

**INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT
INTERNATIONAL DEVELOPMENT ASSOCIATION**

**5TH PROGRESS REPORT TO THE
BOARD OF EXECUTIVE DIRECTORS ON THE
IMPLEMENTATION OF MANAGEMENT'S ACTION PLAN**

**IN RESPONSE TO THE INSPECTION PANEL INVESTIGATION REPORT
No. 42644-GH ON THE**

**WEST AFRICAN GAS PIPELINE (WAGP) PROJECT
(IDA GUARANTEE NO. B-0060-GH)**

MAY 2014

Abbreviations and Acronyms

AIS	Automatic Identification System
CDP	Community Development Projects
CEB	Communauté Electrique du Benin
CRR	Community Relation Representatives
DPR	Department of Petroleum Resources (Nigeria)
EMP	Environmental Management Plan
ERP	Emergency Response Plan
ESAP	Environment and Social Advisory Panel
FAO	Food and Agriculture Organization
FoE-Ghana	Friends of the Earth Ghana
GEPA	Ghana Environmental Protection Agency
ICR	Implementation Completion Report
IDA	International Development Association
IFC	International Finance Corporation
IITA	International Institute of Tropical Agriculture
MAP	Management Action Plan
MIGA	Multilateral Investment and Guarantee Agency
mmcf/d	Million Cubic Feet per Day
MOU	Memorandum of Understanding
NGO	Nongovernment Organization
PAP	Project Affected Persons
PPZ	Pipeline Protection Zone
PRG	Partial Risk Guarantee
R&M	Regulation and Metering
RAP	Resettlement Action Plan
ROW	Right of Way
TGSA	Takoradi Gas Sales Agreement
VRA	Volta River Authority
VTMS	Vessel Traffic Management System
WAGP	West African Gas Pipeline Project
WAGPA	West African Gas Pipeline Authority (Regulator)
WAPCo	West African Gas Pipeline Company

5th Progress Report

West African Gas Pipeline Project

Executive Summary

Background

1. The West African Gas Pipeline (WAGP) Project consists of a 678 kilometer onshore and offshore pipeline that transports gas from Nigeria to Benin, Togo, and Ghana, providing gas to power generating units. Under WAGP, risk mitigation is provided through an International Development Association (IDA) Partial Risk Guarantee (PRG) of US\$50 million, with respect to gas purchases of Ghana's Volta River Authority (VRA), a Guarantee from the Multilateral Investment and Guarantee Agency (MIGA) of US\$75 million, and commercial insurance to back the credit risk of VRA. The Project was approved by the Board on November 23, 2004,¹ and the physical work commenced in early 2005. The availability and use of a cheaper and more environmentally-friendly energy source is envisaged to provide cost savings to users, and develop the economy through competitiveness and regional trade. The project has been implemented by The West African Gas Pipeline Company (WAPCo).

2. On April 27, 2006, the Inspection Panel received a Request for Inspection from Ifesowapo Host Communities Forum of the WAGP (Nigeria) and Friends of the Earth Ghana (FoE-Ghana). The main complaints related to the Bank's non-compliance with its own safeguard policies and procedures, low compensation rates for the land taken, damage to land and livelihoods, gas flaring reduction in the Niger Delta, the safety of an associated pipeline, impact of construction activity on fishing, and inadequate consultation on coastal fisheries in Ghana. The Panel submitted its report on April 25, 2008. The Management Response to the Panel Report explained how the Bank had made significant efforts to apply its policies and procedures but recognized that further work was needed to strengthen the supervision of the Project and in particular to ensure compliance with Bank policies.

3. The Board approved a detailed Management Action Plan (MAP) on August 5, 2008, which sought to address inadequacies in four key areas: (a) Social Impact Assessment and Mitigation Measures; (b) Environmental Assessment and Mitigation Measures; (c) Project Implementation and Supervision; and (d) Systemic issues.

4. The Board asked Management to report on progress in implementing the MAP every six months. The first Progress Report, covering the period August 2008–January 2009 was submitted in February 2009, and the second, covering the period February 2009–August 2009 was submitted in October 2009. The Board subsequently agreed to reporting on a yearly basis. The third and fourth Progress Reports covering the period up to December 2010 and December 2011 were submitted to the Board in March 2011 and March 2012, respectively.

¹ Its total estimated cost at the time was US\$ 590 million.

5. This is the fifth and last progress report covering January 2012–April 2014. It is being submitted in June 2014, at the same time that the Implementation Completion Report (ICR) of the project is being finalized. The implementation of the Management Action Plan has been completed.

Current Status of the Project and Gas Supplies

6. While the Project encountered construction delays, and the original Project completion date was not realized, free-flow gas was supplied to the VRA in Ghana on a “best-endeavor” basis starting in early 2010. Subsequently, remaining construction works, including the Lagos Beach Compressor Station, were completed by March 2011 and compressed gas was supplied both to VRA at Tema and Takoradi, and to the Communauté Electrique du Benin (CEB) at Lomé and Cotonou. The delivery volume reached a peak of 143.5 million cubic feet per day (mmcf/d), but the average volume mmcf/d delivered till August 2012 was 90 mmcf/d (compared to the contracted volume of 133 mmcf/d).

