



Report Number : ICRR0020943

1. Project Data

Project ID P069258	Project Name Southern Afr Power Mrkt APL 1 (FY04)	
Country Africa	Practice Area(Lead) Energy & Extractives	Additional Financing P105654,P126421
L/C/TF Number(s) IDA-38310,IDA-38320,IDA-H5000,IDA-H8010	Closing Date (Original) 31-Dec-2007	Total Project Cost (USD) 201,627,123.40
Bank Approval Date 11-Nov-2003	Closing Date (Actual) 30-Sep-2016	
	IBRD/IDA (USD)	Grants (USD)
Original Commitment	178,600,000.00	0.00
Revised Commitment	539,406,352.46	0.00
Actual	535,095,508.96	0.00

Prepared by Natsuko Toba	Reviewed by Peter Nigel Freeman	ICR Review Coordinator Christopher David Nelson	Group IEGSD (Unit 4)
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Project ID P082825	Project Name 3A-EAC Power Master Plan (P082825)	
L/C/TF Number(s)	Closing Date (Original)	Total Project Cost (USD) 1,436,873.40



Bank Approval Date	Closing Date (Actual)	
29-Jan-2003		
	IBRD/IDA (USD)	Grants (USD)
Original Commitment	0.00	1,058,201.05
Revised Commitment	0.00	676,644.11
Actual	0.00	795,850.81

2. Project Objectives and Components

a. Objectives

The Southern African Power Market Project (SAPMP) was the first phase of the Southern African Power Market Program in the form of an Adaptable Program Loan (APL 1, P069258; P105654 and P126421). The program purpose was to promote regional integration and cooperation, and facilitate the conditions for accelerated investment in the power sector in the Southern African Region (Project Appraisal Document [PAD], September 25, 2003, page 39).

Project Development Objective (PDO) was revised twice.

Original PDO: to develop an efficient regional power market in the Southern African Development Community (SADC) to create conditions for accelerated investments in the power sector, increase competition and foster regional economic integration (Democratic Republic of Congo [DRC]: Development Credit Agreement, Credit Number 3831 DRC, January 21, 2004, page 14; Agreement Providing for the Amendment and Restatement of the Development Credit Agreement, Credit Number 3831 DRC February 18, 2010, page 21; Zambia: Development Credit Agreement, February 3, 2004, page 12).

First Revised PDO: to facilitate further development of an efficient power market in the Southern African Development Community (DRC: Financing Agreement, Grant Number H500-ZR, February 18, 2010, page 8).

Second Revised PDO: To expand transmission capacity to better serve domestic and regional power demand (DRC: Financing Agreement, Grant H801-ZR, July 30, 2012, page 6).

The project data section 1 above shows another name of a project with a different project identification number, i.e., P082825: 3A-East African Community (EAC) Power Master Plan. The Bank team clarified to IEG that P082825 was a supplemental technical assistance (TA) to prepare a master plan and was not directly linked with the SAPMP, but contributed to regional interconnection planning. Since insufficient information was available regarding the TA and because the Bank team’s clarification that the TA was not directly linked to the SAPMP, the ICR Review does not evaluate the TA.



b. Were the project objectives/key associated outcome targets revised during implementation?

Yes

Did the Board approve the revised objectives/key associated outcome targets?

Yes

Date of Board Approval

30-Jul-2009

c. Will a split evaluation be undertaken?

Yes

d. Components

The original project included four components:

Component 1: Support to the Southern African Power Pool (SAPP) Coordination Center (appraisal: US\$3.36 million; actual: US\$3.36 million).

This component was to provide TA to establish system control software and to train its staff in multiple areas: (a) an Energy Management System (EMS) to provide access to information to members of the pool, (b) a data-supply communication system for the EMS, (c) an Internet-based energy trading system for utilities, (d) power system analysis software, (e) staff training of the Coordination Center and the SAPP, (e) preparation of environmental guidelines, (f) workshops on opportunities for electricity trading and investment in regional electricity facilities, and (g) studies for (i) preparing an implementation plan of regulatory arrangements and fair trading mechanisms, (ii) for pricing structures of electricity, and (iii) for establishing a reliability measure for the pool.

Component 2: An Increase of the Capacity of the Transmission Connection between the Democratic Republic of Congo (DRC) and the SAPP through Zambia (appraisal: US\$186.11 million; actual: US\$593.80 million).

This component was to increase the capacity of the transmission lines between Inga and Kasumbalesa, including (a) rehabilitating and upgrading the direct current (DC) link between Inga and Kolwezi, (b) rehabilitating and expanding alternating current (AC) substations and adding equipment at Inga and in the Katanga region, and (c) constructing new transmission lines from Kolwezi to the DRC/Zambia border (Kasumbalesa).

Component 3: An Increase of the Capacity of the Transmission Connection between the Zambian Border with the DRC and Luano Substation near Kitwe in Zambia (appraisal: US\$9.70 million; actual: US\$20 million).

This component was to strengthen the transmission corridor to bring the DRC power to a point in the Zambian grid to transmit it to users in the SAPP. It consisted of the construction of a 220 kilovolt (kV) transmission line in parallel and in the same right-of-way as the existing line from Luano Substation in Zambia to the border with the DRC.



Component 4: A Feasibility and Preliminary Design Study of an Interconnector between Zambia and Tanzania that would connect the SAPP to the market that would be formed by interconnecting Tanzania, Uganda and Kenya (appraisal: US\$1.02 million; actual: US\$ 1.02 million).

