



# Project Information Document/ Integrated Safeguards Data Sheet (PID/ISDS)

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Appraisal Stage | Date Prepared/Updated: Jan 18, 2018 | Report No: 125610



**BASIC INFORMATION**

**A. Basic Project Data** OPS TABLE

Country Cameroon	Project ID P157734	Parent Project ID (if any)	Project Name Nachtigal Hydropower Project
Region Africa	Estimated Appraisal Date April 9, 2018	Estimated Board Date May 31, 2018	Practice Area (Lead) Energy and Extractives
Financing Instrument IBRD Guarantee	Borrower(s) Government Republic of Cameroon	Implementing Agency Nachtigal Hydropower Project Company (NHPC) and Electricity Development Corporation (EDC)	

**Proposed Development Objective(s)**

The project development objective is to increase the availability of renewable energy power and leverage private finance for the Nachtigal Hydropower Project.

**Indicative Financing (in USD Million)**

Shareholder Equity	336
Debt from Development Finance Institutions	867
Commercial debt from local private banks	197
<b>Total</b>	<b>1,400</b>
Estimated Payment Guarantee	100
Estimated Local Loan Guarantee	200
<b>Estimated Total Guarantee Provided</b>	<b>300</b>

Environmental Assessment Category

A

Concept Review Decision

January 13, 2016

Have the Safeguards oversight and clearance functions been transferred to the Practice Manager? (Will not be disclosed)

No



Other Decision (as needed)

## B. Introduction and Context

### Country Context

1. Cameroon has vast natural resources, including oil, gas, minerals, agricultural land, and forests with remarkable biodiversity, which provide a strong basis for development. It is a medium-sized (475,650 km<sup>2</sup>) country in Central Africa with a population of about 24 million in 2016, which is growing at around 2.5 percent per annum. Strategically located at the heart of the Gulf of Guinea, Cameroon is at once the gateway to the economy of a part of Central Africa and a trade route between the economies of West and Central Africa. Its gross national income per capita stood at US\$1,357 in 2016, making it a lower-middle income country.

2. Cameroon remains characterized by high levels of poverty and weak social indicators. Poverty declined only marginally since 2001, from 40.2 percent to 37.5 percent in 2014 and is increasingly concentrated in Cameroon's northern regions, where it worsened in the same period. The country ranked 153 out of 187 on the 2015 Human Development Index with some indicators, including life expectancy, declining over the last 10 years, and infant and maternal mortality rates still exceedingly high. Moreover, outbreaks of violence in Cameroon's North and Far North Regions and a secessionist movement in country's English-speaking areas are inhibiting economic activity, and increased security spending is straining the public finances.

3. Economic growth has been inconsistent and has slowed down recently. Economic growth averaged 3.3 percent per annum in the 2000s, but the 2009 global financial crisis led to a slump due to weaker demand for Cameroon's non-oil exports. Whilst economic growth picked up in 2014-15 with a growth rate of 6 percent, the economy slowed down in 2016, when growth was estimated at 4.5 percent and again in 2017, when it reached 3.7 percent. A decline in oil production, lower international commodity prices and the contraction in rubber and coffee production have reduced growth whilst improved energy supply, continued implementation of three-year emergency plan (PLANUT), and increased public works related to the preparation of the 2019 African football cup have acted as a support to GDP growth.

4. Cameroon's sovereign debt situation has deteriorated recently due to the funding of major infrastructure projects concomitant with lower oil revenues. High levels of public investment have substantially increased the share of non-concessional debt, and debt-service payments are intensifying fiscal pressures. Public debt levels rose sharply from 21.5 percent in 2014 to 33.7 percent at end-2017, and a recent World Bank-IMF assessment concluded that Cameroon is at high risk of debt distress.

### Sectoral and Institutional Context

5. In line with the GESP, the 2014 Least Cost Power Sector Expansion Development Plan (*Plan de Développement du Secteur de l'Électricité, PDSE*), forecasts peak demand to quadruple by 2035, with a range from 3,900 MW to 5,500 MW depending on the growth scenario<sup>1</sup> (median or high). Electricity consumption is expected to range from 24,400 GWh (median) to 33,400 GWh (high). In order to deliver on the Growth and Employment Strategy Paper (GESP) goals, Cameroon will, in parallel, need to significantly increase access to electricity for its population. The current access rate to

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<sup>1</sup> The high scenario is based on GDP growth rates of 6.5% annually and aggressive industrial expansion. The median scenario is based on GDP growth rates of 6.0% annually and a more conservative path for industrial expansion.



electricity is 50 percent – though this rate is much lower in rural areas. Cameroon’s recently approved Rural Electrification Master Plan intends to increase to 88 percent the population living in electrified localities by 2022 (from 74 percent in 2016). This would be achieved through a mix of grid extension (80 percent) and off-grid solutions (20 percent). Both large grid-connected hydro and mini-hydro for off-grid schemes would be required to address the needs.

6. The Government of Cameroon (GoC) intends to focus hydropower development on the Sanaga River, where half of this potential is concentrated, rather than spreading it across multiple river basins. The Proposed Nachtigal Project, with its compact layout, limited environmental and social impacts and reasonable overall cost per MW installed, stands out as the next project to be developed on the Sanaga River.

