SERVICE REQUEST DETAILS

Business Division	DX Customer Services (CS)
Business Requestors	Stefanie Visser (Sales Forecasting) Vashna Singh (Tariff Design Time of Use)
Business Senior Manager	Deon Conradie
Demand Name	DEM-02694-M9P8 Sales Forecasting and Tracking Tool

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Date	Author Name	Changes (section changed, page number, from what to what)
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30 Aug 2019	Rushantha Mohabier	Stakeholder review
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2. CUSTOMER AND STAKEHOLDER DETAILS

2.1 Customer Information

Name	Department & Division	Role / Expertise	Contact Info	Participation
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Vashna Singh	Pricing Tariff Design Dx Customer Services	Business Requestor /SME	+27 11 800 4005	Requested SME to form part of analysis. Review draft BRS and sign BRS
Deon Conradie	Sales and Revenue Forecasting- Dx Customer Services	Business Senior Manager	+27 11 800 4397	Business Sponsor
Alex Groenewald	Sales and Revenue Forecasting- Dx Customer Services	Business SME	+27 53 830 5747	Business SME Review draft BRS and sign BRS
Pranesh Chetty	Sales and Revenue Forecasting- Dx Customer Services	Business SME	+27 12 421 3089	Requested SME to form part of analysis. Review draft BRS
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Leshoto Thooe	Pricing Tariff Design - Customer Services	Business SME	+27 11 800 5697	Requested SME to form part of analysis.
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Lolo Buys	Transmission Pricing – Tx	Business SME	+27 11 516 7627	Requested SME to form part of analysis.
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Balekane Rasetlola	Energy Losses—Dx Customer Services	Business SME	+27 12 484 5080	Requested SME to form part of analysis.
Bolden Ramokgopa	Energy Losses—Dx Customer Services	Business SME	+27 11 800 4776	Requested SME to form part of analysis.
Thokozile Luwaca	Energy Losses—Dx Customer Services	Business SME	+27 11 516 7102	Requested SME to form part of analysis.
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Boitumelo Ramogayane	Transmission Long Term Planning -Tx	Business SME	+27 11 800 3308	Requested SME to form part of analysis.
Moonlight Mbatha	Transmission Long Term Planning-Tx	Business SME	+27 11 516 7016	Requested SME to form part of analysis.
If BRS is being developed for an approved project the following additional information needs to be defined:				
Stefanie Visser	Sales and Revenue Forecasting- Dx Customer Services	Business requestor	+27 11 800 5093	Requested SME to form part of analysis. Review draft BRS
Vashna Singh	Tariff Design Dx Customer Services	Business requestor	+27 11 800 4005	Requested SME to form part of analysis. Review draft BRS

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2.2 Group IT Information

Name	Department & Division	Role / Expertise	Contact Info	Participation
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Riaan Van Wyk	Business Process Management- (GIT)	Business Process Middle Manager	+27 21 915 2142	BRS progress management, BRS Governance review
Elma Mmakola	Business Relationship Management- (GIT)	Business Relationship Manager	+27 11 690 4016	Receive final document to take through the GIT governance process
Shareen Lombard	Portfolio Management - (GIT)	Portfolio Manager	+27 31 204 5900	Portfolio Management
Thabo Mashegoane	Chief Advisor Architecture (GIT)	Strategy Execution Architecture	+27 11 516 7513	Architecture assessment
Anna Varghese	Analytics Centre of Excellence- (GIT)	ACE Resource Manager	+27 11 516 7275	ACE resource Management
Matlhodi Molebalwa	Analytics Centre of Excellence- (GIT)	Analytics Portfolio Manager	+27 11 800 2980	ACE Portfolio Management

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3. GLOSSARY OF TERMS / DEFINITIONS

Term	Definition
Analytics	Refers to the business intelligence capability.
Business Continuity	Business continuity encompasses planning and preparation to ensure that an organization can continue to operate in case of serious incidents or disasters and is able to recover to an operational state within a reasonably short period.
Business Intelligence	The term Business Intelligence (BI) refers to technologies, applications and practices for the collection, integration, analysis, and presentation of business information. The purpose of Business Intelligence is to support better business decision making. It can also be described as a broad set of data analysis applications, including ad hoc analysis and querying, enterprise reporting, online analytical processing (OLAP), mobile BI, real-time BI, operational BI, cloud and software as a service BI, open source BI, collaborative BI and location intelligence.
Business Requirements Specification	Business requirements specification is the eliciting, analysing and documenting of business requirements early in the development cycle to guide the design of the solution.
Business Rule	A business rule is a rule that defines or constrains some aspect of business and always resolves to either true or false. Business rules are intended to assert business structure or to control or influence the behaviour of the business. Business rules describe the operations, definitions and constraints that apply to an organization. Business rules can apply to people, processes, corporate behaviour and computing systems in an organization, and are put in place to help the organization achieve its goals.
Change Request	A change request is when an enhancement is made to an existing system that meets specific criteria.
Disaster Recovery / Disaster Recovery Plan	A disaster recovery plan (DRP) is a documented process or set of procedures to recover and protect a business IT infrastructure in the event of a disaster.Such a plan, ordinarily documented in written form, specifies procedures an organization is to follow in the event of a disaster. It is "a comprehensive statement of consistent actions to be taken before, during and after a disaster".
External Agents	Sends information to and receive information from analysis area of study/focus area.
Innovation	Innovation generally refers to changing processes or creating more effective processes, products and ideas. For businesses, this could mean implementing new ideas, creating dynamic products or improving your existing services. Predominantly focuses on digitisation type projects.
Process	Set of activities that describe how an activity is executed.

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Term	Definition
Project	A project consists of a concrete and organized effort motivated by a perceived opportunity when facing a problem, a need, a desire or a source of. It seeks the realization of a unique and innovative deliverable, such as a product, a service, a process, or in some cases, a scientific research. Each project has a beginning and an end, and as such is considered a closed dynamic system. It is developed along the 4 Ps of project management: Plan, Processes, People, and Power. It is bound by the triple constraints that are calendar, costs and norms of quality, each of which can be determined and measured objectively along the project lifecycle. Each project produces some level of formal documentation, the deliverable(s), of course, and some impacts, which can be positive and/or negative.
Revenue Calculator	Forecasters predict future consumption and demand; the current price structure is then applied to derive future revenue. Once the new price increases is announced this revenue at base price is then grown in the model to reflect the applicable price increase.
Software License Purchase	A software license is a legal instrument (usually by way of contract law, with or without printed material) governing the use or redistribution of software. All software is copyright protected, in source code as also object code form. The only exception is software in the public domain. A typical software license grants the licensee, typically an end-user, permission to use one or more copies of software in ways where such a use would otherwise potentially constitute copyright infringement of the software owner's exclusive rights under copyright law.
System	An organized, purposeful structure that consists of interrelated and interdependent elements (components, entities, factors, members, parts etc.). These elements continually influence one another (directly or indirectly) to maintain their activity and the existence of the system, in order to achieve the goal of the system.
Sales Forecasting Tracking Tool	Sales forecasting software evaluates historical business data and produces a report of expected sales based on trends. Forecast reports show sales targets vs. achieved sales vs. potential sales.
Topline Oracle Hyperion (Essbase)	Multidimensional database that was developed in house to be used for forecasting.

4. BUSINESS REQUIREMENTS SPECIFICATION FOCUS

The purpose of this document is thus to record and confirm the business requirements for:

- **New solution**
- **Total system replacement of existing system by testing the market.**

This document is established on the following core aims:

- Eliciting all requirements needed for a potential sales forecasting tool.
- Specifying the correct requirements that meet sales forecasting standards for a Request for Information (RFI).

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5. REASON FOR THE REQUIREMENT

5.1 Define the current business challenges / issues that need to be addressed

This business requirement specification focuses on documenting the requirements for a system replacement/new solution that generically executes sales forecasting within a utility environment. The detail highlighted in this BRS will form the foundation of the system requirements considered necessary for a sales forecasting and tracking tool with a system replacement thereof. The requirements will focus on generic capabilities coupled with user specific solution capabilities.

Rational for Test the market (BRS):

- The current solution being utilised (Topline - Oracle Hyperion Essbase) has been in the organisation for over 17 years.
- Conceptualised and developed in the late 1990s and early 2000. This was developed by contractors who have since left Eskom.
- Custom in-house developed solution.
- Various changes and updates were done over the years to align the systems to the varying organisational structures. Unfortunately due to all the changes applied to the systems, the more complex it has become to manage and support the solution. The select few consultants who do have the system knowledge fail to transfer this knowledge therefore internal skills are minimal.
- This BRS will be perused as an input into the Request for Information (RFI) and as well as preparation for the letter to National Treasury.
- Topline support ending 2020.

Based on this the demand therefore necessitates testing the market as a long term solution decision is required. It is also advised that a new technology be introduced to meet the growing needs of Eskom Sales Forecasting. The compilation of this document is not to reference the existing tool but include the functionality of the existing tool and any additional technology functionality over and above existing capabilities that business contemplates critical.

Sales forecasting is the process of estimating future revenue generated by the Sales and Revenue Forecasting team within Customer Services (CS). It demonstrates the process of forecasting sales which comprises of consumption and demand and calculates the revenue generated solely from electricity sales. Eskom Sales and Revenue Forecasting is conducted by a team of forecasting specialists that are tasked with the responsibility of understanding how Eskom Sales will perform in the future years and informing business executives of this crucial information.

The sales and forecasting team needs to perform at an optimal level and deliver credible sales forecasts. A sales forecasting and tracking tool is therefore a pre-requisite and is the core of the forecasting function at Eskom. The sales team are dependent on a sales forecasting generic tool in order to meet their working objectives. The tool is critical and forms the basis of this requirement.

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Business has highlighted that resolving the challenge will result in:

- A user friendly system that allows slicing and dicing, analytics and data visualisation on sales trending.
- A tool that can be used for monthly reporting.
- A tool that can capture future sales forecasts and scenario modelling.
- An integrated revenue calculator using the National Energy Regulator of South Africa (NERSA) approved energy prices to calculate associated revenue on Sales budgets corporate plans and Multiyear price determination (MYPD) submissions.
- A system that correctly reflects the Operating Unit (OU) reporting structure to enable accurate reporting within each OU across Eskom.
- Predictive analysis tools that can assist in forecasting sales, saving time and adding to more accuracy.

5.2 Define the high level gaps between the "As-Is" and "To-Be" state

As Is Statement	To Be Statement	Therefore the high level gap is:
DDW: Landing Zone or data lake. On the current solution distribution data warehouse DDW plugs into Topline. Distribution Data Warehouse was created as a repository for all CC&B data to relieve CC&B of the burden of users extracting data from the billing system. For Sales and Revenue DDW keeps the accounting view, all adjustments and a statistical view is created by applying adjustments to the relevant months which then serves as source for reporting systems like Topline. DDW will have to be replaced with a landing zone or data lake (Critical)	The landing zone is the most important component that fits into the Sales forecasting tool as the tool is redundant without being able to access the relevant datasets. The landing zone should encompass: • CC&B Datasets • MV90 Datasets • SAP Datasets • Maintain data • Historical data • Future data • Budgets • Trend analysis	• Landing zone for CC&B data • Landing zone for MV90 data • Landing zone for SAP data • 10 year history • 15 year future with easy expansion • Take into consideration that DDW must be replaced with a landing zone or data lake prior to implementing the sales forecasting tool.
The need for a new sales forecasting and tracking tool (The sales tool is used by the Sales forecasting team, the outputs from the	Implement a sales forecasting tracking tool: • Revenue calculator: An integrated revenue calculator using the NERSA approved energy prices to	Implement a sales forecasting capability in Eskom that is steadfast.

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As Is Statement	To Be Statement	Therefore the high level gap is:
tool are sent to several departments). These departments have been included to the requirements gathering process. Refer to detailed requirements for a detailed view of requirements from each department: 1. Sales Forecasting, 2. Tariff Design-TOU, 3. Pricing Intelligence 4. Transmission Pricing 5. Energy Losses, 6. Africa Strategy (SAE), 7. Finance, 8. Transmission Long Term Planning.	calculate associated revenue on Sales budgets corporate plans and MYPD submissions. • Various statistical modelling tools are applied in conjunction with historical Eskom data. • Efficient query tool that allows users to write and run queries on the different datasets. • The template containing historical Data is manipulated into averages, with maintenance and expansions modelled into the equation. • Demand related factors are calculated using applicable formulae. • The applicable revenue components are analysed and added to the template. • Graphical visuals are added to further verify the volumes and demand that are calculated • Customer hierarchies that can be dragged and dropped (not hardcoded) as source hierarchy changes tool to also refresh • A user friendly system that allows slicing and dicing, analytics and data visualisation on sales trending. • A tool that can be used for monthly reporting, annual reporting.	

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As Is Statement	To Be Statement	Therefore the high level gap is:
	• A tool that can capture future sales forecasts and scenario modelling. • A system that correctly reflects the Operating Unit (OU) reporting structure to enable accurate reporting within each OU across Eskom. • Predictive analysis tools that can assist in forecasting sales saving time and adding to more accuracy.	
Sales forecasting Tool Dashboards, reporting, Data visualisation. Sales measured and reported in: - Energy Gigawatt hours (GWh) - Revenue Rand Million (R'm)	• Month end reporting • Year-end reporting • Track variances • Models • Comparisons • Reports • Trend analysis	Data visualisations in different forms i.e. slice and dice, peak and poke • Month end reporting • Actual vs Budgets • Variance • Variance % • Year to date YTD reporting (Actual, budget, variance) • Year-end YE reporting (Projection, budget, variance) • Any report should be generated based on parameter selections linked to dimensions.
Sales Forecasting Tool The need for a Predictive Analysis capability	• Statistical techniques, analysis capabilities	• Predictive analysis • Scenario planning • Scenario analysis
Time of Use (TOU) Tariffs are outdated and don't reflect the current system requirements and costs in the time-of-use periods	• System to update regularly to reflect current tariffs and costs in the time-of-use periods.	• Automation to regular update current tariffs and costs in the time-of-use periods.
TOU tariffs: Eskom cannot make changes to the TOU tariffs at country level on a robust basis due to lack of	• Eskom to be able to make changes to the TOU tariffs at national/country level with all the required	• Changes to the TOU tariffs have be requested by our customers, the Nation Energy Regulatory of South Africa (NERSA) and the Eskom

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As Is Statement	To Be Statement	Therefore the high level gap is:
sufficient advanced analytics	advanced analysis done dynamically and almost in real time mode.	shareholders
The need for TOU Scenarios based on selections	• Scenarios for time of use point of delivery (POD) , customer, sector industrial code (SIC), national • Scenarios analysis and categorisation into different bins	• Generate scenarios based on: ○ Load profile ○ Half hourly and/or by hour (MW, GWH), ○ % ○ Revenue ○ Difference ○ Total system profile ○ Year on year ○ Actuals ○ Forecast ○ Creating different scenarios and calculating revenue for a specific scenario.
Time of use automated reporting, advanced dashboards, analysis	• Reports to be generated based on required data and selections	• Customer categories • Weekday • Half hour or hour • Time of use season (high Low) • National load (summary, full week, SIC, % contribution, load contribution, Account level full week, voltage, zone)
Time of use: The customer response is not known, and this could potentially result in a revenue variance	Advanced analytics is required to quantify customer responses to current tariffs and scenario based tariff/revenue/costs response impact modelling.	• Predictive analysis • Advanced Analytics is needed to quantify the customer impact and customer responses.

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As Is Statement	To Be Statement	Therefore the high level gap is:
Users utilising the current forecasting tool will require training and change management awareness	• Training plans (Based on IT tool selected) • Change management within business area (business to lead)	• Training • Change Management
Current forecasting tool being supported internally by GIT ACE	Support and Maintenance staff will have to be identified by Eskom and be internally trained	• New Tool Support staff to be identified
Security and Privacy	Due to the sensitivity of the sales and revenue information and forecasts used by the tool security and privacy is fundamental	• Access rights must be defined for admin users, specific users and general users. • Users will only be able to see what their access profile dictates. • User login profiles must be created for user who will access the solution.

6. AS IS AND TO BE BUSINESS PROCESS ACTIVITY MAPPING

6.1 As-is business process

6.1.1 Identify the PCM and list the PCM activities that are impacted:
The Process control Manual (PCM) that can be referenced is 240-48663426 for Forecast Electricity Sales and Revenue.

Figure 1: Forecasting and Planning

Figure 2: Forecast Electricity Sales and Revenue

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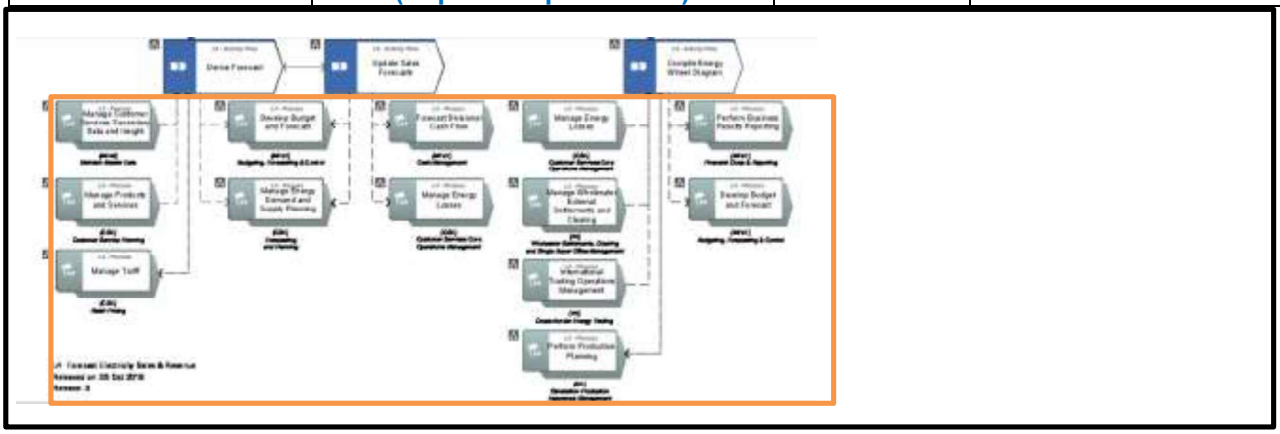

Figure 3: Forecast Electricity Sales and Revenue PCM

6.2 To-be business process

6.2.1 Define any new business processes that will be a result of this requirement, if applicable. If no change in business process, state that.