Revised Components

The first additional financing (AF1) with project restructuring was approved in June 2009. By 2007, the IDA credit amount was found to be insufficient for the updated project cost estimate. In addition, around 2006-2008, the price of power transmission equipment increased significantly after 2006 because of the combined impact of higher energy costs and a worldwide escalation of aluminum and copper prices. Also, the project scope had to be expanded as the appraisal had been underestimated (mainly the need to replace substation equipment rather than repair it). Consequently, AF1 modified some of the components and added new ones to achieve the PDO. AF2 was approved in June 2012 to cover the cost overruns mainly associated with the rehabilitation of the high voltage (HV) transmission lines under Component 2. The subcomponents set out in AF1 were clarified at the AF2 as following:

Revised subcomponents of Component 2:

- 2.1: Rehabilitation and Reinforcement of (a) Converter and Inverter Substations at Inga and Kolwezi and (b) 220 kV Substations at Fungurume, Panda, and Karavia, and Installation of Modern System Control and Data Acquisition (SCADA) System at Likasi
- 2.2: Rehabilitation of the HVDC and the HVAC Overhead Lines from Inga through Kolwezi to Kasumbalesa and Construction of the New 220 kV Overhead Lines from Fungurume to Kasumbalesa
- 2.3: Telecommunications System (fiber-optic cable and the Power Line Carrier [PLC] system)
- 2.4: Advisory Services to the Project Management Unit (PMU) and Société Nationale d'Electricité (SNEL, DRC's National Power Utility) in export negotiations
- 2.5: Community Development providing the social infrastructure in seven villages in Katanga (schools, health centers, water and electricity)
- 2.6: Environment and Social Safeguards, including updates of social and environmental impact studies, Human immunodeficiency virus infection and acquired immune deficiency syndrome (HIV/AIDS) awareness campaigns along the lines, resettlement, compensation and supervising mitigation measures
- 2.7: Institutional Strengthening and Capacity Building
- 2.8: Letters of Credit to cover commercial bank charges on behalf of contractor for the supply of imported equipment
- 2.9: Provision for replacement of additional physical components, which may compromise the



effectiveness and achievement of the PDO (unallocated funds to be used according to the Financing Agreement provision). This component would cover the rehabilitation and/or substitution of possible components on the existing installations, which could fail by the project commissioning.

e. Comments on Project Cost, Financing, Borrower Contribution, and Dates

Project Cost

Total project cost at appraisal was US\$200.19 million. The actual total project cost was US\$618.18 million. This threefold increase of the actual project cost was mainly due to the increase in costs and expanded or changed activities in Component 2.

Financing

The original IDA allocation at the project appraisal was US\$178.6 million as credits to DRC (US\$117.5 million) and Zambia (US\$1.1 million). Two additional financings (AFs) were IDA grants to DRC (US\$180.62 million and US\$201.5 million). In total, IDA approved US\$539.41 million in credits and grants. The disbursed amount was US\$535.1 million or 99.5 percent of the total original IDA commitment. The undisbursed balance at the project closing date (total of SDR 17.1 million) was cancelled.

The United States Agency for International Development (USAID) and the Norwegian Agency for Development Cooperation (NORAD) financed Component 1 Support to the SAPP Coordination Center with a total of US\$3.36 million as the same amount at the appraisal.

Copperbelt Energy Corporation (CEC) of Zambia funding was US\$9.7 million at appraisal and the actual funding amount was US\$20 million. CEC financed Component 3.

Since AF1, the European Investment Bank (EIB) became a co-financier of Component 2. EIB funding was US\$47.02 million at appraisal of AF1 and the actual financing amount was US\$57.1 million.

Borrower Contribution

The Borrower's contribution was zero. The implementing agency SNEL's contribution was US\$8.5 million at appraisal (ICR, page 12). By the project closing date, the actual contribution was US\$10.6 million.

Dates

The project was approved on November 11, 2003 and became effective on May 17, 2004. AF1 was approved on June 30, 2009. AF2 was approved on June 28, 2012. The original project closing date was December 31, 2007 at which time only the IDA credit to Zambia was closed. The closing dates of the IDA credit and grants to DRC were extended to September 30, 2016, eight years and nine months after the original closing date.



Restructuring

The project has undergone eight restructurings. Six of them were Level 2 restructuring for the project closing date extensions and reallocation of proceeds, and the other two were Level 1 corresponded to Additional Financing (AF) operations (AF1 and AF2) that restructured the project.

The two Level 1 restructurings changed the PDO to reflect the changes of project's orientation from broad regional contexts to specific ones. Both restructurings addressed implementation challenges arising mainly from the DRC's post-conflict situation and findings of the technical complexity of the project that increased the cost of rehabilitating the DC transmission line and its substations.

When AF1 was approved, original Component 1 (Support to the SAPP Coordination Center) and Component 4 (Feasibility and Preliminary Design Study of an Interconnector between Zambia and Tanzania) had already been completed on schedule before the initial closing date of December 31, 2007. The first six years of the project (from effectiveness in May 2004 to end-2010) yielded no tangible results of the main Component 2.

AF2 was mainly justified by the increase in the cost for the rehabilitation of about 2,400 km of HV transmission lines. An aerial survey and laboratory testing revealed that the extent of rehabilitation works had been severely underestimated at the time of AF1. The cost of Component 2 increased in from US\$186 million at appraisal to US\$410 million at AF1 and to US\$638 million at AF2.

3. Relevance of Objectives & Design

a. Relevance of Objectives

Relevance to the SAPP Region

The original and revised PDOs were relevant to the SAPP region at the time of each project appraisal, i.e., original and two AFs. The project was part of a wider regional program to increase the availability and reliability of low-cost, environmentally friendly electric energy in the Southern African region, thereby increasing competitiveness of industry and fostering economic growth, a key objective of SADC's long term Regional Indicative Strategic Development Plan (RISDP). The program was based on the highest priority investments in the Integrated Regional Power Master Plan prepared by the Southern African Power Pool (SAPP). It was expected to help prevent development of uneconomic power generation schemes and foster attractive conditions for private developers to invest in the generation sector. The New Partnership for Africa's Development (NEPAD) regarded this program as one of the pillars of regional cooperation to meet its development goals. NEPAD and the SADC recommended the project as a priority for regional development. SAPP's mission and vision remained relevant at the time of the project completion.

Relevance to DRC and Zambia



The original and revised PDOs were relevant to DRC at the time of each project appraisal. The DRC Poverty Reduction Strategy Paper (PRSP) 2006 Pillar 2 included (i) promoting the development of the Inga site and building the associated transport networks to export surplus electricity as sub regional cooperation; and (ii) mobilizing the funds for regional integration projects under regional and sub regional organizations including SAPP. The original and revised PDOs were relevant to Zambia at the time of the project appraisal. Zambia PRSP 2002 highlighted an interconnection project between DRC and Zambia as part of the priority projects within the SADC regional master plan to trade power between DRC and South Africa.

In 2002/2003, when the project was prepared, the DRC was emerging from seven years of instability associated with two Congo wars and a 30-year authoritarian regime. This period of recurring conflicts devastated the DRC's economy, infrastructure, institutions and people. Given this situation, the original objectives, while laudable, were over ambitious. To a large extent, this was corrected by the two later revisions to the objectives.

