

**PROJECT INFORMATION DOCUMENT (PID)
APPRAISAL STAGE**

Report No.: AB2185

Project Name	WAPP APL 1 (2nd Phase - COASTAL TRANSMISSION BACKBONE)
Region	AFRICA
Sector	Power (50%); Energy efficiency (50%)
Project ID	P094917
Borrower(s)	GOVERNMENTS OF GHANA AND BENIN
Implementing Agency	
Environment Category	<input type="checkbox"/> A <input checked="" type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> FI <input type="checkbox"/> TBD (to be determined)
Date PID Prepared	February 18, 2006
Date of Appraisal Authorization	March 23, 2006
Date of Board Approval	June 20, 2006

1. Country and Sector Background

Regional Overview

1. The 15 member states¹ of the Economic Community of West African States (ECOWAS) occupy some five million square kilometers and are currently home to about 250 million people, which is projected to reach 380 million by 2020. Half of the present population lives in poverty, with per capita income barely above US\$300 per year. Despite the region's large energy endowment, the region's per capita consumption of electricity is among the lowest in the world. In 2003, the combined total consumption of electricity was about 40,000 GWh (approx. 160 kWh per capita) and peak power demand was 6,500MW. Electricity demand is projected to grow by over 7% per year until 2020, when electricity requirement would reach 140,000 GWh (approx. 370 kWh per capita) and the peak power demand would exceed 22,000MW.

2. Faced with this power system expansion challenge, ECOWAS Member States have acknowledged that past efforts to achieve national self-sufficiency in electricity supply have been inadequate due to the high cost of establishing power generation and transmission infrastructure. They also acknowledge two major shortcomings in the region at the present time: (a) increasing reliance on hydro-based power systems will not provide sufficient regional security of electricity supply, and (b) the lack of adequate transmission infrastructure (within and between national power systems) is the weakest link in the drive towards greater cooperation in power sector development.

ECOWAS Vision – West Africa Power Pool

3. The vision of ECOWAS is to develop and put in place the West Africa Power Pool (WAPP) – a cooperative power pooling mechanism for integrating national power system operations into a unified regional electricity market – with the expectation that such mechanism would, over the medium to long term, assure their citizens a stable and reliable electricity supply at affordable costs. The long term scenario is to establish WAPP as the principal vehicle to help meet the region's projected electricity requirement by harnessing electricity from: (a) several large capacity hydropower facilities (Kainji& Jebba, Akosombo, Manantali) sited on the region's major (Niger, Volta, Senegal) rivers which produce

¹ Benin, Burkina Faso, Cape Verde, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, and Togo.

relatively low-cost electricity (US\$0.01-0.03/kWh); (b) the substantial but as yet untapped hydro resources of Guinea, some 6000 MW of which is potentially economic to develop and can generate around 20-25 TWh per year of electricity at relatively low cost (between US\$ 0.02-0.03/kWh); and (c) an expansion of gas-fired power generation, leveraging the community's parallel track strategy to expand access to Nigeria's enormous natural gas reserves (3500 billion cubic meters of proven natural gas reserves) via the West Africa Gas Pipeline (WAGP) project (*under construction with first delivery of gas expected in January 2007*). In order to provide a robust infrastructure platform for the WAPP, a four-fold increase in power system interconnection capacity among ECOWAS Member States (the "Community") is required over the period 2005-2020.

WAPP Cooperation Framework

4. ECOWAS Member States are facing up to the challenge ahead by taking collective action to mobilize financing on a larger scale than has hitherto been forthcoming to establish, *inter alia*, a robust infrastructure platform for the WAPP. They have recognized that a pre-condition for successful regional energy integration in West Africa is the establishment of a transparent and harmonized policy, regulatory and commercial framework for cross-border electricity trade throughout the Community. Accordingly, the Community's highest decision-making body – the *Summit of the Heads of State and Government of the ECOWAS Member States* – is pursuing a pragmatic, step-by-step approach to forge consensus, put in place the core (legal, regulatory, technical, investment programming) building blocks for the WAPP initiative, so as to provide prospective donors and financiers with clear evidence of the collective ownership by ECOWAS member states. Key policy milestones reached to date include:

- a. the *25th Summit of the Heads of State and Government of the ECOWAS Member States* approved the "**Mechanism for Financing the WAPP**";²
- b. the *26th Summit of the Heads of State and Government of the ECOWAS Member States* signed the "**ECOWAS Energy Protocol**" or *EEP* to set up a unified regional (legal and regulatory) umbrella for energy sector developments in the region;
- c. the *28th Summit of the Heads of State and Government of the ECOWAS Member States* approved the "**ECOWAS Revised Master Plan for the Generation and Transmission of Electrical Energy**";³ and
- d. the *29th Summit of the Heads of State and Government of the ECOWAS Member States* adopted the "**Articles of Agreement**" to set up the **WAPP Organization** as a "**Specialized Institution of ECOWAS**".⁴

5. The above policy decisions, taken by the community's highest level body, demonstrate ownership by ECOWAS Member States of the WAPP initiative. Moreover the steady progress made in achieving key milestones, in particular (i) ratification of the **EEP**, (ii) consensus on the "**Road Map**" for implementing the Revised ECOWAS Master Plan and, more recently, (iii) adoption of comprehensive

² ECOWAS/ CEDEAO (2001). 25th Session of the Authority of Heads of State and Government. Decisions A/Dec.8/12/01 Relating to the Establishment of a Mechanism of the West African Power Pool (WAPP). Dakar, 20 – 21 December 2001.

³ ECOWAS/ CEDEAO (2005). 28th Session of the Authority of Heads of State and Government. Decision A/Dec.7/01/05 Relating to the ECOWAS Revised Master Plan for the Generation and Transmission of Electrical Energy. Accra, 19 January 2005.

⁴ ECOWAS/ CEDEAO (2006). 29th Session of the Authority of Heads of State and Government. Decision A/Dec.20/01/06 Granting the Status of a Specialised Institution of ECOWAS to the West Africa Power Pool Organization. Niamey, 12 January 2006.

“**Articles of Agreement**” to set up a semi-autonomous regional, collaborative, power utility-led **WAPP Organization** to take over coordination of WAPP activities from the ECOWAS Secretariat, all demonstrate the collective commitment of ECOWAS Member States ([Annex 1, Section 1](#)) to implement WAPP as a regional energy integration project.

2. Objectives

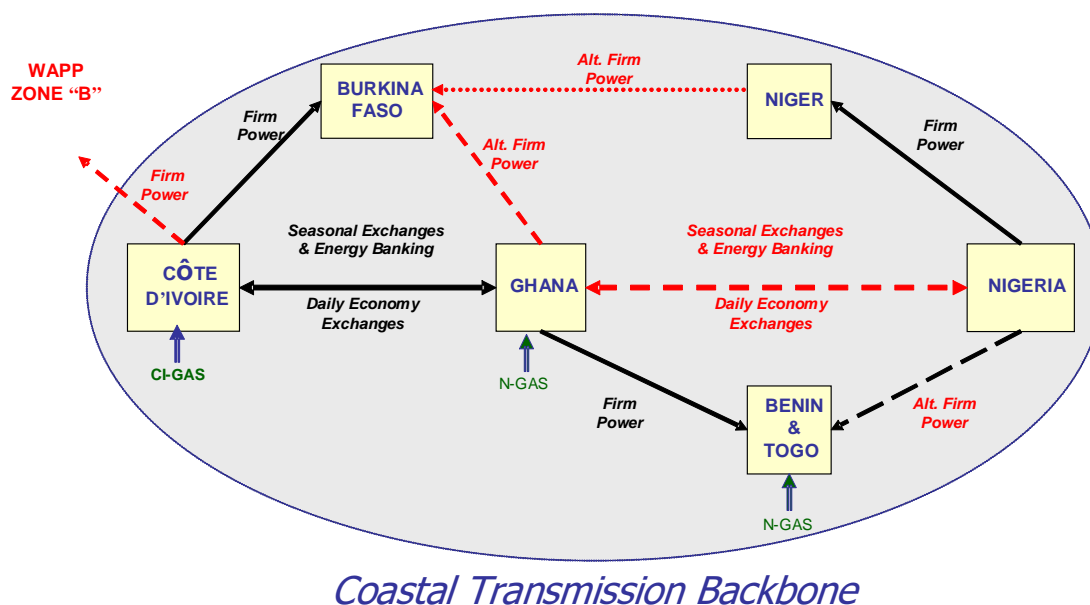
6. The developmental objective of the **Coastal Transmission Backbone Project of the WAPP APL (WAPP APL 1)** is to increase access of national power systems of Côte d’Ivoire, Ghana, Togo, Benin and Nigeria (collectively, the WAPP “Zone A” coastal states) to more stable and reliable electricity as a means to alleviate power supply deficits and/or to reduce their collective vulnerability to drought-induced power supply disruptions. This developmental objective is to be achieved, *inter alia*, by: (a) establishing a robust 330 kV transmission link from the Prestea, Aboadze and Volta substations (Ghana) through the Mome Hagou sub-station (Togo) and Sakété sub-station (Benin) to the Ikeja West substation near Lagos, Nigeria; and (b) assisting transmission system operators of WAPP “Zone A” Coastal States to collectively put in place and fully deploy a WAPP Cooperation Agreement (Figure 2), incorporating a “Operational Security and Mitigation Plan” for the CTB, by the year 2009.