Not Applicable. Note: Changes to the business process / initiation of new business processes are the responsibility of the business to initiate.

7. BUSINESS REQUIREMENTS

7.1 High level Requirements

Sales forecasting estimates revenue and optimises an organisations sales performance. The presence of a sales forecasting tracking predictive tool allows business to take accurate and informed decisions, avoid shortcomings and increase sales growth. The use of sales forecasting software boosts performance. The Sales forecasting team uses the current tool, running a series of queries and generating information outputs from the tool directly. This data then forms the foundation for the key outputs of the Sales Forecasting Department. The Sales Forecasting team uses the data outputs from the current tool and compiles a series of reports in formats which include Word documents, Excel spreadsheets and PowerPoint slides.

The Sales Forecasting Department (Domestic) sends data from the sales tool directly to the following departments:

1. Pricing: Tariff Design Time of use TOU
2. Pricing: Pricing Intelligence
3. Pricing: Transmission Pricing
4. Energy Losses
5. South African Energy SAE (International)
6. Finance
7. Transmission Long Term Planning

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The above listed departments receive outputs from the current tool (except Transmission long term planning who access the tool directly). Due to this, a decision was taken to include the 7 departments as part of the requirements gathering phase to avoid issuing an (RFI) which does not have a consolidated view of all business requirements. In total the requirements cater for 8 departments with the Sales forecasting team being the lead actor.

Figure 4 depicts the holistic relationship of how the Sales Forecasting Team uses the sales tool and sends outputs or receives inputs to and from the other departments. It is highlighted that:

- The Sales Forecasting Team use a sales tool - query tool that extracts data from the billing system CC&B (Customer Care and Billing). This old tool will need to be replaced with the New Sales forecasting and tracking tool *on which this requirement is based.* This is the core of where all outputs are drawn from and sent to the other relevant departments.
- Transmission long term planning is the only department that access the sales tool directly.
- After receiving the outputs from the Sales Forecasting team, the departments do their own analysis as they have their own departmental deliverables.
- There could be an input back to the Sales Forecasting Team (so that the Sales Forecasting team can run new forecasts based on analysis conducted by any of the departments).
- The other departments have their own source system which is managed outside of this requirement.
- The source systems specific to this requirement include Customer care and billing CC&B, Metering Voltage MV90 and SAP Business Ware house BW 7.4 - where BPC 7.5 stores data.

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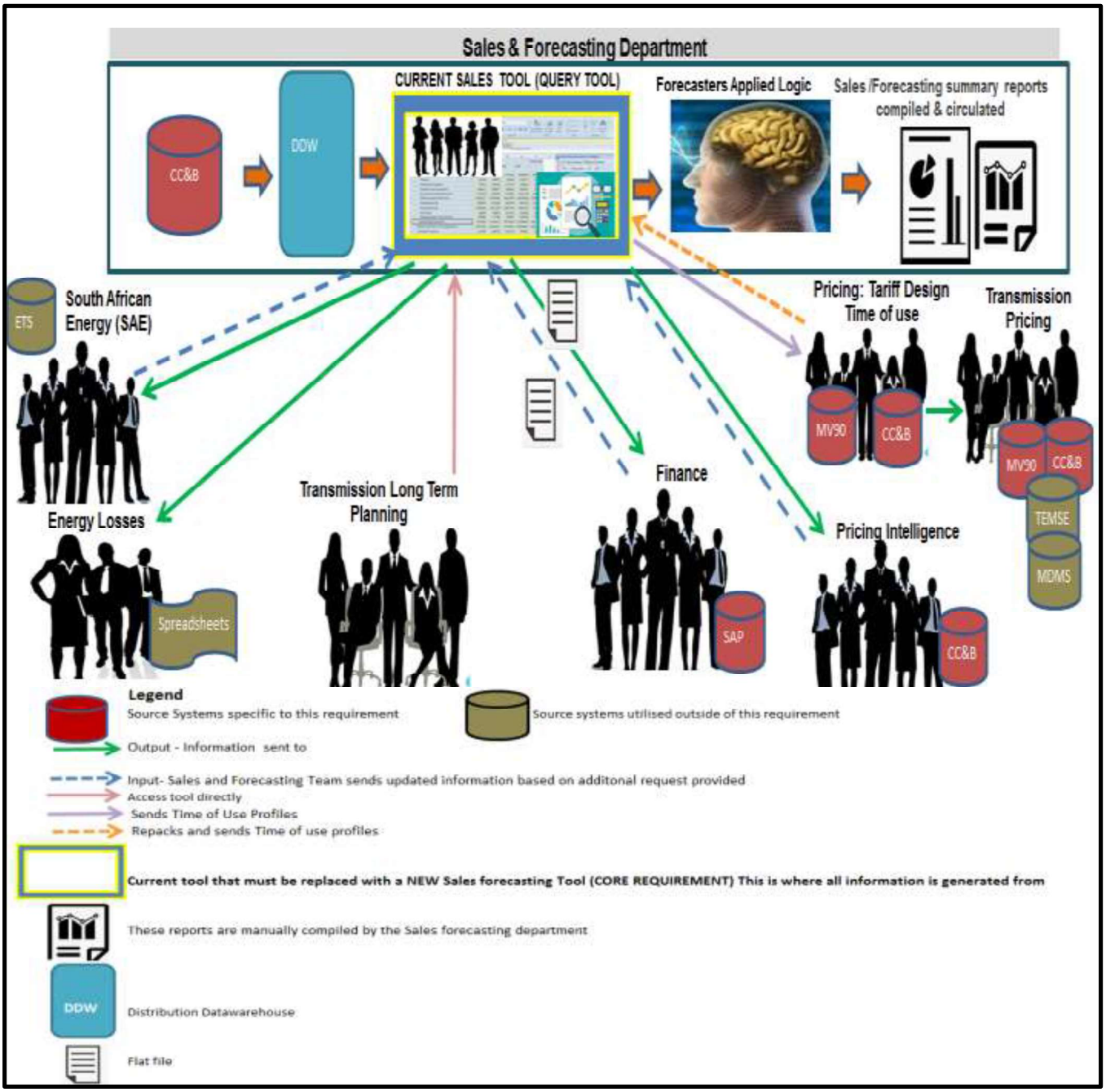

Figure 4: The Sales Forecasting Department's relationship with the 7 other departments

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Figure 5 echoed below depicts the Sales and forecasting as is process flow and how the long term solution fits in.

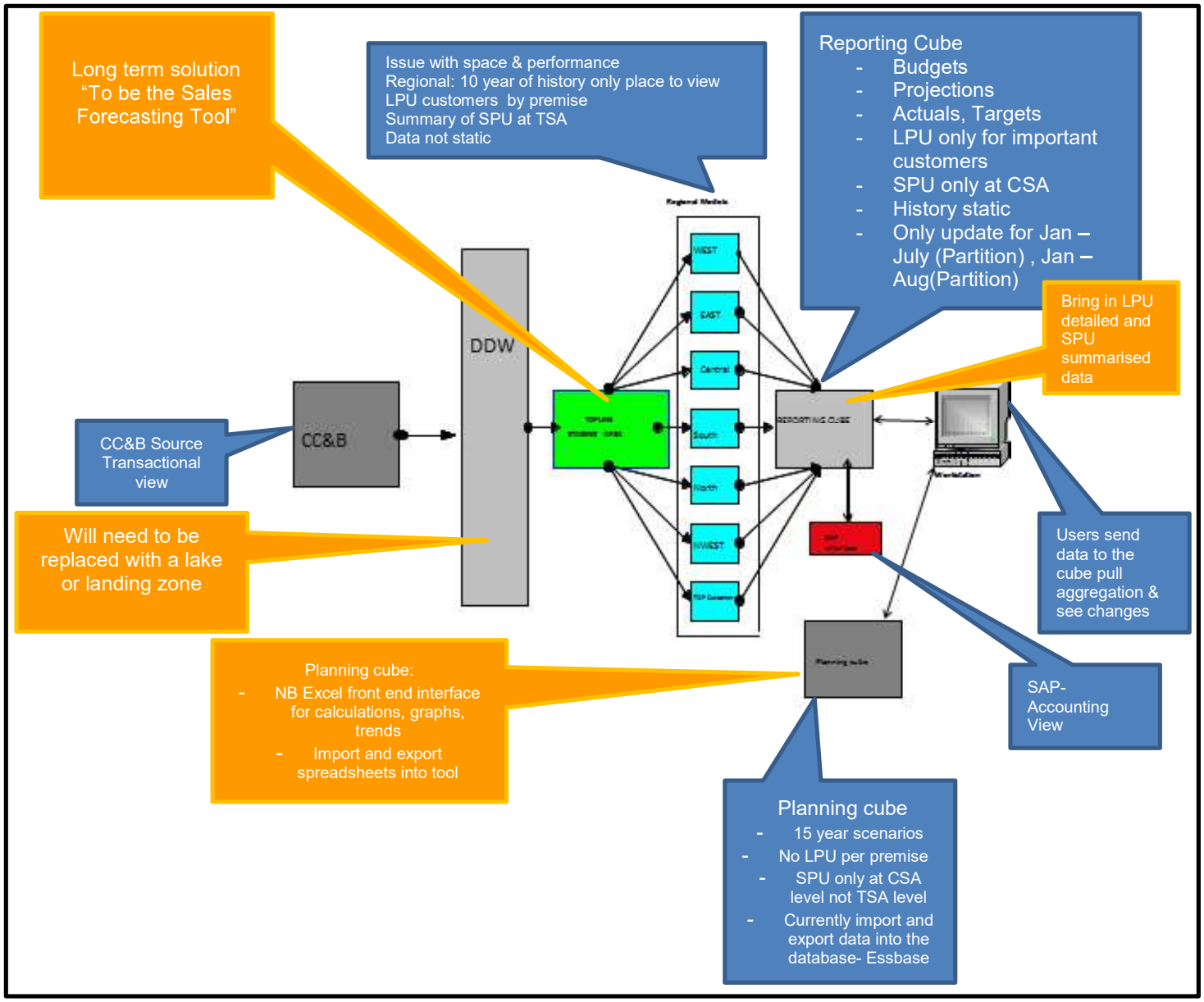

Figure 5: As is process reflected in blue callout. How the long term solution relates is reflected in orange callouts

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Figure 6 illustrated below reflects a high level view of what the sales forecasting tool functionality should encompass taking into consideration the pre-condition of connecting to a consolidated landing data zone i.e a data lake or landing zone.

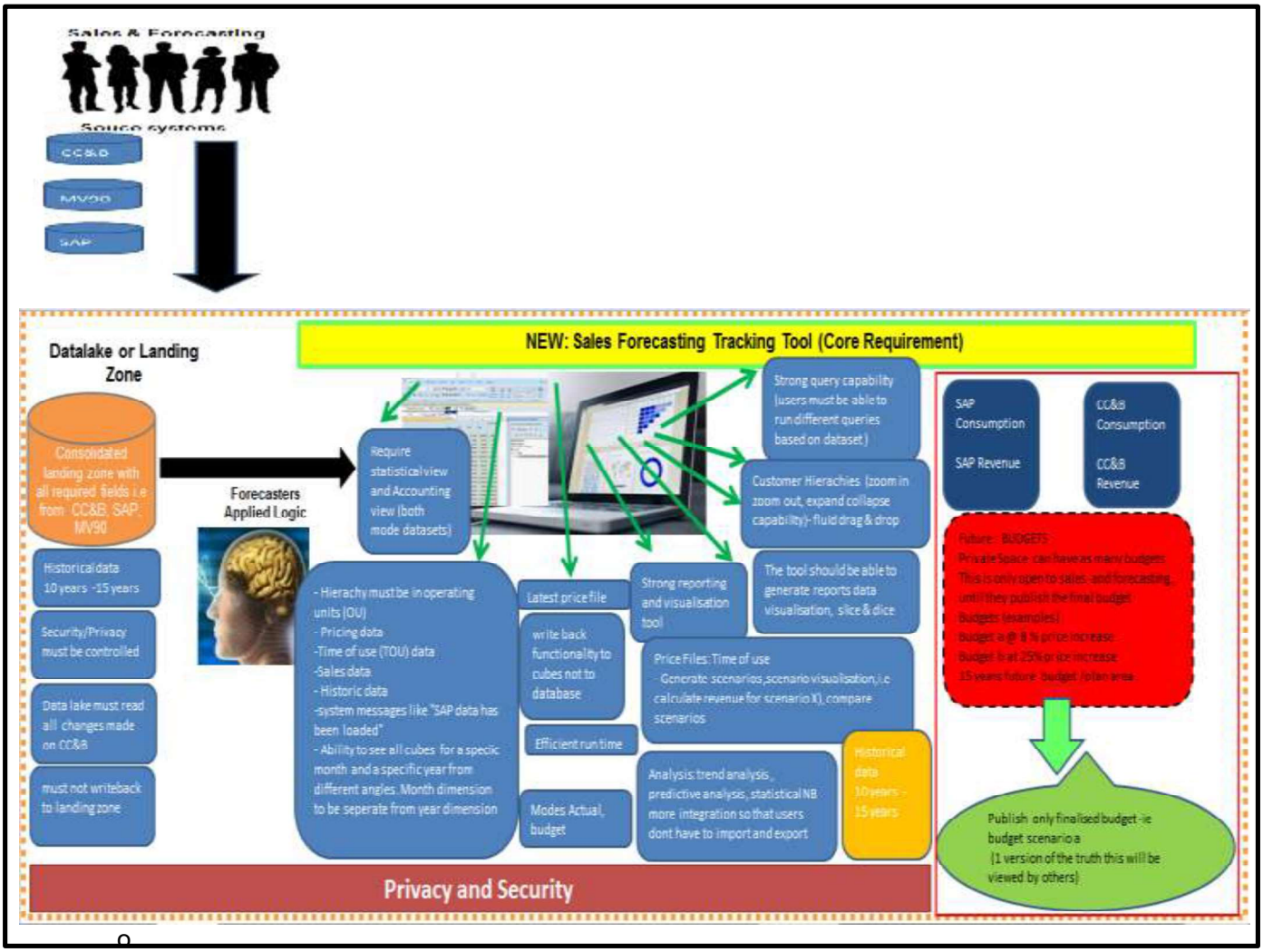

Figure 6: Generic To be Sales Forecasting Tool Holistic Functionality (the data lake or landing zone is anticipated to be the "source" for the Sales and Forecasting Tool housing all required datasets)

7.1.1 Significance of a Sales Forecasting Tracking Tool

The Eskom forecasters are tasked to predict future consumption and demand. They use the current price structure to derive future revenue. When new price increases are communicated the revenue at base price is grown to reflect the most recent price increase. Modelling capabilities are used for this; this is known as a revenue calculator. Forecast accuracy has a major impact on business costs and profits. Delivering accurate forecasts in the fraction of the time can be achieved with a sales forecasting and

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tracking tool. Projected sales forecasts are rarely 100% accurate. Therefore, it is important to understand trends in the inaccuracy of the sales forecasts themselves. This will help the sales and revenue managers and team produce more realistic forecasts in the future. A sales forecasting tool will ensure timely accuracy, For example, under-estimation can lead to deliver limitations or customer service failures. Over-estimation can lead to wasted overhead due to over-investment in resources.

The key benefits of a sales forecasting tool include:

- There is sales intelligence across the forecasting process. Guesswork can be eliminated as the tool provides deeper insights.
- Forecasting accuracy is achieved, through contrasting models is substantially more accurate than using any single method, so you can be sure you're delivering solid, data-driven projections.
- Data visualisations and data reporting, the sales data visuals can be generated so that forecasters jump straight into analysis.
- Predictive sales forecasts can be more precise as decisions can be made from historical patterns and current sales pipeline.
- Manual intervention is reduced. With the tool, manual calculations can be reduced, so that the forecasters can focus on delivering revenue insights that will improve sales productivity and inform executive decisions.
- There can be an automated view of sales history and future forecasts; this can be used for analysis so that the sales forecasting is more reliable.

7.1.2 Sales Forecasting Tracking Tool Functionality

There are a multitude of features that the sales forecasting tool should encompass. These entail:

- Revenue calculator that can calculate revenue based on price changes.
- The tool should be able to extract data from the Eskom billing system, Customer Care and Billing (CC&B), MV90 as well as SAP BW Data.
- The tool should be able to generate forecast summaries/reports that can spot issues like missing or outdated data and fill the gaps to improve accuracy across the board.
- Slice your forecast to enter for multiple regions, lines of business, products, or any other way you segment your business.
- Pull historical sales data from as far back as you choose to make sales forecasting more trustworthy across any interval.
- Contain future forecasts.
- Forecasters can analyse historical trends in performance.
- Analyse historical and future trends.
- Sales forecast benchmarking: Forecast sales and compare to company or industry benchmarks.
- Quick forecasts through Dashboards and reporting: A quick overview of sales forecasts.
- Sales forecast visuals: Clear and helpful visuals.
- Sales forecasting factors: Multivariate forecasting algorithms and queries that allow users to adjust the factors that influence projections and generate results from these queries.
- Sales forecast review: Tracks forecast accuracy/model fit and confidence.

