms Agreement (CTA) to reflect twenty additional time-bound commitments. These three documents together define the roadmap to achieve Lender compliance as defined in the International Finance Corporation (IFC) Performance Standards (PS) and Equator Principles and are the benchmarks against which the IESC audits the Project.

EHL has begun the process of commercializing the undeveloped petroleum resources in the Hides, Angore and Juha fields and the associated gas resources in the currently operating oil fields of Kutubu, Agogo, Gobe and Moran in the Southern Highlands and Western provinces of PNG. The gas will be conditioned for transportation by pipeline to an LNG facility twenty kilometers northwest of Port Moresby on the coast of the Gulf of Papua. There, the gas will be liquefied and the resulting LNG product (approximately 6.9 million tons per annum) loaded onto ocean going tankers and shipped to gas markets overseas. At the time of this visit, work was mainly associated with EPC3 (LNG Plant construction), EPC4 (HGDP construction), and EPC5A (onshore pipeline). EPC Contractors C1 (Early Works), EPC1 (telecommunications) and EPC2 (offshore pipeline) have completed their work scopes and EPC5B (Komo airfield) is in the process of demobilizing.

The Project is now nearing the production phase, with the initial gas being provided by OSL expected to flow to the LNG plant (Train 1) prior to the end of Q3 2013. Systems are fully in place for the effective management of social, health & safety, environmental and labor issues. Accordingly, this report has not attempted to provide the level of detail as presented in previous reports and has focused mainly on the issues to be resolved associated with the transition to operations.

An important milestone to note to demonstrate progress made by EHL is that this report represents the first time that there are no active non-conformances noted in the Issues Table provided in Section 2. All previous IESC reports have identified non-conformances.

Environmental and Social Management System (ESMS) – Transition to Operations

The PNG LNG Project is somewhat unique from other projects in that the current plan is to turn over the part of the onshore pipeline (Kutubu to Omati) to EHL Operations before the onshore pipeline from the HGCP to Omati is completely constructed (gas expected to flow to the LNG Plant prior to the end of Q3 2013). This will allow for gas available from OSL to be provided to the LNG facility for the purpose of commissioning the gas turbine units, required for the generation of power necessary to complete construction and commissioning of the LNG facility. Accordingly, plans and procedures need to be in place for this transitional phase prior to full turnover to Operations. This process is well developed. The transitional Pipeline Right of Way Management Plan to define the transitional environmental, social and physical requirements until the Operations ESMP is fully developed, has been finalized. IESC has already reviewed several iterations of the Operations ESMP, and expect that it will be finalized prior to the end of Q3 2013. This is in accordance with the completion indicator specified in Milestone Schedule item 6.

An important document we have not yet reviewed is the Oil Spill Response Plan for the Production phase of the Project. The document has been prepared by an external consultant and is currently being reviewed

internally by EHL. Based on information provided by EHL it is expected to be delivered to IESC for our review in late August.

Environmental Management – Waste and Wastewater

Waste management continues to fall in the arena of "best" practice, as reported in the previous IESC report. A major achievement ongoing at the time of this field visit was the commissioning of the hazardous waste incinerator at the Hides Waste Management Area (HWMA).

Wastewater treatment still requires attention, but the Project has undertaken a major cross-contractor initiative to correct deficiencies with respect to WWTPs and substantial improvement has been observed throughout the different Project facilities. The situation is not fully resolved, but IESC has downgraded the Level 1 non-conformance identified in the previous report to an Observation.

Erosion and Sediment Control

A dedicated effort to minimize erosion continues to be evident across the Project. Now that the Komo airfield is operational, the equipment previously dedicated to construction is now dedicated to finalizing structures to maintain slope stability and undertake reinstatement. It is expected that erosion and sediment control issues that have been problematic at the airfield since the beginning of construction will be resolved once reinstatement is complete. Erosion and sediment control are also more of an issue for the onshore pipeline now that work fronts have entered the rugged highlands. Several of the steepest slopes will require long-term monitoring, but the erosion and sediment control structures being constructed are impressive (note the cover photograph taken at KP 59).

Pollution Prevention – Breakout of Foam Used in Drilling

A unique aspect of the PNG LNG Project is the loss of foam used to drill through the cavernous Darai Limestone, which extends from the surface to as deep as about two kilometers along Hides Ridge. As noted in the last IESC report, significant breakouts of foam did take place at the start of drilling at Well Pad B, but the situation was well managed. Only minor foam outbreak has occurred in association with the drilling at Well Pad C and there were no issues in terms of community impact.

Ecological Management and Biodiversity

EHL has made good progress in developing their biodiversity offset design. A 2nd multi-stakeholder workshop has been held to discuss the development of offset components, and dialogue continues to ensure that EHL is best able to demonstrate no net loss effectively. EHL has developed its draft Biodiversity Monitoring Plan to assess implementation of the Biodiversity Strategy across the Upstream project footprint, and the suite of PMA's is useful; the document is yet to include further detail on methodologies and performance indicators.

There have been several instances of vegetation clearance outside of the planned RoW corridor. Pipeline construction has moved through the Lake Kutubu WMA; horizontal directional drilling has resulted in several releases of bentonite mud, and certain spill mitigation measures were instigated. The Government is undertaking fish histology testing following a fish death incident at Lake Kutubu – although the final report from DEC is still pending, as far as the IESC is aware, there is no evidence to suggest that the drilling releases caused the fish death. Pre-construction surveys at Hides have been completed; Angore PCS are due for completion in the next few months. Construction of the Angore flowline will require re-access and re-disturbance to reinstated RoW between the HGCP and Angore tie-in.

Recommendations focus on: the need for closer supervision on RoW clearance; removal and re-use of felled trees at Komo; a review of Angore flow-line construction timing; the need for revision of the Biodiversity Strategy; increased momentum in Lake Kutubu WMA dialogue to allow progress on the Enhancement Plan implementation; the need for additional detail in the Biodiversity Monitoring Plan; and the development of an operational land-use hierarchy.

Induced Access

The Project has determined its requirements for 19 permanent access points to the pipeline and along the RoW, and has deemed that the vast majority should be serviced by retaining permanent vehicular access roads. A combination of both manned and unmanned gates are proposed to restrict access solely to project vehicles. The IESC has learned of high expectations in some communities that they will be able to use access tracks and roads associated with the RoW. As the Government seeks to upgrade its road

infrastructure, there may be challenges for the Project to maintain its induced access control restrictions, e.g. around Kaiam Bridge. The monitoring and management of induced access will become a key focus for future IESC visits as long-term mitigation and assessment measures are put into place for the Operational phase.

Recommendations focus on: continuing the case-by-case justification for permanent access, and resorting to permanent vehicular access only when other access mechanisms are not viable; assessing induced access scenarios related to decisions potentially outside of the Projects control; and the demonstration of long-term effectiveness of measures intended to mitigate indirect impacts (such as fire, pests, weeds/disease and hunting).

Reinstatement

In general, reinstatement and re-vegetation are progressing well, but active programs are only now being initiated at some sites as construction nears completion, e.g. Komo airfield and the HGCP. Reinstatement of whole sections of pipeline RoW have been completed, and formally handed from EPC-5A to EHL, with areas requiring special monitoring highlighted. The scale of reinstatement required at Komo is daunting, and the timescale to complete this is tight considering the scheduled completion of the EPC-4 contract by end of August. The outcome of efforts to reinstate mangrove at the LNG Plant has been disappointing, but EHL is considering alternative ways to encourage natural re-vegetation.

Recommendations focus on: the need to target and add resources to reinstatement efforts (especially at Komo) and ensure reinstatement works are completed prior to contractual sign-off; the protection of already-reinstated areas to avoid inadvertent disturbance during re-vegetation; and the potential for engaging specialist knowledge on mangrove reinstatement.

Quarantine and Invasive Species Management

EHL has revised the project-wide Weeds Management Plan, to focus objectives and responses to specific management zones and quarantine zones. Specialist advice and audits continue by BioTropica, and it appears there is a great deal of reliance on their services. Their third independent weed audit has just been completed, and recommendations made. Weed abundance and diversity has increased in certain areas, and there have been range extensions within and between zones. Some P1 and P2 weeds are proving difficult to eradicate; the Project is now using spray-herbicide more widely and seeking additional suppliers of stronger concentrate. There is no update on Phytophthora.

EHL has targeted EPC-3 and EPC-5A for performance improvement. EPC-3 has seen a reduction in re-fumigations required by NAQIA, by undertaking its own fumigations at consignment source and providing fully completed documentation. EPC-5A performance needs to improve still further.

Recommendations focus on: improving contractor 'ownership' of weeds management, including record keeping; the review of situations where washed vehicles overlap with non-washed vehicles; and the need for EPC-5A to improve quarantine performance.

Freshwater and Marine Ecology

Investigations into the fish kill that took place at Lake Kutubu around December 2012 have not revealed evidence that EHL had any responsibility, but that other external factors were responsible. The presence of tilapia farming possibly represents the biggest risk to the ecosystem of the lake. Monitoring results for the ecology of Caution Bay were received by the IESC after the October site visit that indicate some coral reef monitoring points in Caution Bay were impacted by pipeline construction. These impacts are consistent with the EIS predictions in that they appear localized. The other element of the EIS prediction was that the impacts would be temporary. This assumption still needs to be confirmed based on monitoring, expected to take place by Q3 2013 (for water quality) and Q2 for marine ecology.

Omati River and Caution Bay Fisheries Studies

The 2012 Omati River and Caution Bay fisheries studies results were received on July 3, 2013. The 2013 Q1 Omati River fisheries monitoring has been completed and a summary of results was received during this visit; data entry for Q2 is in process; and the field work for Q3 and Q4 are scheduled. Fisheries monitoring in Caution Bay continues and the 2013 Q1 summary was received during this visit. Data entry for Q2 is in process; and field work for Q3 and Q4 are scheduled. Although the Project has not been entirely successful in quantifying any changes based on CPUE, the available information suggests the Project likely didn't have a significant effect on the fisheries segment of the economy. The Project is

commended for committing to monitor fisheries through 2014, and maintaining well-trained village assistants. Several fisheries projects and participation incentives were identified during the last visit (October 2012). Of those, training in offshore fisheries for some villagers was conducted and mangrove restoration was attempted.

Land Access and Resettlement

The L&CA team is fully staffed (96% are Nationals) and staff are well trained and carry out their functions properly. The last RAP for the construction phase has been disclosed on the Project's website. Short RAP/CRP addenda will be prepared for any additional displacement that may occur during construction in the KP 0-80 area and the Spineline.

As construction phase land acquisition, displacement, and compensation are nearly completed, the Resettlement Policy Framework (RPF) will be replaced for the production phase by a *Land Access, Resettlement and Livelihood Restoration Management Plan*. This plan will guide any additional displacement that may occur during production, as well as carry over measures for households displaced during construction. The IESC notes that successful transition of L&CA responsibilities into the production phase will require the experience and skill of the core existing team members, as well as staff with the expertise to carry out effective outcome evaluation.

At this stage, a more systematic monitoring and evaluation system is critical to ensure that displacement impact management measures have or are achieving goals. The Project has agreed to implement the IESC recommended system for the remaining construction phase and has included the system in the *Land Access, Resettlement and Livelihood Restoration Management Plan* for the production phase.

Some of the physically displaced households are still without a convenient source of water. More difficult access to water would represent a declined standard of living. The Project, thus, should assess the water availability conditions of physically displaced households to determine the need and best approach for completing water access.

The Census and Survey teams will soon begin the top up payments for trees and crops. The IESC requests that it be informed when disbursement is completed.

Replacement housing for vulnerable households observed in the Hides are is an improvement over pre-displacement living conditions. Discussions during the IESC visit suggest that a significant number of displaced women have become vulnerable as a result of compensation payments which have been used by husbands to acquire another "wife" and have abandoned the original wife and children. This issue should be assessed to determine whether these women need additional assistance, particularly for livelihood restoration.

Livelihood Restoration

While not a systematic assessment, the IESC's overall observations of the LR program are positive. Nearly all persons visited indicated they are pleased with the Project's assistance to restore their livelihoods and that they have been able to enhance productivity and diversify crops, as well as expand animal husbandry activities. As a result, they have increased the amount of food available for household consumption, as well as are earning income from sales. Cash income, however, tends not to be reinvested in livelihoods, but instead used to pay for housing improvements and education and health care costs, which people regard as a longer term investment. The IESC recommends that follow up training to reinforce money management skills and the importance of reinvestment in income generating activities be provided to economically displaced households and to women's groups.

Women's groups, which have relatively large number of displaced females, indicated positive results from the food processing and nutrition program supported by the Project. Participants improved nutrition and hygiene at home and are earning an income from product sales and saving some of the money. As a result, the women feel they have been empowered and note that males are giving them status for the first time. The IESC observes that it is now time for the Groups to move beyond production of cakes and muffins to items or services that are more broadly needed by the community. Additionally, members may need to reinvest more of their income in group activities.

Community Impacts Management

Difficulty accessing water is the most frequent complaint. This time-consuming task has an impact on households' ability to become economically self-reliant. The IESC, thus, reiterates the recommendation for a water availability study as part of the Community Development Support re-planning effort.

Demobilization may cause an increase in violence against females, as males feel threatened because they no longer earning income and are reduced to farming, while many women are earning money and status in the community. The IESC strongly recommends that the Project monitor community reactions and responses to demobilization, particularly in the areas to which large numbers of demobilized workers will return.

Community Security

Peace and order, at least temporarily, have improved in the communities near Project facilities. Improved conditions are likely the result of engagement by Project consultation and resettlement teams, the presence of the Project's security force (HGSF) and people's use of income from Project work and compensation payments to pay debts owed for events such as causing deaths or bride price. Demobilization is likely to have some adverse impact on safety and security conditions (see Section 5.7).

In-Migration

The Project is developing a more systematic monitoring tool using selected indicators to assess in-migration and its impacts. The iDHSS data are being reviewed to identify the data needed for in-migration assessment purposes. The in-migration database should be developed very soon to enable distinction between conditions related to construction induced in-migration and to post-construction in-migration. The IESC looks forward to seeing the database and assessment results.

Procurement and Supply

The IESC (October 2012) observed that the Project build "specifics into IBBM's assessment criteria of new PNG suppliers to the Project" to more concretely verify that new suppliers will not engage in child labor or forced labor. The IESC recommends that local contractors and suppliers for the production phase be asked to provide evidence that they comply with IFC PS2 on all forms of harmful child or forced labor. This observation is now closed.

Community Support Strategy

A draft of the independent mid-term review of the Community Development Support Program (CDSP) has been completed and was expected to be finalized in mid-July. Its overall recommendations for the strategy are that it should be geographic, implemented through partnerships that focus on capacity building, and considers an M&E framework and resources (financial and human). The IESC looks forward to the final review and its recommendations. IESC's preliminary observations on the community support strategy for the production phase include the following:

- Planning should include consultation with communities that involves them in decision-making on the types of program CDS will include and on the delivery methods, possibly through a version of the construction phase CICs;
- The overarching goal of the program should be self-reliant livelihoods in the Project's neighboring communities and program level outcomes should be measured against the goal;
- A small business development program should be a component, with micro-credit or some other form of cost sharing business start up and both initial and follow up training elements;
- Support for development of centralized markets in the Highland areas should be assessed. Additional markets may complement land based livelihood activities, but this needs assessment to determine the potential for usage, appropriate management strategies, a process of locations that do not contribute to clan conflict;
- Consider involving women's groups in planning, implementation and motivating other community members to actively participate in CDS programs. This should be premised on results of a gender assessment that looks at their potential role, as well as perceptions of the women's groups by the larger communities and risk management measures to prevent backlash.

Stakeholder Engagement and Consultation

Regular community engagement continues, and is now addressing demobilization issues in communities.

Grievance Management

The grievance management system continues to function well, with a monthly closure rate as of May 2013 of 88 % and an annualized rate of 78%. At the beginning of the Q2 2013, 15 grievances were open and 115 new grievances were filed during the quarter. By the end of June, only 11 grievances remained open.

Labor and Worker Conditions

The IESC has reviewed labor procedures, processes, and conditions during past reviews. Based on the information provided during this visit, no new issues have arisen and recommendations included in the previous IESC reports have been addressed. The only observation on worker conditions arising from this IESC visit is the value of the National Workforce Committees, with delegates from contractors and sub-contractors. The committee has helped EHL anticipate and understand workforce issues, and is partly responsible for a decline in issues and in absenteeism.

Demobilization

Contractor demobilization plans are fully coordinated with EHL demobilisation staff and follow EHL's Demobilization Planning and Implementation Guideline. Remobilization on Project or non-Project jobs is an important feature of the plans. All demobilization activities will be preceded by a comprehensive worker awareness campaign and community engagement on demobilization is also conducted. Discussions with a few national workers suggest that EHL may need to investigate that national workers at all levels understand demobilization information.

Gender in the Workforce

Nearly all recent female worker complaints concern personal issues, thus use of female "women's champions/confidants" and the health/hygiene and nutrition training for female employees have greatly improved treatment of women's complaints, as well as their comfort in the workplace. The IESC recommends that these measures, as well as psychological counseling services, be provided to female employees during the Production phase.

Camp Management

The IESC concentrated on the LNG camp during this visit. The weekly meeting of camp management with worker representatives that identifies and resolves issues quickly has had a positive impact. The new Camp Compliance officer has also initiated a number of other measures to address complaints, all of which have been well received and have helped to minimize absenteeism.

Health and Safety

The Project has a well-developed program to manage both occupational health and safety of workers, as well as a community health and safety program. The Health Group focuses on worker and community health issues, whereas the Safety Group focuses primarily on occupational safety of workers.

Worker Health: occupational health is a "best" practice program and has achieved several milestones. Improved diagnostics for TB have helped to identify and manage the disease with the result that there have been no in-camp transmissions to date. Diagnostic improvements and external controls have allowed for a significant reduction in malaria cases over the past year. Diagnostic testing for dengue is now the best available in PNG. An indicator of the overall effectiveness of the occupational health system has been the containment of four outbreaks of chicken pox, but there are still challenges to be faced. Chikungunya, another mosquito borne disease that originated in Africa, has been recently reported to be present in PNG and the Project is well aware of the need to be alert as to its presence.

Worker Safety is also a "best" practice program and worker safety continues to be a primary focus of EHL and the EPC Contractors. Safety statistics presented by EHL show a continuing decrease in the Total Recordable Incident Rate (TRIR). In March 2012 this rate was 0.46 for the entire Project; in October 2012 this rate was further reduced to 0.39; in June 2013 it is currently 0.33. The Lost Time Incident Rate (LTIR) has also continued to decrease and is currently 0.02. The Project has achieved a total of over 140 million work-hours since the beginning of construction with over 55 million hours LTI-free since September 2012, which is an ExxonMobil Development Corporation Global Project record. There have been no fatalities

since the October 2012 site visit. One of the reasons for the low LTI rate has been the introduction of the Safety Champions Program with approximately 1,300 workers trained to date.

Community Health: the community health program is ongoing and effective. An issue with the program identified in the last IESC report (Doc. No. 10-874-H7, October 2012 site visit report) as a non-conformance was the lack of availability of the general Project to the demographic data from the Integrated Health Demographic Surveillance System (iHDSS) baseline surveys. This issue has been resolved and the non-conformance has been closed.

Cultural Heritage Management

Cultural heritage continues to be an important component of the Project. Preconstruction surveys (PCSs) with identification of cultural finds are effectively complete. Chance finds are still being made at various locations, but the number is expected to decrease as the Project footprint is nearing its full extent. Monash University is close to finishing the analysis of the artifacts removed from the Hides area with a report expected to be issued in July 2013. As the construction phase is nearing completion, a reminder needs to be made that some construction-related activities may extend into production, in particular as relates to the documentation aspects of the cultural heritage program. In the case of the PNG LNG Project, the archaeological program has been extensive and some of the findings improve our knowledge of PNG history, in particular from the discoveries made at the site of the LNG plant. This information should be publicized and it is expected that EHL can only benefit from making this information available.

1 INTRODUCTION

D'Appolonia S.p.A. (D'Appolonia), located in Genoa, Italy, has been appointed as the post-financial close Independent Environmental and Social Consultant (IESC)[1] for the Papua New Guinea Liquefied Natural Gas Project (PNG LNG or the "Project") being developed by Esso Highlands Limited (EHL), the designated Operator and a subsidiary of ExxonMobil Corporation and also representing a consortium of co-venturers including Oil Search Limited (OSL), Santos Ltd, JX Nippon Oil & Gas Exploration Corporation and PNG State and landowners as represented by Mineral Resources Development Company (MRDC) and Petromin PNG Holdings Limited. D'Appolonia's role as the IESC is to support the Export Credit Agencies (ECAs) providing Project financing, including the Export-Import Bank of the United States (USEXIM); Japan Bank for International Cooperation (JBIC); Export Finance and Insurance Corporation (EFIC) of Australia; Servizi Assicurativi del Commercio Estero (SACE) from Italy; Export-Import Bank of China (CEXIM); and Nippon Export and Investment Insurance (NEXI), as well as a group of commercial banks, collectively referred to as the Lenders or Lender Group.

The overall role of D'Appolonia as the IESC within the PNG LNG Project is to assess and report to the Lender Group on the compliance with the environmental and social provisions contained within the Environmental and Social Management Plan (ESMP), the associated Lender Environmental and Social Requirements (LESR) document, and Schedule H3 Environmental and Social Milestones Schedule to the Common Terms Agreement (CTA) (herein referred to as "Milestones Schedule"). Specifically within the IESC scope of work, the following requirements for an audit visit are identified:

- Evaluate the Project's compliance with Environmental and Social Laws, the Environmental and Social Management Plan and Applicable Lender Environmental and Social Standards ("Environmental and Social Requirements") and evaluate the Project's proposed corrective action regarding any failure by the Project to comply with Environmental and Social Requirements in all material respects;
- Evaluate issues identified during previous monitoring visits relating to compliance with the Environmental and Social Requirements;
- Evaluate the Project's environmental and social reports, described in Section 12.2(b)(vi) of the CTA; and
- Evaluate compliance by the Project in all material respects with the Milestones Schedule.