The power sector was an important candidate for rehabilitation due to its strategic value nationally and regionally. The power pool was organized in 1995. It comprises the state utilities of 12 countries: Angola, Botswana, the DRC, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia, and Zimbabwe. The DRC is potentially one of the largest sources of low-cost electricity.

The original and revised PDOs remained relevant to DRC at the time of the project completion. DRC PRSP 2013 Pillar 2 included SAPP to increase electricity access in the country. The original and revised PDOs remained relevant to Zambia at the time of the project completion. While Zambia's Seventh National Development Plan for 2017-2021 did not specifically mention SAPP, Zambia remains an integral part of the SAPP.

Relevance to the World Bank

The original and revised PDOs were relevant to the World Bank at the time of each appraisal. The Strategic Framework for IDA's Assistance to Africa (SFIA) emphasized the infrastructure as key to growth and competitiveness and regional solutions. The Southern Africa Sub-Regional Strategy placed regional cooperation high on the policy agenda of the countries of Southern Africa. The World Bank was committed to its long-term support to NEPAD and SADC. Supporting rehabilitation and development of infrastructure were among the priorities in the DRC Transitional Support Strategy 2001. The Zambia FY2004-2007 Country Assistance Strategy (CAS) supported Zambia's central role in the SAPP.

The original and revised PDOs remained relevant to the World Bank support to DRC, Zambia and the region at the time of the project completion as identified in (a) the DRC FY2013–2016 CAS, (b) the Zambia FY2013–2016 CAS to support the potential Zambia's pivotal role in the SAPP, and (c) the World Bank's support for regional integration, including facilitation of power pool developments in Sub-Saharan Africa, as expressed in the energy strategy in 2013, "Toward a Sustainable Energy Future for All: Directions for the World Bank Group's Energy Sector".



Rating

Substantial

Revised Rating

Substantial

b. Relevance of Design

Original objective

The project's support to the SAPP Coordination Center was to make greater use of information and communication technologies (ICT) such as system control, communication, fair trading, etc. as well as regulatory studies such as on pricing, etc., that could contribute to promoting some of the characteristics of an efficient power market. Examples are (i) efficient prices based on the economic dispatch, marginal costs and reflecting all available information, (ii) competition, with no or limited market power, and free entry to the market and (iii) perfect information, supported by a coordinated spot market that had bid-based, security-constrained, economic dispatch with nodal prices. The project supported the enhancement of the transmission system to help transmit and trade power over distances not previously feasible, increasing the efficiency of the electric industry by permitting lower-cost resources such as DRC's hydro power to substitute the expansion of higher-cost generation (e.g., thermal generation in Botswana, PAD, page 16 and page 23). This contributed to market expansion and efficiency. Therefore, the project design could contribute to the original PDO. However, the phrasing of the original PDO was ambitious, because the project alone would not be able to develop an efficient regional power market.

The PDO in the original result framework in Annex 1 of the PAD (pages 39-41) was to "increase competitiveness of electricity market and trading of the DRC in the SAPP", which was different from the PDO in the Development Credit Agreements (DRC: Development Credit Agreement, Credit Number 3831 DRC, January 21, 2004, page 14; Agreement Providing for the Amendment and Restatement of the Development Credit Agreement, Credit Number 3831 DRC February 18, 2010, page 21; Zambia: Development Credit Agreement, February 3, 2004) and from that in the main text of the PAD (page 4). The project would increase the transmission capacity of low cost hydropower of DRC to the SAPP and build capacity of the SAPP, such as improving the quality and flow of information and management. Hence, the project could contribute to increasing the competitiveness of the DRC in the SAPP. The original results framework's PDO had better linkages with the inputs, project components, and outputs in the original results framework.

The first revised PDO

The first revised PDO presented a clear and achievable objective, quantitatively measurable by the project output, whereas the original PDO in the Development Credit Agreements (DRC: Development Credit Agreement, Credit Number 3831 DRC, January 21, 2004, page 14; Agreement Providing for the Amendment and Restatement of the Development Credit Agreement, Credit Number 3831 DRC February 18, 2010, page 21; Zambia: Development Credit Agreement, February 3, 2004) was focused more at a higher program level, and could not be qualitatively or quantitatively assessed easily or directly attributed to the project (Project Paper, 2009, page 82). The first revised PDO had better linkages in the revised results framework.

The second revised PDO



The second revised PDO better reflected the project's capacity to influence and the physical investments. The second revised PDO was also formulated once the explicitly regional components of the project had been completed (the support to the regional dispatch center and the interconnection study) and therefore emphasizes the transmission components. The result framework revised to link the causal chains more clearly (Project Paper, 2012, pages 45-50).

Due to these two changes in the PDO, the it has gradually become clearer, more specific and better attributable to the project activities as it focused on what was more directly within the control of the project, i.e., DRC's transmission, rather than the regional market SAPP. The revised result framework became more specific to the project activities and realigned some outcomes and intermediate outcomes.

Rating
Modest

Revised Rating
Substantial

4. Achievement of Objectives (Efficacy)

Objective 1

Objective

To develop an efficient regional power market in the Southern African Development Community to create conditions for accelerated investments in the power sector, increase competition and foster regional economic integration.

Rationale

The baseline date of all outputs and outcomes is November 1, 2003 unless otherwise noted.

Outputs

- 1 . The energy management system, communication system, internet trading system for the short-term market designed, installed and operational, was achieved before December 2007.
- 2 . The volume of trade in the short-term energy market increased by at least 15 percent by end of project. This indicator was dropped as part of AF2 restructuring. Indicator progress was below target until 2015 due to SAPP reorganization and low supply of excess energy. The baseline was 448 gigawatt hours (GWh) and the target was 515 GWh. It was only 15 GWh on June 30, 2009 at AF1, lower than the baseline.
- 3 . Tie line flows based on predictive load flows available to pool participants on a regular basis. This was achieved by December 31, 2009 through support to the SAPP Coordination Center (software). The indicator measures the efficacy of the energy management system support.
- 4 . Electricity pricing structures and probabilistic measure of reliability studies were conducted. This was achieved by December 31, 2009 through tariff studies conducted as part of support to the SAPP Coordination Center.
- 5 . Availability of the DC transmission line from Inga to Kolwezi increased to 95 percent by the end of the project. This indicator was dropped as part of AF2 restructuring. The baseline was less than 95 percent, which remained the same at the AF1 on June 30, 2009.

