REQUEST FOR EXPRESSIONS OF INTEREST (REOI)

(CONSULTING SERVICES – INDIVIDUAL CONSULTANTS)

NILE BASIN INITIATIVE (NBI)/NILE EQUATORIAL LAKES SUBSIDIARY ACTION PROGRAM (NELSAP)

ANGOLOLO WATER RESOURCES DEVELOPMENT PROJECT STUDIES IMPLEMENTATION

TECHNICAL ADVISORY SUPPORT ON DAM SAFETY

A. INTRODUCTION

1. The Republics of Uganda and Kenya, through the Nile Equatorial Lakes Subsidiary Action Program (NELSAP) of the Nile Basin Initiative (NBI), have received a grant from the NEPAD Infrastructure Project Preparation Facility Special Fund (NEPAD-IPPF Special Fund) managed by the African Development Bank to finance the preparation of Angololo Water Resources Development Project for Implementation.

2. Angololo Water Resources Development (AWRD) project consists of the following components: (i) Composite (Rock-fill/concrete gravity) dam with 43 MCM capacity, 30 m high, (ii) Mini Hydropower plant of capacity 1.75 MW, (iii) Irrigation Command Area development on 3,300 ha of land, (iv) domestic and livestock water supply, (v) fisheries production, and (vi) Catchment restoration. Angololo Dam is planned to be built across River Malaba in Kalait village (UTM: Longitude 645777, Latitude 81944, elevation 1212m a.s.l), border of Uganda and Kenya.

B. DAM SAFETY PANEL OF EXPERTS [DSPoE]

1. The purpose of the Panel will be to review and advise NELSAP on matters related to dam safety and other critical aspects of the dam, its appurtenant structures, the catchment area, the reservoir rim, project formulation; technical design; construction procedures; and associated works such as power facilities, river diversion during construction and fish passages. NELSAP will contract the services of the panel, provide administrative support for the panel's activities and arrange for semi-annual panel meetings and reviews, which will continue through the investigation, design, construction, and initial filling and start-up phases of the dam. After each meeting, the Panel will provide a report of its conclusions/recommendations, signed by the Panel of Expert (PoE) Chair Person. Following the filling of the reservoirs and start-up of the dam and barring significant difficulties, NELSAP will disband the Panel. The PoE qualifications are as follows:

   Individual Consultant (IC) PoE-1: Dam Design and Construction Expert (Panel Chair)
   [International: 15 Days]

   2. The Dam Design Specialist, (Panel chair), must have a minimum of a Master’s Degree in Civil/Hydraulic Engineering with 15 years demonstrated/proven professional experience in dam design and construction works. The Expert will visit the project at regular intervals as part
of the technical panel of experts from various technical fields relevant to safety aspects of
dams. Specifically, the expert will:
   i)   enhance NELSAP staff technical review capacity on dam design matters;
   ii)  attend a joint workshop (organised by NELSAP) with other panel experts to present and
discuss the dam design procedure and standards to be used by consulting firms contracted
for the project;
   iii) review the dam type and design proposed by the feasibility studies and in particular:
       review of layout of dam and appurtenant structures; design criteria and design
calculations; and design, technical specifications and construction schedules; assess the
adequacy of construction work for the dam and appurtenant structures; review of design
adoptions during construction; review of construction procedures, plan, and schedule;
       assess the safety requirements with respect to stability and performance of the dam and
appurtenant structures during operation based on results of safety inspections.
   iv)  Lead in reviewing the dam safety plans as per the African Development Bank operational
       policies together with the geotechnical specialist and hydrologist.

IC PoE-2: Geologist/Geotechnical Expert [International: 15 Days]

3. The Expert shall have a minimum of a Masters degree in Civil Engineering
   (Geology/geotechnical engineering major) and 15 years proven/demonstrated professional
working experience in dam studies. The Expert will visit the project at as part of the PoE.
Specifically, the expert will:
   i)   enhance NELSAP technical review capacity on Geological/geotechnical matters;
   ii)  attend a joint workshop with other panellists to present and discuss the geological and
geotechnical procedures, standards and methodology to be used by consulting firms
contracted for the project;
   iii) review the results of geological and geotechnical investigations conducted during feasibility
studies, detailed design and construction supervision and in particular: (i) the geological
foundation conditions for the dams and appurtenant structures with respect to safety
requirements in stability and water tightness; (ii) the geological and geotechnical
conditions of the reservoir rim with respect to safety in slope stability and reservoir
tightness; (iii) the geo-technical design parameters; (iv) foundation treatment design
including drainage and sealing by grouting or other methods; (v) technical specifications
with respect to foundation treatment; (vi) construction procedures as well as materials
properties and availability; (vii) foundation treatment adoptions as well as adequacy of
treatment during construction; (viii) foundation stability and tightness after completion of
the project during operation, based on results of safety inspections, and ix) seismic
assessment and design parameters. The expert will also advise on measures to amend and
improve the aspects/areas needing such amendments/improvements.

IC PoE-3: Hydrologist [International: 16 Days]

4. The Hydrologist will have a minimum of a Masters degree in Civil /Water Resources
Engineering (hydrology major) and 15 years demonstrated/proven working experience,
including a minimum of five years in hydrologic studies related to storage reservoirs. The
Expert will visit the project at regular intervals as part of the PoE. Specifically, the expert will:
   i)   enhance NELSAP staff technical review capacity on hydrological matters;
ii) attend a joint workshop with other panellists and the NELSAP to present and discuss hydrological procedures, methodology/standards to be used by consulting firms contracted for the project;

iii) review feasibility studies and detailed designs in particular: (i) the hydrological conditions with respect to availability of river flow/catchment run-off, stored in the reservoir for multipurpose use, covering the demand; (ii) the downstream condition /hazards and required safety level /flood return period, (iii) the design flood inflow and reservoir attenuated outflow for determining the spillway capacity; (iv) the soil erosion level of the catchments, sediment, as well as sediment management plan; v) the reservoir operations; and vi) adequacy of live and dead storage considering hydrological variability (including climate considerations), required water supply reliability and sediment handing.

C. Administration
5. The services will be rendered over a period of 2 (two) years from contract signature date. At the beginning of this consultancy, the NELSAP and each of the consultants shall agree on the schedule of activities for the entire period. A time-based or other appropriate contract will be used for each of the consultants. Remuneration will be based on (i) agreed upon unit rates multiplied by the actual time spent by the staff in executing the assignment, and (ii) The reimbursable costs for the missions (excluding the Consultancy Fee) will be paid in accordance to the United Nations/ NBI/NELSAP per diems and travel costs rates for the applicable month [link].

The Program Officer – Water Resources Development (WRD) is the designated representative of the Client and will be responsible for work oversight and contract administration.

D. Selection Process

The Consultants will be selected as individual consultants in accordance with the African Development Bank, *Procurement Policy for Bank Group Funded Operations, October 2015*. Interested Consultants are invited to submit resumes and relevant supporting documents by email addressed to nelsapprocurement@nilebasin.org with copy to nelcuvacancy@nilebasin.org. The deadline for Receiving CVs is by Monday 22nd July 2019 at 16:00 hours Rwandan Time.