The above Terms of Reference (TOR) requirements refer to an evaluation of Project "compliance", whereas the reporting requirements of the TOR state that the reporting will include a "list of non-conformance findings". Within this report the terms "compliance" and "conformance" are considered to be equivalent. In general, issues to be resolved are identified as non-conformances, but one of the requirements of the IESC is to identify any "material non-conformances" within the context of the CTA. The IESC believes that a "material non-conformance" within the context of the CTA would need to be a Lender decision, but for the purposes of this report a potential "material non-conformance" would be a Level III non-conformance or repeated Level II non-conformances as defined in the Section 2 Issues Table. It is emphasized that a Level III non-conformance is not necessarily equivalent to a "material non-conformance" and that extensive discussions among EHL, Lenders and the IESC would need to take place before any "material non-conformance" is identified.

IESC's review has included the environmental and social (E&S) and health and safety (H&S) management activities of EHL and the individual Engineering, Procurement and Construction (EPC) Contractors and infrastructure currently active in the field. Emphasis has been placed on evaluating conformance based on written information provided by EHL and observations made in the field including discussions with EHL and Contractor personnel. Most of the findings identified in this report have been based on field observations and interactions with the individuals actually responsible for the field implementation of the ESMP, as well as meetings with stakeholders.

[1] *IESC Team members in the field: Giovanni De Franchi (Project Manager and Team Lead), William J. Johnson (Earth Scientist/Cultural Heritage Specialist), Kerry Connor (Social Development Specialist), and Louise Johnson (Biodiversity and Natural Resource Management Specialist). IESC Team members not in the field: Amber Frugte (Labor Specialist) and Mark Pedersen (Aquatic/Marine Specialist).*

An activity that does not fall under the category of "monitoring" yet is within the scope of the CTA is a requirement for the IESC to certify certain non-Project operations (section 14.2(m)(iii) of CTA). One of the topics discussed with EHL as a result of the IESC's last Certification (made for a new wellpad on Hides Ridge), was with respect to IESC's ability to verify ESMP conformance of these new, non-Project facilities under a classification that they are "associated facilities" as defined by Performance Standard 1. Without delving into whether or not these facilities are "associated" or not, EHL has indicated their willingness to include these facilities within the scope of the IESC field visits, which we consider to be a satisfactory solution. During this field visit D'Appolonia was not asked to certify any non-Project operations.

1.1 CONSTRUCTION STATUS

The Project consists of three components:

- *LNG Plant and Marine Facilities Site* (plant and marine terminal facilities) at a location designated Portions 2487 and 2457 located approximately 20 km northwest of the capitol city of Port Moresby, PNG. A significant component of the marine facilities component is the jetty, constructed as a trestle on pile foundations;
- *Upstream Offshore Pipeline (Marine Project Area)* extending 407 km that begins at the Omati River landfall and extends to the marine facilities located at the LNG Plant site;
- *Upstream Facilities and Onshore Pipeline* consisting of wells at the Juha, Hides, Angore, Agogo, and Southeast Hedinia fields, a new Hides Gas Conditioning Plant (HGCP), a new Juha Production Facility, expansion of the existing Agogo Production Facility, and expansion of the existing Kutubu and Gobe Production Facilities, which all tie into a main onshore pipeline 292 km from the Hides Plant to the Omati River landfall where it connects with the offshore pipeline.

The development of the above three components is well underway and all of the EPC contractors are still in the field. Their overall responsibilities and current construction status are as follows:

- *C1 – Upstream Infrastructure (Clough Curtain Brothers JV - CCJV)*: responsible for Kopi Shore Base; Southern Supply Route; Highlands Highway upgrades; HGCP access road and site preparation; Hides well pads and access roads; construction of the Hides Waste Management Area (HWMA); and associated work camps. The C1 scope of work is 100% complete. CCJV is currently still working in the Hides area to provide pipeline construction support to EPC5A;
- *EPC 1 – Telecommunications (TransTel Engineering)*: occupation primarily of sites already used by Oil Search for c*ommunications towers.* 100% complete;
- *EPC 2 – Offshore Pipeline (Saipem)*: This contract is for the 407 km of offshore pipeline that begins at the Omati River landfall and extends to the marine facilities located at the LNG Plant site, the construction of which is now complete. The EPC2 scope of work is 100% complete;
- *EPC3 – LNG Plant and Marine Terminal (Chiyoda JGC JV - CJJV)*: this joint-venture EPC contract between Chiyoda and JGC Corporation, both engineering and construction firms headquartered in Yokohama, Japan, is for construction of the 6.9 million tons per annum (MTPA) LNG plant, with two per 50% trains, including facilities for inlet processing, treating, liquefaction, storage, and the marine terminal. Construction continues to be ahead of schedule, reported to be 89% complete against an 86% planned completion at this stage. Jetty construction is 100% complete;
- *EPC4 – Upstream Facilities including Hides Gas Conditioning Plant (HGCP) and Well Pads (CBI Clough JV - CBIC)*: this joint venture of Chicago Bridge & Iron Company (CBI) from Amsterdam, Netherlands and Clough Limited from Perth, Australia is responsible for the design and construction of the production facility, the 960 Mcfd/day capacity HGCP, the HGCP Industrial Park, and the Rotator Housing Community. Overall, construction is 57% complete and progress has rapidly accelerated with heavy equipment now being supplied by the Antonov flights into the new Komo airfield;

- *EPC5A – Onshore Pipelines and Infrastructure (Spiecapag)*: Spie Capag SA of Colombes, France is developing onshore pipelines and infrastructures for the Project. This effort includes the construction of a 32 – 34-inch gas pipeline for a distance of 292 km, 109 km of 8-inch condensate pipeline, the Hides Spineline and gas field flowlines, and also including above ground facilities (e.g. mainline valve stations, meter stations, pig launcher/receiver stations, cathodic protection equipment), power and optic telecommunications cables. Infrastructure includes road upgrades, access road construction, bridge improvements, camps and associated facilities for waste management, vehicle washdowns, helipads, etc. At the time of the visit, approximately 231 km of pipe has been hydrotested and dried. 291 km of tree felling is complete. 186 km of the RoW is reinstated. In terms of camps, the Kopi Shorebase Camp is still open. Along the pipeline ROW Camp 1 (KP 266), Camp 2 (KP 226), and Camp 3 at Gobe (KP 191) and Camp 4 at Tamadigi (KP 145) are closed. Camp 1 has been reinstated while Camps 2, 3 and 4 are pending reinstatement. Camp 5 at Moro (KP 93) and Camp 6 at Homa-Paua (KP 64) are still open. Camp 7 (KP24) has recently opened;
- *EPC5B – Komo Airfield (McConnell Dowell CC Group JV - MCJV)*: A joint venture of McConnell Dowell Corporation Limited (Victoria, Australia) and Consolidated Contractors Company (Athens, Greece) responsible for construction of the Komo airfield, 10 kilometers southeast of the HGCP. The runway began operations with the first Antonov flight on May 3, 2013. MCJV is largely demobilized, except for work crews currently finishing the reinstatement of the side slopes still subject to erosion;
- *Drilling - Nabors Drilling International Limited*: The current workscope is to drill 10 high-rate gas wells (8-Hides; 2-Angore) with two produced water disposal wells. Rig 702 started drilling in July 2012 at Wellpad B and Rig 703 spudded at Wellpad C on April 4, 2013. The Drilling Support Base is now operational with the HQ-3 Camp installed, the Liquid Mud Plant supplying drilling fluids, the Cuttings Processing Facility functioning and workshops still being constructed at the time of the visit.
- *Associated Gas Development:* Oil Search-operated Associated Gas Project activities continue to progress. The first gas to be sent to the LNG plant will come from the Kutubu Processing Facility. Specifically at Kutubu, the new TEG C (Tri Ethylene Glycol Unit C) unit is operational and new TEG D unit is being commissioned. TEG B at Gobe is also being commissioned. Performance testing of the Commissioning Gas Unit, which represents a key piece of equipment required for the commissioning of the Project, is complete. Systems are on schedule for gas delivery.

At the time of the last IESC visit in October 2012, EHL reported that about 9,000 PNG nationals were employed on the Project, representing about 46% of the total workforce comprising about 19,600. The workforce continued to increase to a total of 21,220 by the end of 2012 and since that time the workforce has started to demobilize. At the time of this field visit, 8,117 nationals representing 41% of the total workforce of about 19,800 was reported. This is still much above the original construction target of employing, approximately 3,500 PNG nationals out of a total workforce originally estimated at to peak at 12,000 (~30 percent). Women still comprise approximately 5% of the workforce of which 90% are PNG nationals.

1.2 SOURCES OF INFORMATION

The main sources of information used to prepare this ninth IESC trip report are primarily those provided by EHL, but D'Appolonia also obtained information by means of interviews with local stakeholders including Lancos during the field visit in PNG as well as Project employees and contractor staff. The information provided by EHL has included presentations made to the IESC and additional documents consistent with the trip schedule provided in Appendix A.

1.3 REPORT ORGANIZATION

Subsequent sections of this report are organized as follows:

- Section 2.0 – Issues Table;
- Section 3.0 – Environmental and Social Management;
- Section 4.0 – Environment;
- Section 5.0 – Social;

- Section 6.0 – Labor and Human Resources;
- Section 7.0 – Health and Safety;
- Section 8.0 – Cultural Heritage.

The basic findings of the review are presented in the form of observations, comments and recommendations that are generally described according to topics within each section. The findings are summarized in the Issues Table provided in Section 2.0.

2 ISSUES TABLE

This Chapter tabulates a summary of the non-conformances raised in this report, consistent with our TOR as discussed in Section 1.0. The Table has been structured to provide a color-coding for strict non-conformances raised during each site visit, as well as IESC observations for situations that if left unattended could result in a non-conformance. Non-conformance is referenced with respect to Project commitments as included in the ESMP and associated Management Plans, the LESR, the Milestones Schedule, the Project Safety Management Plan, the Project Health Management Plan, the Project Regulatory Compliance Plan, and the Project Security Management Plan (collectively referred to as "Project documents" in the definitions below) and with respect to on-going compliance with Applicable Lender Environmental and Social Standards. As noted in Section 1.0 of this report, "Applicable Lender Environmental and Social Standards" means the environmental and social standards applied by the Loan Facility Lenders to the Project in the form attached to Schedule H-1 (Environmental and Social – Applicable Lender Environmental and Social Standards) of the CTA. The Project should note that compliance with the Applicable Lender Environmental and Social Standards is not limited to the pre-construction due diligence, but is an on-going process. The nomenclature of the color-coded categorizations are assigned based on non-conformance levels similar to the non-conformance levels defined in the ESMP, somewhat revised to reflect the point of view of the IESC and to address that certain non-conformances need to be framed in the context of the Applicable Lender Environmental and Social Standards. The following descriptions are provided:

- **High:** Level III critical non-conformance, typically including observed damage to or a reasonable expectation of impending damage or irreversible impact to an identified resource or community and/or a major breach to a commitment as defined in Project documents or the Applicable Lender Environmental and Social Standards. A Level III non-conformance can also be based on repeated Level II non-conformances or intentional disregard of specific prohibitions or Project standards. In some cases, Level III non-conformances or repeated Level III non-conformances may, but not necessarily, represent a material non-compliance with the CTA. This would be decided on a case-by-case basis;
- **Medium:** Level II non-conformance representing a situation that has not yet resulted in clearly identified damage or irreversible impact to a sensitive or important resource or community, but requires expeditious corrective action and site-specific attention to prevent such effects. A Level II non-conformance can also represent a significant breach of a commitment, or a risk of a significant breach if not expeditiously addressed, requiring corrective action as defined in Project documents or Applicable Lender Environmental and Social Standards. A Level II non-conformance can also be based on repeated Level I non-conformances;
- **Low:** Level I non-conformance not consistent with stated commitments as defined in Project documents, but not believed to represent an immediate threat or impact to an identified important resource or community. A Level I non-conformance can also represent a minor breach of a commitment requiring corrective action as defined in Applicable Lender Environmental and Social Standards;
- **IESC Observation:** A potential non-conformance situation that could eventually become inconsistent with stated commitments as defined in Project documents or the Applicable Lender Environmental and Social Standards.

N°	Site Visit	Closing Date	Description	Non-Conformance	Reference	Status	Comments / Report Reference
Environment and Social Management							
[2] M8.1	October '12	June – July '13	Because a portion of the Project will become operational before the rest of the Project (handover of Kutubu to Omati section of the pipeline to Operations Q2 2013), plans and procedures need to be fully in place for this transitional period before the entire Project is operational. A Right of Way Management Plan under development is intended to cover the environmental and social requirements for RoW management for this transition period. EHL needs to verify that this plan fully covers all of the topics that will eventually be covered in the Operations ESMP and associated Management Plans.	IESC Observation	ESMP in general	Closed	The ROW Management Plan has been finalized and the ESMP is effectively fit for purpose, although there are still a few items to be finalized.
Environmental Issues – Waste and Wastewater Treatment							
M8.2	October '12		WWTPs at all of the EPC Contractors except EPC3 have shown persistent discharge compliance problems.	IESC Observation	Water Management Plan	Open	IESC recognizes that significant effort has been undertaken to resolve this situation and that overall improvements are currently much improved. The Level 1 non-conformance has been downgraded to an Observation on this basis, but it is emphasized that there is still more work to do.
Environmental Issues – Biodiversity and Ecological Management							
M3.10	March '11		Reinstatement, erosion control and induced access control commitments along access roads in the 'interim period' after Spiecapag's initial reinstatement efforts (during construction phase) and before operations, when EHL will assume full responsibility, are not defined.	IESC Observation	Performance Standard 6	Open	As construction progresses, responsibility for the management and stewardship of completed facilities and infrastructure continues to be transferred between the different EPC Contractors and in some cases to EHL. A punch list system has been developed to manage this handover and acceptance process. IESC reiterates the need to maintain attention to ensure that roles and responsibilities are clearly defined, and appropriate monitoring is conducted to ensure effective mitigation is maintained during transition.

[2] *In order to better track project progress and accomplishments, the issues identified during each site visit are identified by a letter (M) and number (e.g. M1) that identifies the site visit (e.g.: M1 for the first visit, M2 for the second visit, etc.) followed by a digit that identifies the specific issue found (e.g. M2.4 refers to issue 4 found in visit 2).*

N°	Site Visit	Closing Date	Description	Non-Conformance	Reference	Status	Comments / Report Reference
M8.3	Oct '12		As the pipeline RoW passes through the Lake Kutubu Wildlife Management Area, an internationally recognized Ramsar wetland area, the Project is required to "implement additional programs, as appropriate, to promote and enhance the conservation aims of the protected area" (PS-6, para.11). Milestone #16 was identified to highlight that additional work was required following Due Diligence to ensure the Project met PS6 with regard to their presence within the Lake Kutubu WMA.	IESC Observation	Performance Standard 6	Reduced to Obser-vation (June-July) Open	Regarding the Milestone Schedule, the Project currently has the Completion Indicator "Operator finalizes design of programs in the Lake Kutubu Wildlife Management Area". EHL now considers the conservation program at Lake Kutubu to be managed under delivery of the Offset Delivery Plan. The IESC concurs that the management of the Lake Kutubu conservation program falls within the remit of the offset delivery plan. In the interim, and to close out MS16, the Project needs to revert to the original milestone Completion Indicator "Operator has integrated programs in the Lake Kutubu Wildlife Management Area in the offset delivery plan". Until the Indicator is reverted to its original, the Project is not in conformance with Milestone Schedule #16. Once the Completion Indicator is reverted, IESC can then re-consider completion of this Milestone. Although external dialogue has been slower than ideal so far during 2013, EHL have made progress on reformulating their conservation intentions at Kutubu. They have shared with the IESC draft versions of their MoU with OSL, detailing various elements of the Lake Kutubu Enhancement Program. However, dialogue with communities has currently stalled pending resolution of grievances related to the earlier fish kill incidents. The IESC continues to seek evidence that Lake Kutubu is being given sufficiently high priority status within the wider efforts being made to comply with PS6, and encourage EHL to regain momentum in their achievement of an appropriate conservation program. Accordingly, the prior Non-Conformance is now downgraded to an Observation, with a view to close follow up during our next visit. (Report Reference Section 4.7.2.1)

N°	Site Visit	Closing Date	Description	Non-Conformance	Reference	Status	Comments / Report Reference
M9.1	June '13		The scale of tilapia-farming near Lake Kutubu has recently come to light. EHL's original conservation intentions at Lake Kutubu included a sustainable fisheries management plan. As described in Observation M8.3, the proposed conservation program has changed over time, so this work has not been undertaken. There is the risk that if tilapia have or were to be introduced into the lake ecosystem, this could have potentially dire implications on the endemic species for which the lake has attracted international protection status. This in turn could have implications on the feasibility and success of any conservation program undertaken at Lake Kutubu.	IESC Observation	Performance Standard 6	Open	The anticipated Enhancement Program (see M8.3 above) proposes that biodiversity and fish composition surveys be undertaken at Lake Kutubu, to assist in establishing its biodiversity and conservation values. Considering the potential threat to the lakes unique ecological value by the introduction of tilapia into the lake, EHL should ensure these surveys are conducted and analyzed at the earliest possible opportunity, regardless of the timing of any joint program of work previously planned. With the view to identifying whether conservation success could be achieved (as part of the biodiversity offset program) we would propose this work also gathers information on the likely consequences to the lakes ecological value from the introduction of tilapia. In addition, in the very short term, identify what measures can be taken to help prevent the release of tilapia into the lake, or if they are found to already be in the lake, what can be done to minimize the negative impacts that would result from such an introduction. Report reference 4.7.2.1.and 4.7.2.5.
M8.4	October '12		Results of marine monitoring conducted in February – March 2012 were available in May 2012, but not provided to the IESC until February 2013. Accordingly, this observation is a modification from the situation reported based on information available in October 2012. Monitoring indicates some coral reef monitoring points in Caution Bay were impacted by pipeline construction, especially sites CF-9 and CF-10.	IESC Observation	Performance Standard 6	Open	The IESC is concerned that submission of information to resolve whether or not the Project impacted coral reefs to a degree beyond that predicted in the EIS has not been timely and sampling adjusted as recommended, or presented in sufficient detail. The marine monitoring survey is planned for next August, but not yet completed. Report reference 4.7.2.5.

N°	Site Visit	Closing Date	Description	Non-Conformance	Reference	Status	Comments / Report Reference
Social Issues – Resettlement							
M6.5	March '12		The RPF specifies that external, outcome monitoring will begin approximately six months following relocation and will be continued biannually for a sufficient period for the effectiveness of measures to be evaluated (RPF, Section 10.1.2).	IESC Observation	RPF, Section 10.1	Open	Project has agreed that outcome evaluation will be done both internally and externally, using a system specifically designed to measure the outcomes of measures to maintain/improve standard of living (SoL) for physically displaced households and livelihood restoration (LR) for economically displaced households. Internal evaluation will be done by L&CA and external evaluation to verify the findings of the internal evaluation will be done by the IESC. The first evaluation of the SoL of a statistically representative sample of relocated households should be done prior to the next IESC visit (end October 2013). The first evaluation of the LR for a statistically representative sample of economically displaced households should be done approximately six to eight months after the inception of livelihood restoration measures, and should continue at six monthly intervals.
Social Issues – Community Health and Security							
M6.6	March '12		There has been a protracted delay in releasing the results of the Integrated Health and Demographic Surveillance System baseline socio-economic survey and baseline nutrition survey. It is now more than 9 months since the surveys were completed. The Project team could not provide any clear commitment as to when the results would be released. The iHDSS surveys were designed to provide a platform for both community health and broader social monitoring. A critical Project monitoring commitment has not been delivered.	IESC Observation	Community Health, Safety and Security MP	Reduced to Obser-vation (June-July) Open	Results of the Integrated Health and Demographic Surveillance System (iHDSS) are available, but difficult for the Project to use effectively because of the breadth of the data and because the Project has not yet determined the precise use of some of the data. The Project MOH (Community Health) and L&CA groups are in the process of establishing specific data uses in order to identify the data needed. This should be completed prior to the next IESC visit (Oct 2013) in order for the Project to effectively track and respond to impacts on affected communities, as well as to the management of in-migration. Because of the progresses made, the prior Non-Conformance is now downgraded to an Observation.