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- Sales forecasting management: Ability to manage models and assumptions based on forecast reviews.
- Custom forecast models: Allows for granular control over the forecasting approach.
- Record of previous sales forecasts: Record of previous forecasts/audit trail.
- 10 year History, 15 year future with easy expansion.
- Security and privacy must be able to be assigned and controlled closely given the sensitivity of the data.
- Statistical modelling.
- User driven outline changes – no 3rd party work: this is a working tool for Forecasting and the forecasters should be able to adapt easily to produce outputs as needed. Business cannot be dependent on third parties once the solution is live.

7.1.3 Distinctive Features

The distinctive features section defines the unique capabilities required that set the sales forecasting tool apart from the current tool. These features are crucial and must be met in order to meet business requirements.

7.1.3.1 Privacy and Security

Eskom Sales and revenue information is extremely confidential. If this information were to be accessed by unauthorised individuals and leaked it could have a negative impact on Eskom business. It is therefore critical that the Sales forecasting tool has security ensuring protective digital privacy measures that are applied to prevent unauthorized access to the tool, computers or databases. Data security is an essential aspect of IT for organizations of every size and type. Privacy and security is at the forefront of this specific business requirement and has to be controlled closely. The data on the tool should not be disclosed to any person. The table below summarises the privacy as an example.

User High Level Type	User Detailed type	Device Type	Connection	Privileges Management	Tool Application Data Confidentiality level
Eskom User	Eskom Support	Eskom	Eskom (LAN, WIFI)	- Data classification - Asset classification (tool)	Sensitive- High
Eskom User	Eskom Admin user space	Eskom	Eskom (LAN, WIFI)	- Data classification - Asset classification (tool)	Sensitive- High
Eskom User	Eskom forecaster with filtered access	Eskom	Eskom (LAN, WIFI)	- Data classification - Asset classification (tool)	Sensitive- High
Eskom User	Eskom General User space	Eskom	Eskom (LAN, WIFI)	- Data classification - Asset classification (tool)	Sensitive - High

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Contractor	Non Eskom user space	Non Eskom	Non Eskom-hotspot	- Data classification - Asset classification (tool)	Sensitive- High
Other	Eskom/not Eskom	Any of the above	Any of the above	- Data classification - Asset classification (tool)	Sensitive- High

7.1.3.2 Input Capability:

The input capability/manual capture/manual intervention requirement is significant in the solution. It encompasses the use of standardised excel templates that are maintained by multiple users based on the areas they are assigned access to. The selected solution should give users the ability to easily change, update and link to other workbooks with projection/forecast and budget changes as required at any given time. At present there are tariff specific templates only carrying the variables applicable to that tariff, and currently the specific prices as applicable are manually selected. A manual capture capability is therefore required to capture budgets and forecasts at a variable, customer, and category level. The solution should have built in data-write-back capabilities.

It is crucial that the selected solution can upload excel templates with all its tabs (tab changes per tariff), built in formulas currently being utilised within business and simulate the information allowing for forecast changes, budget changes based on the functionality noted below:

Write from statistical model lock and send which is click submit and sends all the data in excel to the database. It is highlighted that the forecasters cannot manually type in entries for each premise here has to be ease of use that sends the data back to the database from a spreadsheet i.e. a forecaster can populate an excel spreadsheet with a vast volume of data and then be able to click submit and the database updates(i.e. Essbase currently). The long term solution should have the same functionality however the submit or send should happen on the sales forecasting tool.

Therefore:

- This is how the forecasters get the data back into the cube i.e. future derived budgets and forecasts.
- Write back: Sales and Forecasting write back in total 15 years – the first 6 monthly and the remaining 9 years as an annual value. The 15 years should also be flexible and it should be easy to change to for example 20 years or to 3 years as and when the need changes
- Admin user then aggregates to total Eskom.
- 15 years done on excel – click submit writes back.
- Peak poke capability once user refreshes changes all changes are there.

7.1.3.3 EXCEL Add in (Spreadsheet Input)

Business have highlighted that the input capability should preferably be an excel based front end for users to interface with. The ability to keep track of the year end projection and budget scenarios are preferred. This front end should then connect to dashboards and reporting front ends where forecasting data is graphically represented. Users will need to be able to capture data on predefined spreadsheets while parts of spreadsheets should also be updated as required on a sheet. Business users need to be able to update only part of a sheet, if needed, columns and rows should be easily interchangeable with drag and drop. Users should be able to select modes, years, total categories, total tariffs, and total

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customers. This can be used for ad hoc queries. There is a huge influx of queries received by the Sales and Forecasting team, both query tool and submitting tool.

7.1.3.4 Write Back

The write back functionality entails users capturing the forecasting data with projections and budgets. Once this is completed the dashboard and reporting visualization platforms should be reflected. Users may then need to update the previously captured data due to changes, the solution should allow the business users to update the data and the reporting visualisations should be generated immediately based on the updates entered and saved i.e. 'write back'. This means that business select one level lower than category. So in Mining, user will select gold or platinum mining (SIC Codes) to submit data against. Once the data is captured, users to select a potential write back to database and the solution understands the command.

The image below depicts the write back functionality:

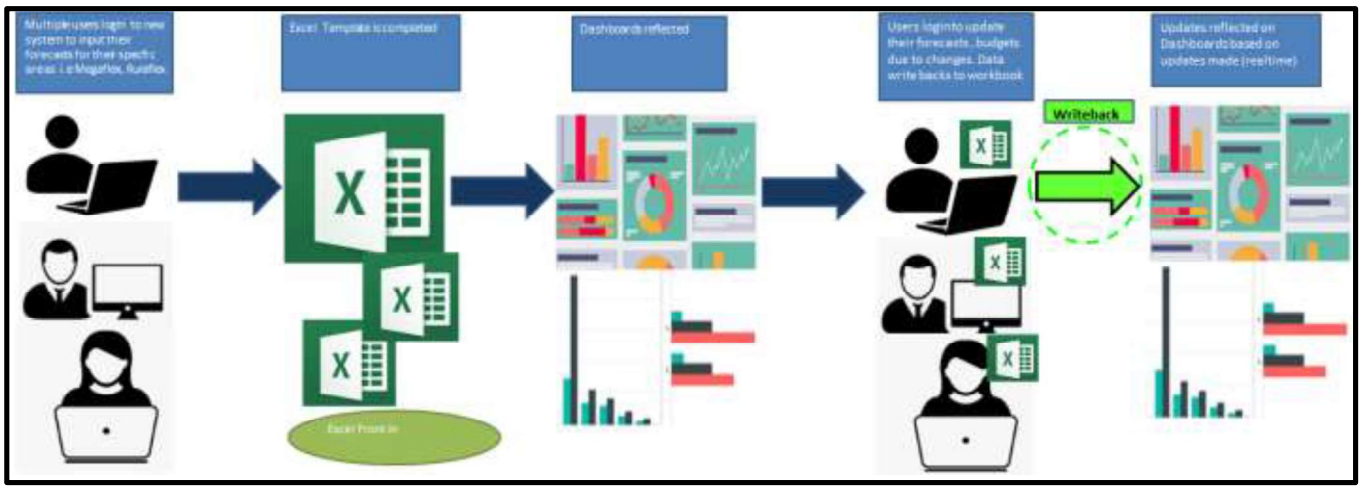

Figure 7: Write Back Functionality

7.1.3.5 Predictive Analysis

A predictive analysis capability is required, for example, at present, business users need to capture the first 6 years of forecasts per month while the next 9 years are annual figures, With the power of AA monthly profiles for all 15 years should be achievable. If a predictive capability exists then all years will have their forecasts updated based on actual historic data, the sheet then updates automatically with functionality to peak and poke certain months that need to be changed based on customer feedback, the changed figures then resubmitted by writing back into the database. Users should be able to link to forecasts where required. The homogeneous bits of the data should remain allowing the user to update only certain columns of data which predictively displays results based on inputted data. Potential scenarios to be generated based on data captured. All revenue calculations to be reapplied to changed

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volumes in real time, with the various inputs being aggregated in the customer/OU hierarchy. Predictive analysis tools that can assist in forecasting Sales saving time and adding to accuracy

7.1.3.6 Filters on Budgets

The filtering on budgets necessitates that each business user is only allowed to write to their own customers i.e. the business user who has access to 'Southern Region/Eastern Cape OU ' customers can only write to that area's customers types and to no other customer areas unless dictated by their access rights. It is highlighted that business users are linked to portfolios and should only access their specific portfolio. This is also applicable for monthly year end projections.

Types of access required include:

- Write access: User can capture data for a specific customer type which they have access to.
- Read access: User can only read data but cannot write or make changes to data that has been captured or submitted.
- Write and read access: User can capture and read data.
- None: User has neither read or write access.
- Open/close access: Revokes access but dictates budgets start in February and must be completed by June. Changes cannot be made once access is closed. This is to prevent users sneaking in data at the last moment. If there are stipulated changes as an example from National Energy Regulator of South Africa (NERSA), then open access will resume effecting the changes and access will revert to closed. This is achieved currently by toggling between read only and write access.

7.1.3.7 Aggregations

Once the business users have sent their forecast inputs, their managers can login and see their data. Managers can draw queries to see the progress. If needed managers can override based on head office adjustments. The solution should be able to calculate new prices and revenue based on the captured NERSA prices with various price path scenarios presented. In the absence of this functionality this becomes a manual task that can be error prone.

7.1.3.8 Auto populate dates

At present there are tariff specific templates i.e. mega flex, residential etc. The master table in the workbook consists of years i.e. 2018, 2019, 2020 etc. Users can select the period they are capturing for. When a user needs to do a 15 year forecast i.e. from 2030-2045 the solution should auto populate the years instead of the user manually changing each year for 15 years.

User should be able to select relevant years:

i.e

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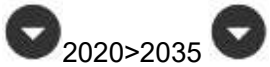

Instead of typing every year manually as seen below:
i.e:

2020
2021
2022
2023
2024

7.1.3.9 Factor change

The solution should allow business users to factor changes. For example if there are strikes in the platinum industry in a specific region, this could impact the initial forecast determined as an example 30%. This means that the business user should be able to scale the initial forecast down and once it has been scaled down it should link back to the tariff template, process refresh and input the refreshed forecast data on that specific scenario.

- Rule “The offer” or similar negotiated pricing agreements

A rule known as “The offer” exists. This encapsulates i.e. customers within a specific industry category can use 50% of their power at a special price. The business user should be able to select the industry and the industry customer and affect the special price only for the relevant years for that specific customer.

Year 1: Business user can change 50% of power at special price.
Year 2 Business user can change 50% of power at special price.
Year 3 No special price incurred therefore business user leaves data as is.
(Note manual intervention is required in this case and predictive capabilities in the solution alone is not sufficient, therefore it is crucial that the selected solution has both capabilities that facilitate predictive analysis and in addition allows users to manually interact with the datasets required on the excel templates.

7.1.3.10 Pro Rate

It is imperative that that the new solution should be able to apply prices from the price file uploaded from Pricing with revenue calculations being done automatically taking into account the prorating done in April for the annual increase non munics, June entering winter, July annual increase munics and September entering summer. The Sales and Forecasting team must therefore receive the latest pricing file so that they can be able to only read or calculate revenue.

Pro rate rates are formulated for:
- Annual price rate
- Summer price to Winter Price

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- Winter Price back to Summer Price
- Exact number at old price
- Exact number at new price
- LPU per day
- LPU per %
- Choice of selection can be % or per day

7.1.3.11 Hierarchy

The selected solution should include a hierarchy capability.

The hierarchy capability should include:

- Regions based on existing structure
- Operating Units (OU) view. Business require a system that correctly reflects the OU reporting structure to enable accurate reporting within each OU.
- Ability to see all customers linked to an OU
- Rollups, drilldowns
- The ability to drag and drop hierarchy based on approved structure

7.1.3.12 Copy and clear functions features:
Clear means to remove text or other elements from your work without saving it. This is typically done with the Del or Backspace key. Cut means to remove text or other elements from your work.
7.1.3.13 Slice and Dice features:

Slicing and Dicing refers to a way of segmenting, viewing and comprehending data in a database. Large blocks of data is cut into smaller segments and the process is repeated until the correct level of detail is achieved for proper analysis

7.1.3.14 Peak and poke features:

Once the relevant datasets have been loaded back into the system, the forecaster should be able to select which data they would like to change or analyse in further detail.

7.1.3.15 Revenue calculator:
An integrated revenue calculator using the National Energy Regulator of South Africa NERSA approved energy prices to calculate associated revenue on Sales budgets corporate plans and MYPD submissions

7.1.3.16 Scenario planning:
Scenario planning sometimes called “scenario or contingency planning” is a structured way for organisations to think about the future. A group of forecasters sets out to develop a small number of scenarios—stories about how the future might unfold and how this might affect an issue that confronts them.

7.1.3.17 Price increase calculation:

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When there is a price increase forecasters should be able to calculate based on new prices. The users should select parameters and the solution should calculate automatically.

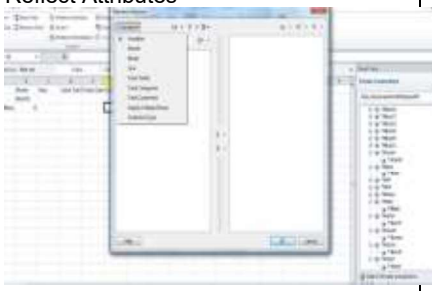
7.1.3.18 Partitioning between cubes:
The ability to transport data from one cube to another.

This concludes the distinctive features section.

7.2 Detailed requirements and Business rules

7.2.1 Define the detailed business requirements in number form ensuring that the functionality is sorted and described in functionality groupings.

The following section details the requirements gathered during the various focus groups with all 8 departments. The requirements will be listed and categorised per department. This table can be used as reference during the integration session.
It is highlighted that the other 7 departments will have read access to the sales forecasting tool which means that they will have a view of the sales forecasting data and be able to run queries or generate scenarios based on the data. They will not be able to write back or update the data. The Sales Forecasting and Time of Use requirements must be delivered first as demands were logged only by these 2 areas.

Functionality grouping	BRS Number	Functionality	Business Rule No and Description	Priority / phasing
DDW Replacement	Noted	It is noted that DDW (Distribution Data Warehouse) will have to be replaced for the Sales forecasting tool to work according to business needs.	1. CS and GIT Management will have to plan and manage this scope as part of a separate implementation plan/project.	Must be in place prior to sales forecasting tool implementation.
Sales and Forecasting	DFR1	Reflect Dimensions Reflect Variables Reflect Attributes  Dimensions with separate year, Dimensions with separate month, Classes and bill variables, different modes to compare projections, actuals and budget. Scenario planning Grow revenue with price increase	2. Dimensions that the solution must contain: Dimensions include: - Mode (budget, actual, projections, 12 month projections) - Month - Year - Tariff - Category - Customer - Voltage - Variables The other two are attributes in the current solution but business thinks it is better to have them to be full blown dimensions as attributes in the Essbase space seems cumbersome. Attributes that should be dimensions in new solution:	Phase 1

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Functionality grouping	BRS Number	Functionality	Business Rule No and Description	Priority / phasing
			- Supply voltage Dx - Customer type (Screenshot in the functionality tab reflects the dimensions in the current solution). New dimensions needed: - Zone	
Sales and Forecasting	DFR2	Hierarchy. The hierarchy must exist (fluid, drag and drop, zoom in, zoom out)	3. Note the hierarchy is Multidimensional Refer to attachment Dimension Hierarchies.xlsx	Phase 1
Sales and Forecasting	DFR3	Operating units (OU) structure Currently the structure is according to the old structure which includes regions. The OU structure must exist	4. Reflect current OU structure 5. Fluid structure if company structure changes should be able to refresh to new structure.	Phase 1
Sales and Forecasting	DFR4	Revenue calculator 10 year History, 15 year future with easy expansion.	6. Customer hierarchies detail 7. Statistical modelling 8. User driven outline changes no 3rd party work 9. Customers linked to different rates linked to seasons and time of use	Phase 1
Sales and Forecasting	DFR 5	**Distinctive features are critical in this business requirement and MUST be catered for in the sales forecasting tool:** 10. Predictive analysis 11. Write back to sales tool (submit a completed spreadsheet back into the system users don't have time to type each and every record) 12. Excel add in 13. Scenario planning	**Refer to section 7.1.3 for all distinctive features that are of significant importance for this solution to be fit for purpose.**	Phase 1

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Functionality grouping	BRS Number	Functionality	Business Rule No and Description	Priority / phasing
		14. Slice and dice 15. Peak and poke (modify and send into sales tool)		
Sales and Forecasting	DFR 6	Time of use (TOU) Repack The time of use data is hourly and the billing data is monthly. Pricing gets hourly data when pricing explores different time of use scenarios there is an impact on revenue. Therefore the Sales forecasting team needs to interact with the pricing inputs and calculate revenue based on the new time of use tariffs (refer to reporting section for further detail on TOU repack)	10. If customer paid X amount for Current: Peak Standard Off peak 11.Customer will now pay X amount: Time of use compiles New tariffs which means a tariff with energy charges that change during different TOU periods and seasons : Peak - new price Standard- new price Off peak- new price (Sales team must repack and calculate revenue based on new, specific scenario or price file)	Phase 1
Sales and Forecasting	DFR 7	Ability to define and govern user access across the Sales forecasting tool (write>aggregate>close system). The users must be able to do the following based on access: - Write access - Write access with defined filters (governs what user can write to) - Read/View Access - No Access - IT Support	12.User Roles: - Write access - Write access with defined filters - One Admin user - Read/view access - IT Support 13. Access allows users to: - Aggregations: o User must be able to write their own aggregation scripts o Calculate scripts o Clear and copy based on parameter selections o Slice and dice o Peak and poke (only change data for a certain month everything else	Phase 1

