



6 ENVIRONMENTAL, SOCIAL AND HEALTH MANAGEMENT PLAN

6.1 Introduction

Nigeria LNG has developed a comprehensive regime for the management of Health, Safety and Environmental and Social issues since its foundation in 1989. This management regime includes a range of company wide policies, management systems, controls and procedures. These have been drawn from Nigerian and international oil and gas industry experience with particular input from oil and gas company shareholders.

NLNG also adopts the generally accepted definition of Sustainable Development: 'meeting the needs of the present without compromising the ability of future generations to meet their own needs'. Sustainable Development comprises three closely linked subject areas: economic development, environmental protection and social responsibility. NLNG will regularly review its activities and decisions against criteria for Sustainable Development through the inclusion of Sustainable Development in the relevant sections of the Common Management System and related systems. Moreover, NLNG will use indicators to measure progress in its contributions to Sustainable Development and to communicate efforts in this respect to stakeholders both within and outside the company.

NLNG recognises that the development, implementation and maintenance of a system for the long-term management of the environment must form an integral part of business quality management. NLNG has therefore adopted an integrated approach to Health, Safety and Environmental (HSE) management. This is standard practice for the oil and gas industry. To achieve uniform standards across the entire company a structured approach is used based upon a HSE Management System (HSE-MS).

Furthermore, environmental management is seen as the means to ensure that the commitments specified in this EIA for NLNG*Six* are managed and that unforeseen or unidentified impacts of the proposed development are detected. It thus guarantees an effective basis to determine the source and extent of impacts, should they occur.

The long-term objectives of the environmental management programme are to:

- ensure compliance with legislation, HSE Premises and NLNG company policy
- achieve, enhance and demonstrate sound environmental performance built around the principle of continuous improvement
- integrate environment fully into the business
- rationalise and streamline environmental activities to add value in efficiency and effectiveness
- encourage and achieve the highest performance and response from individual employees and contractors
- provide the standards for overall planning, operation, audit and review
- enable management to establish environmental priorities
- be applicable throughout the organisation.

The purpose of this part of the ESHA for NLNG*Six* is to set it in the wider context of NLNG's programme of HSE management. It thus indicates where and how this structured management approach will be used to ensure that the ongoing process of environmental, social and health assessment for the NLNG project will continue to evolve throughout the life cycle of the development, including Train 6.

This approach has been adopted for the **Base**, **Expansion** and **Plus** projects. NLNG and its main contractor have also successfully implemented an HSE-MS during the construction of the earlier projects. The HSE-MS, which was set up for the NLNG projects in order to manage environmental issues during both construction and operation, is also being used to manage the NLNG*Plus* project which is currently under construction and will be used to manage the NLNG*Six* project during its construction and when Train 6 comes on stream. Details of this system are given below.



The environmental aspects of NLNG's HSE-MS have been certified to the International Standards Organisation (ISO) 14001 Environmental Management System standard since 2002. As each new train comes on line, the respective environmental aspects will become integrated into the existing ISO 14001 system.

6.2 NLNG Health, Safety and Environmental Management System

NLNG's HSE-MS, as implemented to date, has been applied to the construction of the **Base** and **Expansion** projects, including commissioning and up to the ready for start-up (RFSU) date. The same basic framework has been developed further and is used for the operational phase of the **Base** and **Expansion** projects and the construction of **NLNGPlus**.

The engineering design, procurement and construction of the **Base**, **Expansion** and **Plus** projects was contracted out by NLNG to EPC Contractors. In the contracts, however, NLNG specifically required that the contractor should adhere to NLNG's business principles, environmental policy and guidelines on health, safety and environment for the project (the HSE Premises). In order to monitor the performance of the contractors and ensure compliance with the company's requirements, NLNG established construction teams (Conteams).

An HSE-MS was developed and implemented for the Conteam, which was in line with NLNG's corporate commitments to health, safety and environment and which could direct the nature of the contractor's HSE-MS. The Conteam HSE-MS is therefore based on the NLNG corporate policy commitments and the contract between NLNG and its contractor for monitoring the adequacy and effective implementation of the contractors HSE-MS. This construction HSE-MS is regularly audited by NLNG's Technical Advisor.

The HSE-MS is defined as a structured set of controls for managing HSE in the business to ensure and to demonstrate that HSE objectives are met. The key elements of the NLNG HSE-MS are:

- HSE Commitment and Policy Statement
- HSE Manuals and plans
- HEMP and HSE design processes
- HSE risk assessment, management processes and audits
- Contractor HSE Management systems
- Emergency Response system and plans.

The elements of the HSE Management System are further described in sections 1.4 and 1.7.2 of this report and the Impact Assessments for earlier NLNG projects [6, 10, 14] and a recent full description can be found in the Environmental and Social Management Plan for the **Plus** project [31].

6.3 Contractor management

Contractors carry out over 90% by value of the work managed by NLNG, outside of plant operation and under supervision of the EPC Contractors for the different parts of the project (see section 2.5). Managing the HSE performance of contractors is therefore a fundamental part of the NLNG HSE-MS. The objective is to ensure that contractors consistently fulfil NLNG's HSE requirements, and the mechanism for achieving this includes:

- Defining clear HSE criteria and performance targets that contractors must meet prior to tendering and during work for NLNG;
- A pre-qualification and screening process that assesses the HSE performance and abilities of contractors before they are allowed to work for the company;



- Systematic management overview of contractor operations, including site supervision where appropriate, to monitor performance and enforce adherence to agreed standards (including construction services management by NLNG Technical Advisers);
- Assistance where appropriate in training and capacity building in order to generate improvements in HSE performance and abilities, thereby allowing more firms, particularly small and local firms, to participate in NLNG activities.
- Monitoring by the Sustainable Development Coordination Committee of the implementation of the Management Plans for the **Plus** and **Six** projects (see also sections 6.5.1 and 6.5.2).

