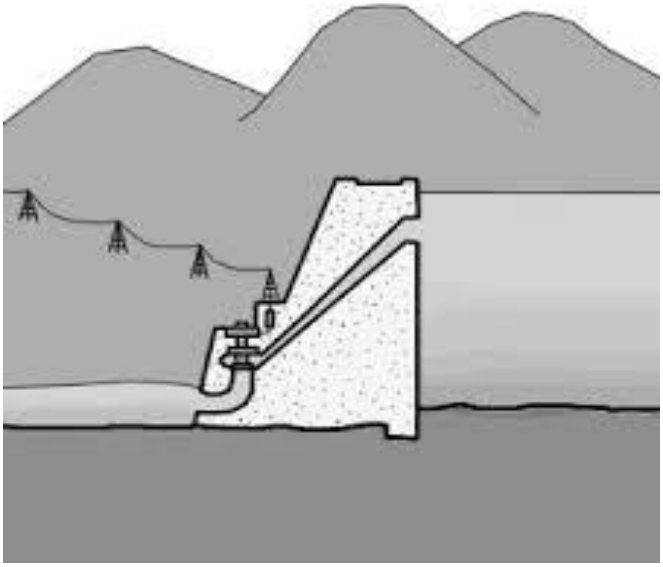
water & sanitation
Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF WATER AND SANITATION

REQUEST FOR WATER USE LICENCE APPLICATIONS FOR HYDROPOWER GENERATION



REQUEST FOR APPLICATIONS (RFA)

April 2023

1. Disclaimer

a) This document constitutes a request for applications (RFA) addressed to persons interested in starting or already conducting their business within the renewable energy generation industry in the Republic of South Africa.

b) The RFA is subject to Terms and Conditions.

c) DWS shall not be liable for any direct, indirect, consequential or other losses or damages including loss of profit that may be incurred by any person including, but not limited to, an Applicant, Short Listed Applicant or Successful Applicant, or any director, officer or associated company thereof, as a result of any reliance on or use of this RFA or as a result of the RFA process contemplated in this RFA document.

d) DWS makes no representations, undertakings or warranties whatsoever to any person in respect of the RFA or any information contained in the RFA.

e) This RFA and the information contained therein are confidential and proprietary to DWS and may not be used, reused, copied or distributed for any purpose, other than in relation to the RFA process, without DWS's prior written consent.

f) DWS will not in any way be in a position to take ownership during the operation or post-closure of the hydropower plant that will be constructed as a result of this RFA.

g) DWS will not provide any financial support to the applicants, during application, construction, operations and maintenance.

2. Definitions and Purpose

2.1 Definitions

In this RFA, any other word or expression to which a meaning has been assigned in the National Water Act of 38 of 1998 (the Act) shall have that meaning assigned to it in the Act, unless the context requires otherwise –

(a) *"applicant"* means a person or a representative of that person who makes an application for a water use licence for hydropower generation in terms of the Act and as per this RFA.

(b) Pre-application window period: a period between the submission of a pre-application request and the submission of a complete application 17 April 2023 to 30 June 2023.

(c) Application window period: A period of six (6) months after the issuance of a letter of Water Use Licence Application (WULA) requirements following closure of the pre-application window.

(d) Application evaluation period: A period of 90 days from the reciept of the last application in terms of this RFA.

(e) Approved application: An application for which a water use licence has been granted.

(f) Days: Working days (weekends, public holidays and the period 15 December to 5 Janaury are excluded).

(g) Declined application: An application that was not approved by the Responsible Authority.

(h) Rejected application: An application which did not contain all the required information during its submission.

(i) Terms and Conditions – the Terms and Conditions applicable to this RFA, as set out herein below.

2.2 Purpose of this RFA

The purpose of this RFA process is to enable DWS to approve water use licences and grant access, under stipulated conditions, to the Department's infrastructure or to rivers for the purpose of renewable energy power generation. The RFA is aimed at responding to requests for the issuing of water use licence applications for Independent Hydropower and related projects. The RFA is aimed at soliciting applications and granting approvals to competent applicants.

3. Reneawable energy power generation and DWS

The Department of Water and Sanitation is the custodian of South Africa's water resources and is responsible to ensure they are protected, used, developed, conserved, managed and controlled in a manner that seeks to achieve sustainability, and transformation and promotes economic development.

