ESU Quotation

a demo version

Feng Hao

ESU Quotation: a demo version

by Feng Hao

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| **Label** | **Variable** |
| Quotation no. | 9001 |
| Revision | 1 |
| Date | 24/04/2016 |
| Author | Feng Hao |
| Application Type | High energy batteries |
| Customer | Gary |
| Customer project | 1.1 |
| Shipyard | Singapore |
| Yard No. | 65 |
| Class | CCS |
| Total Price of ESU | 78000 |
| Total Price Commissioning | 5010900 |
| Total Price Including Commissioning | 5088900 |
| No. of ESU | 4 |
| ESU Application Type | High energy batteries |
| Total no. of battery strings for each ESU unit | 2.8923e+05 |
| Maximum voltage | 1000 |
| Minimum voltage (1C discharge at 20% SOC) | 830 |
| Maximum charge current (1C) | 2.3139e+07 |
| Maximum charge kW (1C) | 1.9205e+07 |
| Maximum discharge current (2C) | 4.6277e+07 |
| Maximum discharge kW (2C) | 3.8410e+07 |
| Continuous (rms) charge/discharge current ΔT 25°C | 1.1569e+07 |
| Continuous (rms) charge/discharge kW ΔT 25°C | 1.1569e+04 |
| Total installed start of life energy | 1.4219e+07 |
| Total usable energy at end of life (100 - 20%) | 11375000 |
| Total usable energy end of life (20% reduction) | 9100000 |
| Weight approx. | 2.8923e+08 |
| Dimensions (H\*W\*D) | 2040\*260309820.0976\*800 |
| Switchboard AC voltage (V) | 400 |
| Required power (kW) | 45 |
| Required capacity (kWh) | 300 |
| ESU DC link voltage (V) | 750 |
| Number of ESU | 4 |
| Switchboard AC frequency (Hz) | 55 |
| Converter control method | Virtual Generator |
| Number of shore connections | 2 |
| Energy storage converter rating (kVA) | 10000 |
| Energy storage converter cost (NOK) | 100000 |
| Energy storage transformer rating (kVA) | 10000 |
| Energy storage transformer cost (NOK) | 100000 |
| Shore connection 1 transformer rating (kVA) | 300 |
| Shore connection 1 transformer cost (NOK) | 60000 |
| Shore connection 2 transformer rating (kVA) | 450 |
| Shore connection 2 transformer cost (NOK) | 90000 |
| Shore connection 1 converter rating (kVA) | 300 |
| Shore connection 1 converter cost (NOK) | 60000 |
| Shore connection 2 converter rating (kVA) | 450 |
| Shore connection 2 converter cost (NOK) | 90000 |