

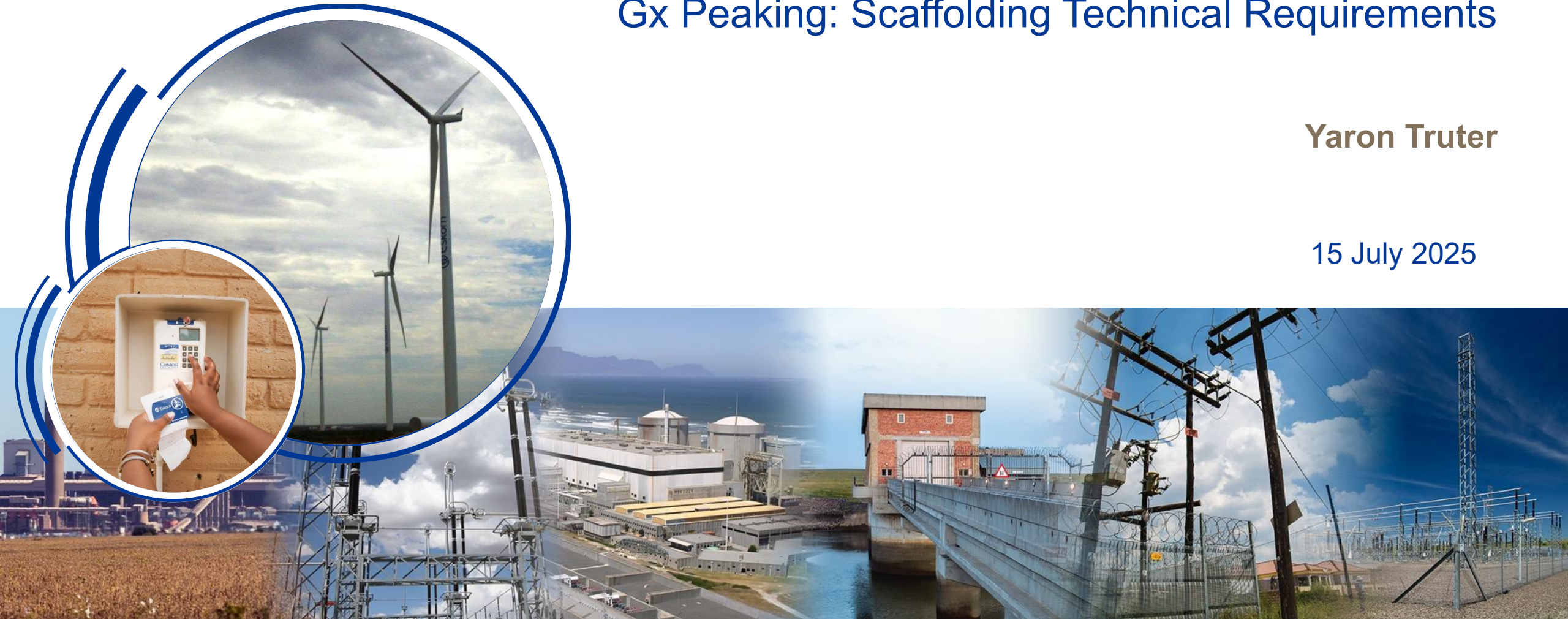
In partnership with



Gx Peaking: Scaffolding Technical Requirements

Yaron Truter

15 July 2025



Background

Problem, Objectives and Opportunity

Technical Requirements

Eskom has a division called “Peaking” and comprises of 14 power stations that supply power to the electricity grid of South Africa.

As part of sustainability plans, the Peaking division requires maintenance of its utilities to take place at established intervals and can also include unplanned activities.