7. This development program of the energy sector is strongly rooted in a series of reforms undertaken by the Government for the last two decades. The sector has seen several reforms over the years, including important structural changes. In order to strengthen the financial sustainability of the sector and to further lay the foundation for private sector participation, the Government has initiated a second phase of reform. In 2010, the Cameroon power sector suffered from a lack of investment in transmission and large technical and commercial losses which created a critical bottleneck to the expansion of power generation capacity and of Cameroon’s hydroelectric resources of the Sanaga River Basin. In response, the Government adopted the New Electricity Law in 2011, which included: (a) the transfer of transmission network management from the Cameroonian Electrical Company (ENEO) to a new state-owned entity, the National Electricity Transport Company (SONATREL), whose mandate includes the development, operation, maintenance, and expansion of the national transmission grid, including its interconnection with neighboring countries; (b) changes to water storage activities, including the transfer of the water storage concession of the Sanaga Basin reservoirs to the Electricity Development Corporation (EDC)<sup>2</sup>, and, (c) the introduction of new penalty charges in the event that ENEO fails to meet agreed performance targets

8. The Nachtigal Hydropower Project – which has among the lowest tariff (levelized tariff about 6.0 EURct/kWh) for any generation project in Sub-Saharan Africa, will be a key part of the effort to reduce the costs of electricity in Cameroon and to promote sector sustainability. The commissioning of new hydropower projects such as Nachtigal and Memve’élé<sup>3</sup> - which together will represent roughly 40 percent of Cameroon’s generation capacity – will, in addition to adding significant clean energy generating capacity, continue the downward trajectory in production costs. The strategy has already seen some level of success. The regulator has estimated the projected average annual compensation for 2018-2020 at US\$12 million compared with US\$37 million in 2017, following the commissioning of Memve’élé and added hydropower generation following the commissioning of Lom Pangar.

9. The Proposed Nachtigal Hydropower Project builds on a sustained engagement in the energy sector by the World Bank Group in Cameroon, to accompany the Government in the reform agenda. The World Bank Group has been a long-term, strategic partner of Cameroon’s energy sector, with a strong portfolio of projects and consistent support to the government’s reform agenda. It has built a close working relationship with all sector stakeholders and has become a trusted partner in regard to policy, institutional development, and sector investment. Over the past few years, the World Bank Group has financed the following activities: (i) the Energy Sector Development Project (P104456) which provided assistance to update the sector framework and supported rural electrification; (ii) the Lom Pangar Hydropower Project (P114077), which supports a regulating dam to reduce seasonal water variability in the Sanaga basin; (iii) the Electricity Transmission and Reform Project (P152755), which will help improve the capacity, efficiency, and reliability of

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<sup>2</sup> The EDC was created in 2006. It holds public electricity sector assets and its mandate includes the development, management, and operation of hydropower assets

<sup>3</sup> Memve’élé is a 211 MW hydropower plant, publicly financed, commissioned in 2018.



the national transmission network; and (iv) the Hydropower Development on the Sanaga River Technical Assistance Project (P157733), which aims to support institutional capacity building and knowledge transfer to the GoC in refining its tools and strategy to develop its hydropower resources.

10. The World Bank Group has been instrumental in securing private finance for this project, which is one of the very few public-private partnerships (PPP) in hydropower in sub-Saharan Africa, and a good demonstration of the principles of maximizing finance for development (MFD). The World Bank Group brings a unique set of experience, skills and instruments to attract private sector financing for this project. Electricity of France (EDF) will be a major shareholder in the project company; while a number of local commercial banks led by Standard Chartered and Société Générale will provide debt. The work by the WBG – together with EDF – to deliver this project will build on a sustained sector engagement by the World Bank Group and a track record of provision of appropriate risk mitigation and financing instruments by the Bank, IFC and MIGA.

#### Relationship to CPF

11. The proposed project will support the strategic objectives of the GoC's Vision 2035 to achieve shared growth, reduce poverty, and create jobs through increased industrialization, improved productivity, and better governance. Similarly, the project will contribute to the GoC's GESP 2010-2019, which aims to increase non-oil growth by investing in key infrastructure, improving productivity and the business climate, and strengthening human development and regional integration. By supporting the GoC to increase low cost and environmentally friendly power generation, the project will help establish a predictable environment for future growth and competitiveness of Cameroon's economy, which in turn will be essential for creating jobs and lifting marginalized and vulnerable populations out of poverty, which is aligned with the Bank's twin goals of reducing poverty and boosting shared prosperity.

12. The World Bank Group FY17-21 Cameroon Country Partnership Framework (CPF),<sup>4</sup> approved on March 28, 2017, translates the core constraints identified by the SCD into three areas of focus: (i) increasing rural productivity, particularly in the north; (ii) improving the business environment for the formal and informal private sector; and (iii) supporting improvements of governance in the private and public sector. This project will actively contribute to pillars (ii) and (iii) of the CPF and to the governance and private sector support objectives of the GoC's Vision 2035.

### C. Proposed Development Objective(s)

13. The project development objective is to increase the availability of renewable energy power and leverage private finance for the Nachtigal Hydropower Project.

14. The achievement of the PDO will be assessed using the following key PDO Level Outcome Indicators:

- Generation capacity of energy constructed under the project (MW) (Corporate Results Indicator);
- Additional operating capacity available (MW)
- Amount of private capital mobilized for the Nachtigal Hydropower Project (EUR million) of which from local sources (FCFA million);
- Avoided global greenhouse (GHG) emissions (ton CO<sub>2</sub>).

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<sup>4</sup> Report No. 107896-CM.