7. When fully operational, the CTB Project of the WAPP APL program will facilitate reliable cross-border electricity exchanges between WAPP “Zone A” Coastal States until at least the year 2020. Furthermore, the major benefits to be derived by the WAPP “Zone A” Coastal States from the CTB are reduced transmission losses and operating costs, reduced dependence on inefficient aging generation and transmission facilities, deferred investment in generation capacity expansion due to greater sharing of existing generation reserves and increased overall system reliability.

8. A comprehensive regional transmission stability study was conducted to determine, *inter alia*, the potential benefits of the CTB. The study concluded that should the transmission system operators of all five WAPP “Zone A” Coastal States collectively establish and adhere to a common set of rules for system protection, restoration and operation – the proposed WAPP “**Operational Mitigation and Security Plan**” for the CTB –the full benefits of the CTB project derive from:

- (a) Increasing the capability of the incumbent transmission system operators in Ghana (VRA) and Benin (CEB) to supply demand during periods of poor hydrology;
- (b) Alleviating the overloading of critically overloaded transmission circuits in the VRA and CEB power systems (Akosombo-Lome-Cotonou-Sakété circuit; Akosombo-Kumasi circuit);
- (c) Enhancing the reliability of cross-border transmission operations in compliance with contingency (N-1) planning criteria; and
- (d) Improving the dynamic response of the national power systems (of all five WAPP “Zone A” Coastal States) in reaction to faults and outages.

Figure 2: WAPP Cooperation Agreement



Key progress and results indicators

9. Over the short term (by end of 2006), key progress indicators for the WAPP APL 1 project will monitor the following actions: (a) evidence of ratification of EEP by all countries involved in WAPP APL 1 and introduction of specific (legal and regulatory) measures – “WAPP Action Plans” – to ensure alignment of reforms to the principles (e.g. non-discriminatory “open access”) outlined in EEP and to facilitate harmonization of regulatory and contractual instruments for cross-border electricity trade among WAPP “Zone A” coastal states; and (b) establishment of a WAPP Cooperation Agreement among the national power utilities/TSOs of the WAPP “Zone A” coastal states. Annex 3 presents key results indicators for the project implementation cycle.

10. The Bank supports regional efforts in West Africa to create an open, unified regional economic space through the integration of markets for infrastructure services, the WAPP and the West Africa Gas Pipeline (WAGP) project being among the “flagship projects” of ECOWAS Member States. The WAPP is a regional infrastructure development program of the Economic Community of West African States (ECOWAS), fully aligned with the goals of the New Partnership for Africa’s Development (NEPAD).⁵ It provides the power utilities of the region with a vehicle to achieve the vision embodied in the EEP – that of creating a “level playing field” to facilitate the balanced development of diverse energy resources of the ECOWAS Member States for their collective economic benefit, through long-term energy sector co-operation, unimpeded energy transit and increasing cross-border electricity trade. Through the proposed WAPP APL Program, the World Bank Group will support the ECOWAS Secretariat and the proposed WAPP Organization to coordinate implementation of the EEP.

⁵ NEPAD was established to implement an integrated socio-economic development framework for Africa, and was formally adopted at the 37th Summit of the Organisation for African Unity in July 2001.