Outcomes



1 . Quantity of energy exported from DRC to the SAPP system (GWh). The baseline was zero GWh on November 1, 2011 and the target was 4,320 GWh. Only four GWh had been achieved by September 30, 2016. This was due to increased demand of the mining sector in Katanga and unavailability of generation units under rehabilitation at Inga Hydropower Plant.

2 . Commercial and technical information about local and regional electricity supply and markets were available on a regular basis. This was achieved on December 31, 2009 through support to the SAPP Coordination Center.

Investments financed by the project have been put into service as of September 30, 2016, i.e., the project closing date. The transmission assets could not operate as originally expected: exports to the SAPP (4 GWh) were essentially inadvertent interchange; the interconnection was being used to supply power from the SAPP to Katanga, which reached 663 GWh at completion. The expected direction of energy flows will only be achieved when the generation of Inga reaches its design value (9,039 GWh per year) once its units are rehabilitated by mid-2018. When this happens, the objective of supplying the SAPP can be achieved.

An efficient power market was not defined in the project documents. However, in general, some of the characteristics of an efficient power market can be efficient prices based on the economic dispatch, prices that reflect all available information, a high degree of competition, no or limited market power, prices that converge to marginal costs, free entry to the market and perfect information, supported by a coordinated spot market that has bid-based, security-constrained, economic dispatch with nodal prices.

Power could regularly be traded over distances not previously feasible, increasing the efficiency of the electricity industry by permitting higher-cost generation to be displaced by lower-cost resources such as DRC's hydro power. Markets could have expanded and become more efficient.

When the hydropower is fully rehabilitated, the low-cost energy can be traded in the SAPP. The outcome did indicate better information availability. However, at the project completion, there was no clear or sufficient evidence that the project had developed an efficient regional power market with any of the attributes of the efficient electricity market.

Rating

Modest

Objective 1 Revision 1

Revised Objective

To facilitate further development of an efficient power market in the Southern African Development Community.

Revised Rationale

The baseline date of all outputs and outcomes is November 1, 2003 unless otherwise noted.

Outputs

1 . Tie line flows based on predictive load flows available to pool participants on a regular basis. This was



achieved as in the original PDO above.

2 . Power Transfer Capability of HVDC and HVAC transmission system from Inga power station in the West to the border with Zambia in the East restored to its original installed capacity of 576 MW. The baseline was less than 200 megawatt (MW) and the target at AF1 was 576 MW. The project achieved 560 MW by September 30, 2016, which was slightly less than the AF1 target.

3 . Grid Reliability Enhancement: main transmission network availability at full load. The base line was 50 percent. The target at 95 percent was achieved on June 30, 2012. This indicator was dropped as part of AF2 restructuring.

4 . Feasibility studies completed for DRC/Zambia interconnectors and for the Zambia/Tanzania interconnector. The baseline at the AF1 was two studies in June 2009. The target of three studies was achieved on September 30, 2016.

Outcomes

1 . Quantity of energy exported from DRC to the SAPP system (GWh). The baseline was zero GWh on November 1, 2011 and the target was 4,320 GWh. Only four GWh was achieved by September 30, 2016 due to increased demand of the mining sector in Katanga and unavailability of generation units under rehabilitation at Inga Hydropower Plant.

2 . Commercial and technical information about local and regional electricity supply and market became available on a regular basis. This was achieved on December 31, 2009 through support to the SAPP Coordination Center.

Revised Rating

Substantial

Objective 1 Revision 2

Revised Objective

To expand transmission capacity to better serve domestic and regional power demand.

Revised Rationale

The baseline date of all outputs and outcomes is November 1, 2003 unless otherwise noted.

Outputs

1 . Length in kilometers (km) of new operational high voltage transmission lines constructed under the project. The baseline was zero km and the target at 286km was achieved by December 31, 2013.

2 . Length in km of rehabilitated and reinforced operational high voltage transmission lines under the project. The baseline was zero km and the target at 4,000km was achieved by September 30, 2015.

3 . Number of km of modern optical ground wire (OPGW) fiber cable installed over the high voltage transmission line from Kinshasa to the border with Zambia. The baseline was zero km and the target at 2,300km was nearly achieved by installing 2,298 km by September 30, 2016.

4 . Number of km of double circuit 220kV line constructed from the Luano substation to link the DRC transmission system at Kasumbalesa. The target of 40km was achieved by September 30, 2016.

5 . The feasibility and preliminary design of an interconnector between Zambia and Tanzania were completed by December 31, 2007.



Outcomes

- 1 . Power Transfer Capability of HVDC and HVAC transmission system from Inga power station in the West to the border with Zambia in the East restored to its original installed capacity of 560 MW. The baseline was 150MW on November 1, 2011 and the revised target of 560MW was achieved by September 30, 2016.
- 2 . Quantity of energy exported from DRC to the SAPP system (GWh). The baseline was zero GWh on November 1, 2011 and the target was 4,320 GWh. Only four GWh was achieved by September 30, 2016 due to increase in demand of the mining sector in Katanga and unavailability of generation units still under rehabilitation at Inga Hydropower Plant.
- 3 . Quantity of energy delivered to Katanga region (mines and consumers in the Katanga province) (GWh). The baseline was 2,540 GWh by November 1, 2011 and the target was 5,515 GWh. Four thousand eight hundred and twelve (4,812) GWh were achieved by September 30, 2016, or 87 percent of the target due to ongoing rehabilitation works at Inga Hydropower Plant.
- 4 . Direct project beneficiaries (based on the Community Development Component). The baseline was zero beneficiaries on November 1, 2011. The target of 10,000 beneficiaries was exceeded by achieving 36,921 beneficiaries by June 30, 2016, which was estimated based on survey by SNEL's Environmental and Social Unit in seven beneficiary villages of community infrastructures (electricity, water, schools and health care centers).
- 5 . Direct female beneficiaries. The baseline was zero percent on November 1, 2011. The target at 50 percent of the total direct beneficiaries was claimed to be achieved. However, the percentage was assumed without justification with no supporting evidence.
- 6 . Indirect project beneficiaries (based on the number of SNEL customers). The baseline was zero beneficiaries on November 1, 2011. The target was 8,430,000 beneficiaries. The achieved number of beneficiaries was 7,860,000, 93 percent of the target, by September 30, 2016. The number was estimated based upon number of registered customers and assuming 8 persons per household.

