

ENVIRONMENTAL AND SOCIAL REVIEW SUMMARY (ESRS)
SANKOFA PROJECT # 36378

Project Description

This ESRS has been revised to reflect an update on the public review and public hearing, as part of ESHIA process, the issuance of the environmental permits and the disclosure of the final ESHIA. There are no material changes to the environmental or social risks and/or impacts of the project.

The Sankofa and Gye Nyame gas fields (“Sankofa Gas Field”) and the Sankofa East oil field are located 55 to 60 km offshore in the Western Region of Ghana. The fields are part of the Offshore Cape Three Points (OCTP) block. Water depths in the block range from approximately 520 meters to 1014 meters. The OCTP project (“the project”) will be developed by a joint venture (JV), composed of Eni Ghana Exploration and Production Limited (“Eni Ghana”), the operator of the block holding 44.444% participating interest, Vitol Upstream Ghana Limited (“Vitol Ghana”) holding 35.556% participating interest, and Ghana National Petroleum Corporation (GNPC) holding 20% (15% carried and 5% paid) participating carried interest.

The project encompasses (i) the development of the Sankofa East oil field, with first oil production planned for 2017; and (ii) the development of non-associated gas in the Sankofa and Gye Nyame Gas Fields, with first gas production planned for 2018. Estimated discovered volumes in place are 481 million barrels of oil and 1.45 Tcf of non-associated gas.

The OCTP project will be developed as an integrated oil and gas development project, utilizing a shared, new conversion, double-hulled floating production, storage and offloading unit (FPSO), and will consist of:

- 14 (fourteen) wells for the oil exploitation: 8 (eight) oil production wells, 3 (three) water reinjection wells, and 3 (three) associated gas injection wells. Oil from the wells will be transferred to the FPSO via flexible risers. The estimated peak oil production will be 45,000 barrels per day (“bpd”).
- 5 (five) wells for the non-associated gas exploitation; subsea umbilicals, risers and flowlines from the five non-associated gas wells to the FPSO; 63 km long subsea pipeline from FPSO to shore; 1.5 km long onshore pipeline from shore approach to an onshore receiving facility (ORF) at Sanzule, including compression station, accommodation camp, warehouse, workshop, firefighting station, helipad, and medical facility; and a tie-in to the existing Ghana National Gas Company (GNGC) sales gas 20-inch pipeline. The production plateau is expected in 2018. Sanzule is located about 10 km east of the GNGC gas plant near the town of Atuabo on Ghana’s west coast.

Existing onshore logistics base located in Takoradi will be used for the project. This onshore base has been built anew under Eni Ghana’ supervision and will provide warehousing, office and supply support to the project. The majority of onshore logistics support infrastructure in Takoradi is already in place.

The total cost of the project is estimated at approximately \$8 billion (current values). The proposed World Bank Group support to the final project security and financing structure includes the following:

- 1) World Bank (IDA) Guarantees to support the gas development;
- 2) MIGA guarantee against the risks of transfer restriction, war and civil disturbance, expropriation, and breach of contract on behalf of commercial lenders (yet to be identified) to cover non-shareholder loans to Vitol Ghana in support of the gas field development; and
- 3) IFC loan as part of a debt financing package for Vitol.

Overview of IFC's Scope of Review

WBG's Environmental and Social Due Diligence for this project consisted of appraising technical, environmental, health, safety and social information submitted by Eni Ghana and Vitol Ghana, including the following:

- Environmental, Social and Health Impact Assessment (ESHIA) for the development of the Sankofa East Oil Field (Phase-1), issued for submission to authorities and dated January 2015, and the draft ESHIA for the development of the Sankofa Gas Field (Phase-2), dated March 2015;
- Available project E&S information, including environmental and social baseline reports, Stakeholder Engagement Plan (SEP), stakeholder registers, project background information document, Health Safety and Environment (HSE) Plan, draft Development Drilling & Production Operations Oil Spill Contingency Plan, and Waste Management Plan;
- Eni Ghana's HSE Integrated Management System (IMS) and relevant Eni corporate-wide policies and Management System Guidelines (MSG);
- Eni Ghana's human resources (HR) and procurement management procedures and practice;
- Vitol Exploration and Production (Vitol E&P), which is Vitol Ghana's parent company, and Vitol Ghana HSE policy statements and management system, including management plans associated with offshore drilling operations carried out for Sankofa-1A exploration well.

IDA and IFC environmental and social (E&S) specialists conducted a site visit to the area of the project in January 2015 and met with senior management and technical staff of Eni Ghana, Vitol Ghana and Vitol E&P, deputy executive director and senior program officers of the Ghana Environmental Protection Agency ("Ghana EPA" or "EPA") and representatives of the community of Sanzule where the ORF will be located. Prior to and after the site visit, several meetings and conference calls were held with Eni Ghana and Vitol staff responsible for the environment, health and safety, human resources and corporate social responsibility.

This Environmental and Social Review Summary was jointly prepared and disclosed by IDA, IFC and MIGA.

Identified Applicable Performance Standards

While all Performance Standards are applicable to this investment, IFC's environmental and social due diligence indicates that the investment will have impacts which must be managed in a manner consistent with the following Performance Standards:

- PS1 Assessment and Management of Environmental and Social Risks and Impacts
- PS2 Labor and Working Conditions
- PS3 Resource Efficiency and Pollution Prevention
- PS4 Community Health, Safety and Security

PS5 Land Acquisition and Involuntary Resettlement

PS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources

PS7 Indigenous Peoples is not considered relevant for the project as people in the nearest communities are not considered Indigenous Peoples for the purposes of the application of PS7. The project is not expected to affect any known cultural heritage features and therefore PS8 is not considered relevant. In particular, through public consultation, the ORF concession boundaries were modified to avoid one culturally important site which was identified during baseline surveys – a cemetery used by the local royal families (approximately one acre in size) in the proximity of the pipeline right-of-way. A Cultural Heritage Management Plan will be prepared as a sub-plan to the ESHMP, to include measures to ensure that the cemetery is not disturbed during construction and production operations, and a chance-finds procedure to address cultural heritage that might be discovered during site clearance, grading and excavation.

WBG Environmental Health & Safety (EHS) Guidelines that are expected to be applicable to this investment include:

General EHS Guidelines

EHS Guidelines for Offshore Oil and Gas Development

EHS Guidelines for Onshore Oil and Gas Development

The IDA project meets the criteria in Operational Policy 4.03 Performance Standards for Private Activities for application of the Performance Standards, in that it will be designed, constructed, operated and owned by a Private Entity (the JV) and is productive and necessary to meet Ghana's development objectives; the JV (and in particular Eni Ghana) is fully responsible for identifying, assessing and managing the environmental and social risks associated with the project; and the JV has recognized capacity to identify, assess and manage those risks.

If IFC's investment proceeds, IFC will periodically review the project's ongoing compliance with the Performance Standards.

Environmental and Social Categorization and Rationale

This is a category A project according to the screening criteria in IDA's Operational Policy 4.03, IFC's Environmental and Social Review Procedure, and MIGA's Policy on Environmental and Social Sustainability (2013). Categorization has been assigned due to inherent sector risk largely linked to development drilling and operation phases, including the risk of a significant accidental event such as an explosion, oil spill or well blowout, worker health and safety, as well as to risks and impacts on community livelihood associated with economic displacement for the construction and operation of the pipeline landfall and shore-based facilities.

Environmental and Social Mitigation Measures

IFC's appraisal considered the environmental and social management planning process and documentation for the project and gaps, if any, between these and IFC's requirements. Where necessary, corrective measures, intended to close these gaps within a reasonable period of time, are summarized in the paragraphs that follow and (if applicable) in an agreed Environmental

and Social Action Plan (ESAP). Through the implementation of these measures, the project is expected to be designed and operated in accordance with Performance Standards objectives.

Eni Ghana has conducted E&S impact assessments and has identified E&S risks. Eni Ghana has presented plans and measures to address the identified impacts, such that the proposed project is designed to comply with the following environmental and social requirements: 1) the host country laws and regulations; 2) the Performance Standards; and 3) the applicable and relevant WBG environmental, health and safety guidelines. While Vitol Ghana is not the operating partner in any particular operation or activity, the company has provided assurance to IFC that it will use its reasonable endeavors to bring into effect the aforementioned measures by exercising its contractual voting rights under the relevant joint operating agreement measures. All references in this document to IFC and MIGA requirements, to the project taking any action are to be construed as references to Eni Ghana acting as operator and on behalf of the partner group, and to the lenders financing Vitol Ghana using their contractual rights under the loan documentation to cause Vitol Ghana¹ (using its reasonable endeavors, to the extent possible by exercising its contractual voting rights under the joint operating agreement) to ensure that the project takes such action.