3. Rationale for Bank Involvement

11. **Overall WAPP APL Program.** The **Regional Integration Assistance Strategy (RIAS) for West Africa**, which was presented to the World Bank Board on August 2, 2001, is a translation of the World Bank's greater focus on regional integration in Africa, as originally introduced to the Board at the technical briefing on April 2, 2001. To reduce fragmentation of the West Africa Region's economies, the Bank has been pursuing well-defined and phased integration efforts in key sectors where the countries would benefit significantly from cross-border trade – notably road and air transport, energy and telecommunications. The objective of the RIAS for West Africa is to help the countries concerned create a more unified regional economic space through the integration of markets of goods, financial and infrastructure services.

12. To achieve this RIAS objective, the Bank and its partner international financial institutions (IFIs), in consultation with the WAPP Steering Committee, WAPP PIC and the ECOWAS Secretariat agreed to put in place a multi-year programmatic framework in support of WAPP. Through the Bank strategy, *inter alia*, aims to: (a) focus **Bank lending support** on a phased approach to the integration of national power systems within WAPP; (b) target **Bank non-lending services** (including PPIAF) on WAPP-related institutional capacity building activities to assist the WAPP PIC to establish an autonomous regional power utility-led entity – the proposed WAPP Organization; (c) leverage the World Bank's **Adaptable Program Lending (APL)** instrument as a regional multi-year/multi-country umbrella to mobilize co-financing from development partners, donors and private investors, where feasible, to ensure timely implementation of WAPP-related investment and technical assistance activities; and (d) align Bank **Country Assistance Strategies (CAS)** for each ECOWAS member state with the broader goals of WAPP.

13. **Coastal Transmission Backbone Project of the WAPP APL Program.** The establishment of a 330 kV transmission link between the national power systems of Côte d'Ivoire, Ghana, Togo, Benin and Nigeria (the WAPP "Zone A" Coastal States) is accorded high-priority in the *Revised ECOWAS Master Plan*. When fully deployed, the 330 kV transmission link – the Coastal Transmission Backbone (CTB) Project will help reduce the cost of electricity supply and facilitate unconstrained cross-border electricity exchanges between WAPP "Zone A" Coastal States until at least the year 2020 (Annex 1, Section --).

14. As the first constituent programmatic investment operation under the WAPP APL Program, the Coastal Transmission Backbone Project (WAPP APL 1) is designed to fully complement country-specific energy sector interventions that are integral to the Country Assistance Strategy (CAS) for Benin (*endorsed by the Bank's Board in July 2003*) and the CAS for Ghana (*endorsed by the Bank's Board in March 2004*). Specifically, the WAPP APL 1 operation targets WAPP-related regional power system investments to be undertaken by CEB and VRA that strategically complement those earmarked for implementation under the following country-specific IDA lending operations: (a) the ongoing **Benin Energy Services Delivery APL1 Project (FY05)** which includes IDA financing of CEB investments that are more oriented to extend the delivery of transmission services into northern Benin; and (b) the proposed **Ghana Energy Development and Access Project (FY07)** which will also include IDA financing of VRA investments to enhance reliability and efficiency of transmission and distribution service delivery within Ghana.

4. Description

1. (WAPP APL 1)

15. The WAPP APL 1 project aims to complete and put into full operation by 2009 the entire 330 kV Coastal Transmission Backbone (CTB) of the WAPP which will extend from the Prestea substation in

western Ghana to the Ikeja West substation in Lagos, Nigeria. Although the CTB will be built for 330kV operation, it initially will be energized at 161kV until load growth justifies operation at the higher voltage (projected to be the year 2010).

16. On June 30, 2005, the Board approved an IDA credit of US\$40 million equivalent to Ghana (IDA Credit 4092-GH) for the **WAPP APL 1 – Phase 1 operation**. The FY05 operation closed the financing gap for VRA to build the Aboadze – Volta segment of the CTB. Implementation of the Aboadze – Volta segment of the CTB is satisfactorily underway. The IDA credit for the WAPP APL 1 – Phase 1 operation became effective on November 1, 2005. Since then, VRA has accelerated implementation of all elements in the agreed procurement plan and issued the relevant request for proposals. By mid-February 2006, VRA had received conforming bids for the main transmission line construction contract from pre-qualified consortia. VRA has also submitted its Quarterly Progress Report (October – December, 2005) which projects that this CTB segment is to be completed on schedule.

17. Under this FY06 operation – **WAPP APL 1 (CTB Phase 2)** – additional IDA credits are to be provided to Benin and Ghana to finance the implementation by CEB and VRA of the following complement of investments and technical assistance (Table 1 below) that are needed primarily to put in place and fully deploy the proposed WAPP “Operational Security and Mitigation Plan” for the CTB.

