

# **KALGOORLIE NICKEL SMELTER**

## **SLAG RETURN FILTER REFURBISHMENT**

### **MSD2009SOW**

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### 1. SCOPE OF WORK

#### 1.1 Introduction

Nickel West (NiW) is the World's third largest producer of nickel-in-concentrate, providing 16% of global nickel-in-concentrate production.

The Nickel West Business Group consists of Kwinana Nickel Refinery (KNR), Mount Keith Nickel Operations (MKO), Leinster Nickel Operations (LNO, comprising both above ground and underground operations), Kalgoorlie Nickel Smelter and Kambalda Nickel Concentrator (KNSC) and Ravensthorpe Nickel Operations (RNO), all of which are based in Western Australia.

KNS is located 12 kilometres south of Kalgoorlie. Opened in 1973, KNS uses a flash smelting method. Dry concentrate is transported from Kambalda and Leinster to the Smelter which produces granulated nickel matte. The matte is railed to the Kwinana Nickel Refinery to produce premium nickel briquettes. KNS is currently producing 100,000-110,000 tonnes of nickel-in-matte per year.

A suitably qualified Contractor is sought to provide a Mechanical, Testing and fabrication Services to refurbish the Slag Return Tilter during the MSD 10 day 2009 Major Shutdown which is scheduled to commence on the 12<sup>th</sup> of August at the KNS NiW Site.

The contractor is requested to provide a Fixed Lump Sum estimate as outlined in Part A of this scope of works inclusive of all required site inductions related to the service.

#### 1.2 General Statement of Works

This Contract is for the provision of suitably qualified, competent trade, supervisory and non-trade personnel to undertake the removal, transport offsite, cleaning, condition assessment Inspection, refurbishment of client approved works and installation to its original location of the Slag Return Tilter as per supplied Work Pack for the Kalgoorlie Nickel Smelter KNS NiW Site during the above 10 day 2009 Major Plant Shutdown.

##### 1.2.1 The requirement is to provide the following trades, services:

The Contractor must provide suitably qualified, competent trade and non-trade labour including, but not limited to, personnel with the following qualifications:

- Maintenance Technicians, who are experienced, trained and qualified to carry out maintenance and repair services to production installed equipment
- Machining Technicians, who are experienced, trained and qualified to carry out on site and workshop machining and repair work.
- NATA Certified NDT Technicians who are experienced, trained and qualified to carry out Non destructive testing and report on results
- Boilermaker/Welders qualified to AS1554.1 SP in 4G position to the process dictated by the WPS that are to be used for this project.

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- Rigger/Dogman, who is experienced, trained and qualified to carry out lifting and handling in an industrial and workshop environment.
- Trades Assistant.
- The Services will also include the provision of all necessary management, planning and supervisory personnel
- Off-site workshop overhauls, repairs, and machining and component refurbishment as required
- Supply of trade tools, equipment (including testing equipment), consumables and vehicles (in accordance with BHP Billiton Fatal Risk Control Standards FRCP 3.1 - 'Road Going Vehicles') as necessary to perform the required tasks

**1.2.2** You will be responsible for all work not specifically detailed or described but which is necessary to enable the contract works to be completed in a sound and work manlike manner in compliance with the intent of these documents.

- You will coordinate work and cooperate with KNS operations personnel and other contractors to ensure that safety, quality of work and work schedules are achieved, all in accordance with the design and the works program.
- Other maintenance and operational tasks will be undertaken in the plant during this period. You shall become familiar with these activities to ensure that the project is completed in a safe and efficient manner.
- We shall provide you with an Outage Organisational Chart and a single point of contact for all enquiries to ensure proper communication channels are maintained

### 1.3 Types of Engagement

Not Applicable

## 2. GOODS

### 2.1 Goods to be Provided by the Contractor ('Goods')

#### 2.1.1 Manufacture and supply Replacement:

- Pivot pins and bushes as indicated on Drawing NS – 03 - 202212.
- Tilt cylinder mounting pins as indicated on Drawing NS – 03 – 202212 and NS – 03 – 2380.
- Tilt cylinder mounting bushes as indicated on Drawing NS – 03 - 202212.

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**2.1.2** The Contractor may be required to provide goods and consumables, or parts related to the repairs of the slag return tilter.