PS 1 - Assessment and Management of Environmental and Social Risks and Impacts

Environmental and Social Assessment and Management System. As the operator of the OCTP block and on behalf of the partner group, Eni Ghana has developed two Environmental, Social and Health Impact Assessment (ESHIA) studies, the findings of which constitute the two Environmental Impact Statements (EIS) required by Ghana EPA for Phase-1 and Phase-2 developments. OCTP Phase-1 and Phase-2 developments were submitted for registration with the EPA in September 2013 and December 2014, respectively. Scoping Reports, included Terms of Reference (ToR), were compiled as part of the ESHIA process in accordance with the regulatory requirements stipulated in Regulation 11 of the Environmental Assessment Regulations (1999).

The OCTP Block Phase-1 ESHIA was submitted to the EPA on 26th January 2015 and approved on 9th July 2015. The scoping report for OCTP Block Phase-2 ESHIA was submitted to EPA on 30th December 2014 while the OCTP Block Phase-2 ESHIA was issued on 19th March 2015 and approved on 24th July 2015. Both ESHIAs were disclosed by IFC on 23rd March 2015 under the early disclosure procedures outlined in IFC's and MIGA's Access to Information Policy, and can be found at

<http://ifcextapps.ifc.org/IFCExt/spiwebsite1.nsf/0/60279DBD070E6EB685257E110060FFEE?opendocument>.

The ESHIAs have been developed consistent with Eni S.p.A's, Eni Ghana's parent company, corporate standard which is aligned with international best practice, based on a set of environmental, fisheries, socio-economic and health baselines and on the outcomes of stakeholder consultation. The ESHIAs meet the requirements of the Performance Standards. Quantitative studies were carried out involving numerical modelling of project emissions to atmosphere and noise at the ORF during operations, underwater noise levels, quantification of project discharges, including cutting discharge and deposition modelling, and modelling of oil spill scenarios.

¹ MIGA requires in its contract of guarantee for non-shareholder loans that the lender "causes" the project to comply with E&S requirements.

The public review and public hearing, part of the ESHIA process, took place from March to May 2015. In accordance with Ghanaian regulations, a series of Public Hearings were conducted integrating ESHIAs of both phases in the capital city of the Western Region Sekondi-Takoradi and in the community of Sanzule, where the ORF will be constructed. The final Phase-2 ESHIA was issued in July 2015. The EPA issued environmental permits for the drilling and development of wells; installation and commissioning of infrastructure of Phase 1, and construction, installation and commissioning of Phase 2 on June 8, July 9 and July 24 2015 respectively. ESHIAs are available in relevant government offices and public places in the project region (such as the Western Regional library) and non-technical summaries were distributed in the Area of Direct Influence of the project. The final OCTP Block Phase-2 ESHIA is disclosed as part of the documentation attached to this ESRS.

Drilling operations, laying of the subsea pipeline, installing the beach crossing of the pipeline at the landfall, installing the pipeline from the beach to the ORF, and clearing the locations for the ORF, base camp and helipad (to be used only in case of medical evacuation) are the main sources of potential environmental impact during construction.

During operation, the most significant event that could affect the marine and coastal environments is a crude oil spill from the FPSO, which handles oil and associated gas from the oil field development as well as non-associated gas from the gas field development, or from the rupture of a flow line from an oil well to the FPSO. Accidental events assessed involve a blowout from an oil well or a gas well, gas leaks, fire or explosion at the FPSO or the ORF or its pipelines. Management of drilling wastes and cuttings, solid waste and hazardous waste, air emissions and noise are measures addressed in the ESHIAs. Risks and impacts identified and relevant mitigation and management measures are described in the relevant sections that follow.

At the corporate level, Eni S.p.A has well-established HSE, Sustainability and Human Resources Policies approved by its Board of Directors and applicable to all operations of the group, its subsidiaries and to its contractors and subcontractors. The Eni HSE IMS is based on a comprehensive set of MSG which cover, among others, HSE management and risk management, energy efficiency, greenhouse gas (GHG) accounting and reporting, environmental monitoring, soil remediation and recovery, water resources management, biodiversity and ecosystems, waste management, health surveillance, stakeholders engagement and community relations, third party monitoring, and crisis and emergency plans. The IMS has been developed and is implemented in accordance with ISO 14001 Environmental Management System and OHSAS 18001 Occupational Health and Safety Management.

Eni Ghana's management system mirrors the corporate IMS and the company has obtained the relevant ISO and OHSAS certifications. The IMS applies to all activities performed by or on behalf of Eni Ghana, including those undertaken in Ghana and contractors' work locations overseas. As described below, consistent with the ESHIA commitment, a number of project-specific detailed management plans and programs will be developed.

Vitol E&P's HSE Policy includes commitment to achieve the highest standards in health, safety, environmental and community performance, as well as community relations commitments. The HSE Policy has been adopted by Vitol Ghana, committing to respect culture, traditions and livelihoods. At the corporate level, Vitol Group, the ultimate parent company of Vitol E&P, is currently in the process of developing a Code of Conduct and Corporate Social Responsibility

(CSR) policy which will be rolled out. The director of Compliance and CSR oversees social management at the corporate level and in all its operations.

Eni Ghana, with the support of Vitol Ghana, will develop environmental and social management plans and procedures as needed (among others Stakeholder Engagement Plan including Grievance Mechanism, Local Hiring and Training Plan, Security Management Plan, Community Health Management Plan, Influx Management Plan, Marine Traffic Management Plan, Traffic Management Plan, Livelihood Restoration Plan, Land Acquisition and Compensation Framework, Fisheries Management Plan, Cultural Heritage Management Plan, in addition to the Biodiversity Management Plan) to meet the objectives of the Performance Standards as indicated in the following sections, and incorporate those plans and procedures into an integrated Environmental and Social Management System.

Management Programs. A framework Environmental, Social and Health Management Plan (ESHMP) for the project is described in the Phase-2 ESHIA. On behalf of the OCTP partners, Eni Ghana has been appointed as the OCTP project operator and is ultimately responsible for the management and supervision of all project activities. The framework ESHMP describes the structure and processes that will be applied to development and production activities to assess and monitor compliance and effectiveness of the mitigation measures. The elements of the framework plan will be taken forward and incorporated into an integrated ESHMP that will be implemented in order to deliver the project environmental, social/health regulatory compliance objectives and other related commitments. The integrated ESHMP will be a component of Eni Ghana's overall HSE IMS. A construction/development phase ESHMP and the relevant management plans and programs will be in place in advance of development drilling and construction, followed by a production operations ESHMP which will be developed before first oil, with gas-related elements integrated as needed before first gas. As indicated, the ESHMP will include a Cultural Heritage Management Plan with a chance-finds procedure and measures to ensure the cultural heritage site identified and excluded from the project area is not damaged or compromised during construction and production operations.

The integrated ESHMP will be maintained and developed as the project advances, and will be subject to annual review. The ESHMP will also be updated as required, such as in the event of any significant changes to the project and its environmental and social risks and impacts occur, following a Management of Change process. In addition, Ghana EPA's regulations call for formal submission of an up-to-date operations ESHMP within 18 months after commencement of operations, and updates every three years thereafter.

Eni Ghana will require that contractors adopt measures and bridging documents to ensure that their management systems are compatible with Eni HSE Policy, Eni Ghana guidelines and procedures within the HSE IMS and the project ESHMP. Each contractor will develop its own specific implementation plans demonstrating how the contractor intends to comply with the stipulated project requirements. All contractors' plans will be reviewed and approved by Eni Ghana. Contracting parties to Eni Ghana will be monitored on implementation of relevant project's environmental, social and health requirements.

Organizational Capacity and Competency. Eni S.p.A. is a recognized and experienced operator with a strong track record in similar offshore environments. Eni Ghana is committed to provide resources essential to the implementation and control of the ESHMP. Eni Ghana's Health, Safety, Environment, Quality and Community Investment (HSEQ & CI) department is

headquartered in Accra, where staff overseeing commissioning and operations will be located. Currently, the company has a HSEQ Manager directly managing a team of five specialists in Accra and four HSE Supervisors in Takoradi. The team will be further expanded as necessary for the development phase and will maintain adequate resources and structure throughout the production and decommissioning phases. Plans have been presented that include reinforcing project staff in Takoradi and project sites to facilitate HSE and social performance oversight of site activities as well as to allow direct interface and access for stakeholders in the Western Region for the continuation of the stakeholder consultation process. During development, commissioning and production, HSE staff will also be stationed offshore.

The project will ensure that all staff, as appropriate with their job profile, understand the environmental and social policies, procedures and mitigations. The identification of training and awareness needs and implementation of the training plan will be the responsibility of Eni Ghana Human Resources & Training Manager with inputs from relevant departments. Contractors will be required to provide sufficient resources to manage the E&S aspects of their work. They will be required and responsible for the training and awareness of their staff on the project environmental and social setting, potential environmental and social impacts of their work activities, management and mitigation measures, and the existence of, and importance of complying with, the OCTP project ESHMP, including relevant interfacing with contractor's management systems.

