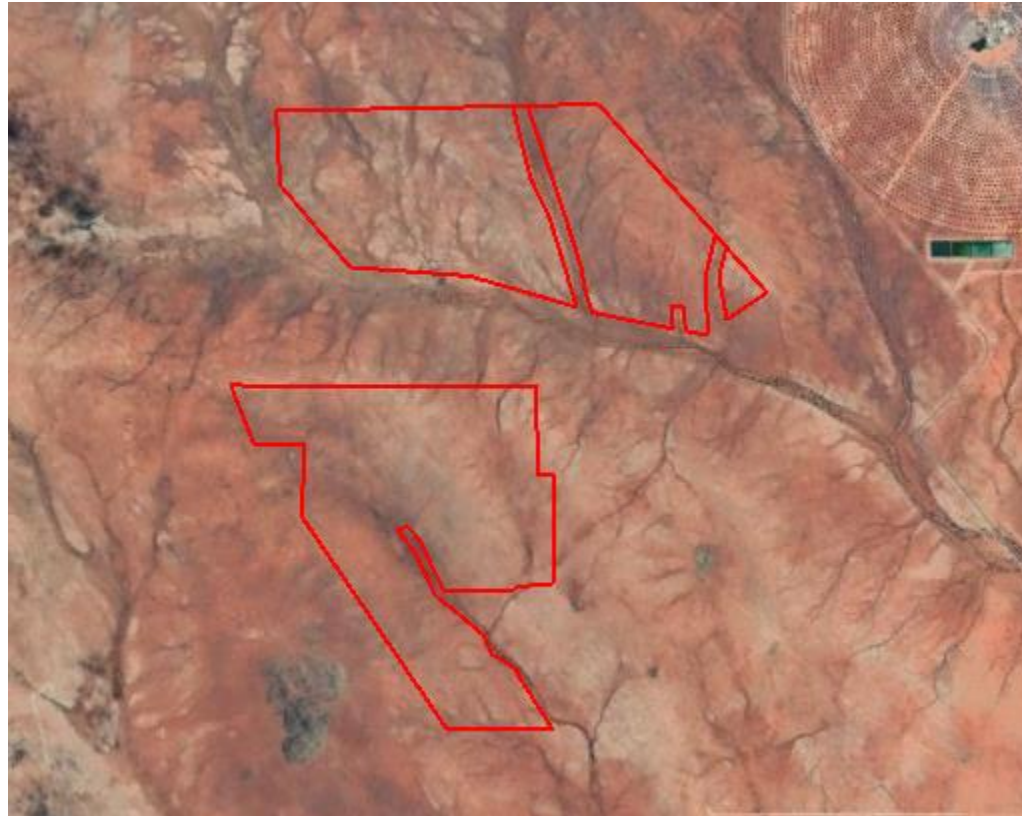


Application for Amendment – Battery Energy Storage System

RE Capital 3C & Dyasonsklip Solar Energy Facility 1



Cape EA/Prac

AGENDA

- Welcome and Introduction of attendees;
- Introduction to the Authorised Projects;
- Proposed amendments;
- Technology under consideration;
- Legislative process to be followed.



INTRODUCTION TO AUTHORISED PROJECTS.

- Both projects 100MW PV, and associated infrastructure.
- Both projects on RE Dyasons Klip 454 (google earth location).
- REC3C has grid connection authorised as part of project EA, DKSEF1 has grid connection authorised in separate EA.
- Project within REDZ (REDZ 7 – Upington)



PROPOSED AMENDMENTS.

- The applicant intends including a Battery Energy Storage System (BESS), as part of the associated infrastructure;
- Proposed capacity of BESS is 400 Megawatt Hours (MWh)
- Amendment will be related to the description of the proposed project as reflected in the EA;
- No change to geographic co-ordinates authorised;
- No changes to any other aspects of the EA (i.e. conditions, activities authorised etc);
- Does not reduce project need and desirability. (Both need and desirability of the authorised project improved with the addition of BESS)



TECHNOLOGY UNDER CONSIDERATION.

