皮带秤校验（碳排放检验）项目技术规范书

Technical Specification for Belt Scale Calibration (Carbon Emission Verification) Project

1. 总则 General Requirements

1.1 适用范围 Scope of application

本技术规范书适用于巴厘通用能源公司皮带秤校验（碳排放检验）外委项目，明确承包方在技术、质量、进度、责任及义务等方面的要求，以确保项目高质量完成。

This technical specification is applicable to PT.General Energy BALI's Belt Scale Calibration project (Carbon emissions inspection project) outsourcing project, and clarifies the contractor's requirements in terms of technology, quality, safety, environmental protection, progress, responsibilities and obligations to ensure high-quality completion of the project.

1.2 编制依据 Preparation basis

1.2.1 相关法律法规

Relevant laws and regulations

《印度尼西亚国家计量法》

《Indonesian National Metrology Law》

《中华人民共和国计量法》

《People's Republic of China Metrology Law》

1.2.2 相关行业标准

Related industry standards

《连续累计自动衡器（皮带秤）检定规程》JJG195-2002

《Verification procedures for continuous cumulative automatic weighing instruments (belt scales)》JJG195-2002

《连续累计自动衡器（皮带秤）》GBT7721-2019

《Continuous cumulative automatic weighing instrument (belt scale)》GBT7721-2019

《砝码检定规程》JJG99-2022

《Weight Verification Procedure》JJG99-2022

《液位计检定规程》JJG971-2002

《Level Gauge Verification Procedure》JJG971-2002

1.2.3 企业标准及管理要求

Enterprise management requirements

《给煤机检定规程》

《Coal feeder verification regulations》

《给煤机检修作业指导书》

《Coal feeder maintenance operation instructions》

《输煤皮带秤检定规程》

《Verification regulations for coal conveyor belt scales》

《输煤皮带秤检修作业指导书》
《Coal conveyor belt scale maintenance operation instructions》
《液位计检修作业指导书》
《Liquid Level Gauge Maintenance Operation Instructions》

1.2.4 设计文件、设备技术资料
Design documents, equipment information
给煤机说明书及操作手册
Coal feeder instruction manual and operation manual
输煤皮带秤说明书及操作手册
Coal conveyor belt scale instruction manual and operation manual
液位计说明书及操作手册
Liquid level gauge instruction manual and operation manual

1.2.5 承包方资质要求：
满足印尼政府碳排放关于计量设备校验要求的资质。
The qualification to meet the Indonesian government's requirements for the verification of carbon emission measurement equipment

1.3 技术规范的解释权 Right of interpretation

本技术规范书由巴厘通用能源公司生产技术部编制并解释，未尽事宜由双方协商确定。

This technical specification is prepared and interpreted by the Production Technology Department of Bali General Energy Company. Any matters not covered shall be determined by negotiation between the two parties.

2. 工作范围 Working scope

2.1 项目概述 Project Overview

2.1.1 项目名称
Project Name
皮带秤校验（碳排放检验）
Belt Scale Calibration project (Carbon emissions inspection project)

2.1.2 项目地点
Project Location
华电科工集团印尼巴厘岛电站，巴厘岛电站位于印尼巴厘岛 Gerokgak 区，Celukan Bawang 村，属滨海电厂
Huadian KeGong Group's Bali Power Plant in Indonesia is located in Celukan Bawang Village, Gerokgak District, Bali, Indonesia. It is a coastal power plant.

2.1.3 项目背景及目的
Project Background and Purpose
根据印尼国家碳排放的要求，定期对火电厂进行碳排放综合数据的检查检验。为准确测算火力发电厂的碳排放指标，对给煤机皮带秤及输煤皮带秤进行检验校对工作。
In accordance with Indonesia's national carbon emission requirements, we regularly inspect and test comprehensive carbon emission data for thermal power plants. To accurately measure carbon emission indicators for thermal power plants, we also inspect and calibrate the coal feeder and conveyor belt scales.

2.1.4 工程范围

Project scope

检验校对给煤机皮带秤	12 台
Inspected and calibrated coal feeder belt scales	12 set
检验校对输煤皮带秤	4 台
Inspected and calibrated coal conveyor belt scales	4 set
检验校对燃油罐液位计	3 台
Inspect and calibrate fuel tank level gauges	3set

2.2 外委工作内容 Outsourcing work content

2.2.1 检验校对设备

Inspection and proofreading equipment

给煤机皮带秤	12 台
Coal feeder belt scale	12 set
输煤皮带秤	4 台
Coal conveyor belt scale	4 set
燃油罐液位计	3 台
Fuel tank level gauge	3set

2.2.2 检验项目维护与技术服务

Belt scale system maintenance and technical services

称重传感器的性能检查

Performance check of weighing sensor

皮带秤控制器的设置检查

Belt scale controller setting check

校验方式的确认

Confirmation of calibration method

燃油罐液位计的校验及设置检查

Fuel tank level gauge calibration and setting check

2.2.3 检验校对操作、验收及培训

Inspection and proofreading operations, acceptance and training

承包方的检验校对操作与发包方热控人员一同进行，发包方开具现场工作的工作票及布置安全措施。

The contractor's inspection and proofreading operations are carried out together with the contractor's thermal control personnel. The contractor issues a work permit for on-site work and arranges safety measures.