N°	Site Visit	Closing Date	Description	Non-Conformance	Reference	Status	Comments / Report Reference
Social Issues – Procurement and Supply							
M6.7	March '12	June – July '13	The Project makes substantial efforts to offer technical support and capacity building to its supply chain. Although these efforts include stringent occupational safety and health protocols, the Project could benefit from improvements in terms of assessing, monitoring and reporting on the basic requirements of IFC Performance Standard 2 concerning supply chains.	IESC Observation	Procurement and Supply Management Plan Labor and Working Conditions Management Plan	Closed	Contractor human resources department must verify the ages and present age documentation for each person hired for the Project. Additionally, OCN workers for this project are skilled laborers who are not likely to be under the age of 16. No evidence that forced labor of National workers was found, though there is a possibility that a person could be "forced" to work in order to pay off debts, but this situation would be nearly impossible to verify.
Labor and Human Resources – Gender							
6.12	March '12		The impact of employment on women's conditions is a major issue. Across the Project, but especially in the Huli area, women often experience violence by menfolk who demand their women hand over their earnings. Males tend to use the money to purchase alcohol and weapons, leading to more violence. As a result, many women express the desire to have bank accounts in which to keep their earnings. Bank accounts are useful, especially for those women in the community who are starting businesses. Bank accounts, however, are not a completely satisfactory solution as males can force their women to withdraw money. The IESC has recommended that the Project use its Community Health Program's 'marriage and relations counseling' component to address the issue of violence against women who are employed. The IESC also recommended that the Project sponsor a Gender expert to assess women's issues, particularly in the Hides area, and to identify solutions. (Issue restated from original identified in March 2012).	IESC Observation	Labor and Workers Conditions Management Plan + Camp Management Plan	Open	Violence against women is a significant concern, particularly in the Huli areas, but elsewhere in PNG as well. The tendency toward violence against women is heightened by earning money itself, as well as by the independence and other behavioral changes that occur as a result of earning money and much greater exposure to outsiders with different attitudes, behaviors, and expectations. Violence may also be exacerbated by Project demobilization thereby significantly reducing household income and self-esteem and leaving former workers, particularly males, with little to occupy them. The Project has demonstrated that is aware that both it and its neighboring communities profit by promoting a harmonious social environment. The Project's Community Health group is exploring various ways to address violence against its own employees and women in the greater Project area, particularly women who, partly as a result of the Project, are developing businesses. The IESC reiterates the recommendation that the Project secure the services of a gender expert who has experience with gender violence in PNG, and particularly in the Huli area. The expert's assessment would help define the best strategy for Project contributions, considering that the Project is not in a position to take over the responsibilities of the Government and that the Government has limited capacity in this area.

N°	Site Visit	Closing Date	Description	Non-Conformance	Reference	Status	Comments / Report Reference
Cultural Resource Management							
M9.2	June – July '13		As the construction phase is nearing completion, a reminder needs to be made that some construction-related activities may extend into production, in particular as relates to the documentation aspects of the cultural heritage program. PS8 requires that "the client will protect and support cultural heritage by undertaking internationally recognized practices for the protection, field-based study, and documentation of cultural heritage." The cultural heritage program does not end when the excavations are complete. The artifacts excavated need to be studied and the results disseminated to stakeholders.	IESC Observation	CRM Plan	Open	In the case of the PNG LNG Project, the archaeological program has been extensive and some of the findings improve our knowledge of PNG history, in particular from the discoveries made at the site of the LNG plant. This information should be publicized and it is expected that EHL can only benefit from making this information available.

3 ENVIRONMENTAL AND SOCIAL MANAGEMENT

Environmental and social management for the PNG LNG Project is defined in three documents. The Environmental and Social Management Plan (ESMP) is the main document defining EHL's environmental and social commitments. An additional document termed the Lender Environmental and Social Requirements (LESR) was prepared to supplement the ESMP and provide a single point of reference to all information and documents that do not form part of the ESMP, but are required to demonstrate compliance with Lender Group requirements. At the time of Financial Close in March 2010, it was not practical for EHL to fulfill all of the Lender requirements to finalize aspects of environmental and social management. Therefore, the Milestones Schedule was prepared as Appendix H3 to the CTA to reflect twenty additional time-bound commitments. These three documents together define the roadmap to achieve Lender compliance as defined in the Applicable Lender Environmental and Social Standards in Schedule H1 of the CTA and are the benchmarks against which the IESC audits the Project.

The basic observation with respect to environmental and social management is that the Environmental and Social Management System (ESMS) is now fully in place across the Project.

- The ESMP is fully developed and publicly disclosed;
- Monitoring and evaluation programs are in place;
- An MOC process is developed and working;
- Associated facilities/activities policy has been developed and is being implemented;
- Requirements of Milestones Schedule from the beginning of the construction phase are now fulfilled for MS#15 as a Rev.0 Biodiversity Offset Delivery Plan has been delivered. Closure of MS#14 is pending incorporation of IESC comments to the Biodiversity Monitoring Plan. Closure of MS#16, related to the Lake Kutubu WMA Enhancement Program, is currently under discussion and is anticipated shortly; and
- An organization is in place to implement the ESMP.

The next step for environmental and social management is for EHL to develop an ESMS that will serve for the Production stage of the PNG LNG Project. Accordingly, the subsequent discussion of environmental and social management relates mainly to the development of an ESMS for Production. The discussion of the LESR has now been reduced to identify any significant MOCs or incidents that have taken place since the last visit, also recognizing that new Associated Facilities are not an issue given that the Project footprint is effectively established in its entirety and construction is winding down.

The usual discussion of the Milestones Schedule has also been eliminated as the main remaining actions are those associated with the development of the Operations ESMP (discussed below) and an Oil Spill Response Plan (OSRP) that is still pending, as well as biodiversity topics reviewed in Section 4 under the topic of biodiversity and ecological management.

3.1 ENVIRONMENT AND SOCIAL MANAGEMENT PLAN (PRODUCTION)

3.1.1 Project Strategy

The commitments made by EHL for the development of an Operations ESMP for Production are defined in as Issue 6 in the Milestones Schedule:

Each Participant shall procure (through the exercise of its voting rights under the CDOA or otherwise) that the Operator shall develop an Operations ESMP that will be in effect at the commencement of operations and will maintain ongoing Project compliance in all material respects with Applicable Lender Environmental and Social Standards and all applicable Environmental and Social Laws on the terms required by the Finance Documents. The Operations ESMP shall be developed within the framework of ExxonMobil's OIMS. The Operations ESMP shall be supplemented by other OIMS documents (i.e., documents relevant to, but not within the scope of, the Operations ESMP) and shall address (but shall not be limited to) the following topics:

- *Emissions to Atmosphere (including greenhouse gas);*
- *Emissions to Water;*
- *Water;*
- *Noise;*

- *Raw Materials & Resource Use (including water);*
- *Hazardous Materials;*
- *Containment and Spill Prevention;*
- *Induced Access (including closure of project roads post-construction);*
- *Weeds, Plant Pathogens and Pests;*
- *Community Health and Safety;*
- *Community Impacts;*
- *Labor and Worker Conditions;*
- *Procurement and Supply;*
- *Environmental and Social Monitoring;*
- *Environmental and Social Reporting and Notification;*
- *Emergency Preparedness and Response;*
- *Oil Spill Response;*
- *Health;*
- *Safety;*
- *Security;*
- *Community Engagement;*
- *Community Support Strategy;*
- *Land Acquisition; and*
- *Biodiversity.*

The Operations ESMP and other related documentation shall apply to normal and abnormal conditions and reasonably foreseeable emergency situations that may have an environmental and/or social effect and/or impact.

A requirement of the IESC in the development of the Operations ESMP is that we confirm (having consulted, to the extent it deemed reasonably necessary, with any Loan Facility Agent, Loan Facility Lender, ECA or other agent to any Finance Party) that we are satisfied that the Operations ESMP is consistent in all material respects with the applicable requirements of the Environmental and Social Management Plan, Applicable Lender Environmental and Social Standards and all applicable Environmental and Social Laws. The timeframe for the development of the Operations ESMP is at least six months prior to the introduction of process hydrocarbons, taken to be hydrocarbons processed at the HGDP, rather than the initial gas that will pass to the LNG plant from OSL's Kutubu Processing Center.

3.1.2 Observations

Positive progress has been made in terms of developing a Production ESMP. Workshops have been undertaken between EHL and the IESC in Brisbane (April 2013), Houston (May 2013) and during this site visit. A workshop was also held with Lender participation in Houston (June 2013). This effort has involved both Development and Production staff and the development of the Production ESMP has been a collaborative effort.

The Operations ESMP is being undertaken by EHL Project organization and delivered to EHL Operations as part of a stewardship transfer process. EHL Operations (Building the Production Organization - BTPO) organization is in place and will participate in development, review and approval of the Operations ESMP. The schedule for the Operations ESMP is to have IESC approval by September 2013.

The PNG LNG Project is somewhat unique from other projects in that the current plan is to turn over the part of the onshore pipeline (Kutubu to Omati) to EHL Operations before it is completely constructed (turnover currently planned for Q3 2013). This will allow for gas available from OSL to be provided to the LNG facility for the purpose of commissioning the gas turbine units, required for the generation of power necessary to complete construction and commissioning of the LNG facility. EHL has finalized a Pipeline Right of Way Management Plan to define the transitional environmental, social and physical requirements until the Operations ESMP is fully developed. IESC has reviewed this document and found it to be satisfactory.

The Operations ESMP as it is currently structured is an improvement over the Construction ESMP. It is simple, straightforward and integrates the requirements of the ExxonMobil OIMS with the Performance Standards to a better degree than the Construction ESMP. As a result of this improved integration there is no need for there to be a Lender Environmental and Social Requirements (LESR) document for Production. Aspects of environmental and social management outside of the Construction ESMP that required the preparation of the LESR included:

- Biodiversity Strategy;
- Project Standards;
- Regulatory Compliance Plan;
- Project Safety Plan (including Journey and Traffic Management Procedure); and
- Project Health Plan.

The biodiversity strategy is still outside the umbrella of the new ESMP, but the question of how the subject is being addressed is no longer relevant, as it was at the time of the preparation of the Construction ESMP. Project standards are now incorporated within the individual EMPs and are well defined. Regulatory compliance is spelled out in the main ESMP document and the structural organization to verify regulatory compliance is also well defined. Links to journey and traffic management are now defined through OIMS compliance in an understandable manner, as is Project health, defined through a comprehensive occupational health and safety program.

Other topics only defined in the Construction LESR that are now defined within the Operations ESMP include management of change, incident notification, a characterization of the OIMS system, Lender reporting requirements, and the general requirements to comply with the IFC Performance Standards. These changes reflect some significant compromises compared with how the Construction ESMP was prepared.

This ESMP consists of one main document and nine supporting appendices, as illustrated in Figure 3.1. Two of the appendices are individual Environmental Management Plans (EMPs) and generally cover the upstream facilities, pipelines and the LNG Plant site locations. The remaining seven are theme-based Social Management Plans (SMPs) that collectively cover all three locations and affected communities.

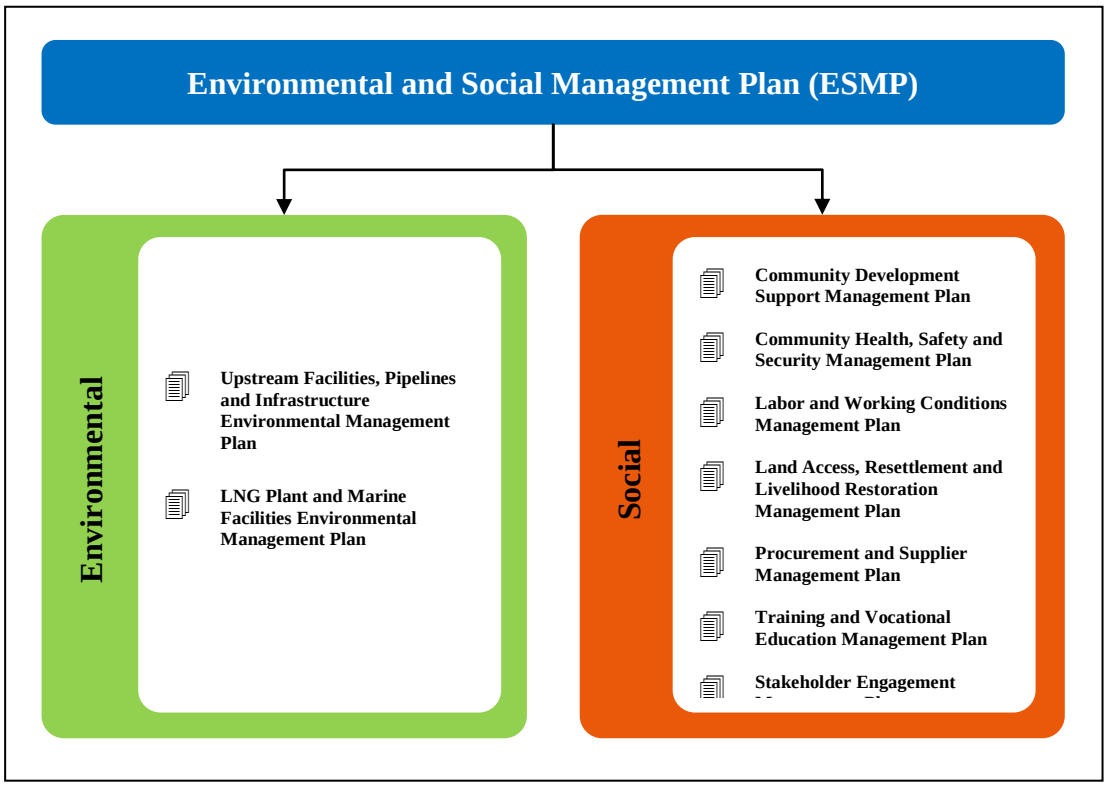

Figure 3.1: Operations ESMP Structure

This ESMP is supported by OIMS and other Company documents that are relevant to, but not within the scope of the Operations ESMP, including the subjects of biodiversity management, maritime activities, transportation, traffic management, security, emergency response, etc.

Emergency response is one of the main differences between the Construction and Operations phases of a gas development project, as there is obviously more hazard associated with a pipeline filled with pressurized gas when compared to a pipe under construction. General requirements for emergency response are outlined in Performance Standard 3 of the 2006 Performance Standards (followed for defining the Construction phase ESMP) or in Performance Standard 1 following the 2012 Performance Standards. Performance Standard 4 (either old or new version) has some specific requirements for community/government involvement in the development of an Emergency Preparedness and Response Plan. Additional details are also provided in the IFC General EHS Guidelines (2007). The overall model for emergency response is well defined within the ExxonMobil OIMS system as documented in the current version of the ESMP and this is acceptable to the IESC.

An important document related to emergency response we have not yet reviewed is the Oil Spill Response Plan (OSRP) for the Production phase of the Project. The document has been prepared by an external consultant and is currently being reviewed internally by EHL. Based on information provided by EHL it is expected to be delivered to IESC for our review in late August.

3.2 MANAGEMENT OF CHANGE

The LESR has requirements for the Project to communicate changes to Lenders on the basis of significance. The IESC was provided a list of changes to the Project enacted since the October 2012 visit and none appear to have any significant environmental or social component and are not repeated here.

3.3 INCIDENTS

The overall incident notification process has functioned well since the last IESC field visit in October 2012. The IESC has been informed of some third-party incidents not directly with Project activities, but major Project-related incidents have not taken place. This includes social and security incidents, as well as accidents and fatalities. A "near-miss" situation occurred in April 2013 with the construction of the pipeline in the area of the Homa – Benaria Ridge where landslides within old slope failure deposits were triggered by inadequate drainage along the pipeline, with the slides having had the potential to cause significant community impact. This situation has been recognized by EPC5A and mitigations developed appropriately, as further describes in Section 4.6.2.

4 ENVIRONMENT

4.1 WASTE AND WATER MANAGEMENT

4.1.1 Project Strategy

The Project strategy for the management and disposal of waste and wastewater associated with construction is defined in the Waste Management Plan and in the Water Management Plan developed by EHL and included as appendices to the ESMP. Both documents identify minimum general requirements for the management of waste and wastewater, including the identification of potential sources of impacts, the proposed mitigation and management options, monitoring requirements and responsibilities. As outlined in these documents, the main objective of the Project is to be self-sufficient regarding waste management processes. The Water Management Plan is in turn supported by the Project Standards document that defines the effluent discharge standards associated with the operation of wastewater treatment plants (WWTPs).

4.1.2 Observations

Waste Management

The landfill at the Hides Waste Management Area (HWMA) at Kopeanda continues to be a "best" practice facility for solid waste management. Infrastructure and procedures are now fully in place at the waste processing area, including a tire debeader, shredder, drum crusher and weighbridge with the high-temperature incinerator being commissioned at the time of the field visit. Additional progress made since the IESC field visit in October 2012 includes the following:

- Initiating construction of the second landfill cell at the HWMA, expected to be completed and ready to accept solid waste by the end of 2013;
- Commissioning of a cutting processing units by the Drilling organization to remove residual drilling fluid from cuttings and use of spent cuttings as cover material in the HWMA landfill cells;
- Continuation of monthly metric reports by EPC Contractors sent to EHL Senior Management, including total wastes generated in that reporting month broken down by wastes incinerated, wastes landfilled (or stored for landfill) and waste recycled/reused (or stored for recycle/re-use) expressed as kg/person; this allows for a comparison of landfilled vs. recycled wastes and promotes the sharing of trends of improvement and lessons learned among EPC Contractors;
- Auditing and acceptance of additional third-party recyclers, in particular for waste oil (Ramu Sugar and Total Waste Management) and new scrap metal recyclers (more than 150 tons of metal recycled in Project-approved facilities);
- Implementing Ecoflex (a system whereby tires are stripped of their rims) at Komo for scrap tire re-use in civil and reinstatement applications – it is effectively a means to stabilize slopes without resorting to gabions;
- Recycling of 16,000 empty drums of bitumen from Komo originating from the runway surface sent to Taiwan (the first load sent to port in Lae with 7,130 crushed drums weighing 13.6 MT);
- Regarding the Project Permanent Facility Complex (PFC) in Port Moresby, plans are ongoing to have waste collected by a contractor, Total Waste Management Ltd, and shipped to the LNG WMA for final disposal.

A large range of waste management topics was discussed in a workshop held in Q4 2012 and some improvements are being made as a result of the workshop, as related to incinerator ash disposal, recycling of some hazardous wastes and improved waste handling practices.

Wastewater and Water Management

Wastewater management has been flagged as a persistent problem over the past several field visits, still recognizing that effluent has not been discharged to surface water and that there are few community grievance related to wastewater. As observed this visit, the Project has invested in the improvement of the wastewater treatment plants a significant degree and the overall situation has substantially improved since the previous IESC visits. The wastewater treatment facilities at the LNG plant have continued to perform well and attention is therefore focused on EHL and Upstream EPC Contractors facilities whose performance is reviewed.

EHL has developed a center of expertise in the Upstream area to enhance the performance of the EHL WWTPs, but also to provide support to the EPC Contractors. A Lead WWTP Process Engineer position has been added and staffed. This individual has also been responsible for auditing the various WWTPs and helping to undertake equipment and design improvements. A dedicated testing laboratory has been set up in the Juni Training Center facility to help EHL and the EPC Contractors to have close to real-time identification of problems as they may occur. The situation at the time of the IESC visit at the main Project sections is as follows:

- *C1 (CCJV) – C1 Camp WWTP (as CCJV has completed its work scope, these facilities are now called the EPC4 Lower Camp)* – the operation of this facility has generally improved. Fecal coliform levels have generally been compliant. BOD and COD have consistently improved, but there are still issues with TSS and ammonia – nitrogen. EPC4 is implementing mechanical improvements and increased maintenance;
- *EPC4 (CBI Clough JV)* – The Main Camp WWTP has been operational since July 2012 and the others are no longer being used. This WWTP is now demonstrating significant improvements for TSS, COD, and BOD; as with the Lower Camp, there are issues with TSS and ammonia – nitrogen; this facility is focusing on monitoring-based operational improvements after a vendor review undertaken in April 2013;
- *EPC5A (Spiecapag) – Various Camps* – Two types of WWTPs are used on EPC5A sites: Rotating Biological Contactor (RBC) System (main units) and Membrane Bioreactor Systems (inherited units). The RBCs continue generally performed well, except for ammonia-nitrate, generally across all of the camps currently active. To a large degree the problems (relatively minor) with these units are that they frequently have to move, which interrupts the formation of active sludge. The Membrane Bioreactor System at Gobe C1 Camp persistently had difficulties, but this camp is now demobilized;
- *EPC5B (MCJV) – HGCP Pioneer Camp and Main Camp – WWTP1 at Pioneer Camp and WWTP2 at Main Camp*: these two plants for the most part are now operating well;
- *EHL – Work Camps* – the WWTPs at the four EHL camps (Juni; Kobalu; Moro Camp B; Wellpad A) have problems similar to the EPC contractors, but in general are much improved, although there are occasional elevated parameters. Improvements have been due to improved equipment, improved operator training, and possibly more significantly the addition of the testing laboratory at the Juni Training Center. Improvements to equipment are being planned for the camps;
- *Drillers WWTPs (Q2000, HQ3, HQ3 Drillers Camp, Wellpads B and C)* – The HQ3 and Q2000 units have both been decommissioned. The Red Sea STP 300 unit at HQ3 Drillers Camp has generally operated well since the 90-day commissioning period ended in March 2013, although some operational and monitoring are still needed; at Wellpads B and C, the units tend to show consistently high ammonia – nitrogen, although fecal coliforms and chlorine are at acceptable levels; improvements are expected after training to prevent excessive use of chemicals and waste oils entering the system, as well as improved lab testing capabilities.

Wastewater treatment still requires attention, but the Project has undertaken a major cross-contractor initiative to correct deficiencies with respect to WWTPs and substantial improvement has been observed. The situation is not fully resolved, but IESC has downgraded the Level 1 non-conformance identified in the previous report to an Observation.

A unique aspect of the PNG LNG Project is the loss of foam used to drill through the Darai Limestone, which extends from the surface to as deep as about two kilometers along Hides Ridge. The issue is that this limestone is cavernous, containing fissures and cave systems extending kilometers underground. If a drill hole encounters a void, the drilling fluid can be lost into a cave system and may appear where the passageways daylight to the ground surface far from the well location. This possibility was recognized prior to the start of drilling, which is why air drilling with foam, rather than conventional drilling mud was used to drill through the Darai Limestone. At the time of the October 2012 visit a significant foam event did occur in association with the first well drilled at Wellpad B, but the overall situation was well managed as documented in the last IESC report. Wellpad C produced a small amount of foam that appeared at the stream exiting the area of the Tumbi landslide, which also is indicative of the size of the subterranean watershed associated with this flowing spring. This event was minor and easily managed.

4.1.3 Recommendation

1. Consider expanding the wastewater testing program undertaken from the Juni facility to EPC5A to allow them to more quickly capture problems with their WWTPs.