7. There was a major breach of WAGP in August 2012, due to illegal anchoring by a ship near Lomé. The incident resulted in the total shutdown of the pipeline, and stopped all supplies to VRA and CEB until July 2013. There were two fatalities at Takoradi (Ghana) at the time of re-commissioning of the pipeline in November 2012, resulting in a thorough review of the safety protocols by WAPCo. The pipeline was subsequently re-commissioned in July 2013, and an average of 80 mmcf/d has been supplied to VRA and CEB since then, but large variability in deliveries is being experienced on account of gas availability from Nigeria.

Implementation of Management Action Plan

8. ***Social Impact Assessment and Mitigation Measures.*** The following activities outlined in the MAP have been completed: (a) consultations and sensitization of communities; (b) implementation of a new round of compensation for crops and trees based on fair market value and adjusted prices; (c) updates of the socio-economic survey of Project affected persons; (d) assignment of a Project staff for targeted vulnerable groups during the compensation period; (e) provision of the livelihood restoration program; (f) full disclosure of compensation process; (g) engagement of an independent monitor to witness the payment process; (h) establishment of an adequate grievance mechanism that incorporates the use of alternative and Project level dispute resolution methods; and (i) training of safeguards staff, including staff participation in the capacity building training programs sponsored by the International Finance Corporation (IFC) and MIGA.

9. Implementation of Community Development Projects (CDP) for Phases 1 and 2 has been completed, and largely handed over to the local authorities and community organizations. Livelihood schemes were initiated under Phase 3 of the CDPs, and academic scholarships and vocational training have been provided with special emphasis on the needs of vulnerable groups. Consultation and periodic discussion with

communities in the implementation and monitoring of the Resettlement Action Plan (RAP) is continuing.

10. ***Environmental Assessment and Mitigation Measures.*** All environment-related actions contained in the MAP have been completed. WAPCo continues to organize environmental awareness and emergency response engagements for the communities along the Right of Way (ROW). The independent Environment and Social Advisory Panel (ESAP) undertook its last field visit in August 2011, and made several recommendations to further strengthen the environmental and social monitoring of the Project.

11. ***Project Implementation and Supervision.*** Intensive Project supervision has been ensured during the past six years, and at least two missions a year were undertaken during the construction phase until mid-year 2011. Multi-disciplinary teams including technical, financial, economic, environmental and social safeguards specialists have been constituted with adequate field presence.

12. ***Systemic Issues.*** Adequate supervision budget has been allocated, and the WAGP experience has been documented and widely disseminated within the Bank for lessons learned. The Project features prominently in the country portfolio, and both client and Bank Regional Management pay special attention to the progress on this Project.

Environmental & Social Advisory Panel

13. The third and last ESAP mission took place in August 2011, after the construction phase was completed. Its advice went beyond the MAP and included recommendations on issues that WAPCo could potentially face during the operational phase. The ESAP identified actions that can further augment the environmental and social management of this important infrastructure. WAPCo has been addressing all the identified and emerging issues on an ongoing basis.

Way Forward and Conclusion

14. All actions under the MAP have now been completed, the project is in the operational phase, and there are no outstanding issues. WAPCo continues to engage with the communities through the awareness programs, and is interacting with the Government and regulatory institutions as expected in normal operations. For the Bank, the Project Guarantee closes in January 2028. The Project will continue to operate several years after the closing of the Guarantee, as these types of assets are long-term.²

15. While gas is currently being provided to the customers, the full Project benefits will be realized only if supplies from Nigeria can be assured at the contracted volume of 133 mmcf/d. WAGP infrastructure could be utilized to transport volumes up to 170

² The Bank's involvement in this project is through an IDA Partial Risk Guarantee (and MIGA guarantee), and no investment is involved. The Guarantee Agreement is effective, and the Guarantee has not yet been called.

mmcf/d, if Nigeria could make additional gas available for export. The Bank is facilitating discussions on the development of a gas market in the West African sub-region through its energy teams in Nigeria, Benin, Togo and Ghana.

16. Since the Project has become fully operational and all the activities in the MAP are completed, Management proposes that this report be considered final. The Board is also informed that an ICR for the project is being completed two years after the commercial operation date (COD) was reached (as is the norm for Guarantee operations).

17. The Bank will continue supervision of the project as long as the Guarantee remains in force as per OP/BP14.25. Close contact with WAPCo would be maintained to remain abreast with community needs and concerns, and with any evolving safety, environmental, or social development issues. The energy team in Nigeria, Benin, Togo and Ghana will continue to monitor the development of the gas sector in their respective countries on an ongoing basis.

