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Strategy for Fuel Oils for Coal
Fired Boilers**

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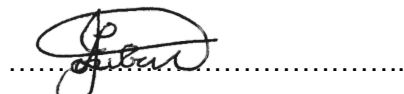
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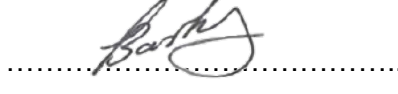
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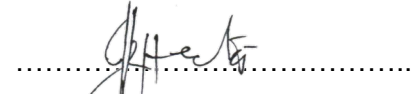
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CONTENTS

	Page
1. INTRODUCTION	3
2. SUPPORTING CLAUSES	3
2.1 SCOPE	3
2.1.1 Purpose	3
2.1.2 Applicability	3
2.2 NORMATIVE/INFORMATIVE REFERENCES	3
2.2.1 Normative	3
2.2.2 Informative	3
2.3 DEFINITIONS	4
2.3.1 Classification	4
2.4 ABBREVIATIONS	5
2.5 ROLES AND RESPONSIBILITIES	5
2.6 PROCESS FOR MONITORING	5
2.7 RELATED/SUPPORTING DOCUMENTS	5
3. TENDER TECHNICAL EVALUATION STRATEGY	6
3.1 TECHNICAL EVALUATION THRESHOLD	6
3.2 TET MEMBERS	6
3.3 MANDATORY TECHNICAL EVALUATION CRITERIA	6
3.4 QUALITATIVE TECHNICAL EVALUATION CRITERIA	6
3.4.1 Blending Facility	6
3.4.2 Product documentation	6
3.4.3 Grade 3 additional requirements	8
3.5 TET MEMBER RESPONSIBILITIES	11
3.6 FORESEEN ACCEPTABLE / UNACCEPTABLE QUALIFICATIONS	11
3.6.1 Risks	11
3.6.2 Exceptions / Conditions	12
4. AUTHORISATION	13
5. REVISIONS	13
6. DEVELOPMENT TEAM	13
7. ACKNOWLEDGEMENTS	13

TABLES

Table 1: TET Members	6
Table 2: Reporting criteria for Grade 1 fuels	7
Table 3: Reporting criteria for Grade 2 fuels	7
Table 4: Reporting criteria for Grade 3 fuels	8
Table 5: Qualitative Technical Evaluation Criteria Grades 1 and 2	9
Table 6: Qualitative Technical Evaluation Criteria Grade 3	10
Table 7: TET Member Responsibilities	11
Table 8: Acceptable Technical Risks	11
Table 9: Unacceptable Technical Risks	11
Table 10: Acceptable Technical Exceptions / Conditions	12
Table 11: Unacceptable Technical Exceptions / Conditions	12

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1. INTRODUCTION

Eskom coal fired boilers require liquid fuel oils as described in the Eskom fuel oil specification (240-83797789 'Specification for Fuel Oil for Coal Fired Boilers') for boiler light-ups and combustion support. The quality of fuel oils purchased is critical to the correct combustion and firing of the boiler as well as the efficient functioning of the associated fuel oil storage and supply systems at the various power stations.

2. SUPPORTING CLAUSES

2.1 SCOPE

This document is applicable to all coal fired power stations and their associated auxiliary boilers.

2.1.1 Purpose

This document describes the technical evaluation criteria for the evaluation of fuel oil tender submissions, for the supply of fuel oils used for boiler light up and combustion support at Eskom coal fired power stations.

This tender technical evaluation strategy defines the Qualitative Evaluation Criteria and TET member responsibilities for tender technical evaluation. This technical evaluation strategy serves as the basis for the tender technical evaluation process.

2.1.2 Applicability

This strategy applies to all fuel oils supplied to Eskom coal fired stations, as described in the Eskom fuel oil specification (240-83797789 'Specification for Fuel Oil for Coal Fired Boilers').

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] 240-168966153 Generation Tender Technical Evaluation Procedure
- [2] 240-83797789 Specification for Fuel Oil for Coal Fired Boilers Standard

2.2.2 Informative

- [3] ISO 8217 Products from petroleum, synthetic and renewable sources — Fuels (class F) — Specifications of marine fuels
- [4] SANS 1314 Industrial fuel oil for burner applications

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2.3 DEFINITIONS

Distillate fuel	In crude oil refining, distillate fuels are products in the mid boiling range, derived from the distillation of the crude oil in a distillation column.
Grade 1	<p>This is typically a light to medium distillate fuel. These fuels may be derived from gas, coal or crude oil and are intended for use in boiler fuel oil systems burning fuels such as diesel, without heating facilities, e.g. Arnot, Kriel and Duvha Power Stations.</p> <p>Additional specific limits may be placed on fuel sulphur contents for boilers using fabric filter flue gas cleaning technologies.</p> <p>The typical performance and physical properties of the fuel are described in table 1 of the Eskom fuel oil specification [2].</p>
Grade 2	<p>This is a typically a blend of distillate fuel (typically crude oil derived diesel) and medium to heavy residual fuel (typically crude oil derived). These fuels may be derived from gas, coal or crude oil and are intended for use in boiler fuel oil systems without heating facilities.</p> <p>Additional specific limits may be placed on fuel sulphur contents for boilers using fabric filter flue gas cleaning technologies.</p> <p>The typical performance and physical properties of the fuel are described in table 1 of the Eskom fuel oil specification [2].</p>
Grade 3	<p>This is a typically a blend of medium to heavy distillate fuel (typically crude oil derived diesel) and medium to heavy residual fuel oil (typically crude oil derived).</p> <p>The typical performance and physical properties of the fuel are described in table 1 of the Eskom fuel oil specification [2].</p>
Residual fuel	Fuel derived from the residue that collects at the bottom of a distillation column or pipe still. A fuel composed of unevaporated materials after the atmospheric distillation of crude oil.