4.2 HAZARDOUS MATERIALS MANAGEMENT AND POLLUTION PREVENTION

4.2.1 Project Strategy

The Project strategy for the management of hazardous materials is defined in the Hazardous Materials Management Plan and in the Spill Prevention and Response Plan, both included as appendices of the ESMP. These documents describe the Project approach and strategy to identify and mitigate potential impacts associated with the handling and transport of hazardous materials. The overall objective is to prevent uncontrolled releases of any hazardous material during transportation, handling, storage and use of hazardous materials. Spills have been classified according to the Tier I to III categorization depending upon the potential impact of the spill and the capability of the available resources to face the emergency. The plans require that fuel and chemicals are properly stored in designated areas provided with secondary containment (e.g. double-walled tanks/lined containment bunds, drip trays) to prevent spills and enable containment of complete volume stored.

Because of the remote location and the significant amounts of materials mobilized throughout PNG, the Hazardous Materials and the Spill Prevention and Response management Plans have been supplemented by a Journey and Traffic Management Procedure that defines the requirements to ensure that the journeys are properly planned, approved and managed, and provide rules and applicable standard for light vehicles, buses and heavy goods vehicles operations. The document includes requirements for drivers, vehicles, training and authorization requirements for drivers, monitoring of journeys in terms of safety and assistance in the case of incidents, including requirements for emergencies and hazardous material spill response.

The main hazardous materials used by the Project are fuel for vehicles and diesel generators, paints and other chemicals used throughout the different construction sites, supplied to the different Project locations by local contractors on as-needed-basis.

4.2.2 Observations

Spill management is effectively managed across the Project. No spills greater than one barrel (ExxonMobil reportable spills) have occurred in 2013. The spill rate per 200K manhours is currently 0.4, the lowest rate since the beginning of significant construction in January 2010. Spill records continue to be properly maintained by both the Project and the Contractors with results included in the environmental monthly reports. Ongoing spill response training takes place across the Project.

Overall, from what was observed in the field, hazardous materials continue to be well managed throughout the Project. Spill kits and fire extinguishers were found to be available and properly located throughout the sites and hazardous material drums and containers were observed to be appropriately labeled.

4.3 AIR QUALITY

4.3.1 Project Strategy

The Project strategy for the air quality monitoring and the management of air emissions is defined in the Air Emissions Management Plan developed by EHL and included as an appendix to the ESMP. The document refers to the management and mitigation of both fugitive dust emissions and gaseous emissions and identifies the different sources of impact, mitigation and management measures, together with indications of monitoring requirements, and roles and responsibilities. The overall objective of the plan is to control atmospheric emissions during the different stages of Project development.

Given the current stage of construction where extensive earthmoving is still ongoing, fugitive dust associated with excavations, vegetation/soil clearance, trenching, material hauling, dumping, site grading, and backfilling activities represent the main potential impact on air quality. Although temporary and limited to the time of construction and when conditions are dry enough, dust emissions might affect those areas in close proximity to the sites where there is on-going work and along routes frequently used by project trucks.

The general control measures to mitigate fugitive dust as outlined in the EIS and in the ESMP include the use of dust suppression techniques such as watering of the working areas and along those roads where

project traffic is expected to be intense, use of cover sheets on topsoil and/or soil piles, reclamation and revegetation, use of covers on vehicles delivering site construction materials containing fine particles (e.g. sand, aggregates, etc.) to/from the, control speed limits and road maintenance. Dust masks are required as standard Personal Protection Equipment (PPE) for workers involved in operations that may entail potential dust inhalation.

Other sources of air emissions, including greenhouse gasses, are associated with gaseous emissions from the operation of diesel generators, vegetation clearance, and vehicular exhausts, although considered to be minor, localized and transient in nature at this stage of the construction. These emissions are commonly mitigated through proper operation and maintenance of equipment and through the location of fixed and mobile equipment as far as practical from local villages or worksite accommodations. Air emissions from waste incineration will be controlled by installing high temperature dual combustion burners commensurate with proposed waste inventories, through proper maintenance and by considering ad hoc emissions monitoring plans to detail emissions composition and monitoring criteria. Specific provisions in terms of management and operation criteria of incinerators have been addressed in the updated review of the Air Emissions Management Plan (Rev.2). By developing site-specific air emissions monitoring plans the Contractors are responsible for the implementation of all measures to limit/control air emissions and for proper maintenance of construction equipment and incinerators to ensure compliance with the applicable emissions criteria.

4.3.2 Observations

At the time of the site visit there was sufficient rainfall such that dust was not an issue. Information on the management of dust during periods of dryer weather is provided in the PNG LNG Quarterly Environmental and Social Report for Q4 2012 and Q1 2013 and is not repeated here. Based on a review of field records, incinerator management appears to be well undertaken. A positive observation is that two of the incinerators at the HGCP site were shut down for repairs after irregular smoke emissions were observed. Repairs to the refractory lining and associated electrical problems are currently being undertaken to resolve the problem. Incinerator management forms the basis for controlling air quality in the Upstream area. The major high-temperature incinerator is in the process of being commissioned at the HWMA. Once it begins routine operation, regular stack emissions testing will be started.

Ambient air measurements are taken at four locations at the LNG Plant for SO_2 and NO_x. Results are within IFC air quality standards, as would be expected prior to actual operation of the plant. These measurements serve primarily as a baseline for the Operations phase. Again, stack emissions tests will eventually form part of the operations of the LNG plant.

Greenhouse gas emissions are reported in the EHL Quarterly Reports and the results are not repeated here.

4.4 NOISE AND VIBRATIONS

4.4.1 Project Strategy

The strategy undertaken for the management of noise and vibrations has been developed and incorporated in a Noise and Vibration Management Plan (NVMP) that is Appendix 3 to the ESMP. This document basically follows Australian and New Zealand Environment Council guidelines for minimizing vibration and overpressure associated with blasting activities and follows IFC requirements for noise.

4.4.2 Observations

The biggest single source of noise affecting local communities is now the landing of the Antonov aircraft at the Komo airfield. Extensive community consultation took place prior to the landing of the first Antonov and any community impact has been managed. As noted in the report for the October 2012 IESC field visit, after a Level 1 non-conformance assigned in March 2012 to Project activities at the Komo airfield, EHL undertook a comprehensive review of the procedures followed for noise monitoring resulting in a rescinding of the non-conformance. Today, with the demobilization of MCJV beginning to take place, noise sources continue to be reduced.

Perimeter noise monitoring continues to take place around the HGCP, and noise levels are generally compliant. Noise complaints are not being raised from the nearest community receptors. EHL also reported that noise and vibration considerations were also addressed before blasting a borrow pit near Kobalu. Nearby receptors were notified and community awareness sessions undertaken to minimize any

adverse reactions. No unresolved noise and vibration grievances have been recorded since the last IESC field visit.

Noise monitoring at the LNG Plant site has not uncovered exceedances to Project standards and no noise-related grievances have been recorded over the past three quarters.

4.5 RAW MATERIALS MANAGEMENT

4.5.1 Project Strategy

EHL has developed a Raw Materials Management Plan (RMMP) as part of the ESMP, which covers all sources of aggregate other than material obtained beneficially during preparation of the pipeline trench or other Project facilities and roads/tracks. The RMMP requires social and environmental surveys and assessments for any new quarries or expansions of existing quarries. For existing abandoned quarries, or existing quarries operated by third parties, there is a requirement to establish a reinstatement strategy for approval by EHL. There is also a requirement to avoid quarry development on Hides Ridge. The RMMP establishes the policies of reducing the number of quarries developed by using previously worked (old) quarries and using limestone generated by construction activities for road base material. This plan also provides guidance for the management of timber that may need to be removed and defines that excavations should be made in a manner to maintain safe slopes and avoid areas of water accumulation. A requirement of the LESR and also of the RMMP is that EHL environmental and social stewardship be extended to third-party quarries and borrow pits required by the Project.

4.5.2 Observations

The need for large amounts of high-quality aggregate effectively ceased with the completion of the Komo Airfield. Although there will still be some need for this type of material in associate with the construction of the HGCP, most Project requirements for quarries have ended and this is a topic that will not be reviewed again, unless exceptional activities take place in the future.

4.6 EROSION AND SEDIMENT CONTROL

4.6.1 Project Strategy

EHL has developed an Erosion and Sediment Control Management Plan (ESCMP) as a fundamental part of the ESMP. The basic objectives of the ESCMP are to:

- Maintain stable landforms to reduce erosion and enhance reinstatement;
- Maintain integrity of assets (through stable landforms); and
- Reduce adverse impacts on stream water quality, and associated beneficial values, and in-stream sedimentation.

The Ecological Management Plan requires comprehensive pre-construction survey such that the potential for soil erosion is well defined, potential receptors are identified and a plan is in place to minimize the mobilization and dispersion of sediment into freshwater and estuarine environments. The plan defines requirements for assessing and establishing erosion and sediment control requirements (particularly in relation to site preparation earthworks, road construction across watercourses, watercourse diversions, and site drainage), detailing specific erosion and sediment controls to be implemented (e.g., diversion drains, sediment ponds and fabric silt curtains). Monitoring requirements are also defined.

4.6.2 Observations

Erosion and sediment control are critical components of construction activities. Significant effort continues to be placed on controlling erosion and generally good success was encountered. As a general observation, we did not encounter any glaring deficiencies in terms of the erosion and sediment control structures we reviewed in the field. In particular, we encountered some impressive erosion and sediment control structures in place at locations of the pipeline ROW where the slopes are steepest, in particular between KP59 and KP 102. The report cover photo from KP 59 is indicative of the level of effort undertaken to prevent erosion and runoff from these slopes.

Erosion and sediment control structures are now fully in place at the Komo airfield. The last step to preventing runoff is to reinstate the slopes adjacent to the operational runway, which are in their final

configuration, but need vegetation to grow on them for long-term stability. This reinstatement effort has started, as described in Section 4.7.2.3.

The Hides Well Pad Access Road has been constructed to Well Pad G, where the road ends. As such, sidecasting activities have reached their maximum extent along this road and no significant runout incidents have taken place since the last field visit in October 2012. During this visit we were able to review the natural revegetation where sidecasting took place when the Kutubu bypass road was constructed and natural revegetation is rapidly taking place. We also visited OSL Well Pad 5 constructed decades ago where natural revegetation can be demonstrated to recover the slopes with sidecasting.

Sidecasting is now associated with pipeline construction that overlaps the access road and is also significant in the area of the Homa - Benaria Ridge approaching Hides. The most significant issue associated with pipeline construction in the Homa – Benaria Ridge area is the remobilization of pre-existing slope failure deposits. EPC5A provided information on two unexpected slope failures that occurred in April 2013 after heavy rains at KP 57.5 and KP 58, where ROW drainage was not adequately maintained. Although there was significant runout and trees were toppled, there was no impact to local communities. These events have served as a "lessons learned" for EPC5A, who are now improving their means for managing drainage and surveying areas in front of pipeline construction and initiating resettlement of people living in high-risk areas. The issue is that old landslides with well-developed runout aprons are also the areas with the best soils for farming and human occupation. So far, 12 structures for relocation have been identified and resettlement activities started with associate payments to affected households.

4.6.3 Recommendation

1. EHL will need to make sure that Komo airport slopes have been fully stabilized and reinstated prior to the complete demobilization of MCJV. The schedule presented to IESC for MCJV's demobilization seems to be tight.

4.7 BIODIVERSITY AND ECOLOGICAL MANAGEMENT

4.7.1 Project Strategy

The Project's strategy for biodiversity and ecological management is illustrated in several management plans that appear as appendices to the Construction-phase ESMP and in EHL's Project-wide Biodiversity Strategy document. Mitigation measures within the Ecological Management Plan, the Weeds, Plant Pathogens and Pest Management Plan (which covers alien invasive species; herein referred to as the 'Weeds Management Plan'), the Induced Access Management Plan and the Reinstatement Management Plan will be implemented by contractors during the construction phase, and, in some cases by EHL. Mitigation measures are often specific to each of the three project areas (Upstream Project Area, Marine Project Area and LNG and Marine Facilities Site), and are sometimes site-specific (e.g., the Ecological Management Plan contains a section on Hides Ridge). In addition, EHL has developed a Quarantine Management Program (QMP), which is a Project-wide document designed to prevent the importation and spread of pests, plant pathogens or disease (including invasive species) via Project personnel and cargo. During the Operations phase, biodiversity and ecological management will be achieved through the separate Upstream & Pipeline and the LNG Plant ESMPs, with supplemental documents providing detail on ecological impact mitigation measures and monitoring.

Central to the Construction-phase Ecological Management Plan and the Weeds Management Plan is the 'pre-construction survey' (the PCS), which seeks to identify through on-the-ground investigation a number of ecological attributes, including (but not restricted to):

- pinnacles that contain bat colonies;
- potential Bulmer's fruit bat (*Aproteles bulmerae*) colonies;
- bird-of-paradise and bowerbird display grounds and trees;
- large individual trees (>1m diameter breast height);
- areas of *Pandanus* swamp forest;
- swamps in sinkholes less than 50-m deep on Hides Ridge, and
- *Nothofagus* (beech) forest that will require special hygiene measures (due to risk of dieback as caused by pathogens such as *Phytophthora cinnamomi*).

The PCS is undertaken either by EHL with their designated staff/consultant experts, or by Contractors with sub-contractor teams that undertake surveys for their scope of work e.g. Spiecapag (EPC-5A) for the pipeline ROW, and MCJV (EPC-5B) for the Komo airfield and facilities associated with construction of the airfield, such as quarries.

The Biodiversity Strategy was developed to address long-term mitigation of biodiversity for both the construction and operation phases within the Upstream Project area. The current Strategy provides an overview of EHL's overall approach to mitigating impacts on biodiversity in alignment with the mitigation hierarchy, and provides a preliminary summary of the Project's approach to its Biodiversity Offset Program and Biodiversity Monitoring Program. In alignment with the Biodiversity Strategy, EHL has subsequently developed an Offset Delivery Plan and Framework, providing detail on initial offset design and management, and a first draft of their Biodiversity Monitoring Plan.

4.7.2 Observations

4.7.2.1 Ecological Management and Biodiversity

Ecological Management & Protected Areas

All required areas of the Hides Ridge have now been surveyed according to PCS guidelines, taking into account both the pipeline RoW and the well pad access road. Surveys are yet to be completed on the Angore RoW/access road, and these are expected to be concluded in the next few months.

EPC5A calculates that they are within their overall predicted RoW width footprint. However, between October 2012 and June 2013, there have been five internal Level 1 Non-Conformances with regard to the Ecological Management Plan, where vegetation was cleared outside of the designated clearance zone for the path of the RoW. One of these instances cleared an area outside of the PCS boundary and therefore has resulted in the clearance of non-surveyed habitat; although the cleared land was deemed to be fallow agricultural land, the Ecological Management Plan includes the requirement to 'Prohibit works from exceeding the approved disturbance width and enforce boundaries', and thus by staking the RoW improperly, land was cleared outside of the approved RoW zone. Another instance involved the unnecessary clearance of 2ha of forest on Hides Ridge. One contributing factor identified has been the lack of presence of environment teams due to bed-space limitations, as personnel are required to cover the whole pipeline length as their work focus spreads along different RoW areas.

As construction nears completion at several infrastructure sites, the final overall project footprint is starting to take shape. The 'inside the fence' footprint is also becoming clearer, where for example, final tree felling has occurred at Komo following pre-landing safety inspections by the Antonov pilots and the air safety authority. Well-pads and access roads at Angore are already being constructed to pre-drill two wells, making use of the rigs currently in country. However, the IESC understands that due to decisions not yet taken on size of required flow-lines and equipment required to service production from the planned Angore wells, there is the likelihood that the main export route RoW (due for reinstatement once trenching and backfilling is completed) from the HGCP to the vicinity of Angore, may have to be re-disturbed and re-excavated to accommodate the Angore flow-line. This will therefore require the reopening of access to the RoW, to allow flow-line construction and installation vehicles and crew vehicles to have easy access.

Construction of the pipeline RoW and backfill operations through the Lake Kutubu Wildlife Management Area (WMA) are now largely complete, and the pipeline is currently being hydro-tested. During the period December 2012 to February 2013, several releases of bentonite-based drilling fluid occurred from two separate locations around the Kaimari River as a result of horizontal direction drilling (HDD) across water courses upstream of the lake. Further releases of drilling mud occurred in the area during May and early June, again linked to HDD. Mitigation measures were taken when the releases were observed/reported.

During December 2012, local communities reported that fish were dying in the lake. The Department of Environment and Conservation (DEC) of the PNG government conducted site inspections, and engaged specialist consultants to undertake a program of sampling. EHL provided logistical support and sampling materials, and OSL assigned an independent expert to oversee the sampling. The program focused on collecting various water and sediment samples, along with fish tissue samples. Preliminary results indicate that high water temperatures and very low levels of dissolved oxygen were present in the lake, and visual observations of lesions on fish suggest some form of bacterial or parasitic infection. Lake Kutubu has experienced previous occurrences of fish kill events, thought to be due to the overturning of lake waters

and/or algal blooms caused by lower lake levels and dry weather periods. Local community concerns have resulted in DEC initiating a taskforce to look into potential effects on the community.

Fish histology results from sample analysis in Australia have subsequently indicated the presence of an internal parasite (Family *Heterophyidae*). The specialists contracted by DEC are due to deliver their final analysis report to DEC imminently.

As far as the IESC are aware, there is no evidence to suggest that the bentonite releases caused the fish-kill experienced at the lake.

Late last year, EHL became aware that local communities were establishing tilapia farms in ponds around Lake Kutubu. WWF has recently undertaken surveys in the communities, and found the presence of 119 farms amongst 8 villages around the lake. Although the presence of tilapia farms is not linked to the presence of the Project, the situation could have enormous consequences on the ecological integrity of the lake, due to the deleterious effect that any potential release of tilapia into the lake could have on endemic fish populations. Note: this could also have implications on the appropriateness of the lake for inclusion as an offset project; if it is determined that suitable offset conservation outcomes would not be feasible at Lake Kutubu, EHL would still be required to undertake appropriate conservation programs, as per the original Milestones Schedule. See the offset section below for an update on EHL's conservation work at Lake Kutubu.

Biodiversity Strategy

With the development of the Biodiversity Offset Delivery Plan and Framework, and the Biodiversity Monitoring Plan (both released as vers.0 during the last 9 months) we are advised that the awaited revision to the Biodiversity Strategy document can proceed. As described below, the monitoring approach and individual PMA information needs to be updated, as does the technical rationale and design approach for the offset program. In addition, the strategy contains certain factual inaccuracies which EHL could use the opportunity of a revision to the document to correct (such as the intention to separate the Hides Ridge pipeline route from the well-pad access road, and the requirement for above ground fault crossings in the vicinity of Lake Kutubu). The IESC looks forward to the eventual completion of this revision process.

Biodiversity Offsets to address Residual Impacts

EHL has made good progress in developing their approach to biodiversity offset design. The IESC has provided detailed comments to EHL on their Biodiversity Offset Delivery Plan and Framework documents vers.0 (BODP), in fulfillment of Milestone #15. Although EHL is still at an early stage of offset design and implementation, the suite of components included within the offset approach appear appropriate in terms of both project diversity and landscape scale, i.e. proportionate to the scale of residual impacts being offset. There is a good blend of direct offsets (measurable outcomes to demonstrate no net loss) and indirect offsets (positive enablers of conservation). Discussions between IESC and EHL continue, and are focused on topics such as the criteria by which offset projects will be chosen; ensuring 'additionality' in offsets; pace of engagement & managing expectations; the time-lag between impact and the achievement of no net loss; risks & constraints to achieving success; and the development of component objectives, targets and performance indicators as stakeholder engagement progresses. For offset viability, EHL need to be able to demonstrate no net loss of biodiversity, and are considering how this can be done as Biodiversity Offset Delivery Plan Components 4 & 5 develops.

EHL is currently absolutely committed to ensuring that the offset program, although directed by EHL, is built and steered by key stakeholders and informed wherever possible from the land-owner level upwards. The IESC commends this approach and recognizes the efforts made so far by the team to lead the consideration of offsets within PNG.

EHL hosted the 2nd multi-stakeholder workshop during April 2013, where the components of the proposed offset program were presented and feedback sought. Although there was a limited attendance due to conflicting meeting dates, those who did attend were forthright in their opinions and gave valuable lessons from their own experiences in establishing and running conservation programs.

A brief update is provided on each of the offset components:

- Landscape scale: the desired outcome is a Protected Area Plan for the Kikori River Basin, to complement DEC's longstanding intention to have the basin nominated for World Heritage Status. The Plan resulting from EHL's offset program would then be taken forward for further detailed planning and consultation to ultimately offer watershed wide protection. Through EHL's consultation to date, there is positive support from DEC and potential NGO partners for developing such a Plan;
- National Biodiversity Strategy and Action Planning (NBSAP): DEC's Fourth National Report to the CBD Secretariat indicates that implementation of its NBSAP has been slow. Areas where EHL could best assist and enhance the potential for successful implementation have been discussed with stakeholders. Several elements identified by DEC as lacking could be supported by EHL, including supporting a national strategy for invasive species, the creation of a sustainable conservation finance mechanism, and support for a conservation forum. Dialogue on these aspects continues, but EHL's support for a conservation partnership Biological Conference is already being planned;
- Capacity building: the already established Strengthening Conservation Capacity Program is being supported to provide additional benefits to the development of conservation knowledge and capacity. Developments include the expansion and completion of course modules taught at Post-Graduate Diploma and Master level courses at University of PNG (U-PNG), scholarships, along with mentoring and on-the-job training placements. A MoU agreement with Mama Graun was signed in April 2013, stakeholder input sourced on new Module components, and Lecturers are currently being interviewed for posts at U-PNG;
- Existing Protected Areas: the focus is on the three existing WMA's within the Upstream Project area, and especially on Lake Kutubu WMA. There are limited resources currently spent on these areas, and support for existing areas was a very strong message from all stakeholders consulted. EHL is currently considering how best any one or several of the WMA's could be supported. DEC is extremely supportive of EHL's intention to support the Lake Kutubu WMA and has encouraged EHL to support the development of a WMA Management Plan. However, EHL is yet to sign the MoU with OSL that would cement the development of the Enhancement Program, and dialogue with the WMA committee and community representatives has stalled as a result of community tensions following reports of fish deaths reported earlier in this section; and
- New Protected Areas: early in offset planning, EHL undertook conservation prioritization work with several national and international organizations, to identify candidate areas for protection. It is anticipated that three broad elevation zones will be targeted as surrogates for representativeness across the range of broad vegetation groups in the Kikori River Basin where project residual impacts could occur. A Lower Kikori Resource Use and Conservation Management Program is the concept furthest developed at the moment. Other potential areas for protection are being considered in the Upland (600-1200m) and Montane (> than 1200m) elevation zones.