#### D. Concept Description

15. The Nachtigal Hydropower Project is a greenfield, 420 MW, run-of-river hydropower plant on the Sanaga River located at Nachtigal falls, which is approximately 65 km north-east of Yaoundé. In 2013, a joint development agreement was signed to develop this strategic project. During past four years, developers and GoC have significantly advanced the Nachtigal Project with an objective to reach financial close in 2018. This Project is now developed by Nachtigal Hydro Power Company (“NHPC” or “Project Company”), whose shareholders are the Republic of Cameroon, EDF International (“EDFI”) and the IFC, pursuant to the Shareholders Agreement signed on July 7, 2016.

16. IBRD will provide two project-based guarantees - a payment guarantee and a loan guarantee - per the Bank Directive on Investment Project Financing. IBRD guarantees will backstop certain GoC obligations in the Project Agreements<sup>5</sup> and provide comfort to the commercial banks involved. Specifically, the IBRD payment guarantee will enhance GoC’s obligations under the State guarantee assuming certain liquidity security obligations in favor of the Project Company and in relation to the Power Purchase Agreement (PPA). The IBRD loan guarantee will backstop certain payment obligations of GoC towards lenders of the local financing tranche.

17. IFC is jointly developing the Project with *Electricité de France* (EDF) and investing InfraVenture funds to cover development costs. IFC is considering providing both equity - 30 percent shareholding and senior debt in its role as the leading debt provider. It is also the Mandated Lead Arranger to mobilize funding from other development finance institutions (DFIs). IFC and other DFI investors will take comfort from the credit enhancement provided by the IBRD under its Payment Guarantee on behalf of the GoC.

18. In addition, MIGA will provide equity insurance to EDF International (EDFI) for its equity and shareholder loans in the amount of up to EUR 206 million for a tenor up to 15 years.

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#### SAFEGUARDS

##### A. Project location and salient physical characteristics relevant to the safeguard analysis (if known)

19. Nachtigal Hydropower Project involves the development of a large scale 420 MW hydropower project, including a 1,455-meter-long, 13.6-meter-high main dam in roller compacted concrete, creating a 421-ha upstream reservoir, a concrete lined headrace channel about 3.3 km long and 14-meter-deep on average to conduct water to the hydroelectric power plant, with a maximum flow rate of 980 m<sup>3</sup>/s corresponding to the Project design flow. The Nachtigal Project comprises a 225-kV substation and a double circuit 50.3-kilometer transmission line to evacuate the power produced to the Nyom 2 connection substation. The Project will form part of a hydropower cascade that will have cumulative impacts.

20. Nachtigal Hydropower Project is located in natural and modified habitats where terrestrial and aquatic biodiversity values exist. The Project will have a footprint of 2,051 ha for the construction of its main components and ancillary facilities. While only 5 households will be physically displaced, the Project will directly impact 917 farmers through agricultural land expropriation and restrictions to land use, and approximately 117 fishermen, 83 fish traders, and 960 sand miners will be temporarily or permanently economically displaced. During its peak construction period, the Project will employ a workforce of nearly 1,500, with the attendant stress that such a population influx will have on the

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<sup>5</sup> The Concession Agreement with the Project Company; the Commitment Agreement with the Project Company, ENEO and SONATREL; the Connection and Dispatch Agreement with the Project Company and SONATREL; and the Government Support Agreement.



cost of goods and services, public security and social cohesion. Although modest in size, the progressive filling of the dam's reservoir might generate population influx as recently experienced with the Lom Pangar Project, where thousands of people have migrated from Chad, Nigeria, and all over Cameroon and settled near the reservoir and have rapidly built a fast-growing permanent human settlement in small cities, small but growing commercial fishing industry. This massive influx resulted in a huge pressure on resources, and the basic infrastructure (lack of school, healthcare, water and sanitation) that was originally designed for small villages. The Project will form part of a hydropower cascade that will have cumulative impacts.

21. Given all these factors, the Nachtigal Hydropower Project has been designated as a Category A project because it may cause adverse environmental and social impacts that may be significant and irreversible. A comprehensive ESMP has been prepared, addressing environmental impacts, health and safety, labor influx, and organizational capacity. As part of the ESMP, a full set of safeguard instruments has been prepared and consulted upon including the following management plans: Biodiversity Action Plan, Migratory Influx Management Plan, Resettlement Action Plans, and a Livelihood Restoration Action Plan (sand mining workers).

#### **B. Borrower's Institutional Capacity for Safeguard Policies**

22. The Project company (NHPC) assessment has shown that NHPC has very strong capacity and has demonstrated commitment to these issues during the preparation of the Project. As mentioned above, NHPC has prepared a comprehensive ESMP, addressing environmental impacts, health and safety, labor influx, and organizational capacity. NHPC's environmental and social team is comprised of five qualified professionals who have been on site since 2014 playing an active role in the identification of the Project's environmental and social risks and mitigation measures, and ensuring the implementation of an effective stakeholder engagement strategy and grievance mechanism. The team, with the support of qualified consultants, has also actively participated in the government-led census of land to be expropriated to ensure that the resettlement action plans comply with IFC Performance Standards. NHPC's environmental and social team will remain on-site for the duration of construction, ensuring continuous engagement with communities. NHPC will hire five additional professionals to ensure the implementation of the ESMP and the complementary mitigation action plans (i.e., RAPs, livelihood restoration for sand miners, management plan of migratory influx, cultural heritage action plan, biodiversity action plan). Adequate financial resources and equipment have been allocated for the ES team and NHPC senior management has demonstrated its commitment for ES, including through a strong support from EDF.

