Measures Taken to Address the Skills Shortage - An eThekwini Perspective

presented by

Sandile Maphumulo
(Head: eThekwini Electricity)
Assisted by Raj Dhrochard
(Strategic Executive: Policy Compliance and Operational Efficiency)
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Profile of eThekwini Electricity (eTE)

- eTE is one of the largest utilities involved in the transmission and distribution of electricity.
- eTE purchases just over 5% of the total energy generated by Eskom.

Some important information on eTE are:
- Area of Supply: 2 000 km²
- Number of Customers: 655 000
- Number of Employees: 2007 = 1 600; 2008 = 1 763; 2009 = 1 805; 2010 = 1 901
- System Maximum Demand: 1 900 MVA
- Annual Turnover: R 7 billion (2009/2010)
- Asset Value: R 17.7 billion
- Voltage Levels: 275 kV, 132 kV, 33 kV, 11 kV
- NER Award: Best Electricity Distributor
Challenges in a Municipal Environment

• Bloated bureaucracy and centralisation of functions which prevent effective responses to challenges and threats from the private sector.
• Management of diverse industries (electricity, water, civil engineering, etc.) with one set of strategies, policies, procedures and practices.
• Shackles of collective bargaining process with very limited dead-lock breaking mechanisms (for example, resolving appeals on TASK grades still outstanding since January 2009).
• Not viewed as a career option by scarce engineering personnel, due to general public perception of inefficiency and poor remuneration.
• Management are accountable for service delivery but have limited authority to make decisions in some important areas.
• Perception survey amongst technical personnel show low morale (affirmative action and other issues).
• High vacancy rates (Engineers: 33%, Technicians: 40%, Electricians: 45%) lead to employee fatigue and inability to meet service delivery targets.
• Matters of a consultation nature viewed as negotiation by unions.
• Recent pay curve agreement
Make Critical Skills a Strategic Imperative

• Attraction and retention of scarce engineering skills identified as the greatest risk to the sustainability of the industry and the delivery of services to communities. It must therefore become a strategic imperative.

• Make scarce skills a standing item on the agenda for meetings of the top executives.

• Lobby and submit motivations to top city management to pay remuneration packages which create a competitive advantage.

• Have open jacket system to allow applicants to apply for engineering positions and then match qualifications and experience for relevant positions.

• Unblock internal recruitment processes to fast-track approval to fill, advertising, selection and appointment process.

• Create Specialist Engineer posts to prevent personnel with sound technical skills being lost to management ranks.
### Terminations of Technical Staff

<table>
<thead>
<tr>
<th>Year</th>
<th>Termination</th>
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<tbody>
<tr>
<td>2004</td>
<td>30</td>
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<tr>
<td>2005</td>
<td>43</td>
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<tr>
<td>2006</td>
<td>55</td>
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<tr>
<td>2007</td>
<td>62</td>
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<tr>
<td>2008</td>
<td>45</td>
</tr>
<tr>
<td>2009</td>
<td>40</td>
</tr>
<tr>
<td>January to June 2010</td>
<td>10</td>
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Consequences of Not Responding

- Inability to meet service delivery needs and implement the integrated development plan.
- Protests by customers and the public on lack of service delivery.
- Lower staff morale (work overload).
- Increase in staff separations and loss of institutional memory.
- Reduced ability to attract and retain professional staff due to poor reputation of municipalities.
- Higher operating costs caused by an increase in the number of faults (due to lack of maintenance) and higher overtime costs.
- Inability to drive business improvements (too much fire fighting).

Note: Blunders/errors made by municipal Engineers are invariably public knowledge due to extent of outages (due to poor protection settings or maintenance backlogs) or inability to supply power (due to system constraints caused by poor planning) which has greater economic consequences. There is a greater need to attract the best Engineers into municipal environments.
Create an Attraction

• Willingness to back-pay financial commitments and buy-out bursary commitments of good performing students.
• Offer incentives to Candidate Engineers (car allowances, cellphones, laptops, excellent training programmes, etc.).
• Pay relocation expenses similar to that in the private sector (such as bond transfer costs).
• Undertake or subscribe to annual salary surveys to keep abreast of market forces and pay competitive packages (50th percentile packages do not result in a competitive advantage).
• Introduce progression grades for each engineering level (for example Engineer/Senior Engineer/Chief Engineer) to mitigate staff turnover thereby creating stability and specialisation.
• Provide assisted education to enable employees to further their studies at recognised institutions.
• Provide excellent training facilities with the best trainers.
Our Training Facilities

Hallway

Auditorium

Computer Room
Our Training Facilities (cont.)

Cable Jointing

Overhead Lines

Switchgear
Our Training Facilities (cont.)

Conduit & Wiring

Motor Centre

Workshops
Meet Essentials Prior to Advertising Posts

• Finalise all on-boarding essentials such as:
  a) Office space;
  b) Furniture;
  c) PC or laptop;
  d) Company vehicle (where appropriate);
  e) Parking space, etc.

• Obtain blanket approval of locomotion allowances for identified scarce skill posts.