Revised Rating
Substantial

5. Efficiency

Economic analysis

Ex-Ante

An economic cost-benefit analysis was conducted. The results had an Economic Internal Rate of Return (EIRR) of 22 percent with an Economic Net Present Value (ENPV) of US\$ 115.4 million. The DRC benefited from an increased export of power to the SAPP. This included the gains from (i) additional energy sales to the SAPP resulting from the increased generation and transmission capacity, and (ii) better terms for energy export contracts due to better quality and reliability of the energy supply. The project costs in the economic and financial analysis included new, upgrades, rehabilitation, operation, maintenance and equipment replacement



of the transmission system; consulting and engineering services; and rehabilitation of Inga and the Katanga region hydroelectric plants to ensure supply of 500 megawatt (MW) of reliable power to the Pool. This generation rehabilitation work was financed separately under the DRC Emergency Multisectoral Reconstruction and Rehabilitation project (EMRRP).

Ex-Post

The economic analysis considered the benefits of the project resulting from substituting expensive energy in the eastern part of the country and in the SAPP by low cost energy generated through hydropower in the Inga power complex. The analysis's cost was 96 percent of the project cost and the resulting EIRR was 16.6 percent with an ENPV of US\$516 million between 2017–2040. The ICR team confirmed inadvertent omissions of operation and maintenance (O&M) cost for 2001-2024, 2026-2029, 2031-2034, and 2036-2039 in the analysis. Thus, the reported value of the ENPV in the ICR would have been a smaller value. The ICR team clarified to the IEG that the ex-post economic analysis showed that despite the increased transmission costs, the project remained justified because Inga hydropower remained the lowest cost generation and competitive in the region.

Ex-ante and ex-post economic analyses are not readily comparable to evaluate properly. The ICR team clarified the IEG that the ex-post analysis was performed using a 12 percent discount rate as a customary cutoff rate for Bank economic analysis but in nominal prices. PAD did not mention if the ex-ante analysis was performed in nominal or real prices using what discount rate.

Financial Analysis

Ex-Ante

The financial internal rate of return (FIRR) was 15.6 percent and the net present value of the project was US\$ 39.3 million using a 12 percent discount rate. Sensitivity analysis changed 20 percent above and below the value of the investment, operation and maintenance (O&M) cost and the energy price. The changes in the parameters under sensitivity analysis all resulted in FIRRs above 12 percent. The PAD included no information on whose perspective that the financial analysis was performed nor a logic of using a 12 percent discount rate.

Ex-Post

The financial analysis was based on benefits valued at the average sales price in the Katanga province for SNEL customers (about US\$54 per MWh) minus the cost of distribution investments (about US\$30/MWh). The resulting margin was negative when the production cost was considered due to prices below cost for residential and HV mining customers and non-paying consumers of government agencies. As a result, the only offsetting financial factor was selling energy to the SAPP, but this was insufficient to compensate the other losses from SNEL's customers in DRC. Consequently, the FIRR of the project was - 7 percent (negative). The analysis found that a 30 percent increase to an average tariff of US\$70 per MWh would yield a FIRR of 6 percent, which was assumed to be compatible with SNEL's most financial obligations at the project completion. The ICR team explained to the IEG that even the project had not had the cost overrun, the SNEL customers' tariff level that prevailed at the project completion would have been insufficient to cover the SNEL's costs of electricity supply services. The ICR team clarified to the IEG that the analyses were from the SNEL's perspective and used a 12 percent discount rate but did not clarify the logic of using the 12 percent discount rate for financial analysis. Despite its acceptable economic performance, the negative financial result indicated that the ultimate beneficiaries were not paying for the project, thereby contributing to negative net cash flow and requiring budget support.



Implementing Efficiency

The original implementation period for this project was four years, but the disbursement rate was slow. For example, at the AF1 on June 30, 2009, which was five years after the project approval in November 11, 2003 and 1.5 years after the original project closing date of December 31, 2007, only 11.5 percent of the original IDA budget had been disbursed (US\$20.51 million, ICR, page xi). Implementation of the entire project took over 12 years, increasing administration costs and IDA’s service and commitment charges. Therefore, the project was inefficiently implemented.

Efficiency Rating

Modest

a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:

	Rate Available?	Point value (%)	*Coverage/Scope (%)
Appraisal	✓	22.00	0 <input checked="" type="checkbox"/> Not Applicable
ICR Estimate	✓	16.60	96.00 <input type="checkbox"/> Not Applicable

* Refers to percent of total project cost for which ERR/FRR was calculated.

6. Outcome

The Original PDO: The relevance to the PDO was substantial. The relevance to the design was modest because of the ambitious aim of the initial PDO to develop an efficient regional power market. In essence, the project aimed at making the low-cost hydropower energy available in DRC and the SAPP and to help the SAPP to be efficient so that the low-cost power could be traded in the more efficient regional market, while achieved little of what it aimed to do under the original statement of PDO. The overall relevance was substantial. The efficacy was modest. The efficiency was modest. Hence, the outcome was moderately unsatisfactory.

The first revised PDO: The relevance of the PDO was substantial. The relevance to the design was substantial because of the revised PDO that was commensurate to what the project activities could achieve. The efficacy was substantial. The efficiency was modest. Hence, the outcome is moderately satisfactory.

The second revised PDO: The relevance to the PDO was substantial. The relevance to the design was substantial with the clearer and more specific PDO that the project could achieve. The efficacy was substantial. The efficiency was modest. Hence, the outcome is moderately satisfactory.

As calculated in the table below, the overall outcome is moderately satisfactory. Per IEG Guidelines for Reviewing World Bank ICRs, A Manual for Evaluators (Last updated: August 1, 2014), the project is rated



against both sets of objectives separately, for the entire duration of the project – not just the period for which each of the objectives was in effect.