2.3.1 Classification

Controlled Disclosure: Controlled Disclosure to external parties (either enforced by law, or discretionary).

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2.4 ABBREVIATIONS

Abbreviation	Description
CFT	Cross Functional Team
CV	Calorific Value
Gx	Generation (Division)
HFO	Heavy Fuel Oil
MSDS	Material Safety Data Sheet
PDS	Product Data Sheet
TDS	Technical Data Sheet
TET	Technical Evaluation Team

2.5 ROLES AND RESPONSIBILITIES

As per Generation Tender Technical Evaluation Procedure [1].

2.6 PROCESS FOR MONITORING

Conformance to the requirements of this strategy to be reviewed during technical tender evaluations and system audits.

2.7 RELATED/SUPPORTING DOCUMENTS

Not applicable.

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3. TENDER TECHNICAL EVALUATION STRATEGY

3.1 TECHNICAL EVALUATION THRESHOLD

The minimum weighted final score (threshold) required for a tender to be considered from a technical perspective is 70%.

3.2 TET MEMBERS

Table 1: TET Members

TET Number	TET Member Name	Designation
TET 1	Leslie Barker	Chief Engineering Advisor, Process Engineering
TET 2	Lodewyk Joubert	Chief Engineer, Process Engineering

3.3 MANDATORY TECHNICAL EVALUATION CRITERIA

All mandatory evaluation criteria have been removed.

3.4 QUALITATIVE TECHNICAL EVALUATION CRITERIA

Tenders are evaluated in two phases:

- Phase 1: Desktop review

Tender returnables listed in paragraphs 3.4.1 to 3.4.3 shall be measured against evaluation criteria listed in Table 5 and Table 6.

- Phase 2: Site evaluation

Performed for tenders meeting the threshold and other relevant commercial criteria.

Key aspects of site evaluations:

- **observation** of the conditions at supplier's facility/facilities;
- physical **confirmation** of the information provided in tender documents;
- **validation** of findings of the desktop evaluation.

The applicable technical evaluation criteria listed below will be used for each evaluation.

3.4.1 Blending Facility

Tenderers must demonstrate control of or access to blending facilities. Required documentation:

- facility location;
- proof of ownership or formal agreement (including duration and whether priority is given);
- access for supply and product correction;
- blending tank/plant capacity;
- access to accredited testing laboratory (specify if external).

3.4.2 Product documentation

For all grades of fuel oil:

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- identify source (company, product location, supplier commitment letter);
- provide up-to-date **Technical Data Sheets** (TDS) for each fuel oil tendered, reflecting the name/brand and grade;
- provide **Material Safety Data Sheets** (MSDS) for each fuel oil tendered, reflecting the name/brand and grade;
- provide independent **laboratory test certificates**, reflecting the name/brand and grade, no older than 3 months before the enquiry closing date, showing compliance to the Eskom standard [2]. The supplier shall ensure that all required testing and analysis are conducted in a laboratory environment capable of consistently producing technically valid data to confirm product conformity and quality. Reporting criteria are listed in the tables below, according to the grade of fuel oil.

NB: all documents relating to one product/grade to relate to single product from the same source.

Supplier commitment letter to include the tender title and number, monthly volume of fuel offered per grade and the duration of the contract.

Table 2: Reporting criteria for Grade 1 fuels

Spec (Grade 1)	Property
	Viscosity at 40°C
	Nett CV
	Ash
	Sulphur
	Density
	Flash Point
	Water content
	Carbon residue

Table 3: Reporting criteria for Grade 2 fuels

Spec (Grade 2)	Property
	Viscosity at 50°C
	Nett CV
	Ash
	Sulphur (S)
	Aluminium/Silicon (Al/Si)
	Density
	Flash Point
	Vanadium (V)
	Water content
	Carbon residue

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Table 4: Reporting criteria for Grade 3 fuels

Spec (Grade 3)	Property
	Viscosity at 50°C
	Viscosity at 100°C
	Nett CV
	Ash
	Sulphur (S)
	Aluminium/Silicon (Al/Si)
	Flash Point
	Vanadium (V)
	Water Content
	Carbon residue

3.4.3 Grade 3 additional requirements

Tenders which include Grade 3 fuel oil shall include:

- heating arrangements at source (tank capacities, heater type, power/heating rating, dependency on grid power or alternative source, etc.);
- measures to ensure that fuel oil is transported and offloaded at the specified temperature (i.e. insulated or heated).

