

	Scope of Work	Tutuka Power station
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Title: **PF Sampling and Grading of PF services at Tutuka Power station.**

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1. Introduction

Tutuka Power Station comprises 6 generating units. Each unit is equipped with Tube Mill coal pulverisers. The mills are fed with coal from the coal feeder and the PF exits the mills via the two classifiers. The classifiers are static type with adjustable blades. Each classifier has two outlet pipes, each pipe supplying an individual burner. The plant is designed for five mills in service at boiler maximum continuous rating. According to the work instruction PF sampling should be conducted at 90% MCR and mill loading to be on manual adjusting the PA flow until the coal flow is on set point.

2. Supporting Clauses

2.1 Scope

The scope of this document is to clarify the applicable areas and method for the Tube Mill PF sampling at Tutuka Power Station.

2.1.1 Purpose

The purpose of this document is to outline the scope of work required to execute the Tube Mill PF sampling at Tutuka Power Station.

2.1.2 Applicability

This document shall apply to Tutuka Power Station Only.

2.1.3 Effective date

The effective date will be from the authorisation date.

2.2 Normative/Informative References

Parties using this document shall apply the most recent edition of the documents listed in the following paragraphs.

2.2.1 Normative

- [1] ISO 9001 Quality Management Systems
- [2] Occupational Health and Safety Act (No. 85 of 1993)
- [3] 18001:2007 OHSA 18000:2007

2.2.2 Informative

- [4] 240-76440331 Pulverised Fuel Sample Collection and Size Grading Standard.
- [5] 15ENG PERF-580 PF Sampling and Grading of PF Instruction

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2.3 Definitions

Definition	Description
PF sampling	Extracting a representative Pulverised Fuel sample from an in-service coal line
Isokinetic sampling	

2.4 Abbreviations

Abbreviation	Explanation
ISO	International Standards Organisation
MCR	Maximum continuous rating
µm	Micron
OHS Act	Occupational Health and Safety Act
PA	Primary air
PF	Pulverised Fuel

2.5 Roles and Responsibilities

Principal Contractor

- As per OHS Act (85/1993), executes scope of work issued by the Employer.

Tutuka Quality

- Ensures that quality legislation and standards are adhered to, and quality practices are always implemented during execution of the works.

Tutuka Safety

- Ensures safety legislation and standards are adhered to, and that safety practices are always implemented during execution of the works.

Engineering Performance and Testing

- Compile and review the scope of work for the Tube Mill PF sampling test as per the requirement.
- Conducts technical evaluation,

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2.6 Process for Monitoring

The procurement department will adjudicate the tender evaluation and contract appointment.

2.7 Related/Supporting Documents

NEC

3. Scope of work.

3.1 Execution summary

The contractor is to perform Mill PF Sampling test on 24 Mills at Tutuka Power Station for a period of..... The test should be done as per the standard procedure 240-76440331 Pulverised Fuel Sample Collection and Size Grading Standard. Testing will be arranged prior according to the availability and will be arranged in such a way that one unit will be done at a time. Each unit consists of 6 mills, which consists of:

- 4 PF pipes on each Mill
- 3 sampling ports per pipe
- 6 sample points per Probe measurement

Pipe diameter	mm	687
Probe nozzle diameter	mm	14

PF sampling testing and reporting to include the following test and analysis.

- PF distribution
- Recovery rate
- PF grading
- Coal feeder sample, Coal, and PF analysis

The Contractor should provide a sample report standard and include formulas that will be used for calculations. The following sieve sizes is compulsory to be used when doing PF grading:

Standard Burner Requirements:

- Passing through 75µm: 65% to 75%
- Passing through 106µm: 77% to 86%
- Passing through 150µm: 88% to 94%
- Passing through 300µm :98.8% to 99.8%

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Low Nox Burners (no over fire air):

- Passing through 75µm: 71% to 80%
- Passing through 106µm: 80% to 90%
- Passing through 150µm: 99.4% to 99.95%
- Passing through 300µm :100%

. Raw coal sample and PF sample

The contractor to take Mill feeder raw coal and PF sample and send to Laboratory for the following analysis

- Raw coal Total Moisture
- PF Total Moisture
- Raw coal Hardgrove index.

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