



Hengyi Industries Sdn Bhd
恒逸实业（文莱）有限公司

HYBN-T3-07-0021-2024-2



Inbound and Outbound Material Measurement Management System

进出厂物料计量管理制度



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 HENGYI	Hengyi Industries Sdn Bhd 恒逸实业（文莱）有限公司			
	Input and Output Material Measurement Management Regulations 进出厂物料计量管理制度			
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1 Purpose 目的

The Regulations are hereby formulated to standardize the Company's input and output material measurement management and to ensure the custody transfer measurement data are accurate.

为规范公司进出厂物料计量管理，保证贸易交接计量数据准确，特制定本制度。

2 Application Scope 适用范围

The Regulations apply to departments involved in input and output material measurement and management.

本制度适用于涉及到进出厂物料计量及其管理的部门。

3 Terms and Definitions 术语和定义

3.1 OBQ (on board quantity): Any oil, water and sludge, etc., except for free water, in the cargo before loading a cargo commence.

装船前底油量：油船装油前就存在的除游离水外的所有油、水和油泥渣等物质。

3.2 ROB (remaining on board): All oil, water and sludge, etc., except for free water, remaining in vessel tanks after discharge.

卸船后残油量：油船卸油后残留的除游离水外的所有油、水和油泥渣等物质。

3.3 VEF (vessel experience factor): a set of figures reflecting the difference between total quantity of vessel tank measurements and the quantity measured by shore tanks.

船舶经验系数：一组反映船舶在多个航次中船舱容器计重总数量与相应的岸罐容器计重总数量差异性的数据。

4 Management Responsibilities 管理职责

4.1 Specified administrative authority 归口管理部门

Equipment Management Dept. is the specified administrative authority of input and output material measurement supervision, which shall be responsible for: formulating related material measurement management regulations; supervising the whole process of measurement operation of input and output ships; confirmation of data related to trade handover and

determination of bill of lading quantity; management of the incoming and outgoing modules of the MES system and the entry of related data; providing error analysis report for handling dispute over custody transfer measurement.

机械动力部是进出厂物料计量的归口管理部门，负责制定相关计量管理制度；负责进出厂船舶计量操作的全过程监督；负责与贸易交接相关数据的确认和提单量确定；负责 MES 系统进出厂模块管理和相关数据的审核、录入；负责为贸易计量纠纷的处理提供误差报告。

4.2 Coordinated management departments 协同管理部门

4.2.1 Scheduling & Dispatch Dept. is responsible for timely notification of the operation plan of the tanks related to the input and output material.

计划调度部负责及时通告物料进出厂相关储罐的作业计划。

4.2.2 Commercial Dept. is responsible for external communication on matters related to custody transfer measurement; the creation of business information in the module of MES system incoming and output; ; shall take the lead in organizing settlement of any disputes over output measurement.

商务部负责贸易交接计量相关事宜的对外沟通；负责 MES 系统进出厂模块中商务信息的创建；负责牵头组织计量纠纷的处理。

4.2.3 IT Dept. is responsible for establishing and maintaining of the incoming and outgoing metering modules in the MES system, and provides technical support.

信息管理部负责 MES 系统中进出厂计量模块的建设、维护，并提供技术支持。

4.3 Executive departments 执行部门

4.3.1 Executive departments include Refining Dept. #4, Power Dept., Utilities Dept., Lab Dept., Port and Storage Department, Electrical Operation Dept. and Instrument Control Dept.

炼油四部、热电部、质量检验部、港务储运部和仪表控制部为执行部门。

4.3.2 Port and Storage Department is responsible for: notifying the tanks measurement time; entering the relevant measurement data of the input and output material data; cooperating with the reason analysis of the out-of-tolerance data.

港储部负责通知储罐计量时间；负责进出厂相关计量数据的录入；配合超差数据的原因分析。

4.3.3 Power Dept. is responsible for the input the electronic belt data and ship data in the module of input and output of the MES system.

热电部负责 MES 系统进出厂模块中到港煤船电子皮带秤量和船量的录入。

4.3.4 Refining Dept. #4、Power Dept.、Quality Analysis Dept. and Instrument Control Dept. are responsible for the daily maintenance of measurement equipment related to custody transfer, and cooperation in investigation into and settlement of any disputes over measurement in the custody transfer process.