• Compile careers brochure to explain:
  a) career pathing;
  b) talent management system; and
  c) training and development opportunities.
Utilise Broad-Spectrum Advertising

• Aggressively advertise through available channels, such as:
  a) Academic institutions (universities and universities of technology);
  b) Technical tours of facilities offered to students;
  c) Local Metro newspaper (Ezasegagasini);
  d) National newspapers;
  e) National technical magazines (Energize, Vector, etc);
  f) Schools;
  g) Websites; and
  h) Word-of-mouth (through existing bursary students and employees);

• For schools, leverage existing communication channels and contacts between school principals and Marketing Officers (who normally have meetings with learners to discuss energy efficiency and electrical safety) to promote careers in the municipality.
**Improve Selection Process**

- Utilise specific criteria to select graduate BSc Engineers, namely:
  a) Duration of studies ≤ 5.5 years;
  b) Number of failed subjects ≤ \( \frac{1}{3} \) of total subjects;
  c) Pass Design Project at first attempt (to demonstrate ability to apply theory).
  d) Do well in important subjects (such as High Voltage Engineering and Power Systems for the Electrical degree)
- Short-listed applicants must then pass technical tests to confirm understanding of engineering fundamentals and pass interviews.
- Use psychometric assessments for Supervisor and Manager levels.
- **Some Cautions on Selection:**
  a) Verify authenticity of qualifications prior to offering letter of appointment.
  b) Confirm knowledge of Section 28 Electricians through proper technical and practical tests (too many shortcomings identified).
Support & Maintain Employer-Employee Relationship

• Provide support to experienced N6 staff, who have relevant experience, to apply to ECSA for Professional Technician status.

• Pay all application and annual registration fees for membership of professional bodies (ECSA and SAIEE) in the interests of continual professional development.

• Provide clear guidelines for Supervisors and Managers.

• Provide guidance on career pathing – access to Assisted Education.

• Have succession plan in place – identify employees to potentially fill vacant posts due to retirements.

• Conduct proper exit interviews (preferably undertaken by top management) of incumbents in critical posts and have authority to make counter offers.

• Arrange meetings between senior management and staff on a quarterly basis, to maintain contact, identify challenges and emphasize key business drivers.
Transfer and Develop the Skills

• Ensure buy-in at all levels.
• Create appropriate organisation structures and increase training resources (additional Training Officer posts) to improve training capability.
• Have large pool of Apprentices (100), Candidate Technicians (40) and Candidate Engineers (30) in the system to work with experienced staff.
• Have well-documented training programmes (such as Candidate Engineer Training Programme) with explicit outcomes and assessment processes.
• Document all unique and critical technical and operational areas.
• Develop internal training courses and training workshops to fast-track skills transfer, with a focus on specialised technical training.
• Identify mentors and provide clear outcomes from mentor-ship interventions.
• Engage retirees on a contract basis to mentor and train new appointees.
Our Candidate Engineers
“Some mentor you turned out to be.”
Introduce Operational & Miscellaneous Interventions

- Recent introduction of a comprehensive Employee Wellness Programme across the municipality, demonstrates a caring employer.
- Creation of supernumerary manager posts, when retirements are imminent, to ensure transfer of skills and smooth handover to new manager.
- Recruitment of engineering retirees to assist with executing special projects and sharing knowledge with less experienced engineering personnel.
- Establishment of Technical Forums amongst engineering personnel to share experiences and include invited presenters on specific topics.
- Conduct intensive in-house training and assessment of Candidate Technicians and Candidate Engineers (includes presentations to executive and panel reviews).
- Regularly compare output from training programmes and vacant posts. Timeously advertise internally to allow trainees to apply and appoint through competitive process to ensure best fit.
- Have performance management and incentives for personnel.
Future Interventions

• Motivate 75th percentile packages for scarce engineering personnel.
• Pay flexible cost-to-company packages to scarce engineering personnel. This must include:
  a) Paying a housing allowance irrespective of personal circumstances (spouse with subsidy, renting and not owning, etc).
  b) Paying a locomotion allowance irrespective of value of vehicle in the scheme, provided vehicle is suitable for performing duties.
• Create Specialist Engineer posts to retain highly skilled individuals.
• Introduce retention bonuses for shorter terms (3, 5, 10, and 15 years).
• Provide funding to academic institutions to subvent salaries to assist with recruitment and retention of experienced academia.
• Create electrical engineering science centre to create interest and promote careers in the electricity supply industry.
• Utilise recruitment agencies to head-hunt critical skills.
• Explore recruitment of engineering personnel from other countries.
• Consider creation of municipal entity, only if this will break the shackles of existing national collective bargaining processes.
Conclusions

• The challenges in a municipal environment are immense, especially when electricity provision is an essential service and a cash-cow to many municipalities.
• Engineering remains a cornerstone to support economic development.
• Notwithstanding the payment of market allowances, the skills flight continues, attributed to various factors such as high crime rate, affirmative action, etc.
• The ageing electrical networks require more staff to operate and maintain these networks safely and effectively. Existing personnel are barely coping with the work load and demands from customers.
• Smart metering, smart grids, renewable technologies and embedded generation introduce more complexity into existing electrical networks. These require additional engineering personnel with a higher skill level. How to attract, develop and retain the necessary staff to manage more complex networks requires radical out-of-the-box thinking.
• It is the collective wisdom here, who have their hearts in the industry, that will craft the solutions to see us through the difficult years ahead.

--- Thank You ---
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