

ANNEXURE K2

RT&D research focus areas Scope of work:

South African Qualification Authority (SAQA) accredited Universities and Universities of Technology offering qualifications that are registered on the National Qualification Framework (NQF) focusing on **strategic and fundamental research** by providing long-term sustainable technical solutions in alignment with Eskom's specialist focus areas as outlined in the table below:

Generation	Transmission	Distribution
1. Digital Revolution* 2. Cyber Security* 3. Asset Management Optimisation 4. Bulk Material Handling 5. Fire Engineering 6. Generation, Combustion Engineering 7. Water Chemistry 8. Emissions Control 9. Material Science 10. Non-Destructive Testing & Risk-Based Engineering 11. Civil and Structural Engineering, Water Management & Ash Dams 12. Energy Efficiency & Renewable Energy 13. Turbo Gen & Boiler Health Care 14. Nuclear Pre-feasibility studies (New build options) 15. Gas Pre-feasibility studies 16. Energy Markets & Repowering/Repurposing Options on old fleet 17. Generation Flexibility 18. Green Hydrogen	1. Digital Revolution* 2. Cyber Security 3. Asset Management Optimisation* 4. High-Voltage Direct Current (HVDC) 5. Flexible Alternating Current Transmission System (FACTS) 6. Transmission System Planning 7. High-Voltage Alternating Current (HVAC) 8. Energy Markets* 9. Grid Planning 10. System Operations 11. Grid Flexibility* 12. Just Energy Transition for Transmission	1. Digital Revolution* 2. Cyber Security 3. Asset Management Optimisation* 4. Distributed Energy Resources (DERs), E-mobility, Microgrids, Demand Management & Distribution Flexibility* 5. Fibre, Optical Ground Wire (OPGW), Wide Area Monitoring System (WAMS) 6. Grid Modernisation 7. Distribution Energy Markets 8. Infrastructure Protection and Security 9. Future Customer – Products and Services 10. Pricing and Tariffs

Furthermore, ensure the scope of work includes but not limited to the following deliverables as may be directed by Generation, Transmission and Distribution divisions:

Fundamental and Strategic Research:

- Piloting and demonstrating innovative integration of technologies to stabilise the power grid such as synchronous condensers, battery storage systems, ancillary services for fast frequency control,

- Development of Experts and Specialists (Engineering and Science) through research as may be required by Generation, Transmission and Distribution
- Partner with the previously disadvantaged academic universities and universities of technology and new universities (Inter University Programme) to conduct research as and when required by Eskom Research Testing and Development (RT&D) business units:
 - Enrol previously disadvantaged South African students for post graduate studies in line with Eskom's technical challenges as outlined in the specialist focus areas by offering post graduate qualifications in alignment with Eskom's specialist focus areas (e.g. Post Graduate Diploma, Honours etc.)
 - Development of Experts and Specialists (Engineering and Science) through research as may be required by Generation, Transmission and Distribution offering Masters and Doctoral qualifications in line with Eskom's specialist focus areas.