NLNG has defined the HSE premises and requirements for the design and construction phase of the NLNG**Six** project (see Appendices 4 and 5). This includes detailed specification of guidelines and procedures to be followed.

As outlined in [31] weekly meetings between the NLNG**Six** Project Manager and the EPC Contractor will address performance against the contractual provisions, including environmental, social and health requirements, which have been incorporated in the ESHMP.

Contractors are also required to comply with the NLNG Guiding Principles for Community Relations, which address assistance to communities and communication with communities.

6.3.1 Training

The main contractor(s) for the NLNG**Six** project is (are) yet unknown, but in accordance with the provisions of the Nigerian Content Plan, the EPC Contractor(s) and their subcontractors will operate safety, supervisory and craft training programmes to enhance the status of the workforce. The existing site training school will be maintained for this purpose. The main contractor will require all major subcontractors to offer a minimum of 15% of their peak workforce, expressed in number of people, to attend the craft skills training program. The craft training courses will cover a wide range of trades and skills sets. The training courses are mainly based on the UK National Skills Development Programme that leads to the award of National Vocational Qualifications (S/NVQs) in the UK. All trainees who successfully complete craft training courses will be awarded a certificate that it is hoped will be recognised by other employers in Nigeria. Major subcontractors will also be encouraged to run their own specialised training courses to complement those run by the main contractor.

6.3.2 Nigerian content

NLNG, their Technical Adviser and EPC Contractor(s) are committed to maximise the Nigerian content of the NLNG**Plus** project. These parties have jointly developed a Nigerian Content Plan (NCP) to achieve this objective. All major international sub-contractors and suppliers will be required to subscribe to the Plan and help in achieving its objectives.

The policy on Nigerian Content can be outlined as follows:

- The intent of the NCP is to maximise the participation of local, regional, indigenous and other Nigerian contractors, equipment manufacturers, vendors and services providers for work contracted out by the EPC Contractor, consistent with project requirements in terms of quality, schedule, HSE and cost.
- The long-term objective of the NCP is to encourage and support the development of local, regional, indigenous and Nigerian contractors to enable them to achieve sustainable standards of excellence in their business.
- The NCP has procedures to monitor the performance of the main contractors with regard to Nigerian content, and to promote growth of qualified sub-contractors
- The strategy of the NCP will be to maximise opportunities for local, regional indigenous and Nigerian contractors. Local suppliers and sub-contractors will be considered for contracts for engineering, services, equipment, material and construction for which the scope of work and the required resources are within their capabilities and competencies.



Performance against the plan will be monitored by:

- Measuring and reporting physical quantities of Nigerian goods and services used, quantified in terms of man-hours, Naira value, tonnes of equipment and construction materials etc.
- Measuring the percentage Nigerian content for each sub-contract

For NLNG*Six* a similar Nigerian Content Plan will be set up as soon as the EPC Contractor(s) is (are) known.

6.4 Community relations

NLNG maintains a clear focus on Community Relations, with a range of programmes and activities in this area. The objective is:

“To be the CATALYST for sustainable development in our Host Communities,

- *By helping to improve infrastructure, health and educational care facilities*
- *By encouraging and supporting local capacity building enterprise*
- *By effecting technology transfer in a manner consistent with our Business Principles.”*

The guiding principles for managing community relations can be outlined as follows. Assistance to communities should:

- be in kind not cash
- benefit communities, not individuals
- be formulated with full community input and participation
- look for win-win arrangements.

Communication with communities:

- there will be dialogue with all
- the Company should speak with one voice
- agreements should be made through formal channels
- the Company should promptly respond to correspondence
- the Company through its Community Relations Department will on a continuous basis interact with relevant groups in the community such as youth and women groups, BKDC and BECC.

6.4.1 Organisation and responsibility

The General Manager for External Relations has overall accountability for managing community relations on Bonny Island and along the Gas Transmission System (GTS-1). The Community Relations Manager has the day-to-day accountability for community-relations management on Bonny Island and along the GTS-1.

The General Manager for External Relations is responsible for developing company policy, procedures and guidelines on community relations. NLNG Board of Directors approves such policies. Policy implementation and day-to-day community relations management is a line-responsibility assigned to the General Manager for Production.

The Community Relations Manager obtains support from the Project Engineering Department of the Production Division for planning and implementing community projects with a significant engineering-content.

The Sustainable Development Coordination Committee, which Management has established, will ensure smooth co-ordination and integration of all NLNG’s community assistance and environmental protection efforts for both operational and project activities.



6.5 Plans and activities

NLNG has a Community Relations Plan that is approved by the Board of Directors of the Company. The Plan documents community development and community assistance activities for Bonny and the GTS communities. The SD Co-ordination Committee (SDCC) will review performance of the Community Relations Plan and report to NLNG Corporate Management. The frequency of reporting to the SDCC will depend on the requirements of the prevailing circumstances. The expectation at present is that it will be on a quarterly basis. Monitoring the effectiveness of the implementation of the Community Assistance plans will be in accordance with the structured “Balanced Scorecard” process. Success on all targets and goals of the plan will be measured and remedial measures taken whenever there are indications that the strategy being pursued is not leading to the desired results.