Generation Peaking Power Stations:

1. Acacia power station in Edgemead, Western Cape.
2. Ankerlig power station in Atlantis, Western Cape.
3. Drakensberg power station in the Norther Drakensberg mountains, KwaZulu Natal.
4. Gariep power station in the Gariep Dam Nature Reserve near Colesberg in the Free State.
5. Gourikwa power station in Mossel Bay, Western Cape.
6. Palmiet power station in Grabouw, Western Cape.
7. Port Rex power station in East London, Eastern Cape.
8. Ingula power station, situated 55 km from Ladysmith in KwaZulu Natal.
9. Vanderkloof power station situated at the Vanderkloof Dam near Petrusville in the Northern Cape.
10. Ncora small hydro operating in Mthatha
11. 1st Falls small hydro is in Nyandeni Local Municipality, Libode towards Port St. Johns near Mthatha.
12. 2nd Falls small hydro is in King Sabata Dalityebo (KSD) Local Municipality, situated some 5km north –west of Mthatha in the Eastern Cape.
13. Mbashe (Colley Wobbles) small hydro is in Mbashe Local Municipality in Dutywa.
14. Sere wind energy facility, situated on the Atlantic coast, near the towns of Koekenaap, Lutzville and Vredendal.

Background Cont. (Gx Peaking Power Stations Geographic Locations)



Problem Statement

- Maintenance, as well as planned and unplanned outages (Shutdowns) needs to be performed periodically.

Objectives

- It is imperative that all maintenance activities be managed efficiently and that the durations are kept to the absolute minimum so that power plant be returned to service **AS SOON AS POSSIBLE**. This approach is to ensure that the **Energy Availability Factor is maximized**.

Generation terminology explained

- EAF: Energy availability factor (%) this measures the power station's availability after taking into consideration the downtime for planned maintenance, unplanned capacity losses, and losses beyond the control of plant management.
- UCLF: Unplanned capacity loss factor (%) the energy that a station or unit cannot produce for unplanned reasons, such as breakdowns. This may be a full load loss where the unit is totally shut down, or a partial load loss where the unit is unable to produce electricity at full load.
- PCLF: Planned capacity loss factor (%) the energy that a station cannot produce owing to planned maintenance. This is expressed as a percentage of the total energy that it should be able to produce. The maintenance is typically done at predetermined intervals to maintain the plant systems and components.
- OCLF: Other capacity loss factor (%) the energy that a station cannot produce for reasons beyond the plant management control. This could be due to natural events such as lightning strike or where a unit is not able to produce electricity at full load owing to issues such as poor fuel quality.

$$EAF (\%) = 100\% - PCLF\% - UCLF\% - OCLF\%$$

Opportunity

- During the execution of these planned/unplanned maintenance and shutdowns, there may be a need for scaffolding.

The *Contractor* is required to provide the following services for all Peaking Power Stations:

- Design all scaffolding structures needed to execute *Employer* requirements
- Supply adequate materials for scaffolding requirements
- Provided transport for delivery of all materials for scaffolding
- Supply adequate tools required to erect and disassemble scaffolding platforms and structures
- Provide transport for delivery of all the tools required to erect and disassemble scaffolding platforms and structures
- Supply adequate labour required to erect, disassemble and statutory inspections of scaffolding platforms and structures
- Supply adequate equipment required to erect and disassemble scaffolding platforms and structures, for example a forklift for moving materials around the plant
- Install scaffolding structures and platform for all Eskom work when requested to do so during the period of this contract
- Disassemble scaffolding structures and platform for all Eskom work when requested to do so during the period of this contract
- Transport material with a forklift or men to and from the areas of the plant when requested to do so
- Provided storage of the materials, equipment and tools for scaffolding requirements within the power station
- Provide offices for staff and change rooms for *Contractor* Employees
- Provide material and labour for site services if need be
- Connect *Contractors* site services to the connection points provided by the employer
- Supply PPE (Personal protective equipment) for *Contractor* Employees
- Ensure that people, materials, equipment and tools are available according to the working hours and days agreed between both parties

NB. For emergency task orders, mobilization of 24 hrs is required from the Task Order date.

An Emergency means:

- a serious and unexpected situation has arisen or will arise that poses an immediate risk to health, life, property, or the environment; and
- the situation calls for urgent action that may impact the Energy Availability Factor (EAF)

(The Contractor ensures that a purchase order for the emergency work is received within 24 hours of doing the emergency work.)