West African Gas Pipeline (WAGP) Project

Progress Report on the Implementation of Management Action Plan

I. Project Description

1. ***The Project.*** The West African Gas Pipeline Project (WAGP or the Project) consists of: (a) a 678 kilometer onshore and offshore that transports gas from Nigeria to Benin, Togo and Ghana; (b) lateral spurs from the main pipeline that move gas to power generating units in Benin, Togo and Ghana; (c) conversion of existing power generating units to gas (financed by their owners); and (d) as needed, additional investments in compression. This infrastructure, together with the additional compression, is designed to meet the expected market potential of 450 million cubic feet per day (mmcf/d). The main trunk of the 20-inch diameter offshore pipeline was laid on the seabed, between 26 and 70 meters below the ocean surface, and at an approximate distance of 15 to 20 kilometers from the shore. The gas is transferred through the lateral spurs, and the terminal of the pipeline is at the Takoradi Power Station in Ghana. The total area of land used for the Project is approximately 200 hectares, 70 percent of which lies in Nigeria. There are over 3,000 households within the Right of Way (ROW).

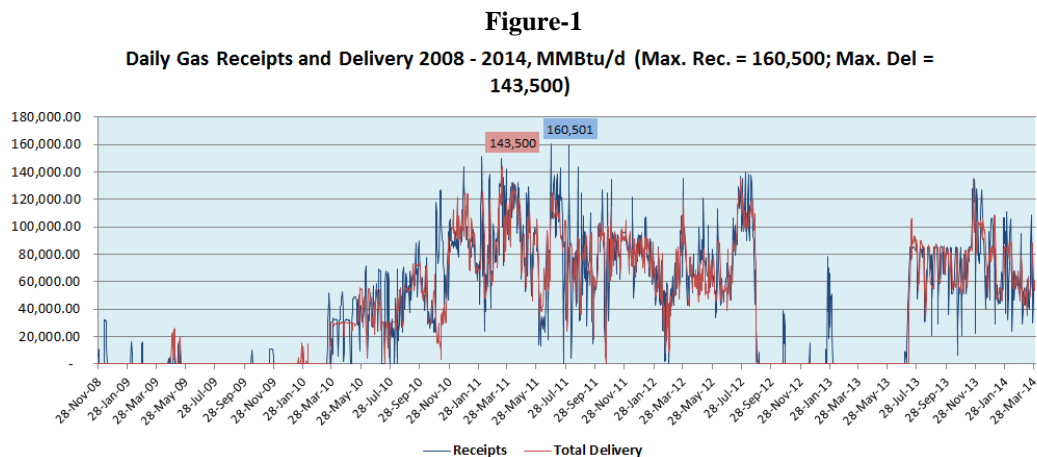
2. In terms of regional development, the Project notably decreases input costs and diversifies fuel supply for the power sector, and this in turn creates the potential to expand investments in local industries and enterprises in the four participating countries. The use of a cheaper and more environmentally friendly energy source is expected to provide cost savings to users, and develop the economy through competitiveness and regional trade. Physical work on the Project commenced in early 2005.

3. The Project is one of the Bank's major efforts to support a public-private partnership involving multiple countries (Nigeria, Benin, Togo, and Ghana) with limited risk coverage. It combines an International Development Association (IDA) Partial Risk Guarantee (PRG) of US\$50 million with respect to gas purchases of Ghana's Volta River Authority (VRA); a Guarantee from the Multilateral Investment and Guarantee Agency (MIGA) of US\$75 million; and commercial insurance to back the credit risk of the VRA. The Project was approved by the Bank's Board on November 23, 2004.³ As part of the Project's risk mitigation strategy, the IDA PRG insures a portion of the VRA obligations to the West African Gas Pipeline Company (WAPCo) under the Takoradi Gas Sales Agreement (TGSA) in the event of a failure by the VRA to pay the Nigerian gas purchaser, N-Gas Limited, and subsequent termination by N-Gas of the TGSA. However, the IDA PRG does not cover breach of other obligations undertaken by VRA or the Government of Ghana under the Project agreements.

4. ***Current Status of the Project and Gas Supplies.*** While the Project encountered construction delays, and the original Project completion date was not realized, free-flow gas was supplied to the VRA in Ghana on a "best-endeavor" basis starting in early 2010.

³ Its total estimated cost at the time was US\$ 590 million.

Initial delivery volume was between 40 and 60 million cubic feet per day (mmcf/d), and was consumed by VRA plants in Takoradi. All outstanding construction was completed by March 2011, including the critical Lagos Beach Compressor. Compressed gas has been supplied both to VRA at Tema and Takoradi, and to the Communauté Electrique du Benin (CEB) at Lomé and Cotonou since March 2011. The delivery volume reached a peak of 143.5 mmcf/d, but the average volume delivered was 90 mmcf/d (compared to the contracted volume of 133 mmcf/d) till August 2012. A serious pipeline breach occurred in August 2012 due to the illegal anchoring of a ship in Lomé, which resulted in the total shutdown of gas supplies to Benin, Togo and Ghana. The pipeline was to be re-commissioned in November 2012 after the necessary repairs, but an unfortunate incident at Takoradi resulted in two fatalities at the time of the re-commissioning process. This prompted a thorough review of the safety protocols by WAPCo on the entire pipeline system, resulting in a further delay in the start of the gas supply operations. The pipeline was subsequently re-commissioned in July 2013, and an average of 80 mmcf/d has been supplied to VRA and CEB during the past several months, even though large variability in deliveries is being experienced on account of gas availability from Nigeria (see Figure 1).