- The proposed BESS will be 400MWh (i.e. will be able to supply full generation capacity for 4 hours outside of sunlight hours, or more hours at reduced capacity – depending on demand)
- Lithium battery technologies are the preferred alternative.
- Most conservative footprint (based on a worst-case scenario of 12KWh/M²) for 400MWh would be 3.3 ha (this would include physical batteries, transformers, fencing and all other associated infrastructure)
- Authorised total project footprint for REC3C is 200ha and for DKSEF1, is 240ha. This will remain unchanged.
- Footprint to be accommodated within area authorised for hard surfaced structures such as Substation, auxiliary buildings, permanent laydown area (these components would be reconfigured to accommodate the BESS). Size of the PV array component as authorised will not change.
- Proposed battery technology would be a containerised solution.

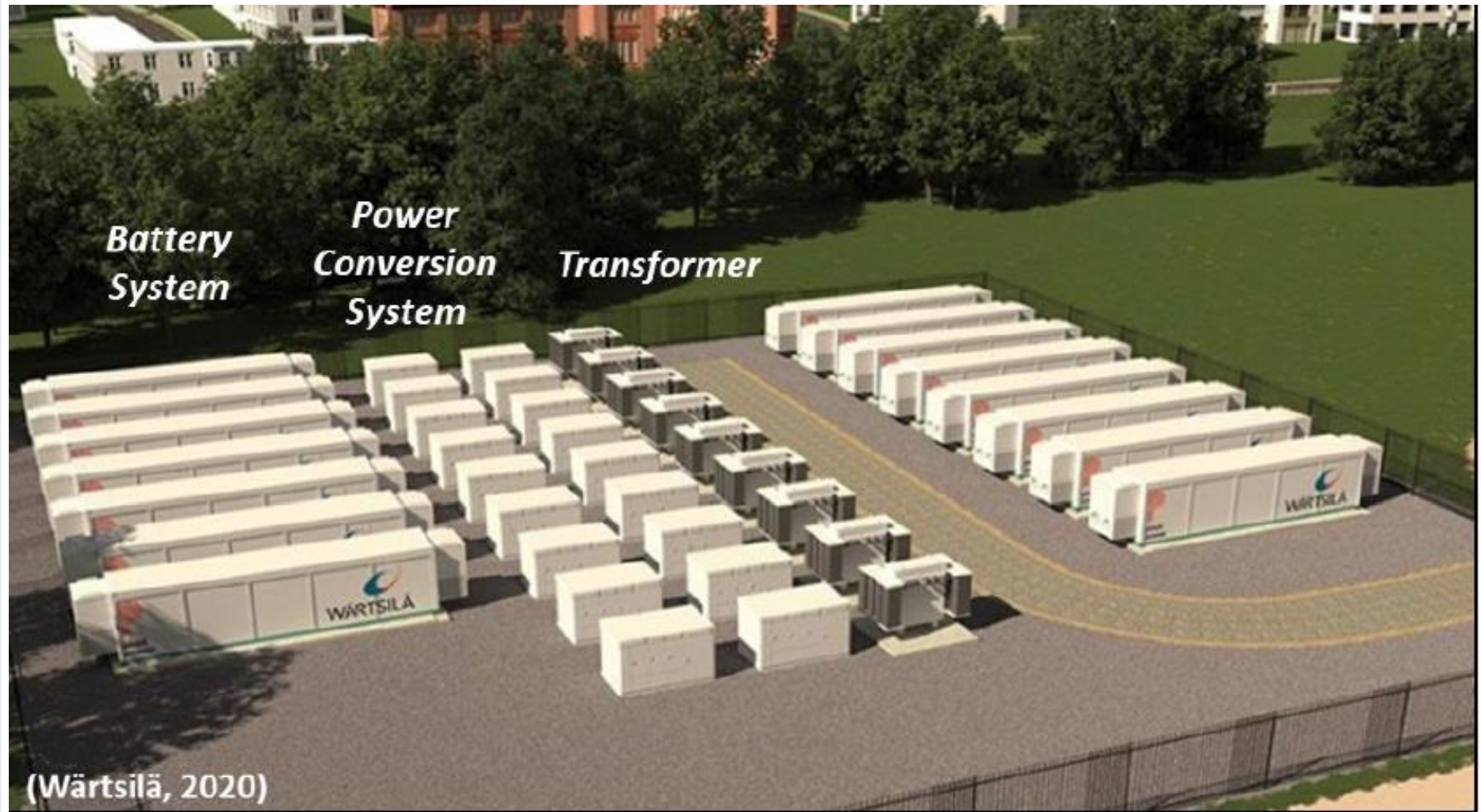


TECHNOLOGY UNDER CONSIDERATION.

- Battery units would arrive on site fully assembled (flow batteries not considered, no assembly of individual battery components will take place on site)
- Battery modules will not be stored on site for spares purposes.
- Main risks for BESS systems is overheating. Containers are artificially cooled.
- The risk of electrolyte leakage is low, as electrolytes are largely absorbed by the electrodes within the individual cells. Any leakage will be contained within banded battery container (EMPR to provide protocol in this regard).
- Battery systems include thermal management systems to mitigate potential risk of fire.
- Proposed technology does not contain heavy metals (Lead, Cadmium, Mercury)
- Almost all parts of battery units are recyclable. A formal battery recycling plan will have to be implemented for the lifespan of the project.



TECHNOLOGY UNDER CONSIDERATION.



TECHNOLOGY UNDER CONSIDERATION.



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LEGISLATIVE PROCESS TO FOLLOWED

- Proposed amendments do not trigger LN1 activity 14 (DEA clarification document).
- Clarification document did not detail scenarios for amendment of existing EA's.
- Not 100% certainty, on whether such amendments fall within the ambit of regulation 29 or regulation 31.
- IQ stated that each project needs so be considered separately based on specific merits.
- I would like to present our view in this regard before discussion.



LEGISLATIVE PROCESS TO FOLLOWED

Part 1 amendment, Regulation 29 of the NEMA EIA Regulations, 2014, as amended, states the following:

