

Study Committee A2 Power Transformers and Reactors

11126

PROCURING TRANSFORMER AND REACTORS IN A DYNAMIC ENVIRONMENT FOR A SUSTAINABLE NETWORK – THE ESKOM WAY.

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Motivation

- The transformer procurement process has evolved since the earlier decades and is no longer a mere commercial transaction based on the techno-operational need.
- For the end users, the priorities keep changing as various external factors, i.e., government, politics, economy, environmental, and others change.
- Transformer procurement has become a complex activity and a degree of experience in it is an advantage for all parties.
- This paper reflects on a firsthand experience of the South African state-owned power utility over decades

Method/Approach

- The paper sectionalizes the key times of procurement using major changes brought by internal and external factors to the organization.
- Key points under each period are discussed

Objects of investigation

- Technical needs
- Other specific needs
- Processes
- Skills
- Market (pool of suppliers)
- Customer – supplier relationships

Experimental setup & test results

- Reflection on the decades of procuring transformers
- Details of the challenges, improvements, gains, and advantages.

Discussion

- The confined market had negative impact on the network operability in a long run, mainly due to:
 - Lack of standardization (mismatching units) and limited access to best technologies.
 - Shrinking of technical support due to OEMs no longer in business.
 - It was almost impossible to have a well-defined bulk and corporate procurement
- The open market environment brought advantages of:
 - Better access to best technologies and expertise.
 - affording the organization better bargaining opportunities while procurement of units was supported by better technical and process documents.
 - Bringing in world-class products
- The regulated market is a new environment, however the already established relationships, improved technical documents and process mapping are viewed as adequate safety nets in case the local market cannot meet the organization's needs for various reasons

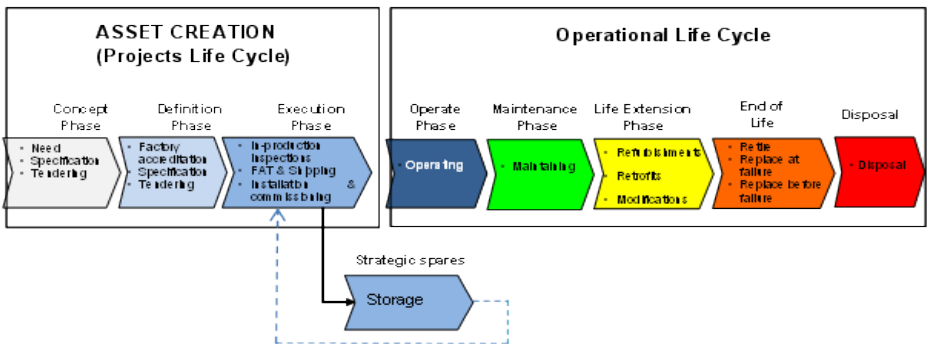
Conclusion

- The transformer procurement process is a complex activity that is beyond a mere techno-commercial transaction. There are other forces entering the space.
- Its dynamic nature requires periodical review of associated documents so that the original intent (sourcing of units that are fit for purpose) is not lost.
- Collaboration between suppliers and customers is important and beneficial to all parties.

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	1970	2000	2015	2022
Market	 Confined	 Open	 Regulated	
Key drivers	Network development	Economic growth and rural electrification	Fleet replacement and IPPCP	
Challenges	<ul style="list-style-type: none"> • No buying power in the market • Lack of standardization • Limited operability 	<ul style="list-style-type: none"> • New relationships/ minimal common understanding 	<ul style="list-style-type: none"> • Long lead times (exemption process) • Ripple effects of COVID-19 related restrictions 	
Our advantage	<ul style="list-style-type: none"> • The market could reasonably meet our demand. • The operational pressures were not so severe 	<ul style="list-style-type: none"> • Strong cross-functional team and documents • Establishment of a solid procurement process. 	<ul style="list-style-type: none"> • Existing relationships • Vast back-up pool of suppliers (foreign) 	