Table 1: IDA Investment Support (Phase 2 of Coastal Transmission Backbone Project of WAPP)

Component	BENIN/(CEB)	GHANA/(VRA)
Component 1 : Transmission Infrastructure Development:	<ul style="list-style-type: none"> Rehabilitation (including replacement of aging conductors) of Mome Hagou-Lome, Mome Hagou – Avakpa – Cotonou and Sakete – Cotonou segments of the existing 161 kV transmission network to improve reliability of electricity transfers from the CTB sub-stations into the main CEB load centers (Lome and Cotonou); Extension of Mome Hagou Sub-station. 	<ul style="list-style-type: none"> Extension of the Akosombo and Volta Sub-stations; Upgrade (replacement of obsolete circuit breakers and relays at the switchyard of the Kpong Generation Station; Construction of 3rd Bulk Supply Point for the Accra/Tema load centers in order to improve reliability of electricity transfers from the CTB Pre-investment studies for the proposed Aboadze-Kumasi and Tumu-Han-Wa transmission lines to reinforce Ghana transmission network for future WAPP Inter-Zonal Transmission Hub Project.
Component 2: Upgrade of System Control Centers/SCADA	<ul style="list-style-type: none"> Upgrade of CEB System Control Center and associated sub-stations 	<ul style="list-style-type: none"> Upgrade of SCADA and Metering Systems of sub-stations in the southern 161 kV transmission loop within Ghana; Ghana System Control Center Study.
Component 3: Upgrade of Strategic Power Generation Stations	<ul style="list-style-type: none"> Development/deployment of an “Emergency Preparedness Plan” for the Nangbeto Generation Station. 	<ul style="list-style-type: none"> Rehabilitation of Cranes at the Akosombo Generation Station Development/deployment of “Emergency Preparedness Plans” for the Akosombo and Kpong Generation Stations.
Component 4: Institutional Capacity Building Support for WAPP Organization	<ul style="list-style-type: none"> Equipment to upgrade CEB Facility in Cotonou (<i>to accommodate WAPP Organization’s Information and Coordination Center</i>). 	<ul style="list-style-type: none"> Upgrade of VRA Training Center for WAPP Organization.

5. Financing

Source:	(\$m.)
BORROWER/RECIPIENT	15
INTERNATIONAL DEVELOPMENT ASSOCIATION	60
AFRICAN DEVELOPMENT BANK	40
ISLAMIC DEVELOPMENT BANK	15
WEST AFRICAN DEVELOPMENT BANK	15
Total	145

6. Implementation

18. **WAPP APL Program** A comprehensive coordination and implementation mechanism has been established for the realization of the WAPP initiative, the legal underpinning of which includes the EEP. In line with the most recent decisions of the Authority of Heads of State and Government of ECOWAS Member States (Section A1), the governance arrangements for WAPP have been restructured, as follows. On February 1, 2006, the WAPP Secretariat was established in Cotonou, Benin to take over responsibility for day-to-day coordination of the implementation of the WAPP “Road Map”. On the same date, the ECOWAS Energy Observatory, also located in Cotonou, was transformed into the Information and Coordination Center of the WAPP Organization (WAPP-ICC). In order to maintain program management continuity during this critical transition period, the Head of the Energy Division of the ECOWAS Secretariat has been seconded to the WAPP Secretariat as Interim Secretary General of the WAPP Organization. In April 2006, a WAPP General Assembly will be convened to elect the Executive Board for the WAPP Organization and consider and adopt a 3-year “Business Plan” that is being prepared by the Interim Secretary General with assistance of a PPIAF-sponsored management consultant.

19. The WAPP Secretariat is in the process of setting up a “Project Coordination Unit”, to be staffed by full-time professionals, to handle all day-to-day responsibilities concerning the planning and implementation of pre-investment activities for WAPP priority projects. For example, the WAPP Secretariat has taken over coordination of pre-investment activities for the Volta-Mome Hagou – Sakete segment of the CTB, which are being conducted by consultants under the supervision of a joint CEB/VRA Project Team and funded in part with a grant from the NEPAD IPPF. The WAPP-ICC will be responsible for the development and deployment of an integrated WAPP M&E system (Section C3 and Annex 6). The ECOWAS Secretariat has requested support from the Bank to build institutional capacity at the WAPP Organization. A proposal is to be submitted to the Bank-administered “Africa Catalytic Growth Facility”.