- The requirement for the supply of goods and materials will be detailed in particular purchase orders. All goods are to be approved by KNR NiW prior to the commencement of procurement and delivery by the Contractor.
- Goods must be designed, manufactured and tested in accordance with all relevant KNR NiW, BHP Billiton and Australian Standards, Codes and Regulations.
- It is the responsibility of the Contractor to ensure that the labelling and Material Safety Data Sheets (MSDSs) are provided for any KNR NiW Site Representative to inspect, for all materials brought on to Site.

## 2.2 Specifications and Drawings of Goods

Drawings:

- NS-03-202212
- NS – 03 – 2380.

## 2.3 Delivery Requirements

Refurbished Slag Return Tilter to be transported by the Contractor back to KNS with all works compliant with the relevant standards in the agreed time as stipulated in the schedule and section 1.2 of this scope

## 3. SERVICES

### 3.1 Services Included

#### 3.1.1 Personnel Competency Requirements:

The Contractor must provide suitably qualified, competent trade and non-trade labour including, but not limited to, personnel with the following qualifications:

- Supervisory Personnel
- Mechanical Fitters
- Machining Technicians, who are experienced, trained and qualified to carry out machining and repair work.
- NATA Certified NDT Technician qualified to perform MT NDT testing and reporting
- Welding supervisor qualified and compliant with AS2214 requirements to perform visual welding inspections, manage weld record and weld map documentation

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- Boilermaker/Welders to qualified to AS 1554.1SP in 4G position to the process dictated by the WPS that are to be used for this project,
- Documentation submission of WPS, PQR and WQR to the clients QA system will be a condition for acceptance of vendors tender.
- Rigger/Dogman holding current recognised certification for these skills.
  - Submission of certificate copy required
- Trades Assistants with minimum 6 months experience/exposure to mining industry, heavy duty engineering construction or shutdown maintenance.

Personnel will also be required to have training and experience relevant to Site specific requirements including but not limited to confined space entry, working at heights, fire watch and the like.

### 3.1.2 Shutdown and Job Planning and Preparation Services

The Contractor will be required to provide job planning and preparation services in the period leading up to commencement of any on-site work. These services will include but are not limited to:

- Supervisor to visit site to survey the planned work
- Establishing and / or sourcing the labour, and all required electrical, testing equipment, specific tools and any required personal protective equipment.
- Provide a Gantt Chart for performing the offsite works to the nominated KNS NiW site representative for approval
- Develop safety plans and risk assessments for the specific allocated tasks

### 3.1.3 Inspection and Test Plan (ITP) and schedule

- The Contractor to submit a detailed ITP for Part B at 3.1.5 of this Scope. prior to commencement of work for approval by the nominated KNS NiW Site Representative
- The ITP for Part B of this scope shall contain as a minimum the following hold points
  - Offsite pre cleaning inspection
  - Post NDT inspection
  - Repair method and quote
  - Repair ITP acceptance approval
- The Contractor's Welding Supervisor shall manage the work and record progress against the ITP and liaise with the Company's Representative for sign off of on hold points

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- ITP for on site works (Part “A” at 3.1.4, 3.1.6 and 3.1.7 of this work scope) will be delivered in a workpack provided by KNS.

### 3.1.4 Part “A” On Site Tilter Removal and Inspection

- Remove pneumatic pin locking mechanism from Tilter.
- Disconnect hydraulic cylinders and remove clevis pins
- Remove main tilter pins
- Lower slag return tilter frame down to ground and ready for transport
- Clean and prepare frame for NDT inspection.
- Carry out NDT on slag return Tilter and provide results to KNS site rep
- The Contractor must make any defects or issues highlighted by the NDT inspection known to the nominated KNS site representative prior to any repairs being carried out.

### 3.1.5 Part “B” Off Site Tilter Frame Refurbishment

- Line bore and install bushes in frame pivot points and ram connection points as indicated on drawings NS – 03 – 2380 (to be issued at site meeting).
- Manufacture and supply new pivot pins and bushes as indicated on Drawing NS – 03 - 202212.
- Manufacture and supply new tilt cylinder mounting pins as indicated on Drawing NS – 03 – 202212 and NS – 03 – 2380.
- Manufacture and supply new tilt cylinder mounting bushes as indicated on Drawing NS – 03 - 202212.
- Refurbish pin locking mechanism.
- Replace tilt cylinders with refurbished cylinders from KNS store stock
- Coded welders to 1554.1SP to be utilised for any frame repairs