The Department is inviting persons to make use of the water resources, watercourses and Departmental infrastructure to generate renewable energy power. Following recent changes to the regulatory framework for embedded generation, DWS has been receiving requests from interested investors to make applications for water use licences for hydropower generation and related projects. In order to ensure that such requests are dealt with in a fair, open and equitable manner DWS has decided to open a window of application for this purpose. This is to enable potential investors to have an equal opportunity for hydropower generation and related projects.

The developer/applicant is responsible to apply for a water use licence and request for permission to use DWS infrastructure or the rivercourses. The developer/applicant is also responsible to procure and operate its equipment, and make arrangements for the sale or use of the power generated.

4. Types of hydropower covered by this RFA

Pumped Storage

Pumped Storage hydropower works like a giant battery. These facilities store energy by pumping water from a reservoir at a lower elevation to a reservoir at a higher elevation.

When the demand for electricity is low, a pumped storage facility stores energy by pumping water from the lower reservoir to an upper reservoir. During periods of high electrical demand, the water is released back to the lower reservoir and turns a turbine, generating electricity.

Run-of-river / Diversion

A diversion, sometimes called a “run-of-river” facility, channels a portion of a river’s flow through a canal and/or a penstock to utilize the natural decline of the river bed elevation to produce energy. A penstock is a closed conduit that channels the flow of water to turbines with water flow regulated by gates, valves, and turbines. A diversion may not require the use of a dam.

The applicants are responsible for identifying rivers where they want to undertake the run-of-river hydropower generation.

Impoundment

The most common type of hydroelectric power plant is an impoundment facility. An impoundment facility, typically a large hydropower system, uses a dam to store river water in a reservoir. Water released from the reservoir flows through a turbine, spinning it, which in turn activates a generator to produce electricity. The water may be released to meet changing electricity needs or other needs, such as flood control, recreation, fish passage, and other environmental and water quality needs.

Applicants may propose using any DWS-owned dam that they deem suitable for the impoundment method of hydropower generation.

Floating / Kinetic turbines

Kinetic energy turbines, also called free-flow turbines, generate electricity from the kinetic energy present in flowing water rather than the potential energy from the higher elevation. The systems can operate in rivers, man-made channels, tidal waters, or ocean currents. Because kinetic systems utilize a water stream's natural pathway, they do not require the diversion of water through man-made channels, riverbeds, or pipes, although they might have applications in such conduits. Kinetic systems do not require large civil works because they can use existing structures, such as bridges, tailraces, and channels.

Floating Solar / Windmills

The other type of revewable energy that do not necessarily use the flow of water, but use water bodies, comprises of floating solar panels in the dams and floating windmills (mainly applicable in the sea). Any appartus that is located on inland water resources requires a water use licence, whilst appartus located on or in the sea does not require a water use licence.

5. Application process

Step 1 - Pre-Application Stage:

The purpose of this stage is to enable the Department to understand the proposed activities in order to guide the applicant as to the water uses that are triggered, the type of water use authorization that is required and the information requirements thereof. This stage is initiated by the applicant who submits a request for pre-application engagement via the eWULAAS system. Following the

first meeting the prospective applicant and the Departmental Official (assessor) assigned to the pre-application engagement arranges for a site visit. Applicants that do not avail themselves to the site inspection will be disqualified from the RFA process. Following a site inspection, the Department issues a letter containing a list of all the information that will be submitted with the application.

Step 2: Compilation of an application

The existing process of applying for a water use licence will be retained and used for hydropower applications. Applications must be submitted via the Regions and CMAs for the purposes of dealing with water use applications, preparing the relevant submissions and making recommendations to the delegated official at the National Office or Regional Head (when delegated).

The applicant compiles an application by gathering all the information that has been outlined in a letter of information requirements issued during Step 1. The information requirements comprise both administrative and technical information. The administrative information is standard whilst the technical information will vary between activities and project sites. For the purpose of this RFA, the period of compiling the application is limited to six months upon receipt of the letter of information requirements. Once the applicant has completed all the dcouments required as part of the application it must be submitted to the Department via the eWULAAS. The Department will not accept an application that will be submitted after the date of submission stipulated in the letter of information requirements.

Step 3: DWS Screen the application for completeness

Upon receiving the application, a DWS assessor will screen the application for completeness of information versus the letter of information requirements. Applications with outstanding information will be rejected. Applications with complete information will receive an acknowledgement letter and proceed to the assessment phase.