23. EDF will act as Owner's Engineer to ensure that execution of works by the EPC contractors comply with established cost, quality, delivery deadlines, as well as compliance with EHS contractual requirements. EDF will retain one Safety Engineer (54 months), one Environmental Engineer (39 months), and one EHS inspector to monitor contractors' EHS performance. All EPC contractors will also appoint their own personnel for the implementation of their integrated management plans

24. More broadly, Cameroon has stable environmental and social institutions, namely MINEPDED, the Ministry of Domain, Cadastral and Land Registration Affairs, and Ministry of Social Affairs, which are central ESIA authorities. The country has also a comprehensive environmental and social legal framework, including the 1996 Environmental Law and its implementation decrees. (De) centralization of ESIA entities are weak and have limited capacities. Any project for which an environmental assessment is carried out, is subject to the administrative and technical supervision of the competent authorities. This supervision focuses on the effective implementation of the ESMP included in the ESIA. The Order No 0010/MINEP of April 3, 2013 requires a setup in each Division of the country, a Committee for the technical



and administrative supervision of ESMP. However, only one Divisional committee has not been set up in the Project area. In addition, permanent budget for external oversight of ESMP is not fully integrated into the Ministry’s planning process. Regional ESMP Unit, divisional Environmental inspections, and Environmental Assessment unit and divisional committees do not have adequate financial provision. They lack adequate equipment for fieldwork, and Senior staff lack personal vehicles. A central ESIA database is lacking. To ensure a proper safeguards compliance monitoring, the Project will contribute to set up different Divisional Committees in charge of monitoring ESMPs in the Project areas. The costs associated with their operation (supervision and inspection missions) will be borne by the Project.

**C. Environmental and Social Safeguards Specialists on the Team**

Cyrille Ngouana, Sr. Environmental Specialist  
Kristyna Bishop, Sr. Social Development Specialist  
Alain Owono, Sr. Social Development Specialist

**D. Policies that might apply**

25. All the Performance Standards apply, although the relevant for this project are: PS1: Assessment and Management of Environmental and Social Risks and Impacts; PS2: Labor and Working Conditions; PS3: Resource Efficiency and Pollution Prevention; PS4: Community Health, Safety, and Security; PS5: Land Acquisition and Involuntary Resettlement; and PS6: Biodiversity Conservation and Sustainable Natural Resources Management. PS8: Cultural Heritage. PS7: Indigenous Peoples is not relevant as no indigenous peoples have been identified in the project’s area of influence.

Performance Standards	Apply? (Yes/No/TBD)	Explanation (Optional)
PS 1: Assessment and Management of Environmental and Social Risks and Impacts	Yes	The Project may have adverse and irreversible environmental impacts, including: (i) the loss of natural habitat due to flooding and infrastructure footprint; (ii) predictable environmental, human, and health risks associated with the construction and operation of facilities; (iii) the risk of reducing the viability of a distinct population of Leddermaniella and (iv) encroachment into the Mbam Minkom - Kala Birdlife Important Bird Area (IBA/KBA). Prior to commissioning (first turbine), the project has committed to retain suitably qualified E&S professionals (E&S team) and ensure that its E&S team has the capacity to effectively manage the E&S risks and impacts linked to the operation of the hydropower plant.
PS 2: Labor and Working Conditions	Yes	NHPC has a current workforce of about 45 employees and will have a total of about 180 employees during the operation of the hydropower plant. The Project has a five-year construction schedule and the workforce will be approximately 1,500 at peak construction. NHPC will then need to produce a



Performance Standards	Apply? (Yes/No/TBD)	Explanation (Optional)
		<p>human resources policy and related procedures that are in line with Lender standards. Policy and procedures shall include, but not be limited to: working hours, weekly rest, annual leave, workers' health, the right to work, job security, nutrition, discrimination against workers, housing allowance, workers covered by social security, workers provided with a copy of their contract, contractors' system to adequately record and compensate for overtime work, workers' wages in compliance with remunerations established by applicable collective bargaining agreements or official tariffs, no children below minimum working age (15 years) engaged in any type of work and no children between 15 and 18 years old employed in hazardous work, etc. If non-compliances are identified, NHPC will require contractors to take immediate corrective actions.</p> <p>Each contractor is expected to produce a site specific Occupational, Health and Safety Plan and related procedures that refer to identifying and minimizing hazards to workers; providing appropriate equipment; identifying preventive and protective measures; training of workers; documenting and reporting accidents, diseases, incidents, and near misses.</p> <p>NHPC will produce plans and minimum standards for the construction workers' accommodation and the <i>Base de Vie</i> for lender approval prior to construction. Staff working for EPC contractors responsible for civil works (LOT GC) and for the installation of electro-mechanical equipment (LOT EM1) will be accommodated in a workers' accommodation with capacity for 1,500 people that will form part of the main construction base camp. NHPC will ensure that EPC contractors make all workers aware of the existence of a workers' grievance mechanism required by Cameroon national law and successfully used in Lom Pangar.</p>
PS 3: Resource Efficiency and Pollution Prevention	Yes	During construction, mitigation measures at the construction site will include standard construction pollution prevention and control measures.



