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Power Sector Reform: Review of Sector Data Management Systems

Executive Summary

The Dashboard engine and the Power Database are tools developed by NIAF to collate sector generation and transmission data from the National Control Centre (NCC) on a daily basis. NIAF has been successful in developing a daily performance-monitoring tool for all generation plants extending back to January 2007.

- NIAF has also developed the Key Performance Indicators model (KPI) – a monitoring Tool for the Nigeria Electricity Regulatory Commission (NERC) who oversees the performance of distribution companies, generation companies and the Transmission Company. The objective of the tool is to centralise collection and analysis of the KPIs on a monthly basis and facilitate the ease of analysis. This is to ensure that the regulators are making informed decisions in the regulatory process.
- As the market continues to develop, it is paramount that NERC has the systems to enable effective market monitoring across the power sector; in fulfilment of its central role in the reform process.

The Challenges

Despite NERC's obligation to act as the "data warehouse" of the Power sector (mandated by the Reform Road Map), a gap has emerged in the information gathering process. As the overseeing regulatory body empowered to provide safe and reliable electricity for Nigerian consumers, NERC is authorised to regulate across the value chain. This function has traditionally been hindered however by a lack of credible data to enable evidence based decisions.

Having been developed and housed within NIAF during its initial phase both databases - the Dashboard Engine and the KPI model - were subsequently handed over to NERC. The operation of both databases by NERC requires an advanced knowledge of Microsoft Excel and dedicated resources allocated to it. Ensuring that the models were sustained presented challenges due to pre-described work schedules and additional assignments of the designated operational staff within NERC.

Other issues that affected the operation of the dashboard are:

- Inconsistency in the formatting of the daily National Operational Report (NOR) from NCC

- Insufficient operating personnel to provide support
- Insufficient adequately skilled and qualified personnel resources for operations
- Hardware and software compatibility issues
- Backup system not in place

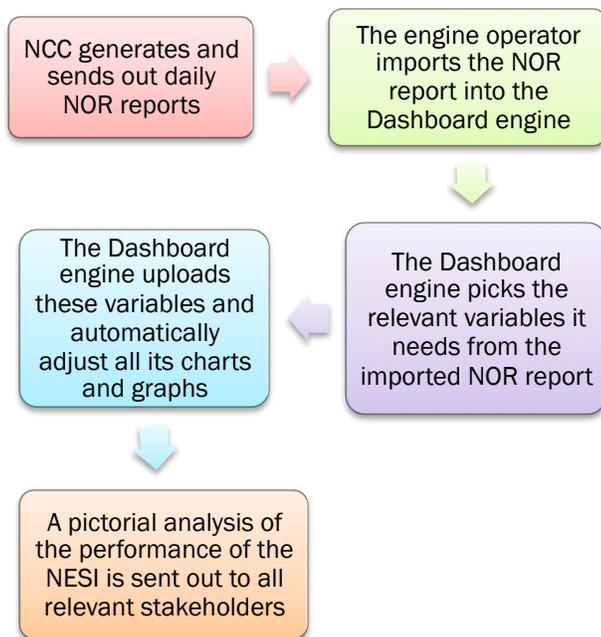
The KPI model was not adopted as expected by NERC post NIAF handover, due to unfamiliarity with the model and the knowledge gap created by internal transfers.

Other challenges that arose were:

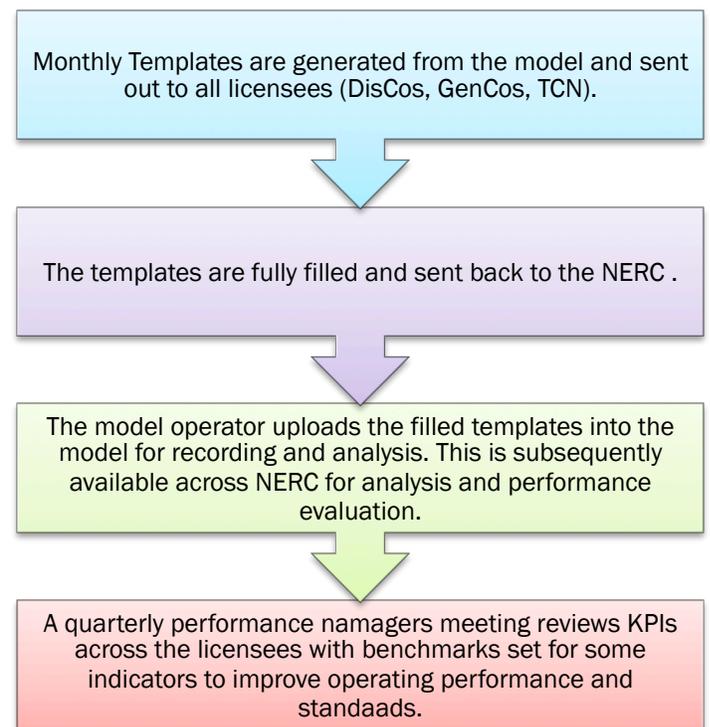
- Non-existent operating protocols leading to clash of function inter-Division within NERC
- Insufficient training for GenCos and TCN which led to non-compliance in model usage

Operation of the Dashboard Engine and the KPI model

The Dashboard Engine



The KPI model



The Approach

- NIAF commissioned a new intervention to review the functionality of both tools. A consultant was embedded in NERC to assist in refreshing the dashboard engine and ensuring daily operations were undertaken as expected.
- By ensuring the buy-in of senior management within NERC in developing the way forward for the data management, NIAF was able to mitigate the issue of insufficient buy-in for the system.
- Furthermore, the provision of an IT System Specialist meant that programming issues were fast-tracked and operational disruptions minimised.
- NIAF also cultivated the relationship between NERC and the data source – NCC, Oshogbo to futureproof the compatibility of daily operations report.
- The development of an advanced manual for the KPI model operation has improved the efficiency of their operation with the model.
- Finally, NIAF has facilitated the training of the Generation Companies and the Transmission Company on the use of the KPI model template to achieve an all-round performance assessment in the Nigeria Electricity Supply Industry.

The Results

- NIAF's ability to deliver targeted interventions at short-notice to meet client's immediate needs has ensured that NERC received the right solution at the right time to an important process in danger of collapsing.
- Our understanding of the Nigerian political economy means that these monitoring tools now enjoy sufficient senior backing within NERC to ensure their sustainability.
- Furthermore, this activity is part of a broader effort in effective signalling from NERC across the sector participants, such that stakeholders are clear on their performance obligations.