Step 4: Assessment and decision

This step provides the Department with an opportunity to evaluate the application and make a decision on whether to grant the application or not. This is strickly an internal process where applicants do not play any part. The assessment and decision phase takes 90 days from the date of acceptance of the application stipulated in the acknowledgement letter. Once a decision is made, it is communicated to the applicant via e-WULAAS. The applications submitted as part of this RFA will be processed at the same time in a centralised approach, with the 90 days counting from the last application to be accepted by the Department.

Step 5: Post-decision processes

In the case where an application has been declined, an applicant can approach the Water Tribunal for an appeal in terms of Section 148 of the National Water Act. Interested and affected parties can also appeal a decision to grant a licence if they have objected during the public participation period. In the case of the latter, the licence will be suspended until the appeal is finalised. Alternatively, the licensee can request the Minister in writing to lift the suspension of the licence whilst the appeal process is in progress. A decision is appealable 30 days after receipt of the decisions or reasons for the decision, whichever comes last.

6. Evaluation Process

The Department will have two phases of evaluating the applications received in terms of this RFA. The first phase comprises technical and functional evaluation, and the second phase comprises preferential evaluation. Applications that do not succeed in the first phase will not proceed to the second phase of evaluation.

6.1 Phase 1 evaluation: Administrative, technical and functional assessment

a) Administrative compliance with the application: Does the application comply with all administrative requirements including lawful access to the property in respect of the application.
b) The following aspects will be considered in the technical and functional assessment:
c) Acceptability of reports: Have the reports been compiled by suitably qualified persons (registered with the relevant professional bodies).
d) Condition and sensitivity of the watercourse (receiving environment): Was the Present Ecological Status (PES) and Ecological Importance and Sensitiviy (EIS) and Recommended Ecological Category (REC) post mitigation been determined for the relevant watercourse.
e) Reserve and Resource Quality Objectives (RQO's): Has the Environmental Flow requirements for the watercourse been determined and how the abstraction/diversion of flow for power generation will impact on the Reserve and RQO's (in the absence of a reserve and RQO's the REC be met).
f) Flow regime modification: how will the flow regime in the watercourse be modified through pumping and releases in systems where this is required and how will this impact on the PES, EIS and REC and potentially on downstream users.
g) Temperature of the waterbody during intake and during the return to the waterbody after power generation: To what extent will water temperature be affected and what will be the impact on the PES, EIS and REC.
h) Water Quality of the waterbody/dam before hydropower generation, during and after hydropower generation:
i) Hydropower generation infrastructure (weirs and dams including balancing dams): how will the infrastructure impact on the flow and ecological integrity of the watercourse (will it fragment the river continuum, will it require a fish ladder for migrating fish, will it fragment ecological corridors for game and other biota, how will this me mitigated).
j) Evaporative losses as a result of damming of water: how much water will be lost and what will be the impact of this loss on the PES, EIS and REC and on other downstream users.
k) Habitat losses/modification as a result of infrastructure: how much habitat will be lost or modified (flowing system to pooling system) and what will be the impact on the PES, EIS and REC.
l) Buffers or no-go areas: have buffers been scientifically determined using the prescribed buffer tool and where these buffers implemented as this is an important mitigation measure.
m) Erosion and sediment management: was erosion and sediment management addressed for all the project phases.
n) Storm water management plan: was a storm water management plan developed.
o) Rehabilitation and plant species plan: was a rehabilitation plan been provided that address all the rehabilitation requiredinlcuding a plant species plan.
p) Maintenance and management plan: was a maintenance and management plan drafted to ensure maintenance can be done without a requirement for further authorisation.

