

DIRECTORATE ELECTRICAL & MECHANICAL

Directorate Electrical and Mechanical Engineering
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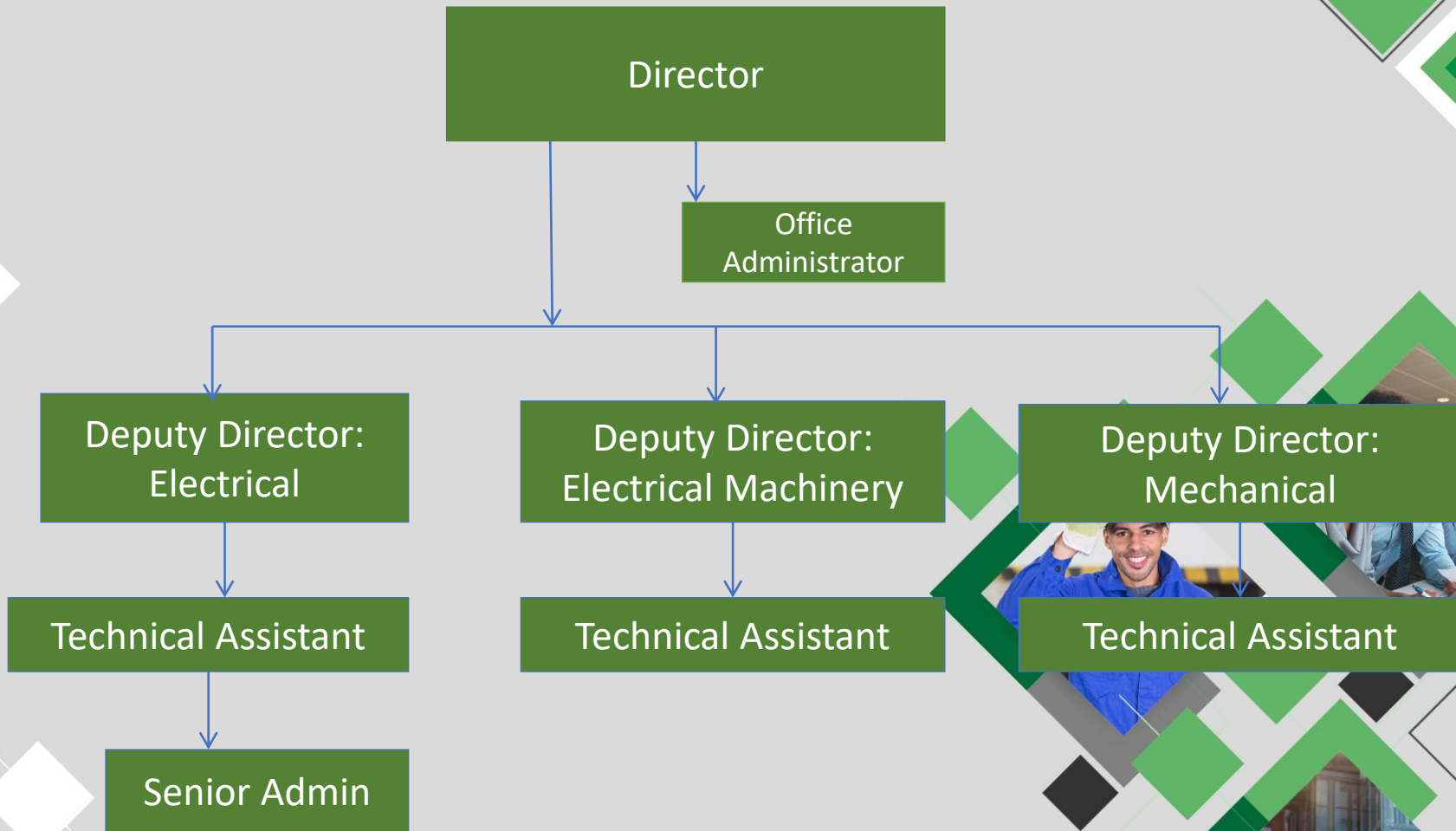
Strategic intent of the Directorate

- To ensure Safety Compliance of Electrical and Mechanical Machinery through National and International Standards.
- Development of policy and legislation relating to Electrical safety & Mechanical safety



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Sets of Regulations administered by the Directorate

