



SPR EA1N and EA2 PROJECTS

DEADLINE 10 - ADDENDUM TO SASES

DEADLINE 9 SUBMISSION ON SUBSTATION DESIGN PRINCIPLES STATEMENT

Interested Party: SASES PINS Refs: 20024106 & 20024110

Date: 6 May 2021 Issue: 3

1. Introduction

This information is an addition to Paragraph 3.2 of SASES Deadline 9 submission “Substations Design Principles Statement” [\[REP9-078\]](#).

2. Additional Information

Paragraph 3.2 of [\[REP9-078\]](#) addresses the issue of the unacceptable height of the capacitor banks associated with the Harmonic Filters for the proposed Applicant’s substations.

Following enquiries of well-established suppliers of such equipment, asking whether it would be possible for the proposed 14m high 275kV capacitor banks to be split into pairs of lower height, the following response has been received from a major supplier:

“There is no problem to build the capacitor bank with more than one stack per phase. The enclosed picture is a 300 MVAR MSCDN 380 kV 50 Hz with 2 stacks per phase.”



Figure 1 Capacitor banks split into two to reduce height

On careful examination six capacitor banks can be seen, with the bottom of one capacitor bank connected to the top of the immediately adjacent bank, thereby creating the equivalent of three double height banks, but with a much lower visual profile. The Rampion wind farm substation has achieved an 8m overall profile by a similar technique.

Based on this information SASES reaffirms its belief that the current substation design proposal does not meet “Good Design” criteria and that the Applicant should offer a much improved design with a smaller footprint and overall lower height, with a proposed target of 10m height for all buildings and equipment.

For comparison Figure 2 below (taken from [[REP9-078](#)]) shows capacitor banks which have not been split, and which in any case are of lower height than those proposed for the Applicant projects, with fewer ‘layers’ of capacitors).



Figure 2 Capacitor banks without split