

CA-IR-17

Ref: T-4 Pages 72 to 74.

Regarding line re-conductoring, did HECO consider the use of HTLS conductor types that are not experimental and widely accepted, such as ACSS, which has similar cost to ACSR but allows higher operating temperatures (and ampacity)? Explain.

HECO Response:

In Mid-2002, Hawaiian Electric Company installed two spans of ACSS/AW/TW (the trapezoidal ACSS conductor supported by an Alumoweld covered steel core) on our 46kV sub-transmission system as a trial installation. This type of conductor is available and has been installed by other utilities on the Mainland. However, the majority of the Mainland installations have installed the ACSS conductor with a galvanized covered steel core. The galvanized covering may not be sufficient to prevent corrosion of the conductor in Hawaii's environment. The Alumoweld covering, which should be a better corrosion resistant coating, must be evaluated to ensure that it will perform adequately in Hawaii's coastal environment. The cost for this conductor is approximately 40% higher than our standard 556.5 AAC conductor. The ceramic core conductor developed by 3M does not have the same corrosion issues since the core is ceramic and not steel, however, the cost for this conductor is much greater and still under evaluation as well. The installation of the two spans of ACSS/AW/TW will provide HECO with a field evaluation of this HTLS conductor. The study of this conductor is still on-going and, therefore, is not an alternative solution for this project. In any case, the re-conductoring alternative will only address the line overload problem, but will not increase the reliability of the Pukele Substation.