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Functionality grouping	BRS Number	Functionality	Business Rule No and Description	Priority / phasing
			stays the same)	
Sales and Forecasting	DFR 8	Partitioning between Cubes/Budgets KCD currently has the projections and budgets for the current year. It is noted the new tool must have budgets - CC&B Billing system contains actuals - KCD Key customer database contains budgets Budgets Private Space required where sales forecasting can have as many budgets This is only open to sales and forecasting, until they publish the final budget (1 version of the truth. This will be viewed by others) • Budgets (examples) • Budget a @ 8 % price increase • Budget b at 25% price increase • 15 years future budget /plan area.	14. The ability to transport data from one cube to another. 15. Budgets will reside on the sales forecasting tool 16. The new solution should have rolling window- rolling budgets (this means that that the data should not be static, forecaster should be able to forecast for the future for example a. May 2020- May 2023 b. June 2020- June 2024 There is no specific period start, stop	Phase 1
Sales and Forecasting	DFR 9	Historical Data	17. 10 - 15 years Data prior to 2006 should be in the landing zone.	Phase 1
Sales and Forecasting	DFR 10	Rolling Budgets, Rolling Forecasts Currently start, stop(April and March are fixed) With the rolling capability user can add on X number of years in detail then have an annual view	18. Live rolling window	Phase 1
Sales and Forecasting	DFR 11	Reporting Quick, accurate reporting and dashboard tools that provide advanced visualisation for any dataset, and queries that are run. Users should be able to select the parameters they would like reflected in their reports based on their	19. Example For each customer category (refer to detailed reporting section): Summary for the month Actual Budget Variance	Phase 1

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Functionality grouping	BRS Number	Functionality	Business Rule No and Description	Priority / phasing
		datasets/cubes. Example: Eskom Sales for a specific month in gigawatt hours (GWh) for the following customer categories: 19. Municipalities 20. Industrial 21. Mining 22. Traction 23. Residential 24. Pre-Payment 25. International 26. Other	20. Year to date (YTD) in relation to the budget and the previous year's actual 27. Actual 28. Budget 29. Variance 21. Year end 30. Projection 31. Budget 32. Variance 22. Users should not be limited in the type of reports they can generate from the solution.	
Pricing Tariff design TOU- Time of Use	DFR 12	Tariffs Tariffs are outdated and don't reflect the current system requirements and costs in the time-of-use periods. System to update regularly to reflect current tariffs and costs in the time-of-use periods.	23. Automation to regularly update current tariffs and costs in the time-of-use periods.	Phase 1
Pricing Tariff design TOU- Time of Use	DFR 13	TOU tariffs changes Eskom to be able to make changes to the TOU tariffs at country level. Changes to the TOU tariffs have to be requested by Eskom customers, the National Energy Regulatory of South Africa (NERSA) and the Eskom shareholders. i.e peak, standard and off peak hours.	24. Need to make tariff changes on the system when required in real time.	Phase 1
Pricing Tariff design TOU- Time of Use	DFR 14	TOU Customer profiling Profiles	25. Includes statistical tools for customer profile monitoring, revenue impact analysis, system load profile and generation avoided costs monitoring linked to customer profile monitoring and internally within Eskom	Phase 1
Pricing Tariff design TOU- Time of Use	DFR 15	TOU Reporting and Analytics All reporting is currently done manually. An analytics tool to work with live data to have dashboards and data available when analyzing data. Different views: • Overview • National System Load • What system operator sees on MV90	26. Data visualisation tools that can use the common dataset (per POD or Meter ID, per customer). 26. For load must be able to see revenue collected: • National • SIC • Account • POD • Hour frequency	Phase 1

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Functionality grouping	BRS Number	Functionality	Business Rule No and Description	Priority / phasing
		• SIC code • For different customer types • Different load profiles (winter/summer, high/low)	(refer to data sample in the data fields section)	
Pricing Tariff design TOU- Time of Use	DFR 16	Customer Impact The customer response is not known, and this could potentially result in a revenue variance, positive and negative, which would need to be accommodated in the future-year revenue clearing account (RCA).	27. Data visualisation, reporting and analytics is required to quantify, monitor and measure the impact of the customers' responses to the changes to the Time of use TOU tariffs and the impact on Eskom's revenue	Phase 1
Pricing Pricing Tariff design TOU- Time of Use	DFR 17	Quantify customer responses Changes to the number of blocks, periods, and prices in each period and the resultant impact on customers are important, as these will have an impact on revenue and on customers' price and operations. Reducing the peak price results in an increase, for example, in the standard and off-peak price. This may suit customers who have high peak consumption, but will not suit customers who have optimized their operations to reduce peak consumption. For the former type of customer, this would result in a reduction regarding overall price, but for the latter, this would result in an increase.	28.Data Visualisation tools, reporting, analytics is needed to quantify the customer impact and customer responses.	Phase 1
Pricing Tariff Design TOU- Time of Use	DFR18	There is the question on the price signals and the impact of these price signals, for example whether these should include signals to incentivize customer behavior. The signals may not be "cost-reflective", but may rather signal optimization of system use.	29.Analysis work is needed to inform what changes should be made to the TOU blocks, hours, periods and prices to optimally manage the power system	Phase 1
Pricing Tariff Design TOU- Time of Use	DFR19	Scenarios i.e. 12 hours on peak, 2 hours off peak what is the impact on revenue i.e. Eskom gives an x % increase what is the impact on revenue i.e. different profiles 6 AM vs 6 PM impact on revenue	30. The ability to calculate revenue for scenario x, scenario y. • Actuals • Forecast • Load profile • Hour by hour MW and GWh • % • Revenue • Difference • Consumption vs Revenue • Avoided • Total system profile	Phase 1
Pricing Tariff	DFR20	TOU Analysis through analytics	31. The need to understand based	Phase 1

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Functionality grouping	BRS Number	Functionality	Business Rule No and Description	Priority / phasing
Design TOU-Time of Use		/reporting • The peak, standard and off-peak consumption for the last 3 years and the new TOU scenarios and volumes – for Forecasting. • Who are the customers that contribute to the morning and evening peaks for every week day in winter and summer (the load and percentage); • Who are the customers that contribute to the morning and evening peaks for Saturdays and Sundays in winter and summer (the load and percentage • Who are the customers that contribute to the mid-morning load (valley) during the entire week (the load and percentage); • A summary of load and percentage contributions per SICC code under the national system load profile for the average winter and summer week • A summary of the load; percentage contributions and revenue contribution per SICC code/tariff/ OU for the national system load profile for the average winter and summer week; based on existing TOU and the proposed 3 TOU scenarios • Simulation of the load profile and quantification of customer response based on the **NEW** TOU time changes (using estimated/predicted/modelled customer responses.) This is the actual BENEFIT QUANTIFICATION.	on analysis of data TOU Sample Data.xlsx 32. Currently resides on Power BI dashboards that have been developed specifically for TOU.	
Pricing Tariff Intelligence	DFR21	Complete optimum dataset that allow for query functionality • Pricing Intelligence wants to forecast differently (is it a revenue forecast or other) • Year on year query ability • Complete datasets for actuals	33. The NEW fields required are on CC&B because they are not used by Sales; they are dropped off. Pricing Intelligence requires these fields in addition to the current fields Pricing intelligence uses. These	Phase 2

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Functionality grouping	BRS Number	Functionality	Business Rule No and Description	Priority / phasing
		• Run Queries based on dataset • Ability to select period financial year- Month • Forecast, trends, budgets The ability to define forecasts, trends, budgets, complete dataset for: • POD for each LPU • LPU detailed view required • SPU data view is needed but must be at a Summarised level (extract of SPU) required.	fields must be to be pulled from CC&B into the landing zone so that they can be queried at any time. 34. Refer to data fields section 7.33 Pricing Intelligence Department fields. PI requires the existing fields as well as the new fields that are not currently pulled in. Copy of Current and New Fields - Forecas	
Pricing Tariff Intelligence	DFR22	Hierarchy OU structure Regions need to be reflected as operating units	35. Operating units view required	Phase 2

Pricing Tariff Intelligence	DFR23	Statistical Analysis and Revenue Modelling
		
		The ability to run different Scenarios for actuals, and budgets.
		One source for calculations
		One source for revenue
		
		Fast run time and response time is required) for customers such as:
		• Dx Other
		• KSACS
		• Individual
		• Group
		• SPU
		  ○ Annual Period
		  ○ 6 year Window for a forecast
			36. Query datasets
			It is noted that CC&B data fields are shared with the Sales forecasting team, Tariff design TOU team and Pricing Intelligence Team.
			
			Data Fields:
			• Current fields must be pulled in as is
			• New fields identified now must be pulled in.
			• For each POD
			• Applied to actuals
			• Applied to forecasts
				Phase 2

Pricing Tariff Intelligence	DFR24	Statistical information applied to Actuals and Forecasts for a specific period		Phase 2
Pricing Tariff Intelligence	DFR25	The solution must allow Sales Forecasting to update should a variance be noted. Duplicates should be reflected.		Phase 2

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Functionality grouping	BRS Number	Functionality	Business Rule No and Description	Priority / phasing
Pricing Tariff Intelligence	DFR26	Model rates ability • Ability to input tariff data and calculate domestic tariffs and domestic revenue • Revenue for each rate model • Revenue Modelling • Some forecasters do provide a value for a tariff ○ Make changes ○ Use these updated rates ○ Model rates ○ Calculate ○ Draw results ○ Scenarios ○ Trend Analysis • Export functionality (once queries generated it should be reflected in a format)		Phase 2
SAE	DFR27	Budgets Instead of SAE doing manual billing there will be more automation. It is important to note that the tool, landing space, should bring in the SAE International data from CC&B into the Sales Space. There will be one repository for Budgets. SAE require detailed budgets to be included to the sales tool, currently only high level budgets are stored on the existing tool. Rolling budgets functionality required Access to planning cube, history cube	37. Email request received by SAE requesting their budgets, actuals, and projections for all International Sales. SAE sends Sales forecasting team an excel document, Sales forecasting team then builds excel template. Aggregates. Report Total Eskom View. Query then sent to a variety of people: • Gx (Prod Planning) • Time of Use • Treasury • Energy Wheel diagram (entire supply demand profile) • Flat file to SAP • Finance • Long Term Planning	Phase 3
SAE	DFR28	Generic dimensions shared with the sales forecasting team include: • Month • Year • Mode (budget, actual, projections, 12 month projections) • Etc.	38. It is noted that the spreadsheets compiled by SAE are based on invoices generated from Energy Trading System ETS.	Phase 3

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Functionality grouping	BRS Number	Functionality	Business Rule No and Description	Priority / phasing
		Variable dimensions shared with the sales forecasting team include: • SAP Variable (balance to income statement) • CC&B Actual Differences between sales forecasting team and SAE: • Customers (Sales forecasting looks at domestic customers, SAE looks at international customers). • Purchases • Tariffs done o Peak and Standard o Billed and Actual Dimensions required include: - Mode (budget, actual, projections, 12 month projections) - Month (period) - Year (period) - Tariff - Category - Customer (geographic) - Voltage - Variables The other two are attributes in the current solution but business think it is better to have them be full blown dimensions as attributes in the Essbase space seems cumbersome. Attributes that should be dimensions in new solution: - Supply voltage Dx - Customer type New dimensions needed: - Zone		
SAE	DR29	Hierarchy Geographic hierarchy required while Sales forecasting requires an OU hierarchy. The hierarchy should be fluid where users can dictate the hierarchy that should be reflected at any point in time.	39. International countries geographic view i.e. Botswana, Mozambique	Phase 3
SAE	DR30	Predictive Analysis	• No human error, limited	Phase 3

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Functionality grouping	BRS Number	Functionality	Business Rule No and Description	Priority / phasing
		For example inflate by X % to generate budgets, inflate Megaflex, what will my tariff need to be to get back a million rand The tool should become a decision making tool where opportunities can be leveraged off in future	manual intervention.	
SAE	DFR31	Historic View of data If SAE needs to know for example; What did Lesotho buy from Eskom during Summer?" Should be able to query the data. Currently this is a manual task		Phase 3
SAE	DFR32	If the energy wheel does not balance there should be a view of the actuals data i.e. if wheel reflects 100, and actuals reflects 90. There must be visibility i.e. actual truth on (CC&B) vs financial truth on (SAP).		Phase 3
SAE	DFR33	Automated reporting visualisation and accurate forecasting The tool should allow for different forms of visualisation - Actuals (monthly reporting) - Budgets - Trends for the year based on forecasts done by the SAE team	• Modes Actuals and budgets for: - Month - YTD - YE	Phase 3
Energy losses	DFR34	One source of Sales Data Energy losses are growing significantly; there is a lack of trust. The key question raised is whether the losses are due to Sales or Purchases. Requires one source of sales data which is ultimately deemed the 'gospel'. View of metered data (MV90) Energy losses receives OU sales report from the sales forecasting team via email in an excel format. Sales report and OU reports sent. Energy Losses does a comparison to see if data matches. If match OU consolidated , reports, scorecard, energy wheel, email, to Distribution business		Phase 2

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Functionality grouping	BRS Number	Functionality	Business Rule No and Description	Priority / phasing
Energy losses	DFR35	Energy losses should be able to have a view of the data at the following levels: • OU • Zone • Sector • CNC	• Access to view the hierarchy at different levels	Phase 2
Energy losses	DFR36	The current system is too old and rigid; the adjustments that happen in billing do not feed into Sales therefore those energy losses cannot be quantified. The tool must be flexible and not hardcoded. A concise dataset should be used.	• New solution should not be hardcoded, refreshed data should be reflected	Phase 2
Energy losses	DFR37	There are different billing cycles so sales cannot be from the first day to the last day of the month. If Energy losses can get raw data from the meters (MV90) when this data comes into the new solution must be able to see: • Billed view • Calendar view (currently don't see calendar view) View of: Accounting view (billing) Statistical view (adjustments)		Phase 2
Energy losses	DFR38	Integration Integrate the new solution to the Energy Losses existing space on Netezza		Phase 2
Energy losses	DFR39	Reporting The ability to report on the datasets available, but to add purchasing power agreements where missing or inadequate data.		Phase 2
Finance It was noted that Finance is currently compiling a test the market BRS named Budget Planning and Forecasting Solution that focusses on their holistic forecasting requirement.	DFR40	Flat file automation There are currently 2 flat files: 3rd working day 5th working day	44. Flat File automation required. The new solution will access data from SAP BW 4 HANA. 45. Currently the financial environment has a report extract: Attached, the SAP flat file, and one of the translation tables for the as is. Copy of ZTO63.xlsx	Phase 3

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Functionality grouping	BRS Number	Functionality	Business Rule No and Description	Priority / phasing
			Ability to access sales forecasting data (Domestic) and SAE sales forecasting data (International)	
Finance	DFR41	Hierarchy OU Structure Regions need to be reflected as operating units. OU view required		Phase 3
Finance	DR42	Automated Reporting Variance Interrogative (The ability to use the same dataset and have different views) Lowest level data Aggregates (Currently business waits for CC&B batch loads) Multidimensional dynamic reporting based on dataset		Phase 3
Finance	DFR43	Enrichment Layer exists (25 CSAs hardcoded currently) This hierarchy to speak to the SAP Hierarchy	48. Red flag anomalies this will be based on parameters selected.	Phase 3
Finance	DFR44	Scenario Planning • Volume • Price • Base • Variation Actual Mode (Baseline budgets) • Impact analysis in terms of impairments for the entire customer base	49. The ability to generate scenarios allowing for multiple comparisons	Phase 3
Finance	DFR45	Time Intelligence • Historic view • Current view	50. Intelligence on hierarchy The ability to see the view of the past hierarchy and the new hierarchy at the lowest level of data at any point in time. One version of the truth	Phase 3
Finance	DFR46	Rolling Forecasts, Rolling Budgets Currently start, stop (April and March are fixed). Live rolling window With the rolling capability user can add		Phase 3

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Functionality grouping	BRS Number	Functionality	Business Rule No and Description	Priority / phasing
		on X number of months or years in detail then have an annual view		
Finance	DFR47	Rolling Snapshots • Overwrite delta • Start afresh • Base budget • Scenarios • Final corporate plan • Use forecast to build budget	51. If Finance aggregates with the delta- wipe out then start afresh	Phase 3
Finance	DFR48	Step through , drill through hierarchy Have a view with step through functionality of the detail linked to the major Eskom customer types in a hierarchy: Eg: • Mining - Platinum ▪ All platinum mines - Gold ▪ All gold mines To apply across all customer types	52. Multidimensional hierarchy (fluid, drag and drop, zoom in, zoom out)	Phase 3
Electricity Pricing	DFR49	Requires a data lake or landing zone where a series of queries can be run. There should be flexibility where users can input their own formulas and get the results they require. All of the factors below should be "query able", for example: What is the Load factor for a group of customers in the Western Cape that are supplied from the 11kV voltage, are on a night save urban tariff, etc. Hourly, daily, weekly, seasonally, yearly factors as follows: • Demand Factor. The demand factor is the ratio of maximum demand of a system to the total connected load of the system or • Coincidence Factor. The coincidence factor is the ratio of the maximum demand of a system, or part under consideration, to the sum of the individual maximum demands of the subdivisions or Equation: Coincidence factor = Sum of individual maximum	53. Query own formulas for example demand factor is a formula. Query Example: What is the Load factor for a group of customers in the Western Cape that are supplied from the 11kV voltage, are on a night save urban tariff, etc.	Phase 3