Monitoring of Biodiversity Strategy implementation

EHL has produced a draft Biodiversity Monitoring Program (BMP) vers.0, intended to monitor implementation of the Biodiversity Strategy, as required in fulfillment of Milestone #14. The monitoring philosophy continues to evolve, and there has been further amendment to the suite of Programmed Monitoring Activities (PMAs) since the IESC-VII visit. The BMP now contains four PMAs, which include:

- PMA-1, 'Remote Sensing of Indirect Impacts', designed to utilize medium-resolution satellite imagery to monitor forest loss and degradation in the entire Upstream Project Area caused by project-related indirect impacts;
- PMA 2, 'ROW Condition Surveys' designed to monitor, through aerial and ground surveillance, the condition of focal habitats, reinstatement works, the potential spread of invasive species and disease along the ROW, and checking that access remains controlled, through aerial and ground inspection;
- PMA-3, 'Intensive Biodiversity Surveys', to implement a system of focused field-based biodiversity surveys to provide flora and fauna species inventories in and around the areas affected by the project, utilizing a rapid assessment methodology; and

– PMA-4, 'Efficacy of Offset Projects' gathers data in respect of EHL's biodiversity offset program, to monitor and evaluate whether objectives are being achieved for each separate component of the offset program.

The previous PMA-4 on forest regeneration has now been incorporated into the Upstream Operational Environmental Management Plan as it aligns more consistently with ongoing reinstatement and regeneration efforts, rather than monitoring implementation of the Biodiversity Strategy. The IESC concur that effective forest regeneration monitoring will still require comparison with benchmarking plots across all specified forest-terrain combinations (Benchmark Vegetation Groups), as per the earlier intentions of this monitoring activity. As the Offset project component objectives are yet to be fully developed in conjunction with stakeholders, PMA-4 listed above has not yet been fully developed. Road access, the subject of a previous PMA, will be monitored via remote sensing in PMA-1, and through ongoing use of the Road Register and vehicular access controls.

The IESC has provided detailed comments to EHL on the draft Biodiversity Monitoring Plan vers.0. EHL has advised that additional protocols will be prepared in due course, providing detail on methodologies for each PMA and performance indicators – therefore the IESC was not able to review these alongside the BMP. In general, our comments focused on the need to more concisely articulate how the BMP will monitor the effectiveness of Biodiversity Strategy implementation, to increase the level of targeted detail that should be contained within the BMP, and to commence the monitoring program within the construction phase.

4.7.2.2 Induced Access

Regarding the need for permanent access to the RoW, the IESC had previously discussed four permanent access requirements with the Project, which had all been justified on a case-by-case basis. In the last few months, Production held a workshop to determine their requirements for permanent access to the pipeline RoW post-construction. Although final decisions are imminent, Production has indicated a total of 18 permanent vehicle access roads will likely be required for the maintenance of valves and general pipeline access, with one access point to be serviced by use of a chopper. Several of the permanent vehicle access roads will require various lengths of pipeline construction track to be retained i.e. track running within the RoW, alongside the reinstated pipeline.

A summary table provided to IESC indicates permanent access is required to service main line valves (MLV's), check valves (CV's), cathodic protection valves (CP's), and allow general unspecified access to certain stretches of pipeline. EHL intends to control vehicle access to these roads, and therefore to the RoW, via:

– Manned gates (four) at the Hides Vehicle Wash Facility, Angore area, Gobe area, and at the Kikori River bridge, and
– Unmanned gates (fourteen) at various locations, to restrict access to the RoW from either public roads, logging roads or the OSL road.

Unlike previous visits, the IESC has not been presented with a case-by-case justification for each permanent access road i.e. why each of these points along the pipeline can *only* be serviced by retaining a permanent vehicle access road. We presume this will be forthcoming as each is reviewed via the MOC process. The IESC has been stressing the need to identify the full extent of permanent access requirements for some while. The number of construction access roads the Project now wishes to retain permanently for vehicle access is larger than was expected. We are advised that a higher level of permanent access is required than originally anticipated due to the larger valves installed, which require larger fuel stocks and more regular maintenance visits than originally foreseen.

We have learned that in some areas there are high community expectations that access tracks along the RoW will be retained, and that communities expect to be able to use the RoW as a road e.g. in the vicinity of the Homa-Benaria Ridge. To minimize the increased risk of induced access onto and along the RoW associated with these permanent vehicle access roads, the IESC discourages the retention of permanent vehicle access apart from instances where no other access technique is viable.

Regarding the possible Tamadigi to Kaiam road postulated by the PNG Government (as detailed in our IESC-VI and VII reports), the potential remains for this road (if constructed) to have repercussions on the ability of the Project to meet its own commitments to avoid and reduce induced access to areas opened up by the Project. The recommendation to assess various scenarios on how this commitment can be realized

in the Kaiam Bridge area and beyond, including RoW and CP service roads remains valid and is repeated in this report.

During Operations the Project intends to physically inspect access controls along the RoW, and this information will be captured via PMA-2 (within the Biodiversity Monitoring Plan). In addition, the use of remote sensing (PMA-1) is intended to identify changes in forest cover and anthropogenic processes within the Project area. With further detail pending on BMP monitoring protocols and indicators to identify and measure evidence of induced access, and as long-term mitigation measures are put into place, this will become a key focus area for future IESC visits to see how access is restricted, monitored and managed..

4.7.2.3 Reinstatement

As the project nears the end of the construction phase, timely reinstatement and re-vegetation becomes even more important in the avoidance of weeds, and successful erosion and slope control. In general, reinstatement and re-vegetation are progressing well, but at some sites where construction is nearing completion, reinstatement efforts will need to ramp up in the next few months.

EPC5A reports that 159km of RoW length have currently been reinstated. The IESC flyover along the reinstated portions of the RoW between Lake Kutubu and the Omati Landfall proved only partially successful in assessing reinstatement success, due to cloudy conditions. EHL presented photographic evidence from permanent photo-points used at various KP-markers. Certain sections of the RoW have reinstated and re-vegetated sufficiently that EHL has accepted handover from EPC5A; these include: KP 293-278 Omati swamp, KP227-199 Kaiam to Gobe, and KP 199-174 Gobe to Mubi. Between KP167-108 areas are stable, ranging from partial vegetation coverage to 100% vegetation, basically related to timing of completion of erosion control works. Ongoing erosion control works were observed at points between KP102-50. An Erosion Control Matrix is being used to systematically record all works completed, in progress and yet to be completed, for individual KP sub-sections. This information is a key feed into discussions between Contractor and EHL prior to formal contractual handover. Sections requiring short and medium term 'special monitoring' have been identified by EPC5A, where specific geomorphological features will require ongoing observation into the Operational phase e.g. in the vicinity of dolines, very steep slopes, and landslide prone areas.

At the HGCP active reinstatement is about to commence. Construction at the site is sufficiently complete that areas earmarked for active reinstated can now be prepared. Some natural re-vegetation is occurring on shallow slopes and flat ground within the Plant inner boundary, especially in areas where supplemented by the planting of Yar (Casuarina/She Oak) trees. The area just outside the inner fence, the Drillers Laydown area (which was cleared but never used) was managed for erosion control and jute matting installed several months ago to aid reinstatement. Some slope stability events have occurred and reinstatement is required.

At Komo, there has been successful small-scale reinstatement, where previous trials have indicated the optimal active re-vegetation techniques for the prevailing soils and vegetation re-growth characteristics. However, following the critical path deadline of runway and infrastructure preparation, full-scale reinstatement of the full site is only now being commenced. The scale of ground area requiring reinstatement is daunting; of the 208 hectares requiring reinstatement inside the outer boundary, 33.8 hectares (16.3%) has been reinstated to date. The EPC5B Environmental Team seem responsively aware of the task ahead, and have deployed additional work teams to ensure they can attain the required 2.8 hectares of reinstatement per day to meet the deadline. However careful management of resources is required to ensure the task is completed effectively prior to the current contractual handover deadline of end August 2013.

At Hides Ridge, a landslide assessment has been completed, and reviews made of side-cast projection and mapping so as to include experiences to date and the latest PCS findings. It is apparent from the general paucity of re-vegetation on side-cast scree and limestone rubble material already deposited, that successful re-vegetation will take some time. Spoil dumps are all closed and active re-vegetation is ongoing.

At the LNG Plant, EPC3 is now commencing reinstatement around the LNG Plant, and EHL is discussing with the contractor specific types of reinstatement to be undertaken at specific locations within the site boundary. The final phase of EPC2 reinstatement prior to contractual handover was of limited success. The effect of swell and tidal action in the landfall RoW is noticeable, where mangrove plants are surviving slightly more successfully on the southern side than the northern side, suggesting the southern side receives slightly more protection from the prevailing swell direction. However stability of the tidal flat looks good.

Natural mangrove re-vegetation is occurring more successfully, especially where observed in tidal areas where mud surfaces are more broken up. EHL's Project's Environment Teams are testing alternative techniques to replanting, currently harvesting mangrove seeds from surrounding healthy trees and experimenting with seed planting depths to identify which approaches work best.

4.7.2.4 Invasive Species Management and Quarantine Management Program

Weeds, Pests and Pathogens (Invasive Species)

EHL has revised the project-wide Weeds Management Plan, which now divides the whole footprint into eight separate weed management zones, each with specific objectives. The strategy seeks to contain weeds within their current management zone and stop movement between zones. It targets attention on actual weed presence and on-the-ground distribution, zone-specific risk levels and management responses required. The Weeds Management Plan is being written by BioTropica, their contracted specialists based in Australia, and the Project continues to benefit from their regular advice and audits. During our visit, the IESC received only ad-hoc reports from different Contractors on their recent weed management findings. Although we are advised weed inspections are still occurring, there appears to be a heavy reliance on site spot visits by BioTropica.

BioTropica's third independent weeds audit has just been completed. No 'new' weeds were found, although weeds not previously picked up during PCS have now been observed; BioTropica's opinion is that these weeds were present previously, but not picked up during PCS or earlier weed monitoring. The audit has seen an increase in species abundance across different areas of the Upstream/RoW footprint, and some range extensions within and between zones. In addition, there has been a rise in weed diversity, where increased numbers of species are now being identified during inspections. The potential for this situation to occur could be expected at this stage of the project, as this is when the largest areas of cleared ground are available for weeds to encroach. This highlights the importance of a widespread yet targeted refocus of weed management efforts. Any undue delay in reinstatement allows avoidable periods where ground is left bare, heightening the risk of incursion and spread of weeds.

Some Priority 1 and Priority 2 weed species (P1 & P2) are proving difficult to eradicate. Herbicides are being utilized to address outbreaks of Siam weed and Anglestem willow primrose south of the Kikori River bridge. A Quarantine Zone has been established between the Kikori River bridge and the Mubi River bridge. The planned mobile vehicle wash-down station has now been established at Homa Paua, just near the Paua River bridge. The IESC observed a potential risk of weed transfer at the quarantine boundary, where trucks that do not use the vehicle wash as they stay north of the Mandali River (transferring pipe from the pipe laydown areas to RoW construction,), share a stretch of road with vehicles that may have driven up from the south *prior to* them being subjected to the vehicle wash.

At the LNG plant, there has been a noticeable shift in weed communities; BioTropica considers this to be due to the lack of disturbance of large areas of ground not yet fully reinstated. Community practices prior to Plant construction involved regular burning of vegetation to minimize uncontrollable fire risk and as targeted hunting techniques, therefore weed communities would have been controlled differently.

Following this third audit, BioTropica's recommendations include:

- The need for 600 liter herbicide spray units at the LNG Plant, Moro base and HGCP;
- The knowledge and ability to source, either nationally or internationally, sufficient quantities of herbicide formulations of a concentration suitable to effectively control P1 weeds;
- Contractors need to improve engagement and record keeping; a workshop could be considered;
- Wellpad B operator to improve on weed control and monitoring;
- P1's in the Omati-Kikori River Management Zone, Gobi Spur-line and Kikori to Mubi River quarantine zone need additional follow-up control, especially for L.leptocarpa, Siam weed, Spiked pepper and Singapore daisy where present; and
- Weeds ID manuals be placed in each project vehicle, to aid in weed reporting, and general weed awareness and hygiene, especially where vehicles cross Weed Management Zone boundaries. In addition, raise awareness with all police engaged in project activities to reinforce their roles in good weed/vehicle hygiene.

At HGCP, the Project recently started a training program for company and contractor personnel, providing information on weed ecology & identification, and effective control measures (including use of herbicides). Training on use of herbicides will also be conducted at Moro and Hides.

The controlled planting of vetiver grass at the Hides Waste Management Facility at Kopeanda (subject of an early waiver) appears to be working successfully; leachate filtering into settling ponds below where discharges are tested prior to release. BioTropic reports that there has been no sign of vetiver seed spread beyond the controlled planting zone.

Quarantine Management

Most Contractors continue to comply with the required provision of quarantine-related data, although there has been a delay in EPC-5B (Komo) data for 1Q 2013. EHL provided IESC with a breakdown of consignments, inspections and fumigations. The IESC graphs below indicate the proportion of consignments imported by each Contractor that require inspection, and the number of inspections that require re-fumigation and re-washing (although no re-washings have occurred since 2011). The Project has advised that a high inspection frequency is due either to the point of origin of the consignment (i.e. NAQIA considering the port being of higher risk) or due to paperwork being missing or incomplete.

Following the Project highlighting a required improvement in performance from EPC-3 at the LNG Plant, it has seen a reduction in the number of NAQIA-required fumigations of their consignments. A high number of inspections were occurring, apparently due to many shipments being break-bulk in nature and a high proportion originating from the Middle East (a NAQIA high-risk quarantine location). The contractor has now started undertaking fumigations at the consignment source, with provision of fully completed documentation; even though all shipments are NAQIA-inspected, EPC-3's effort has resulted in no shipments requiring re-fumigation on arrival in PNG during 2013 to date, a marked improvement.

Although EHL has also been focusing closely on the performance of EPC-5A, their shipments continue to require a high level of re-fumigation, although some improvement has been seen from 2012. For 2013 to date, although only 30% of shipments are inspected, of those, 38% require re-fumigation. The main reasons for EPC-5A re-fumigation appear to be a lack of correct paperwork, or either soil contamination or live insects being found in containers during inspection, any one of which is sufficient for NAQIA to warrant a re-fumigation. Although only three drilling shipments have required inspection, two of these needed a re-fumigation. Of the five EPC-4 shipments requiring inspection (out of a total of 165), all of these were then found to require re-fumigation.

EHL is aware that focused prevention measures are required by all contractors. EPC-5A are due to conduct a desktop exercise during Q3, but attention should also be focussed on prevention at source.

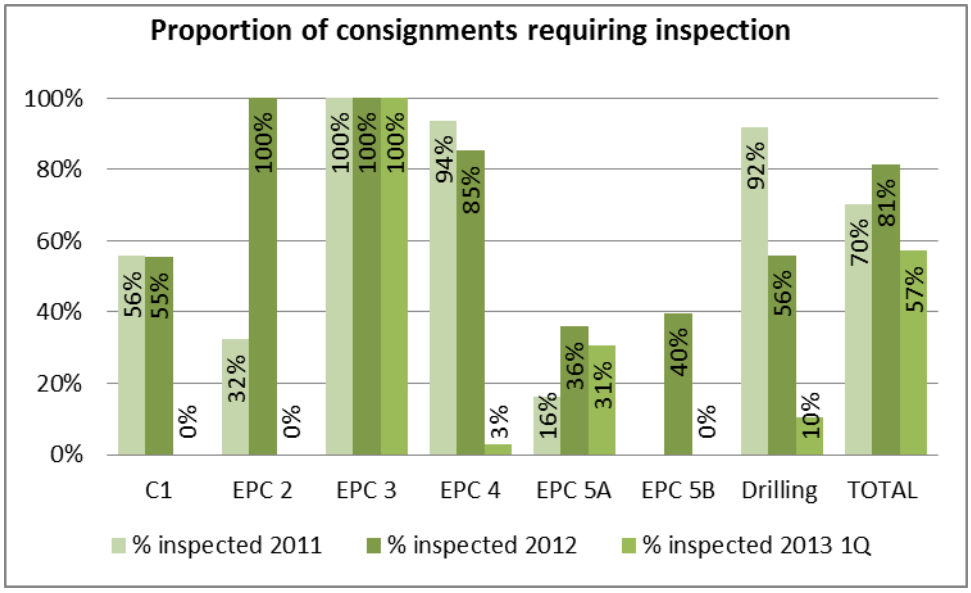

Figure 4.1: Quarantine Management: Consignment Breakdowns

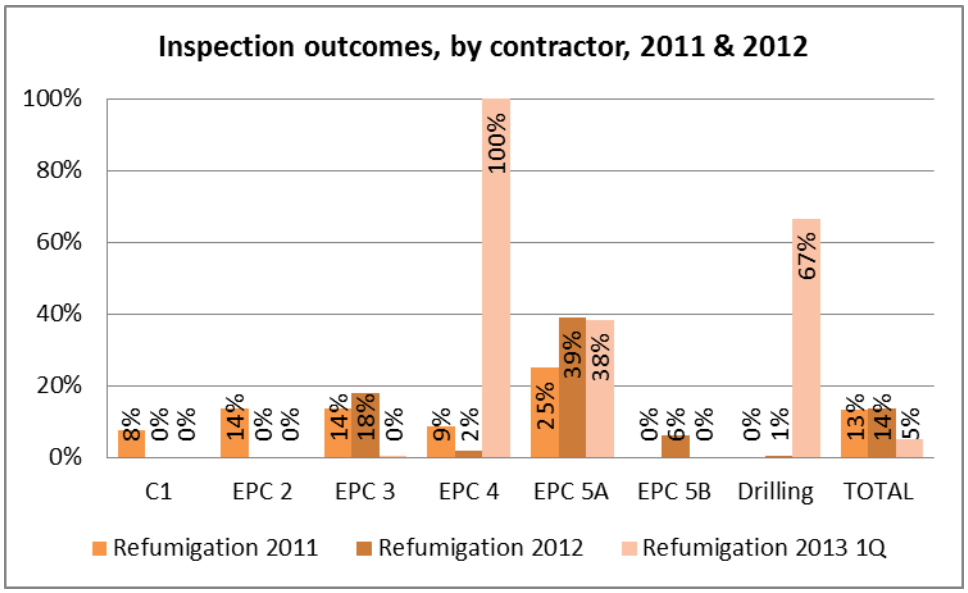

Figure 4.2: Quarantine Management: Inspection outcomes

4.7.2.5 Freshwater and Marine Ecology

Although the final report from DEC is still pending, the available information does not suggest that the Project contributed to the fish kill in Lake Kutubu that took place in December 2012. Other factors including the inversion of the lake appear to have been the main cause, but the reported presence of tilapia farming around the lake represents a potentially greater hazard to the ecosystem of the lake.

Findings from the February 2013 Caution Bay water quality survey indicate little variation from baseline conditions, particularly when accounting for seasonal & other environmental variations in the physiochemical parameters monitored in accordance with Environment Permit criteria. No Project related impacts to sedimentation or TSS could be observed as a result of findings from the current survey that could not be attributed to falling within the limits of scientific experimentation and natural variability.

As mentioned in the last audit, results of the post construction Caution Bay marine monitoring program conducted in February – March 2012 indicated that sediment from pipeline construction activities had covered coral at two of the seven monitoring points located within two kilometers of the pipeline. This situation is considered an important observation as the EIS predicted that pipeline construction could result in up to 5% loss of habitat and resource value, and that recovery was expected within 2-5 years (Environmental Monitoring Plan, Table 2, Pre-construction Marine Water Quality and Ecology). Further monitoring is therefore required to determine whether these observations are representative of the changes occurring in the vicinity of the pipeline. To assist this process, EHL should consider changing the number and location of monitoring sites to better characterize the changes and recovery trends. The selection of any new sites will need to be made on the basis of pre-construction baseline data in order to allow meaningful comparison. It is expected that future monitoring data will be more timely, quantitative and include photographic evidence.

In the Omati River, the Project said it would perform a post-lay survey of the pipeline in July and report a summary of the results to the IESC by the fall of 2013.

4.7.2.6 Omati River and Caution Bay Fisheries Studies

The 2013 Q1 Omati River fisheries monitoring was completed and a summary of results received during this visit; data entry for Q2 is in process; and the field work for Q3 and Q4 are scheduled. Fisheries monitoring in Caution Bay continues and the 2013 Q1 summary was received during this visit. Data entry for Q2 is in process; and field work for Q3 and Q4 are scheduled. The Project is commended for maintaining well-trained village assistants, data quality control, and commitment to monitor fisheries through 2014.