Stage 1: **Mandatory Evaluation Criteria**

- Tenderers **MUST** meet the Mandatory Evaluation Criteria

Stage 2: **Qualitative Evaluation Criteria**

- Tenderers will be scored on each criterion on a scale of 0 to 5. Each item shall have the specific sub-weighting criteria
- The minimum weighted final score (threshold) required for each tendered design to be considered FUNCTIONALLY ACCEPTABLE from a technical perspective is 80%

Ref #	Mandatory Technical Criteria Description	Reference to Technical Specification / Tender Returnable	Reason for use of Criteria
1.	The tenderer must have experience in the scaffolding installation and de-installation.	Schedule of Submittals: Tender Technical Returnable	The reference work demonstrates the tenderer's capability to execute the Works. The tenderer must provide a reference list of relevant projects and / work as per the provided template. The list must show the experience in the scaffolding installation and de-installation for a minimum combined period of greater or equals to 36 months.

Criteria Ref #	Qualitative Technical Criteria Description		Reference to Technical Specification / Tender Returnable	Criteria Weighting (%)	Criteria Sub Weighting (%)
1	Technical Capability			35	
	1.1	Design of specialised scaffolding. Provide details and proof of the designs of specialised scaffolding structure, erection drawings and engineering certification.	Number of Designs ≥5 Designs = 5 3-4 Designs = 4 2 Designs = 2 <2 Designs = 0		40
	1.2	Provide details and proof of the designs and erect scaffolding to a minimum height of 30m, including hanging scaffolding and platforms.	Number of Designs ≥5 Designs = 5 3-4 Designs = 4 2 Designs = 2 <2 Designs = 0		40
	1.3	Method Statements and Safe Work Procedure. Provide previous method statement of the following for outages or maintenance and / or construction. 1.3.1 Scaffolding 1.3.2 Confined spaces 1.3.3 Working at heights	Number of Method statements (minimum one for each category) 3 categories = 5 2 categories = 4 1 categories = 2 < 1 categories = 0		20

2	Project Management			10	
	2.1	Project plan/schedule: Integrated level 2 programme for previous project	Number of Activities per program > 50 Activities = 5 30-49 Activities = 4 20-29 Activities = 2		40
	2.2	Project risk assessment and mitigation for previous project 2.2.1 Scaffolding 2.2.4 Confined spaces 2.2.5 Working at heights	Number of Risk Assessments (minimum one for each category) 3 categories = 5 2 categories = 4 1 categories = 2 < 1 categories = 0		40
	2.3	Resource Plan: Resource plan for previous project including the following: 2.3.1 Head office organogram 2.3.2 Site organograms for previous projects	Organograms for for both Head Office and Site = 5 Organogram submission for Head office only = 4 Organogram submission for Site only = 2 Zero submissions = 0		20

3	Industry involvement			25	
	3.1	Proof of years involved in the scaffolding erection (list of works executed over the period)	>7 years = 5 5 -7 years = 4 3 years = 2 < 3 years = 0		60
	3.2	Training and certification of personnel at accredited training facility: 3.2.1 Working at heights 3.2.2 Scaffold erectors 3.2.3 Scaffold inspection	>10 personnel for each skill = 5 6 to 8 personnel for each skill = 4 <6 personnel for each skill = 2 Non responsive = 0		40
4	Experience of Key personnel			15	
	4.1	Provide CV's of the key personnel available to do scaffolding: 4.1.1 Site manager, 4.1.2 Site Supervisor 4.1.3 Safety officer 4.1.4 Quality officer 4.1.5 Scaffolding section leader	Related/relevant years of experience >7 years = 5 5 -7 years = 4 3-4 years = 2 < 3 years = 0 (Score each item separately and calculate an average final score, thereafter align the overall score according to table 4 i.e. to the nearest 0,2,4 or 5 with median rounded to the higher next number)		100
5	Stock holding		Technical Schedule	15	
	5.1	Provide proof of stock holding or acquired or hiring of scaffolding material	>200 tons = 5 150 to 199 tons = 4 100 to 149 tons = 2 <100 tons = 0		100

In partnership with



Thank you