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Functionality grouping	BRS Number	Functionality	Business Rule No and Description	Priority / phasing
		demands / Maximum system demand • Diversity Factor. The diversity factor is the reciprocal of the coincidence factor or Equation: Diversity factor = Maximum system demand / Sum of individual maximum demands • Load factor. The load factor is the ratio of the average load over a designated period of time, usually 1 year, to the maximum load occurring in that period or Equation: Load factor = Average load / Maximum load Calculate load factor, diversity factor (need to be able to query customer who has a load factor of X percent what is their diversity factor for a specific OU for a specific customer) linked to the hierarchy.		
Electricity Pricing	DFR50	Require the following data fields from MV90: • Account • Active energy or energy charge • Ancillary service charge • Annual utilised capacity • Chargeable demand • Distributed network capacity charge • Distribution network charge • Energy demand charge • Excess network capacity charge • High demand season • Loss factors • Loss charge • Maximum demand • Monthly utilised capacity • Network capacity charge • Network demand charge • Notified maximum demand • Maximum import • Maximum export • Energy imported • Energy exported • Reactive Energy charge : a. 2 Import b. 2 Export Have a view of the data namely:	54. It is noted that the data comes from MV90 the challenge with MV90 is that is does not provide all the calculations and does not provide data analytics 55. Note: Formulation for the definitions below are described in the tariff book can be viewed on the intranet CS sales documents. For example: Chargeable demand means the highest average demand measured in kVA in a billing month during the chargeable time periods specified for each tariff. For WEPS,Megaflex and Megaflex Gen,the chargeable period is during these tariffs peak and standard periods and for Nightsave Urban (Large and Small) and Nightsave Rural during Nightsave's peak periods) Refer to the tariff book if more information is required on any of the required fields via the following URL http://intranet.eskom.co.za/sites/CS/about/ElectricityPricing/SitePages/default.aspx	Phase 3

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Functionality grouping	BRS Number	Functionality	Business Rule No and Description	Priority / phasing
		• Transmission zone • POD • Tariff • Voltage • Peak • Off peak • Time of use		
Electricity Pricing	DFR51	Data Reporting and Visualisations • Histograms • Plot, graph, box plots	56. Business should be able to generate data visualisations based on queries that have been run.	Phase 3
Electricity Pricing	DFR52	(Nice to have) Query functions that can be used amongst different platforms	57. 5i.e. custom functions: coded in R and or Python.	Phase 3
Long Term Planning	DFR53	Currently have their own cube on the current tool. 15 year forecast, requires read access. Requires same ability to read and run queries on the data. - Strong analytical tool - Predictive analysis (run update analyse) - Requires access to MV90 data refer do data fields sources section.	58. It is noted that when the business unbundles there would have to be a disclaimer for access to data. Terms and conditions will have to be clarified when the time comes. 59. Requires access to all cubes that sales forecasting uses – read access.	Phase 3
Long Term Planning	DFR54	Require new MV90 data fields for their queries.	60. Fields required are noted in attached spreadsheet. The fields highlighted in yellow are the new fields that should be pulled in to the landing zone Copy of Grid Planning mv90 fields.;	Phase 2
Long Term Planning	DFR55	It is noted that the company will be unbundling and the first division to be unbundled will be Transmission. Access to data on the new sales solution will have to be addressed following the unbundling.	61. Access control after unbundling to be discussed and approved.	Unknown at this stage.

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7.3 Information/data requirements

7.1.1 Data Sources

The data sources for this requirement include:

Data Source	Important to note
CC&B Billing data	Billing data currently resides on Netezza within the ACE environment. The Netezza contract will reach expiry during 2020. There is therefore a dependency on the analytics re platform project requirement (RFI). The data residing on Netezza may have to be moved to a new platform. This will have to be planned for as this could be a lengthy exercise.
MV90 Metering data (Time of Use)	Metering data currently resides on Netezza within the ACE environment. The Netezza contract will reach expiry during 2020. There is therefore a dependency on the analytics platform project requirement. The data residing on Netezza will have to be moved once the contract ends to a new platform. This will have to be planned for and discussed as this could take a substantial amount of time.
SAP Finance data	Data currently resides on SAP Production Finance System (PFS). At present flat files are loaded. The new sales tool must connect to SAP 4 Hana in order to extract the data. If all datasets have not been migrated to BW 4 Hana then a dependency will be with the SAP Centre of Excellence (SAP CoE) Team to first complete.

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Sales Forecasting Department Fields:
Existing variables – The Sales forecasting business have member names and aliases. The naming difference referred to is due to an xml error that results in some files only carrying member names as Aliases carry special characters causing the error. CC&B will be creating new variables as they cater for new products such as "The Offer" – it is very important that new variables flow through to the landing zone/data lake. **In the current environment everything is hardcoded and with the advent of Banking Nett Metering and special offers there will most likely be new variables business will need**. Refer to Appendix A.

Tariff Design Time of Use (TOU) Department Fields:

Source data includes MV90 and CC&B. The relevant data fields are then pulled into a TOU table.

Field Names	Source	Comments
TOU Sample Data	TOU Sample Data.xlsx	
ACCOUNT_ID	MV90	
ACCOUNT_NAME	MV90	
PREMISE_ID	MV90	
SA_ID	MV90	
SIC_CODE	CCB/mv90	
SERVICE_AREA	CCB/mv90	
CIS_DESCRIPTION	CCB/mv90	
CNC	CCB/mv90	
METER_ID	MV90	
NMD	CCB	notified max demand

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DISTANCE	CCB	
SUPPLY_VOLTAGE	CCB	
REV_CL_CD	CCB	customer code
CUST_DESC	CCB	customer type description
TARIFF_DESCRIPTION	CCB/mv90	
TARIFF_CATEGORY	CCB/mv90	
DATE_KEY	MV90	
TOU_KEY	MV90	
KWH_EXP	MV90	energy export(consumption)
KWH_IMP	MV90	energy import
KVARH_LAG_EXP	MV90	reactive energy
KVARH_LAG_IMP	MV90	reactive energy
KVARH_LEAD_EXP	MV90	reactive energy
KVARH_LEAD_IMP	MV90	reactive energy

TOU fields extract

SERVICE_AREA	CIS_DESCRIPTION	CNC	METER_ID	NMD	DISTANCE	SUPPLY_VOLTAGE	REV_CL_CD	CUST_DESC	TARIFF_DESCRIPTION	TARIFF_CATEGORY	DATE_KEY	TOU_KEY	KWH_EXP	KWH_IMP	KVARH_LAG_EXP	KVARH_LAG_IMP	KVARH_LEAD_EXP	KVARH_LEAD_IMP
MARINA BEACH	MARGATE	Marina Beach CNC	1449340769F1	200	<= 600km	400V	COMM	Commercial	Nightsave Urban kVa Interval	DX Load	20160123	2.01601E+11	23.41	NULL	12.54	NULL	NULL	NULL
MARINA BEACH	MARGATE	Marina Beach CNC	1449340769F1	200	<= 600km	400V	COMM	Commercial	Nightsave Urban kVa Interval	DX Load	20180409	2.01804E+11	47.24	NULL	20.59	NULL	NULL	NULL
MARINA BEACH	MARGATE	Marina Beach CNC	1449340769F1	200	<= 600km	400V	COMM	Commercial	Nightsave Urban kVa Interval	DX Load	20180429	2.01804E+11	17.9	NULL	10.56	NULL	NULL	NULL
MARINA BEACH	MARGATE	Marina Beach CNC	1449340769F1	200	<= 600km	400V	COMM	Commercial	Nightsave Urban kVa Interval	DX Load	20180511	2.01805E+11	13.34	NULL	7.78	NULL	NULL	NULL
MARINA BEACH	MARGATE	Marina Beach CNC	1449340769F1	200	<= 600km	400V	COMM	Commercial	Nightsave Urban kVa Interval	DX Load	20180517	2.01805E+11	12.51	NULL	6.86	NULL	NULL	NULL

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Pricing Intelligence Department Fields:

	SPU file current fields	LPU file - KSACS file	Check f	Comments	LPU file - Dx Other	Check f	LPU file - Dx Indiv	Check fields
1	Class	Class	TRUE		Class	TRUE	Class	TRUE
2	Tariff	Tariff	TRUE		Tariff	TRUE	Tariff	TRUE
3	Account & POD id	Account & POD id	TRUE		Account & POD id	TRUE	Account & POD id	TRUE
4	Year	Year	TRUE		Year	TRUE	Year	TRUE
5	Month	Month	TRUE		Month	TRUE	Month	TRUE
6	NonTOU Consumption (kWh)	NonTOU_Cons_(kWh)	FALSE	same field just naming difference	NonTOU_Cons_(kWh)	TRUE	NonTOU_Cons_(kWh)	TRUE
7	Offpeak Consumption (kWh)	Offpeak_Cons_(kWh)	FALSE	same field just naming difference	Offpeak_Cons_(kWh)	TRUE	Offpeak_Cons_(kWh)	TRUE
8	Standard Consumption (kWh)	Standard_Cons_(kWh)	FALSE	same field just naming difference	Standard_Cons_(kWh)	TRUE	Standard_Cons_(kWh)	TRUE
9	Peak Consumption (kWh)	Peak_Cons_(kWh)	FALSE	same field just naming difference	Peak_Cons_(kWh)	TRUE	Peak_Cons_(kWh)	TRUE
10	Consumption Hi (kWh)	Cons_Hi_(kWh)	FALSE	same field just naming difference	Cons_Hi_(kWh)	TRUE	Cons_Hi_(kWh)	TRUE
11	Consumption Lo (kWh)	Cons_Lo_(kWh)	FALSE	same field just naming difference	Cons_Lo_(kWh)	TRUE	Cons_Lo_(kWh)	TRUE
12	Consumption Block1	Cons_1_(kWh)	FALSE	same field just naming difference	Cons_1_(kWh)	TRUE	Cons_1_(kWh)	TRUE
13	Consumption Block2	Cons_2_(kWh)	FALSE	same field just naming difference	Cons_2_(kWh)	TRUE	Cons_2_(kWh)	TRUE
14	Consumption Block3	Cons_3_(kWh)	FALSE	same field just naming difference	Cons_3_(kWh)	TRUE	Cons_3_(kWh)	TRUE
15	Consumption Block4	Cons_4_(kWh)	FALSE	same field just naming difference	Cons_4_(kWh)	TRUE	Cons_4_(kWh)	TRUE
16	Total Consumption (kWh)	Total_Cons_(kWh)	FALSE	same field just naming difference	Total_Cons_(kWh)	TRUE	Total_Cons_(kWh)	TRUE
17	Chargeable Demand (kVA)	Chargeable_Dem_(kVA)	FALSE	same field just naming difference	Chargeable_Dem_(kVA)	TRUE	Chargeable_Dem_(kVA)	TRUE
18	Network Demand (kVA)	Network_Demand (kVA)	FALSE	same field just naming difference	Network_Demand (kVA)	TRUE	Network_Demand (kVA)	TRUE
19	Demand Incentives (kVA)	Demand_Inc_(kVA)	FALSE	same field just naming difference	Demand_Inc_(kVA)	TRUE	Demand_Inc_(kVA)	TRUE
20	Total Chargeable Demand (kVA)	Total_Chargeable_Dem_(kVA)	FALSE	same field just naming difference	Total_Chargeable_Dem_(kVA)	TRUE	Total_Chargeable_Dem_(kVA)	TRUE
21	Utilisation Capacity (kVa)	Util_Cap_(kVa)	FALSE	same field just naming difference	Util_Cap_(kVa)	TRUE	Util_Cap_(kVa)	TRUE
22	Notified Maximum Demand (kVA)	Notified_Maximum_Dem_(kVA)	FALSE	same field just naming difference	Notified_Maximum_Dem_(kVA)	TRUE	Notified_Maximum_Dem_(kVA)	TRUE
23	Actual Demand (kVA)	Actual_Dem_(kVA)	FALSE	same field just naming difference	Actual_Dem_(kVA)	TRUE	Actual_Dem_(kVA)	TRUE
24	Load_Factor_(%)	Load_Factor_(%)	TRUE		Load_Factor_(%)	TRUE	Load_Factor_(%)	TRUE
25	Number_of_Active_PODs	Number_of_Active_PODs	TRUE		Number_of_Active_PODs	TRUE	Number_of_Active_PODs	TRUE
26	Number_of_Accounts	Number_of_Accounts	TRUE		Number_of_Accounts	TRUE	Number_of_Accounts	TRUE
27	Standard Connection Charge	Standard_Connection_Charge	FALSE	same field just naming difference	Standard_Connection_Charge	TRUE	Standard_Connection_Charge	TRUE
28	Rebatable/Residual Connection Cha	Rebatable_Monthly_Extension_Charge_(R)	FALSE	same field just naming difference	Rebatable_Monthly_Extension_Charge_(R)	TRUE	Rebatable_Monthly_Extension_Charge_(R)	TRUE
29	Premium Connection Charge	Non-Rebatable_Monthly_Extension_Charge_	FALSE	same field just naming difference	Non-Rebatable_Monthly_Extension_Charge_	TRUE	Non-Rebatable_Monthly_Extension_Charge_	TRUE
30	Reactive_Energy_Charge_(R)	Reactive_Energy_Charge_(R)	TRUE		Reactive_Energy_Charge_(R)	TRUE	Reactive_Energy_Charge_(R)	TRUE
	existing fields - in a nutshell they are the same across all the 4 forecast loading files. Naming convention is not consistent hence the no match for some…							

Figure 8: Current 30 fields on CC&B that business are using (As is)

- The Pricing intelligence team should be able to view budget, actuals on the system/tool. When applicable to, actuals must be able to give month on month and derive number of days customer billed for. Even if these fields can be calculated business require separate fields to be reflected.
- Some of the additional fields are completely new fields as they currently don't exist on the file received from forecasting but exist on CC&B.

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- Some are not necessarily new but are derived from existing fields. It will be better to have them as stand-alone fields to make it easier when running queries, it will also help in reducing the amount of time spent customising and sorting out of data to be in a readable format for Pricing Intelligence and related processes.

	Fields to be added	Comment
1	Munic flag	can be derived from tariff
2	kvarhEx	
3	Transmission zone	
4	Tx Connected	
5	Derived Voltage	
6	Maxiumum demand _kW	
7	Power factor (pf)	
8	SICC Description	
9	SICC Code	
10	Billed days	applicable if it is actuals
11	Utility Service Agreement	applicable if it is actuals
12	Utility Service Agreement Status	applicable if it is actuals
13	SA start date	applicable if it is actuals
14	SA end date	applicable if it is actuals
15	SMD / Diversity flag	
16	Urban /Rural	can be derived from tariff
17	Key Customer flag	
18	Entity name	

Figure 9 New Additional 18 fields required (that reside on CC&B)

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Transmission Long Term Planning Department Fields

MV90 Fields
Account ID
Account Name
Premise ID
SA_ID
SIC_CD
SIC_DESCRIPTION
REV_CL_CD
CUST_DESC
SERVICE_AREA
CIS_DESCRIPTION
CNC
PROVINCE
METER_ID
NMD
DISTANCE
SUPPLY_VOLTAGE
TARIFF_DESCRIPTION
TARIFF_CATEGORY
DATE_KEY
TOU_KEY
KWH_EXP

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ACCOUNT_ID	ACCOUNT_NAME	PREMISE_ID	SA_ID	SIC_CD	SIC_DESCRIPTION	REV_CL_CD	CUST_DES	SERVICE_AREA	CIS_DESCRIPTION	CNC	PROVINCE	METER_ID	NMD
6085133749	B & E SILICA (PTY) LTD	7521772922	6085133272	25399	Other minerals & materials n	MINING	Mining	PETIT:PETIT LPU CUSTOMER	NIGEL	Petit CNC	GAUTENG	B&E SILICA	1000
6085133749	B & E SILICA (PTY) LTD	7521772922	6085133272	25399	Other minerals & materials n	MINING	Mining	PETIT:PETIT LPU CUSTOMER	NIGEL	Petit CNC	GAUTENG	B&E SILICA	1000
6085133749	B & E SILICA (PTY) LTD	7521772922	6085133272	25399	Other minerals & materials n	MINING	Mining	PETIT:PETIT LPU CUSTOMER	NIGEL	Petit CNC	GAUTENG	B&E SILICA	1000
6085133749	B & E SILICA (PTY) LTD	7521772922	6085133272	25399	Other minerals & materials n	MINING	Mining	PETIT:PETIT LPU CUSTOMER	NIGEL	Petit CNC	GAUTENG	B&E SILICA	1000
6085133749	B & E SILICA (PTY) LTD	7521772922	6085133272	25399	Other minerals & materials n	MINING	Mining	PETIT:PETIT LPU CUSTOMER	NIGEL	Petit CNC	GAUTENG	B&E SILICA	1000
6085133749	B & E SILICA (PTY) LTD	7521772922	6085133272	25399	Other minerals & materials n	MINING	Mining	PETIT:PETIT LPU CUSTOMER	NIGEL	Petit CNC	GAUTENG	B&E SILICA	1000
6085133749	B & E SILICA (PTY) LTD	7521772922	6085133272	25399	Other minerals & materials n	MINING	Mining	PETIT:PETIT LPU CUSTOMER	NIGEL	Petit CNC	GAUTENG	B&E SILICA	1000
6085133749	B & E SILICA (PTY) LTD	7521772922	6085133272	25399	Other minerals & materials n	MINING	Mining	PETIT:PETIT LPU CUSTOMER	NIGEL	Petit CNC	GAUTENG	B&E SILICA	1000
6085133749	B & E SILICA (PTY) LTD	7521772922	6085133272	25399	Other minerals & materials n	MINING	Mining	PETIT:PETIT LPU CUSTOMER	NIGEL	Petit CNC	GAUTENG	B&E SILICA	1000
6085133749	B & E SILICA (PTY) LTD	7521772922	6085133272	25399	Other minerals & materials n	MINING	Mining	PETIT:PETIT LPU CUSTOMER	NIGEL	Petit CNC	GAUTENG	B&E SILICA	1000

Figure 10: Fields highlighted in yellow are the new fields that need to also be pulled into the landing zone

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7.1.2 If any data is currently not available the business needs to define the plans they have in place to ensure how and when the data will be available.