The 2012 Omati River and Caution Bay fisheries studies reports were received beginning of July, 2013. The Project has not been fully successful in quantifying the catch/effort by time fished, fishing gear, fishing ground/target species (i.e. a standardized CPUE) to assess the effects of the Project. The 2012 fisheries reports present a crude CPUE calculated by pooling all catch of all species caught by all fishing gears and areas, divided by the number of hours fished. 2012 results are not comparable to the 2011 surveys, which were more comprehensive. Information from the community members involved with fishing does not indicate that the Project has had any adverse effects on the fisheries segment of the economy, but the available data do not serve to confirm that observation.

Several fisheries livelihood programs and participation incentives have been established on the basis of partnerships with the University of Papua New Guinea, the National Fisheries College, local service providers and committees, and Provincial fisheries departments with EPC Contractor support. These programs were not reviewed during this field visit, but will be evaluated during subsequent field visits.

4.7.3 Recommendations

Ecological Management

1. An increased level of targeted supervision is required on all remaining RoW and access road vegetation clearance, to avoid any further incidents of unnecessary areas being cleared. Clearance of forest outside of areas previously surveyed by PCS is avoidable and unacceptable, as is unnecessary clearance of vegetation in ecologically sensitive areas such as Hides Ridge.
2. Trees felled recently within the Komo airfield boundary in order to conform with aircraft landing safety requirements, should be removed and not left in-situ. The resulting timber should be put to good use either on-site as slope stabilizers (already used to good effect elsewhere on site) or provided as a resource to local communities.
3. The IESC encourages early consideration of the types of flow-line and equipment required to service production from Angore, so as to minimize the need to re-disturb reinstated ground along the RoW between the HGCP and vicinity of Angore (and potentially reopen or keep open access roads). However this should not result in any deferment in current reinstatement of that section, to allow for erosion control and slope stability, and avoid ingress of weeds and induced access.
4. The Biodiversity Strategy requires revision to accommodate developments made in the Biodiversity Monitoring Plan, the Biodiversity Offset Delivery Plan and Framework, and to correct factual inaccuracies. In addition, with the Production phase approaching, this is a timely opportunity to add a level of detail to the stated objectives to not only make them more SMART (specific, measurable, achievable, realistic and time-bound), but to also enable the development and definition of useful performance indicators. Revision 3 of the Strategy has been anticipated since 2011.
5. We would encourage EHL to explore all possible avenues to regain momentum regarding dialogue with the Lake Kutubu WMA Committee, as well as with OSL and local communities, to ensure progress on the vital early implementation phase of the Lake Kutubu Enhancement Program. This recommendation relates to an Observation in the Issues Table and progress will be re-assessed during our next trip. We encourage EHL to expedite programs to evaluate the health of the lake.
6. The IESC recognize that implementation of the Biodiversity Strategy, and therefore the BMP, fall outside of the typical management plan approach within EHL. The IESC therefore suggests EHL includes more detail on each PMA in the BMP rather than hold in separate Protocols, and to commence monitoring implementation of the Strategy immediately and not wait until the formal start of Production in 2015. The BMP should include more detail on PMA methodologies, the analysis and use of data gained, detail on triggers and associated management responses, and performance indicators that will be used to determine whether objectives are being met.
7. Although recognizing the importance of following through on successful regeneration, an operational land-use hierarchy should be developed whereby any new disturbance preferentially uses previously disturbed ground ('brownfield'), rather than disturbing new ground ('greenfield'), wherever ecologically beneficial and operationally feasible.

Induced Access

8. To minimize the increased risk of induced access onto/along the RoW associated with the proposed number of permanent vehicle access roads, the IESC encourages the Project to resort to permanent vehicle access only in instances where no other access technique is viable.
9. The Project should assess the various possible scenarios that might arise if and when the Government decides to improve its own road infrastructure, for example in the vicinity of the Tamadigi/Kikori River area, and consider how best the Project can still achieve both the requirements of IFC PS6 and its own commitments to avoid induced access to areas opened up by the Project (repeat).
10. As the Project's ability to restrict induced access is fundamental to managing indirect impacts such as fire, pests, weeds/disease and hunting, the IESC urges EHL to ensure that sufficient due regard be given to developing specific indicators to monitor and manage induced access through mechanisms such as PMA's and the Production ESMP.

Reinstatement

11. Implementation of active reinstatement programs at both HGCP and Komo airfield are required urgently. At the HGCP, the drillers' laydown area slope stability and reinstatement should be given special focus where reinstatement needs to continue. At Komo, EHL should ensure targeted and effective reinstatement action across the whole site by EPC5B *before* contractual handover is negotiated. Both sites will be the target of IESC observations during our next visit.
12. Care should be taken at all locations where reinstatement has occurred to make sure that teams undertaking subsequent small-scale construction works don't inadvertently cause disturbance to re-vegetation areas.
13. The LNG Plant Environment Team could benefit from additional specialists advice on mangrove restoration, perhaps considering consultation with NGOs or other organizations who undertake active mangrove restoration programs in south-east Asia.

Weeds, Pests and Plant Pathogens

14. Contractor efforts to identify, record and eliminate weeds should be improved. EHL and their contractors need to ensure they 'own' weeds management, and not overly rely solely on audits by their contracted specialists BioTropica. Reports to IESC on site specific weed management by contractor/EHL teams could be improved upon, to reinforce the fact that EHL is effectively managing weed control.
15. Special attention needs to be paid to regular weed inspections in areas where vehicles requiring wash-down overlap with vehicles that are considered clean and therefore do not need washdown; for example at Paua River. Or reassess the current decision to allow pipe trucks to bypass the vehicle wash.
16. IESC suggest that EPC-5A, in addition to conducting a desktop exercise during Q3, should focus attention on reducing risk at source, and implementing pro-active measures to improve the provision of completed paperwork, and that cleaning and fumigation at source locations are carried out more effectively.

Freshwater and Marine Ecology

17. With reference to the environmental stresses to the fish in Lake Kutubu, we encourage EHL to expedite programs to evaluate the health of the lake, in particular as might be affected by the encroachment of tilapia.
18. EHL has compiled a significant amount of fisheries data for the Omati Delta and Caution Bay, but the data have not been analyzed or interpreted in a manner such that any impacts from the Project can be quantified. The IESC again recommends that existing and future data be interpreted in terms of catch/effort by time fished, fishing gear, and fishing ground/target species such that any effects of the project can be assessed quantitatively.
19. Now that the effects of construction activities on the reef has been documented, the IESC recommends the Caution Bay marine ecology surveys be continued for up to 5 years or up to the

point where recovery can be demonstrated, but modified for efficiency and concentrate on characterizing the impact caused by siltation from pipeline construction, and predicted recovery. For example, eliminate all or most pipeline, seagrass, and coral fish sites where no notable differences were found when comparing pre construction with post construction, and add up to 8 sites at the same depths north and south of the impacted site(s). The magnitude of impact predicted in the EIS for construction-related impacts from sedimentation on sensitive habitats such as the reefs and seagrass areas was considered as "medium" where it affected less than 10% of the available habitat and / or was expected to occur within two kilometers from source with recovery within 2 to 5 years. The monitoring should be undertaken to verify this predicted recovery.

5 SOCIAL

5.1 INTRODUCTION

5.1.1 Scope of Social Review for this Site Visit

The IESC consulted with a variety of people and groups during its June/July 2013 visit, including Project personnel, people/groups affected by physical and economic displacement, as well as people in communities indirectly affected by Project facilities and works areas. The IESC social review included (but was not limited to) the following activities:

- Presentations by EHL management and staff in Port Moresby on land access, resettlement and livelihood restoration; fisheries program; community development support; stakeholder engagement; in-migration; community benefits distribution; grievances; demobilization; occupational and community health;
- In-field discussions with a range of project personnel including project managers, L&CA officers, census and survey team (Angore region), and resettlement teams;
- Several discussions in the field with the Environmental Law Centre (ELC) field staff;
- Group presentations and discussions with Women's Groups and Training Centres, including women from communities and displaced households (Homa, Paua, and Hides);
- Meeting with local Chiefs in Nogoli (Hides);
- Visit to one of the farms (near Juni camp) the Project supports for plant propagation and pig breeding in support of livelihood restoration;
- Visit to model vegetable garden group at Tokaju;
- Visit to resettled households, including vulnerable households, from spoil dump area;
- Meetings with resettlers in Komo area;
- Meeting with the KAIC (formerly Komo Community Issues Committee);
- Visit to resettled households 3 Ways and Kopeanda;
- Informal interviews with displaced persons in the vicinity of Well Pads A & B; and
- Meetings with village counsels and residents of and walk around LNG plant neighboring communities of Lea Lea, Borea, and Papa.

Overall, IESC meetings and exposure to project affected communities were satisfactory for the purposes of this review. As land acquisition and resettlement is nearly completed, future IESC social activities will focus on the results of displacement measures (standard of living and livelihood restoration) and community development support planning, implementation, and outcomes.

5.1.2 Challenges

The **main challenges** going forward to achieving the Project's goals for directly affected households (restoring/improving standard of living and livelihoods) and for wider community development (livelihood self-reliance) will be:

- Outcome evaluation: developing and implementing a process, particularly for livelihood measures, that indicates *during implementation* whether goals are being met, detects the potential of failure to meet goals and identifies corrective measures;
- Community impacts from demobilization: particularly violence that may occur in response to reduced income, returned males reduced to agriculture, and empowered females;
- Water accessibility: for physically displaced people and the larger communities; and
- Equitable strategy for royalty distribution.

5.1.3 Waiver

The IESC social review is substantially based on interviews conducted with project affected people, NGOs and other stakeholders. It was not within the remit of the IESC to verify or substantiate the statements made by interviewees and, unless otherwise indicated, the IESC has taken no steps to verify or substantiate such statements. Due caution should therefore be attributed to all statements reported to have been made by interviewees. Accordingly, the IESC makes no representation as to the substance of reported

'perceptions' or 'beliefs' of interviewees and notes that hearsay evidence should not be treated as proof of any specific statement or concern expressed.

The IESC review provides a "snapshot" of the PNG LNG Project's state of compliance with the commitments and standards defined in the Project Environmental and Social Requirements, including but not limited to the RPF, component RAPs and other Social Management Plans. As such, the review does not purport to be a fully comprehensive evaluation of compliance.

5.2 LAND AND COMMUNITY AFFAIRS (L&CA) - ORGANIZATION AND RESOURCES

5.2.1 Project Strategy

The Project will provide the organization, personnel and resources necessary to comply with national legislative requirements and to deliver commitments contained in the ESMP.

Since the last IESC review, L&CA has distilled its role and functions into the following.

Goal:

- Sustain access to resources by developing and maintain our social license to operate.

Objectives (refined since the July – August 2011 review):

- Secure and facilitate ongoing land access;
- Anticipate and mitigate construction and production interruptions;
- Develop EHL's Social License to Operate through its relationships with the communities where it works;
- Facilitate compliance with company policies & Project socioeconomic commitments; Develop EHL national staff into the corporations' socioeconomic leaders of the future.

5.2.2 Observations

The L&CA team, including support personnel, is currently fully staffed and staff (96% Nationals) are well trained and carrying out responsibilities properly. Interactions of L&CA staff with affected people and communities are productive, illustrating the skillfulness with which staff have dealt with often tense situations.

Nearly all land acquisition and resettlement activities have been completed (target completion date for finalizing agreements is 30 June 2013), and a demobilization plan has been prepared. L&CA staffing for the Production phase, during which much of the livelihood restoration will continue and outcome evaluation activities will occur, appears adequate. Typical positions to be maintained include land and compensation manager, land and compensation lead, social impact manager, resettlement team coordinator, census and survey team, resettlement advisor, livelihood restoration team, and RAP implementation team. The Production ESMP indicates that staffing will be reviewed periodically. The IESC notes that successful transition of L&CA responsibilities will require the experience and skill of the core existing team members, as well as staff with the expertise to carry out effective outcome evaluation.

5.2.3 Recommendations

1. Make strong effort to maintain experienced core staff into the Production phase.
2. Provide training in the IFC social performance standards and Production social management plans for all applicable staff.
3. Provide specialized training in outcome evaluation (OE) for livelihood restoration and community development support to staff responsible for this activity.
4. Maintain the services of an OE advisor during OE planning and the first phase of OE implementation.

5.3 LAND ACCESS AND RESETTLEMENT

5.3.1 Project Strategy

The Project strategy for achieving land access and resettlement is described in the RPF and individual RAPs. The RPF lists the following resettlement principles:

- Avoid and minimize the need for physical/economic displacement through alternatives analysis and siting, alignment and other design modifications (RPF, Sect 2.2, Resettlement Principles);
- Conduct consultation processes that achieve free prior and informed participation of affected people and communities (including hosts) in decision making related to resettlement and continuing participation during implementation and monitoring/evaluation;
- Compensate people affected by land acquisition for loss of assets at full replacement value;
- Improve the living conditions of physically displaced households;
- Design and implement in a timely manner culturally sensitive and economically sustainable income restoration measures;
- Provide measures to support physical relocation and re-establishment;
- Identify and provide special assistance to people who are especially vulnerable to displacement impacts; and
- Carefully monitor and evaluate to ensure that resettlement measures are meeting the needs of affected people and to identify the need for and implement corrective measures.

5.3.2 Observations

5.3.2.1 Resettlement Monitoring, Evaluation and Reporting

At this stage, an effective monitoring and evaluation system is critical to ensure that land impact management measures have or are achieving goals. The M&E system utilized and reports prepared during the earlier stages of displacement provided fairly good progress information and some useful, but largely anecdotal, information on results of impact management measures. Evaluation of the outcomes of standard of living conditions of physically displaced households is in progress, though the IESC has not seen the full results.

The IESC, in April 2013, proposed that changes be made to the M&E process in order to systematically capture (i) implementation progress against schedule and (ii) the outcomes (results) of measures to achieve the overall goals of restoring/improving standard of living of physically displaced households and the livelihoods of economically displaced households.

The Project has agreed to implement this more strategic system for the remaining construction phase and has included the system in the *Land Access, Resettlement and Livelihood Restoration Management Plan* for the Production phase. The new system is composed of four components:

Internal progress monitoring: tracks inputs and outputs to determine if implementation is on schedule and as planned, identifies delays and failure to achieve outputs, determines causes of delays and failure to achieve outputs, and identifies corrective measures and new completion dates.

Internal outcome evaluation: measures the results of programs for standard of living and livelihood restoration against selected objectively verifiable indicators. Identifies whether programs are achieving desired outcomes and in the event they are not, proposes corrective measures (changes or additions). Internal outcome evaluation for standard of living should be done within six months of household re-establishment. Internal outcome evaluation for livelihood restoration should begin approximately six months after initiation of livelihood restoration measures and continue at six monthly intervals until a sufficient time has elapsed after completion of livelihood measures (typically six months to one year).

External outcome verification: the IESC will verify the findings of the internal outcome evaluation using a sample of households for which results show declined or marginal conditions. It will also assist Project staff to explore causes of declined or marginal conditions and, if causes are determined to be the fault of the Project, will recommend corrective actions.

Completion audit: an independent third party will assess whether:

- plan components have been delivered on time & as planned and whether suitable changes, as applicable, have been made as indicated by outcome evaluation results; and
- plan components have achieved the desired effect (for standard of living & livelihood restoration).

The auditor will recommend any remedial actions that are needed and will set completion dates for these actions.

5.3.2.2 RAP Documentation

The last full RAP (Construction Logistics Road) has been approved by Project Management and disclosed on the Project's website. A full CRP will be submitted to the IESC for approval and disclosure on the website for the Spineline and Well Pad C-G access road. Short RAP/CRP addenda will be prepared for any additional displacement that may occur during construction in the KP 0-80 area.. In the event addenda are needed, they will be provided to the IESC for information purposes.

Activities continue to focus on obtaining land access for the Angore Well Pads A and B and Access Roads and the remaining sections of land needed for the remaining sections of the pipeline ROW between Kilometre Points 12 to 20.

The full list of RAP/CRP documents as of June 2013 is shown in Table 5.1.

Section 5.3.2.10 of the last IESC report notes that the Project needs to provide local stakeholders with clear information on its intentions regarding the heavy haul road which was part of the original 2009 design. As a result of the scale of resettlement, protracted negotiations with land owners, and constructability issues for the HHR option, the Project determined that the northern logistics option would be a better approach. The households and gardens already affected by initial HHR activities and by the northern logistics route are covered by the Northern Logistics road RAP. Communities along the HHR are now well aware of the project's decision, and have taken this issue to the Provincial Governor who has indicated the Provincial government will provide a road, though plans are not yet finalized.

Table 5.1: Full List of RAPs/CRPs Approved & Disclosed on Website

1. Kopeanda Landfill Resettlement Action Plan
2. Hides Quarry 1, 2 and 3 Resettlement Action Plan
3. Kaiam to Omati (KP 227-292) Communal Resource Plan
4. Kantobi to Kaiam (KP 153 – 227) Communal Resource Plan
5. Komo Airstrip Resettlement Action Plan
6. Tumbi Quarry (QA1) Resettlement Action Plan
7. HQ1-3 RAP Addendum Number 1: Quarry Road - Well Pad B
8. Timalia River Borrow Pit Resettlement Action Plan
9. HQ1-3 RAP Addendum Number 2: Quarry 4 Expansion
10. Komo Airstrip Access Road Resettlement Action Plan
11. Hides Vehicle Staging Area Action Plan
12. Kutubu to Kantobo KP 80-153 Communal Resource Plan
13. Hides Gas Conditioning Plant Resettlement Action Plan
14. Hides Quarry 1-3 RAP Addendum 3: Spoil Dump 1 and Extensions
15. Hides Quarry 1-3 RAP Addendum 4: Sidecasting Sites
16. Moran to Kutubu (KP65.5 – 80) Communal Resource Plan
17. KP 4.5 Campsite Area Communal Resource Plan
18. Kutubu to Kantobo (KP 80-153) CRP Addendum 1: KP 97.5 Laydown
19. Caution Bay Communal Resource Plan
20. Omati River Right-of-Way Communal Resource Plan
21. Kutubu to Hides (KP 0-80) Resettlement Action Plan
22. Angore Well Pads and Access Roads Resettlement Action Plan
23. Logistics Road Resettlement Action Plan

5.3.2.3 RPF Status Update

As construction phase land acquisition, displacement, and compensation are nearly completed, the RPF will be replaced for the Production phase by a Land Access, Resettlement and Livelihood Restoration Management Plan. This Plan will guide any additional displacement that may occur during Production, as well as activities that carry over into the Production phase (largely livelihood restoration and outcome evaluation). The IESC is involved in review of the Production Phase ESMP.

5.3.2.4 Water Structures Delivery

Some of the physically displaced households are without a convenient source of water, and this is particularly a burden for female headed households and other vulnerable households. Several of the physically displaced households visited during this visit indicated their access to water was better at their former location. Access to water is an important aspect of improving standard of living. Moreover, a more difficult access to water would represent a declined standard of living. The Project, thus, should assess the water availability conditions of physically displaced households to determine the need and best approach for completing water access. See Section 5.6.2 for more information on water accessibility.

5.3.2.5 Full Replacement Value Top-up Payments

The Census and Survey teams are now available to begin the top up payments for trees and crops. Top up payments can be made in kind, but the payment would have to include replacement trees/crops, as well as a payment or other agreed upon measure to replace income lost during the period until trees become productive. The IESC should be informed when disbursement is completed.

5.3.2.6 Replacement Housing and Community Infrastructure

Presentations to the IESC by the Project indicate that the quality of housing constructed by 68% of physically displaced households remains the same as pre-displacement housing and 7% of households show declined housing conditions. The goal of improving the standard of living of physically displaced households is stated in the RPF and housing quality is an important aspect of standard of living. The IESC recognizes that in cases of displacement households that opt to self-resettle, it is not always possible to guarantee improvement to housing conditions. Additionally, the housing quality results presented may have been skewed by overly wide ranging indicators that include factors that are too remote from Project influence. The IESC recommends that standard of living be assessed using only a few of the most pertinent and objectively verifiable indicators.

The last IESC report recommended that EHL offer mitigation measures to the two households that relocated to the road that later became the access road to Spiecapaq camp 6. The Community team has engaged with the households on safety and other risks. As a safety precaution, the project built a fence that extends the access into and out of the camp gate to the road junction. The area along the road is now more populated with persons who have established shops and other services to take advantage of the market provided by the workforce.

The HGCP perimeter road continues has not yet been completed due to multiple disruptions from local landowners resulting from land ownership disputes. Due to the significant costs associated with mobilizing and de-mobilizing people and equipment, the project has suspended road work indefinitely until order is restored.

The revised community development plan will review and advise on community infrastructure needs. See Section 5.10 on CDS re-planning.

5.3.2.7 Vulnerable Households

The IESC met with several vulnerable households displaced from the Hides spoil dump area. Their replacement housing is an improvement over pre-displacement living conditions.

Discussion with a larger selection of displaced households in the highlands suggests that the Project has unintentionally contributed to vulnerability as a result of compensation payments. A number of women indicated that their husbands, as well as many other displaced women's husbands, used compensation payments to acquire another "wife" and, in most cases, abandoned their families. Some of these women reportedly return to their families and some have done well on their own, while others have no support

system. The Project is aware of the latter group and is working to provide special assistance. It is not clear to the IESC, however, whether all of these cases have been identified and their conditions understood. In the event there is not a complete assessment, one should be undertaken as part of M&E household surveys and the results shared with the IESC. Additionally, the IESC recommends that the focus of additional assistance be on livelihood restoration.

5.3.3 Recommendations

1. Implement new monitoring and evaluation process. First report should be available to the IESC prior to the IESC's next visit (October 2013).
2. Assess standard of living using only a few of the most pertinent and objectively verifiable indicators (as is indicated in the outcome evaluation process example provided by the IESC).
3. Notify the IESC of the results of top up payment process – type of payments and when process completed.
4. Finalize provision of water access to physically displaced households.
5. Identify, assess and share findings with IESC on extent of displaced female head of household vulnerability caused by husband abandonment. Consider additional or specialized livelihood restoration measures for abandoned displaced females.