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Table 5: Qualitative Technical Evaluation Criteria Grades 1 and 2

	Qualitative Technical Criteria Description		Reference to Technical Specification / Tender Returnable	Criteria Weighting (%)	Criteria Sub Weighting (%)
1.	Blending facility		Par. 3.4.1	50%	
	1.1	Location of facility/facilities indicated		Rating per line	20
	1.2	Proof of ownership / agreement			20
	1.3	Access proven			20
	1.4	Capacity of bending tank/plant documented			20
	1.5	Accredited laboratory access			20
2.	Product Documentation		Par. 3.4.2	50%	
	2.1	Source identified		Rating per line	20
	2.2	Full Technical Data Sheets (TDS).			20
	2.3	Full Material Safety Data Sheets (MSDS)			20
	2.4	Laboratory test certificate from an <u>independent</u> laboratory.			40

Table 6: Qualitative Technical Evaluation Criteria Grade 3

	Qualitative Technical Criteria Description		Reference to Technical Specification / Tender Returnable	Criteria Weighting (%)	Criteria Sub Weighting (%)
1.	Blending facility		Par. 3.4.1	20%	
	1.1	Location of facility/facilities indicated		Rating per line	20
	1.2	Proof of ownership / agreement			20
	1.3	Access proven			20
	1.4	Capacity of bending tank/plant documented			20
	1.5	Accredited laboratory access			20
2.	Product Documentation		Par. 3.4.2	50%	
	2.1	Source identified		Rating per line	20
	2.2	Full Technical Data Sheets (TDS).			20
	2.3	Full Material Safety Data Sheets (MSDS)			20
	2.4	Laboratory test certificate from an independent laboratory.			40
3.	Grade 3 additional requirements		Par. 3.4.3	30%	
	3.1	Indicate heating arrangements at source.		Rating per line	80
	3.2	Transport measures for temperature specification.			20

3.5 TET MEMBER RESPONSIBILITIES

Table 7: TET Member Responsibilities

Qualitative Criteria Number	TET 1	TET 2
1	X	X
2	X	X
3	X	X

3.6 FORESEEN ACCEPTABLE / UNACCEPTABLE QUALIFICATIONS

3.6.1 Risks

Table 8: Acceptable Technical Risks

Risk	Description
1.	Unheated tankers for Grade 3: The supplier ensures delivery time and temperature meet offloading requirements.

Table 9: Unacceptable Technical Risks

Risk	Description
1.	Non-conforming products: All products shall include the listed Tender Returnables from the same source.
2.	No/limited access to blending facility: Supplier processes and logistic arrangements shall be verified in phase 2.
3.	Grade 3 temperature: Heating and transport measures shall be confirmed in phase 2.

3.6.2 Exceptions / Conditions

Table 10: Acceptable Technical Exceptions / Conditions

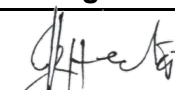


Risk	Description
1.	On-site laboratory testing: Post-tender, on-site testing may confirm conformance prior to dispatch.

Table 11: Unacceptable Technical Exceptions / Conditions

Risk	Description
1.	Inability to seal tanker/trailer: Secure sealing of all intake and discharge points is required directly after loading until delivery.

4. AUTHORISATION

This document has been seen and accepted by:

Name	Designation	Signature
Jason Hector	Senior Manager: Gx Process Engineering	
Lodewyk Joubert	Chief Engineer: Gx Process Engineering	
Leslie Barker	Chief Engineering Advisor: Gx Process Engineering	
Samu Seleke	Generation Engineering Documentation Controller	

5. REVISIONS

Date	Rev.	Compiler	Remarks
Dec 2024	0.1	LF Barker	First Draft Technical Evaluation of Fuel Oil Submissions
Dec 2024	0.2	LF Barker	Final Draft Document after Comments Review Process
Dec 2024	1	LF Barker	Final Document for Authorisation and Publication
Mar 2025	1.1	LL Joubert	Draft after review of Rev. 1 to update technical criteria
Mar 2025	1.2	LL Joubert	Final Draft Document after Comments Review Process
Mar 2025	2	LL Joubert	Final Rev 2 Document for Authorisation and Publication
Apr 2025	2.1	LL Joubert	Changes to Mandatory and Qualitative Requirements
Apr 2025	2.2	LL Joubert	Draft Document after CFT Review Process
Apr 2025	2.3	LL Joubert	Draft Document after update to address comments received
Apr 2025	3	LL Joubert	Final Rev 3 Document for Authorisation and Publication
Apr 2025	3.1	LL Joubert	Update tender returnables and qualifications
Apr 2025	3.2	LL Joubert	Draft document after internal review
Apr 2025	3.3	LL Joubert	Draft document after CFT Review
May 2025	4	LL Joubert	Final Rev 4 Document for Authorisation and Publication

6. DEVELOPMENT TEAM

The following people were involved in the development of this document:

- Leslie Barker
- Lodewyk Joubert

7. ACKNOWLEDGEMENTS

The development team thanks the Cross Functional Team for their input and review.

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