This is not applicable as the data required is on the source systems noted above. The data will have to be pulled into a landing zone where the departments can then extract data and run relevant queries and conduct their analysis. This will eliminate extracting data directly from source.

7.2 Data flow diagram OR Context diagram

This is used to assist in understanding the scope of the business requirement. It serves as the starting point for the documentation of the detailed business requirements.

The diagram depicted below indicates the

- Analysis area of study
  - Represented by a circle in the middle (e.g. Sales forecasting tool requirement :Sales forecasting Department)
- External agents
  - Represented by rectangular boxes (The departments that receive the sales, revenue, forecasts, and budgets. The Sales forecasting team compiles reports based on outputs from the tool)
- Data flows
  - Represented by arrows between external agents and the analysis area of study
  - Labelled to identify the data exchanged

- Detailed reports (queries)
- Summary Reports sent to the different departments (send in a format)
  - The summary of the month and year-end actuals in relation to the budget and the previous year's actual.
  - The forecasters review the sales and calculate the variances
  - The variances are explained for example *"Total Eskom Sales for June are 17 487 GWh against a budget of 17 633 GWh. This translates to an unfavourable variance of 147 GWh. The year to date actual sales of 52 205 GWh are 398 GWh lower than the budget of 52 603 GWh. This translates to a 0.77 % unfavourable variance compared to YTD 2018. The June year end Actual is 207 911 GWh which is lower than the budget of 209 123 GWh. The year-end sales projection shows a 0.20 % unfavourable growth when compared to 2018 financial year".*
  - The report then states Total Eskom Sales for the specific month and is compared to budget. A summary is then compiled for each customer reflecting total sales for that month, year to date, month and year to date variances with forecasters inputs for:
    - Municipalities
    - Industrial
    - Mining
    - Traction
    - Residential
    - Pre-payment
    - International
    - Other

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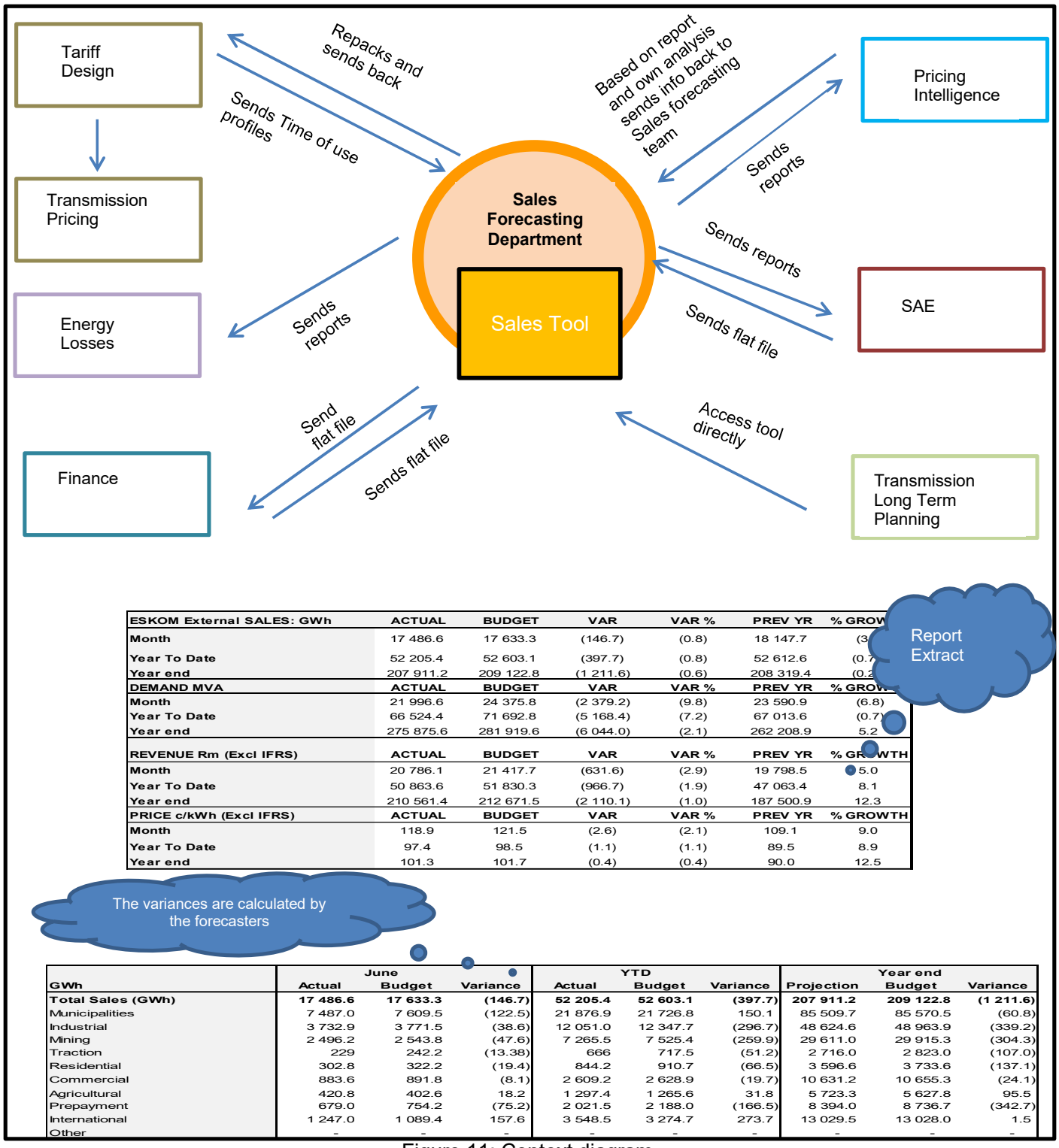

ESKOM External SALES: GWh	ACTUAL	BUDGET	VAR	VAR %	PREV YR	% GROW
Month	17 486.6	17 633.3	(146.7)	(0.8)	18 147.7	(3
Year To Date	52 205.4	52 603.1	(397.7)	(0.8)	52 612.6	(0.7
Year end	207 911.2	209 122.8	(1 211.6)	(0.6)	208 319.4	(0.2
DEMAND MVA	ACTUAL	BUDGET	VAR	VAR %	PREV YR	% GROW
Month	21 996.6	24 375.8	(2 379.2)	(9.8)	23 590.9	(6.8)
Year To Date	66 524.4	71 692.8	(5 168.4)	(7.2)	67 013.6	(0.7)
Year end	275 875.6	281 919.6	(6 044.0)	(2.1)	262 208.9	5.2
REVENUE Rm (Excl IFRS)	ACTUAL	BUDGET	VAR	VAR %	PREV YR	% GROWTH
Month	20 786.1	21 417.7	(631.6)	(2.9)	19 798.5	5.0
Year To Date	50 863.6	51 830.3	(966.7)	(1.9)	47 063.4	8.1
Year end	210 561.4	212 671.5	(2 110.1)	(1.0)	187 500.9	12.3
PRICE c/kWh (Excl IFRS)	ACTUAL	BUDGET	VAR	VAR %	PREV YR	% GROWTH
Month	118.9	121.5	(2.6)	(2.1)	109.1	9.0
Year To Date	97.4	98.5	(1.1)	(1.1)	89.5	8.9
Year end	101.3	101.7	(0.4)	(0.4)	90.0	12.5

Report Extract

The variances are calculated by the forecasters

GWh	June Actual	June Budget	June Variance	YTD Actual	YTD Budget	YTD Variance	Year end Projection	Year end Budget	Year end Variance
Total Sales (GWh)	**17 486.6**	**17 633.3**	**(146.7)**	**52 205.4**	**52 603.1**	**(397.7)**	**207 911.2**	**209 122.8**	**(1 211.6)**
Municipalities	7 487.0	7 609.5	(122.5)	21 876.9	21 726.8	150.1	85 509.7	85 570.5	(60.8)
Industrial	3 732.9	3 771.5	(38.6)	12 051.0	12 347.7	(296.7)	48 624.6	48 963.9	(339.2)
Mining	2 496.2	2 543.8	(47.6)	7 265.5	7 525.4	(259.9)	29 611.0	29 915.3	(304.3)
Traction	229	242.2	(13.38)	666	717.5	(51.2)	2 716.0	2 823.0	(107.0)
Residential	302.8	322.2	(19.4)	844.2	910.7	(66.5)	3 596.6	3 733.6	(137.1)
Commercial	883.6	891.8	(8.1)	2 609.2	2 628.9	(19.7)	10 631.2	10 655.3	(24.1)
Agricultural	420.8	402.6	18.2	1 297.4	1 265.6	31.8	5 723.3	5 627.8	95.5
Prepayment	679.0	754.2	(75.2)	2 021.5	2 188.0	(166.5)	8 394.0	8 736.7	(342.7)
International	1 247.0	1 089.4	157.6	3 548.5	3 274.7	273.7	13 029.5	13 028.0	1.5
Other	-	-	-	-	-	-	-	-	-

Figure 11: Context diagram

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7.3 Use Case Diagram

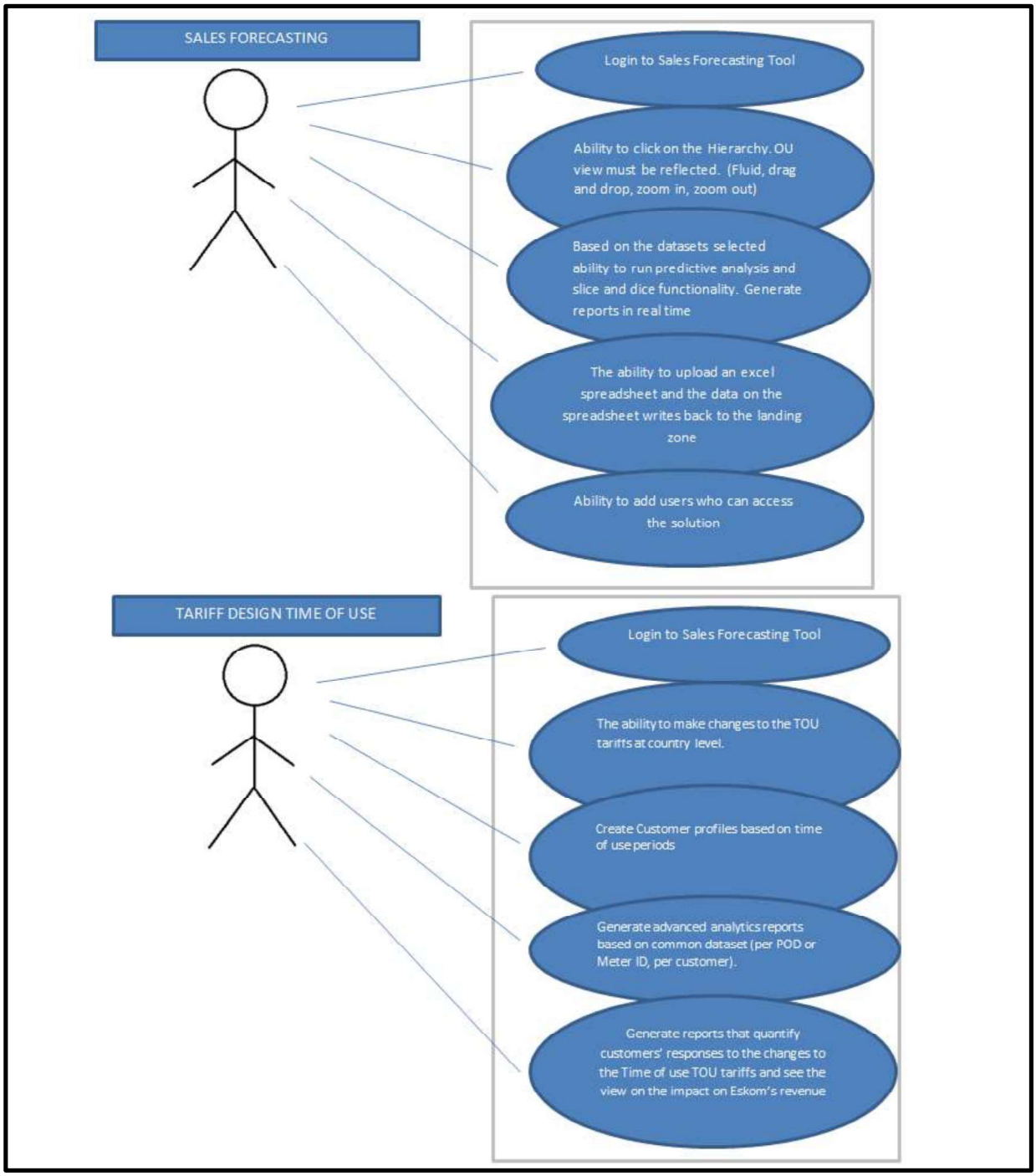

Figure 12: Use Case Diagram (Sales Forecasting and Time of Use)

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7.4 Define the legal requirements.

Business assumes that legal requirements will be met in terms of ownership, disaster recovery, backups, information security and IT governance processes Eskom subscribes to.

7.5 Intellectual Property

All intellectual property belongs to Eskom.

8 REPORTING REQUIREMENTS

8.1 High level reporting requirements

8.1.1 Define the high level reporting requirements in number form.

A. Sales and forecasting reports(requires the data to be available so that they can run queries and view advanced report visualisation with predictive analysis)
B. Tariff design Time of use reports (requires the data to be available so that they can run queries and view advanced report visualisation with predictive analysis, scenarios classifications into Time of Use Bins etc.)
C. Energy losses reports (requires the data to be available so that they can run queries)
D. SAE reports (requires the data to be available so that they can run queries)
E. Pricing Tariff Intelligence (requires the data to be available so that they can run queries)
F. Finance (requires the data to be available so that they can run queries)
G. Transmission long term planning (access sales tool directly shares the sentiment with sales forecasting that there should be more predictive analysis).

8.2 Detailed reporting requirements

8.2.1 Define the reporting requirements in number form ensuring that the functionality is sorted per report.

The following section is a high level representation of the data visualisation, reporting required by each area.

Eskom sells electricity deriving its revenue from such sales, if the Sales and revenue department is unable to report on sales performance the business is flying blind. Sales and Forecasting need to be able to analyse the sales to understand where sales are declining in order to take action to ensure customer retention, it is important to be able to anticipate new trends and forecast future consumption accurately. The sales forecast is used to calculate the associated revenue using NERSA approved prices so any inaccuracies on sales will have a direct impact on revenue. The Sales budget informs the corporate plan and the MYPD submission and it goes without saying that if the Sales are inaccurate or wrong the company stands to be publicly humiliated as NERSA will declare that Eskom does not know what it is doing. Incorrect price increases has a negative impact on the South African economy and causes all Eskom resources to be misappropriated. The Sales budget and projections informs Generation to ensure adequate capacity, it informs Losses and all Price modelling, tariff design and cash flows. To not have the Sales system working efficiently is thus a very high risk to Eskom and the reporting is of paramount importance.