Vitol E&P will assign an E&S assurance manager to the project to oversee environmental, health, safety and social aspects, ensuring compliance with Performance Standards and with project E&S commitments. Vitol E&P, through the E&S assurance manager and other resources to be engaged as needed, will partner with Eni Ghana for the integration of existing plans and procedures into the Eni IMS for the project.

Emergency Preparedness and Response. The corporate MSG on crisis and emergency plans establishes reference principles for managing HSE emergencies and related crises, and informs the development of emergency response plans. The MSG requires that accidents are reported immediately to Eni S.p.A's major emergencies unit. Consistent with these corporate requirements, Eni Ghana has developed plans and procedures for preparedness and response to environmental accidents and health and safety emergency situations, and for mitigating potentially adverse environmental, health, safety and social impacts that may be associated with them.

The Eni Ghana Emergency Response Plan describes the process, actions and responsibilities by which the company deals with emergencies both onshore and offshore. Other relevant plans and procedures are the Emergency Evacuation and Medevac Procedures and the Oil Spill Contingency Plan (see the section on PS3). Before development drilling commences, a Drilling Emergency Response Plan (Drilling ERP) will be developed. The ERP will include response procedures to emergencies potentially associated to drilling activities, including fire prevention and protection, environmental emergencies, and other incidents. Before first oil / first gas, Eni Ghana will develop a Production Operations ERP. Emergency preparedness and response procedures will be reviewed by Eni Ghana at least annually and after any accidents or emergencies to ensure that lessons learnt inform continuous improvement. Emergency drills will be undertaken regularly to confirm the adequacy of response strategies and equipment, and investigations of accidents or incidents will follow formal documented procedures, according to industry good practice.

The double-hulled FPSO design will satisfy requirements set out in the International Marine Organization (IMO) Conventions and by a ship classification society. The ship classification society will evaluate the FPSO against the structural and mechanical standards and will independently review FPSO construction activities and perform regular surveys for maintaining classification status. Also other vessels involved in the project will be classified and regularly inspected by an established certification body. The FPSO will be designed for the most harsh environmental operating conditions at the OCTP Block, without the need to access dry docking facilities for the 20 years of the project expected life.

The project will incorporate an Integrated Control and Safety System that will provide an integrated monitoring, control, protection and safety system for the entire production, topsides, marine, and subsea facilities, and the ORF. A Supervisory Control And Data Acquisition (SCADA) system will also be installed. Fire and gas detection systems, emergency shut-down system, and emergency blowdown (depressurization) systems will be installed at onshore and offshore facilities, according to good industry practice. Equipment for depressurization of gas injection flowlines and riser system will be provided on the FPSO. Specifications for accommodations, lifeboats and life rafts, helideck, deluge system, hull equipment spaces will comply with international standards and applicable Safety Of Life At Sea (SOLAS) requirements.

Specific requirements, providing for controls for all vessels activities and based on international guidance, including the International Safety Guide for Oil Tankers and Terminals, will be developed to govern all crude oil transfers from the FPSO to shuttle tankers.

All wells will be equipped with a blowout preventer (BOP) during drilling. The drillship will be equipped with two 15,000 psi BOPs, each with two shear rams, in accordance with Eni well control policy and international standards. The BOPs will be hydraulically operated from two remote panels, and drilling parameters will be monitored by two independent systems of sensors, which will operate in continuous mode. Consistent with industry best practice and Eni S.p.A. policy for deep water development wells, during development drilling Eni Ghana will implement well integrity and control strategies and develop specific Well Control Emergency Response Plans (WCERP). All drilling programs will be approved by Eni S.p.A in the Milan headquarters (that will act as independent, expert third party in charge of verification/review) in due time. These plans will contain strategies to respond to specific situations, including well kicks and blowouts, including drilling of a relief well, as needed. Eni Ghana has confirmed that the company has in place a global agreement for Emergency Subsea Well Capping Equipment.

Monitoring and Review. The ESHIAs outline a number of monitoring plans that will be needed for the project, both offshore and onshore. Monitoring will be conducted to ensure compliance with regulatory requirements as well as to evaluate the effectiveness of operational controls and other measures intended to mitigate potential impacts, as identified in the ESHIAs. On this basis, Eni Ghana will develop the specific monitoring plans that will describe the effects and indicators to be measured and the frequency, and will define roles and responsibilities for monitoring and reporting. A number of pre-construction surveys will also be implemented, including pre-construction fish catch surveys at Sanzule and in the project area of influence, with specific focus on beach seine fishing activities. Phyto- and zooplankton surveys will be carried near the same time as the catch surveys and focusing on fishing grounds.

Eni Ghana will keep Ghana EPA and regulatory authorities informed of the project performance with respect to E&S matters by way of written status reports and face-to-face meetings, as required. For social performance activities, Eni Ghana will submit twice a year reports to the six District Assemblies and the Regional Coordinating Council in Takoradi. Eni Ghana will also release corporate annual reports on environmental and social performance which will be available to the public via Eni's website, and will present relevant sections to affected communities as appropriate. Monitoring reports will also be submitted to the WBG.

As required by the IMS, Eni Ghana performs a number of internal and external HSE audits and inspections annually and, during development and production, will develop and implement an audit schedule. Contractors will be required to provide HSE performance reporting on a regular basis and include audits in their respective Contractor HSE Plans.

Cumulative Impacts. Potential cumulative impacts of the project have been identified through a rapid cumulative impact assessment (RCIA) presented in the Phase-2 ESHIA. Cumulative impacts were identified in relation to (i) the TEN project from Tullow Oil, located approximately 70 km west of the OCTP block, for which the EIS is under evaluation, (ii) other projects related to oil and gas developments, such as plans under consideration for a liquefied natural gas (LNG) receiving and regasification facility along the coast in Western Province (Phase-2 of GNGC Gas Plant at Atuabo, about 10 km west of Sanzule) and pipelines to connect it to West African Gas Pipeline (WAGP) and to potential consumers; and (iii) the Lornho Oil Service Port at Atuabo, located a minimum of 15 km west of Sanzule, for which the EIS is under evaluation. The Jubilee Field Development (about 50 km west of the OCTP block), Phase-1 of the GNGC Gas Plant at Atuabo and the road construction project along the GNGC pipeline right-of-way were not included in the cumulative impact assessment as they are operational or underway and their effect on the environment has been already taken into account in the description of the existing baseline.

The RCIA was aimed at (a) determining the significance of the overall cumulative impacts and project's contribution to these cumulative impacts, and (b) identifying the need of environmental and social management plans and procedures to appropriately mitigate those contributions. The main cumulative impacts offshore will be from planned exploration and appraisal drilling and potential future development projects in the adjacent licensed blocks. Cumulative impacts from increases in the level of shipping and helicopter traffic servicing other oil and gas field exploration and development programs in the area will also occur. The onshore facilities of the project will be located in an area where there is limited industrial activity. Cumulative impacts would thus be primarily related to the in-combination effects of the project with potential future development in the immediate area around the project site.

While Eni Ghana is accountable for the design and implementation of mitigation measures commensurate with the magnitude and significance of its contribution to the cumulative impacts, the company will use their best efforts to engage other developers, local institutions and government, and other stakeholders in designing coherent management strategies to mitigate cumulative impacts. Coordination of the relevant operators, agencies and stakeholders under the direction of the Government of Ghana will be essential in order to mitigate and manage potential cumulative effects. Actions that will be explored and promoted by Eni Ghana, with the support of the partners, will include:

- collaboration with other operators and developers along the coast of the Western Region, and the relevant Government agencies on the identification of common standards and actions for the

management of potential cumulative impacts, with focus on land based and fisheries based livelihoods, surface and ground water systems and wetland conservation, coastal process and marine biodiversity, price inflation, socio-cultural changes, social infrastructure, and community health, safety and security;

- collaboration with other oil and gas operators, marine logistic and shipping companies, Ghana Maritime Authority, and Ghana EPA to join and strengthen environmental protection expertise and resources, and to coordinate approaches for oil spill preparedness and response.

PS 2 – Labor and Working Conditions

Human Resources Policies and Procedures: During the construction phase the peak of total workforce for onshore construction will be approximately 400-600 people, while for offshore activities about 300 workers will be employed for drilling activities, 210 for FPSO mooring and 200 for gas export pipeline laying. A temporary accommodation camp will be constructed at the ORF site. During operations, permanent employees on the FPSO will be approximately 65, while 45 people will be employed at the ORF where there will be permanent accommodation facilities. All accommodations will be designed and operated consistent with IFC/EBRD guidance note on Workers' Accommodation: Processes and Standards.