Performance Standards	Apply? (Yes/No/TBD)	Explanation (Optional)
		<p>During operations, the risk of eutrophication of the reservoir is considered low as the only industrial effluents from a sugar refinery located upstream (1-2 m<sup>3</sup>/s) are minimal compared to the flow of the Sanaga River (200 to 650 m<sup>3</sup>/s during the dry season with and without water flow regulation from the Lom Pangar dam, respectively). In addition, the maximum water residence time in the reservoir (27.8 million m<sup>3</sup>) is estimated to be 12 hours only. The main water quality risk during operations is associated with a potential future increase in the agricultural development of the surrounding area. Nevertheless, NHPC will constantly monitor the presence of water hyacinth in the reservoir to prevent the spreading of this water pest. To avoid contamination of the river downstream the powerhouse, NHPC will install water oil separators to remove any oil that might leak from the equipment.</p>
<p>PS 4: Community Health, Safety, and Security</p>	<p>Yes</p>	<p>The villages that will likely see a migrant labor influx are Ndji (estimated population 849), Ndokoa (population 273), Minkouma (population 122), Olembe (population 637), Nalassi (population 642), Eman-Batchenga (population 1,353), and Ballong I (population 1,493). To limit the influx of migrants, the EPC contractors have committed to hire about 20 percent of the required workforce locally, and implement a work schedule that allows migrant workers to regularly return home so that it dissuades families of workers to move into the area. In addition, to promote local employment, the civil works EPC contractor (LOT GC) will put in place shuttle buses to daily transport workers from/to their homes up to 20 km from the work site. The GC EPC contractor has developed a code of conduct and disciplinary procedures that will be explained to workers of all EPC contractors and sub-contractors at the time of induction and will be posted in French and local languages around the base camp. This code of conduct will be endorsed by each worker. NHPC's grievance redress mechanism shall acquire the necessary expertise to handle this type of complaint. To reduce the impact on affected communities, NHPC will implement a number of mitigation measures in coordination with local authorities which are detailed</p>



Performance Standards	Apply? (Yes/No/TBD)	Explanation (Optional)
		<p>in the Migratory Influx Management Plan. NHPC will also include gender specific mitigation measures within its Migratory Influx Management Plan to ensure negative impacts on women due to the project are addressed.</p> <p><i>Road safety.</i> EPC contractors will be required to include activities and/or service providers in road safety programming which address the specific needs of blind and partially sighted people.</p> <p><i>Emergency preparedness and response.</i> EPC contractors are required to draft Emergency Preparedness and Response Plans and these will be submitted for NHPC approval and Lender review- prior to site mobilization.</p> <p><i>Community exposure to disease.</i> The impounding created by dams often results in an increase in water related vector borne diseases such as malaria, schistosomiasis, and filariasis (including onchocerciasis). In addition, the in-migration of workers may result in an increase in sexually transmitted diseases and human immunodeficiency virus (HIV), and an increase in accidents can also be expected as result of the increase in vehicle traffic. As part of NHPC's Environmental and Social Management Survey, health indicators will be defined and monitored throughout the duration of the project.</p> <p><i>Dam Safety.</i> Nachtigal is considered a <i>large dam</i> as it will include a 1,455-meter-long, 13.6-meter-high main dam in roller compacted concrete. In March 2015, an independent Panel of Experts performed a review of the dam's detailed feasibility study, which included aspects of dam safety (i.e. stability, ability to withstand a 100,000-year flood, and auscultation system). Recommendations provided by the panel were adopted by NHPC. In addition, the World Bank is providing, through the IDA-financed Hydropower Development on the Sanaga River Technical Assistance Project, the financing of a Dam Safety Panel of Experts to supervise the construction of Nachtigal HPP. The dam safety measures shall be outlined in the project's</p>



Performance Standards	Apply? (Yes/No/TBD)	Explanation (Optional)
		<p>dam safety emergency plan to be completed and approved at least one year before the first impoundment of the dam, and adequate resources shall be budgeted for its implementation and maintenance. As part of the dam’s operation and maintenance plan, to be completed and approved at least six months before the first impoundment of the dam, NHPC shall also develop and implement a dam safety surveillance program.</p> <p><i>Security forces.</i> Access to the construction basecamp will be controlled through the use of cameras, badges and a team of 30 unarmed private security guards under the responsibility of the GC EPC contractor. In addition, the Government of Cameroon (GoC) has declared Nachtigal a project of national priority and will station 51 military personnel on site to protect its perimeter and sensitive areas. NHPC shall carry out a security risk assessment to identify the likely security threats during construction and operation that would require a response by security personnel, and the potential impact that such response might have on community members. Based on the outcomes of the security risk assessment, NHPC shall develop a security management plan.</p> <p><i>Gender Based Violence (GBV).</i> The prevalence of GBV in Cameroon is high and is a deeply rooted social phenomenon. It is therefore impossible to fully prevent GBV. However, the risk for GBV in the context of the project, can and will be partially mitigated. During project preparation, GBV risk was clearly outlined in the Environmental and Social Review Summary (ESRS, May 2017). Some fundamental specifications have been incorporated in the contract documents where for example, it is indicated that NHPC will ensure that EPC contractors’ code of conduct and disciplinary procedures include the prohibition to engage in any type of sexual behavior with minors and any type of abuse or violence against women and girls. In addition, NHPC will implement a communication campaign to explain what is the expected behavior of workers in host communities and how can a member of the community file a</p>