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A. Sales and Forecasting

No	Report Name	Attachment As Is	To be	Frequency	Modes
HLA1	Sales performance highlights challenges (Monthly frequency first day of the month to the last day of the month)	Wandile_Sales Performance Highlight	To report exactly as is with more visualisation tools	Monthly	Month, YTD YE
HLA2	Customer service business report: 2019-06 sales overview (Total Eskom Monthly frequency)	Alex_Total_Eskom_June_2019 (2).doc	To report exactly as is with more visualisation tools	Monthly	Month, YTD YE
HLA3	Sales and Revenue Report :Sales Trends Revenue Trends: (Monthly frequency)	Alex_Sales and revenue report_June	To report exactly as is with more visualisation tools	Monthly	Month, YTD YE
HLA4	Top Customer: Sales and Revenue Slides (Monthly frequency)	TCM_Sales Revenue slides_June19.pptx	To report exactly as is with more visualisation tools	Monthly	Month, YTD YE
HLA5	Budgets (Annual frequency Financial Year April – March the following year) - i.e. Platinum Budget.	This is where Sales & Forecasting need a visualisation tool to workshop the budget and get 'Business' buy in	This is where Sales & Forecasting need a visualisation tool to workshop the budget and get 'Business' buy in	Annual	YTD YE

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HLA6	Operating Units (OU) Reports. a. KSACS per province, b. OU monthly, c. Split per province Actual d. Split per province budget	Copy of KSACS Per Province_2019-20 Ju Copy of OU Report Jun2019.xlsx Copy of % Splitper provinceActual 2019J Copy of % Splitper provinceBudget 2019	There a 4 Types of OU reports To report exactly as is with more visualisation tools	Monthly Quarterly	Month, YTD YE
HLA7	The Prepayment report and Nerve Centre report: The data Sales Forecasting sends to the Nerve Centre is requested in a specific format – this is really an extract of data and not so much a report although the Nerve Centre uses it to report.	Copy of Data for Nerve Centre Jun201	Sales and Forecasting also do many adhoc queries where Business asks them to send them data. So a strong query tool to build extracts is crucial.	Monthly	Month, YTD YE
HLA8	Energy Wheel	JUN Energy Wheeldiagram 10JUL. Copy of 2019 JUN ENERGY WD 10JUL.xl	To report exactly as is with more visualisation capabilities: The wheel is a diagrammatical view of the flow of the energy. It reflects what was generated by the various sources of generation, what was sold to the customers, what are the various losses and what energy was exported and imported.	Monthly	Month, YTD YE

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HLA9	Repackaging time of use (TOU) changes (What Sales and Forecasting receives from Mutenda)	 Copy of Megaflex Bud Limpopo TOU rep	Sales and Forecasting need to be able to do this in respect of re-packing for TOU changes. Mutenda uses Vashna's hourly profiles to repack a monthly TOU profile, then the Sales and Forecasting Team calculate an average % split and apply this to the existing budget, we can then like before apply prices and calculate the new revenue. - Forecasters should be able to bring in the hourly Tariff Time of use data and the data should be repacked in a monthly view - Forecasters should be able to input formulas into the Sales Forecasting tool so that "when a person uses Tariff table 1 A = Scenario X" - Scenarios should be able to look at historic years data and current year data - Parameters ○ Compare to history ○ Compare to future ○ Compare year on year	Hourly Monthly	Month, YTD YE

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HLA10	Predictive Analysis/Scenarios		• When Sales and Forecasting does a forecast. What does it mean for: a. Revenue b. Demand c. Consumption d. Revenue Impact e. Summer Picture f. Winter Picture g. High h. Low - i.e old revenue was X million for the month now it has dropped 14% for the whole year for this specific premise/POD can see how much revenue was lost. - This should then be aggregated to national level: ○ Premise ○ Region ○ Country - i.e if premise was "Mining" then the forecaster can see that the TOU change was most detrimental; lost 50 million, compared to 20 million. Predictive Analysis Assume customer behavior has changed- predictive analysis capability is required the tool should predict "some change i.e 10%".	Monthly	Month, YTD YE

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B. Tariff Design - Time of use (TOU)

No	Report Name	Attachment As is	To be	Frequency	Mode
HLB 1	Time of Use analysis	Time of use analysis Power BI dashboards	• Common dataset to do exactly what is currently being visualised on PowerBI. New requirements over and above as is: a. TOU per POD b. TOU per Customer c. For load must be able to see revenue collected in Rand Value in an hourly frequency: i. National, ii. SIC, iii. Account, iv. POD v. Summer picture vi. Winter picture	• Half hourly	Month, YTD YE
HLB 2	Scenarios	Time of use Scenarios.pptx	Standard scenarios • If 12 hours on peak and 2 not on peak what is the impact on revenue • If Eskom has to implement a X number % increase what is the impact on revenue • There should be standard parameters that can be selected in order to generate a scenario: a. Volumes split into hours b. Work out impact based on profile a, profile b 6 AM versus 6 PM. Different volumes must be assigned to every hour. c. Impact on revenue based on scenarios profile a, profile b d. The pricing files should point to the sales forecasting tool and allow users to "calculate revenue based on scenario a, or scenario b". New Scenarios (Hour by Hour) The solution should provide the ability to create new scenarios based on the following parameters selections: e. Actuals	- Hourly	Month, YTD YE

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			f. Forecast g. Load profile h. Hour by hour (MW and GWh) i. % j. Revenue k. Difference for each i. POD ii. Customer iii. Sector (SIC) iv. National New Scenarios (Year on Year) The ability to create new scenarios (Excess) - If customer A said they would use 100MW and actually use 200 MW there is an access of 100 MW this is then linked to a penalty. It is therefore crucial that there is a year on year view so that the Time of use team can pinpoint load usage and where excesses occur. ○ Axis Y- MW ○ Axis X- Revenue ○ View of load profile ○ Year on year i.e. 2019 compared to 2020 ○ For a customer ○ Forecast generated ○ It is critical that the Total System Profile is reflected (because the system line could be something else based on what was agreed by the customer with Eskom).		
HLB 3	Transmission (repacked hours) what Stefanie receives from Mutenda)	 Copy of Megaflex Bud Limpopo TOU rep - Transmission looks at peak hours over a month - Based on above new standard profile therefore X. - Sales and	Repacking Time of use changes according to ▪ Off-peak ▪ Standard ▪ Peak - Forecasters should be able to bring in the hourly Tariff Time of use data and the data should be repacked in a monthly view for off- peak, standard and peak. - Forecasters should be able to input formulas into the Sales Forecasting tool so that “when a person uses Tariff table 1 A = Scenario X”	Hourly Monthly	

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		forecasting then generates a view only for the month for: ○ Every POD /premise according to (Peak, off-peak, and standard). ○ Works out average ○ "Take initial budget and multiply by new average " ○ Total sales x new volume = Revenue	- Compare scenarios to historic year's data and current year data. - Parameters ○ Compare to history ○ Compare to future ○ Compare year on year - i.e old revenue was X million for the month now it has dropped 14% for the whole year for this specific premise/POD can see how much revenue was lost. - This should then be aggregated to national level: ○ Premise ○ Region ○ Country - i.e if premise was "Mining" then the forecaster can see that the TOU change was most detrimental; lost 50 million, compared to 20 million. Predictive Analysis Assume customer behavior has changed- predictive analysis capability is required; the tool should predict "some change i.e 10%".		
HLB 4	Transmission pricing	Should be able to run queries and report			

C. Energy Losses

No	Report Name	Attachment As is	To be	Frequency	Mode
HLC1	OU Total Losses Report	Copy of OU Total Energy Losses July 2(	Ability to run queries on the data	Monthly	Month YTD YE

D. South African Energy (SAE)

No	Report Name	Attachment As is	To be	Frequency	Mode
HLD1	Budgets (monthly) can be based on MYPD or Corporate Plan	Copy of Trader Budget CORPORATE	Ability to run queries on the data	Monthly	Month YTD YE
HLD2	Actuals mode (monthly): • File from Finance • SAE Sales and Revenue		Ability to run queries on the data	Monthly	Month YTD YE

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		Copy of SAE Sales and Revenue Summar			
HLD3	Sales and revenue slides • Actual • Budget • Variance • % Variance (presented at the Sales and Revenue meeting)	SAE Sales and Revenue Slides - July	Ability to run queries on the data	Monthly	Month YTD YE
HLD4	Forecasts	Copy of Trader Forecast, July 2019.x	Ability to run queries on the data	Monthly	Month YTD YE

E. Tariff Intelligence

No	Report Name	Attachment As is	To be	Frequency	Mode
HLE1	Fields	Copy of Current and New Fields - Forecas	Ability to run queries on the data	Monthly	Month YTD YE

F. Finance

No	Report Name	Attachment As is	To be	Frequency	Mode
HLF1	SAP Flat File One of the SAP Translation Table	Rev per 4 final SAP Flat file.txt Copy of ZTO63 translation table.xlsx	Ability to run queries on the data. Automated reports with multidimensional view of the data	Monthly	Month YTD YE Quarterly YE Projection Annual Budget

G. Transmission Long Term Planning

No	Report Name	Attachment As is	To be	Frequency	Mode
HLG1	Grid Planning	Grid Planning.xlsx	Ability to run queries on the data	Monthly	Month YTD YE

For reporting screenshots refer to Appendix B.

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9 NON FUNCTIONAL REQUIREMENTS

9.1 User interface requirements

9.1.1 Define the high level user interface requirements in relation to the functionality required.

BRS Num	Functionality
UI1	Access to sales forecasting tool. Refer to security privacy, access rights section 9.3 User to input employee unique id and password.
UI2	Accessibility, based on access rights The user will have access to the sales forecasting tool and View based on their access rights
UI3	Availability, The solution should be able to function during working hours
UI4	Efficiency, the solution should be able to process all data and generate reports as and when required- Acceptable response time. Query generation should be efficient
UI5	Solution usability, effort required to learn, use, interpret results of solution
UI6	Quick Response Times- When user selects parameters results should appear.
UI7	Flexible- new variable flow easy to use

9.2 System Integration requirements

9.2.1 Define if and what the system integrations might be.

The will be a landing zone where data required for the sales forecasting tool will reside. The data lake or common landing zone should integrate with:
Key:

- CC&B data – Actuals data
- MV90 data- Metering data
- SAP BW- Finance data

Once the SAP BW 4 Hana migration is complete SAP data is extracted from here. The integration will have to be considered.

It is critical that the sales forecasting tool can connect to these data sources and can handle different technologies i.e. Netezza, SAP BW 4 Hana, Oracle etc. It is further noted that the Netezza contract will end in 2020 a new platform may then have to be catered for based on the analytics re platform project.

Due to the confidentiality of the SAP data it is recommended that the data resides on Business Warehouse BW. The Sales forecasting tool with therefore be interfacing with many data types/solutions.

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9.3 Access requirements

9.3.1 Define different types of access roles that are required.

User Types	Write Access	Write Access governed by Filters (user is Limited)	View/Read Access (be able To run Queries On the Data)	Admin	Define different types of access and what permissions that role has
Forecasters in the Sales forecasting Department	X	X (Must be able to control what user can write to)	X		- Anyone with authorised write access to write and view information in the system. - Filter Access refers to even though a user may have write access only certain users can write to only assigned areas not be able to write to everything. - Run ad hoc queries.
Only 1 Forecaster From the sales Forecasting team				X	- The admin support entails changing outlines, running scripts to copy, clear, grow revenue, creating new users giving access to read or write, aggregating the different modes as needed, creating new scenarios etc. - One Admin person will do all the support as is currently the practice within the Sales Forecasting Team.
All other departments Noted in BRS			X		- Run queries on the datasets. - Anyone with authorised read access to view information in the system - Draw reports based on queries
All other divisions or departments **not** listed in this BRS					- None: User has neither read or write access.
IT Support					- Load the data; ensure data runs, if runs fails check reload. Access type not applicable

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- Open/close access: Revokes access but dictates budgets start in February and must be completed by June. Changes cannot be made once access is closed this is to prevent users sneaking in data at the last moment. If there are stipulated changes as an example from National Energy Regulator of South Africa (NERSA) then open access will resume effecting the changes and access will revert to closed.

9.4 Archiving requirements

Business has nothing archived. Business keeps 10 years history for trend analysis. This is in an active cube that is being used frequently.

9.4.1 State the retention / archiving period required for the data/information.

Solution need to adhere to the Eskom Information Security Policy, processes, procedures, standards and baselinesRe-Load history source and forecasting tool must balance. Historical central repository of historic approved tariffs. Any queries on past and current Eskom tariffs will be fielded from this central set of information to ensure one version of the truth. NB

9.5 Disaster recovery requirements

Adherence to Eskom DR requirements
9.5.1 Define the high-level disaster recovery requirements.

- Regular solution backups need to be conducted.
- Currently standard backups happen nightly.
- One offsite back up weekly.

9.6 Business continuity requirements

9.6.1 Confirm the business continuity information.

Business continuity plan exists	Y
Name of BCP	Refer to standard back up that happens offsite weekly.
Name of BCP owner	Stefanie Visser
If BCP does not exist, what plans are in place from a customer view to define a BCP	N/A
If BCP needs to change, what plans are in place from a customer view to update the BCP	N/A

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10 PRECONDITIONS

10.1 Define any preconditions and dependencies that impact the business requirement

That which needs to be in place in order for this business requirement to be implemented / achieved including soft issues.

Unique identifier number	Business / GIT Activities	Processes	Projects (IT and Business)	Technology (if known)	Other (define)
PD1	CC&B Datasets and MV90 datasets currently reside on Netezza within the ACE environment. The Netezza contract is ending in 2020 therefore dependant on the Analytics platform requirement.	ACE	Analytics re platform requirement logged dependent on re platform RFI	Netezza	Dependency (if data needs to be moved from Netezza to an alternate platform this could take a substantial amount of time).
PD2	Data currently resides on SAP Production Finance System (PFS). At present flat files are loaded. The new sales tool must connect to SAP 4 Hana in order to extract the data.	SAP COE	SAP BW 4 HANA	SAP	If all datasets have not been migrated to BW 4 Hana then a dependency will be with the SAP Excellence Team to complete first.
PD3	Distribution data warehouse (DDW) logic to be reviewed and replaced	N/A	N/A	DDW	Dependency
PD4	Landing zone where the data will be extracted from	GIT Analytics Centre of Excellence Support Team	GIT Analytics Centre of Excellence Support Team	Landing zone/data lake or central space to be	Dependency

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Unique identifier number	Business / GIT Activities	Processes	Projects (IT and Business)	Technology (if known)	Other (define)
				formulated	
PD5	Landing Zone should have 10-15 years of history data	N/A	N/A	Landing zone/data lake or central space to be formulated	Precondition
PD6	The Sales forecasting Tool should not be hardcoded	N/A	N/A	N/A	Precondition
PD7	User Training	Manage ICT Demand	Project Deliverable	N/A	Dependency
PD8	Based on which of the selected options are taken: - Do nothing - On premise solution - Cloud solution The relevant privacy standards must be considered.	N/A	N/A	N/A	Business is open to any solution that will give us speed, reliability and the functionality that they require. It is noted the current solution is too technical and IT is not able to provide support due to a lack of skills. If a cloud based solution is considered it should be simple and easy to support and IT should have the skills to support it.

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11 TRAINING

11.1 Define the high level training requirements:

BRS Number	Functionality
T1	Login to Sales Forecasting Tracking Tool
T2	Data Import , or connect to data landing zone
T3	Data interpretation of source data , strong query capability run queries based on data sets
T4	Data visualisation, trends analysis, predictive analysis, reporting
T5	Data Export
T6	Only once users have been trained will they be equipped to utilise the sales forecasting and tracking tool. Following training attendance, access will be provided; Admin user/s ability to add the person's name and surname either by selecting from a prescribed list or entering text together with a user populated date. • Training levels (Administrators, Business End users, IT Support) • Online training. • Training manuals will have to be compiled that is specific to Eskom. • Training materials, videos, training guides. • e- Learning tools.

11.2 Define the possible types of high level training that will be required:

Course Name/Types of training
Sales and Revenue Forecasters (End User Training)
General business User (End User Training)
Technical support and Handover to IT Support Personnel (IT Internal Support Training)
End User Training to IT Support Personnel (IT Internal Support Training)
Administrator Training (Admin user)
e-Learning (online learning platforms)
Self-training (through the use of User Guides/Noddy Guides/End User Manuals)

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12 CORPORATE, DIVISIONAL AND DEPARTMENTAL PLAN ALIGNMENT

12.1 Strategic alignment

12.1.1 Select the Eskom Shareholder's Strategic Intent Statement (SIS) that are supported by this requirement:

SIS	Supported (Y/N)	How
Provide reliable, predictable and affordable electricity in line with the approvals and regulatory model by NERSA.	Y	Eskom is losing sales and customers are looking at alternative energy supplies, the Sales and Revenue space is dependent on accurate statistics to inform trend analysis, accurate prediction and timely reporting. The Sales Budget and 15 year plan informs the Corporate Plan It is used in price modelling and tariff design, it informs generation to ensure adequate capacity and is cardinal in losses calculation. Pricing will develop inefficient tariffs and ask NERSA for wrong price increases.
Ensure and maintain a financially viable and sustainable company.	Y	If the Sales forecast is inaccurate resources are wasted, from primary energy resources such as water and coal to inefficiencies in scheduling power stations, transmission lines and availability of infrastructure will be affected and Finance will borrow incorrect capital resulting in wasted costs.
Consolidate socio-economic contribution to ensure alignment to national transformation imperatives.	N	
Reduce the impact on the environment.	N	
Ensure that company structure is responsive to changing energy landscape.	N	
Submit annual strategic documents and report on progress.	Y	Reports, budgets, data visualisation, trend analysis
Conduct reporting in line with regulatory model, with profit and loss for each licensee.	Y	Reports, budgets, data visualisation, trend analysis that ensures business can report faster and accurately

12.1.2 Define the Divisional Focus areas / mandates being supported and indicate how the requirement is in support thereof.

Sales and revenue: Improving pricing and regulation strategies and production planning. Consumption budget and Corporate plan volumes to inform the production plan as well as revenue budget and corporate plan revenue to inform cash flow.

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The Customer Service Division has the mandate to

- Improve customer service
- Revenue
- Sales and
- Growth.

12.1.3 Define the Departmental Focus areas / mandates being and indicate how the requirement is in support thereof.

- Sales Forecasting
- Revenue analysis based on pricing
- Pricing time of use period analysis

Eskom is losing sales and customers are looking at alternative energy supplies, the Sales and Revenue space is dependent on accurate statistics to inform trend analysis, accurate prediction and timely reporting. The Sales Budget and 15 year plan informs the Corporate Plan, it is used in price modelling and tariff design, it informs generation to ensure adequate capacity and is cardinal in losses calculation. If the Sales forecast is inaccurate resources are wasted, from primary energy resources such as water and coal to inefficiencies in scheduling power stations, transmission lines and availability of infrastructure will be affected and Finance will borrow incorrect capital resulting in wasted costs. Pricing will develop inefficient tariffs and ask NERSA for wrong price increases.

13. POSSIBLE OPTIONS

Before sign-off of the BRS can proceed, business will need to be made aware of the pro's and con's of the various options of testing the market for this specific BRS.

- Option 1: Test the market for this BRS (Sales Forecasting and Tracking tool) knowing that DDW is not part of scope.
- Option 2: Test the market for the Sales Forecasting and Tracking tool & ensure that DDW scope of work is catered for as part of the supplier's response.
- Option 3: Deliver on DDW replacement first. This need will have to prioritised within the GIT Demand Process. The Sales Forecasting and Tracking tool will be dependent on DDW completion and then GIT tests the market after this is done.
- Option 4: Deliver on DDW replacement. Use the existing Essbase Hyperion (Topline) tool.
- Option 5: Do nothing

There is a risk of going with Option 1, we could potentially get a tool and invest in it. DDW replacement will not form part of the supplier's scope of work. This will result in benefits not being realised for the Sales Forecasting and Tracking tool as the tool would be unlikely to work without DDW scope of work being resolved.