II. Inspection Panel process

5. On April 27, 2006, the Inspection Panel received a Request for Inspection on the Project. The Request was submitted by the Ifesowapo Host Communities Forum of the WAGP Project through their representatives from Olorunda Local Government Area of Lagos State, Nigeria. Additionally, the Panel received a letter from Friends of the Earth Ghana (FoE-Ghana), expressing their support for the Request and asking to be included among the Requesters. The Host Communities Forum and FoE-Ghana represented local people living in Nigeria and Ghana, and were recognized as the Requesters.

6. **Claims of the Requesters.** The Requesters from Nigeria’s Delta Region were mainly concerned with the Project’s impact on gas flaring reduction and with the safety of an existing pipeline to which WAGP was to be linked. The Requesters and affected communities living near the gas pipeline in Nigeria complained mainly about the low compensation rates received for their land. Those living in southwestern Nigeria, where the pipeline goes under the sea, claimed that the construction process would hurt their

fishing enterprise. The Requesters from Ghana were concerned about inadequate consultation regarding the Project's economic viability, the pipeline's safety, and its impacts on coastal fisheries.

7. **Management Response.** In its Response of June 2006, Management stated that the Bank made significant efforts to apply its policies and procedures but recognized that further work was needed to supervise the Project and ensure compliance with the Bank's Policies and proposed various actions in this regard.

8. In its Report to the Board on July 7, 2006, the Panel refrained from recommending an investigation. The Panel stated that it expected to be able to make a determination by end 2006 and noted that this would also allow Management more time to demonstrate that it was taking "*adequate steps to follow the Bank's policies and procedures*" as required by the Resolution that established the Panel. The Board approved the Panel recommendation on July 27, 2006, on a non-objection basis. In its final Report and Recommendation, dated March 1, 2007, the Panel recommended an investigation to the Board of Executive Directors, which was approved on March 13, 2007.

9. **Panel Report and Management Response.** On April 25, 2008, the Inspection Panel submitted its Investigation Report No. 42644-GH on WAGP Project to the Board of Executive Directors. On June 30, 2008, Bank Management submitted its Report along with a detailed Management Action Plan (MAP), in response to the Inspection Panel's Investigation Report. The MAP acknowledged implementation challenges in four key areas: (a) Social Impact Assessment and Mitigation Measures, (b) Environmental Assessment and Mitigation Measures, (c) Project Implementation and Supervision, and (d) Systemic issues.

10. On August 5, 2008, the Executive Directors discussed the above reports and approved the MAP proposed by Management. The Board also asked that Management report on progress in implementing this action plan every six months. The first Progress Report, covering the period August 2008 – January 2009 was submitted in February 2009, and the second, covering the period February 2009 – August 2009, was submitted in October 2009. The Board subsequently agreed to reporting on a yearly basis. The third and fourth Progress Reports covered the periods up to December 2010 and December 2011 and were submitted to the Board in March 2011 and March 2012, respectively. All these reports are available online.⁴

11. This is the fifth and last progress report covering January 2012–April 2014. It is being submitted in June 2014, in conjunction with the Implementation Completion Report (ICR) of the project, which is now due, two years after the start of the commercial operations of WAGP. The implementation of the Management Action Plan has been completed.

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<http://web.worldbank.org/WBSITE/EXTERNAL/EXTINSPECTIONPANEL/0,,contentMDK:22513059~pagePK:64129751~piPK:64128378~theSitePK:380794,00.html>

IV. Detailed Description of MAP Implementation

Social Safeguards

13. ***Additional Compensation.*** The work has been completed as follows: (a) all payments have been made in Nigeria except in two communities (Adjido and Emeke) where there are outstanding court cases; and (b) WAPCo has paid all outstanding land compensation payments in Benin, Togo and Ghana. The compensation amounts for the two communities in Nigeria are secured in a separate account and would be disbursed to the claimants as and when litigation is resolved.

14. ***Socio-economic Baseline Survey and Needs Assessment.*** WAPCo, as part of its commitment to contribute to the development of the host communities in the four countries, conducted a survey in 2004, to collect and compile basic data towards the implementation of the CDPs. In all, 54 communities were identified as having been impacted by the WAGP project. The survey report formed the basis for a community development Needs Assessment exercise in 2005 which was conducted using participatory approaches. This approach ensured that all major social groups (e.g., traditional leaders, family heads, women, youth, local government officials, NGOs, etc.) participated in the Needs Assessment work.

15. ***Approach to CDP.*** The CDPs were planned to be implemented in three phases during 2006–2009. Highly visible infrastructure projects commenced under Phases 1 and 2, while the livelihood support projects were planned for Phase 3. Projects under Phase 1 and 2 were meant to establish the presence of WAPCo in the host communities and to communicate the commitment, aims and objectives of WAPCo. By the end of 2009, WAPCo had largely completed Phases 1 and 2 of the CDPs. The implementation of the livelihood support programs commenced in August 2012 after appropriate capacity-building and training of the concerned WAPCo staff, and with a selection process that was preceded by town hall meetings in host communities. These town hall meetings provided an opportunity to receive community inputs into a draft implementation framework designed by WAPCo. During these meetings, WAPCo provided insights into the operations of the livelihood support programs and addressed questions posed by the members of the community. Livelihood support implementation committees comprising representatives of community leaders, women, and youth groups were selected to drive the scheme in line with the agreed implementation framework (described above).

