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Classification:	Project related		

Development of two 9.9MW Internal Combustion Engines associated with the previously authorised Afrikaans and Sotho Photovoltaic (PV) Plant on the Remaining Extent of the Farm Bokpoort 390 near Groblershoop within the !Kheis Local Municipality in the Northern Cape Province.

In September 2020, the Department of Mineral Resources and Energy (DMRE) released a request for proposal as part of the Risk Mitigation Independent Power Producer Procurement Programme to reduce the current load shedding periods being experienced by the country. In responding to the request, ACWA Power Project DAO (RF) Pty Ltd (hereafter referred to as ACWA Power) submitted a bid for a 150MW (export capacity) PV plant that was bid as "Project DAO" and were successful. Project DAO later deemed a Strategic Integrated Project on the 01 April 2021 under Project Number: RM-TA-0025-001 in terms of Schedule 2 (Section 17(2) of the Infrastructure Development Act (Act No. 23 of 2014).

A condition in the RFP requires Bidders to not tap into the national grid for power and requires that a reliability test be undertaken at a specified generation rate and time. In meeting the RFP requirements, ACWA Power decided to supplement their already authorised project infrastructure by adding ICE infrastructure in the projects to be bid and were issued with Environmental Authorisations (EAs) in May 2021 for the following:

- Zulu ICE (Ref 14/12/16/3/3/1/2295);
- Venda ICE ((Ref 14/12/16/3/3/1/2296);
- Swati ICE ((Ref 14/12/16/3/3/1/2297);
- Sotho ICE (Ref 14/12/16/3/3/1/2298);
- Pedi ICE (Ref 14/12/16/3/3/1/2299);
- Ndebele ICE (Ref 14/12/16/3/3/1/2300); and
- Afrikaans ICE (Ref 14/12/16/3/3/1/2301).

The DMRE amended the reliability run requirements, and ACWA Power decided to lapse four (Zulu, Afrikaans, Sotho and Swati PV plant ICE) of the seven ICE EAs.

The DMRE has now confirmed that they are not amending the reliability run requirements, and as such, ACWA Power needs two additional ICE to meet these requirements. Individual applications for Environmental Authorisation will be lodged for the 9.9MW ICE within the Afrikaans and Sotho previously approved PV plants on the Bokpoort Farm. The proposed positions of the ICE were planned taking into account the layout of other approved infrastructure e.g. PV plants and access routes, which will have to undergo an amendment process. Each of the ICEs will be subject to its own application for Environmental Authorisation.

The revised specifications of the ICEs associated with the Afrikaans and Sotho PV Plants are provided below:

- Generating capacity: 9.9 MW
- Fuel Type: Diesel
- Stack height: 5.8 m
- Number of engines for the ICE:
 - Afrikaans: 11 engines
 - Sotho: 12 engines
- Fuel storage tanks: 2 x 71.6 m³ fuel tanks and 1 x 35.3 m³ fuel tank (Total storage 178.5m³)
- Water requirements: limited water for cooling
- Area size: 1.5 ha (cumulative extent of 1ha with a 0.5ha actual development footprint per ICE)

As the plant is primarily designed for renewable energy from the sun, ensuring a guaranteed 15-day window at 100% capacity of 150MW has a low probability. Hence the design incorporated the ICE component to primarily assist the reliability testing regime. The reliability run places reliance from an energy input from the ICE over a 24-hour period to compensate for low availability of sunlight during the testing regime. Depending on the specific period of the year (weather conditions of the day, seasonality of the year) of the reliability run, the ICE may run for a full 24-hour period, charging the batteries in those periods that are not dispatchable. The design has catered for certain quantity of diesel to be stored at site for the reliability run requirements with a logistic supply solution to meet additional diesel requirements, should it be required.

During the operational phase of the project, it is envisaged that the ICE plant will not be required to provide any energy output to the grid. However, from a prudent operating perspective and to ensure that the ICE plant is appropriately maintained, a start-and-stop regime is envisaged to sustain plant integrity. To meet these requirements, the ICE plant will be operated for 2 hours per week during the operational phase of the plant for 20 years. The plant will use diesel delivered to site by tanker truck for thermal generation of electricity in reciprocating engines. The diesel will be stored in containerised storage tanks on-site. The ICE plants will include reciprocating engines, diesel storage, and ancillary infrastructure. The three authorised ICE plants situated at the Venda, Pedi and Afrikaans PV plants as well as the two additional ICE at the Afrikaans and Sotho PV plants will allow for individual fuel uploading, fuel storage and regasification system. Each ICE plant will have their own safety mechanisms in place such as fire extinguishers and exhaust systems.

The draft consultation Basic Assessment Report (BAR) and Environmental Management Programme (EMPr) was made available for review and comment from 14 December – 04 February 2021 (excluding 15 December 2021-05 January 2022). Due to changes in the optimisation of the plant and changes in the preferred fuel source i.e diesel, all Interested and Affected Parties (I&APs) are requested to review and comment on the revised consultation BAR. The revised consultation BAR and EMPr are now available for review from the 03 May 2022 – 01 June 2022. Please can we have comments on/or before 01 June 2022.

The report is available electronically on the following link:

<https://global.royalhaskoningdhv.com/countries/southern-africa/environmental-reports>

Hard copies of the Report are also available:

97 Oranje Street, Groblershoop:

- !Kheis Local Municipality Municipal Offices
- !Kheis Public Library

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