An environmental authorisation may be amended by following the process prescribed in this Part if the amendment—

(a) will not change the scope of a valid environmental authorisation, nor increase the level or nature of the impact, which impact was initially assessed and considered when application was made for an environmental authorisation; or

(b) relates to the change of ownership or transfer of rights and obligations

For sub-section (a) to be applicable – two criteria need to be applicable to the amendment:

- No change to the scope of the EA;
- No increase in the level or nature of the impact assessed.



LEGISLATIVE PROCESS TO FOLLOWED

Change in Scope of EA

Does the amendment change the scope of the EA?

Scope is not defined in NEMA nor the EIA regulations.

Dictionary definition of Scope

the extent of the area or subject matter that something deals with or to which it is relevant.

For the projects at hand:

1. No change in the extent of the area to which it is relevant (i.e. the authorised footprint remains unchanged)
2. Subject matter of the EA. The EA authorises a renewable energy facility including generation of electricity and distribution of that generated electricity into the national grid. The battery storage would form part of the energy chain from generation to distribution. Does this change the subject matter (i.e scope) of the EA?



LEGISLATIVE PROCESS TO FOLLOWED

Increase in the level or nature of the Impacts

Does the amendment change the level or the nature of impacts assessed?

- Battery energy storage system proposed to fall entirely within the assessed footprint.
- Furthermore, specifically within a spatial location of areas authorised for a high level of transformation (hard surfaced areas assessed for the auxiliary buildings, sub-station and permanent laydown area).
- Environmental Risks (i.e. fire, leakage etc) associated with energy storage system to be mitigated by the proposed technology type and managed via the EMPr.
- EMPr requires amendment in terms of condition 14 of both EA's. DEFF has this opportunity to make sure that the risks are adequately managed in the EMPr. Detailed risk assessments can therefore be incorporated into the EMPr via this process.
- In terms of condition 14, I&AP's will have further opportunity to comment on the management of risks of proposed BESS.
- In terms of condition 12 (approval of final site layout plan), competent authority will have further opportunity to consider possible impact of BESS.