承包方做好检验校对数据的记录，完成检验校对报告

The contractor shall keep records of inspection and proofreading data and complete the inspection and proofreading report.

承包方对发包方热控人员进行现场培训

The contractor provides on-site training for the contractor's thermal control personnel

2.2.4 资质要求 Qualification Requirements

承包方须为印尼境内 PT 有限责任公司，持有有效 NIB、NPWP、SIUP；用于煤炭贸易结算皮带秤须持有印尼贸易部计量局颁发的电子皮带秤法定复检 Izin Tera Ulang 资质；仅内部校准须持有 KAN LK（SNI

ISO/IEC17025:2017）认可，附表包含电子皮带秤；项目负责人具备衡器法定计量能力证书，现场人员持有 K3 安全证书；近 3 年至少 2 项印尼境内火电厂 / 煤矿皮带秤检定 / 校准业绩；不在供应商黑名单、无欠税；未经甲方书面同意不得转包分包；本项目不接受联合体。

Bidders must be a *Perseroan Terbatas* (PT) company incorporated in Indonesia, holding a valid NIB (Business Identification Number), NPWP (Taxpayer Identification Number), and SIUP (Business Trading License). For belt scales used in coal trade settlement, the bidder must possess a valid *Izin Tera Ulang* (legal re-verification permit) for electronic belt scales, issued by the Directorate of Metrology under the Indonesian Ministry of Trade. For internal calibration services, the bidder must hold KAN LK accreditation (in accordance with SNI ISO/IEC 17025:2017), with the scope of accreditation covering electronic belt scales. The project manager must possess a certificate of competency in legal metrology for weighing instruments, and on-site personnel must hold valid K3 (Occupational Health and Safety) certificates. Bidders must demonstrate at least two projects involving the verification or calibration of belt scales at thermal power plants or coal mines in Indonesia within the last three years. Bidders must not be on any supplier blacklist and must have no outstanding tax liabilities. Subcontracting is prohibited without the prior written consent of the client. Joint ventures (consortia) are not permitted for this project.

3. 技术要求 Technical requirements

3.1 主要技术指标 Main technical indicators

3.1.1 给煤机主要技术参数

Main technical parameters of coal feeder

物料	原煤
Material	Coal
堆积密度	～0.85t/m^3
Bulk density	～0.85t/m^3
运输皮带	环形裙边胶带
Belt	loop type belt with skirt webbing
皮带宽度	650mm
Belt width	650mm
皮带速度	0.381m/s
Belt speed	0.381m/s
流量	0～40t/h
Flow rate	0～40t/h
给料中心距	2135mm
Central line of feeding	2135mm
皮带秤形式	PLR-F1
Belt scale	PLR-F1
计量精度	≤±0.5%
Accuracy	≤±0.5%
称重传感器	PLR9363-LS-100Kg

Load cell	PLR9363-LS-100Kg

3.1.2 输煤皮带秤主要技术参数

Main technical parameters of coal conveyor belt scale

皮带秤型号	PLR-4-800
Belt scale model	PLR-4-800
称重范围	0～350t/h
Weighing range	0～350t/h
称重精度	≤±0.5%
Weighing accuracy	≤±0.5%
皮带宽度	800mm
Belt width	800mm
皮带速度	2.0m/s
Belt speed	2.0m/s
循环链码型号	PLJX130
Circular chain code model	PLJX130
适应带速	V=2.0
Adapt belt speed	V=2.0
传感器型号	N12C
Sensor model	N12C

3.1.3 燃油液位计主要技术参数

Main technical parameters of fuel level gauge

测量原理	超声波时差法
Measurement principle	Ultrasonic transit time method
量程范围	0.3-5m
Measuring range	0.3-5m
输出信号	4-20mA/HART
Output signal	4-20mA/HART
防护等级	IP67 防爆认证
Protection level	IP67 Explosion-proof certification
供电电压	24VDC
Supply voltage	24VDC
介质温度	-40℃～80℃
Medium temperature	-40℃～80℃