炼油四部、热电部、质量检验部和仪表控制部负责与贸易交接相关计量设备的日常维护；负责配

合超差数据的原因分析。

5 Management Content 管理内容

5.1 Requirements for measurement equipment management 计量设备管理要求

5.1.1 Measurement equipment related to custody transfer shall be provided with mark of license for manufacturing measuring instruments or any other internationally recognized mark, and shall be calibrated, and its measurement error shall comply with relevant regulations or international standard/code.

与贸易交接相关的计量设备应具有制造计量器具许可证标志或其它国际认可标志，并经过校准，测量误差符合相关规定或国际标准规范。

5.1.2 Equipment Management Dept. shall regularly calibrate and conduct intermediate check on measurement equipment used for custody transfer and its comparison, and periodically identify measurement traceability of standard equipment.

机械动力部定期对贸易交接相关的计量设备进行校准和期间核查，并按周期对标准设备进行量值溯源。

5.1.3 Executive department shall operate the measurement equipment related to custody transfer as required to ensure its intactness and normal operation, if there is any abnormal situation, it should be dealt with in time.

执行部门按规范要求操作贸易交接相关的计量设备，确保完好并正常运行，如出现异常情况，应及时进行处理。

5.1.4 Maintenance and shutdown of measuring equipment relating to trade custody transfer shall be approved by the Equipment Maintenance Dept. prior to implementation.

当与贸易交接相关的计量设备维修或停用时，需经机械动力部同意后实施。

5.2 Requirements on MES system measuring data management MES 系统计量数据管理要求

5.2.1 Before an incoming or output operation commences, the Commercial Dept. shall timely generate records in the incoming or outgoing modules of the MES system, and put in relevant contract information.

进出厂作业开始前，商务部及时在 MES 系统进出厂模块中创建记录，录入相关合同信息。

5.2.2 Upon loading is completed, the Ports & Storage Dept. shall log and submit tank, vessel, and flow meter data.

装卸船结束后，港务储运部及时录入罐量、船量和流量计量并提交。

5.2.3 Upon unloading of a coal ship, the Power Dept. shall timely put in and submit the quantity of electronic conveyor belt measurement and the vessel tank measurement.

到港煤船卸煤结束后，热电部及时录入电子皮带秤量和船量并提交。

5.2.4 After receiving the commodity inspection report issued by the third party, the Equipment Management Department shall promptly enter the commodity inspection data and upload the commodity inspection report after checking that it is correct.

收到第三方出具的商检报告，机械动力部核查无误后，及时录入相关数据和上传商检报告。

5.2.5 The Equipment Management Department shall check and supervise the data entry, in a timely manner of the measurement data in the incoming and outgoing modules of MES system, complete the final review and submit it.

机械动力部检查并督促 MES 系统进出厂模块中各项数据及时录入，完成最终审核并提交。

5.3 Metering Operation and Supervision 计量操作及计量监督

5.3.1 Solid and liquid material input and output can be measured by five means, i.e. dipstick inspection on board, shore tank, flowmeter, truck scale and fixed-amount packaging, and the custody transfer measurement data shall be subject to the data of Supplier, the Buyer or commodity inspector as agreed in the commercial contract.

公司进出厂的计量方式有流量计、储罐、船、汽车衡和定量包装五种，贸易交接方式和允差以商务合同约定为准。无约定时，参照国际惯例、行业规定和公司规定。

5.3.2 For trade measurement disputes arising, the Equipment Management Dept. shall draft a technical report on measurement errors based on the investigation results and submit it to the Commercial Dept. after approval by the leader in charge. In the event that the Company and its customer do not agree on the investigation and treatment, either party may request a third party to conduct an investigation.

对产生的贸易计量纠纷，由机械动力部依据调查结果起草计量误差技术报告，经主管领导审批后提交商务部。公司与客户在调查处理意见上未达成一致，任意一方均可提请第三方进行调查。

5.3.3 Feedstock (oil) input 原料（油）进厂

5.3.3.1 Before and after unloading a ship, the Port & Storage Dept. shall promptly notifying the tanks measurement time ensure that the storage tank meets the measurement conditions.

