

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

Description	Remarks	Budgetary Proposal
Installation of a new RCC in Alaoji or IkotEkpene, 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.	
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