Environmental and Social Review Summary

Accugas

This Environmental and Social Review Summary (ESRS) is prepared by MIGA staff and disclosed prior to the date on which MIGA’s Board of Directors considers the proposed issuance of a Contract of Guarantee. Its purpose is to enhance the transparency of MIGA’s activities. This document should not be construed as presuming the outcome of the decision by MIGA’s Board of Directors. Board dates are estimates only.

Any documentation that is attached to this ESRS has been prepared by the project sponsor, and authorization has been given for public release. MIGA has reviewed the attached documentation as provided by the applicant, and considers it of adequate quality to be released to the public, but does not endorse the content.

An Environmental and Social site visit was not conducted during due diligence but will be completed prior to MIGA Board of Directors consideration. If there is substantial change to information provided in the ESRS, disclosure time will be restarted in accordance to MIGA Access to Information Policy.

Country: Nigeria  
Sector: Oil & Gas  
Project Enterprise: Accugas Ltd.  
Environmental Category: B  
Date ESRS Disclosed: April 22, 2015  
Status: Due Diligence

A. Project Description

The Accugas project entails the expansion and modernization of Seven Energy International Ltd.’s (“Seven Energy”) natural gas midstream facilities in the eastern Niger Delta region which are run through its wholly owned subsidiary, Accugas Ltd. (“Accugas”, or the “Project”). Accugas owns the Uquo Gas Processing Facility (GPF) for processing gas from the Uquo and Stubb Creek fields and six gas wells. In addition, Accugas operational facilities include pipelines: (1) Uquo-Ikot Abasi, a 62 km underground gas pipeline constructed in 2011, (2) Uquo-Oron, a 37 km gas pipeline (completed in 2014), (3) Oron-Town Creek, a 24 km pipeline under construction, and (4) Ukanafun-Mfamosing a 128 km newly acquired, by Seven Energy, fully operational gas pipeline.

The greenfield pipeline for transmission of gas from Oron to Creek Town, which together with the Uquo to Oron pipeline (which has recently been pre-commissioned), will supply gas to the Calabar NIPP power station while the Uquo-Ikot Abasi pipeline is used for transmission of gas to the Ibom Power station1. The International Finance Corporation (IFC) has an equity investment in Seven Energy and conducted environmental and social (E&S) due diligence in December 2013; IFC committed in April 2014 prior to Seven Energy’s acquisition of some of Accugas assets. The International Bank for Reconstruction and Development (IBRD) is also considering a partial risk guarantee (PRG) backing up payment obligations from Calabar NIPP power plant.

1 The power stations are not considered Associated Facilities, since both would have been constructed/expanded without the Project.
The project area is located in the south-eastern tip of Nigeria, in the states of Akwa Ibom and Cross River. Accugas plans to construct pipeline infrastructure from the central processing facility at Uquo to Creek Town, where the pipeline will tie in to an existing pipeline owned by the state owned Niger Delta Power Holding Company (“NDPHC”) serving the Calabar power station. The pipeline will enable burning associated gas harnessed from crude oil at the Uquo field, which otherwise would have been flared. The pipeline will be 24”/60 cm in diameter and be able to supply over 200,000 mmscfd of gas. The total length is 68 km, and will be developed in two stages.

The first stage of 37 km was completed in 2014 and runs from the Uquo gas processing facility to Oron town. The Oron to Creek Town section, for which construction is planned to start in 2015, is 24 km and runs for the most part under water in the Cross River delta. The Calabar power station was commissioned in March 2015, and is operated by the Calabar Generation Company Limited, and has a capacity of 560 MW.

