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## 1. INTRODUCTION

Eskom has moved into a modular exchange maintenance philosophy to reduce the outage duration on medium and major outages. This is achieved by implementing preassemblies on modular spares at the ERI workshop prior to the actual outage at site. In efforts to further optimize modular re-build at site; an opportunity was identified to assemble the GEC HP inner module complete, transport it as a unit and rebuild at site as a unit.

A complete solution to transport and re-build the module at site as a unit was developed and detailed design of all related components have been completed. The next step is the manufacture and/or modification and Supply of the Modular Exchange brackets, transport cradle, shaft raising gear and special spreader beam for the GEC turbine Technology.

## 2. DEFINITIONS, ABBREVIATIONS AND TERMS

NO	ITEM	DESCRIPTION
1.	ERI	Eskom Rotek Industries
2.	PQP	Process quality documentation
3.	QCP	Quality Control Plan
4.	I&T Plan	Inspection & Test Plan
5.	NDT	Non Destructive testing
6.	HP Turbine (HP)	High Pressure Turbine
7.	Supplier	Company to which tender is awarded to.
8.	Purchaser	The Purchaser is Eskom Rotek Industries (ERI)

## 3. SPECIFICATIONS AND STANDARDS:

All applicable industry wide and ERI standards to be adhered to during the manufacture and/or modification of the goods.

#### 4. WORK TO BE PERFORMED BY THE SUPPLIER OF THE GOODS

##### 4.1. DESCRIPTION OF THE COMPONENTS TO BE MANUFACTURED/MODIFIED

Components to be manufactured:

- 1 x “Front” and “Rear” Shaft Raising Gear together with suitable durable wooden transportation box (Drawing List as per Table 1, Annexure 1)
- 1 x “Front” and “Rear” Transportation Bracket together with suitable durable wooden (Drawing List as per Table 2, Annexure 1)
- 1 x Module Spreader beam. (Drawing List as per Table 3, Annexure 1)

Components to be Modified:

1 X GEC HP Turbine Module transportation cradle (Drawing List as per Table 4, Annexure 1)

Paint Specification:


- All components to be primed and painted in accordance with Eskom Specification (Specification for Corrosion Protection of Plant and Equipment with Coatings) 36-1126

Inspection and Testing of Goods:

- The spreader beam is to be load tested.
- 100% NDT of all welded areas to be carried out as per relevant Industry and ERI standards as Follows:
  1. NDT of all welds prior to painting and verification load test (Where applicable).
  2. NDT of all welds after verification load test completion (Where applicable).

##### 4.2. DELIVERABLES FROM OF THE PROJECT

- **TECHNICAL VERIFICATION MEETINGS**  
Prior to commencement of manufacture and/or modification of components a Technical verification meeting is to be held between the relevant supplier and purchaser personnel, to discuss all technical requirements for the goods.
- **QUALITY MANAGEMENT**  
The Quality Management System is the system of processes by which the Supplier shall provide assurance to the Purchaser that deliverables, including that of its sub-Suppliers or sub-contractors are in conformance with contract specifications. The Supplier shall implement and maintain a quality management system that, as a minimum, meets the requirements of the purchaser and relevant industry norms.
- **PURCHASER REVIEW OF QUALITY PLAN INTERVENTION POINTS**  
The purchaser will review and approve all quality documentation prior to the commencement of manufacturing and/or modification of any components. The purchaser, at his/her own discretion, may add intervention points on the

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manufacturing/quality plans to monitor the components during manufacturing or modification.


- **SUPPLIER QUALITY PLAN**

The supplier Quality Plan, as a minimum, would include the following:

1. Documentation control and record keeping process
2. Reporting and management of deviations and defects
3. Communication strategy and customer focus
4. Material control, identification and traceability
5. Non-conformance register & procedures
6. Measurement procedures, equipment and calibration certificates.
7. List of potential sub-contractors, and the works to be performed by each.
8. High level project management plan and schedule.

- **DOCUMENTATION:**

On completion of manufacturing and assembly, the Supplier will deliver to the Purchaser of each component, the quality documentation as per Supplier Quality plan, complete with the inspection and material certificates.

	<b>Business Management System</b> Scope of Work for Manufacture of GEC Modular Blocking bracket, Shaft raising gear, Spreader beam and Modification of the HP Transportation cradle	Document Identifier		Rev	0
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## APPENDIX A

DRAWING NUMBER LIST 1		
13.25_8920	13.25_8931	13.25_8942
13.25_8921	13.25_8932	13.25_8943
13.25_8922	13.25_8933	13.25_8944
13.25_8923	13.25_8934	13.25_8945
13.25_8924	13.25_8935	13.25_8946
13.25_8925	13.25_8936	13.25_8947
13.25_8926	13.25_8937	13.25_8948
13.25_8927	13.25_8938	13.25_8949
13.25_8928	13.25_8939	13.25_8950
13.25_8929	13.25_8940	
13.25_8930	13.25_8941	

**Table 1: “Front” and “Rear” Shaft Raising Gear**

DRAWING NUMBER LIST 2		
13.25_8646		
13.25_8647		
13.25_8648		
13.25_8649		
13.25_8650		
13.25_8651		
13.25_8652		
13.25_8653		
13.25_8654		

**Table 2: GEC HP Transportation Bracket**

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DRAWING NUMBER LIST 3		
13.25_8693		
13.25_8694		
13.25_8695		
13.25_8696		
13.25_8697		
13.25_8698		

Table 3: GEC HP Spreader Beam

DRAWING NUMBER LIST 4				
13.25_8715	13.25_8726	13.25_8737	13.25_8748	13.25_8759
13.25_8716	13.25_8727	13.25_8738	13.25_8749	13.25_8760
13.25_8717	13.25_8728	13.25_8739	13.25_8750	13.25_8761
13.25_8718	13.25_8729	13.25_8740	13.25_8751	13.25_8762
13.25_8719	13.25_8730	13.25_8741	13.25_8752	13.25_8763
13.25_8720	13.25_8731	13.25_8742	13.25_8753	
13.25_8721	13.25_8732	13.25_8743	13.25_8754	
13.25_8722	13.25_8733	13.25_8744	13.25_8755	
13.25_8723	13.25_8734	13.25_8745	13.25_8756	
13.25_8724	13.25_8735	13.25_8746	13.25_8757	
13.25_8725	13.25_8736	13.25_8747	13.25_8758	

Table 2: GEC HP Transportation Stand