卸船前后港务储运部及时通知储罐检尺时间，并保证储罐满足计量条件。

5.3.3.2 The Equipment Management Dept. shall supervise the whole process of level、temperature measurement and calculation of each tank to ensure the accurate calculation of tank capacity and make all records.

机械动力部对每台储罐的检尺、测温、计算等全过程进行监督，保证罐容计算准确，并做好各项记录。

5.3.3.3 After the ship arrives at the port, the Equipment Management Dept. shall supervise the whole process of level、temperature measurement and calculation of the ship, and check the validity of certificates such as dipstick (UTI) , thermometer and bilge gauge, ensure accurate ship measurement and make all records.

船舶到港后，机械动力部对船舶的检尺、测温、计算等全过程进行监督，同时检查量油尺（UTI）、温度计和舱容表等证书的有效性，保证船量计量准确，并做好各项记录。

5.3.3.4 In the process of unloading operation, the receiving and discharging personnel shall put forward oil unloading optimization suggestions to the carrier in time based on oil type and oil tank situation and urge the carrier to unload the residual oil in the ship's tank and sweep oil unloading pipelines one by one.

卸船作业过程中，接卸人员应根据油种、油舱情况及时向船方提出卸油优化建议，并督促船方卸净船舱残油，逐条扫净卸油管线。

5.3.3.5 After unloading the ship, the Port & Storage Dept. shall supervise the commercial inspection to carry out empty tank inspection, and immediately notify the Equipment Management Dept. to deal with any abnormality found.

卸船后港务储运部监督商检进行空舱检验，发现异常立即通知机械动力部进行处理。

5.3.3.6 When the incoming bill of lading quantity and the incoming ship quantity difference exceeds the contractual agreement or exceeds 0.5%, the Equipment Management Dept. shall immediately inform the Commercial Dept. for follow-up treatment.

当进厂提单量与到港船量比对误差超过合同约定或超过 0.5%时，机械动力部应立即告知商务部进行后续处理。

5.3.3.7 When it is found that the error between the cargo quantity on a ship at port and the bill of lading quantity of the same ship exceeds 0.3% for three times and the errors have all been negative on our side, the Equipment Management Dept. shall pay high attention to the ship and inform the Commercial Dept..

当发现同一条船舶到港船量与提单量的误差有三次超过 0.3%，且我方总为负误差时，机械动力部应对该船舶进行高度关注，并告知商务部。

5.3.4 Coal inbound 煤炭进厂

5.3.4.1 Before unloading coal, the Power Dept. shall inform the Instrument Control Dept. to zero the electronic conveyor belt scale and zero the accumulated quantity to ensure its normal measurement.

卸煤前热电部通知仪表控制部对电子皮带秤进行校零和累计量清零，保证电子皮带秤正常计量。

5.3.4.2 After the coal ship arrives at port, the Equipment Management Dept. shall go on board to supervise the whole process of measuring the draught, ballast water and fuel oil tank of a heavy ship, and derive the estimated weight of coal by water gauge, and inform the Commercial Dept. immediately when the error between this amount and the bill of lading amount exceeds 1% by comparison.

煤船到港后，机械动力部上船对重船的吃水、压载水、燃油舱等计量全过程进行监督，以水尺计重方式得出煤炭预估重量，当该量与提单量比对误差超过 1%时，应立即告知商务部。

5.3.4.3 When abnormal operation of electronic conveyor belt scale is found in the process of coal unloading, the Power Dept. shall promptly notify Equipment Management Dept. and at the

same time inform the Instrument Control Dept. to deal with it.

卸煤过程中发现电子皮带秤运行异常时，热电部应及时告知机械动力部，同时通知仪表控制部进行处理。

5.3.4.4 After unloading is completed, when the comparison error between the bill of lading quantity and the electronic conveyor belt scale quantity exceeds 0.5%, the Equipment Management Dept. shall go on board again to supervise the whole process of measuring the draught, ballast water and fuel oil tank of the empty ship and arrive at the actual weight of coal by draft.