5.4 RESETTLEMENT INDEPENDENT ADVOCATE

5.4.1 Project Strategy

EHL has retained the Environmental Law Centre to act as an independent advocate on behalf of displaced people and to ensure displaced people are fully informed about the resettlement process as well as their rights and obligations. The ELC team includes a former Chief Commissioner of the Land Titles Commission and a former magistrate highly experienced in complex land cases. Both these team members are actively involved in PNG LNG field work.

5.4.2 Observations

The IESC met formally and informally in the field with two members of the ELC (both of whom are lawyers) as part of its June/June 2013 review. Matters discussed with ELC included the following:

- Compensation process: process is better now that payments are made over a shorter period of time;
- Witnessing of agreements and compensation payments: Coordination for their witnessing has been poor lately;
- Rations distribution: difficulty of delivering rations because people move around frequently. Cash is probably a better option;
- Vulnerable people: ELC has not been involved by the Project in consultations with vulnerable people and need to be involved to conduct independent assessments of vulnerability and of the support measures the Project provides; and
- Combined process for IPCA and resettlement agreements: reiterated the importance of this approach toward ensuring that affected people fully understand their rights and the various forms of compensation.

5.4.3 Recommendation

1. Develop schedule with the ELC for consultation with and assessment of vulnerable people.
2. Improve coordination with ECL for witnessing of agreements and compensation payments.
3. Ensure that consultation for IPCA and land access and resettlement are done concurrently for all future displacement.

5.5 LIVELIHOOD RESTORATION

5.5.1 Project Strategy

The livelihood restoration strategy is described in the RPF and component-specific RAPs. Key elements of the strategy include:

- Delivery of weekly food rations or cash equivalent to ensure household food sufficiency for a nominal nine month or six-month period, in the case of linear routes, while food gardens are re-established;
- Agricultural extension services, a tool package and supply of pathogen-free sweet potatoes to facilitate re-establishment of food gardens and food sufficiency;
- Technical assistance to help resettlers to develop cash earning activities and enterprises; and
- Provision of Compensation Advisor to assist and to advise on compensation investment and business options.

5.5.2 Observations

5.5.2.1 Implementation

The Social Impacts team within L&CA is responsible for implementation of livelihood restoration (LR) activities, as well as community development support activities. As noted in the last IESC report, this arrangement makes sense as many of the activities are similar, as long as the Project continues to be aware (into the Production phase) that livelihood restoration for economically displaced households is a "legal" obligation under the agreements with the Lenders and, as such, needs to be:

- Implemented within a reasonable period of time; and
- Systematically monitored and outcomes evaluated and reported separately from the results of wider community support program.

5.5.2.2 Findings to Date

Recent findings from the Project's existing M&E effort indicate the following:

- Incremental growth in size of sweet potato gardens in the five displacement areas (except for the Spoil Dump area around in Hides where in-migration has put pressure on sweet potato supply);
- Food security and nutrition have improved for 75% overall, remained the same for 14 % of households, and declined for 11% of households;
- Multi-cropping and backyard gardens and nutrition training have increased the nutritional value of meals;
- Personal Viability Training (PVT) appears to have had a positive impact on living conditions; and
- Training in financial literacy has had a positive effect on the living conditions of 67% of households.

Livelihood restoration outcomes will be more systematically evaluated and the need for any corrective actions identified by the revised Outcome Evaluation process.

5.5.2.3 Field Observations

While not a systematic assessment, the IESC's overall observations of the LR program are positive. The livelihoods of the people visited are all land based, with the exception of the displaced women participating in the women's groups. Nearly all persons visited indicated they are pleased with the Project's assistance to restore their livelihoods and that they have been able to enhance productivity and diversify crops, as well as expand animal husbandry activities. As a result, they have increased the amount of food available for household consumption, as well as are earning income from sales. Cash income, however, tends not to be reinvested in livelihoods, but instead used to pay for housing improvements and education and health care costs, which people regard as a longer term investment. This is understandable in the short term, but the IESC recommends that follow up training to reinforce money management skills and the importance of reinvestment in income generating activities be provided to economically displaced households and to women's groups.

The Women's groups visited all have relatively large numbers of displaced females in their membership. The exact contribution group activities have had on displaced household livelihoods has not yet been assessed. The groups, as a whole, emphasized the positive results from the food processing and nutrition program supported by the Project. Presentations by Women's group leaders, discussions with group members, and interviews with several of the displaced women indicate that they are very pleased with the program. They have improved nutrition and hygiene at home, thereby improving health conditions. The majority of participants now earn income from the sales of cakes and muffins and they are saving money for the first time (a few enough to build houses or purchase a vehicle). As a result, males are giving them status for the first time. As one woman replied to the question "what is the best thing you get from this program?" - "Before we were nobodies, but now we get respect from our husbands" – and all the women applauded.

The women's groups noted that there has recently been a downturn in sales as workers are demobilized and, as a result, they are short of funds to purchase baking materials. The IESC observes that it is now time for the Groups to move beyond production of cakes and muffins to items or services that are more broadly needed by the community. Additionally, members may need to reinvest more of their income in group activities. The IESC finds these groups to be a useful way to increase household self-reliance for both displaced households and the larger community and to empower women, thus it recommends that the Project consider further organizational and financial support to expand group activities. The women expressed an interest in, for example, animal husbandry and fishing farming.

5.5.3 Recommendations

1. The following requirements for LR versus community support measures are noted:
   - Set a time limit for completion;
   - Systematically monitor progress/outputs and evaluate outcomes of LR measures; and
   - Report results of outcome evaluation for displaced persons separately from the results of wider community support program participants.
2. Follow up training, particularly for female agriculturalists and women's groups, in money management and the importance of reinvestment in income generating activities (seeds, trees, animals, tools, etc.).
3. Consider providing additional money management and cash oriented livelihood training (e.g., animal husbandry) in areas with large numbers of displaced households and demobilized workers (such as Hides and Komo).

5.6 COMMUNITY IMPACTS MANAGEMENT

5.6.1 Project Strategy

Project commitments related to community impacts management are contained in the Community Impacts Management Plan and the Community Health and Safety Management Plan. Some key provisions of these plans are as follows:

- *"where practicable minimize routing construction traffic through villages, past schools camps close to project sites";*
- *"limit pedestrian interaction with construction vehicles, etc.)…";*
- *"collaboration with local communities and responsible authorities…to improve signage, visibility and overall safety of roads, particularly along stretches located near schools or other locations where children may be present";*
- *"collaboration with local communities on education about traffic and pedestrian safety (e.g. school education campaigns)";*
- *"employing safe traffic control measures, including road signs and flag persons to warn of dangerous conditions."*

Community safety is defined in terms of community awareness programs, as well as work protocols designed to minimize potential community impacts. Procedures are defined in the Community Health and Safety Management Plan and the Community Health, Safety and Security Management Plan in terms of defining procedures for community interaction in terms such as community awareness programs. In terms of defining Project procedures to protect the public is the Journey and Traffic Management Procedure, which defines the procedures for managing truck traffic.

5.6.2 Observations

The IESC had two principal 'community impacts' observations arising from the June/July 2013 visit are ongoing water accessibility and the potential impact of demobilization on communities.

5.6.2.1 Water Accessibility

The IESC heard complaints about the difficulty of accessing water in the Highlands from nearly every person and group it consulted during this visit. Only a few persons mentioned poor quality water. The construction phase with the greatest impact on water quality is nearly over and the Project continues to monitor water impacts. Water availability, however, is a genuine problem in the Highlands, particularly for the women and children who carry water from long distances and often up and down steep slopes. This time-consuming and often arduous task will have an impact of households' ability to become economically self-reliant - which is the goal of the Community Development Support program. The IESC, thus, reiterates the recommendation made in the October 2012 IESC report that the Project sponsors a water availability study as part of the Community Development Support re-planning effort.

5.6.2.2 Demobilization Impacts on Community

The inclination of males to take out frustrations on women may be intensified by demobilization, thus undermining improvements that have occurred in community security. Males may feel threatened because they no longer earning income and are reduced to farming, while many women are earning money and have raised their status in the community as a result. Male income loss eventually could be replaced by benefit streams resulting from the Project (in the form of royalties, equity dividends, etc) and to some extent by employment for social programs, such as construction of schools. In the interim, the IESC strongly suggests that the Project monitor community reactions and responses to demobilization, particularly in the areas to which large numbers of demobilized workers will return. This monitoring could be done in collaboration with community groups, such as the former CICs and women's groups. The KAIC (Committee replacing the Komo CIC), for example, intends to focus on demobilization in the near term.

5.6.2.3 Komo Airfield Periphery Road Update

Road construction has recommenced following an extended delay caused by a variety of factors, including difficulty of accessing materials, contractor (KUJV) management, landowner compensation claims, and poor weather. These issues have now been largely resolved following additional support from the Project. The 4x4 track section is scheduled to be completed by the end of July. L&CA and Business Development continue to monitor progress on a weekly basis.

5.6.3 Recommendations

1. Project should sponsor a water availability study to:
   - Assess progress of replacement water supply;
   - Assess household needs (usage);
   - Develop a strategy to address any shortfall as part of CDS, (but with third party implementer, such as the potential for Lanco/s to locally supply/ sell water tanks;
   - Identify a partner (UNICEF, World Bank, etc.) for co-funding and possibly for implementation; and
   - Monitor results.
2. Monitor community reactions and responses as demobilization occurs and for a reasonable period afterward.

5.7 COMMUNITY SECURITY

5.7.1 Project Strategy

The Project's security strategy insofar as it pertains to project social performance is described in the EHL Community Health Safety and Security Management Plan. The Operator also has a Project Security Management Plan, although the latter document is outside the scope of the IESC review. Key tenets of the Project security strategy include the following:

- The philosophy underpinning Project security is 'community partnerships';
- Security works closely with L&CA which is responsible for frontline community liaison and interaction;
- The Project is committed to adherence to the Voluntary Principles for Security and Human Rights;
- There are no armed private security personnel on the PNG LNG Project and there are no plans for such deployment;
- If any armed support is deemed necessary, such support will be provided by the PNG government through the police;
- EPC Contractors are responsible for providing their own security at their particular sites of responsibility in accordance with ExxonMobil standards, as reflected in the above Framework, and under the guidance of the ExxonMobil security team; and
- EPC Contractors may not directly communicate with the Royal Papua New Guinea Constabulary (RPNGC).

5.7.2 Observations

As noted in the last IESC report, the Project is now working in some of the most insecure areas characterized by tribal fights, such as the Homa-Paua and Angore areas. Nonetheless, peace and order, at least temporarily, have improved in the communities near Project facilities. Improved conditions are likely the result of engagement by Project consultation and resettlement teams, the presence of the Project's security force (HGSF) and people's use of income from Project work and compensation payments to pay debts owed for events such as causing deaths or bride price. Demobilization is likely to have some adverse impact on safety and security conditions. See Section 5.6.3 for demobilization recommendation.

5.7.3 Recommendations

1. None arising from the present review.

5.8 PROJECT INDUCED IN-MIGRATION

5.8.1 Project Strategy

The Community Support Strategy gives the following examples of potential adverse environmental, social and community health impacts from in-migration:

- Increased pressure on basic infrastructure and services of host communities;
- Increased competition for training and employment;
- Increased crime and violence in host communities;
- Increased prostitution and substance abuse;
- Health issues and problems with STI (sexually transmitted infections) and other diseases;
- Pregnancies outside of established relationships;
- Alcohol abuse and domestic violence;
- Ethnic tension;
- Erosion of cultural institutions; and
- Increased environmental degradation.

The CSS commitment was to undertake an in-migration risk assessment and an assessment of associated environmental and social impacts.

The Project also made the following commitment in the Labor and Working Conditions Management Plan:

"The Project shall discourage in-migration of persons in search of employment opportunities. As a minimum:

- *implement and publicize the recruitment procedure which gives preference to local applicants;*
- *recruit through Lancos who know all the persons living in their local area;*
- *communicate to the community the recruitment procedure which requires applicant's place of origin to be identified;*
- *communicate to the community sufficiently specific job descriptions so those without the necessary skills are less likely to apply; and*
- *actively assess, via monitoring or other means, in-migration to determine extent and relationships with workforce. If a positive relationship is evident, review hiring arrangements (e.g., worker rotations) or other measures that may act as disincentives to worker families who might otherwise move to the work location (ID 23.027)."*

5.8.2 Observations

The Project has been gathering information on in-migration from Hides-Komo, Gobe/Moro/Kutubu-Moran, Kopi-Kikori, and the LNG Plant site. Information has come largely from local leaders, local government, focus group discussions, observation, etc. The Project is developing a more systematic monitoring tool using selected indicators to assess in-migration and its impacts. The iDHSS data can provide much of the data that will be needed. The Project lists "key next steps" for in-migration assessment as:

- Quarterly aerial photography (Brisbane GIS Office) on a monthly basis for the plant site, quarterly for the plant site and the surrounding four villages, and on an ad hoc basis for upstream areas;
- Focus on monitoring key indicators on a quarterly basis (sickness, use of health facilities, schools, retention of teachers, student enrolments, commodity prices, water, housing rental, and population);
- Train L&CA Teams on the use of monitoring tool;
- At Plant Site - through CDS's work with village committees;
- Monitor and observe influx along key hot-spots along the ROW;
- Incorporate PIIMs questionnaires into PNG IMR tools and harmonize PIIM data access mechanism/ system for triangulation purposes;
- Continue interface with District & Provincial Administration and other stakeholders interested on influx control mechanisms; and
- Awareness and education with local host communities through monitoring and stakeholder engagement programs.

The review of iDHSS data should identify the data needed to create a database specifically for in-migration assessment purposes. This database needs to be developed and assessments begun very soon in order for the Project to distinguish between conditions related to Project construction and post-construction conditions, particularly in view of the potential for the Government to take over the "project' road/bridges following construction which would distort construction impact. The IESC would like to see this system fully developed and implementation begun prior to the next IESC visit (October 2013).

5.8.3 Recommendations

1. Develop PIIM database (including relevant data from iDHSS) and begin systematic in-migration assessment process, preferably prior to next IESC visit (October 2013).

5.9 PROCUREMENT AND SUPPLY MANAGEMENT

5.9.1 Project Strategy

The Project strategy is described in the Procurement and Supply Management Plan. The plan states that division of responsibility between EHL and its contractors (and its subcontractors) is either stated in the Procurement and Supply Management Plan or will be defined in Contractor Implementation Plans to be prepared by the contractors.

Objectives with respect to procurement and supply are stated as follows:

- Maximize project procurement from local suppliers and economic benefits for local businesses;
- Improve capacity and skills of local business to capture business opportunities associated with the project both locally and nationally; and
- Ensure that Project environmental and social standards and commitments are adequately communicated by the contractor to its subcontractors and suppliers and included in their contractual arrangements.

5.9.2 Observations

5.9.2.1 Contractor Performance IFC PS2 on Harmful Child and Forced Labor

The IESC met with the LABA Holdings COO (the umbrella Lanco for recruitment and procurement), the CJJV External Affairs Manager and the Camp Manager and Senior Management (at the LNG Plant site), as well as six members of the plant site construction workforce (three PNG nationals and three OCNs). The current focus is on demobilization for which plans have been developed.

The IESC report of October 2012 recommended that the project build "specifics into IBBM's assessment criteria of new PNG suppliers to the Project" that would more concretely verify that *new* suppliers will not engage in child labor or forced labor, particularly the more subtle forms of forced labor. In terms of child labor, contractors and EHL Human Resources departments require age verification according to PNG law. In terms of the more subtle forms of forced labor, ID papers are kept for safety purposes, but workers have copies and may access the originals at any time. Going forward into Production, the Project's local contractors and suppliers should be asked to provide evidence that they comply with IFC PS2 on all forms of harmful child or forced labor. This issue was an observation and is now closed.

5.9.3 Recommendations

1. Consider including in assessment and requirements for bids and contracts with all Production suppliers (vendors and contractors) evidence of compliance to PS2, and specifically in relationship to all forms of harmful child labor or forced labor.

5.10 COMMUNITY SUPPORT STRATEGY

5.10.1 Project Strategy

Project commitments related to community development support are described in the Community Support Strategy (CSS).

The overriding objective of the CSS is stated as to promote the development of conditions conducive to enhancing the livelihoods of PNG communities, thereby fostering the development and maintenance of stable operating conditions for the Project. From a compliance perspective, the objective is to meet local regulatory requirements and IFC PS7. Associated requirements for the project are expressed as follows:

- Engage in effective, transparent and culturally appropriate community consultation;
- Build trust between the Project, community members and other stakeholders;
- Manage community expectations;
- Develop appropriate capacity with community development skills and experience;
- Mobilize core competencies to support the facilitation of community development support;
- Set measurable goals and progress reporting;
- Forge strategic partnerships; and
- Maximize sustainability to extend impacts beyond the project involvement.

The Community Development Support Plan (CDSP) identified the following objectives:

- Avoid or reduce the risk of adverse social impacts on PNG communities during Project construction and production; and
- Provide opportunities for sustainable development benefits in a culturally appropriate manner.

The implementation outcomes defined for the CDSP were that it would mitigate business risk as well as contribute to improvements in:

- The ability of communities affected by the Project to anticipate, understand and deal with potential harmful effects;
- The ability of communities to take advantage of positive opportunities afforded by the Project, including increased local economic activity; and
- Self-reliant livelihoods.

5.10.2 Observations

5.10.2.1 Review and Revision of Community Support Strategy and Plan

The independent mid-term review of the Community Development Support program (CDSP) was undertaken in May 2013 by two development specialists through URS Limited. The draft review, received in mid-June 2013, has been commented on by the Project and will be finalized by mid-July. The IESC looks forward to the final review and its recommendations.

The review's general observations include:

- A geographic, rather than thematic, strategy for the Production phase to allow consideration of each area's opportunities and conditions;
- Strategic partnerships with a focus on capacity building, along with delivery of joint objectives; and
- Critical design considerations (M&E Framework and resources).

EHL also has started discussions with Government to utilize a portion of the Benefit Sharing funds for community support projects, possibly establishing a Project Unit for project management. IESC's preliminary observations on the community support strategy for the Production phase are discussed below.

Much of the CDS program will be implemented during the Production phase. The CDSMP for the Production phase indicates that L&CA will be the "primary interface between EHL and host communities" and will be responsible for "on-going awareness and information," as well as "developing and maintaining mutually respectful, long-term, and transparent relationships with community representatives in a culturally appropriate manner." In keeping with the requirements under PS7, these activities should include consultation with communities that involves them in decision-making on the types of program CDS will include and on the delivery methods that will be utilized. The IESC suggests that a similar method of working with communities through a version of the construction phase CICs (such as the new Komo KAIC) would provide continuity. This strategy should be assessed to determine whether these committees were useful during the construction phase and are in fact representative of and valued by the communities. In the event that "CICs" are utilized for this purpose, a senior EHL manager should be assigned as a representative.

The IESC makes the following observations based on discussions with community support and livelihood restoration staff, as well as women's groups, Chiefs (Hides), the KAIC (formerly Komo CIC), and community members in both the Highlands and LNG plant communities.

The overall objective of creating an environment conducive to enhancing self-reliant livelihoods represents the over-arching *goal* of the Program. Economic independence has been shown to be the keystone to helping people take control of their larger circumstances and futures, including developing more productive relationships with each other and government. Establishing economic self-reliance as the goal will facilitate selection of suitable indicators for program level evaluation.

A well targeted and defined small business development program should be an important component of the CDS program. The program should include a micro-credit component as people lack start-up funds. Business training should include sufficient follow-up training.

Even small contributions can have dramatic effects, such as the fish market and bridge connecting Lea Lea near the LNG Plant to the main road. The bridge allows community members, particularly women who manage the fish market on the road and can now sell produce along the road.

The need for centralized markets was mentioned frequently, particularly by highland women living away from well traveled roads. The Project should assess the need for and potential use of markets in communities around Project facilities as part of the CDS re-planning. The assessment should also look at the utilization and operations strategies of other centralized markets in the highlands because market developments sometimes fail because people do not understand they will pay for market use and market management can be time consuming. Selection of market locations would need to consider clan conflict potential.

Women's groups can play an important role in motivating the self-reliance of both group members and their larger communities. The IESC believes that the business skills acquired increase the ability to work productively with members of other clans and, perhaps most importantly, the empowerment and status received from males give the women's groups the potential to stimulate fundamental social changes. The Project can capitalize on these strengths by involving the women's groups in CDS planning, implementation and for motivating other community members, including males, to actively participate in CDS programs. The Project should consider a special gender assessment that looks at perceptions of the Women's Group by the larger communities and identifies risk management measures to prevent backlash.

5.10.3 Recommendations

1. Use an evaluation process to measure CDS achievement of program goal (livelihood self-sufficiency) that is similar to the process recommended for measuring the livelihood restoration outcomes of displaced households. Assess need for and potential use of centralized markets in project facilities areas, considering also the current utilization and operations strategies of other centralized markets in the highlands.
2. CDS should include consultation with communities that involves them in decision-making on the types of program CDS will include and on the delivery methods that will be utilized. The Project should assess the effectiveness of CIC's as representatives of communities during construction and the value placed on them by communities to determine whether CICs (or a version thereof) are vehicle for community engagement. In the event that "CICs" are utilized for this purpose, a senior EHL manager should be assigned as a representative.
3. Assess need for and potential use of centralized markets in project facilities areas, considering also the current utilization and operations strategies of other centralized markets in the highlands.
4. Ensure that small business development includes some kind of "micro-credit" and follow up business training, as is currently underway by the LNG plant site's business development program.
5. Consider a gender assessment that looks at the larger community perception of women's groups and identifies risk management measures to prevent backlash from males.