Through its corporate policy "Our People", Eni S.p.A and its subsidiaries are committed to upholding the rights recognized in the "Universal Declaration of Human Rights" in the countries in which it operates; to encouraging behaviors based on mutual respect, and to condemning all forms of harassment in workplace relations. The Sustainability Guidelines include commitments to operate within the framework of the United Nations Universal Declaration on Human Rights and the Fundamental Conventions of the International Labour Organization. The policies include commitment to respect the dignity of each person and provide equal opportunities without any discrimination based on race, color, gender, religion, nationality, political preferences, sexual orientation, social status, age or any other personal condition not relevant to the work requirements. The corporate MSG on procurement requires selection of vendors that can guarantee compliance with anti-corruption applicable laws and regulations; environmental protection; the promotion of safe and healthful working conditions; compliance with workplace health and safety conditions; the prohibition of hard labor or the use of child labor, and trade union freedom of association and collective bargaining. Technical specifications included in the tender and contractual documents require contractors and suppliers to be in compliance with the legislation in force, with special reference to work safety, health and environmental protection. Consistent with corporate requirements, through its procurement processes, Eni Ghana assesses compliance of contractors and suppliers with its Human Resources policies.

The Ghana Local Content and Local Participation Bill requires that Ghanaian citizens are prioritized for employment and that the country benefits from its resources providing specific quotas for local employment and procurement for the oil and gas sector depending on the stage of a project. Eni Ghana will develop and implement a Local Hiring Plan in consultation with local communities to ensure transparency of the recruitment and selection process, and maximize the number of local residents benefited by job creation of the project. Recruitment of non-skilled workers for the development phase (estimated at 20% of the workforce), including the contractors' process, will be managed by Eni Ghana's Local Content and Sustainability department. Preference will be given to qualified workers in the local area, region and country in that order. Eni Ghana will also develop and implement a training program for Ghanaian nationals

so they can access job positions in the project and eventually assume positions initially held by employees of other nationalities.

Eni S.p.A's procurement process has procedures for the approval of vendors and contractors. Depending on the significance of the contract and the level of risk associated with the supply of the particular goods or services, Eni Ghana may require the vendors to 1) provide a self-declaration of compliance with environmental, social and labor policies, 2) answer a detailed questionnaire regarding the vendor's systems and/or 3) undergo a full due diligence process including reviewing of documentation and site visits to the vendor's operations. The approval of a vendor is valid for a period of three years, after which vendors are required to re-certify to continue commercial relationship with Eni Ghana. Contractual agreements include requirements to comply with labor legal requirements and human resources policies. These requirements are monitored by Eni during the contracting period.

A labor specific grievance mechanism will be put in place to addresses promptly and without any retribution workplace concerns and will be available to all workers, including those of contractors. Eni Ghana will monitor and audit as necessary labor and working conditions of contractors, subcontractors and main suppliers.

Vitol Ghana will develop a Human Resource Policy specifying commitments to recognize and respect workers' rights including hours of work, overtime arrangements and compensation, benefits as well as support freedom of association and equality of opportunity, and rejecting all forms of discrimination, and forced and child labor. The Human Resources Policy will be supported by plans and procedures to oversee and ensure compliance with the policy.

Occupational Health and Safety. Consistent with corporate requirements and guidelines, a comprehensive set of plans, standards, procedures and work instructions have been adopted by Eni Ghana to cover all aspects of occupational health and safety. Minimum safety standards are clearly spelled out by Eni at the corporate level and their adoption by all subsidiaries is required. Risks to the occupational health and welfare of personnel involved in the project implementation will be assessed and mitigated following a risk management process in accordance with company requirements. Contractors will be required to comply with Eni Ghana occupational health and safety policies and standards. A helicopter for Medevac will be always available at Takoradi airport, able to reach project sites and, as the case dictates, return back to either Takoradi or Accra. Support vessels will be located near the drillship during drilling activities.

HSE statistics, including lagging indicators (such as total recordable injury rate and loss time injuries frequency) and leading indicators, are consistently recorded and will continue to be collected and analyzed throughout the project phases, including review of contractor performance.

A project Security Management Plan will be developed for both onshore and offshore activities to safeguard project, related personnel and property and to ensure that safeguarding activities are carried out in a legitimate manner that avoids or minimizes risks to the community's safety and security (see further discussion in the section relevant to PS 4 on Community Health, Safety and Security).

Air Emissions, Noise and Light Emissions. During development and production operations the project activities will emit varying amounts of airborne emissions, including carbon monoxide (CO), oxides of nitrogen (NO_x), oxides of sulfur (SO_x), volatile organic compounds (VOCs), and particulate matter. Fugitive emissions of natural gas, which mainly consists of methane (CH₄), will be generated from various equipment and components, including seals, valves, flanges, gas turbines, and storage tanks. During development and construction, emissions will be produced offshore and onshore by equipment and vessels from combustion engines, and dust will be generated onshore from earth movement activities and traffic.

During production, offshore air emission sources will be related to the FPSO, mainly operation of gas turbines for power generation and gas compression. The project has adopted a “zero flaring” design philosophy, and flares will only be used for limited periods during commissioning phase and in emergency cases during operations. During well production tests lasting for approximately 4.5 days per each well, gas from the tested wells will be flared. Dilution and dispersion of air pollutant emissions from the drillship and the FPSO are expected to be rapid and the potential effects on ambient air quality to be limited to a short distance from the emission sources. No detectable effects on ambient air quality onshore are expected considering the relatively limited amount of air pollutants emitted and the distance from shore.

The project will ensure that offshore facilities and support vessels will comply with the requirements of MARPOL Annex VI and relevant WBG guidelines for thermal power plants and small combustion sources, as applicable.

Gas entering the ORF will be measured, compressed and delivered into the existing national network. The gas will not be stored in the ORF. Air emission sources will be related to the ORF operation, mainly gas turbines, diesel power generation units and gas compression. A discontinuous air emission source will be a cold vent, which will only be used during commissioning, start-up, shut down and emergency conditions for pipeline and plant depressurization. There are no major industrial activities in the project area of influence and thus no other significant sources of air pollutant emissions. Baseline ambient air quality measurements showed concentrations of nitrogen dioxide, total suspended particles and VOCs within the applicable Ghana EPA national standards, with relatively high levels of sulfur dioxide and PM₁₀, potentially associated with fish smoking process or waste burning in Sanzule and Eikwe communities and road construction works. Air emission dispersion modeling, based on available design information with conservative assumptions, did not identify any potential significant impacts on human receptors and vegetation due to emissions of air pollutants generated by both onshore and offshore operations. The ORF contribution in terms of NO₂ daily concentrations modeled at the villages of Sanzule and Eikwe accounts for maximum 37% of background concentrations. Results of the model are well below the national standards for SO₂, NO₂ and CO. The model showed that FPSO emissions will be rapidly dispersed in an offshore environment, not affecting closest human receptors located on the coast. The modeling will be refined during ORF and FPSO final design to inform the identification and development of a package of air emission reduction measures to ensure compliance with WBG emission guidelines and mitigate the residual impacts on sensitive receptors. A pre-construction survey will be carried out in order to collect more detailed baseline data at the sensitive receptors located near the onshore facilities. An air emission and ambient air quality monitoring program will be implemented.

The drillship, the FPSO and vessel operations will generate noise into the marine environment. Trenching activities will also generate noise levels from shore up to 2 km from the coastline; then the pipeline will be laid on the seabed.

The low-frequency noise levels from offshore drilling and production activities are relatively weak in intensity and are expected to rapidly decay within a 1 km radius of the source. These levels are considered not to be enough to cause hearing loss, discomfort, or injury, but they can be detected and produce some behavioral responses (e.g., avoidance) in marine mammals, particularly baleen whales, and in fish. Sea turtles are less sensitive to changes in marine noise levels from marine activities. Marine mammals do often congregate around offshore platforms and become accustomed to predictable noise, as in the case of ships following a shipping route and stationary sources. However, sensitive species will maintain an avoidance behavior in case noise levels are above damage thresholds, which is expected to occur in 1-3 km radius from noise source. Although overall the impact on marine mammals and sea turtles was assessed as being of minor significance, Eni Ghana will develop and enforce a policy and relevant procedures to ensure that operations of drillship, support vessels and helicopters minimize disturbance to marine mammals and turtles.