卸船完成后，当提单量与电子皮带秤量比对误差超过 0.5%时，机械动力部须再次上船对空船的吃水、压载水、燃油舱等计量全过程进行监督，得出煤炭水尺实际重量。

5.3.4.5 When the error of comparison between bill of lading and actual weight of coal by draft or between the bill of lading and by electronic conveyor belt scale exceeds 0.5%, the Equipment Management Dept. shall request the commodity inspection to issue a protest letter to the carrier and inform the Commercial Dept. for follow-up treatment.

当提单量与煤炭水尺实际重量或提单量与电子皮带秤量比对误差超过 0.5%时，机械动力部应要求商检向船方出具抗议信，并告知商务部进行后续处理。

5.3.5 Product loading and shipment 产品装船出厂

5.3.5.1 Port & Storage Department is responsible for notifying the tanks measurement time before and after loading, and ensure that the tanks meet the measurement conditions.

装船前后港务储运部及时通知储罐检尺时间，并保证储罐满足计量条件。

5.3.5.2 The Equipment Management Dept. shall supervise the whole process of level、temperature measurement and calculation of each tank to ensure the accurate calculation of tank capacity and make all records.

机械动力部对每台储罐的检尺、测温、计算等全过程进行监督，保证罐容计算准确，并做好各项记录。

5.3.5.3 In case of abnormal flowmeter or failure during loading, the Port & Storage Dept. shall promptly inform the Equipment Management Dept. and at the same time notify the Instrument Control Dept. for handling.

装船过程中如发生流量计异常或故障，港务储运部应及时告知机械动力部，同时通知仪表控制部进行处理。

5.3.5.4 After loading, the Equipment Management Dept. shall go on board to supervise the whole process of measuring, temperature measurement and calculation of heavy vessels, reasonably determine the quantity of the bill of lading according to the commercial contract and the error of relevant data such as flow meter, tank and ship quantity.

装船后机械动力部对重船的检尺、测温、计算等全过程进行现场监督，并根据商务合同以及流量计量、罐量和船量等相关数据的误差情况，合理确定提单量。

5.3.6 Product shipment by road 产品公路出厂

5.3.6.1 Oil products shipped from the factory by road shall be measured by flow meter at the truck loading station, liquid nitrogen and fly ash shipped by road shall be measured by truck scale at the Power Department. The Equipment Management Dept. shall regularly calibrate the measuring device.

油品公路出厂以装车站流量计进行计量，液氮、煤灰等公路出厂以热电部汽车衡进行计量。机械动力部定期对计量器具进行校准。

5.3.6.2 When the flowmeter or the truck scale is abnormal or faulty, it should be stopped immediately, the user department should notify the Instrument Control Department to handle the problem, Equipment Management Department should calibrate again if necessary.

流量计或汽车衡发生异常或故障时，应立即停止使用，并由使用部门通知仪表控制部进行处理，必要时由机械动力部进行再次校准。

5.3.6.3 The Port & Storage Dept. shall regularly compare the total amounts of each type of product loaded with the amounts drawn from the tank, when the comparison error is $\geq \pm 0.30\%$ and still exceeds the difference after reviewing, the Equipment Management Dept. shall be informed in time.

港务储运部定期将各种油品的装车总量与罐付量进行比对，当比对误差 $\geq \pm 0.30\%$ 且经复查后仍然超差时，应及时告知机械动力部。

5.3.7 Shipment of products packaged in fixed amount 定量包装产品出厂

5.3.7.1 Net content of products in fixed-amount packaging shall be measured by fixed-amount packaging scale, and rechecked by re-inspection scale in accordance with relevant rules to ensure accurate measurement.

定量包装产品净含量以定量包装秤计量，并按相关规定由复检秤进行复核以确保计量准确性。

5.3.7.2 Refining Dept. #4 shall check the fixed-amount packaging scale and re-inspection scale before packing, and contact the Instrument Control Dept. for handling in case of abnormality.

炼油四部在每次开始包装工作之前须对定量包装秤、复检秤进行检查，异常时联系仪表控制部进行处理，并通知机械动力部对准确性进行确认。

5.3.7.3 During normal packing, the bunker and material level need be kept stable and certain material level shall be maintained; batch packing shall be avoided to prevent out-of-tolerance caused by instability.