20. WAPP member power utilities are also providing assistance to facilitate the “start-up” of the WAPP Organization, as follows: (i) CEB, as host of the WAPP Secretariat, will provide office accommodation, logistics support and equipment for the WAPP-ICC; (ii) VRA will expand/upgrade its Akuse Training Center (located near the Kpong Hydropower Facility) to accommodate the requirements of the WAPP Organization; and (iii) three experienced professionals (one each from PHCN, SOPIE/CIE (Cote d’Ivoire) and SONABEL) have been seconded to run the WAPP-ICC.

21. **WAPP APL 1.** The recently established WAPP CTB Task Force, comprising TSO representatives for Côte d’Ivoire (CIE/SOPIE), Ghana (VRA), Togo/Benin (CEB) and Nigeria (PHCN/TranSysCo) will develop and implement the “Operational Security and Mitigation Plan” for the CTB. To implement the other investment and technical assistance components, CEB and VRA have each set up in-house Project Implementation Units (PIUs) to manage all aspects of the implementation of investment and technical assistance components under the WAPP APL 1 project (Annex 6).

22. The proposed WAPP APL 1 (Phase 2) project would be implemented between July 2006 and June 2009, with a closing date of December 2009.

7. Sustainability

23. The WAPP “Zone A” Coastal States are fully committed to implement two “flagship projects”, namely the WAGP and the WAPP, which support the regional energy integration process in West Africa. Over the long-term, the key to achieving sustainability of regional energy integration initiatives, such as WAPP, lies in leveraging the emerging power utility-led institutional framework – the WAPP Organization – to further promote liberalization of cross-border electricity trade opportunities among these and other ECOWAS member states.

24. The CTB Project of WAPP leverages over three decades of expanding cooperation between the TSOs of WAPP “Zone A” Coastal States, under which the original government-to-government forms of bilateral power supply contracts have gradually been upgraded into more flexible, market-oriented, power exchange agreements between the four TSOs. The proposed “Operational Security and Mitigation Plan” for the CTB is logically the next step towards creating a robust trading platform – the *WAPP Cooperation Agreement* – upon which existing bilateral power exchange agreements can be further harmonized into a common electricity trading regime for all of WAPP “Zone A”, including the land-locked Sahelian countries (Burkina Faso and Niger).

8. Lessons Learned from Past Operations in the Country/Sector

25. The proposed WAPP APL program has been designed, taking into account broad lessons learned from the five decade long evolution of the best known regional power market – the Nordic power market which is operated by NordPool. In addition, lessons gained from the design of comparable Bank financed regional APLs for Southern Africa Power Pool (SAPP) and Energy Community of South East Europe (ECSEE) have been applied.

26. **Design of Power Pooling Mechanism.** A key lesson learned from the Nordic experience is that regional multi-country power pooling arrangements, such as the one envisioned for WAPP, require active involvement of all transmission system operators. In the Nordic power market, NORDEL, an association comprising the TSOs of Norway, Sweden and Finland initially put in place a robust cooperative mechanism as a means to create a secure and reliable platform for the progressive development of the increasingly unified and competitive regional electricity market that is now operated by NordPool.

27. The two most pertinent lessons that apply to the design of the WAPP APL 1 project are:

Lesson One: the key to successful expansion of multi-country, regional electricity trade is to initially establish an appropriate (simple, flexible and robust) institutional structure consisting of the national TSOs. Over time with growing economies and increases in electricity demand within a regional context, the scope of multi-country, regional electricity trade expands as TSOs build confidence in working together on a commercially sustainable manner to secure economic benefits and solve transitional problems. With limited interconnections in place among ECOWAS Member States and the present reliance on government-to-government power exchange agreements executed by national TSOs, it is prudent to focus on measures that are indispensable pre-conditions for replicating the basic power pooling mechanism that was pioneered by NORDEL – under the WAPP APL 1 project, the existing bilateral power exchange agreements between the TSOs of Benin/Togo, Côte d’Ivoire, Ghana and Nigeria (Annex 1, Section 4) would be consolidated into a unified WAPP “*Operational Security and Mitigation Plan*”, for the 330kV Coastal Transmission Backbone;

