**Budgetary consideration for Restoration and Expansion of SCADA: justification of $34M**

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| **Description** | **Remarks** | **Budgetary Proposal** |
| Installation of a new RCC in Alaoji or Ikot Ekpene,  and a new near Abuja Region  SINAUT Spectrum 4.7 | Gathering all stations and NIPP’s in Delta region since RCC Benin is not suitable to control because of distance and regional assignment,  SinautSpectrum 4.7  Control Room design and Furniture are considered | ~ 22,610,000 USD |
| Upgrade RCC Benin, Ikeja-Wes & Shiroro from SINAUTSpectrum 4.4 to 4.7 | Software will be upgraded to better application functionality,  Appearance of user surface and database remains,  HW is open (Microsoft basis),  SINAUTSpectrum Software running on Unix,  Sinaut Spectrum 4.7  Control Room design and furniture are considered |
| New NCC including new BARCO Rear Projection | Software will be upgraded to better functionality, Sinaut Spectrum 4.7  HW is open (Microsoft basis),  SINAUTSpectrum Software running on Unix  New BARCO Rear Projection since existing one is EoL.  Existing BARCO shifting from Osogbo to Shiroro for Backup functionality incl. upgrade,  Control Room design and Furniture are considered |
| Market Operator  Implementations in NCC | Gathering all NIPP’s and Generation stations for billing purposes,  Gathering cross border import export to neighborhood countries |
| Load Shedding application | Function manually performed Load Shedding or disconnection of loads (or network parts) at certain disturbance and emergency conditions to maintain system stability. |
| Hopf material | Time synchronization and weather station |
| Exchange of RTU to SICAM 1703 (Master RTU only)  For 26 RTU for 330 kV Substations | Exchange of Master-RTU and adaptations to the existing cabling and process. | ~ 6,880,000 USD |
| Training for TCN Staff | Training onshore using CC Training facility. | ~ 960,000 USD |
| UPS System | UPS System for 6 Control Centers | ~ 2,340,000 USD |
| Mandatory Spare Parts | Spare Parts for CC System, RTU and BARCO | ~ 1,210,000 USD |
| **GRAND TOTAL** | | $34,000,000.00 USD |