6.5.1 ESMP for the **Plus** project

The implementation of the ESMP for the **Plus** project [31] is being managed through Company’s HSE-MS under responsibility of the SDCC. Reports are completed on the quarterly basis. At the initiative of the lenders for the **Plus** project, the implementation, analysis and reporting is monitored by an external consultant, AEA Technology. In that context AEA Technology visited the NLNG site on Bonny Island in October 2003. The purpose of this one week trip was two fold:

- to verify the statements made in the bi-annual environmental compliance report; and
- to assess the project’s performance against the requirements outlined in the ESMP.

The conclusion of this review was that NLNG are making good progress and that the management of environmental and social issues is currently satisfactory.

6.5.2 ESHMP for the **Six** project

To ensure that the mitigation measures in the NLNG**Six** ESHA are completed to the satisfaction of all the relevant stakeholders, these works have been scheduled as detailed actions and are tasked in the Environmental, Social and Health Management Plan (ESHMP); see Table 6.1. However, NLNG will resource, implement and sign off these actions, along with those which were scheduled in the ESMP for NLNG**Plus**. This will form part of the overall planning process for NLNG. This will draw together the existing HSE-MS and Community and Public Relations plans, along with the ESMP for NLNG**Plus** and the ESHMP for NLNG**Six** and incorporate them into a coherent document that will allow the monitoring, auditing, revision and information dissemination regarding all the Environmental, Social and Health aspects of NLNG’s commitments.

The management of the overall Sustainable Development aspects of all of NLNGs activities will be overseen by the SDCC.

NLNG will ensure that information on the mitigation, community projects and other important areas of operations (SD outputs) are communicated in an open and transparent manner. Therefore community information centres will be set up, starting with a centre in Finima. These will allow all relevant information to be made available to the communities. These centres will be run in close cooperation with the appropriate local organisations in each area of Bonny.

During the consultation process, a number of unresolved issues were raised by stakeholders. These were in fact outstanding issues from the previous EIAs. Stakeholders were also concerned that previously agreed mitigation measures had not been fully implemented. Community consultations arranged during this ESHA were designed to agree and resolve these outstanding issues (see Chapter 7). Thus, this ESHMP for NLNG**Six** includes a number of actions relating to “Stakeholder issues” which are NLNG’s commitment to resolving outstanding mitigation measures. These include the following issues:

- Agreement to implement all previously agreed promises to local communities and previously agreed mitigation measures. This includes working with the Technical Committee appointed by the Bonny Chiefs Council to align NLNG’s efforts to implement agreed mitigation and



- instigating regular meetings with a broad range of stakeholders. In addition, it includes actions such as establishing information centres in Bonny, Finima and Abalamabie, upgrading houses in Finima, reforestation of areas near Finima, supporting the transition of management of the Finima Nature Reserve from the Niger Delta Wetlands Centre to a management board of local community trustees, and involving BECC in all meetings NLNG has with the Federal Ministry of the Environment.
- Working with BECC to assist local fisherfolk in several ways: (a) to obtain the right supplies and materials so that they can undertake fishing activities outside the exclusion zone, (b) to promote sustainable development in conjunction with BECC to encourage local fisherfolk to engage in new types of mariculture/aquaculture, and (c) to start a six-monthly programme of discussion meetings in cooperation with BECC to share knowledge with local fisherfolk on data collected on fish catches etc.
 - To support, in consultation with BECC and BKDC, the establishment of cottage agricultural and food produce industries to help elevate certain fishing and farming activities from subsistence to commercial levels.
 - To assist in improving health conditions on Bonny through (a) instigating an annual monitoring programme of selected health indicators, (b) surveying the existing health facilities and their work loads to identify inefficiencies and deficiencies, and (c) assisting in the provision of locum doctors, part time nurses, drugs and medical equipment.
 - Sponsor the reinstatement of Ibani language and culture through the teaching of Ibani language in selected primary schools and the establishment of an Ibani cultural centre.
 - Ensuring that when there are job opportunities for the operational phase of NLNG**Six**, due consideration is paid to employment of Bonny indigenes in line with NLNG's employment standards and policies.
 - To set up an effective communication system as part of its Community Relations Programme to ensure that local communities know that there is an emergency response plan in place to reassure communities of the extremely remote chance of an emergency occurring.

The ESHMP for Train 6 demonstrates that virtually all actions refer to outstanding actions from the past or are ongoing and continuous management activities. Only one new impact was identified which is due uniquely to the development of a sixth train of the NLNG project. This is the extension of the "sterile zone", bounded by the 10^{-6} risk contour, to include land outside the fence line of NLNG. All other impacts are incremental impacts; impacts which have already been identified in previous phases of the NLNG project, which will increase as a result of Train 6. In most cases, mitigation measures required to handle these incremental impacts up to the operational phase of Train 6 are already in place in the ESMP for the NLNG**Plus** project.

6.5.3 Explanation of the ESHMP

The lay-out of the ESHMP in Table 6.1 is self-explanatory and provides a complete list of all actions committed by NLNG in relation to the **Six** project. However, as many construction and operation activities will be similar to the development of the **Plus** project, the Plan does not duplicate all relevant/applicable actions, which are already listed in the ESMP for the NLNG**Plus** project, such as on-going monitoring.

In the ESHMP for Train 6 only impacts rated either moderate or major are mitigated. For some items rated minor, negligible or of "no impact", there are enhancement actions and these are included in the Management Plan as well. Other items will be managed through continuous improvement in NLNG's performance.