The project activities, in terms of the Oron to Creek Town pipeline, can be grouped in four phases:

1. Pre-construction, including land acquisition and site investigations.
2. Construction: including land and marine transport of heavy equipment, excavation of Right of Way (RoW), welding and fabrication at site, river/road crossings of pipelines, pipeline laying, tie-in of the pipeline to existing infrastructure and site cleanup, etc.
3. Operations and maintenance
4. Decommissioning

The main focus of this Environmental and Social Review Summary (ESRS) is on the Oron to Creek Town pipeline (24 km). At the time of disclosure, the Oron to Creek Town pipeline construction was ca. 17% complete with commissioning scheduled in March 2016. As indicated above, IFC is an equity shareholder in Seven Energy and conducted its E&S due diligence in 2013 against IFC Performance Standards. The IFC ESRS was disclosed on January 7, 2014. It includes an overview of environmental and social systems of Seven Energy and Accugas and it is available here.

B. Environmental and Social Categorization

The project is Category B under MIGA’s Policy on Environmental and Social Sustainability (2013). Key E&S risks include physical and economic displacement resulting from land acquisition, water and sediment contamination, noise, habitat loss and impacts to marine and coastal habitats and species, well blowout and pipeline rupture, soil erosion, hazardous materials and waste generation and air emissions, worker and community health and safety, security, and contractor management.

The project is expected to contribute positively to the community through generation of jobs and boosting the local economy, as well as enabling production of energy from gas that otherwise would have been flared and thereby increasing the availability of electricity on the Nigerian grid.

Information on how these E&S issues are, or will be, addressed by the Project to comply with MIGA’s Performance Standards and WBG EHS Guidelines is contained in the following sections.
C. Applicable Standards

While all Performance Standards (PS) are applicable to this investment project, based on our current information the project 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 Resource

E&S issues associated with the following PSs were not encountered during the assessment of the projects:

- **PS7:** *Indigenous Peoples* is not expected to be triggered as the project does not adversely affect any Indigenous Communities, as defined by PS7.
- **PS8:** *Cultural Heritage* is not triggered as consultation with local regulatory organizations and the review of available records undertaken as part of the Environmental Impact Assessment (EIA) process did not identify any known sites of archaeological or cultural heritage value within the Project site boundaries. However, a “Chance Finds” procedure has been developed for the construction phase of the project, consistent with PS8.

The following World Bank Group (WBG) Environmental, Health, and Safety (EHS) guidelines are applicable to the project:

- General EHS Guidelines; and
- Guidelines for Onshore Oil and Gas Development.

D. Key Documents and Scope of MIGA Review

The following documents were reviewed by MIGA:

Formal documentation was supplemented by various email exchanges and conference calls with the project developer. An Environmental and Social Action Plan (ESAP, to be attached to this ESRS) is being developed to addresses gaps between the current project documentation and the requirements of the PSs.

E. Key Issues and Mitigation

PS1: Assessment and Management of Environmental and Social Risks and Impacts

*Environmental and Social Assessment:* An Environmental Impact Assessment Report (EIA) has been prepared for the Uquo – Creek Town Gas Pipeline, covering both stages of the pipeline (Uquo – Oron and Oron – Creek Town). The EIA describes the project activities, provides physical and environmental baseline information and socio-economic baseline information, identifies and assesses environmental and social risks and impacts during preparation, construction and operations phases, and proposes measures to mitigate adverse environmental and social risks and impacts.

Several alternative routes where assessed, the option selected was found to minimize environmental and social impacts, specifically in terms of minimal displacement of people, impact on economic livelihood, and length of the pipeline route.

A Livelihood Restoration Plan (LRP) have been prepared by Environmental Resources Management, an international environmental consultancy and amended by Seven Energy in February 2015 to reflect the requirements of the Performance Standards. The Plan includes a socio-economic baseline, a description of the legal framework and institutional arrangements, the consultation process, an entitlement matrix and plan for monitoring and evaluation or the implementation. Further details are explained under PS5 section below.

*Management Program and Monitoring:* Seven Energy has a Health, Safety and Environment (HSE) System in place that is in conformance with but is yet to be certified to ISO 14001, ISO 9001 and OHSAS 18001. The management systems do, however, meet both national requirements and industry best practice. In 2012 a gap analysis of the management system was conducted as part of IFC’s involvement, and a number amendments were made to ensure compliance to the requirements of PS1. The IFC ESRS contains further information on the management system.
The EIA includes an Environmental Management Plan (EMP), outlining strategies for management and monitoring during the construction and operation phases. The EMP includes a description of the legislative requirements, and outlines separate monitoring programmes for the construction and operations stages. Also included are separate plans for pipeline operation management, social management, staff development and training, health management, waste management, and emergency response.

