TECHNICAL CHECKLIST FOR COAL BUNKER UNIT #1 - A,B,C JOB

PROJECT : Upgrade PIMS (Production Information Management System)
PROJECT No :

Rev : 0
Date: 18-11-2024

NO.	JOB DESCRIPTION	QTY	SUPPLIER	DSSP	Remarks
A	**Scope of Work :**				
1	Upgrade PIMS (Production Information Management System)	1 lot	√		
2	PIMS should be suitable with existing SUPCON ECS-700 Distributed Control System		√		
3	Supply Man Power and Tools for service the project as is the scope of work.		√		
B	**General requirement and Safety Concerns for work environment**	**1 lot**			
1	Job Scope basis is Lumpsump basis		√		
2	Accomodation, Meal & Mobilization manpower to Kendari Airport provided by supplier		√		
3	Supplier prepare mobile for pick up manpower from Airport to Site and vice versa.		√		
4	Contractor should be prepare daily mobile / car for transportation for others activity (e.i buy some consumables)		√		
5	All the risk of contractor 's employee, include labour supply of injury, sickness, die, etc. will be 100% on contractor's responsibility		√		
6	Contractor must follow HSE regulation at DSSP Kendari.		√		
7	All contractor worker or employee must be insurance according to DISNAKER (minimum BPJS ketenagakerjaan)		√		
8	Contractor cleans working area each day after work and after all work finished		√		
9	Contractor must complete the project as agreed time schedule, including arrange overtime without additional cost from DSSP		√		
C	**Time frame:**				
1	Complete installation in 2025				
2	Site Inspection & kick off meeting one week after PO		√		
3	Periodic work coordination		√	√	Until complete installation, commissioning, integration
4	In Force Major Condition, vendor cannot Complain / take Penalty to DSSP if the project should be discontinue and or hold by DSSP		√		
D	**Consumables supply & Spare parts**	**1 lot**			
	Supplier should provide all material, including sparepart & consumable for the project		√		
E	**Tools preparation**	**1 lot**	√		
	Supplier should provide & prepared tool (General Tools and Special Tools) for the project		√		
F	**Manpower**	**1 lot**			
1	Engineer/Supervisor		√		
2	Technician &/ Helper		√		
G	**Guarantees and responsible**	**1 lot**			
1	Contractor will guarantees the services will be performed by professionals and experienced supervisors		√		
2	DSSP will accept the project after unit work properly, which can satisfy normal and stable operation according scope of work		√		
3	Contractor must respone to DSSP in 24 hours if there have any abnormal ,		√		
4	Warranty for 2 (two) year		√		
5	On Call service onnline including sparepart in 2 years		√		
6	Certification after comissioning & end of warranty (second years)		√		
7	PIMS should be running normal with online configuration and should not interrupt running operation system		√		
H	**Technical Job Scope**				
1	**Preparation & Inspection**		√		
1.1	Site inspection for job preparation		√		
1.2	Define installation location, sampling point, etc any requirement as per standard		√		
2	Upgrade, installation and Commissioning PIMS		√		
2.1	Installation PIMS (include Computer for Server, Engineer Station (If necessary), CPU and Module if needed, network for cummunication, Human Monitoring Interface identical with existing DCS, Data Acquisition system, Software license or dongle etc)		√		
2.2	PIMS system must follow below requirement : Attached on other worksheet		√		
2.3	Contractor must be provide technical drawing & supporting document such as: #Technical Drawing : 1. System architecture 2. Equipments & System layout 3. Network diagram #Document support : 1. Brochures/Data sheets 2. Manuals for Operation & Maintenance 3. Quality Plan Document 4. QA & QC Assurance		√		
2.4	**Testing and Commissioning until its fully functioned as per standard**		**√**		
4	**Training & Presentation report**		√		
4.1	Training & presentation report		√		
I	**Inspection and Documentation**	**1 lot**	√		
	Final Inspection & Commisioning		√		
	Documentation		√		Soft & hard copy (3 set)