In conclusion, the ESHMP for NLNG**Six** provides actions designed to manage the on-going mitigation of impacts from an evolving, overall NLNG project. It is irrelevant to separate the effects of the sixth train from previous phases of the project since the LNG plant will operate as an intact entity and its effects must be managed as a whole also. Therefore the ESHMP should be used in conjunction with the ESMP for the **Plus** Project.

Table 6.1 is an extension of the Mitigation and Enhancement Table (see Table 5.1) and it should be read as follows:



- The numbering in the first column refers to the mitigation and enhancement number given in Table 5.1. The second column provides a unique numbering for Action Items.
- In the third column the Action Item is described. All Action Items for one Mitigation or Enhancement measure are meant to be comprehensive, but NLNG can of course decide to add or extent actions.
- The action party in the fourth column identifies the person who is responsible for carrying out the Action Items.
- The fifth column describes how progress and an effective implementation of the Action Item is monitored and/or how the Action Party will report on this.
- The sixth column identified the monitoring party, i.e. either the person who is responsible for carrying out the monitoring activities or the person who is reported to.
- In the eighth column further information is given with regard to accountability for Action Items. Here the reporting activities are described of either the Action Party or the Monitoring party.
- The ninth column indicates the required timing (or in some cases the current status of the Action Item)
- The last column is here for convenience only. In this column reference is made to the ESMP for NLNG**Plus**. Because this EIA-report is an addendum to the NLNG**Plus** report it is hoped that this column will help the reader in relating the two studies.

Table 6.1: Environmental, Social and Health Management Plan for the NLNGSix Project									
	Description of mitigation		Action	Action party	Monitoring	Monitoring Party	Reporting	Timing (Status)	Ref.
MC3	NLNG should use the newest industry guidelines on HIV/AIDS to adjust the NLNG policy on sexually transmitted infections, including HIV/AIDS, which should result in strengthening the current health promotion programme and in extending the ongoing HIV/AIDS prevention programme to include the surrounding communities.	AC3-1 AC3-2	<p>Adjust the NLNG policy on sexually transmitted diseases</p> <p>Review NLNG's health promotion programme and strengthen where needed in line with NLNG's adjusted policy, so that it consists of at a minimum:</p> <ul style="list-style-type: none"> Annual awareness survey to determine the impact of ongoing HIV/AIDS prevention programme Training of trainers of HIV/AIDS/STD education Regular updating of knowledge of trainers Training of HIV/AIDS counsellors Assistance for those with HIV/AIDS. Increase in frequency of general awareness campaigns (at least twice a year) Sustenance of the ongoing HIV/AIDS/STD prevention campaigns in secondary schools 	NLNG Managing Director (MD) and NLNG Production Division General Manager (PD) with support from Chief Medical Officer (PSM) and the project team (NPP)	<p>Input monitoring : presence of updated HIV/AIDS policy document, presence of documented longer term annual programme.</p> <p>Process monitoring: quarterly registration and monitoring of progress of the implementation of health programme, number of health education lectures, number of plays, radio commercials, bill boards, pamphlets etc given, number of people who were visiting lectures, number of condoms made available and delivered to communities, number of inhabitants of shanty towns reached by the programme</p> <p>Outcome monitoring : Monthly Registration of STI's/HIV/AIDS reported within NLNG hospital and contractor med services, try to find ways how to get an idea about the same in wider Bonny community</p>	NLNG Division Management team (PD with team)	<p>Reported and discussed during weekly Production Division Management meetings, when appropriate</p> <p>New draft policy reported to NLNG corporate management for approval</p>	Before the end of 2004	HC.2 HO.2

Table 6.1: Environmental, Social and Health Management Plan for the NLNGSix Project									
	Description of mitigation		Action	Action party	Monitoring	Monitoring Party	Reporting	Timing (Status)	Ref.
MC4a	NLNG should consolidate, formulate and communicate its position in relation to the shanty towns and their future.	AC4a-1	Assess NLNG's current informal relationship with Monkey Village and discuss what the company's attitude should be in light of the Bonny Master Plan and the sentiments of the Finima leadership.	NLNG Sustainable Development Coordinating Committee (SDCC)	Actions and progress will be incorporated in the regular management information from Community Relations department.	NLNG Production Division Manager (PD)	Reported and discussed during weekly Production Division Management meetings, when appropriate Reported and discussed to SDCC at quarterly meetings	Ongoing	SC.27
		AC4a-2	Develop its policy with regard to rural developments in the area designated in the Bonny Master Plan as industrial zone, which should recognise people in the shanty towns as a stakeholder group, even if NLNG cannot formally acknowledge Monkey Village as a community that has a right to be there.						
MC4b	NLNG as a member of the Joint Industry Committee will work with local authorities (Bonny Local Government) to try and control unwanted rural development in light of the Bonny Master Plan.	AC4b-1	Draft a management plan on uncontrolled rural development alongside the Mobil air strip road together with the Joint Industry Committee and in close co-operation with the local authorities as well as the Finima community. Dismantlement of the Monkey Villages will be examined as one of the options for this plan since this area is zoned as industrial land in the Bonny Master Plan.	NLNG Sustainable Development Coordinating Committee (SDCC)	Progress reporting by ERC to PD and SDCC	NLNG Production Division Manager (PD)	Discussed during weekly Production Division Management meetings, when appropriate Discussed at SDCC quarterly meetings	Ongoing attention for this issue Management Plan ready before the end of construction	SC.27
		AC4b-2	Identify actions in relation to Monkey Village which are in line with both the newly developed policy and international guidance on human rights. These actions should balance the rights and interests of the Finima community and the people living in the shanty towns.						