**Organizational Capacity and Competency:** Seven Energy has considerable in-house capacity in the Quality, Health, Safety, Security, Environment and Community/Corporate Social Responsibility (“QHSSE/CSR”) team, which reports to the Chief Operating Officer located in Lagos. QHSSE/CSR consist of +55 staff, and monitors environmental and social performance of Seven Energy’s operated and non-operated assets.

A QHSSE/CSR training and capacity building gap analysis and training process was conducted in 2013, and a training and awareness programme was designed and implemented in 2014. The training programme included modules on the Performance Standards; Safety Awareness; Safety Leadership; Process Safety etc., and captured more than 85% of the 7E and Contractor personnel in offices and field locations.

**Monitoring and Review:** Seven Energy has established a reporting and monitoring system with field staff providing daily, weekly and monthly QHSSE/CSR data which is documented and reported throughout the organization up to and including quarterly reports prepared by the QHSSE/CSR team, and delivered to Seven Energy’s Executive Committee and full Board of Directors by the Chief Operating Officer. The Vice President of QHSSE/CSR is responsible for the development and implementation of the Company’s QHSSE/CSR policies and procedures.

**Emergency Preparedness and Response:** In addition to the regular reporting, an emergency response plan is in place to report and if necessary respond to environmental, safety or security issues as they arise in the Seven Energy offices, operated and non-operated properties in which Seven Energy has an interest. All contractors are required to develop and maintain emergency response procedures specific to the work areas and activities in point, and all personnel is regularly trained on the emergency response procedures.

Medical emergency response equipment and trained staff is available on the construction site for first aid services, and contractors are required to prepare a dedicated Medical Evacuation Plan.

**Stakeholder Engagement:** Seven Energy has developed and implements a Stakeholder Engagement Plan (SEP) that includes strategies for stakeholder identification and analysis and conduct stakeholder engagement activities. The SEP provides guidelines for stakeholder engagement during the development of ESIAs, negotiation and subscription of MOUs, and the construction, operations and closure stages. Seven Energy has in place a community grievance mechanism and keeps a grievance log to register and follow up on grievance redress.

Generally, communities in the project area have a long history of exposure to the oil and gas industry and have a developed awareness of the associated risks. Historically, the region has experienced a number of tensions relating to incidents associated with attacks to surface oil pipeline infrastructure. The stakeholder engagement programs addresses this, and also seeks to create awareness within communities of the risks relating to Seven Energy’s operations.
PS2: Labor and Working Conditions

Seven Energy directly employs on a permanent basis approximately 84 people of which 75 are Nigerian nationals and 9 are expatriates. As of December 2013, Seven Energy was employing an additional 97 Nigerian nationals through its manpower service providers and as direct/indirect contractors. A total of 34 women (both permanent and contract) currently work for Seven Energy.

**Working Conditions:** Seven Energy has a “Manual of Human Resources Management Policies” in place that describes employment categories, general conditions, benefits, and professional conduct. The manual is consistent with local regulations and the requirements of PS2, and includes nondiscrimination and equal opportunity, minimum employee age requirement (18 years of age), compensation, working hours and overtime allowances, as well as an employee grievance mechanism.

In addition to salary, employees receive additional benefits that include: paid annual leave and recognized public holidays; a pension scheme; various life and medical insurance benefits for employees and employee dependents along with maternity and medical leave.

**Occupational Health and Safety:** Occupational health and safety (OHS) matters are included in the Seven Energy Safety, Health & Environmental Management Manual. Activities are subject to hazard identification and risk assessment to ensure that OHS controls to manage risk are in place prior to starting the activity and necessary competency requirements for key roles are specified.

