

1 Q. Please confirm that in the contract for the converter station equipment that the
2 guaranteed forced outage rate of the converter station poles are 4 outages per pole
3 per year and that this guarantee is for the scheme and not per end, i.e. that there
4 can be up to 8 permanent pole failures in a year without penalty being payable;
5 that the number of pole outages does not include outages caused by the HVdc
6 overhead line, electrode line or HVdc cables, nor outages caused by operator error;
7 that the number of outages is measured and averaged over 3 years; and in the
8 event of a failure to meet the average of 4 outages per pole, or 8 outages for the 2
9 poles, the converter manufacturer is allowed to extend the monitoring period for
10 another 12 months, and to then choose the best 3 years as the measurement of
11 performance before penalties are applied.

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14 A. A pole outage is defined as an outage that causes a reduction in the bipole dc
15 power system transfer capacity equal to or less than the power rating of one pole.
16 The guaranteed pole forced outage rate is five or less outages per pole per year.
17 The forced outage must be attributable to events within Contractor's control so it
18 does not include outages caused by the HVdc overhead line, electrode line or HVdc
19 cables, or outages caused by operator error.

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21 There can be up to ten pole outages total per year so long that there are no more
22 than five outages on each individual pole.

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24 When calculating if the reliability requirements have been met, the number of pole
25 outages is averaged over the first three years. If the average number of occurrences
26 per year (calculated on an individual pole basis) does not meet requirements, the
27 Performance Guarantee Assessment Period is extended for an additional 12

Island Interconnected System Supply Issues and Power Outages

1 months. After this additional 12-month extension, the 12 worst consecutive months
2 are then omitted from the calculation and the average is recalculated. If the
3 average number of occurrences still does not meet the guarantee, Contractor must
4 correct deficiencies and defects at no cost to Company. Once corrected, there is a
5 further two year evaluation period (which excludes results of the previous four year
6 period and the period for correcting such deficiencies) to verify if guaranteed
7 reliability is met. If not, penalties are applied.