Table 6.1: Environmental, Social and Health Management Plan for the NLNGSix Project									
	Description of mitigation		Action	Action party	Monitoring	Monitoring Party	Reporting	Timing (Status)	Ref.
MC4c	People living in the shanty towns need to have access to the same health promotion programme that is available in Finima and Bonny. This is particularly important in light of HIV/AIDS and water borne diseases, which are most prevalent in the shanty towns.	AC4c	Review NLNG's health promotion programme and strengthen where needed so that it incorporates the shanty towns.	NLNG Community Relations Manager (ERC) with support from the Chief Medical Officer (PMS)	Continuous monitoring of NLNG's Health Promotion Programme.	NLNG Community Relations Manager (ERC)	Reported and discussed during weekly Production Division Management meetings, when appropriate	Continuous programme	SC.27 HC.1 HC.2 HO.1 HO.2 HO.3
MC5a	The creation of the Finima nature park has set aside a large area of forest which is currently protected. NLNG should stimulate community involvement, for example the further involvement of local schools through hands on <i>in situ</i> education on nature conservation.	AC5a	Further stimulate community involvement in the nature park by defining related actions and incorporating these in the community relations plan.	NLNG Community Relations Manager (ERC) with support from Head of Environment (HSEQ/1)	Actions and progress will be incorporated in the regular management information from Community Relations department.	NLNG Production Division Manager (PD)	Reported and discussed during weekly Production Division Management meetings, when appropriate	In the third quarter of 2004	EC.15
MC5b	Asserting control over the sterile zone will limit access and hence reduce activities which are damaging to the forest.	AC5b-1 AC5b-2	Assert control through management action AO4b. Commission a biodiversity survey of the sterile zone to include terrestrial flora and fauna as well as biodiversity in water bodies in order to establish whether limited access has enabled regeneration of the forest.	NLNG Production Division Manager (PD) with the support of the NLNG Head of Environment (HSEQ/1)	Monitoring the results of the one off study done by contractors in relation to the Terms of Reference for this study	NLNG Head of Environment (HSEQ/1)	Reported to PT and PD as part of the regular management information from the Environmental Department	Two years after the start up of Train 6	---
EC6a	NLNG will assess the situation with regard to sewage and waste accumulation in and around the shanty towns in more detail and discuss possibilities for improvement with representatives of the Finima community.	AC6a-1 AC6a-2	Assess the extent of the generation of untreated sewage and the dumping of solid waste in and around the shanty towns and analyse its negative implications. Discuss the results of the assessment with the Finima Development Committee, as the representative body of the Finima people.	NLNG Community Relations Manager (ERC) with the support of NLNG Head of Environment (HSEQ/1)	Progress reporting to PD	NLNG Production Division Management Team (PD with team)	Reported and discussed during weekly Production Division Management meetings, when appropriate	In the second half of 2004	SC.10

Table 6.1: Environmental, Social and Health Management Plan for the NLNGSix Project									
	Description of mitigation		Action	Action party	Monitoring	Monitoring Party	Reporting	Timing (Status)	Ref.
EC6b	NLNG will work with the Local Government Authority to promote and achieve the goals set out in the Bonny Master Plan for sewage treatment and waste management, particularly in Bonny Town and New Finima.	AC6b-1	Actively lobby Local Government to improve sewage and waste management in Bonny LGA, particularly in Bonny Town and New Finima.	NLNG Community Relations Manager (ERC)	Actions and progress will be incorporated in the regular management information from Community Relations Department.	NLNG Production Division Manager (PD)	Reported and discussed during weekly Production Division Management Meetings, when appropriate	Ongoing	SC.10
		AC6b-2	Actively promote solutions for cleaning up existing waste sites and putting in place measures which are in line with the Bonny Master Plan, and examine possibilities for practical and/or financial support.						
MC7a	NLNG should anticipate both social and environmental issues resulting from the decommissioning of camps and should make plans which allow for a timely implementation of camp decommissioning at the end of the constructions phase.	AC7a	Before the start of the construction of Train 6 and the Slugcatcher, NLNG will draft a decommissioning plan to arrive at decisions on the future of the construction camps. This plan should include a time schedule which allows amongst other things for a timely ESHA for decommissioning. Options to consider from the outset include abandonment and hand-over to the community.	NLNG Head of Projects (PEO) and the EPC contractor	Progress reporting to SDCC and milestones reporting to ERC and PD.	NLNG Head of Projects (PEO) and the EPC contractor	Reported and discussed during weekly Production Division Management meetings, when appropriate Reported and discussed to SDCC at quarterly meetings	Decommission plan ready before the start of construction	SC.6 SC.24 SC.25