q) Identification of impacts and mitigation measures: Are the potential impacts determined and mitigation measures proposed feasible.
r) Master layout plan: Did the applicant provide a comprehensive master layout plan showing all infrastructure in relation to the delineated watercourses on the site.
s) Civil design drawings and report: Do the designs drawings comply to the norms and standards for engineering design.
t) Monitoring plan: Is the plan for monitoring the potential impacts adeqaute or not.
u) Water Quality impacts caused by the related insfrastructure: During warm seasons dams become subject of thermal stratification, the upper layers are close to the free water surface, they have a higher level of Dissolved Oxygen (DO). On the opposite side, the lower layers have a low level of DO, mainly because of the organic sediments at the bottom of the dams. When DO level is low, the aquatic life is endangered and large quantities of fish can die if the DO remains low for a few hours. To what extent will water quality be affected by the DO level and what will be the impact on the PES, EIS and REC.
v) In addition to poor oxygen conditions, the taste, colour, and odour of water are all negatively impacted by the presence of algae, making the water unsuitable for human consumption. Furthermore, some types of algae are poisonous and can negatively impact human health if consumed. Increased algal concentrations can also cause premature clogging of filters/traps due to the increased organic content, decreased biodiversity resulting from lower dissolved oxygen levels, and an increase in the concentrations of hydrogen sulfide, iron, manganese, and ammonia resulting from anaerobic decomposition of algae.
w) Dewatering during construction and operation: Is there any dewatering of local groundwater as part of the construction of the power plant, how will seepage be managed during construction and operation of the plant.

6.2 Phase 2 evaluation: preferential considerations

A scoring system will be applied in assessing applications in the second phase. Table 1 presents the elements that will be considered on the scores.

Table 1: Preferential assessment creteria

Element	Level and score		
HDI ownership	25 to 49	50 to 99 %	100 %
Black Female	5	15	20
Black youth	2.5	5	10
Local ownership	1.5	2.5	5

In an event that there is more than one application on site and the relevant applications have proceeded to the second phase of evaluation, only the application with the highest preferential points will be approved.

7. Licence conditions and access to infrustructure

7.1 The DWS will ensure that the conditions and other specifications set in a licence will protect the water resources and the infrastructure in respect of which the power generation will be operated, as well as that it will enhance monitoring and control of all activities for the duration of a licence.
7.2 In addition to this when dealing with new or existing government infrastructure, the signing of an agreement between the DDG: Infrastructure Management (IM) and the license for the use of the infrastructure, containing the terms and conditions and technical requirements that the

licensee needs to comply with, before any activities may be started, will be a firm condition in the relevant licence.

7.3 Where the hydropower generation activity necessitates the utilization of government infrastructure, the relevant Regional Office should acquire confirmation for such use from the DDG: IM. This is to ensure that the technical feasibility and operational risks of the infrastructure to be used are adequately considered, and to inform the applicant(s) of the requirements that the DWS will implement through a contractual agreement with such applicant(s) and the water use charges that may be set, as well as conditions to be included in the water use licence in order to ensure the integrity of all technical and legal aspects.

7.4 With regard to the safe use of government waterworks infrastructure, a proper alignment between the water use license and the licensee for the use of the infrastructure will be undertaken to ensure that the licences issued to licensees by the CD: WULM or Regional Head should not be used to operate power generation plants outside the conditions set in agreements with the DDG: Infrastructure Management . Therefore, two separate processes would therefore be executed in such a way that it will satisfy the requirements of the NWA in terms of the roles and responsibilities of the relevant branches within the DWS, and also being practically feasible.

8. Next Steps and Timelines

8.1 The Department will have a briefing session (optional to those who deem it necessary to attend) with interested applicants on 11 April 2023. The briefing session will be held in cantact (venue to be announced) and using a virtual platform. Those interested to attend should send e-mails of confirming their interest to the officials and conatct details indicated in paragraph 9 of this RFA on or before 03 April 2023. Emails will be responded to giving the details of the location and time and link for the optional briefing session.

8.2 The approved applicants will be expected to enter into a contract (where the hydropower operations will be in DWS's property) with the Department within 30 days of approval of the licence.

8.3 Approved applicants will be expected to obtain other necessary permits and arrange for sale and distribution of electricity and obtain any permissions in this regard as required by law without the Department's involvement.

8.4 Approved applicants will be expected to start construction within two years of issuance of a water use licence.

9. Questions and Contat Details

Should you have any questions during the RFA process, please send all questions via e-mail to Adv S Skosana (Chief Director Water Use Licence Management) and Mr. Tsunduka Khosa (Director Water Use Licensing)**:** "mail to:" skosanam@dws.gov.za; khosat@dws.gov.za

All Applicants, whether successful or not, will be notified by e-mail. We wish you and your organisation the very best of luck and look forward to receiving your completed applications.

Dr. Sean Philips

Director General: Department of Water and Sanitation