16. ***Community Development Projects.*** The implementation of the CDPs is **completed** (Table 2). Phase 1 and 2 CDP projects were comprised of school blocks and libraries, health clinics, water and sanitation, and markets and other community infrastructure. The implementation has encountered few challenges and met with a considerable degree of success. However, in Nigeria, some of the completed CDPs were not used as the communities continued to demand additional support, while some projects elsewhere broke down shortly after commissioning with communities looking to WAPCo for minor repairs – a clear sustainability challenge. Based on the initial experience, the CDP facilities have now largely been handed over to be owned and operated by the local government or community organizations.

Table 4: Illustrative Grievances and Redress during 2012-2013

Country and Complainant	Issue / Grievance	Status
Nigeria: Representatives of Ajibode and Baale	The community of Ajibode in January 2011 requested the removal of wooden planks which were placed on the main community road by the Company during construction activities	WAPCo used “Community Procurement” to fix the road. Completion date April 30, 2013
Ghana: Chief Fisherman of Aboadze	Destruction of 2 fishing nets hooked to the chain link at the base of a malfunctioning buoy	Compensation of GH¢2,010 paid. Closed in August 2012
Togo: Crop Growers Association	Payment of compensation to gardeners for destroyed crops around the Regulating & Metering (R&M) Station	Payment in March 2013

Source: WAPCo Corporate Affairs, April 2013

Environmental Safeguards

24. All actions under the MAP have been completed. The EMP for the construction-phase was translated in local languages, and the EMP for operations has been similarly translated. Some activities are by their nature ongoing, like safety training, and are being continued throughout the life of the Project.

25. **Workplace Safety.** Workplace safety continues to be satisfactory at all locations (Badagry, Cotonou, Itoki, Lomé, Takoradi and Tema). However, there were fatalities experienced by WAPCo in November 2012 while dewatering and re-commissioning the pipeline after the breach which occurred near Lomé in August 2012. This serious incident resulted in a thorough review of the safety protocol by WAPCo, and the pipeline was finally re-commissioned in July 2013.

26. **Community Safety.** Several rounds of community safety awareness training have already been conducted. The VRA continues to conduct joint safety training with WAPCo at Takoradi and Tema and has, in addition, conducted training for its staff and contractors on WAPCo’s ERP.

27. **Damage Prevention Program.** The West African Gas Pipeline suffered a catastrophic loss of containment in early 2007 during the construction phase due, apparently, to damage by a ship's anchor. As a result of the incident, risk analysis was undertaken and effort expended on Public Awareness, Marine Risk Mitigation strategies, and Marine Protection measures, which culminated in the offshore Damage Prevention Program. Since April 2007, WAPCo and the West African Gas Pipeline Authority (WAGPA) have been conducting Safety Awareness Publicity across the region to sensitize the maritime communities on the safety and security precautions for safe gas transmission. WAPCo’s awareness campaign has been well established in the four main ports on the pipeline route. All port and naval officials are cognizant of the pipeline and the need to ensure it is protected from marine damage. The campaign is also a continuous process intended to cover all coastal communities especially the fisher folks along the pipeline route. WAPCo has additionally trenched the two branches of pipeline under the sea bed in Benin and Togo that were recognized as vulnerable pipeline sections.

28. In conjunction with WAGPA Regulations, and as part of the risk mitigation measures, a one nautical mile Exclusion Zone on either side of the pipeline, known as the Pipeline Protection Zone (PPZ), has been adopted across the four countries to minimize the chances of causing damage to the pipeline. This zone and the pipeline are included in new editions of Admiralty charts, especially Charts Number 1383 and Number 1384, which all mariners are encouraged to consult when operating along the west coast of Africa. Special marker buoys equipped with Automatic Identification System (AIS) transmitters and Maritime Mobile Service Identity numbers are also installed at selected sections of the pipeline where shipping traffic is relatively heavy, such as close to the ports of Cotonou, Lomé, Takoradi, Tema, and the Benin/Nigeria frontier.

29. Activities which constitute potential risk for offshore pipeline damage and which are strictly forbidden within the PPZ include but are not limited to: (a) anchoring; (b) ship anchor drag and trawl board impact; (c) bottom trawling; (d) illegal fishing methods such as use of dynamite; (e) mining including sand winning; (f) construction; and (g) any activity that risks the chance of making physical contact with the sea bed within the zone and involves a risk of damaging the pipeline. In line with the offshore pipeline safety requirements, WAGPA and WAPCo deem it important that the maritime community be made aware of the inherent dangers to human lives and property as well as to the pipeline, should there be any violation of the identified safety precautions. Mariners are particularly advised not to anchor or trawl within the PPZ as gas from a damaged pipeline could cause an explosion, loss of vessel buoyancy or other serious hazards. It must also be noted that the main pipeline is not buried and it may reduce charted depths by up to 2 meters, especially at the tees where the valves are engaged. The pipeline has also spanned seabed undulations and may cause fishing gear to become irrecoverably snagged, putting a vessel in severe danger.

