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Title	**GEOTECHNICAL AND GEOPHYSICAL SURVEY FOR MPR PROJECT SITING - SCOPE OF WORK**
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Revision	3

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1 PURPOSE

The purpose of this Scope of Work is to define the tasks, deliverables, responsibilities, and requirements for the geotechnical and geophysical characterisation of the preferred site for the proposed Multi-Purpose Reactor. The work will develop site-response information and site-related design-basis inputs for the reactor design, Site Safety Report, Environmental Impact Assessment, and Public Information Document.

2 REFERENCES AND ABBREVIATIONS

2.1 References

Table 1

Reference		Description
[1]	National Environmental Management Act 107 of 1998	Environmental governance and sustainability framework
[2]	Regulation R.927	Regulations on the Licensing of Sites for New Nuclear Installations 2011
[3]	Regulation R.388	Regulations on Safety Standards and Regulatory Practices 2006
[4]	NNR RG-0011 Rev 0	Interim Guidance for the Siting of Nuclear Facilities
[5]	NNR PP-0014 Rev 0	Considerations of External Events for New Nuclear Installations
[6]	NNR RG-0016	Guidance on verification and validation of evaluation and calculation models 2016
[7]	IAEA SSR-1	Site Evaluation for Nuclear Installations 2019
[8]	IAEA SSG-93 Rev 1	Geotechnical Aspects in the Siting and Design of Nuclear Installations 2026
[9]	Geological Comparison Report Preliminary Report	Phase 1 MPR site-screening input
[10]	Necsa MPR Geotech Geophysics Part 1 Report	Phase 1 MPR site-screening input

2.2 Abbreviations

Table 2

Abbreviation	Description
CSW	Continuous Surface Wave
EIA	Environmental Impact Assessment
IAEA	International Atomic Energy Agency
MPR	Multi-Purpose Reactor

Abbreviation	Description
NEMA	National Environmental Management Act
NNR	National Nuclear Regulator
PID	Public Information Document
PQP	Project Quality Plan
SHEQ	Safety Health Environment and Quality
SOW	Scope of Work
SQEP	Suitably Qualified and Experienced Person
SSR	Site Safety Report

2.3 Definitions

Table 3

Term	Description
Site response	The behaviour of the site and geological materials under static and dynamic loading including seismic effects.
Geotechnical characterization	Investigation and assessment of the soil rock groundwater and founding conditions at the site.
Geophysical survey	Measurement of subsurface physical properties to support the site model and response assessment.

3 OBJECTIVES

The objective is to appoint a suitably qualified and experienced Service Provider to complete the geotechnical and geophysical investigation of the preferred MPR site and submit a technically sound report for project design environmental assessment and nuclear-siting submissions.

- Characterise the soil rock groundwater and founding conditions of the preferred site.
- Establish site-response data through drilling test pitting geophysical testing laboratory testing and analysis.
- Provide traceable design-basis inputs for the MPR design and Site Safety Report.
- Provide geotechnical and geophysical information for the EIA and Public Information Document.

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4 SCOPE DESCRIPTION

The Service Provider shall perform the following investigations, testing, analysis, planning and reporting activities to characterise the preferred MPR site.

4.1 Rotary Core Drilling

- Drill approximately 10 boreholes to depths ranging from 15 m to 35 m.
- Conduct Standard Penetration Tests at 1.5 m intervals.
- Collect Shelby tube samples and rock-core samples.
- Arrange for an engineering geologist to log the boreholes.
- Install piezometers to monitor groundwater levels.
- Capture geological information on the site plans.

4.2 Test Pitting

- Excavate approximately eight test pits to a depth of approximately 3 m.
- Arrange for an engineering geologist to profile the test pits.
- Test disturbed and undisturbed samples to identify founding properties.
- Loosely backfill the test pits after completing the investigation**.**

4.3 Continuous Surface Wave (CSW) survey and down hole seismic testing

4.4 Laboratory Testing

4.5 Analysis reported in detailed reports

4.6 The report/s shall be required to comply with the below requirements.

Table 4

Reference	Description
National Environmental Management Act 107 of 1998	Environmental governance and sustainability framework
Regulation R.927	Regulations on the Licensing of Sites for New Nuclear Installations 2011
Regulation R.388	Regulations on Safety Standards and Regulatory Practices 2006
NNR RG-0011 Rev 0	Interim Guidance for the Siting of Nuclear Facilities
NNR PP-0014 Rev 0	Considerations of External Events for New Nuclear Installations
NNR RG-0016	Guidance on verification and validation of evaluation and calculation models 2016
IAEA SSR-1	Site Evaluation for Nuclear Installations 2019
IAEA SSG-93 Rev 1	Geotechnical Aspects in the Siting and Design of Nuclear Installations 2026

4.7 Exclusions

The Phase 1 preliminary site-screening assessments are existing inputs and will not be repeated unless Necsa approves additional work.