The main noise emission sources at the ORF during production operations will be the gas turbines of the power generation unit, the diesel power generators and the compressor station. Discontinuous noise emission sources will be the cold vent, the heliport, and equipment and vehicles used for maintenance and inspection activities. Relatively high noise levels for a rural environment were monitored at Sanzule and Eikwe, without significant variations between day time and night time. Average baseline noise level at Sanzule and Eikwe exceeded the EPA permissible day-time noise level of 55 dB(A) and night time level of 48 dB(A) for residential area, possibly due to natural sources (sea waves breaking at the beach) and community activities. Noise propagation modeling, based on available design information with conservative assumptions, showed that the project contribution meets Ghana EPA noise limits and WBG guidelines both during day time and night time and complies with the WBG 3 dB(A) incremental criterion in the residential areas. The modeling will be refined during ORF final design to inform the identification and development of a package of noise attenuation measures able to mitigate the residual impacts on the community receptors. A pre-construction survey will be carried out in order to collect more detailed baseline data at the sensitive receptors located near the onshore facilities. An ambient noise monitoring program will be implemented, and seasonal constraints for construction activities in relation to the local fauna sensitivity (e.g., avoiding reproduction period of turtles, and with respect to bird species of the Amansuri Wetland) will be considered and implemented.

Eni Ghana will ensure routine inspection and maintenance of engines, generators, and other equipment, and use of low-sulfur diesel fuel will be defined as part of the project's environmental monitoring program.

Light emissions from project facilities, vessels and FPSO may be visible at night at considerable distances, depending on weather and sea conditions. While no impacts are expected to turtle nesting or foraging area from the artificial light associated with drilling and production operations offshore due to their distance more than 40 km from the coast, seabirds may be attracted by the lights during nights, especially during poor weather, i.e. overcast nights. Although it is expected that disturbance will be localized, only affecting a small number of birds

offshore, and temporary, the project will implement measures to control and reduce overall light intensity to the extent practicable, without adversely affecting maritime or operational safety.

Greenhouse Gas Emissions and Resource Efficiency. All associated gas (with the exception of the gas used for the FPSO gas turbines and each other end user on the FPSO after fuel gas conditioning) will be separated, dehydrated, compressed and re-injected into the formation. The FPSO will have the capacity to handle and re-inject 100% of associated gas volumes - 150 millions of standard cubic feet per day (MMscfd) - to the field through three gas injection wells. Inert gas will be used for blanketing process equipment and purging the flare stack.

The principal sources of GHG from the project will include the following: (i) main power generation systems on the drillship, FPSO and ORF; (ii) engine emissions from project installation/construction vessels and supply/support vessels; and (iii) gas flaring and venting during commissioning, maintenance and emergency situations.

The annual GHG emission during production operations is estimated at approximately 400,000 tons CO₂ equivalent per year. As required for projects with GHG emissions greater than 25,000 tons CO₂ equivalent per year, Eni Ghana will implement a quantification program for GHG emissions, according to an internationally recognized emissions estimation methodology, for both development phase (including drilling, completion, installation of subsea facilities, FPSO and ORF, and pre-commissioning/commissioning) and production operations, and will establish annual review programs to identify areas of improvement and GHG emission reduction. Eni Ghana has committed to implement a Zero-Permanent Flaring policy, and will implement measures for minimization of venting and flaring (consistent with the Global Gas Flaring and Venting Reduction Voluntary Standard) and minimization of fugitive emissions.

Energy efficiency principles will be built into the design to minimize power requirements during production operations. All three gas turbine units installed on the FPSO will be equipped with a Waste Heat Recovery Unit for recovery of exhaust heat. Eni Ghana will define energy saving projects to be included in the Strategic Plan developed at the corporate level.

Fresh water consumption will be limited during both construction and operations. Groundwater wells needed for water supply will be installed at sufficient depths to access the deep freshwater aquifer. A Water Risk Assessment study is under preparation and will quantify effects of groundwater abstraction and ensure that there will not be measurable impacts on community water resources.

Wastewater Treatment and Disposal. Wastewater streams associated with development and production operation activities will include hydrotest water, produced water, cooling water, gray water and sewage, bilge water, deck drainage, ballast water, cooling water. Hydrostatic testing of offshore equipment and lines will involve pressure testing with filtered seawater to verify equipment and pipeline integrity. Only environmentally friendly inhibitors will be used and their discharge concentrations will be in line with local and international standards. A Hydrotest Water Disposal Plan will be prepared that considers points of discharge, rate of discharge, chemical use and dispersion, environmental risk, and monitoring.

The drillship, the pipe-laying vessel and other support vessels will adhere to MARPOL regulations and will be equipped with wastewater treatment units for the treatment of civil

wastewater. At the ORF construction site, all wastewater produced will be treated as waste, properly stored and disposed off-site at a licensed facility.

During offshore production operations, all wastewater streams will be discharged to the sea after treatment on the FPSO, except produced water which will be reinjected into a suitable geologic formation through reinjection wells. Domestic wastewater will be treated in a purification system before being discharged to the sea in accordance with MARPOL regulations. Non-contact cooling water (approximately 1700 m³/h) will be discharged to the sea with a maximum discharge temperature of 31 °C and controlled biocide/antifouling concentrations. As sea surface temperatures in offshore Ghana typically vary between 27 - 29°C, the impact of cooling waters discharged will generate a limited increase of temperature of the seawater that will only be noticeable in the immediate vicinity of the discharge point. Oily waters (bilge water) will be collected and treated in a separator, sent to a collection tank and then discharged to the sea. Recovered oil will be filtered and collected in a tank for onshore disposal. Drainage systems will be provided to handle effluents produced from the FPSO topside facilities, including (i) a non-hazardous open drain system, collecting drainage from deck areas; (ii) a hazardous open drain system, designed to collect drainage from open areas within hazardous areas of the process where oil spills are possible; and (iii) a closed drain system, collecting drainage from equipment. The closed drain drum will have sufficient capacity to accommodate the largest single liquid inventory.

A produced water treatment system will be installed on the FPSO to remove oil and solids from produced water and to comply with reinjection requirements and, in case of injection system unavailability, with overboard discharge regulations and WBG guidelines (oil and grease not to exceed 42 mg/L daily maximum or 29 mg/L monthly average). The treatment system will consist of a degasser, a cooler, two stage oil/water separation in two slop tanks connected in series, and a hydrocyclone system to further de-oiling. The treatment system will be sized to process 45,000 bpd of produced water and ensure an oil content of 20 ppm in treated water. The project will involve the total reinjection of produced water; however, it will be possible to monitor eventual overboard discharge of produced water through a sampling point which will be installed on the FPSO.

In order to reduce the risk of introduction of alien species due to ballast water discharge, the project will adhere to IMO Guidelines for the Control and Management of Ship's Ballast Water and Sediments (Ballast Water Management Convention). No ballast activities will take place in the near shore area and over the continental shelf. Tanker vetting procedures will be required to ensure that all shuttle tankers have segregated ballast water tanks to limit the risk of oil-contaminated discharges. Vetting procedures will also include requirements for ballast water exchange.

The wastewater effluents from the ORF operation will be mainly civil water and storm water, as in the ORF process only the gas stream will be present and thus no liquids will be generated and no chemicals will be added into the gas stream. Storm water collected from potentially contaminated areas will be disposed of offsite at licensed treatment plants.

Waste and Hazardous Materials Management. The project will generate both non-hazardous wastes and hazardous wastes. Eni Ghana has in place a Waste Management Plan as part of the HSE IMS, which will inform the development of a project Waste Management Plan. The plan will cover the collection, storage, treatment, transport, disposal, discharge, reporting and data

management of all the waste to be generated during offshore and onshore operations, including drilling, infrastructure and facilities construction, operations and maintenance. The plan will include site-specific procedures detailing how waste is to be managed, treated and disposed of, identifying the waste types and streams and defining waste handling contractors and final disposal sites. Proper segregation of waste will facilitate the reuse and recycling of suitable waste streams. The plan will define waste tracking procedures to allow waste consignments to be tracked from source of generation to end point. All waste producers (operator and contractors) will maintain a waste register and prepare an inspection and reporting plan.

Burn baskets will be used only for non-hazardous canteen and cabin waste on the drilling rig, the FPSO, the pipe laying barges and the support vessels, in compliance with MARPOL Annex V. During FPSO operations, small quantities of hazardous waste will be produced mainly due to equipment maintenance and operation. Food waste will be shredded and dumped at sea through a sieve with an aperture of 25 mm as specified by MARPOL regulations.

At each project facility (drillship, FPSO, ORF) dedicated waste storage areas will be equipped with waste containers, clearly labelled, adequately contained and secured. Different waste types will be segregated in order to prevent accidental spillages, fires, soil contamination, loss of integrity and possibility of contact with people and animals. Containers for offshore waste will be in compliance with ISO 1496 or EN 1279.

Only waste management companies approved by Ghanaian authorities and Ghana EPA will be used for transportation, recycling and disposal of wastes generated by the project. Adequate licensed incineration and landfill facilities have been identified in Takoradi. Eni Ghana will undertake periodic audits of third-party waste facilities and sites to verify that wastes are being managed in line with company's standards and methods, as defined in the relevant contractual agreement.