Table 6.1: Environmental, Social and Health Management Plan for the NLNGSix Project									
	Description of mitigation		Action	Action party	Monitoring	Monitoring Party	Reporting	Timing (Status)	Ref.
MC7b	NLNG should actively help people to anticipate changes accompanying disbanding of the NLNG and contractor workforce (e.g. promoting the existing micro credit scheme programme, running awareness programmes in the communities, stimulating the use of existing learning and education opportunities like the new vocational school which will start in 2004).	AC7b-1	Increase community awareness by incorporating awareness raising activities in the community relations plan.	NLNG Community Relations Manager (ERC)	Actions and progress will be incorporated in the regular management information from Community Relations department.	NLNG Production Division Manager (PD)	Reported and discussed during weekly Production Division Management meetings, when appropriate	Start in the second half of 2004, and thereafter ongoing	SO.2 SO.3 SO.4
		AC7b-2	Through vocational schools, enhance skills of indigenes.				Reported and discussed to SDCC at quarterly meetings		
		AC7b-3	Through scholarship schemes, enhance levels of education in the local communities						
		AC7b-4	Through the micro-credit scheme assist in development of sustainable businesses.						
		AC7b-5	Assist in occupational readjustment of indigenes as elaborated in relation to EX3.						
MO2	Train 6 operations related ships and ship movements will adhere to NLNG's policies on marine operations which comply with international MARPOL procedures. All marine operations will be dealt with in a separate environmental impact assessment that is undertaken for the channel deepening project. This includes ballast waters, incidental spillage and emergencies as well as a fisheries study. With regard to the level of income for fisherfolk there are opportunities for enhancement in relation to EX2 and EX3.	AO2	Incorporate all elements of marine operations into the scope of the impact assessment that will be undertaken for the Channel Deepening project.	NLNG Head of Environment (HSEQ/1), being the focal point for the Channel Deepening EIA, supported by NLNG's Technical Advisor (TA)	Review of the Scope of The EIA for the Channel Deepening Project as stated in Terms of Reference	NLNG Expansion Coordination Officer (ECO)	Reported to NLNG's corporate management when appropriate	Before issuing the Terms of Reference for the Channel Deepening EIA (mid 2004)	EC.6 EC.7 EC.8 EO.9 EO.10 SO.23
MO4a	NLNG should enforce a strict policy of no access to the safety zone (10 ⁻⁵ risk contour). This should be done by gating and fencing the safety zone.	AO4a	Put security measures around the safety zone where feasible (like gates, fences, video cameras, patrols or other measures) to effectively discourage people from accessing the safety zone.	NLNG Head of Security (PDS)	Actions and progress will be incorporated in the regular management information from PDS.	NLNG Production Division Manager (PD)	Reported and discussed during weekly Production Division Management meetings, when appropriate	Before the start up for Train 6	---

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	Description of mitigation		Action	Action party	Monitoring	Monitoring Party	Reporting	Timing (Status)	Ref.
MO4b	NLNG will identify effective ways of controlling access to the sterile zone (10^{-6} risk contour).	AO4b	Engage in dialogue with the NLNG partners in the Joint Industry Committee to establish control over the sterile zone (10^{-6} risk contour), either by acquiring the land or by agreeing on control measures.	NLNG Production Division Manager (PD)	Through regular requests for information on progress.	NLNG Expansion Coordination Officer (ECO)	Reported to NLNG's corporate management when appropriate	Before the start up of Train 6	---
MO6	Emissions from Train 6 will be monitored through NLNG's daily air quality monitoring programme, which includes areas remote from the plant site (including Bonny Town and Finima). The results will be assessed regularly to ensure continuing compliance with WHO, EU and FEPA guidelines.	AO6a AO6b	NLNG, in conjunction with BECC, will continue its existing air quality monitoring programme, which includes areas remote from the plant site (including Bonny Town and New Finima). The results of the air quality monitoring will be assessed regularly to ensure continuing compliance with WHO, EU and FEPA guidelines.	NLNG Head of Environment (HSEQ/1)	Through reviewing air quality monitoring data	NLNG Head Quality Management (PTQ)	Reporting any non compliances and necessary corrective actions according to a specific incidents reporting procedure	Ongoing	EO.3 EO.4 EO.5 EO.6
MO8	Although there are no obvious reasons for mitigation, lighting will be included in the scope of the Channel Deepening EIA	AO8	Incorporate the effect of lighting within the estuary on the estuarine habitat from all elements of marine operations into the scope of the impact assessment that will be undertaken for the Channel Deepening project.	NLNG Head of Environment (HSEQ/1), being the focal point for the Channel Deepening EIA, supported by NLNG's Technical Advisor (TA)	Review of the EIA scope as stated in Terms of Reference	NLNG Expansion Coordination Officer (ECO)	Reported to NLNG's corporate management when appropriate	Before issuing the Terms of Reference for the Channel Deepening EIA (mid 2004)	EC.5 SO.22

Table 6.1: Environmental, Social and Health Management Plan for the NLNGSix Project									
	Description of mitigation		Action	Action party	Monitoring	Monitoring Party	Reporting	Timing (Status)	Ref.
MX1a	NLNG will fulfill its promises to the representatives of the local community and will implement all previously agreed mitigation and enhancement.	<p>AX1a-1 Establish NLNG information centres in Bonny, New Finima and Abalamabie.</p> <p>AX1a-2 Upgrade the New Finima buildings, built by NNPC at the time of the resettlement, so that they will contain four rooms at a minimum.</p> <p>AX1a-3 Develop a plan for 2004 and run a programme with regard to sustainability forestry (including reforestation and forest regeneration) in and around Finima to replace the die-off of trees planted by NNPC.</p> <p>AX1a-4 Provide kerosene stoves to women as part of the programme to reduce dependency on wood for cooking fires.</p> <p>AX1a-5 Explore the possibilities of reinstating the pigmy hippopotamus, but only if suitable habitat can be found and secured on Bonny Island</p> <p>AX1a-6 Explore the possibilities of introducing (eco) tourism on Bonny Island in cooperation with appropriate bodies.</p> <p>AX1a-7 Support the transition of the management of the Finima Nature Park from the Niger Delta Wetland Centre to a management board of local trustees, leaving both NDWC and BECC as advisors to the new management.</p> <p>AX1a-8 Conduct road maintenance in Finima as triggered by BKDC.</p> <p>AX1a-9 In future meetings will be held with FMEnv.</p>	NLNG Community Relations Manager (ERC)	Actions and progress will be incorporated in the regular management information from Community Relations department.	NLNG Production Division Manager (PD)	<p>Reported and discussed during weekly Production Division Management meetings, when appropriate</p> <p>Reported and discussed to SDCC at quarterly meetings</p>	Start mid 2004	SC.14 SC.28 SO.5	