5 REQUIREMENTS

5.1 Project Execution

During the execution of the works, the Service Provider shall:

- Submit the proposed methodology, investigation locations, sampling plan, testing schedule, equipment list and applicable procedures for Necsa's approval before fieldwork begins.
- Use calibrated, fit-for-purpose equipment and provide applicable calibration and verification records.
- Maintain quality control, chain-of-custody and traceability arrangements for samples, field records, test results, calculations and drawings.
- Secure investigation areas and restore them to a safe condition after completing the fieldwork.
- Notify Necsa promptly of hazards, deviations, constraints or findings that may affect safety, quality, scope, schedule, design or regulatory submissions.
- Obtain written authorisation from Necsa before making any material change to the approved scope or methodology.
- Submit all deliverables in editable native format and PDF. Drawings and datasets shall be submitted in formats agreed with Necsa.

5.2 Regulatory and Standards Compliance Requirements

The Service Provider shall demonstrate compliance with the regulatory requirements as described in 4.8 above in the Project Execution.

6 DELIVERABLES

Table 5

Deliverable	Minimum content	Acceptance criteria
Inception package	Methodology programme resource plan investigation layout and registers	Approved by Necsa before fieldwork
Field records	Borehole logs test-pit profiles groundwater readings samples and updated site plans	Complete legible checked and traceable
Test results	Laboratory CSW and downhole seismic results with quality records	Issued by competent personnel and linked to samples and locations
Full Scale Geotechnical and Geophysical Characterization of the Site as described in Section 4	Methods, data, analysis, site response, conclusions, drawings and supporting evidence	Technically checked and suitable for Necsa review
Final assessment report and data pack	Accepted report resolved comments editable files PDF data drawings calculations and records	Necsa comments addressed and final submission accepted

7 SCHEDULE

The Service Provider shall submit a detailed programme for Necsa approval. Dates shall be agreed during contracting and shall account for site access, laboratory lead times, Necsa reviews and comment resolution.

8 BUDGET

The Service Provider shall provide a priced breakdown covering mobilisation, field investigations, testing, specialist personnel, reporting, disbursements and applicable taxes. No work outside the approved scope may be charged without prior written authorisation.

9 STAKEHOLDERS

Table 6

#	Title	Role
9.1.1	MPR Programme Manager	Project oversight approvals and escalation
9.1.2	MPR Project Manager	Coordination schedule monitoring records and reporting
9.1.3	Licensing and Regulatory Management	Nuclear-siting and regulatory requirements and review
9.1.4	Environmental Management Group	Technical geotechnical hydrogeological and EIA inputs
9.1.5	Design Authority and Engineering	Design-basis requirements technical review and interface control
9.1.6	Quality Assurance	Quality-plan review surveillance records and audits
9.1.7	Safety Health and Environment	Site-work controls permit monitoring and incident management
9.1.8	Supply Chain Management	Procurement and contract administration

10 RISKS

Table 7

Risk	Potential effect	Required control
Delayed site access permits or security clearance	Late mobilization and fieldwork	Confirm requirements early and track approvals in the programme.
Unknown subsurface or groundwater conditions	Changed investigation effort safety exposure or schedule delay	Use staged investigation and notify Necsa before changing scope.
Insufficient or poor-quality samples	Repeat work and weak design-basis evidence	Apply approved sampling handling storage and chain-of-custody controls.
Laboratory or specialist testing delay	Late analysis and reporting	Confirm capacity and lead times and monitor test status.

Risk	Potential effect	Required control
Safety or environmental incident	Harm stoppage non-compliance and delay	Implementing approved plans permits supervision and incident response.
Data inconsistency or loss	Unreliable conclusions and regulatory rejection	Use controlled records backups checking and traceability.
Regulatory requirements not fully addressed	Rework or delayed submissions	Complete a compliance matrix and involve Licensing and Regulatory Management in reviews.

11 ASSUMPTIONS

Number	Assumption	Based on
11.1.1	Necsa will provide controlled access to the preferred site and available site information.	Required for field investigations and planning.
11.1.2	The Phase 1 reports will be available as an input to the tendering Service Providers.	The source SOW identifies them as inputs to this study.
11.1.3	Investigation locations may be refined with Necsa approval to reflect access safety and field findings.	Final locations depend on site conditions and technical judgement.

12 AUTHORISATION

This Scope of Work is approved as a true and accurate reflection of the scope deliverables and requirements for the geotechnical and geophysical survey of the preferred MPR site.
By signing the authorised representatives confirm acceptance of the scope and authorise execution of the work in accordance with this document and applicable Necsa procurement contract safety quality and regulatory requirements

13 REVISION HISTORY

This document has been revised in accordance with the following schedule:

Rev. No.	Date approved	Nature of Revision	Prepared
1.0	See title page	First issue.	L.M
2.0	See title page	Second issue.	L.M
3.0	See title page	Third issue	L.M

14 APPENDICES

14.1 Appendix A: Geological Comparison Report - Preliminary Report

14.2 Appendix B: Necsa MPR Geotech Geophysics Part 1 Report