Rating Dimension	Original objectives	Objectives after first revision	Objectives after second revision	
Relevance	Substantial	Substantial	Substantial	
Efficacy	Modest	Substantial	Substantial	
Efficiency	Modest			
Outcome Rating	Moderately Unsatisfactory	Moderately Satisfactory	Moderately Satisfactory	
Outcome Rating Value	3	4	4	
Amount Disbursed (US\$ million)	21	120	378	
Disbursement (percent)	3.80 percent	22.27 percent	70.13 percent	
Weight Value	0.11	0.89	2.81	
Total weights	3.81			
Overall Outcome Rating	Moderately Satisfactory (4.0)			

- a. **Outcome Rating**
Moderately Satisfactory

7. Rationale for Risk to Development Outcome Rating

The ICR team clarified to IEG that the governance situation at the time of the project completion was tenuous in the DRC: the DRC’s presidential administration was uncertain; and United Nations’ troops were required to keep the peace in the Eastern region. Maintaining the facilities rehabilitated by the project continues to be a major challenge given the difficult governance situation of the DRC, SNEL’s limited capacity and budget for operations and maintenance (O&M) of transmission infrastructure and the electricity supply under the community infrastructure subcomponent. Transmission lines are prime targets of rebel groups, and with the long line through forest, avoiding sabotage is difficult if public order deteriorates. The DRC is still recovering from the conflicts and the economy is vulnerable to changes in global raw material markets, which could trigger civil unrest. This could lead to interruptions of supplies both to Katanga and the SAPP. The fiduciary weakness of SNEL indicates a high risk that the required maintenance funds might not be available. The risk to the potential underutilization of the transmission lines financed by the project is expected to be low, as the ICR team clarified to the IEG that the rehabilitated Inga 1 and 2 due by June 2018 and a future Inga 3 (five giga-watt [GW]) would use the lines.



a. Risk to Development Outcome Rating

High

8. Assessment of Bank Performance

a. Quality-at-Entry

The rehabilitation of the Inga-Kolwezi-Zambia corridor was strategically important for the DRC's development and recovery from the wars and the SAPP. The project components were adequately formulated to address urgent needs in the power system. Moreover, the project designs of transmission lines work included integrated infrastructure services to communities along the right-of-way of these lines and contributed to millennium development goals (MDGs) one through six ranging from reducing poverty to combating HIV/AIDS and other diseases.

The Bank team prepared the project based on feasibility studies without the field work. In the case of rehabilitation works, this approach was not practical. The fieldwork would have been required to assess the actual state of the transmission lines that had not been regularly accessed for a very long time. The security situation in the DRC and its deteriorated road infrastructure would have impeded such an assessment. The main weakness of project design was the absence of information on the magnitude of the tasks required to rehabilitate the inverter substations and the HVDC transmission line.

The project design with very little field-level information resulted in changes to the project scope (rehabilitation to replacement, updating technology) and the increased implementation time and costs. The project was designed from a regional perspective despite a majority of the implementation work geographically was concentrated within the DRC. Furthermore, the design of transmission work was prepared without adequate assurances that the DRC had the sufficient energy supply for either the DRC's Katanga region or the SAPP. This risk was recognized early during project implementation and was one reason that gave rise to the Regional and Domestic Power Market Development Project (Projet pour le Développement des Marchés de l'Electricité Domestique et à l'Exportation, PMEDE) project (P097201) for increasing the available supply of power by rehabilitating the Inga 1 and 2 hydropower plants.

The project was among the first that benefited from the IDA's new approach to support regional projects.

The APL approach was adequate for tackling successive problems, but the difficulties associated with the first stage were greatly underestimated. Given the DRC's fragile situation and the World Bank operational experiences in other countries with similar conditions, the risk of tackling such a daunting task could have been better anticipated and the project design adapted accordingly. Other lessons learned were identified and incorporated. The key lesson that had been learned from the Bank's Credits in Africa was the need to position power projects within a sector-wide institutional context to avoid the project's failure due to an inadequate institutional framework or unsound macroeconomic environment. The project also incorporated



the importance of (i) developing strong transmission networks and (ii) establishing transparent regulation for the cross-border trading, which were learned from other region in establishing competitive power markets. However, SNEL's institutional capacity was overestimated, since it was significantly weakened due to the impact of the wars. Despite securing external consultants through the project to support SNEL, the project implementation was slow during the early years.

The focus on the political risk was reasonable given the precedents in the region and the fact that the DRC was under the supervision of a transitional Government. However, despite the post-conflict circumstances, the risk of weak governance was seriously underestimated. The ICR team clarified to IEG that during the project preparation, the Government had not really been organized to deal with the post-war situation and governance was still very fragile. Risks were also associated with possible delays and noncompliance of the DRC and Zambia with their interconnection investment obligations, which were non-legally binding conditions for their to participation in the APL (per the ICR team).

Quality-at-Entry Rating Moderately Unsatisfactory

b. Quality of supervision

The World Bank performance during project execution lacked continuity, as attested by having seven Task Team Leaders (TTLs) over the life of the project for about 12 years. The extremely lengthy execution time was the main reason for the TTL turnovers but the TTL transitions and the associated learning curves could be time consuming and disruptive. Nevertheless, the Bank teams remained proactive and focused on identifying and solving problems, which resulted in AF1 that was designed to enliven stalled components. In 2013 after the AF2, an energy specialist was based in Kinshasa was brought in to help advance the project, which greatly facilitated oversight and project completion.

The Bank team came to recognize that the appraisal had underestimated the project scope (replacement instead of repair) and resolved this shortcoming through AF1 in 2010. The first six years of the project (from effectiveness in May 2004 to end-2010), supervision concentrated on identifying the technical and budget-related obstacles and solutions to implementation. Following AF1, more accurate data were collected, and design complexities and required funding shortfalls were addressed, which resulted in a better pace of project implementation.

The project midterm review (MTR) took place in November 2012, five months after AF2 had been prepared with an in-depth analysis of the project. As such, the Bank team clarified to IEG that the MTR had contributed very little to new findings.

The World Bank TTL turnover became less frequent following AF2 and 70 percent of the funding was disbursed between 2012 and 2016. Further, the World Bank reinforced its team by introducing the energy specialist in Kinshasa and established close monitoring, including monthly videoconferences with the DRC counterparts.



The Bank team was less effective in ensuring that SNEL could properly structure and manage contracts and that legal covenants would be complied with. With the total IDA support of over half a billion US dollars to SNEL, the Bank team could have helped improve SNEL's opaque corporate management, implementation and fiduciary capacity.

Quality of Supervision Rating

Moderately Satisfactory

Overall Bank Performance Rating

Moderately Satisfactory

9. Assessment of Borrower Performance

a. Government Performance

The Governments of DRC (GoDRC) and Zambia expressed their commitment to the project at appraisal (PAD, page 21). However, the GoDRC did not address the issues captured in Aide Memoires and Management Letters by the World Bank team. The issues included the compliance with the legal covenants and the audit reports. The GoDRC exhibited a low degree of ownership of the project and an unwillingness to take effective action toward resolving issues arising in the project. Regarding the Governments of Zambia, on the other hand, all covenants were complied with.