3.2 质量要求 Quality requirements

3.2.1 检验项目的质量标准

Quality standards for inspection items

确保给煤机皮带秤计量误差≤±0.5%

Ensure the measurement error of coal feeder belt scale≤±0.5%

确保输煤皮带秤计量误差≤±0.5%

Ensure the measurement error of coal conveyor belt scale≤±0.5%

确保燃油液位计计量误差≤±0.5%

Ensure the measurement error of fuel level gauge ≤±0.5%

3.2.2 质量验收标准及方法

Quality acceptance standards and methods

质量验收标准
Quality acceptance standards
《连续累计自动衡器（皮带秤）检定规程》JJG195-2002
《Verification procedures for continuous cumulative automatic weighing instruments (belt scales)》JJG195-2002
《砝码检定规程》JJG99-2022
《Weight Verification Procedure》JJG99-2022
以挂码和链码的方式进行检验校对
Inspection and proofreading in the form of hanging code and chain code
《液位计检定规程》JJG971-2002
《Level Gauge Verification Procedure》JJG971-2002

3.2.3 质保期限及售后服务
Warranty period and after-sales service
质保期限及售后服务自检验校对工作结束日开始为期 1 年
The warranty period and after-sales service are 1 year from the completion date of inspection and proofreading work

3.3 检验校对工作要求 Inspection and proofreading work requirements

3.3.1 检验校对工艺及技术要求
Inspection and proofreading process and technical requirements
按照《连续累计自动衡器（皮带秤）检定规程》JJG195-2002、液位计检定规程》JJG971-2002 规程严格执行
Strictly follow the 《Verification Regulations for Continuous Accumulation Automatic Weighing Instruments (Belt Scales)》 JJG 195-2002，《Verification Regulations for Liquid Level Meters》 JJG971-2002..
按照《给煤机检修作业指导书》、《输煤皮带秤检修作业指导书》、《给煤机说明书》、《输煤皮带秤说明书》、《液位计检修作业指导书》中的要求进行现场操作
Carry out on-site operations in accordance with the requirements of the《Coal Feeder Maintenance Operation Instructions》,《Coal Conveyor Belt Scale Maintenance Operation Instructions》,《Coal Feeder Manual", and "Coal Conveyor Belt Scale Manual》，《Liquid Level Gauge Maintenance Operation Instructions》

3.3.2 检验校对过程中设备和材料的管理
Management of equipment and materials during inspection and proofreading
检验校对除了砝码其他设备由承包方自行解决
The contractor shall be responsible for the inspection and calibration of all equipment except weights.

3.4 检验校对工作验收 Inspection and proofreading work acceptance

3.4.1 验收方法及合格标准
Acceptance methods and qualification standards
皮带秤检验校对工作完成后，用砝码进行测量复检并计算误差
After the belt scale inspection and calibration work is completed, use weights to re-check and calculate the error
燃油液位计检验完成后与就地磁翻板液位计进行对比计算误差

After the fuel level gauge is inspected, compare it with the on-site magnetic flap level gauge to calculate the error

以《连续累计自动衡器（皮带秤）检定规程》JJG195-2002、《液位计检定规程》JJG971-2002 的要求参数为标准，检验是否为合格

The test is carried out according to the parameters of the 《Verification Regulations for Continuous Accumulation Automatic Weighing Instruments (Belt Scales)》 JJG 195-2002 and the 《Verification Regulations for Liquid Level Meters》 JJG971-2002..

3.4.2 验收报告要求

Acceptance report requirements

以《连续累计自动衡器（皮带秤）检定规程》JJG195-2002、《液位计检定规程》JJG971-2002 规程中的检验报告附件要求，详细且真实填写，不能有虚假数据。

The inspection report attachment requirements in the 《Verification Procedure for Continuous Accumulation Automatic Weighing Instruments (Belt Scales)》 JJG195-2002， 《Level Gauge Verification Procedure》 JJG971-2002 must be filled out in detail and truthfully without any false data.

双方在报告中签署意见

Both parties signed their opinions on the report

3.4.3 验收流程及合格判定标准

Acceptance process and qualification criteria

按照巴厘通用能源公司质量管理验收体系执行并以相关标准和技术要求为判定合格标准

It is implemented in accordance with the quality management acceptance system of Bali General Energy Company and the relevant standards and technical requirements are used as the qualification criteria

4. 进度要求 Progress requirements

4.1 总工期要求 Total construction period requirements

签订合同后 15 天之内完成。

Completed within 15 days after the contract is signed

5. 工程量清单附表 Supplementary Schedules to the Bill of Quantities

Bill Of Quantities

Item No.	Description of Item	unit	Qty	Remarks
1	给煤机皮带秤校验 Calibration of Coal Feeder Belt Scales	台/set	12	
2	输煤皮带秤校验 Calibration of Coal-Conveying Belt Scales	台/set	4	
3	燃油罐液位计校验 Calibration of Fuel Tank Level Gauges	台/set	3	