Table 6.1: Environmental, Social and Health Management Plan for the NLNGSix Project									
	Description of mitigation		Action	Action party	Monitoring	Monitoring Party	Reporting	Timing (Status)	Ref.
MX1b	NLNG should build on the improving community relations with the local people (through a pragmatic implementation of outstanding issues) and should continue to provide support for community development in close cooperation with the appropriate bodies.	AX1b-1	Work with community representatives appointed by the Bonny Chiefs Council, to align NLNG's efforts in implementing agreed mitigation measures, giving the Technical Committee the opportunity to monitor progress.	NLNG Community Relations Manager (ERC)	Actions and progress will be incorporated in the regular management information from Community Relations department.	NLNG Production Division Manager (PD)	Reported and discussed during weekly Production Division Management meetings, when appropriate Reported and discussed to SDCC at quarterly meetings	Ongoing (Continuous programme)	SC.14
		AX1b-2	Strengthen ongoing stakeholder engagement through regular meetings with a broad range of stakeholders, which should be aimed at updating the community on NLNG's projects as well as gathering feedback in general.						
EX2a	Although the fish catch study did not indicate any need for compensation, NLNG will work with BECC to assist the Bonny Indigenous Fishermen Cooperative (representing the Bonny Kingdom fishermen) in obtaining the right supplies and materials (e.g. boat engines, fishing gear, etc.), so that they can undertake fishing activities well outside the exclusion zone. This enhancement measure will not exclude the fisherwomen.	AX2a	Support the local fishermen and the local fisherwomen by providing supplies and materials through BECC and other recognized bodies.	NLNG Community Relations Manager (ERC)	Actions and progress will be incorporated in the regular management information from Community Relations department.	NLNG Production Division Manager (PD)	Reported and discussed during weekly Production Division Management meetings, when appropriate Reported and discussed to SDCC at quarterly meetings	Started, first project to be finished in 2003, thereafter on an annual basis	SC.21 SC.22 SO.23

Table 6.1: Environmental, Social and Health Management Plan for the NLNGSix Project									
	Description of mitigation		Action	Action party	Monitoring	Monitoring Party	Reporting	Timing (Status)	Ref.
EX2b	To promote sustainable development NLNG in conjunction with BECC will encourage, where feasible, fisherfolk to engage in mariculture/ aquaculture using pen and cage culture.	AX2b-1	Commission a feasibility study to include aquacultural techniques, appropriate technology and required training.	NLNG Community Relations Manager (ERC)	Actions and progress will be incorporated in the regular management information from Community Relations department.	NLNG Production Division Manager (PD)	Reported and discussed during weekly Production Division Management meetings, when appropriate	Start in the second half of 2004	SC.22 SO.23
		AX2b-2	Assess whether using treated sewage sludge from NLNG's plant site can be used as a food source for fish in aquaculture.				Reported and discussed to SDCC at quarterly meetings		
		AX2b-3	Promote the (revived) micro-credit scheme as a particularly helpful instrument in developing these fish culture techniques.						
EX2c	NLNG should start a dialogue programme, on a structured and six-monthly basis, through BECC (as the official body designated by the Bonny Kingdom) in order to share knowledge with the fishermen (and initially to inform them about the results of the fish catch study).	AX2c-1	Develop a dialogue programme	NLNG Community Relations Manager (ERC)	Actions and progress will be incorporated in the regular management information from Community Relations department.	NLNG Production Division Manager (PD)	Reported and discussed during weekly Production Division Management meetings, when appropriate.	Ongoing on a six monthly basis	SC.22 SO.23
		AX2c-2	Engage BECC or other recognised bodies to organise and run the programme						

Table 6.1: Environmental, Social and Health Management Plan for the NLNGSix Project									
	Description of mitigation		Action	Action party	Monitoring	Monitoring Party	Reporting	Timing (Status)	Ref.
EX3a	NLNG must revive and adjust the micro credit scheme, so that it can become an even more effective instrument for occupational readjustments and for business projects that contribute to sustainable development.	AX3a	Evaluate the functioning of the micro credit scheme with the Bonny Kingdom Development Committee.	NLNG Community Relations Manager (ERC)	Actions and progress will be incorporated in the regular management information from Community Relations department.	NLNG Production Division Manager (PD)	Reported and discussed during weekly Production Division Management meetings, when appropriate.	Starting preparations in the second half of 2004, so that a full blown programme can start in 2005.	---
		AX3b	Adjust the micro credit scheme in light of AX3a and modify its criteria, so that it provides better opportunity for necessary occupational readjustments as well as for projects that have a specific positive effect on the sustainable development of Bonny Kingdom.		The micro credit supporting structure will be monitored by the Community Relations Department through regular briefings				
		AX3c	Set up a supporting structure, consisting of both NLNG and BKDC representatives, that will make the micro credit scheme more effective by screening applicants and by providing business advice to the communities.						
EX3b	NLNG, in consultation with BKDC and BECC, will support indigene farmers and fisherfolk through funding and provision of extension services to identified agricultural and fisheries entrepreneurs to produce more food and to establish cottage industries to process and store farm, fisheries and forest products. This is expected to move these practices from mere subsistence to commercial levels, which will ensure economic sustainability further to EX2b.	AX3b	Start a supporting programme after exploring the best way of providing training and business support to the agriculture, fisheries and forest products sector by using the new micro credit support structure.	NLNG Community Relations Manager (ERC)	Actions and progress will be incorporated in the regular management information from Community Relations department.	NLNG Production Division Manager (PD)	Reported and discussed during weekly Production Division Management meetings, when appropriate.	In 2005	---
					The micro credit supporting structure will be monitored by the Community Relations Department through regular briefings				