Prepare by,

Approved by,

Acknowledge by,

Div O&M Staff

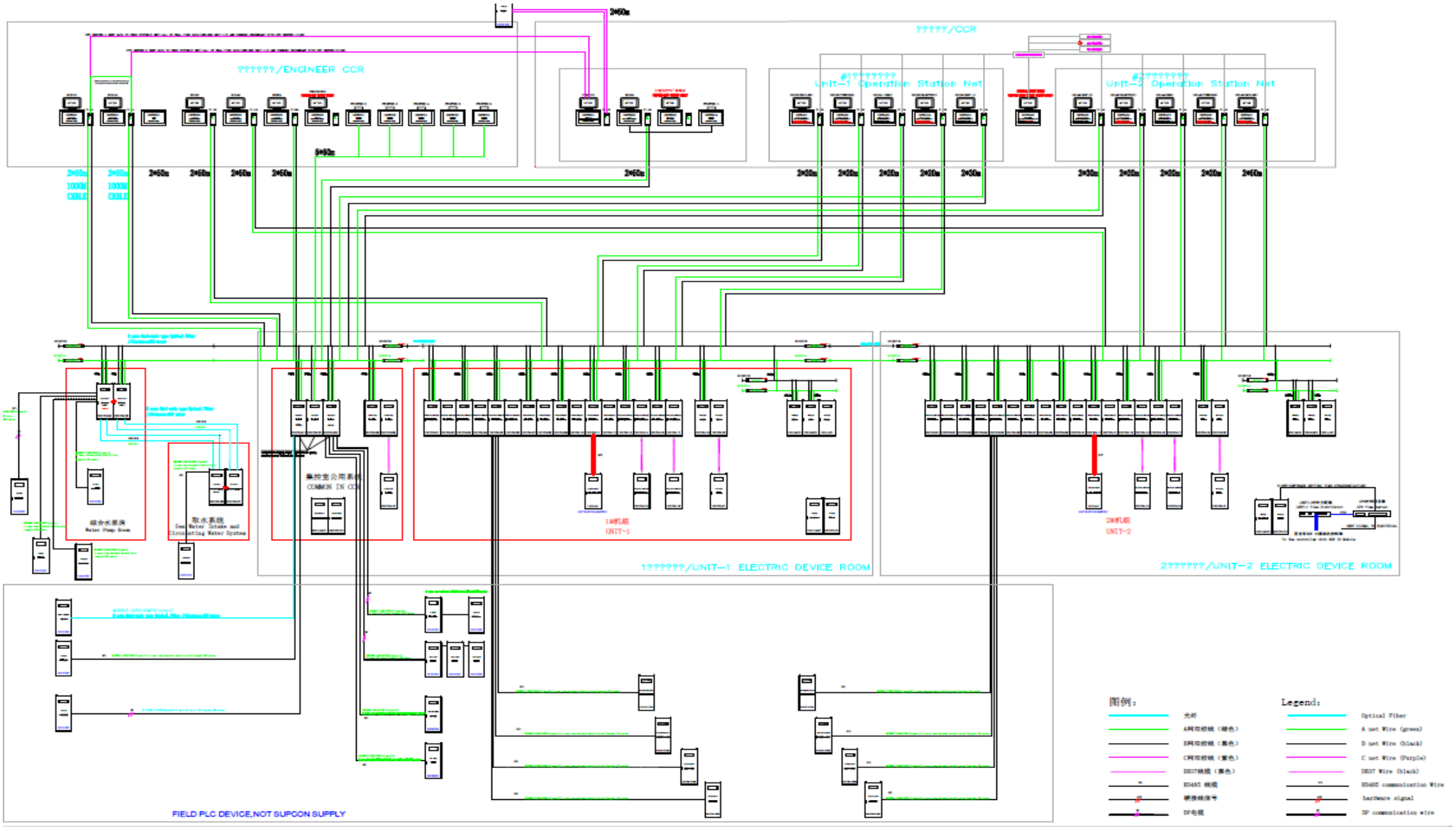
CEO Plant Head O&M Manager

Note: Revise (If Any)