Residual risks that cannot be avoided will be managed through appropriate protective measures, including controlling the hazard at the source and providing appropriate personal protective equipment (e.g. hats, gloves, boots, vests). Contractors will be required to follow all rules and regulations set out in an accident prevention programme established by Seven Energy, nominating a safety officer with responsibility for OHS matters, as well as providing training to all workers on OHS aspects relevant to their daily work and emergencies. Additional information on OHS-procedures is available in the IFC ESRS.

Seven Energy has not experienced any fatalities in its operating history and incident rates are well within industry norms. The Project is expected to manage OHS risks in line with the requirements on PS2.

PS3: Resource Efficiency and Pollution Prevention

Risks and impacts are related to air emissions, noise, soil erosion and runoff, surface and ground water quality, waste, hazardous materials, and spills. These risks and impacts will be managed through project design and mitigation measures provided in the EIA and Environmental Management Plan (EMP), and implemented by contractors. Construction environmental management will be overseen by the project company through the management and monitoring procedures set out in the EMP to ensure full compliance with the requirements of PS and EHS Guidelines.

**Air quality and noise levels:** Air quality and noise baselines conditions have been measured, along the pipeline route. Air quality is good, with all parameters below national
limits and WBG EHS guidelines. Ambient noise levels along the right-of-way (RoW) are well below the limits, ambient noise during day time is mainly due to illegal logging activities.

Operation of heavy vehicles and transportation will cause noise emissions, mainly during construction and to a lower extent in operations phase from maintenance activities. Construction machinery will also cause air emissions from fugitive dust generated from construction works, and gaseous emissions. The Project has a Management of Greenhouse Gases and Air Emissions procedure in place, describing assessment, inventory, management and mitigation and monitoring of air emissions.

Water and soil quality: The chemical soil properties along the RoW are generally good and indicate very low amounts of petroleum hydrocarbons along the pipeline route, well within applicable national and WBG EHS guidelines. Surface quality water has very low or undetectable concentrations of heavy metals and other parameters are within WBG EHS guidelines, indicating an unpolluted aquatic ecosystem.

Expected impacts on soil and terrain are mainly related to erosion and compactation and will arise from site preparation, trenching, pipe laying, transportation and operation of machinery, etc. Soil and water contamination may arise from fuel or lubricant leaks, improper disposal of waste, and accidents during handling of industrial waste. The risks will be mitigated via maintenance of vehicles, and waste management routines as described in waste management plans and hazardous materials procedures, which are in place for both construction and operations phase. Seven Energy will update, within an agreed timeframe, the project specific waste management plan to ensure compliance with the requirements of Performance Standards and WBG EHS Guidelines.

Hazardous Materials: Potential impacts related to hazardous materials include leaks of fuels, oil, hydraulic fluids and other chemicals. The risk is managed through appropriate storage containers, use of liners, trays and drop sheets during maintenance of vehicles and training on storage and use of hazardous materials. Clean-up materials are available and placed in relevant locations on construction sites.

In operation, contamination of soil and groundwater may occur in the event of a pipeline breach. A breach is an unlikely event, and the risk is reduced through appropriate engineering and design of the pipeline, regular inspections and maintenance, and a pressure management system.

Seven Energy has a Hazardous Materials Management Procedure in place, in line with national regulations and the requirements of PS3.
PS4: Community Health, Safety and Security

*Community Health and Safety:* Risk to community health and safety include traffic accidents, construction and operations accidents such as blowouts, and communicable diseases and other health and safety issues related to immigrant workers during construction phase. Seven Energy has a management procedures in place for Social Risk Assessment well as Community Health and Safety. The procedures describe the management and risk mitigation process, for impacts related to infrastructure safety; fire safety hazardous materials; driving and transport; community exposure to disease; emergency preparedness and response; and environmental & natural resources issues.

Seven Energy has also developed a participatory (community based) Right of Way maintenance and monitoring system for the Uquo to Oron pipeline which, will be implemented post construction phase. Additionally, a programme of community consultation involving community meetings, radio/TV announcements, leaflets and an instructional DVD will be expedited prior to the introduction of pressurized hydrocarbons into the pipeline.

