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Dear Caroline,

RE NEW POWER LINE ROUTES AT COLESKOP WIND ENERGY FACILITY – AVIFAUNAL

WildSkies Ecological Services conducted the pre-construction bird monitoring, scoping and EIA level avifaunal assessments for the Coleskop Wind Energy Facility and various amendments during 2013-2018. The most recent report was submitted to EOH-CES in 2018 entitled: "Coleskop Wind Energy facility – Avifaunal Impact Assessment Report" (Smallie, 2018). During March 2019 EDF Renewables (formerly InnoWind) added two new power line routes for assessment and WildSkies was asked to provide avifaunal input.

Our previous report made the following findings:

- » *Collision and electrocution of birds on overhead power lines on site is anticipated to be of HIGH significance. Both of these impacts can be mitigated successfully in our opinion to reduce the significance to LOW. In the case of bird collision, all power line linking turbines to the on-site switching substation must be buried underground. None of this power line may be above ground. The only permissible power line above ground is that shown in Figure 3 labeled 'internal overhead line' (approximately 1.5km long). To mitigate for collision of the relevant species with the 'internal overhead line', it is recommended that the earth wires on the spans identified as high risk be fitted with the best available (at the time of construction) Eskom approved anti bird collision line marking device. This should preferably be a dynamic device, i.e. one that moves as it is believed that these are more effective in reducing collisions, especially for bustards (see Shaw 2013), which are one of the key species (Ludwig's Bustard) in this area. It is recommended that a durable device be used as this area is clearly prone to a lot of strong wind and dynamic devices may be susceptible to mechanical failure. It will be either EDF or Eskom's responsibility to ensure that these line marking devices remain in working order for the full lifespan of the power line, as we cannot afford to have significant*

numbers of bird collisions on this new line. It is important that these devices are installed as soon as the conductors are strung, not only once the line is commissioned, as the conductors and earth wires pose a collision risk as soon as they are strung. The devices should be installed alternating a light and a dark colour to provide contrast against dark and light backgrounds respectively. This will make the overhead cables more visible to birds flying in the area. Eskom Distribution has a guideline for this work and this should be followed. Note that 100% of the length of each span needs to be marked (i.e. right up to each tower/pylon) and not the middle 60% as some guidelines recommend. This is based on a finding by Shaw (2013) that collisions still occur close to the towers or pylons. It is also recommended that the stay wires on the met masts on site be installed with these devices as soon as possible.

- » *In the case of bird electrocution, all power line linking turbines to the on-site substation must be buried underground. The 'internal overhead line' must be built on an Eskom approved bird-friendly pole structure which provides ample clearance between phases and phase-earth to allow large birds to perch on them in safety. Note that if on site power cannot be buried for any reason, this would represent a significant change to the risk posed by this facility, and the specialist will need an opportunity to revise these findings.*
- » *The preferred option for the 132kv power line to the MTS Substation is Option 2 as it does not pass through the no-go area around the Verreaux's Eagle nests.*
- » *A final avifaunal walk through should be conducted prior to construction to ensure that all the avifaunal aspects have been adequately managed and to ground truth the final layout of all infrastructure. This will most likely be done as part of the site specific Environmental Management Plan. This will also allow the development of specific management actions for the Environmental Control Officer during construction and training for relevant on site personnel if necessary.*

Figure 1 (originally Figure 16 in the previous report) shows the layout of these components relative to our avifaunal sensitivity map.

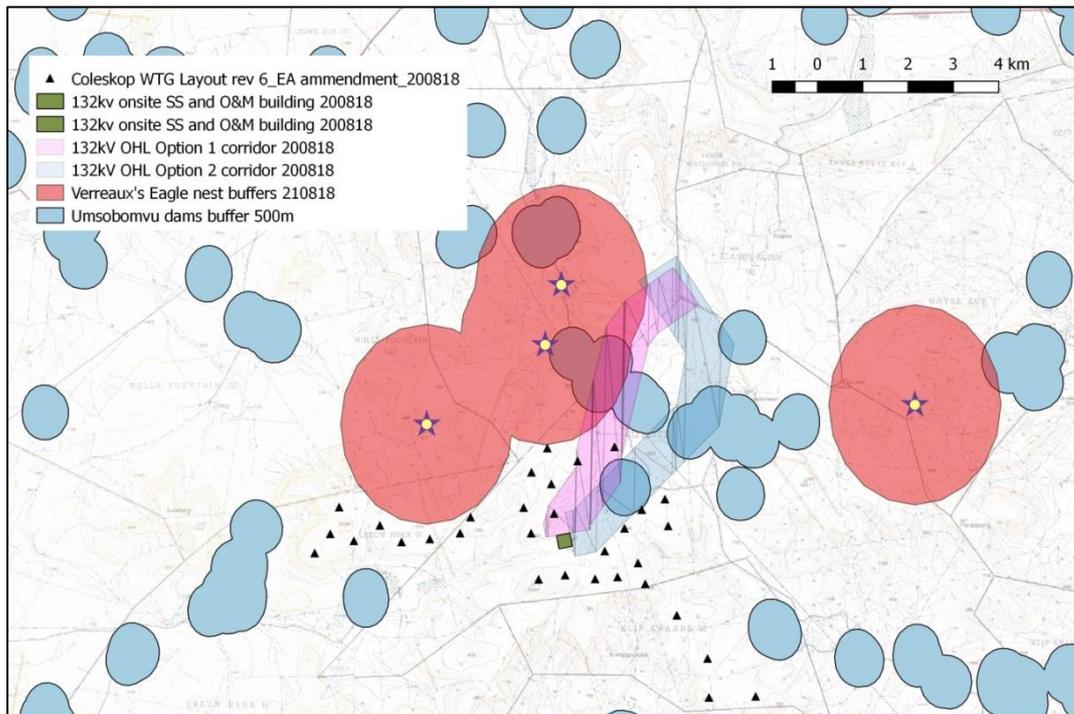


Figure 1. Original sensitivity mapping relative to the two new power line routes.

Our findings above remain unchanged by the two new power line routes and can be used for the Basic Assessment.

Please feel free to contact us if any further clarity is required.

Kind Regards



Jon Smallie