Performance Standards	Apply? (Yes/No/TBD)	Explanation (Optional)
		related complaint at NHPC’s office located in Batchenga. NHPC’s grievance redress mechanism will acquire the necessary expertise to handle this type of complaint.
PS 5: Land Acquisition and Involuntary Resettlement	Yes	<p>The development of the project will entail the temporary and permanent loss of land and fishing grounds for populations in the dam impact area, transmission line, and NHPC base camp in Batchenga. Resettlement Action Plans (RAPs) have been prepared for these three areas: (i) Dam: individual compensation will be provided to 147 PAPs whose agricultural plots amounting to 142 ha will be expropriated (22 percent of the land is cultivated by women); (ii) Transmission line: Individual compensation will be provided to 565 PAPs whose 100 ha of agricultural plots will be affected; (iii) NHPC base camp: 207 PAPs will be impacted by the loss of 19 ha of agricultural land.</p> <p>As of October 2017, 93 information and consultation meetings with more than 2,300 participants (i.e. PAPs, local authorities) have been organized by the NHPC environmental and social team to explain and present the results of the assets inventory and the eligibility and compensation matrix. Expropriation and compensation decrees were signed in July 2017 for the dam, and in February 2018 for the transmission line and NHPC base camp. Compensation payments for the dam area were finalized in December 2017 with only compensation for 2 PAPs to be completed, and transactions for the acquisition of replacement land are expected to conclude in March 2018. Compensation payments for the transmission line right-of-way and NHPC’s base camp in Batchenga are expected for the third quarter of 2018.</p> <p>NHPC retained a local NGO who met with each impacted household (both spouses present) to explain the compensation payment amount and discuss best options to use the money to ensure they restore their income generating activities. Implementation of livelihood restoration measures will be closely monitored by NHPC environmental and social team and socio-economic data will be collected annually by the consulting firm that prepared the RAPs through statistically sound sampling methodologies until the</p>



Performance Standards	Apply? (Yes/No/TBD)	Explanation (Optional)
		third year after the filling of the reservoir.
PS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	Yes	<p>The project is not located in any of Conservation International’s Biodiversity Hotspot or High Biodiversity Wilderness Area, or within an Endemic Bird Area. There are no Protected Areas or Internationally recognized areas for biodiversity within or near the project area, either upstream or downstream. The river is classified as Modified Habitat due to the extreme changes in minimum flow rate resulting from operation of the Lom Pangar regulation reservoir upstream of the project. In addition to the ESIA, NHPC conducted several complementary studies: (i) an inventory of the flora and fauna was conducted in 2014 to determine if endangered, endemic, or migratory species are present in the Project area of influence; and (ii) an ichthyologic study to identify fish species composition and abundance was performed from January to October 2014. Several Ecosystem Services were identified within the project area, including fishing, sand mining, traditional medicines, wood collection, bushmeat hunting, and freshwater. Studies identified two aquatic plants (Leddermaniella) and nine fish species which triggered critical habitat. To comply with the requirements of IFC PS6, a Project Biodiversity Action Plan (BAP) was developed, and specific mitigation measures to address these impacts are described, including “net gain” for critical habitat. NHPC is reviewing this BAP to strengthen the mitigation of impacts by the transmission line. The measures regarding bird collision/electrocution and monitoring will be improved. To ensure compliance with PS6, continued long-term commitment is required to the collection of ecological and hydrological (flow/water level) data at key locations downstream of the dam during construction and operation, and the subsequent refinement of the Environmental Flow Release regime in response to changes observed to optimize conditions for priority endemic fish species present. The Environmental Flow Release strategy will be separately consolidated and documented as part of the overall project ESMP. Moreover, it should be integrated (and supported) within the wider Integrated Water Resources</p>



Performance Standards	Apply? (Yes/No/TBD)	Explanation (Optional)
		Management Plan for the Sanaga basin that is being developed with the support of the World Bank and AFD.
PS 7: Indigenous Peoples	No	There are no indigenous peoples on project sites, and this PS is not applied in the case of this project.
PS 8: Cultural Heritage	Yes	As part of the 2011 ESIA, cultural heritage sites were identified in 15 of the 20 villages surveyed. Several sites are related to the Sanaga River, and others are localized in the Project study area (cemetery, forest sites, sacred trees, etc.). NHPC has developed an Archaeology Mitigation Plan. NHPC will hire a team of archeologists before earthworks commence who will be stationed on site and will be responsible for the implementation of the plan. EPC contractors are contractually required to develop a chance find procedure as part of their integrated management system and to communicate NHPC, at least 15 days in advance, the perimeter of each new area to be stripped as to allow archeologists to evaluate the risk of chance finds and put in place the necessary procedures. NHPC will sign a Memorandum of Understanding with the Ministry of Culture as suggested in the Archaeology Management Plan.
Project on International Waterways OP/BP 7.50	No	Not applicable.
Projects in Disputed Areas OP/BP 7.60	No	Not applicable.

**KEY SAFEGUARD POLICY ISSUES AND THEIR MANAGEMENT**

**A. Summary of Key Safeguard Issues**

1. Describe any safeguard issues and impacts associated with the proposed project. Identify and describe any potential large scale, significant and/or irreversible impacts:

26. The Project may have adverse and irreversible environmental impacts, including: (i) the loss of natural habitat due to flooding and infrastructure footprint; (ii) predictable environmental, human, health and occupational safety risks associated with the laterite quarry, construction and operation of facilities; (iii) the risk of reducing the viability of a distinct population of Leddermaniella and fish species (iv) encroachment into the Mbam Minkom - Kala Birdlife Important Bird Area (IBA/KBA); (v) loss of access to the river impacts, which negatively affects fishermen and fish traders and (vi) spread of terrestrial invasive flora species.