Government Performance Rating

Moderately Unsatisfactory

b. Implementing Agency Performance

SNEL was the implementing agency of Component 2. SNEL was able to complete the project with positive outcomes towards achieving the PDO. Yet, SNEL had significant procurement, financial management, governance and safeguards issues, that impacted the project. During the project implementation, SNEL failed to establish proper internal audits despite World Bank requests, and did not implement the recommendations made by the external auditor. SNEL loosely managed the contract of the owner's engineer, resulting in the poor performance of the consultant and was a primary factor that led to a case of collusion involving the owner's engineer.

The Office for Promoting Private Power Investment (OPPPI) of the Ministry of Energy and Water Development of Zambia was the implementing agency of Component 4. OPPPI completed Component 4 by the original project date on December 31, 2007. It benefitted from a Project Preparation Facility (PPF) that allowed advance procurement for the study and an inception report had been already prepared prior to the project appraisal.

The SAPP Coordination Center was the implementing agency of Component 1, which was also completed by the original project closing date on December 31, 2007. CEC was the implementing agency



of Component 3. Due to the significant increase in project costs, CEC financed about twice the originally estimated amount and completed the work with the financial support of a British fund. CEC complied with the Bank's safeguard policies. Hence, CEC demonstrated CEC's commitment to the project.

Implementing Agency Performance Rating

Moderately Unsatisfactory

Overall Borrower Performance Rating

Moderately Unsatisfactory

10. M&E Design, Implementation, & Utilization

a. M&E Design

The original PDO was ambitious attempting to develop an efficient regional power market. The PDO indicators did not directly reflect the PDO. The two revised PDOs were clearer and more specific to the project activities. The indicators also become clearer and better linked to the PDOs. While the original PDO did not fully reflect the PDO indicators, the causal chains among the PDO indicators and intermediate indicators were clear as long as there was sufficient electricity supply available for transmission. No baselines were reported in the PAD. AF1 Project Paper reported baselines of some of the indicators. AF2 Project Paper did not report baselines except when the baselines were zero. The Project Management Unit (PMU) in SNEL and SAPP Coordination Center were responsible for collecting indicator data. The reporting frequency was either annually or semiannually, which were adequate.

b. M&E Implementation

The project implemented the monitoring and evaluation (M&E) framework by periodically following project execution and surveying specific aspects. All indicators, once adjusted after AF2, were tracked through either specific project components or through SNEL data. The number of beneficiaries based on the number of consumers, for example, was SNEL data that would be sustained after the project. The engineering consultant in charge of following the project prepared monthly reports that were discussed with the SNEL team. Indicators were not always sufficiently collected or reported in Implementation Status and Results Reports (ISRs) in an early project implementation period. Until ISR sequence number five in 2006, no indicator was collected but since then, the number of indicators collected has been increased. The ICR reported indicators sufficiently. The data quality of the project specific data was ensured by the project's consultant and a nongovernmental organization (NGO). The NGO was hired to support the social and environmental aspects. SNEL data were those that it collects regularly as a part of its ongoing business activities, which was not checked further by a third party for quality.

The AF1 and AF2 restructurings modified the project indicators chosen in the initial design. New indicators were adopted to better reflect project outcomes. Several original indicators were dropped because they were not measurable, were redundant, or did not reflect outcomes.



Monitoring project performance after the project closing date will be executed by following agencies as explained by the Bank team to IEG. SNEL will be recording the commercial interchanges as part of its routine management of the system. The dispatch center in Karavia is to manage the flow of energy. The SAPP oversees the energy matched and the energy traded. This is the role of the SAPP Coordination Center supported with Component 1 of the project and helped monitor the export from DRC to SAPP and import from SAPP to DRC.

c. M&E Utilization

M&E arrangements were utilized to follow project progress through implementation of the technical aspects as well as the environmental and social requirements. The former relied less on the M&E indicators, given that the corresponding contracts were followed closely by SNEL and involved technical supervision to ensure they were implemented correctly. The M&E information was more useful in following the implementation of Subcomponent 2.6: Environment and Social Safeguards of the project, where interaction with beneficiaries was required in order to obtain accurate information (such as the number of users of schools and health facilities).

M&E Quality Rating

Substantial

11. Other Issues

a. Safeguards

Under the Bank's Operational Policy (OP/BP 4.01) on "Environmental Assessment" screening and classification, the project was assigned a Category A because the potentials of damaging natural habitats and causing significant involuntary resettlement. The project triggered the safeguard policies on Natural Habitats (OP/BP 4.04), and Involuntary Resettlement (OP/BP 4.12), reflecting the typical impacts of building new transmission lines as well as the environmental interventions required to rehabilitate the HVDC line. In Zambia, the line crossed two forest reserves which were considered critical natural habitats.

Environmental Safeguards

During project preparation, the GoDRC, through the Bureau Central de Coordination (Central Coordination Office, BCECO), prepared the Environmental and Social Impact Assessment; CEC prepared the Environmental Impact Assessment (EIA) and Resettlement Action Plan (RAP) for the Zambian section of the interconnection. The actual impact during the project implementation was negligible. The ICR team clarified to the IEG that the proposed route corridor for the Zambia-DRC interconnector was chosen after examining three alternative routes to mitigate negative impacts on natural habitats during and after the project implementation. Environmental safeguards, including Natural Habitats (OP/BP 4.04), were adequately complied with.



Social Safeguards

A RAP was prepared for the lands occupied by new transmission lines where there would be an impact on communities along the right-of-way. People who had purchased land along the right-of-way and were eligible for compensation exceeded the number of affected persons identified in the RAP (the number of people seeking compensation doubled). An NGO was hired following the AF1 restructuring to conduct a survey of the situation and an audit was conducted with an eventual settlement of claims. Social safeguards were also adequately complied with.

b. Fiduciary Compliance

Financial Management (FM)

DRC

Financial risk was assessed as High during preparation given the country's post-conflict situations and the risks of fraud and corruption. Financial management (FM) was initially outsourced to the BCECO because it was familiar with the World Bank's requirements. The BCECO was in charge of fiduciary aspects until 2012; its performance was below standard for the World Bank. In 2012, the BCECO's responsibilities were transferred to SNEL after a capacity-building period.