5.11 STAKEHOLDER ENGAGEMENT AND CONSULTATION

5.11.1 Project Strategy

Project commitments with respect to stakeholder engagement are contained in the Company Stakeholder Engagement Plan and the Community Engagement Management Plan. The Project's stakeholder engagement goals as expressed in that plan are as follows:

- Achieving the Project objectives while respecting the needs and issues of stakeholders as they relate to potential project impacts;
- Developing and maintaining constructive relationship with stakeholders, striving for mutual understanding, respect and collaboration; and
- Establishing and maintaining coordinated, internal processes for stakeholder engagement and issues management.

The stakeholder engagement goals above are based on a guided by the following principles:

- Providing clear, factual and accurate information in an open and transparent manner on an ongoing basis to stakeholders through free, prior and informed consultation;
- Providing sufficient opportunity to stakeholders to raise issues, to make suggestions and to voice their concerns and expectations with regard to the Project;
- Providing stakeholders with feedback on how their contributions were considered;

- Building capacity amongst stakeholders so as to enhance their ability to interpret the information provided to them;
- Treating all stakeholders with respect, and ensuring that all company personnel and contractors that have contact with stakeholders do the same;
- Responding to grievances and requests for permission in a timely manner; and
- Building constructive relationships with identified key and influential stakeholders through personal contact.

5.11.2 Observations

Regular community engagement continues, and is now addressing demobilization issues. Following the Demobilization Planning & Implementation Guidelines, activities include:

- Developing messages and communication plan with communities and government with milestones and timelines (EHL and EPC CA Teams);
- Informing communities and community leaders of demobilization plans (EHL and EPC CA's Teams);
- Informing local, provincial, and national governments of demobilization plans (EHL); and
- Preparing media statements and press releases.

For example, a series of demobilization workshops have been conducted at the LNG Plant site and in Komo.

5.11.3 Recommendations

None arising from the present review.

5.12 GRIEVANCE MANAGEMENT

5.12.1 Project Strategy

The Project's third-party grievance procedure is described in Section 10 of the Stakeholder Engagement Plan. Grievance numbers form part of the KPIs for the following management plans:

- Community Impacts Management Plan;
- Community Infrastructure Management Plan; and
- Camp Management Plan.

Lender performance standards for grievance management are defined in IFC PS1, paras. 23 and 26: IFC PS4, para. 13; IFC PS5, para. 10: and IFC PS7, para. 9.

5.12.2 Observations

The grievance management system continues to function well, with a monthly closure rate as of May 2013 of 88 % and an annualized rate of 78%. At the beginning of the Quarter 2 2013, 15 grievances were open and 115 new grievances were filed during the quarter. By the end of the June, only 11 grievances remained open. The Project attributes its ability to close grievances quickly to an effective grievance management process, regular stakeholder engagement on common grievances and the grievance process, careful analysis of grievances and their causes, and the generally improved relationships between the Project and neighboring communities.

5.12.3 Recommendations

None arising from the present review.

6 LABOR AND HUMAN RESOURCES

6.1 INTRODUCTION

6.1.1 Scope of Labor Review for this Site Visit

Labor and human resources procedures and processes have been in place and reviewed previously by the IESC, and non-conformances resolved. Construction is ramping down, thus IESC focused largely during this visit on demobilization processes and Production management planning. The IESC review included the following activities:

Presentations by and discussions with EHL Contractor Compliance and Interface Leads, COO of LABA Holdings Limited, CJJV External Affairs Director, and the LNG Camp Manager; a selection of LNG plant workforce, and review of demobilization planning guidelines.

6.1.2 Waiver

The IESC review provides a "snapshot" of the PNG LNG Project's state of conformance with the commitments and standards defined in the Applicable Lender Environmental and Social Standards. Also, the effectiveness of our review remains dependent on the accuracy of information provided by people. As such, the review does not purport to be a fully comprehensive evaluation of conformance.

6.2 LABOR AND WORKING CONDITIONS

6.2.1 Project Strategy

Project commitments are defined in the Labor and Worker Conditions Management Plan. Key objectives of the strategy are as follows:

- Maximize work opportunities of PNG citizens during construction of the Project;
- Recruit workers in accordance with the geographic priorities determined by the Project and in particular, give first priority for employment to PNG citizens originating from within the Project impact area;
- Enhance PNG citizens' skills base through training provided during employment;
- Implement an equitable and transparent recruitment process; and
- Provide fair terms and conditions of employment and comply with relevant laws.

In the Management Plan these objectives are described in detail in Table 1: Management and Monitoring and are clearly benchmarked in Attachment 1: Legal and other Requirements. The IESC therefore wants to make note of the fact that our observations are also based on the requirements of Attachment 1 and, specifically, PNG labor legislation and IFC PS2, which in turn is underpinned by the ILO Core Labor Standards.

The Project's provisions for gender-related topics are covered in the following management plans:

- The Labor and Workers Conditions Management Plan (Mitigations 23.026 and 23.034); and
- The Camp Management Plan (Mitigations 24.027 and 24.029).

Relevant mitigation measures are not specific to gender but are included as part of the overarching requirements for equal opportunity and non-discrimination. Gender would also be covered under PS2, Labor and Working Conditions.

6.2.2 Observations

6.2.2.1 Workforce Conditions

The IESC has reviewed labor procedures, processes, and conditions during past reviews. Based on the information provided during this visits, no new issues have arisen and previous recommendations have been addressed. The institution of National Workforce Committees, with delegates from contractors and sub-contractors, has become a useful means for EHL to anticipate and understand workforce issues. As a result, there has been a decline in issues and in absenteeism.

6.2.2.2 Production Planning

The IESC is involved in review of the Labor and Human Resources Plan for the Production phase.

6.2.2.3 Demobilization

Contractor demobilization plans are fully coordinated with EHL demobilisation staff and follow a detailed Demobilization Planning and Implementation Guideline. The IESC considers key features of these plans particularly valuable, for example, staggering departures, demobilizing OCNs along with Nationals, providing community awareness engagement and demobilization preparedness for the local workforce, and remobilizing Nationals to the greatest extent possible (with emphasis on workers from affected communities) to Project or external jobs.

All demobilization activities will be preceded by a comprehensive worker awareness campaign, including training of field supervisors on the key points and responses to demobilization questions. Community engagement on demobilization is also conducted. Lessons learned from the Komo airfield demobilization are being carefully considered for future demobilization exercises.

The three PNG workers with whom the IESC spoke indicated they did not understand the demobilization process and did not remember seeing the notification included in their pay packages. This is too small a sample to support an opinion, except to say that EHL needs to ensure its contractors are providing continuous and consistent communications to workers regarding demobilization and should use random checks, possibly in tool box meetings, to ensure the information is understood.

6.2.2.4 Gender in the Workforce

The appointment of female "women's champions/confidants," the health/hygiene and nutrition training for female employees and separate women's grievance system seem to have greatly improved treatment of women's complaints and comfort. A sample of women's grievances shows that the majority concern personal issues, such as female health problems and male physical aggression at home, thus are difficult for women to put in writing or discuss with a male. The IESC recommends that these measures, as well as psychological counseling services, be provided to female employees during the Production phase.

6.2.3 Recommendations

1. Ensure that contractors and sub-contractors are providing adequate and appropriate information on demobilization to workers that that the information is understood.
2. Female champions/confidants, health/hygiene and nutrition, and separate grievance system, as well as psychological counseling services, should be provided to female employees in the Production phase.

6.3 CAMP MANAGEMENT

6.3.1 Project Strategy

The Project's commitments for camp management are contained in the Camp Management Plan, the Labor and Workers Conditions Management Plan, the Minimum Health Requirements for Project Execution, and the Health Inspection Guidelines. The primary objectives of the Camp Management Plan are:

- To avoid or reduce negative impacts on the community and maintain constructive relationships between local communities and workers' camps; and
- Establish standards on worker welfare and living conditions at the camps that provide a healthy, safe and comfortable environment.

The Labor and Working Conditions Management Plan also contains some mitigation measures on living conditions (e.g., Mitigations 23.020 and 23.021). The two health-related documents contain some specific requirements for food sanitation, sanitation of living areas and laundry practices and procedures in addition to Project-wide requirements for public health and occupational health and safety at large.

6.3.2 Observations

The IESC focused on the LNG camp. The weekly meetings of management with worker representatives that identifies, prioritizes, and resolves the most important issues quickly has resulted in a significant decline in complaints. The new Camp Compliance officer has initiated a number of other measures to improve the camp, including a "star of the week" award system and a "hot line" for complaints regarding laundry, maintenance, etc. All of these measures have been well received and absenteeism has significantly decreased.

6.3.3 Recommendations

None from the present review.

7 HEALTH AND SAFETY

The PNG LNG Project has a well-developed program to manage both occupational health and safety of workers, as well as a community health and safety program. The Health Group focuses on both worker and community health issues, whereas the Safety Group focuses primarily on occupational safety of workers. Community Safety is managed primarily through the L&CA organization and has been treated in Section 5.2.

At this stage of the Project it is significant to point out up front the maturity and effectiveness of the overall H&S system. The Project has achieved a total of over 140 million work-hours since the beginning of construction with over 55 million hours LTI-free since September 2012, which is an ExxonMobil Development Corporation Global Project Record. The IESC has never seen this level of performance within our group experience.

7.1 COMMUNITY AND WORKER HEALTH

7.1.1 Project Strategy

Project health commitments are defined in the Community Health and Safety Management Plan (implemented via Contractor Implementation Plans) and the EHL Community Health, Safety and Security Management Plan and the Community Impact Management Plan (implemented via Contractor Implementation Plans). Health planning specifically for worker health is defined in the Project Health Plan. The overriding objective is to avoid or reduce risks to and impacts on community health during the project life cycle from both routine and non-routine circumstances (see also Section 5.2).

7.1.2 Observations

The Project health program is organized into both occupational health as specified in a Project Health Plan and into community health within the requirements of the Community Health & Safety Management Plan. These plans are well developed and appropriate for a Project of the scope of PNG LNG.

Community Health

The community health program is ongoing and effective. EHL's Community Health Impact Management Program (CHIMP) was audited in June 2013 by an Independent Scientific Advisory Board (ISAB) comprised of four health professionals, all with expertise in tropical infectious disease and individually having international recognition for research conducted in their field of expertise. Their basic findings can be summarized from the following quotation:

"The review team considers the CHIMP to be continuing well on track with many important results already obtained and now being disseminated with programme and policy makers. The ISAB congratulates the teams involved for effectively combining research and research-grounded service provision e.g. water and sanitation activities, as well as direct public health action e.g. surveillance and response for febrile illnesses with PNG-LNG, provincial government and national Government."

IESC considers this to be sound evidence as to the effectiveness of Project's community health program.

An issue with the program identified in the last IESC report as a non-conformance was the lack of availability of the general Project to the demographic data from the Integrated Health and Demographic Surveillance System (iHDSS) baseline surveys. The Project is now receiving reports (each March and September). Project H&S management, along with an ISAB member, met with Government to demonstrate the importance of the iHDSS data, and have had a round table with various international aid agencies. Similar workshops to promote use of these data in Government health are planned. This issue has been resolved and the non-conformance has been closed

Water management has been a community health issue for the past several site visits and is still an issue. This issue and the Project's activities to this regard are discussed in Section 5.6 and not repeated here.

Worker Health

Occupational health continues to be a "best" practice program and has achieved several milestones. Improved diagnostics for TB have helped to identify and manage the disease with the result that there have been no in-camp transmissions to date. Diagnostic improvements and external controls have allowed for a significant reduction in malaria cases over the past year. Diagnostic testing for dengue is now the best available in PNG. One of the positive aspects of the Project health program is with respect to the

management of infectious diseases, both to prevent spread through workers, but also to prevent the spread of disease to outside communities. An indicator of the effectiveness of the overall effectiveness of the occupational health system has been the containment of four outbreaks of chicken pox, which probably originated from workers arriving from outside PNG, and which could have had serious consequences to local populations had the disease spread outside the camps. In all cases, workers were quarantined and the disease did not spread. The Project is also alert to new diseases that could be introduced from outside the fence. In particular, Chikungunya, another mosquito borne disease that originated in Africa, has been recently reported to be present in PNG and the Project is well aware of the need to be alert as to its presence.

Internal compliance audits show improvement in all health programs (i.e., industrial hygiene compliance from 72% in 2011 to 97% in Q2 2013). The indicators for malaria, TB control, food safety, water safety, vector control, camp hygiene, clinical operations and health audits are all above Project targets. The Health team is involved in transition planning by assisting contractors during the demobilization process in terms of managing leftover medicine and equipment as the anticipation is that the number of clinics will be reduced from 15 clinics to three – one in POM, one in Hides and one at the LNG Plant site. Similar services will be provided, but at a much smaller scale.

7.2 WORKER SAFETY

7.2.1 Project Strategy

Safety is embedded in all aspects of EHL's operations with worker safety requirements defined in the Project Safety Plan. This Plan describes appropriate work procedures with the following main objectives:

- Defines safety objectives, desired behaviors, and desired performance targets;
- Defines strategic approach for managing the safety discipline according to the established Project Execution Plans and Contracting Strategies;
- Describes key safety processes and safety improvement initiatives to be implemented by the Project Teams (e.g. safety leadership, site safety categorization, leading indicators, safety governance model, incident management);
- Describes safety staffing plans for the Project Teams; and
- Defines macro safety roles and responsibilities for members of Project Teams, and describes macro interfaces between the Project Teams, EHL, EMDC Functions, and Contractors.

The overall worker safety requirements and safeguards are comprehensive and consistent with a Project of the scope of PNG LNG.

7.2.2 Observations

Worker Safety is also a "best" practice program and worker safety continues to be a primary focus of EHL and the EPC Contractors. Safety statistics presented by EHL show a continuing decrease in the Total Recordable Incident Rate (TRIR). In March 2012 this rate was 0.46 for the entire Project; in October 2012 this rate was further reduced to 0.39; in June 2013 it is currently 0.33. The Lost Time Incident Rate (LTIR) has also continued to decrease and is currently 0.02. As noted in the introduction to this Chapter, the Project has achieved a total of over 140 million work-hours since the beginning of construction with over 55 million hours LTI-free since September 2012, which is an ExxonMobil Development Corporation Global Project Record. One of the reasons for the low LTI rate has been the introduction of the Safety Champions program with approximately 1,300 trained to date. There have been no Project fatalities since the October 2012 site visit, but there were two separate fatalities to third parties. These are described in detail in the PNG LNG Quarterly Environmental and Social Report, First Quarter 2013 and are not repeated here.

8 CULTURAL HERITAGE

8.1 PROJECT STRATEGY

Cultural heritage refers to tangible forms of cultural heritage, such as tangible property and sites having archaeological (prehistoric), paleontological, historical, cultural, artistic, and religious values, as well as unique natural environmental features that embody cultural values, such as sacred groves. Intangible forms of culture, such as cultural knowledge, innovations and practices of communities embodying traditional lifestyles, are also included. The PNG LNG Project has a well-developed program to manage cultural heritage as defined in the CHMP that includes both Chance Finds and Salvage protocols.

The CHMP contains the following objectives:

- Avoid known cultural heritage sites (including both archaeological sites and oral tradition sites) where necessary and practicable; and
- Where avoidance is not possible, manage cultural heritage sites in consultation with PNG Government and landowners.

The CHMP requires pre-clearance surveys to identify cultural heritage (archaeological and oral tradition) sites and includes a requirement for community consultation regarding the management of cultural heritage sites and preparation of any protocols required for ongoing consultation with community representatives. The CHMP also requires the monitoring of performance of cultural heritage activities and maintaining records that pre-clearance surveys were undertaken and site-specific cultural heritage plans were developed; participation in the cultural awareness workshop and training program; consultation with relevant stakeholders; grievances; site inspections to restricted areas; engagement of appropriate cultural heritage professionals; and documentation of actions taken to manage chance finds. The Chance Finds Protocol portion of the CHMP defines procedures to be followed when unexpected cultural features are encountered during construction activities and also provides a Salvage Plan designed to provide guidance for reporting and excavating finds.

8.2 OBSERVATIONS

Cultural heritage is particularly important in PNG, as it is one of the most culturally rich and diverse countries in the world, wherein about 90 percent of the approximate six million people speak over 800 distinct languages, and live in their respective social structures in their cultural communities and generally rely on their environment to ensure their livelihood. The Project continues to demonstrate respect for this heritage.

Preconstruction surveys (PCSs) with identification of cultural finds are effectively complete. Chance finds are still being made at various locations, but the number is expected to decrease as the Project footprint is nearing its full extent. Monash University is close to finishing the analysis of the artifacts removed from the Hides area with a report expected to be issued in July 2013.

As the construction phase is nearing completion, a reminder needs to be made that some construction-related activities may extend into production, in particular as relates to the documentation aspects of the cultural heritage program. PS8 requires that "*the client will protect and support cultural heritage by undertaking internationally recognized practices for the protection, field-based study, and documentation of cultural heritage.*" The cultural heritage program does not end when the excavations are complete. The artifacts excavated need to be studied and the results disseminated to stakeholders and this is not an instantaneous process. In the case of the PNG LNG Project, the archaeological program has been extensive and some of the findings improve our knowledge of PNG history, in particular from the discoveries made at the site of the LNG plant. This information should be publicized and it is expected that EHL can only benefit from making this information available.

APPENDIX A

IESC 9TH MONITORING VISIT – TRIP SUMMARY

TRIP SUMMARY

***June 23**:*

IESC environmental and social team members G. De Franchi, W. Johnson, L. Johnson and K. Connor arrive in Port Moresby.

***June 24**:*

IESC Environmental and Social Team - Port Moresby:

- Opening sessions and presentations in POM for entire team (Construction progress, E&S resource organizations; MOCs, Access Control).

IESC Environmental: update via presentations on:

- Wastewater and waste management;
- Drilling;
- Quarantine management and weeds.

IESC Social: update via presentations and meetings on:

- Resettlement & Livelihood Restoration (including Monitoring);
- Community Development Support- Mid Term Review update;
- In-migration;
- Community Benefits Distribution;
- Grievances: Review of Grievance Log.

***June 25**:*

IESC Environmental and Social Team - Port Moresby. Update via presentations and meetings on:

- Update on Lake Kutubu and Water Quality Surveys (Dial-in Mark Pedersen – IESC Marine specialist);
- Early Operations ROW Management;
- Security update;
- Demobilization Strategy Update;
- Incidents and Non-conformances;
- Biodiversity update session;
- Occupational and Community Health sessions.

***June 26**:*

IESC Environmental and Social Team: Homa-Benaria.

- Chopper to Landfall and Kikori WMA, returning to Spiecapag Camp 6;
- Update presentation on EPC5A reinstatement;
- Reinstatement inspection south of Moro; drive to Kutubu MLV (KP 102), KP 108, KP 157;
- Spend night in Moro.

***June 27**:*

IESC Environmental and Social Team: Homa-Benaria

Chopper to Landfall and Kikori WMA, returning to Spiecapag Camp 6.

IESC Environmental Team:

- Drive Homa Benaria Ridge up to about KP 50;
- Drive back to Camp 6 - Inspection to WMA;
- Chopper to Nogoli and spend night in Juni.

IESC Social:

- Moro to Homa / Paua; Resettlement activities, visit womens' group and livelihood restoration activities;
- Drive back to Camp 6;
- Chopper to Nogoli and spend night in Juni.

***June 28**:*

IESC Environmental Team:

- Travel from Juni to HGCP;
- HGCP Site Inspection;
- Hides Ridge Inspection and visit to Well Pad C, G, E;
- Transit back to Juni and overnight.

IESC Social:

- Visit farm of Yorobi Uga and view pig breeding initiative, igloo green house, propagation activities;
- Visit Hides Women's Training Centre at Mabuli;
- Visit model vegetable garden group at Tokaju);
- Visit resettlement households, including vulnerables (Spoil dump area);
- Visit resettlement households (3-ways and Kopeanda);
- Transfer to Juni;
- Meeting with ELC;
- Overnight in Juni.

***June 29**:*

IESC Environmental:

- Travel from Juni to Komo;
- HWMA inspection;
- Komo Airport: update meetings, site inspection, North/South diversion, reinstatement ongoing;
- Transit back to Juni and overnight.

IESC Social Team:

- Transit – Juni to Angore;
- Visit Census and Survey team working in Angore region (including well pad access road);
- Transit to Komo;
- Meeting with re-settlers at Komo;
- Meeting with Community Issues Committee Komo;
- Meetings with a selection of workers (PNG nationals and OCNs);
- Transit back to Juni and overnight.

***June 30**:*

IESC Environmental and Social Team: Juni to POM via Tari.

- Drive Juni to Tari;
- Fly Tari to Port Moresby;
- ESMP document review period (for IESC);
- Overnight in Port Moresby.

***July 1**:*

IESC Environmental: LNG Site Visit.

- Transit to LNG Plant Site Induction and Inspection;
- Plant Site Induction and Inspection;
- Return to Port Moresby;
- ESMP document review period.
- Overnight in Port Moresby.

IESC Social:

- Drive to LNG Plant Site Induction;
- Meetings at Borea or Porebada or Papa;
- Meetings with EPC 3 staff responsible for HRM and Camp Management;
- Transfer to Port Moresby via Lea Lea village / Fish Market;
- Overnight in Port Moresby.

***July 2**:*

IESC Environmental and Social Team: meetings in Port Moresby.

- Non-conformance / Observations Discussion;
- Fisheries and Livelihood Restoration (Dial-in Mark Pedersen – IESC Marine specialist);
- ESMP discussion and progresses;
- Cultural Heritage update;
- Overnight in Port Moresby.

***July 3**:*

- IESC Environmental and Social Team: Close out preparation.
- Overnight in Port Moresby.

July 3:

- Closeout meeting in morning;
- IESC team departure.