*Security Arrangements:* Seven Energy has developed set of security plans and operational procedures including asset protection standards and asset protection manual, incident investigation and reporting standards, personal security awareness handbook, security induction procedures, security plans for each if its facilities, and rules of engagement. Through its Asset Protection Standards, Seven Energy is committed to conduct security operations in compliance with the Voluntary Principles on Security and Human Rights and PS5.

Seven Energy has developed a Human Rights Risk Assessment to be applied at all its operations, projects, owned and managed sites, new acquisitions, offices and facilities. All personnel working or providing services for any Seven Energy operation, including public security forces must conform to company security guidelines. Seven Energy provides training on its security policy and procedures to its personnel and to public forces when assigned to its operations.

Security measures for the pipeline construction and operation are described in the security measures section the Health, Safety and Environment Plan, in line with Seven Energy’s policy.

PS5: Land Acquisition and Involuntary Resettlement

A Livelihood Restoration Plan (LRP) has been prepared by Environmental Resources Management, describing socio-economic baseline, legal framework, the consultation process, methodology for compensation to Project Affected Persons (PAP), and monitoring procedures. The following principles is guiding the implementation of Project land acquisition: complying to applicable Nigerian laws and regulations, as well as Performance Standard 5; compensating PAPs at full replacement cost; treating occupancy rights as ownership; compensating “encroachers” for affected assets; paying compensation in full prior to occupation of land/asset; implementing livelihood restoration measures to assist PAPs to restore income levels; developing specific measures for vulnerable groups; extending grievance procedures accessible to all PAPs; establishing systems for monitoring and evaluation.

For permanent land acquisition, compensation will be paid at full replacement cost, while temporary occupation will include land rental for 18 months plus improvement of the land, clearance allowance, and transitional support for loss of income (for cultivated land). The LRP
also defines compensation for assets and trees, shrines, and swamp areas (fish traps, loss of income). Vulnerable groups are given particular attention in the consultation process, and will be given preferential provision of skills training and project employment.

Livelihood restoration measures include land-based schemes (agricultural training and enhancement), wage-based schemes (employment opportunities) and village infrastructures schemes. The consultation process includes formation of a Land Acquisition Committee to manage compensation and livelihood restoration processes. Internal and external monitoring will be undertaken, including progress monitoring and outcome evaluation.

The land acquisition for the Uquo to Oron segment (37 km), covers a 15 m wide permanent right of way, during the construction period an additional 10 m for temporary use was necessary. The primary land use in this section is forestry and farmland, and this section of the pipeline will result in economic displacement of land owners and users. No displacement of dwelling houses is necessary. The route of the Oron to Creek Town segment (24 km) is mostly on swamp, creeks and rivers, in which a permanent uptake of 25 m along the right of way will be acquired.

A land survey, census and asset inventory has been conducted along the route. In total, the project will affect 50 villages which have land on the right of way. In addition, 14 villages that have no land, but shared assets will be affected. The Project will affect 737 households who individually own land and assets on the right of way. The compensation process is underway, and in line with the requirements of PS2. The process has so far been completed for 3 of the 4 affected Local Government Areas.

PS6: Biodiversity Conservation and Sustainable Management of Living Natural Resource

The area from Uquo to Oron is covered by secondary rainforest, bush fallows and farmlands. The forest has been degraded by logging and farming, by isolated patches of primary rainforest. North of Oron the pipeline route contain patches of fresh water swamp and mangrove swamp vegetation. There are no national park or other protected natural areas in along the project route.

A survey of flora has been carried out as part of the ESIA, identifying 35 species within the lowland rain forest, 31 species from the freshwater swamp forest, 40 species in the secondary forest/bush fallow and 55 species within the farming areas. Staple food crops and vegetables such as cassava, corn, plantain, yams, cocoyam, pepper, melon and tomato dominate the farms, along with a number of weeds associated with the crops. None of the identified species are classified as endangered.