27. The project will generate the permanent loss of land and fishing grounds for populations in the dam impact area, transmission line, and NHPC base camp in Batchenga. The dam's footprint will impact around 1470 persons with a land take for around 142 ha. The transmission line construction, which runs through 25 villages, will necessitate the acquisition of 247 ha, where 565 agricultural plots will be affected. During operations, NHPC will establish its base camp in the small in Batchenga. An area of 19 ha has been selected. It will necessitate a land take of around 19 ha that will impact 207 PAPs. Some sands miners will also be permanently affected by the loss of mining grounds.

2. Describe any potential indirect and/or long-term impacts due to anticipated future activities in the project area:

28. Indirect and/or potential long-term impacts due to anticipated future activities are associated with: the incidence of water-related vector-borne diseases; alteration of genetic mixing of fish stocks upstream and downstream of the proposed dam. To mitigate these long term impacts, NHPC is planning to: (i) to update the Biodiversity Action Plan (BAP) and ESMP (operation phase) to include the monitoring of biological and hydrological data (flow/water level) at key locations downstream of the dam with the support of the Leddermaniella and independent fish experts; (ii) establish an adaptive environmental flow release (EFR) strategy for Nachtigal that responds to changes in the dewatered section of the river for Leddermaniella spp. (iii) update ESMP to include the monitoring of incidence of water-related vector-borne diseases and implement control measures as necessary during construction and operation; (iv) will appoint an independent fish expert with PS 6 experience for at least 3 years to (i) assess the need and (if applicable) evaluate if the proposed the effectiveness of a catch-and-release program is sufficient to in maintaining the long-term genetic mixing of fish stocks upstream and downstream of the proposed dam and maintain migratory fish populations. The independent expert shall also; (ii) provide ongoing advice on the Biodiversity Action Plan-Fish; and (iii) monitoring of Net Gain for the critical habitat fish species.

29. The RAP and GM processes have identified PAPs with vulnerabilities, including disabilities. 71 potentially vulnerable and 23 vulnerable PAPs were identified in the dam's footprint and 26 vulnerable PAPs were identified along the transmission's line route. Contractors activities would also generate damage to crops and unforeseen new land acquisition.

3. Describe any project alternatives (if relevant) considered to help avoid or minimize adverse impacts.

30. N/A

4. Describe measures taken by the borrower to address safeguard policy issues. Provide an assessment of borrower capacity to plan and implement the measures described.

31. The Gov. of Cameroon has already taken significant steps to protect its environment through a National Policy on Environmental Protection and a series of legislative and regulatory texts for environmental protection and nature conservation (i.e. comprehensive environmental and social legal framework, including the 1996 Environmental Law and its implementation decrees). In addition, the dam will be built will respect technical specifications and quality standards that have been already prepared by NHPC. Furthermore, the borrower prepared an ESIA in November 2006, and it was updated in September 2011 completed by addendum in January 2014. Resettlement Action Plans and Livelihoods restoration plans were developed to clearly identify affected populations and to propose compensations measures and livelihood restoration activities. Additional studies include a Vulnerable Assistance Plan, Resettlement Policy Framework



to set out the process to address damage to crops by contractors and any unforeseen new land acquisition identified, detailed cumulative impact assessment (CIA) conducted for Lom Pangar HPP and other downstream hydropower projects, including Nachtigal HPP (2011); the impact of climate change on hydropower in Cameroun concluded that the Lom Pangar and Nachtigal storage and hydropower projects (2014); Social influx management plan (2015); local capacities and manpower study and action plan (2015); Ledermaniella population monitoring and conservation trial (2016); etc. specific guidelines, including Occupational health safety (OHS), Gender Based violence (GBV), GRM, code of conduct and compliance with Cameroonian Labor Laws requirements will be developed for contractors, subcontractors and owner's engineer. All these requirements will be reflected in the Operation Manual of the project.

32. The Project company (NHPC) has very strong capacity and has demonstrated strong commitment to these issues during the preparation of the Project. NHPC has set a strong Environmental and social Management System (ESMS). NHPC's environmental and social team is comprised of five qualified professionals who have been on site since 2014 playing an active role in the identification of the Project's environmental and social risks and mitigation measures, and ensuring the implementation of an effective stakeholder engagement strategy and grievance mechanism. The team, with the support of qualified consultants, has also actively participated in the government-led census of land to be expropriated to ensure that the resettlement action plans comply with IFC Performance Standards. NHPC's environmental and social team will remain on-site for the duration of construction, ensuring continuous engagement with communities. NHPC will hire five additional professionals to ensure the implementation of the ESMP and the complementary mitigation action plans (i.e., RAPs, livelihood restoration for sand miners, management plan of migratory influx, cultural heritage action plan, biodiversity action plan).

33. Even though experience and capacity for designing and implementing environmental and social safeguards measures have been acquired from the Lom-Pangar dam project, the Government of Cameroon (GoC) has capacity limitations and might not satisfactorily ensure a thorough safeguards compliance monitoring. The project design also recognizes these limitations and has included resources for recruiting the dam safety PoE for Nachtigal HPP in the "HYDROPOWER DEVELOPMENT ON THE SANAGA RIVER TECHNICAL ASSISTANCE PROJECT" to support the GoC in this matter. In addition, to ensure a proper safeguards compliance monitoring, the Project will contribute to set up different Divisional Committees in charge of monitoring ESMPs in the Project areas. The costs associated with their operation (supervision and inspection missions) will be borne by the Project.

5. Identify the key stakeholders and describe the mechanisms for consultation and disclosure on safeguard policies, with an emphasis on potentially affected people.