### 3.1.6 Part “A” Tilter On Site Support Frame Refurbishment

- Prepare pivot points and ram location points for NDT inspection,
  - This may require barring down slag build up.
- Clean frame to the accepted standards for NDT inspections.
- Carry out NDT on Tilter support frame and provide results to KNS site rep

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- The Contractor must make any defects or issues highlighted by the NDT inspection known to the nominated KNS site representative prior to any repairs being carried out
  - Coded welders to 1554.1SP to be utilised for any support frame repairs
- If required carry out onsite line boring to the Slag Return Tilter pivot points,
  - Prior to the installation of the manufactured bushes in the pivot points and ram connection points.

### 3.1.7 Part “A” Reinstall Tilter Frame

- Install Tilter frame into Tilter support.
- Reconnect hydraulic cylinders
- Reconnect air supply to pin locking mechanism.
- The system will be commissioned and tested as per the contractor supplied inspection and test plan (ITP).
  - Test locking mechanism hoses for air leaks.
  - Test hydraulic lines to cylinders for leaks
- On completion of all tasks prepare all scrap materials ready for transport to lay down yard as specified by the Company’s Representative.

### 3.1.8 Miscellaneous Works

The Contractor may be required to perform the following miscellaneous tasks:

- Erection of barriers, delineation tapes, signs and other measures to ensure effective separation from hazards and to demarcate a work area
- Erection of temporary works
- Site clean-up and disposal of waste materials

All work to be performed will meet NiW safety requirements, and will require a Task Hazard Analysis to be authorised by the Site Representative and a valid Permit to Work, prior to commencing work. All isolations are to be performed by the Appointed Isolations Person present at each Site.

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### 3.1.9 Timing

- Sound planning and execution shall be required by the contractor to ensure that the program of works is completed within a projected timeframe, and to allow for the required commissioning and ramp up time.
- Work shall be completed during the KNS 2009 Major Shutdown, which commences the 12th of August. The contractor's tasks shall be completed as per the KNSC approved outage schedule.
- The works in this scope will require you to provide a dedicated and full-time team on a 12 hour day and night shift to carry out the tasks.

### 3.1.10 Supervision

All work performed under this scope shall be supervised at all times by the contractor's competent personnel who shall be responsible for the following:

- Overall supervision of the work program.
- Invoice Management
- Maintaining the required safety standard.
- Complete Task Hazard Analysis on all tasks
- Performing daily field leaderships
- Setting out of tasks to be completed during the shift in order to meet the program completion dates.
- Progressive ITP management and adherence from job start to job completion, including ITP submission for MDR records.
- Provision of accurate program updates.

### 3.1.11 Reporting

The Contractor Supervisor will be required to provide reporting

- The Contractor shall within fourteen (14) days of completion of the project, supply a written closeout report detailing work done, including MDR collected in due course of repairs and any follow up work recommended.
- This close out report shall be provided to KNS as a written document, including a electronic copy and will include:
  - Project summary
  - Safety issues / incidents and associated investigation reports
  - Technical details of all materials used

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- Photographs of key activities
- Outline of actual project timing and labour
- Completed inspection and test plan and associated documentation
- Maintain records in order to verify that the Works have at all times been carried out in accordance with the Contract documents
- All records shall be made available to the nominated NiW KNS Representative upon request.
- Final Quality Assurance records (MDR) shall be submitted to the Principal prior to the final progress payment being made by the Principal. This will be one hardcopy and one electronic copy of MDR which is to contain the following
  - Inspection and test Plan (ITP)
  - Welding Procedure Specs (WPS)
  - Procedure Qualification Record (PQR)
  - Welders Qualifications Record (WQR)
  - Traceability sheets
  - NDT Reports
  - Material Certificates
  - Welding Consumable Certificates
  - Technical Queries
  - As Built Drawings
- Recommendations, including but not limited to:
  - Potential improvements
  - Successful aspects
  - Future requirements

Reporting must be compliant with the Contractor's quality assurance system requirements, or to a standard approved by NiW.