The area from Oron – Creek town contains typical mangrove and swamp forest with a heterogeneous composition, the vegetation contains hundreds of species, none of which is dominant. Trees, shrubs, herbs, and climbing plants cover the area. Apart from producing many resources of substances and commercial importance, the forest play a key role in regulating water flow, conditioning local climate and protecting against soil erosion. A total of 11 aquatic plant species were recorded in the water bodies and swamps, with high populations of especially water lilies. None of the identified species are classified as endangered.

Terrestrial wildlife in the project is dominated by rodents (porcupines, rats, squirrels), other recorded mammals include monkeys, antelopes and pangolins. Of the mammals species present
in the area, brush-tailed porcupine, tree pangolin, and dwarf Galago are categorized as endangered by IUCN.

The mangrove fauna is mainly made up of crustaceans (fiddler crab, purple mangrove crab, etc) and mollusks, and a number of amphibians (frogs and toads). Fish species present in the aquatic environment include several types of tilapia, cichlids, and catfish. No endangered fish species were reported. There were reports of crocodiles, including long snouted crocodile and Nile crocodile. The crocodiles, as well as the royal python, are endangered. The project area does not include Critical Habitat to either of the endangered species, as defined by PS6. The implementation of Project’s procedure for Biodiversity & Natural Resources Management includes mitigation measures, including land restoration and biodiversity offsets, to ensure no net loss of biodiversity.

Noise and vibration impacts will affect fish in and directly adjacent the project area; however, fish are expected to temporarily disperse away from the area and return after construction activities have ceased. Juvenile fish that are unable to swim away may perish if they are in the path of the trench. Pipeline laying vessels operating in the project area present risks for fuel spills, the impacts of which are expected to be localized as the fuel released would rise to the surface to disperse and evaporate in ambient conditions. Small routine discharges of ground food waste and treated wastewater effluent from vessels are expected, but will have minor or negligible impacts on the aquatic wildlife. Routines for minimization and management of effluents are described in the Waste Management Plan for construction.

Increased levels of noise and vibrations from construction and transportation equipment will also affect terrestrial fauna along the route, mainly during the construction phase, and to a limited extent during operations phase due to maintenance activities. Both birds and mammals are expected to temporarily leave the construction area, but no long-term effects are foreseen.

Impacts on flora and fauna will be managed through a set of mitigation measures described in the ESIA, including drilling and laying techniques adopted to local conditions, sediment control, minimization of land take and bush clearance, and use of equipment well maintained and suitable for the necessary activities. A number of safety and security measures will minimize the risk of fire or explosions in both construction and operations phase. In addition, Seven Energy has a Biodiversity and Natural Resources Management Procedure in place, in line with the requirements of PS6.

F. Environmental Permitting Process and Community Engagement

There has been a history, spanning several decades, of social tension between the Niger Delta oil and gas sector and local communities, along with reported human rights concerns in the area. Various initiatives have improved the situation in recent years, and individual companies such as Seven Energy have built good community relationships. Seven Energy specifically has engaged with local communities through a number of initiatives including constant communication with community leaders and other local based groups, permanent presence in affected communities, the implementation of a grievance mechanism, Corporate Social Responsibility programs to support local development, a local employment program, and a land acquisition program based on good faith negotiations and livelihood restoration. As part of its Asset Protection system, Seven Energy is committed to the Voluntary Principles on Security and Human Rights and has developed a procedure to conduct Human Rights Assessments throughout its operations.
In addition to a general environmental permit to operate the gas processing plant, Seven Energy has indicated that it is required to maintain a variety of permits related to construction and operation of the pipelines. A Permitting and Licensing Plan has been developed for the Project, and all permits are in place as required by host country legislation.

G. Availability of Documentation


The above listed documentation is available electronically as PDF attachments to this ESRS at [www.miga.org](http://www.miga.org). It is also available for viewing at the following location:

- Seven Energy, 7 Anifowoshe Street, Victoria Island, Lagos, Nigeria. Contact email address: csr@sevenenergy.com