Technical Specification

	Descirption - Technical Requirement	Quantity	Remark
A			
A.1	**PIMS Hardware Requirement**		
1.1	Industrial Grade Server including all accessories such as LCD Monitor, keyboard, mouse & Latest OS	1 Lot	
1.2	Redundant power supplies and network connections for high availability		
1.3	Compatibility with existing infrastructure (e.g., DCS and network systems)		
A.2	**PIMS Application Software Requirement**		
2.1	Scalable architecture for future expansion	1 lot	
2.2	Secure data transmission with encryption (e.g., SSL/TLS)		
2.3	Multi-user role-based access control		
A.3	**Functional System Requirement**		
3.1	**Data Acquisition and Big Data Integration**	1 lot	
3.1.1	Seamless integration with existing DCS and external data sources		
3.1.2	High-frequency data acquisition to support detailed analysis.		
3.1.3	Big data architecture for storing and processing large datasets minimun 5 years		
3,2	**Performance Monitoring and Optimization Requirements**		
3.2.1	**Real-Time Indicator Calculation and Visualization**		
	The system must support real-time computation and hierarchical display of key performance indicators (KPIs), such as coal consumption, heat consumption rate, furnace efficiency, and plant power consumption rate. These indicators shall be aligned with the three-level energy-saving indicator framework to enable systematic and intuitive monitoring across all factory levels.		
3.2.2	**Historical Statistics and Reporting**		
	The system shall provide statistical analysis and query capabilities for performance indicators on a minute, hourly, shift, daily, monthly, and yearly basis. It should generate comprehensive reports at various intervals and support data export and printing functionalities to facilitate performance comparisons and trend analysis.		
3.2.3	**Energy Loss Analysis**		
	Real-time energy loss analysis must be conducted by comparing actual operating parameters with optimal values derived under current load and environmental conditions. The system shall identify deviations, quantify their impact, and provide actionable insights for operational adjustments.		
3.2.4	**Online Thermal Performance Testing**		
	The system must support online thermal performance testing for major equipment, including boilers, turbines, condensers, Heaters (HP & LP) and air preheaters. It should automatically generate test reports accessible by operators and managers.		
3.2.5	**Index Monitoring and Real-Time Evaluation**		
	Based on plant index management standards, the system should monitor performance indicator quality in real-time, provide adjustment suggestions to operators, and assign real-time scores based on adjustment effectiveness.		
3.2.6	**Performance Scoring and Application**		
	The system shall generate summary reports on a per-shift and per-employee basis, detailing indicator adjustments, work completion status, and evaluation scores. These reports will serve as the basis for performance-based incentives and bonuses.		
3.2.7	**Operational Mode Optimization**		
	The system should include modules for optimizing equipment operation modes, such as circulating water pumps and sliding pressure control curves, to enhance overall efficiency.		
3,3	**Machine Learning (ML) Integration (Optional)**		
3.3.1	***Predictive Maintenance:***		
	Use historical data to predict equipment failures and recommend maintenance schedules.		
	Models to identify abnormal patterns and trends using algorithms		
3.3.2	***Performance Optimization:***		
	ML models to analyze efficiency trends and optimize boiler and turbine operations.		
	Adaptive algorithms to recommend real-time adjustments for fuel and air supply to improve combustion efficiency such as:		
	- Plant Load Factor (PLF), heat rate, boiler efficiency, turbine efficiency.		
	- Emissions monitoring (SOx, NOx, CO2, Dust)		
	- Auxiliary power consumption trends		
3.3.3	***Anomaly Detection:***		
	Real-time anomaly detection in critical parameters (e.g., temperature, pressure).		
	Notifications for potential faults before they escalate.		
	Provide guidance to the user on appropriate actions to be taken in the event of abnormal parameter readings.		
3.4	**Advanced Reporting and User-Friendly Dashboards**		
3.4.1	**Interactive Dashboards**:		
	Custom web-based dashboards for real-time and historical data visualization and can accesed by many type of browsers		
	Drill-down capabilities for deep analysis of specific equipment or time periods.		
	Parameters tracking with intuitive graphical elements (gauges, heatmaps, trend lines).		
3.4.2	**Customizable Reports**:		
	Automated generation of reports costumized for operations, management, and maintenance team		
	Predefined templates for daily, weekly, and monthly performance analysis.		
	Support for exporting to PDF, Excel, and interactive web formats.		
3.4.3	**User Experience (UX)**:		
	Mobile-friendly and cross-platform design.		
	Role-based access control for personalized dashboards.		
	Intuitive navigation with minimal training required for operators and engineers.		
3,5	**Maintenance and Monitoring**		
	Periodic model retraining with updated data to ensure accuracy.		
	Regular updates for dashboards and analytical tools based on user feedback.		
	Upgradable, Centralized, scalable data storage with high availability and redundancy		
B.2	Service		
1	**Preparation service & Engineering**	1 lot	
2	**Installation Job**	1 lot	
2.1	Installation System Hardware & software		
2.2	Networking Configuration		
2.3	Testing & Commissioing		
3	**Training**	1 lot	
3.1	Class room training ; min 3 working day		
3.2	Training site ; min 5 working days		
4	**Documentation**	1 lot	
4.1	Engineering, drawings & documents as permanufacturer's standard		
4.2	Manual book, Commisioning documentation		
5	**Warranty 2 Year**	1 lot	
5.1	Periodic maintenance engineer, every 3 months in 2 year warranty		
5.2	Repair & Trouble shooting		

Note : Each vendor for this SOW should be submit two quotation, Include and Exclude **Machine learning Integration**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??????/CCR
#1???????
Unit-1 Operation Station Net
#2???????
Unit-2 Operation Station Net
2*60m
1000M
CABLE
单控室公用系统
COMMON IN CCR
1#机组
UNIT-1
2#机组
UNIT-2
1???????/UNIT-1 ELECTRIC DEVICE ROOM
2???????/UNIT-2 ELECTRIC DEVICE ROOM
FIELD PLC DEVICE,NOT SUPCON SUPPLY
图例：
Legend:
Optical Fiber
A net Wire (green)
B net Wire (black)
C net Wire (Purple)
DEST Wire (black)
RS485 communication Wire
hardware signal
IP communication wire