- Electrical Installation Regulations(EIR)
- Electrical Machinery Regulations(EMR)
- Driven Machinery regulations(DMR)
- General Machinery Regulations(GMR)
- Lift ,Escalator and Passenger Conveyor Regulations(LEPC)
- Regulations Concerning the Certificate of Competence(GCC)
- Pressure Equipment Regulations(PER)



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Application of These regulations to the Construction Environment

First lets look at the EIR &EMR

- The Client must first meet the requirements of Construction regulations 3&4
- Depending on Energy or Electrical needs of the Project the Construction site will need one of the following:
- Temporary Distribution Box
- Mini Sub-station
- Generator



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EIR & EMR

Safety Requirements

- Temporary Distribution Box the Certificate of Compliance will be required
- Mini Sub-station the Professional engineer, technologist or technician certificate will be required
- Generators shall be without risk when properly used.



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EIR & EMR continue

- As building proceeds general supervision by ECSA Professional or electrician registered with DEL will be required
- The ECSA Professional must issue design Certificate and registered electrician must CoC or CoCs all the installation.
- Where there is a specialized installation or hazardous locations a Master Installation Electrician must exercise general supervision and issue a CoC for that section



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EMR 12: Electric fence

- Electric fence system shall have an electric fence system certificate
- Electric fence shall comply with SANS 10222-3 and SANS 60335-2-76



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EMR 10: Portable electric tools

- Portable electric tool shall be connected to a source of electrical energy incorporating an earth leakage protection device
- Portable electric tool shall be fitted with a switch to allow for easy and safe starting and stopping of the tool
- Every portable electric tool, together with its flexible cord and plug, in good working order



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EMR: Overhead power lines

- Safety clearance: Any movement must be observe safety clearances
- Scaffolding and buildings
- Off loading of material
- Clearances are prescribed in SANS 10280-1



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LEPC-Builders hoists for persons & material



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LEPC REG. 3

Permission to install and use

- Registration of lifts –Provincial office
- Process
 - Submit Annexure 1
 - Provincial office issue-Acknowledgement letter with Official number
 - After completion of installation-submit Annexure B (comprehensive report)to Provincial office
 - Inspector may go and verify installation
 - Certificate will be issued



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LEPC REG. 4

Design and construction

- Lift or escalator installed in a fire or explosive areas must comply with Reg 4
- The electrical components of lifts installed in hazardous locations must comply with Electrical Machinery Regulation 8 .



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LEPC REG 6 & 7 inspection and test and maintenance

- Inspection and test –Inspection Service Provider(AIA)
- Maintenance-Competent Lift service provider



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DMR Reg3

Guarding of machinery

- Revolving parts of the machinery in the construction site need to comply with Reg 3 of DMR Regs



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DMR 16 Refrigeration and air conditioning installations

- Installations must comply with SANS 10147 with regards to
 - Construction, installation, operation and inspection
 - Certified by competent person-SAQCC



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Lifting machinery

Mobile crane



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Tower crane



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DMR 18.5 performance test

- Performance test must be carried in accordance with a standard or manufacture specifications by LMI of an LME
 - annually or
 - after dismantle and re-erection
- Ropes, brakes or safety devices etc must be examined by a competent person every six months



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DMR 18.7 Documentations

- Register of each lifting machine must be kept at the premises
- User of leased Lifting machine or hand powered lifting device shall keep copies of performance tests and service records not older than 12 months
- Full service history must be kept for 10yrs



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DMR Approvals

- Training providers for operators of lifting machinery
- Lifting Machinery Entity



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REGULATION 18.8

Approval of man cages

- No person must be moved or supported by a lifting machine unless
- Design and manufacture-SANS standard
- Approval by inspector



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DMR 18.11

- Training of an operator for all lifting machine
- Operator of a lifting machine listed in NCOP for LMO providers
- Must be trained by a TP accredited by TETA and
 - Approved by Chief Inspector



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PER 2: Scope

- Pneumatic tools and compressors (air receiver) shall comply to the PER
- Ensure that the equipment is safe without risk to health and safety when properly used
- SANS 347(Categorization and conformity assessment criteria for all pressure equipment).



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PER 19: FIRE EXTINGUISHERS

- No user shall – Design and Construct unless to an incorporated Standard
 - Imports require SABS - evaluation and approval
- No person shall - recharge, recondition & repair etc. unless holder of 1475 permit
 - List of persons and permit holders are listed on www.saqccfire.co.za



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END

Thank You...



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