30. **Offshore Pipeline Security.** In Nigeria, WAPCo has held courtesy meetings with the Governor of Lagos State; it also met with the Director of Petroleum Resources to provide updates on its operations and seek his understanding and cooperation regarding the pipeline repair and maintenance work. In Benin, WAPCo engaged the Port Authority and Navy on a monthly basis to monitor the implementation of offshore surveillance and monitoring of vessels within the PPZ. WAPCo also initiated a national dialogue in Benin that culminated in the organization of a workshop including representatives of 14 government agencies to identify mechanisms to protect the offshore sections of the pipeline. In Togo, WAPCo has called on the Prime Minister and Head of the Navy on issues related to the security of WAGP. The Ministries of Energy in Benin, Togo and Ghana have been in regular contact to coordinate their efforts for the safety of the pipeline, and deliveries of gas to customers.

31. Pipeline security arrangements have been put in place with port authorities and navies engaged in all four countries in patrolling the route and enforcing the no-anchor zones. The AIS-Vessel Traffic Management System (AIS-VTMS) for monitoring and enforcing the no anchor zone of the marine pipeline is functioning. Notwithstanding all these efforts, WAGP suffered a breach near Lomé in August 2012 due to the illegal anchoring of a ship inside the no-anchor zone (exclusion zone). The pipeline was re-

commissioned in July 2013 after a thorough review of the security protocol over the entire WAGP system.

32. As part of the offshore pipeline security fishing groups in Tema (Ghana) were sensitized on the negative impact of using explosives close to the pipeline. In this regard, and with support of the Ghana Navy, 8 persons were arrested for using explosives to break up an abandoned ship that was located close to the Tema lateral.

33. **Environmental Monitoring.** WAPCo has strengthened its environmental monitoring and is bringing emerging issues to the attention of the authorities in the four countries in a timely manner. It recently alerted the authorities on the dangers of sand mining (also known as “sand winning”) in the Barrier Island in Badagry, Nigeria, coastline erosion in Gbetsogbe, Togo, and erosion caused by run-off of water adjacent to the pipeline in Tema, Ghana.

34. The shore landing and lagoon crossing of the Benin lateral spur have been monitored, and the ROW is properly delineated and has recovered/regenerated well. In order to ensure the safety of the pipeline, the Agence Beninoise pour l’Environnement is not issuing permits for sand mining near the ROW of the pipeline. Excavation by sand miners at Paako Beach, Badagry is also being continually monitored and authorities are kept informed.

35. **Implementation of EMP.** The ICR mission observed no significant environmental problems at any of the locations along the pipeline, and the environmental agencies from all four countries pronounced themselves satisfied with WAPCo’s performance in implementing environmental and social management plans. Beach erosion has stopped at Takoradi as a result of the partial berm removal, and there has been additional accretion in the previously eroding area immediately down-current from the pipeline shore crossing. The Ghana Environmental Protection Agency (GEPA) informed the mission that it no longer considers erosion caused by the structures related to the pipeline to be a matter of concern.

36. **Reporting.** Regulatory authorities in Nigeria, Benin, Togo and Ghana have been continually engaged to provide regular briefings on WAPCo operations. The Lagos State Ministry of Energy and Mineral Resources and Ogun State Ministry of Commerce and Industry were also briefed to seek support for WAPCo’s campaign against harmful sand mining close to the ROW in Nigeria.

37. **Environmental Management in the Transition from Construction to Operation.** This transition has been smooth; the ICR supervision mission did not observe lapses in safety practices or environmental management at any location, and was impressed with the competence and knowledge of the operating staff at all locations.

Supervision (Africa Region and Project)

38. Management in the Africa Region has continued to ensure strong oversight of the Project, and received and reviewed periodic progress reports. The Country Directors in Nigeria and Ghana, and Country Managers in Benin and Togo, have closely monitored

progress on the Project. The Bank team has been predominantly located in the field but has received advice and guidance from the Sector Manager, Sector Director and the Regional Vice President. Following is the progress:

- (a) *Bank supervision missions.* Two full-fledged Bank supervision missions per year, comprised of professionals from headquarters and the field, have been taking place during the construction phase (2007-2011). The missions have reviewed physical progress, and compliance with the environmental and social safeguards by WAPCo. Particular attention has been paid to the review of progress on the implementation of actions under the agreed MAP.
- (b) *Supplemental field visits.* The Bank team undertook additional field visits, as the situation warranted, on environmental and social mitigation issues.
- (c) *ESAP mission.* The final ESAP mission took place in August 2011 and provided independent advice on safety, and environmental and social mitigation. The ESAP’s recommendations were duly considered and suitably adopted by WAPCo.