A Hazardous Materials Management Plan will be implemented to address handling and storage of hazardous material that are used or stored aboard project vessels or facilities, ensuring compliance with Ghana laws and regulations and consistency with WBG guidelines. Hazardous substances will be stored within sealed containers in areas bunded to prevent and contain accidental spills. At the ORF, fuels and other hazardous chemicals will be stored according to industry best practice including containments that can accommodate 150% of the total storage volume and are covered to prevent rainfall entering the containment basin. PCBs, leaded paints, chromium-based cooling water treatment, mercury-filled meters, asbestos-containing material and ozone-depleting substances will be prohibited. Hazardous material training will be provided to project personnel.

Drilling Fluids and Cuttings Management. The total volume of cuttings to be generated from each well is expected to amount to approximately 800 m³. Approximately 400 m³ of cuttings drilled with Water Base Muds (WBM) will be generated from the top two surface riserless intervals of each well. Discharge of WBM and associated cuttings will take place very near the sea bottom and material will settle fairly rapidly, reducing contact with the water column. Once settled the leaching of potential low levels of hydrocarbons and metals, if any, into the water column will be slow.

The bottom sections of the wells will be drilled with Synthetic Based Muds (SBM), which will be recovered and treated onboard to reduce residual Non-Aqueous Drilling Fluids (NADF)

retention on dry cuttings to a maximum of 2% of weight content. Used SBM will be treated in a solids treatment system (vibrating screens, a desilter, desander, and centrifuges), which separate the mud from the drill cuttings. Recovered mud will be reconditioned in dedicated tanks and pumped back into the well. Cuttings will be treated in cutting dryers and then will be discharged from the drillship. Approximately, 400 m³ of drill cuttings and an associated 8 m³ of residual NADF on cuttings will be discharged to sea from the bottom sections of each well (assuming 2% retention). Eni Ghana has specific company guidelines for the management of the cuttings, and will optimize the operational performance of solids treatment equipment on-board drillship to ensure oil on dry cuttings measurements achievable is maximum 2%. Ghana EPA regulation permits the discharge into the sea of drill cuttings contaminated by synthetic/pseudo oil based mud system with a residual oil on cuttings content less than 3% of dry matter if discharged beyond 500 m water depth (“Ghana EPA Guidelines for Environmental Assessment and Management in the Offshore Oil and Gas Development” article 12 and section 7). However, the EPA, in the permit issued in relation to the OCTP Block Development project, stated the requirement of ensuring that NADF cuttings discharged to sea must have an oil concentration lower than 2% by weight on dry cuttings. Above the 2% there is a surcharge regime up to 10% oil on cuttings. Above 10% oil on cuttings offshore discharge is prohibited.

These levels are above the WBG guideline of 1% on oil content on cuttings disposed to sea. Exceptions to the WBG guideline are acceptable where a project’s environmental assessment provide a full and detailed justification of the proposed alternative for ocean disposal. As part of the drill cuttings study, modeling was undertaken to quantify the transport, dispersion, and bottom deposition of discharge drill cuttings. Low toxicity and rapid dispersion of drilling discharges due to significant water depth and strong currents will cause limited or no measurable impact to the biological environment. The results of the model showed that the effects of the water column would be temporary with maximum suspended solids up to 2.5 mg/l within 300 m of the release location. Dispersion will allow a return to background levels in a relatively short time. Dispersion also will minimize benthic impacts. Sea bed depositions of cuttings will be limited and the thickness of drill cuttings on the seafloor will not exceed the threshold value of 50 mm, reaching a maximum value of 35 mm at the top of the deposited mound near the release location. According to the model, most of the area affected would result in a layer of cuttings of less than 1 mm thickness. NADF adhered to the cuttings would settle primarily within a region with an area on the seafloor of approximately 1.2 km², with total hydrocarbon concentrations expected to reach a maximum of 40.8 g/m² within 50 m from the discharge point. Impacts on benthic communities of soft bottom areas will only be measurable within a few hundred meters of each drill site, and re-colonization of these areas should happen within a few years.

The following mitigation measures will be adopted to further minimize the impact of drill cuttings and fluid discharge on the marine environment:

- (i) use of additives in the WBM that will be inert and eco-friendly, preferably included in the PLONOR list (Pose little or No Risk to the environment) (OSPAR, 2013). WBM and associated cuttings discharged will accomplish the toxicity requirements set by the EPA;
- (ii) the rate of WBM and cuttings discharge to the sea will be monitored;
- (iii) use of the lowest feasible chemical contents in the SBM, prioritizing chemicals included in the PLONOR list and those with lowest hazard according to the CHARM methodology developed by OSPAR;

(iv) treated dry cuttings for sections drilled with SBM will be discharged via a caisson at least 50 m below water surface. In any case, a good dispersion of the solids on the seabed will be demonstrated;

(v) the content of mercury and cadmium in the bentonite used will be monitored to ensure lowest levels possible and within the limits defined by Ghana EPA and consistent with WBG guidelines.

Oil Spill Prevention and Response. As discussed in the previous sections, the project facilities will be designed with a range of inherent measures aimed at minimizing the risk of potential oil and chemical spills. Spill prevention measures include: (i) process safety management and training of personnel; (ii) asset integrity assurance, through routine operator inspections, maintenance inspections and internal and external audits; (iii) process isolation, including emergency shut-down system as an integral part of an Integrated Combined Safety System, providing full alarm and fault status indication as well as valve isolation; (iv) incorporation of industry lessons; and (v) emergency preparedness in place.

Eni Ghana's "Development Drilling & Production Operations Oil Spill Contingency Plan – OCTP Block" (OSCP), which considers potential spill scenarios for both development drilling and production phases, is structured consistent with the International Petroleum Industry Environmental Conservation Association (IPIECA) guidance and conforms with relevant WBG guidelines. The OSCP is based on a three tiered response approach, categorizing potential oil spills in terms of their potential severity and the capabilities that need to be in place to respond. Oil spill risk assessment and quantitative modeling, based on the potential surface and subsurface oil spill release scenarios, have been conducted. Both deterministic and stochastic oil spill modelling were done using SINTEF's Oil Spill Contingency And Response (OSCAR) software, and covering a wide range of events, such as combinations of different release points, spill duration, oil characteristics, and total volume released. For each event the most probable (i.e. highest frequency) and the most severe (i.e. largest volume released) scenarios have been simulated as worst cases. An assessment of potential oil-spill related impacts to offshore and coastal environmental resources, including turtle nesting beaches, has been conducted. Eni Ghana will finalize the OSCP before development drilling, and measures will include an environmental lead as part of the response team and clear mechanism of escalation of response effort based on coastal and biodiversity sensitivity.

Eni S.p.A is a participant member of Oil Spill Response Limited (OSRL), an industry-owned cooperative which exists to respond effectively to oil spills worldwide, and has therefore immediate access to OSRL's Tier 2 and Tier 3 spill response technical advice, resources and expertise 365 days a year on a 24 hour basis, including West And Central Africa (WACAF) aerial surveillance and dispersant application services. Eni Ghana will also establish mutual aid agreements with other operators in Ghana.

PS 4 – Community Health, Safety and Security

Community Health and Safety. The community of Sanzule, where the onshore component of the project will be located has a population of approximately 1,600. Sanzule is in the Ellembelle district, with a population of around 95,000. The main project-related health and safety concerns for the local population are accidents and leakage, socio-cultural and health impacts due to in-migration of workers and people in search of job and other economic opportunities, and conflicts

with enforcement agents and project security in the FPSO and ROW exclusion zones. The ESHIAs for Phase-1 and Phase-2 identified these impacts and the project will implement mitigation measures to reduce and mitigate potential community health, safety and security impacts.

Eni Ghana will develop a Community Health Management Plan to minimize the risk and adverse impacts to community health that may arise from project activities. An Influx Management Plan will be developed in consultation with local communities and regional authorities to reduce and manage project induced in-migration to the area of the project and minimize associated negative impacts to local community health and safety.

The project will establish 500 meter radius buffer zones for safety and security reasons around offshore facilities (drilling units and FPSO) during development and production. There will be an exclusion zone of approximately 100 m either side of the gas export pipeline preventing people from using the beach in front of the ORF land acquisition area for fishing, landing catches and boats and gathering for fish-mongering or other activities during the development phase. A safety zone of 50 m (25 m on each side) will be established over the right of way (ROW) for the onshore pipelines. The pipeline path will be clearly indicated and certain activities such as planting trees, digging, setting fires and building any type of structure will be forbidden in the ROW. Free passage and movement of people will be ensured and some activities that do not pose a risk to the integrity of the pipeline or to the local population will be allowed.

Specific measures and layout considerations will be included in the ORF design to ensure that, in case of accidental events, thermal radiation loads following a fire and average concentration of methane in air will be within recommended industry safety standards at the boundaries of the facility. The need for a safety buffer zone around the ORF will be coordinated with national competent authorities.