Lesson Two: in order to maintain balance in the transformation of power system operations from a national into a multi-country, regional operations regime to implement the core principles embodied in

the EEP, such as non-discriminatory “third party access” to generation and transmission facilities, it is preferable to promote greater autonomy for national TSOs so that potential conflicts of interest are minimized. In the specific WAPP APL 1 project context, the first step to be considered is functional (and not necessarily corporate) unbundling of TSOs – from the Nordic experience. The ongoing power sector reforms by the authorities in the four beneficiaries of WAPP APL 1 project (Ghana, Côte d’Ivoire and Benin/Togo, Nigeria) are already proceeding in that direction. The “WAPP Action Plans” for the beneficiaries of the WAPP APL 1 project therefore reflect the lessons from the Nordic experience.

28. **WAPP APL Program Design.** The following are three program design lessons of experience gained from the **SAPP APL** (FY04) and **ECSEE APL** (FY05) programs, and applied to the WAPP APL:

Lesson One: the design of policy and/or project specific triggers for the APL program should be grounded in a well-defined policy and institutional framework, have full backing of the beneficiary Member States and move at a pace tailored to each Member States’ situation. WAPP APL 1 project design is well grounded in existing power exchange agreements involving Ghana, Côte d’Ivoire and Benin/Togo;

Lesson Two: stakeholders at both the national and regional levels should have a combined ownership of program implementation arrangements and institutions, so as to promote uniformity of purpose. The above notwithstanding, the least successful regional projects have tried to rely on new institutions to oversee project implementation, while the most successful one is often built upon the track record of existing institutions. All key project implementation activities of the WAPP APL 1 project will be handled by experienced power utilities, namely VRA and CEB; and

Lesson Three: the design of APL programs which provide a regional umbrella for multi-faceted, multiple-country infrastructure projects should focus on achievement of regional program goals (and not be diverted by national issues) to ensure their effective implementation. Furthermore, regional project implementation should be anchored as much as possible in the strongest performing of the beneficiary Member States covered by such regional project. Accordingly, the WAPP APL 1 project is anchored in Ghana and Benin.

9. Safeguard Policies (including public consultation)

29. As indicated in the table below, the only safeguard policy triggered by the project is Environmental Assessment (OP4.01) to attend to the matters discussed in Section D5 above.

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment (OP/BP 4.01)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Natural Habitats (OP/BP 4.04)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pest Management (OP 4.09)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Cultural Property (OPN 11.03 , being revised as OP 4.11)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Involuntary Resettlement (OP/BP 4.12)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Indigenous Peoples (OP/BP 4.10)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Forests (OP/BP 4.36)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Safety of Dams (OP/BP 4.37)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Projects in Disputed Areas (OP/BP 7.60)*	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Projects on International Waterways (OP/BP 7.50)	<input type="checkbox"/>	<input checked="" type="checkbox"/>

* By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties’ claims on the disputed areas

30. Environmental concerns are limited to measures required to avoid adverse impacts of construction activities during transmission line upgrading and at existing substations, and to attend to any site remediation issues at those substations. VRA and CEB have prepared Environmental Management Plans to ensure these matters are attended to during project implementation through environmental specifications in construction contracts, and technical audits of and remediation work at, substation sites. Installation of the 3rd Bulk Supply Point for the Accra/Tema load centers will not require any land acquisition by VRA. VRA's latest reviews of the Akosombo and Kpong dams by an international panel confirm satisfactory performance. As part of the project, VRA will prepare an updated dam safety assessment, including an emergency preparedness plan. CEB may do the same for the Nangbeto dam (to be confirmed at appraisal). CEB has indicated an intention to settle land-based compensation claims outstanding since the construction of the existing 161 kV transmission line some 30 years ago. Doing so is not necessitated by the project, and the project will not fund the settlement of these claims. CEB would also like to clear the right-of-way of current land uses but, since this would violate OP 4.12, has undertaken to implement the project without doing so. The construction clauses in the EMP should be sufficient to ensure public health and safety during construction. If it should be determined that there are structures, valuable trees, etc. that have to be removed, or land uses terminated, CEB has undertaken to bring these situations to IDA's attention for a determination of what response is needed under OP 4.12 before any action is taken. These undertakings by CEB will be documented in the Development Credit Agreement.

10. List of Factual Technical Documents

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