V. Findings of Environment and Social Advisory Panel

39. *Independent Review of Social Mitigation Measures.* The key findings from the ESAP’s final mission and its recommendations for additional actions for further strengthening of environmental and social compliance of WAGP are given in Table 5.

Table 5: Status and Recommendations of Environmental and Social Advisory Panel

Status of Activities as of August 2011	Recommendations of ESAP
A. Social Development Actions	
<p><u>Completion of Community Development Projects:</u> WAPCo has completed 18 CDPs, 6 are in different stages of completion, and another 9 are yet to be awarded.</p>	<p>The ESAP supports WAPCo’s determination to complete fully all projects in hand and to rehabilitate where essential. WAPCo needs to make the effort necessary to address fundamental problems of project sustainability, and position itself for better project planning and construction in the future.</p>
<p><u>Sustainability of Community Development Projects:</u> WAPCo is reviewing the sustainability of all of its completed CDPs, including boreholes. Since sustainability will be determined by community ownership and Government participation in the implementation of the CDPs, a draft project transfer agreement document has been completed and is awaiting stakeholder signatures. WAPCo has presented the draft agreement to communities and relevant Government authorities in Nigeria, Benin and Togo, with role and responsibilities of each party spelt out for CDP maintenance and management.</p>	<p>WAPCo would provide a useful service by re-visiting each borehole with determination to re-launch the failed systems. ESAP supports a shift of emphasis from bricks and mortar to livelihood projects but recommends: (a) WAPCo staff get training in planning a livelihoods program; (b) the livelihoods program be designed to provide a limited set of projects for livelihood improvement widely in demand, be administratively simple to operate and clearly beneficial; and (c) WAPCo identify, in each country, successful ongoing livelihood programs that might be attracted by additional funds to operate in WAPCo affected communities.</p>
<p><u>Incomplete Community Development Projects:</u> Work on the incomplete CDPs is continuing, and WAPCo is expediting the early completion of planned CDPs. It is also reviewing the status of some non-functioning CDPs to find sustainable solutions. It is</p>	<p>WAPCo should push out the time frame in which to accomplish its near and medium-term community development objectives by an additional 2-3 years, and the ESAP recommends that: (a) WAPCo, through its External Relations Unit, complete all</p>

Status of Activities as of August 2011	Recommendations of ESAP
providing the necessary training to its External Relations staff in effectively implementing CDPs.	'promised' Projects with all components necessary for good service; (b) review closely all non-functioning and deteriorating projects; (c) plan and implement fixes to lengthen the project life of each; (d) consider more bricks and mortar projects if on balance they are the best investment in a given community; and (e) seek training for External Relations staff in planning community projects and maximizing use of local/external contractors, labor and materials.
<u>Community Development Projects for Year 3:</u> Year 3 projects have been designed, focusing on livelihood and income generating activities, with vulnerable groups given priority attention in the selection of beneficiaries.	WAPCo should plan and implement an adequate vulnerables' management program for any substantial extension of the pipeline over land; and the poorest of the poor households should get special attention in the proposed livelihoods program.
<u>Implementation monitoring and consultation:</u> WAPCo completed a follow up socio-economic survey, conducted a Needs Assessment in the participating countries; and has developed a structured periodic community and project monitoring plan as part of its corporate social responsibility and to better monitor status of the CDPs. The Bank's team also conducts two public consultations yearly during missions, with PAPs to verify WAPCo's report.	WAPCo should continue to monitor output and impact of the CDPs through qualitative monitoring by means of focus groups, by checking separately with groups of men and women on priorities for development investment.
<u>Training of WAPCo field staff in M&E:</u> ESAP has been informed that this is being planned for 2012, and WAPCo External Relations field staff would receive training on monitoring and evaluation.	WAPCo External Relations field staff should get trained in monitoring with focus groups and the field staff should take on qualitative monitoring tasks in a systematic fashion, using agreed indicators and issues to be addressed.
<u>Sand winning activity in Adjido (Nigeria):</u> Sand winning activity in Adjido is being continually monitored along with law enforcement agencies.	WAPCo should monitor for evidence of job loss in sand winning in Adjido.
B. Environmental Management Actions	
<u>Restoration of the beach at Takoradi (Ghana):</u> The beach appears to have stabilized. There were sand mining activities being conducted on the beach, and the GEPA and other authorities are ensuring that mining is not conducted near the pipeline and does not cause erosion that could expose the pipeline. The GEPA was generally satisfied with WAPCo's environmental compliance, and appreciates the quarterly monitoring reports.	WAPCo needs to follow up with the GEPA to ensure that the Takoradi shoreline monitoring program and results are satisfactory and that no further action is required. It should continue to monitor sand winning on the beach in the vicinity of the ROW and collaborate with the GEPA Western Region to ensure that there is adequate enforcement of the laws which prohibit sand winning.
<u>Tema (Ghana) shoreline monitoring:</u> Results of Tema shoreline monitoring indicate: (a) the need to remove the steel buoys and installation of range markers; and (b) the need to manage dumping of solid waste on the beach (in the vicinity of the ROW). WAPCo has made contact with the GEPA, and has sought its support in ensuring the shoreline monitoring program, including sand winning and management of solid waste.	WAPCo needs to: (a) follow up with GEPA and should continue to monitor sand winning on the beach in the vicinity of the ROW; (b) WAPCo should collaborate with the GEPA-Tema District Office to ensure adequate enforcement of the laws which prohibit sand winning; (c) WAPCo should work with the GEPA and/or the Ghana solid waste management authorities to prevent the dumping of solid waste (trash) on the beach in the vicinity of the ROW; and (d) it should consider removing the steel buoys marking the pipeline seaward of the berm and install "Range Markers" at Tema for locating the