Table 6.1: Environmental, Social and Health Management Plan for the NLNGSix Project										
	Description of mitigation		Action	Action party	Monitoring	Monitoring Party	Reporting	Timing (Status)	Ref.	
MX4a	NLNG will instigate an annual monitoring programme of selected health indicators, including data on morbidity, mortality, infant mortality, etc., based on readily available data in the Bonny Local Government Area,	AX4a	Select relevant health indicators, set up a monitoring programme and make arrangements for running it.	NLNG Chief Medical Officer (PMS)	Actions and progress will be incorporated in regular management information.	NLNG Production Division Manager (PD)	Reported and discussed during weekly Production Division Management meetings, when appropriate.	Starting in the second half of 2004	---	
MX4b	NLNG will commission a survey of existing health facilities and their work load, deficiencies and inefficiencies and will implement intervention programmes on the basis of this.	AX4b-1	Determine a Terms of Reference for the Health Facilities survey, commission the survey and monitor progress.	NLNG Community Relations Manager (ERC) with support of NLNG Chief Medical Officer (PMS)	Actions and progress will be incorporated in regular management information.	NLNG Production Division Manager (PD)	Reported and discussed during weekly Production Division Management meetings, when appropriate.	Starting in the second half of 2004	---	
		AX4b-2	Design and implement intervention programmes based on the outcomes of the survey, where appropriate and in consultation with community representatives.							
MX4c	NLNG will assist by: <ul style="list-style-type: none"> • the provision of locum doctors • the provision of part time nurses • the provision of drugs • the provision of medical equipment 	AX4c-1	Engage with the appropriate bodies in the community to determine the appropriate scope for NLNG's assistance.	NLNG Community Relations Manager (ERC) with support of NLNG Chief Medical Officer (PMS)	Actions and progress will be incorporated in regular management information.	NLNG Production Division Manager (PD)	Reported and discussed during weekly Production Division Management meetings, when appropriate.	Starting in the second half of 2004	---	
		AX4c-2	Develop and run a sustainable Health Assistance programme							Reported and discussed to SDCC at quarterly meetings
MX5a	NLNG will sponsor the teaching of Ibani language in a limited number of primary schools	AX5a-1	Engage with the appropriate bodies in the community to determine the extent of Ibani teaching supported by NLNG.	NLNG Community Relations Manager (ERC)	Identify performance indicators (e.g. the number of children achieving a certain level of Ibani literacy), collect performance data and incorporate this in the management information from CR department.	NLNG Production Division Manager (PD)	Reported and discussed during weekly Production Division Management meetings, when appropriate.	Starting in the second half of 2004	SC.13	
		AX5a-1	Develop and run the Ibani Teaching project.							

Table 6.1: Environmental, Social and Health Management Plan for the NLNGSix Project									
	Description of mitigation		Action	Action party	Monitoring	Monitoring Party	Reporting	Timing (Status)	Ref.
MX5b	NLNG will support the establishment of an Ibani cultural centre for research and continuity of cultural values	AX5b-1 AX5b-2	Engage with the appropriate bodies in the community to determine the location, scope and organisation of the Ibani cultural centre. Design, construct and refurbish the Ibani cultural centre and support the staffing and running of the centre.	NLNG Community Relations Manager (ERC)	Progress reports will be incorporated in the management information from the Community Relations department.	NLNG Production Division Manager (PD)	Reported and discussed during weekly Production Division Management meetings, when appropriate.	Starting in the second half of 2004; commissioning at the end of 2005 at the latest	SC.13
MX6	Although limited, Train 6 will have a positive effect on job opportunities. Any additional openings – for construction activities or operations, for contracts or direct employment – occasioned by Train 6 will be filled with due consideration for adequate representation from the Bonny indigenes in line with NLNG's employment standards and policies and consistent with the Federal Government guidelines on employment.	AX6-1 AX6-2	Continue, and strengthen where possible, the existing policies on contracting and hiring indigenes. Increase pressure on existing contractors to hire indigenes and monitor the supply chain performance.	NLNG Manager of Operations (PO)	Actions and progress is incorporated in the regular management information from the Operations Department.	NLNG Production Division Manager (PD)	Reported and discussed during weekly Production Division Management meetings, when appropriate.	Start in the second half of 2004	SO.2 SO.3 SO.4
MX7	NLNG will set up effective communication as part of its community relations programme to ensure that the surrounding communities know that such a plan is in place and understand that the design of the plant and the operational procedure are designed in such a way that the surrounding communities will not suffer from incidents.	AX7-1 AX7-2	Reassure the local people about the remote chances of gas accidents happening and the possible consequences if such an accident occurred, and inform them about NLNG's emergency response plan through a one off enlightenment event. Explore the possibility of organising this event in conjunction with the Joint Industry Committee.	NLNG Community Relations Manager (ERC)	Through requests for information on status and progress.	NLNG Production Division Manager (PD)	Reported and discussed during weekly Production Division Management meetings, when appropriate.	In the second half of 2004	---