A Marine Traffic Management Plan will be developed to manage vessel movements and ensure safe passage of fishing and other boats. Routes will be established and clearly communicated to the local population with specific emphasis on fishermen. The project will also develop and implement a Traffic Management Plan to minimize the risk of road traffic accidents and mitigate other traffic related issues that may cause health problems and nuisances to the community such as noise and dust.

As indicated in the Air Emissions and Noise section above, air emissions dispersion and noise propagation modeling was performed by the project. The modeling will be refined during ORF final design to inform the identification and development of emission reduction measures to ensure compliance with WBG guidelines and of noise attenuation measures to mitigate the residual impacts on the community receptors.

Through its corporate Code of Ethics, Eni is committed to actively contribute to promoting the quality of life, the socio-economic development of the communities where Eni operates and to the development of their human resources and capabilities. Eni is committed to respect the cultural, economic and social rights of the local communities in which it operates and to contribute to their exercise as possible.

Vitol Group has an Ethics Policy Statement that focuses on working with communities and local governments with respect, and is in the process of developing a Code of Conduct. Vitol will

work with Eni Ghana to develop a code of conduct with specific provisions to manage behavior of workers with/in local communities and avoid the incidence of nuisances and negative social and health impacts. The code of conduct will particularly consider local culture and customs, and will be applied to all project workers including those employed by contractors and sub-contractors.

Emergency Preparedness and Response. As indicated above, Eni Ghana has developed an Emergency Response Plan. The project will ensure that the plan incorporates provisions to coordinate emergency response actions with relevant local authorities and will communicate and train community members on applicable aspects of the plan to ensure they are prepared in case of a project related emergency.

Security. Eni Ghana adheres to the Voluntary Principles on Security and Human Rights (Voluntary Principles) through its Management System Guideline for Security. Eni Guidelines on the Protection and Promotion of Human Rights refer, among others, to United Nations Universal Declaration of Human Rights, OECD Guidelines for Multinational Enterprises, and United Nations Basic Principles for the Use of Force and Firearms. The guidelines principles include a commitment to guarantee that Human Rights of local communities are not limited or violated in the activities aimed at ensuring the security of Eni personnel and assets, in cooperation with state and private security forces.

Eni Ghana contracts security services and has no directly-hired security personnel. Project security systems will comply with Ghana laws and regulations as well as the requirements of the Voluntary Principles. The security system will include, among other things, selection or personnel based on a careful background screening, training with regards to human rights requirements, and monitoring of performance. The project will develop a Security Management Plan for onshore and offshore facilities and activities in accordance with its policies. The project will have a dedicated patrol vessel to monitor offshore exclusion zones and will seek to establish an agreement with the Ghanaian Navy to support, if required, the project's effort to assure security and monitor the enforcement of exclusion zones. As part of the agreement, the project will support on-going training on principles on security and human rights. The project will encourage public security forces to disclose any agreement with the project.

Vitol's Security Policy states that security risks will be assessed and managed as an integral part of its business activities, and security guidelines will be developed and issued where required. Vitol will update its security policy to be aligned with the Voluntary Principles.

PS 5 – Land Acquisition and Involuntary Resettlement

Ghana has a dual land tenure system, comprised of customary and statutory land tenure. After conducting an alternative analysis based on technical, environmental and social considerations of six macro regions, the project selected for the location of the ORF a site owned by the community of Sanzule under the customary system. Overall, the site is modified habitat, and the vegetation is mostly bush, secondary forest, and farmland used by community members mainly to grow crops, fish farming and gather firewood and other resources. A study conducted by the Town and Country Planning Department of Ghana confirmed the suitability of the proposed project location for industrial development based on analysis of the area and observations from stakeholder engagement with the people of Sanzule.

Through consultation with the community, Eni Ghana reduced the original footprint of the project from 257 to 237 acres in order to exclude a traditional cemetery and to avoid 13 dwellings where migrant fishermen reside. As a result of the footprint reduction and redesign, no physical displacement will be necessary to accommodate the project and no known cultural heritage sites will be affected.

The majority of the land is Stool land owned and managed under the traditional system by members of the Sanzule community, while a small number of plots (four plots) are privately owned lands. Eni Ghana has confirmed that, with the participation of the Ghana National Petroleum Corporation (GNPC) and the Ministry of Energy and Petroleum (MoEP), they negotiated through an agreement with all landowners, including Stool and private owners of Sanzule and signed on April 2nd a 30-year lease for the construction and operations of the ORF.

A survey updating affected plots and farmers conducted after the reduction of the original footprint indicated that there are currently 336 small farm plots or fishponds on the land acquired, affecting 238 individual farmers. Of the affected farmers 199 are eligible for compensation while the remaining 39 established their farms or fishponds after the cut-off date. Eni Ghana will conduct a review of the cut-off date disclosure process and if appropriate revise eligibility for compensation. Approximately half of the affected farmers claimed to own their farmland based on the customary system, while most of the others rented the land in exchange for a percentage of the harvest. Also half of the farmers indicated that farming is their main occupation; the other half use the land to supplement their livelihood. Eni Ghana will complement the baseline of the ESHIA to determine the amount of land available in the community for agricultural purposes and the level to which affected people and the community at large depend currently on the land to be occupied by the project.

Eni Ghana will comply with Ghanaian legislation for involuntary displacement, which has provision for compensation when development projects affect people's land, property or livelihoods. Legislation requires prompt and adequate compensation at either market value or replacement value and must include the cost of disturbance and incidental expenses or other damages suffered because of involuntary resettlement or displacement. This is in line with PS 5 principles.

Eni Ghana has engaged an international resettlement expert to assist in the development and implementation of a Livelihood Restoration Plan (LRP) for affected people in the community of Sanzule. A review of the Land Acquisition and Livelihood Restoration process was undertaken identifying gaps and developing an action plan to ensure compliance with all PS 5 requirements. The LRP will ensure that all landowners and land and resource users affected by the project, including those impacted by the pipelines' ROW and the ORF are compensated appropriately and are provided with assistance to improve or at least restore their living conditions. The LRP will provide options to the project affected people (PAP) that will include replacement land and support for reestablishing their crops, training on agricultural practices, training on other trades, support to establish a viable and sustainable livelihood and cash compensation. Transitional support will be given to all PAP and Eni Ghana will monitor implementation of the LRP throughout the process. Once all mitigation measures have been substantially completed and displaced persons are deemed to have been provided adequate opportunity and assistance to sustainably restore their livelihoods, Eni Ghana will undertake a completion audit comparing outcomes against objectives of the plan and current living conditions against living conditions

prior to the start of the project. Supplemental actions may be required after the completion audit. The development of the LRP is in process and will be completed and disclosed prior to commencement of site-clearing or site-preparation activities. The project will also develop a Land Acquisition and Compensation Framework for any potential additional land acquisitions that may be required for the project or future expansions.

The project is also expected to cause economic displacement of fishermen mainly during the development phase, but also during operations as a result of the exclusion zones set for the offshore facilities. As per EPA guidance, the project will conduct a specific Fisheries Impact Assessment (FIA) and will develop a Fisheries Management Plan (FMP) that will include aspects related to fishing activity and associated socio-economic and cultural effects of the project; the FMP will also ensure fishermen are compensated appropriately and assistance for improving or at least restoring their living conditions is provided. The FMP will be similar to the LRP for displaced farmers in that it will provide viable livelihood restoration options for fishermen and transitional support as necessary, and will be monitored throughout its implementation to its completion. In addition, the project will develop a participatory monitoring program with the involvement of local fishermen, to assess and validate impacts to fisheries and fishermen as well as the effectiveness of mitigation measures. The plan will also include a compensation framework in line with PS 5 in case fishers are adversely impacted by an oil spill.

PS 6 – Biodiversity Conservation and Sustainable Management of Living Natural Resources

The ESHIAs present baseline information on fish species, benthic communities, marine mammals, sea turtles, and marine and coastal birds, and identify risks and impacts on the biological components and the vulnerability of the biodiversity and natural resources present in the project area of influence.

The Gulf of Guinea and Ghana's waters are considered to be favorable habitat for marine mammals, especially due to the seasonal upwelling which boosts productivity and ensures food availability. A variety of marine mammal species have been recorded off the west coast of Africa and their ranges are known to include the Gulf of Guinea and Ghanaian waters; however, the distribution, population estimates and ecology of cetaceans in the region in Ghana is poorly understood due to the limited level of scientific studies undertaken. The majority of information is the result of land-based field research, mainly monitoring of fishing ports for landings of small cetacean by-catches as well as the study of stranded animals. The results of these studies show that up to 18 cetacean species (14 species of dolphins and 4 species of whales) could be present, permanently or temporarily, in Ghanaian waters. Based on their ecology and habitat requirements it is possible that other species, in particular baleen whales, could be present in the area, both in deeper waters in the vicinity of the wells and FPSO as well as in the shallow waters (coastal areas) over the continental shelf.