34. To ensure that the project meets WB-IFC's requirements, NHPC has committed to update its stakeholder engagement plan developed in 2015-2016. It will be regularly updated to reflect status and ensure continuous and comprehensive engagement with all affected stakeholders. The updated will have increased focus on: a) Engagement with neighboring communities regarding construction schedules, employment, and community health and safety; b) Continued consultations with specific focus groups (fishers, fish vendors, sandminers, women); c) Targeted engagement with impacted quarry owners and a more systematic engagement with affected sand miners, to inform them of their entitlements, compensation process and the reconversion support; d) Coordination with nearby land based construction projects (Yaoundé water supply, Sanaga bridge) which could potentially contribute to social conflict and benefit opportunities.



**B. Disclosure Requirements (N.B. The sections below appear only if corresponding Performance standard applies)**

35. Due diligence has been performed by key stakeholders during project preparation and this resulted in the development of an Environmental and Social Impact Assessment (ESIA) validated in 2006 (updated 2011), following which complementary studies were undertaken. The elaboration of these safeguards instruments was done with an extensive public participation. Approximately, 51 information and consultation meetings were held and benefiting more than 1700 participants.

36. The ESIA has been disclosed by the World Bank on June 26, 2017. Also, based on the above-mentioned instruments, an Environmental and Social Review Summary (ESRS) and an Environmental and Social Action Plan (ESAP) have been prepared, and disclosed on IFC’s web site on June 19, 2017. The ESRS and ESAP have also been disclosed in-country on NHPC’s web site in June 2017.

**C. Compliance Monitoring Indicators at the Corporate Level (to be filled in when the ISDS is finalized by the project decision meeting) (N.B. The sections below appear only if corresponding PS applies)**

<b>Performance Standards</b>			
<b>Client’s Environment and Social Assessment</b>			
Does the project require a stand-alone Environmental and Social Assessment (including EMP) report?	Yes [ X ]	No [ ]	N/A [ ]
If yes, then did the Regional Environment Unit or Sector Manager (SM) review and approve the EA report?	Yes [ X ]	No [ ]	N/A [ ]
<b>Client’s Environmental and Social Management System</b>			
Has the client developed an appropriately detailed ESMS, and does the client have the technical and organizational capacity to implement it?	Yes [ X ]	No [ ]	N/A [ ]
<b>Labor and Working Conditions</b>			
Does the client have a written human resources policy available to all employees that describes labor and working conditions?	Yes [ X ]	No [ ]	N/A [ ]
<b>Biodiversity and Natural Resource Management</b>			
If PS 6 is applicable, would the project result in any significant conversion or degradation of critical natural habitats?	Yes [ X ]	No [ ]	N/A [ ]
If the project would result in significant conversion or degradation of other (non-critical) natural habitats, does the project include mitigation measures acceptable to the Bank?	Yes [ X ]	No [ ]	N/A [ ]
If the project entails use of living natural resources, has certification been obtained or a time-bound plan established to obtain certification?	Yes [ X ]	No [ ]	N/A [ ]
<b>Physical Cultural Resources</b>			
If PS 8 is applicable, does the project design include adequate measures related to physical cultural resources?	Yes [ X ]	No [ ]	N/A [ ]
<b>Indigenous Peoples</b>			
If PS 7 applicable, and have Indigenous Peoples communities been consulted in accordance with requirements of PS 7?	Yes [ ]	No [ ]	N/A [ X ]



Have the requirements for Free Prior Informed Consent been met, and is there reasonable evidence of broad community support by the affected Indigenous Peoples communities?	Yes [ ]	No [ ]	N/A [ X ]
<b>Involuntary Resettlement</b>			
If PS 5 is applicable, have the requirements been complied with by the client?	Yes [ X ]	No [ ]	N/A [ ]
<b>Pollution Prevention and Efficient Use of Resources</b>			
Does the project comply with good international industry practice as presented in the WBG EHSs or a similar internationally recognized benchmark?	Yes [ X ]	No [ ]	N/A [ ]
Is the project designed for energy efficiency and waste minimization?	Yes [ X ]	No [ ]	N/A [ ]
<b>Community Health and Safety</b>			
Has the assessment determined that local communities could face significant adverse impacts in event of an accident or emergency situation associated with the project?	Yes [ X ]	No [ ]	N/A [ ]
If so, has an Emergency Preparedness Plan (EPP) been prepared and arrangements been made for public awareness and training?	Yes [ ]	No [ X ]	N/A [ ]
<b>Projects on International Waterways</b>			
Have the other riparians been notified by the Bank of the project?	Yes [ X ]	No [ ]	N/A [ ]
<b>Projects in Disputed Areas</b>			
Has the memo conveying all pertinent information on the international aspects of the project, including the procedures to be followed, and the recommendations for dealing with the issue, been prepared by the Bank?	Yes [ ]	No [ ]	N/A [ X ]
<b>Disclosure</b>			
If Category A or B, has the ESRS been sent to the World Bank's Infoshop?	Yes [ X ]	No [ ]	N/A [ ]
Have relevant assessment documents prepared by the client been disclosed in-country in a public place in a form and language that are understandable and accessible to project-affected groups and local NGOs?	Yes [ X ]	No [ ]	N/A [ ]
<b>Monitoring and Reporting</b>			
Has the client agreed to submit an Annual Monitoring Report to the Bank to report on the management of environmental and social risks and impacts, and does the Legal Agreement contain this provision?	Yes [ X ]	No [ ]	N/A [ ]
Has the client agreed to report at least annually to local affected communities on how the project is performing with respect to environmental and social risks and impacts of concern to those communities?	Yes [ X ]	No [ ]	N/A [ ]



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