Status of Activities as of August 2011	Recommendations of ESAP
	pipeline.
<p><u>Land erosion due to run-off water in Tema, Ghana:</u> The phenomenon of erosion along the pipeline ROW onto the shore landing in Tema has been observed, and immediate stabilization and management measures are needed.</p>	<p>At Tema, WAPCo should implement a permanent solution to the erosion caused by run-off of water adjacent to the pipeline on the slope between the R&M Station and the beach.</p>
<p><u>Beach erosion⁵ in Togo:</u> The Government of Togo, with the support of the West African Economic and Monetary Union, is implementing a sea defense program that includes planned installation of 72 wave breakers. Nine have been installed in Aneho (at the border with Benin) with encouraging results. The Government of Togo has promulgated a law banning coastline mining.</p>	<p>The severe erosion problem at Gbetsogbe (Togo) and potential long-term threat to the pipeline must be closely monitored by WAPCo, and it needs to continue to monitor sand winning on the beach in the vicinity of the ROW.</p>
<p><u>Installation of range markers and monitoring of sand winning in Benin:</u> Helping fishermen locate the pipeline, and monitoring of sand winning activities close to pipeline ROW are issues requiring continued attention.</p>	<p>WAPCo should consider installing “Range Markers” which would assist the fisherman in locating the pipeline in Benin. WAPCo needs to continue to monitor sand winning on the beach in the vicinity of the ROW.</p>
<p><u>Enforcement of no-anchor zone in Benin:</u> The partnership between the Benin Navy and WAPCo is functional. The AIS for monitoring and enforcing the no anchor zone of the marine pipeline is functioning somewhat better than previously, but there are both hardware and software aspects which should be improved to ensure its effectiveness. The Government of Benin has banned salt production and wood harvesting along the coastline and in the wetlands.</p>	<p>The reliability of both hardware and manning of the VTMS facility in Cotonou should be improved. WAPCo needs to be proactive in Ghana and Togo, as well as in Benin, in improving the VTMS technology, manning, and procedures to prevent anchoring and similar incursions in the offshore exclusion zones. WAPCo should install VTMS repeaters in the WAPCo Accra Control Center and develop procedures for operators to assist in monitoring ship traffic.</p>
<p><u>Road crossings and axle-loads:</u> Road crossings along the ROW and excessive axle-loads could be potential problems.</p>	<p>WAPCo operations should institute a methodology for examining any informal road crossings, which provides assurance that the pipeline is not subject to excessive loads resulting from the use of such roadways. Remediation should be based on the findings of this approach, and collaboration with local authorities.</p>
<p><u>Community awareness and perception of hazards:</u> There is an over-statement of pipeline hazards in the community awareness programs, which needs to be balanced.</p>	<p>Hazards of the pipeline running through communities should not be overstressed to those communities in view of the minimal risk they cause.</p>

⁵ It is important to point out that the beach erosion in Togo is not caused by WAGP, but is due to port development activities. The Bank is not in any way involved with supplemental environmental studies, or the installation of wave breakers, nor are these part of the Management Action Plan.

VI. Way Forward

40. ***Social Mitigation Measures.*** All social mitigation measures under the MAP have been completed, and the livelihood restoration activities in Phase 3 of the CDPs continue to be implemented. The Bank team continues to work closely with WAPCo to ensure that PAPs derive the full benefit of the social development programs initiated under this project.

41. ***Environmental Management.*** All environmental management actions under the MAP have been completed. The progress in implementing the environmental measures has been substantial, and shortcomings related to reporting to the respective environmental agencies has been remedied.

42. ***Conclusion.*** The Project has been operating commercially since October 2011, and has been delivering gas that is made available to it from the suppliers in Nigeria. Due to supply constraints, the average deliveries have been lower than the contracted gas volume. All activities in the MAP have been completed, and environmental and social monitoring and management activities are being undertaken on a continuing basis. The IDA Guarantee closes in January 2028. The ICR for the project is being finalized, two years after the Commercial Operation Date (COD) was reached, as is the norm for the guarantee operations.

43. Since the Project has become fully operational and all the activities in the MAP are completed, Management proposes that this report be considered final. The Bank will continue supervision of the project as long as the Guarantee remains in force as per OP/BP14.25. Close contact with WAPCo would be maintained to remain abreast with community needs and concerns, and with any evolving safety, environmental, or social development issues. The energy team in Nigeria, Benin, Togo and Ghana will continue to monitor the development of the gas sector in their respective countries on an ongoing basis.