Marine turtles spend most of their life at open seas, though they can also be observed in coastal areas and ashore during their breeding season when they lay eggs on sandy beaches. Five species of marine turtles are known to occur along the coast of Ghana, namely the loggerhead (Endangered), the olive ridley (Vulnerable), the hawksbill (Critically Endangered), the green turtle (Endangered), and the leatherback (Vulnerable). All five species of sea turtles are listed by the Convention on International Trade in Endangered Species (CITES). Turtle nesting may occur

all along the sandy coast of Ghana, accounting for approximately 70% of the country's coastline. Turtles are known to nest in the Western Region in beaches at Kengen, Metika Lagoon, Elonyi, Anochi, Atuabo and Benyin. Potential nesting sites cover therefore the whole coast from the Cote d'Ivoire border to the city of Axim, including the beaches close to human settlements. Nesting activity of green, olive ridley and leatherback turtles was documented in the last decades.

The project will develop and enforce a specific policy and procedures to ensure that impacts from traffic and operations of drilling vessels, support vessels and helicopters to marine mammals and turtles are minimal. Vessels will not be allowed to intentionally approach marine mammals and turtles and, where practicable, will alter their course or reduce speed to further limit the potential for disturbance or collision. Overall light intensity will be controlled and reduced to the extent practicable, without adversely affecting safety. Personnel on drilling rigs, the FPSO and field patrol vessels will be trained in marine mammal, turtle observation and monitoring to gather information on marine species distribution to inform future operations. A Biodiversity Management Plan, with special attention on marine turtles, will be developed and implemented, in collaboration with recognized species specialists. Seasonal constraints, associated with peak nesting season between October and February, will be incorporated in the construction and operation management plans.

Marine waters offshore Ghana are within the Central West African upwelling zone, with a major upwelling season from June to October and a minor upwelling season between December and February. Upwelling of cool, nutrient-rich water results in enhanced primary production, and therefore a situation conducive to high productivity for fish resources. Over 300 different species of commercially important fishes are reported for Ghana. A number of sensitive fish species, according to IUCN, are present offshore Ghana, including among others two species of sawfish, two species of angel sharks and a grouper, all considered as Critically Endangered. Although the project's direct footprint can be seen as negligible with respect to the extent of upwelling and its impact on fish resources, potential impacts on fisheries will be managed as discussed under PS 1 and PS 5.

Soft bottom benthic communities are expected to be consistently present in the project affected area. The baseline study conducted by the project indicated that the presence of corals is limited to isolated individuals and no larger coral communities were identified. No individuals or colonies of deep water corals have been observed as a result of the surveys along the pipeline route and in the vicinity of the wells. The baseline studies carried out did not identify any seabed features (e.g., mounds, faults, craters, wipeout zones) that are known to be associated with high-density chemosynthetic sites. The presence of chemosynthetic communities was not recorded, although they have been reported in the region offshore of Ghana.

Ghana has not declared any marine protected areas, while there are 18 designated protected areas onshore, including five coastal Ramsar sites. The coastal districts of the Western Region host one of these protected areas, the Ankasa Conservation Area, and several forest reserves. The Ankasa Conservation Area and the Cape Three Points Forest Reserve are the closest protected areas and they are located 25 and 42 km to the northwest and east, respectively, of the ORF concession area. Ghana hosts approximately 40 Important Bird Areas (IBAs). The ORF concession lies within the boundaries of one of them, the Amansuri Wetland IBA. The IBA includes the freshwater Amansuri lagoon, flood plains of the Amansuri river, coastal Amansuri lagoon and estuary, and Esiam beach, and supports the largest stand of intact swamp forest in Ghana.

Several communities are present within the boundaries of the IBA, including Atuabo, Beku, Bakanta, Krisan, Sanzule, and Nzulenso. The ORF concession is modified habitat, largely disturbed by human activity, but it is included within the IBA boundaries which extend in the project area mainly due to the nearby beach, as the triggering species (sanderling and the royal tern) usually dwell along the beaches during the boreal winter months. Dust, light, noise and vibration from construction and production operation activities as well as the presence of larger numbers of people in the area will result in direct disturbance to local fauna. It could also affect breeding and nesting patterns. A pre-construction survey will be undertaken to identify sensitive avian species that may be present, particularly during the boreal winter. To mitigate potential impact on IBA triggering species, seasonal constraints will be considered in the management plans. A process is ongoing, with the involvement of the Ghana Wildlife Society with funding from the Netherlands government, to designate the Amansuri area as a Ramsar site and the establishment of a Community Nature Reserve. Eni Ghana will collaborate with relevant institutions and conservation organizations with regards to the conservation of Amansuri Wetland IBA.

In addition, consistent with other operators in the area, the project will ensure that support helicopters will routinely avoid flying over the sensitive areas of Amansuri wetland and that, if avoidance is not feasible due to weather conditions, a minimum altitude will be specified, according to international good practice, when flying over this area to minimize disturbance to wildlife.

The risk of accidental oil spill impacts on these conservation sites will be minimized and mitigated through specific prevention and response measures defined in the Oil Spill Contingency Plan, as discussed under PS 3. Eni Ghana has confirmed access to external international capability for oiled wildlife response.

Stakeholder Engagement

Eni Ghana has engaged authorities and other stakeholders at the national, regional and local levels including communities in the direct area of influence of the project through the environmental impact assessment process. Eni Ghana conducted a stakeholder identification and mapping exercise and stakeholders were classified in categories based on their potential level of influence on the project and the potential effects of the project on stakeholders. The project has and continues to engage the EPA, the Ministry of Energy and Petroleum, GNPC, Petroleum Commission, Ghana Maritime Authority, Western Region EPA and Fisheries Commission, Sekondi-Takoradi Metropolitan Assembly, Ellembelle District Assembly and local chiefs, elders and community members among others.

Eni engaged relevant stakeholders during the scoping process of Phase-1 and Phase-2 ESHIAs in October/November 2013 and December 2014 respectively. The Phase-1 and Phase-2 ESHIAs have been disclosed by the EPA in accordance with Ghanaian legislation including public hearings held in Accra and Takoradi-Sekondi in March to May 2015 with the participation of Eni Ghana. Complementary disclosure and consultation activities have been carried out by Eni Ghana, including an announcement of the project in Eni's webpage with a link to the IFC website where the full ESHIAs are available, distribution of ESHIA documents in relevant government offices and public places in the project region (such as the Western Regional library), the presentation of the ESHIAs through a workshop in the community of Sanzule on

March 31, 2015, and the development and distribution of an integrated non-technical summary of the Phase-1 and Phase-2 ESHIAs within the project-affected area.

Eni Ghana has and continues to register, analyze and incorporate stakeholders concerns and suggestions into the project design and the development of mitigation measures such as the reduction of land take for the ORF to avoid cultural heritage sites and physical displacement, and the increase of stakeholder engagement activities in the community of Sanzule. The project has developed a Stakeholder Engagement Plan (SEP) for the ESHIAs preparation and disclosure processes and a Stakeholder Engagement Framework for the development and production phases. The SEP will be reviewed, revised and updated periodically based on a thorough stakeholder analysis including identification of vulnerable groups such as residents of the nearby Kristen Refugee camp, youth, elders, households head by women and immigrant fishermen among others. The SEP for the development and production phases will contain procedures for information disclosure, consultation, negotiations, partnership development, incorporation of stakeholder concerns into project management and operations, and conflict prevention and conflict resolution including a grievance mechanism.

Through the Eni Foundation and Eni Ghana CSR initiatives, the project has supported local development projects in an ad hoc basis, such as the construction of eight community health clinics, expansion of three hospitals in the region and the construction of community bathrooms in Sanzule. Based on the experience of the JV sponsors, the project will develop and implement a community investment strategy for the area of influence of the project by identifying areas of potential social investment based on community assets and needs. The community investment strategy will be developed in consultation with local and regional stakeholders and considering existing local and regional development plans.

Local Access of Project Documentation

Copies of the Phase-1 and Phase-2 ESHIAs will be made available at a number of locations for public review and comment including as minimum six Coastal Districts in the Western Region, Western Regional Library, Western Regional Coordinating Council, Petroleum Commission, Fisheries Commission, Ministry of Environment, Science, Technology and Innovation; Town and Country Planning; Ghana Maritime Authority; Ghana Wildlife Society; and Ghana Health Service.

In addition, the Environmental and Social Review Summary (ESRS) and the Environmental and Social Action Plan (ESAP), together with the Phase-1 and Phase-2 ESHIAs, will be available at the following locations:

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