Throughout project implementation, FM remained a challenge, and its associated risk was consistently assessed as high. SNEL failed to apply the recommendations made by the external auditors or by World Bank supervision missions. FM issues included delays in issuing financial statements and audit reports, lack of inventory of project assets, lack of documentation of the use of funds advanced to the Designated Account, and gap in the accounting system and contracts repository. Thus, the risk of fiduciary management remained substantial. These are shortcomings of the project failing to establish efficient and transparent FM functions within SNEL despite the allocated resources. Some of the financial covenants were partially complied with and others not.

Zambia

Financial covenants of Zambia' IDA Credit were complied with. No significant FM issues were identified.

Procurement

DRC

The BCECO handled procurement operations. The overall procurement risk was High due to the country's post-conflict situations and the procurement weakness of SNEL. The procurement responsibilities were transferred from BCECO to the SNEL in 2012 because SNEL was assessed to become capable of them.



Procurement activities followed World Bank guidelines. However, the procurement faced multiple obstacles associated with the lack of knowledge of project facilities and the reduced pool of suppliers either because of their assessment of country risk and the consequent reluctance to work in the DRC or because of the technical requirements that could only be fulfilled by very few candidate companies, as in the case of the HVDC substations. In the latter case, the procurement took nearly three years (2005-2008).

The BCECO turned over procurement responsibility only after all major procurement was conducted and only contract management remained. SNEL's procurement performance was inadequate and did not apply Bank mission recommendations, such as hiring a procurement consulting company.

By early 2013, all the project's contracts were on track. However, numerous execution delays set in. The contractor for upgrading the converter substations experienced substantial deferrals. Unexpected delays occurred when a substantial number of workers of the contractor for the Inga-Kolwezi line rehabilitation left abruptly in 2014 for their native India due to the Ebola pandemic. In 2015, there was a complaint regarding the award of a contract related to HV maintenance equipment. The World Bank conducted a procurement review of the contract and the results revealed that the initial bid evaluation report was submitted unfairly to both bidders and particularly distorted the information contained in the tenders for the supply of a particular bidder. This prompted the World Bank to conclude in April 2016 that this was a case of misprocurement and the corresponding amount was subtracted from the grant (US\$20.15 million).

The World Bank's Integrity Vice-Presidency (INT) substantiated allegations of corruption by the Project Owner's Engineer (OE). The collusion between the OE and various parties directly contributed to the significant and unjustifiable price increase in the transmission line rehabilitation. The OE subsequently accepted a debarment of 15 months. The OE took steps to improve its governance and compliance procedures. INT supported the project team in the monitoring project implementation since 2011; through additional vigilance of the project team several unjustified change orders were prevented, saving significant project resources. The Energy and Extractives Global Practice, the Country Management Unit, and INT worked together on measures to mitigate such risks in the sector and under other World Bank projects. To strengthen procurement capacity, the World Bank requested SNEL to set up a specific action plan and to consider the recruitment of an international expert in procurement with a mandate to restructure the procurement service and to train staff. These actions were expected to be implemented by the same PMU.

Despite these setbacks, work on the different components continued and by the closing date of September 30, 2016 all major contracts had been executed.

Zambia

Procurement by the Office for Promoting Private Power Investment (OPPPI) of the Ministry of Energy and Water Development of Zambia on the interconnector study had no issue detected on the hiring of consultants and the execution of the study.



c. Unintended impacts (Positive or Negative)

None identified

d. Other

Not identified

12. Ratings

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Moderately Satisfactory	Moderately Satisfactory	---
Risk to Development Outcome	High	High	---
Bank Performance	Moderately Satisfactory	Moderately Satisfactory	---
Borrower Performance	Moderately Unsatisfactory	Moderately Unsatisfactory	---
Quality of ICR		Substantial	---

Note

When insufficient information is provided by the Bank for IEG to arrive at a clear rating, IEG will downgrade the relevant ratings as warranted beginning July 1, 2006.

The "Reason for Disagreement/Comments" column could cross-reference other sections of the ICR Review, as appropriate.

13. Lessons

The following first lesson is summarized from the ICR’s lessons learned. The second and third lesson are from the IEG’s review of the project.

1. Unavailability of updated data to prepare projects in post conflict situations continued to be a major challenge especially in respect of rehabilitation work. The preparation for the rehabilitation of facilities primarily based only on studies without field work caused significant uncertainties in technical designs and costs, resulted in substantial inaccuracies in the project design and costs, resulting in two AFs and long implementation delays. (A similar case was experienced in the IDA supported Côte d'Ivoire Urgent Electricity Rehabilitation Project [P112573, 2009-2014]). Ample funding could be budgeted for physical contingencies to cover uncertainties, while more preparation resources could reduce uncertainty. Proactive actions can be undertaken during the project preparation that will better facilitate implementation and minimize delays once the loans are approved. A project preparation advance (PPA) can be useful to reduce design risks. PPA is usually client executed, but exceptionally it can be World Bank executed in post-conflict situations. Starting the field



work after the project approval leads to revisions of the project design, which not only delays implementation and increase the project costs, but may increase administration costs as well as IDA service and commitment charges.

2. Backstopping measures can be helpful in achieving the PDO. The project's AFs introduced two new subcomponents: (i) Letters of Credit to cover commercial bank charges on behalf of the contractors and (ii) Provision for replacement of additional physical components that might compromise the effectiveness and achievement of the PDO (as unallocated funds). The project actually financed Letters of Credit, but the unallocated funds were not used. It may be helpful for other applicable projects to include similar backstopping measures.

3. Understanding the special operational context and obtaining the firm commitment of each participating country in a regional project are of crucial importance. The project insufficiently paid attention to the DRC's post-conflict situation where the country was under a transitional Government. This situation increased the governance risk. Furthermore, the transmission work was designed without ensuring that DRC had sufficient electricity supply for either the DRC's Katanga region or the SAPP.

14. Assessment Recommended?

No

15. Comments on Quality of ICR

The ICR was candid and analytical, and focused on pursuing the facts in depth. The ICR had some inconsistencies with the World Bank Operations Policy and Country Services (OPCS) ICR guidelines (Last updated on July 22, 2014) on split ratings, which were used for the outcome rating, but this ICR used only efficacy for each project period that was split. The title page of the ICR only lists DRC, while that of the PAD lists DRC and Zambia. The Bank team clarified to IEG that the omission of Zambia in the ICR's title front page was inadvertent. The last lesson (paragraph 122, page 31) was not discussed in the earlier text of the ICR.

a. Quality of ICR Rating Substantial