正常包装时，需保证料仓料位稳定并保持一定料位，避免间歇式包装，以防不稳定导致计量超差。

5.3.7.4 The Equipment Management Dept. shall regularly calibrate fixed-amount packaging scale and re-inspection scale, and to review the scale between calibrations.

机械动力部对定量包装秤和复检秤进行定期校准和期间核查。

5.3.8 Other input and output material 其他进出厂

5.3.8.1 When the ship adds fresh water, the Port & Storage Department should promptly notify the start and end time, and the Equipment Management Dept. will confirm the amount of water on site and sign the receipt.

靠港船舶需要加淡水时，港储部及时通知机动部加水起始时间，加水结束后机械动力部现场确认加水量，并在加水收据上签字确认。

5.3.8.2 When the company has other measurement requirements related to import and export, the Equipment Management Dept. should confirm the measurement method, measurement data and measurement error to ensure accurate measurement.

当公司有与进出厂相关的计量需求时，机械动力部负责对计量方式、计量数据和计量误差等情况进行确认，保证计量准确。

6 Inspection and Supervision 检查与监督

The Equipment Management Dept. shall be responsible for the inspection and supervision of the implementation of the Regulations, and give assessment opinions.

机械动力部负责对本制度执行情况进行检查、监督，并提出考核意见。

7 Associated Procedures and Records 关联程序及记录

7.1 Associated procedures 关联程序

7.1.1 Procedure for Coal Input Measurement and Supervision (HYBN-T2-07-0066-2018)

煤炭进厂计量及监督程序 HYBN-T2-07-0066-2024-2

7.1.2 Procedure for Crude (Material) Oil Input Measurement and Supervision

(HYBN-T2-07-0067-2024-2)

原料（油）进厂计量及监督程序 HYBN-T2-07-0067-2024-2

7.1.3 Measurement and Supervision Procedures for Product Input by Truck

(HYBN-T2-07-0068-2024-2)

产品汽车出厂计量及监督程序 HYBN-T2-07-0068-2024-2

7.1.4 Measurement and Supervision Procedures for Product Output by Ship

(HYBN-T2-07-0069-2024-2)

产品装船出厂计量及监督程序 HYBN-T2-07-0069-2024-2

7.1.5 Procedure for Measurement and Supervision of Truck Scale Entering and Leaving Plant (HYBN-T2-07-0070-2024-2)

汽车衡进出厂计量及监督程序 HYBN-T2-07-0070-2024-2

7.2 Associated records 关联记录

7.2.1 The incoming and outgoing record of measurement in MES system.

MES 系统进厂、出厂计量数据录入

7.2.2 Records of Input and Output Material Out-of-Tolerance Analysis

(HYBN-T6-07-0159-001-2018)

进出厂物料超差分析台帐 HYBN-T6-07-0159-001-2018

7.2.2 Records of Measurement Dispute Registration (HYBN-T6-07-0160-001-2018)

计量纠纷登记台帐 HYBN-T6-07-0160-001-2018

7.2.3 Report on Measurement Dispute and Error Analysis (HYBN-T6-07-0161-001-2018)

计量纠纷误差分析报告 HYBN-T6-07-0161-001-2018

8 Supplementary Provisions 附则

8.1 The Regulations are under the jurisdiction of Equipment Management Dept.

本制度由机械动力部归口管理。

8.2 The Regulations are drafted by the Equipment Management Dept.

本制度起草部门：机械动力部。

8.3 Equipment Management Dept. is responsible for the interpretation of the Regulations.

本制度解释权归机械动力部拥有。

8.4 Preparation and approval of the Regulations are shown in the Table below:

本制度编制和审批情况见下表：

Table 1 Details of Document Version, Preparation and Approval

表 1 文件版本编制和审批情况

2	2024-04-01	Ding Sichun 丁似春	Zhao Tingyun 赵挺云	Xu Ye 徐野	Chen Liancai 陈连财
Revision 版本	Issued date 颁布日期	Prepared by 编制人	Reviewed by 审核人	Authorized by 审定人	Approved by 批准人