### 3.1.12 Quality Assurance

The Contractor shall:

- Be responsible for the quality of workmanship and materials by controlling all activities and those of any sub-contractors on all work performed under this Contract including remedy of defects and other works required under the Contract.
- Provide a Quality System that will be used for the Supply of Equipment and Materials under the Contract.
- The Quality System shall conform to AS/NZS ISO 9001:2000 or equivalent and will address the requirements to achieve full conformance of product with the Contract.
- Ensure the Quality System is implemented and maintained by you for the duration of the Contract.
- Meet all costs associated with the provision of the Quality Assurance System.
- Supply a Methodology Statement giving details of how the work is to be performed, including but not limited to;
  - Risk Assessments,
  - Safe Working Instructions SWI's),
  - Work Risk Assessment Control (WRAC's),
  - Task Hazard Analysis (THA's).
  - These are to be updated and provided to the nominated NiW KNS representative.
- Supply a Project specific Quality Plan to describe the process by which the requirements of AS/NZS ISO 9001:2000 are to be implemented.

### 3.1.13 House Keeping

The Contractor shall:

- Ensure that Contractor Personnel are active in maintaining high housekeeping standards throughout their work area This shall include store yards, equipment lay down areas and plant work areas.
- Ensure that all Contractor Personnel will, if required, perform duties such as assisting in tasks which are not considered to be directly related to their trade classification (eg housekeeping, cleaning, assisting other trades, etc), but which they are qualified and competent to perform.
- You will conduct daily housekeeping inspections, as a minimum a formal housekeeping inspection shall be conducted weekly.

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- The schedule for these inspections is based on risk and complexity of the task and shall be determined at the kick off meeting, prior to the commencement of physical works.

### 3.1.14 Safety

The Contractor shall:

- Develop task hazard analysis (THA) for tasks performed
- Carry out at a minimum one take time talk or planned task observation per day, for the duration of the contract
- Supply of Services compliant with BHP Billiton HSEC and FRCS Standards
- Comply with KNSC NiW – Life Saving Rules
- Comply with BHP Billiton Fitness to Work Policy
- The Contractor must ensure that the following safety meetings are held as a minimum and that all your personnel engaged directly or indirectly by you inclusive of subcontractors participate;
  - Daily pre-start meetings recorded and returned to our nominated NiW KNS representative.
  - The Contractor will attend Health, Safety and Environment meetings with the nominated KNS NiW site representative when directed to do so.
- The purpose of the attendance is to:
  - Focus the work team on HSE hazards and controls for that shift's work plan;
  - Provide feedback on audits, inspections and field leadership activities;
  - Receive information on HSE issues;
  - Monitor action plans for identified non-compliance and HSE issues;
  - Review the THA's for the days/weeks work; and
  - Provide general safety information

### 3.2 Services Excluded

- Isolation of equipment and permits
- Scaffolding and craneage on Site

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### 3.3 Specifications and Drawings

The following drawings will be made available to contractor to provide tender

- NS – 03 – 2380
- NS – 03 – 202212

### 3.4 Delivery Requirements

Not Applicable

### 3.5 Contractors Warranty

- Capability to provide equipment, resources, tools and personnel to fulfil the above services at all NiW Sites.
- Capability to provide reporting requirements in specified format, within specified time frame
- Timely Invoice Management

## 4. GENERAL

### 4.1 Battery Limits

The Scope of the above Services will cover KNS NiW Site during the 2009 MSD major 10 day shutdown.

### 4.2 NiW Responsibilities

#### 4.2.1 KNS NiW will be responsible for the supply of the following:

- NiW will ensure that all equipment to be serviced, inspected and tested is available on the scheduled date.
- Provision of Site Inductions and Site Specific training if any Contractor personnel are required to work on Site

NiW will supply at no cost to the Contractor (with the exception of any malicious damage as duly noted by NiW) the following materials and/or services. It is the Contractor's responsibility to provide reticulation of provided services from the available point to the works area:

- Minor spare parts if held in the Stores Warehouse
- Plant air, where accessible
- Specialised Personal Protective Equipment (for example Respirators)
- Car parking
- Crib room and amenities, where accessible

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- First aid services
- Potable water, where accessible
- Single phase electrical power, where accessible
- Scaffolding and craneage on Site necessary to perform the Services (unless specifically set out in the applicable scope of work)
- General rubbish disposal only
- Ambulance, Fire Fighting and Emergency Response

### 4.3 Contractor Responsibilities

#### 4.3.1 The Contractor will be responsible for the supply of the following:

- Completion of Site and Area Inductions and all other Site Specific Training, as required, but not limited to the following:
  - Task Hazard Analysis Procedure
  - Work Permit Procedure
  - Permit Acceptor
  - Field leadership
  - Confined Space Entry
  - Working at Heights
  - BHP Billiton Fitness to Work Policy
  - BHP Billiton Fatal Risk Control Standards
  - KNSC Life Saving Rules
- Supply of uniforms and Personal Protective Equipment (excluding respirators) to the minimum HSEC standards of the Company if Contractor personnel are required to work on Site. The minimum requirements for Personal Protective Equipment are:
  - Full length (long trousers, long sleeved shirt) high visibility natural fibre clothing
  - Safety boots
  - Hard hat with chin strap
  - Safety glasses
  - Mono Goggles
  - Hearing protection
  - General purpose gloves

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- High visibility wet weather gear
- Lifting gear and hold-down gear for equipment removal and transport
- Supply of trade tools, equipment (including testing equipment), consumables and vehicles (in accordance with BHP Billiton Fatal Risk Control Standards FRCP 3.1 - 'Road Going Vehicles') as necessary to perform the required tasks
- Maintenance and care of all tools, vehicles and equipment including inspection of pressure equipment and hoses
- Replacement of the tools, equipment and vehicles will be at no cost to NiW, irrespective of cause for replacement (for example loss or damage), with exception of malicious acts by NiW employees.
- Costs associated with replacing or repairing any lost or damaged hire tools and equipment provided by NiW will be borne by the Contractor.
- Mobilisation and demobilisation of all personnel, tools, equipment, and consumables required to provide the Services, to and from either Site, and between Sites
- Other consumables such as protective barriers.
- The Contractor must advise and clearly set out to NiW the scaffold, forklift, crane and equipment re-fuelling requirements necessary to perform the Services

### 4.4 Referenced Documents, Statutory Requirements and Standards

- Occupational Safety and Health Act 1984
- Occupational Safety and Health Regulations 1996
- Mines Safety and Inspection Act 1994
- Mines Safety and Inspection Regulations 1995
- AS 2177 – Non Destructive Testing – Radiography of welded butt joints
- AS 2205 – Methods of Non Destructive Testing of welds in metals
- AS 3990 – Mechanical Equipment – Steel Work
- AS 1796 – Certification Of Welders and Welding Supervisors

#### 4.4.1 NiW Standard Engineering Specifications available on request

- NiW SES 202 - Installation of Mechanical Equipment
- NiW SES 207 - Packaging and Transport of Goods

The list of Legislation and Standards above is not intended to be exhaustive. It is the Contractor's responsibility to ensure that all Contractor personnel are familiar with Legislation and relevant Standards.

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It is the Contractor's responsibility to ensure all works performed comply with all Statutory Requirements, Regulations and Legislation, and the most recent edition of the appropriate Codes of Practice and Standards relevant to such work in Western Australia.

### 4.5 Testing, Inspection and Commissioning

To be carried out as per the supplied contractors Inspection and Test Plan (ITP)

### 4.6 Documentation to be Supplied by Contractor

- Task Hazard Analysis and Job Safety Awareness sheets
- Register of personnel and qualifications
- NDT report on Tilter and Tilter support frame
- Quote for Part B of services
- Completed Inspection test plan (ITP) for Part A and B
- Close out report
- MDR

### 4.7 Other Information

#### 4.7.1 Key Performance Indicators (KPI's)

- Base line KPI's are to be developed by you and form the basis for reporting of progress on the Services. This is to be in alignment with our baseline KPI's which will include but not be limited to:

#### 4.7.2 Injury Statistics

- KPI's relating to injury / incidents should include the number of:
- Total Recordable Injuries (TRI) = 0
- Zero Barrier events = 0
- Number Field Leadership conducted = 1 per Supervisor per shift.
- Number of Level 2 Environmental Incidents = 0
- KNSC target in regards to HSEC is Zero Harm to people, environment and community. KNSC definitions must be used and can be sourced from your site representative.

#### 4.7.3 Positive Performance Indicators

Positive performance indicators will be measured for you during the contract works, are but not limited to:

- Compliance with Field Leadership requirements
- Number of toolbox/safety meetings conducted compared to those scheduled
- Number of safety meetings attended by the Company Representative
- Retention of Personnel
- Quality Plan compliance
- Invoice Management

*End of Document*