In summary it is evident that the existing sales tool being utilised has been in existence for over 17 years becoming outdated and too rigid. The need of testing the market is of importance to explore latest sales

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forecasting technologies options that exist and that would be apt to the Eskom utilities environment. In doing so there can be view of what the market has to offer in comparison to the existing solution. Based on this a business case can be formulated that documents the feasibility of one of the potential options deemed the most suitable taking scope, costs and benefits and a number of other key factors into consideration. Business subject matter experts have emphasised that a new sales forecasting technology solution will inform their forecasts, analysis and reporting through an elaborate suite of functionality that the current tool does not retain. It is also important to note that there is a key emphasis on the landing zone/DDW replacement where the tool will need to extract the data from (landing zone with CC&B datasets, MV90 TOU datasets, and SAP BW 4 Hana datasets, DDW logic/replacement) these datasets/DDW replacement will have to be provisioned for, if this is not planned the sales forecasting tool will be unable to achieve business value as the tool is dependent on DDW.

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14. REFERENCES

The following documents have been referenced or used to compile this Business Requirements Specification including Process Control Manuals.

Number	Name	Location
DEM02694-M9P8	Demand Form logged by Sales and forecasting department	DEM-02694-M9P8_DEM_Sales Forecasting
DEM02695-D6M1	Demand Form logged by Tariff design Time of use	DEM-02695-D6M1_DEM_Time of Use Tarrif

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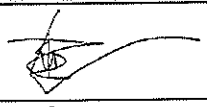
15. DOCUMENT ACKNOWLEDGEMENT

By signing this document, the people listed record their agreement on the contents of this document.

Disclaimer: Formal governance processes will need to be followed prior to obtaining approval for the implementation of the business requirements specification and the initiation of a project plan.

Name	Role	Signature	Date
Rushantha Mohabier	Group IT Business Analyst		21/10/2019
Stefanie Visser	Business Requestor		22/10/2019
Vashna Singh	Business Requestor		28/10/2019

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16. DOCUMENT APPROVAL

By signing this document, the people listed record their approval on the contents of this document.

Disclaimer Formal governance processes will need to be followed prior to obtaining approval for the implementation of the business requirements specification and the initiation of a project plan.

Name	Role	Signature	Date
Riaan Van Wyk	Group IT Business Process Manager		4/11/2019
Deon Conradie	Senior Business Manager / Business Sponsor		2019/11/04
Elma Mmakola	Group IT Business Relationship Manager		2019/11/11
Thabo Mashegoane	Group IT Enterprise Architect		05/11/2019
M MOLEBALOA	Portfolio Manager		11.11.2019

* I confirm that business has approved requirements. And therefore the BRS deliverable has been completed. Unable to validate the content of this document.

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17. ABBREVIATIONS

Abbreviation	Description
ACE	Analytics Centre of Excellence Department
ARIS	Architecture of Integrated Information Systems
BCP	Business Continuity Plan
BI	Business Intelligence (also known as Analytics)
BPM	Business Process Manager
BRS	Business Requirements Specification
BW	Business Warehouse
CC&B	Customer Care and Billing
CNC	Customer Network Centre
CR	Change Request
CS	Customer Services
CSA	Customer Service Area
DDW	Distribution Data Warehouse
DFD	Data Flow Diagram
DR	Disaster Recovery
Dx	Distribution
ETS	Energy Trading System
GIT	Group Information Technology Division, also referred to as GIT
GWh	Gigawatt Hour
Gx	Generation
ITSO	Information Technology Service Operations
IT	Information Technology
KCD	Key Customer Database
KPA	Key Performance Area
KPI	Key Performance Indicator
KSACS	Key Sales and Customer Service unit
kVA	Kilovolt- ampere
kV	Kilovolt
kW	Kilowatt
LPU	Large Power User
MDMS	Meter Data Management System
MV90	Multi-Vendor 90 Utility Translation System
MYPD	Multiyear price determination

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Abbreviation	Description
NERSA	National Energy Regulator of South Africa
NIS	Network Information System
OU	Operating Unit
PCM	Process Control Manual
PFS	Production Finance System
PI	Pricing Intelligence
POD	Point of delivery or meter ID
RCA	Regulatory Clearing Account
SAE	South African Energy
SAP	Systems Applications Processes
SIC	Sector Industrial Code
SPU	Small Power User
TOU	Time of Use
TSA	Technical Service Area
YTD	Year to date
YE	Year end

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18. CONTROL TABLE

This table defines what sections of the document need to be completed for the different types of BRS's.

Section Number	Section Description	Change Request	BRS1	BRS2	BRS A (Analytics)	Innovation Project
2.1	**Customer information**	**Y**	**Y**	**Y (Review)**	**Y**	**Y**
2.2	**GIT information**	**Y**	**Y**	**Y (Review)**	**Y**	**Y**
3	**Glossary of terms / definitions**	**Y**	**Y**	**Y (Review)**	**Y**	**Y**
4	**Business requirements specification focus area**	**Y**	**Y**	**Y (Review)**	**Y**	**Y**
5	**Reason for the requirement**					
5.1	Define the current business challenges / issues that need to be addressed	**Y**	**Y**	**Y (Review)**	**Y**	**Y**
5.2	Define the high level gaps between the "As-Is" and "To-be" business	**Y**	**Y**	**Y (Review)**	**Y**	**Y**
6	**As-is and To-be business process mapping**					
6.1	As-is business process	**Y**	**Y**	**Y (Review)**	**Y**	**Y**
6.2	To-be business process	**N**	**N**	**Y (Review)**	**Y**	**Y**
7	**Business requirements**					
7.1	High level requirements	**Y**	**Y**	**Y (Review)**	**Y**	**Y**
7.2	Detailed requirements and business rules	**Y**	**Y**	**Y (Review)**	**Y**	**Y**
7.3	Information/data requirements	**Y**	**Y (Highlevel)**	**Y (Detail)**	**Y (Detail)**	**Y (Highlevel)**
7.4	Data flow diagram / Context diagram	**N**	**N**	**Y**	**Y**	**N**
7.5	Use case diagram	**N**	**N**	**Y**	**N**	**Y (Optional)**
7.6	Legal requirements	**Y**	**Y**	**Y (Review)**	**Y**	**Y**

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Section Number	Section Description	Change Request	BRS1	BRS2	BRS A (Analytics)	Innovation Project
7.7	Intellectual property	Y	Y	Y (Review)	Y	Y
8	**Reporting requirements**					
8.1	High level reporting requirements	Y	Y	N	Y	Y
8.2	Detailed reporting requirements	Y	Y (Review)	Y	Y	N
9	**Non-functional requirements**					
9.1	User interface requirements	N	N	Y	Y	N
9.2	System Integration requirements	N	N	Y	Y	N
9.3	Access requirements	Y (Depends)	N	Y	Y	Y
9.4	Archiving requirements	N	N	Y	N	Y
9.5	Disaster recovery	N	Y	Y (Review)	Y	N
9.6	Business continuity	N	N	Y	Y	N
10	**Out of scope and preconditions**					
10.1	Define any preconditions and dependencies that impact the business requirement	Y	Y (Highlevel)	Y (Review)	Y	Y (Highlevel)
11	**Training**					
11.1	High level training requirements	Y	N	Y	Y	N
11.2	Possible types of high level training that will be required	Y	N	Y	Y	N
12	**Corporate, divisional and departmental plan alignment**					
12.1	Business strategy supported	Y	Y	Y (Review)	Y	Y
12.1.1	Eskom strategic pillar/s that are supported by this requirement	Y	Y	Y (Review)	Y	Y
12.1.2	Critical targets that are supported by this requirement	Y	Y	Y (Review)	Y	Y
12.1.3	Divisional plans supported by this requirement	Y	Y	Y (Review)	Y	Y

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Section Number	Section Description	Change Request	BRS1	BRS2	BRS A (Analytics)	Innovation Project
12.1.4	Departmental plans supported by this requirement	Y	Y	Y (Review)	Y	Y
13	Change request costing (BRM responsibility according to demand management process)	Y	N	N	N	N
14	Possible options	Y	N	N	Y (Depends)	N
15	References	Y	Y	Y (Review)	Y	Y
16	Document acknowledgement	Y	PDF no signatures	Y	Y	Y
17	Document approval	Y	PDF no signatures	Y	Y	Y
18	Abbreviations	Y	Y	Y (Review)	Y	Y
19	Control table					

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19. APPENDICES

Appendix A

		SACS July Projections	Total.Tariffs	Total customers/Total categories
member name	Alias	Financial Months		
S_Cons_(kWh)	SAP Consumption (kWh)			
S_Prior_Year_Cons_(kWh)	SAP Prior Year Consumption (kWh)			
S_Free_Cons_(kWh)	SAP Free Consumption (kWh)			
S_Total_Cons_(kWh)	SAP Total Consumption (kWh)			
S_Chargeable_Dem_(kVa)	SAP Chargeable Demand (kVa)			
S_Prior_Year_Dem_(kVa)	SAP Prior Year Demand (kVa)			
S_Total_Chargeable_Dem_(kVa)	SAP Total Chargeable Demand (kVa)			
S_Gross_Energy_Rev_(R)	SAP Gross Energy Revenue (R)			
S_Gross_Demand_Rev_(R)	SAP Gross Demand Revenue (R)			
S_Gross_Other_Rev_(R)	SAP Gross Other Revenue (R)			
S_Network_Charge_(R)	SAP Network Charge (R)			
S_Free_Cons_Charge_(R)	SAP Free Consumption Charge (R)			
S_Environ Levy_(R)	SAP Environmental Levy (R)			
S_IFRS_811080	S_IFRS_811080			

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S_IFRS_811081	S_IFRS_811081			
S_IFRS	IFRS			
S_Total_Gross_Rev_(R)	SAP Total Gross Revenue (R)			
S_Energy_Inc_(R)	SAP Energy Incentives (R)			
S_Demand_Inc_(R)	SAP Demand Incentives (R)			
S_Other_Inc_(R)	SAP Other Incentives (R)			
S_Third_Party_Adj_(R)	SAP Third Party Incentives (R)			
S_Hedged_Rev_(R)	SAP Hedged Revenue (R)			
S_Prior_Year_Energy_Adj_(R)	SAP Prior Year Energy Adj (R)			
S_Prior_Year_Dem_Adj_(R)	SAP Prior Year Demand Adj (R)			
S_Prior_Year_Other_Adj_(R)	SAP Prior Year Other Adj (R)			
S_Total_Deductions_(R)	SAP Total Incentives(R)			
S_Total_Nett_Rev_(R)	SAP Total Nett Revenue (R)			
S_Util_Cap_(kVa)	SAP Utilisation Capacity (kVA)			
S_Nett_Price	SAP Nett Price			
S_Gross_Energy_Price	SAP Gross Energy Price			
S_Gross_Dem_Price	SAP Gross Demand Price			
S_Gross_Other_Price	SAP Gross Other Price			
S_Energy_Inc_Price	SAP Energy Incentives Price			
S_Demand_Inc_Price	SAP Demand Incentives Price			
S_Other_Inc_Price	SAP Other Incentives Price			
NonTOU_Cons_(kWh)	NonTOU Consumption (kWh)			

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Offpeak_Cons_(kWh)	Offpeak Consumption (kWh)			
Standard_Cons_(kWh)	Standard Consumption (kWh)			
Peak_Cons_(kWh)	Peak Consumption (kWh)			
Cons_Hi_(kWh)	Consumption Hi (kWh)			
Cons_Lo_(kWh)	Consumption Lo (kWh)			
Cons_1_(kWh)	Consumption Block1			
Cons_2_(kWh)	Consumption Block2			
Cons_3_(kWh)	Consumption Block3			
Cons_4_(kWh)	Consumption Block4			
PUBLAN_CONS	Public Lighting All Night Consumption			
PUBL24HR_CONS	Public Lighting 24Hr Consumption			
Cons_Third_Party_(kWh)	Third Party Consumption (kWh)			
Cons_Lineloss_(kWh)	Third Party Consumption Lineloss (kWh)			
Energy_Inc_(kWh)	Energy Incentives (kWh)			
Free_Cons_(kWh)	Free Consumption (kWh)			
Total_Cons_(kWh)	Total Consumption (kWh)			
Chargeable_Dem_(kVA)	Chargeable Demand (kVA)			
Network_Demand (kVA)	Network Demand (kVA)			
Dem_Third_Party_(kWh)	Third Party Demand (kVA)			
Dem_Lineloss_(kWh)	Third Party Demand Lineloss (kVA)			
Demand_Inc_(kVA)	Demand Incentives (kVA)			
Total_Chargeable_Dem_(kVA)	Total Chargeable Demand (kVA)			

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Util_Cap_(kVa)	Utilisation Capacity (kVa)			
Notified_Maximum_Dem_(kVA)	Notified Maximum Demand (kVA)			
Offpeak_Dem_(kVA)	Offpeak Demand (kVA)			
Standard_Dem_(kVA)	Standard Demand (kVA)			
Peak_Dem_(kVA)	Peak Demand (kVA)			
Actual_Dem_(kVA)	Actual Demand (kVA)			
Reactive_Energy_(kVAr)	Reactive_Energy_(kVAr)			
Reactive_Excess_(kVAr)	Reactive_Excess_(kVAr)			
Load_Factor_(%)	Load_Factor_(%)			
Transmission_Charge_(%)	Transmission Surcharge (%)			
Voltage_Surcharge_(%)	Voltage_Surcharge_(%)			
TX Loss Factor	TX Loss Factor			
DX Loss Factor	DX Loss Factor			
Days_Between_Readings	Days_Between_Readings			
Number_of_Active_PODs	Number_of_Active_PODs			
Number_of_Accounts	Number_of_Accounts			
NonTOU_Rev_(R)	NonTOU Energy Revenue (R)			
Gross_OffPeak_Rev_(R)	Gross OffPeak Energy Revenue (R)			
Gross_Standard_Rev_(R)	Gross Standard Energy Revenue (R)			
Gross_Peak_Rev_(R)	Gross Peak Energy Revenue (R)			
Rev_Hi_(R)	Revenue Hi (R)			
Rev_Lo_(R)	Revenue Lo (R)			

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Rev_1_(R)	Revenue Block1			
Rev_2_(R)	Revenue Block2			
Rev_3_(R)	Revenue Block3			
Rev_4_(R)	Revenue Block4			
PUBLAN_CHRG	Public Lighting All Night Energy Charge			
PUBL24HR_CHRG	Public Lighting 24Hr Energy Charge			
Rev_Third_Party_(R)	Third Party Energy Revenue (R)			
Rev_LL_(R)	Third Party Lineloss Energy Revenue (R)			
Total_Cons_Charge_(R)	Gross Energy Revenue (R)			
c/kWh_Dem_Charge	c/kWh Demand Charge (R)			
Dem_Charge_(R)	Demand Revenue (R)			
Dem_LL_(R)	Third Party Lineloss Demand Revenue (R)			
Dem_Third_Party_(R)	Third Party Demand Revenue (R)			
Dx_Network_Demand Charge (R)	Dx Network Demand Charge			
Network_Demand Charge_(R)	Network Demand Charge			
Gross_Dem_Rev_(R)	Gross Demand Revenue (R)			
Admin_Charge_(R)	Administration Charge (R)			
Afford_Sub	Affordability subsidy (R)			
Conversion_Discount_(R)	Conversion_Discount_(R)			
Conversion_Surcharge_(R)	Conversion_Surcharge_(R)			

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Electrification_levy	Electrification Levy			
Fixed_Charge_(R)	Fixed_Charge_(R)			
Gen_Anc_Serv	Generator Ancillary Service Charge			
Import_Energy_Refund	Import Energy Refund			
Monthly_Extension_Charge_Rebate_(R)	MRC Rebate (R)			
Municipal_Surcharge_(R)	Municipal_Surcharge_(R)			
Munic_Charge_(R)	Maintenance_Charge_(R)			
Non-Rebatable_Monthly_Extension_Charge_(R)	Premium Connection Charge			
Reactive_Energy_Charge_(R)	Reactive_Energy_Charge_(R)			
Rebatable_Monthly_Extension_Charge_(R)	Rebatable/Residual Connection Charge			
Reliability_Serv	Ancillary Services Charge			
RRL	Electrification and Rural Subsidy			
Basic_Charge_(R)	Service and Admin Charge			
Service_Charge_(R)	Service_Charge_(R)			
Service_Charge_Total_(R)	Service_Charge_Total_(R)			
Standard_Connection_Charge	Standard Connection Charge			
Transmission_Charge_(R)	Transmission Surcharge (R)			
Urb_Low_V_Sub	Urban Low Voltage Subsidy			

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	(R/kVA)			
Voltage_Discount_Amount_(R)	Voltage_Discount_Amount_(R)			
Volt_Surc_Amt_(R)	Voltage Surcharge Amount (R)			
Wheeling_Charge_(R)	Wheeling Charge (R)			
Whee_Disc_Charge_(R)	Wheeling Discount (R)			
Gross_Other_Rev_(R)	Gross Other Revenue (R)			
Free_Levy_(R)	Free_Levy_(R)			
Excess Charge	Demand Excess Charge (R)			
Access_Charge	Capacity Charge			
DNL Network Access Charge (R)	DX Network Capacity Levy			
DX_Maintenance_Charge	DX Maintenance Charge			
Dx_Network_Access_Charge	Dx Network Capacity Charge			
DX_Standby_Charge	DX Standby Charge			
Network_Pod_Charge	Network Pod Charge (R)			
Network_ Charge	SPU Network Charge (R)			
Tx_Network_Access_Charge	Tx Network Capacity Charge			
TX_Standby_Charge	TX Standby Charge			
WEP_TX_Network_Charge	TX Network Charge			
Network_Access_Charge	Network Capacity Charge			
WEPS_Adj_(R)	WEPS Adjustment (R)			
Free_Cons_Charge_(R)	Free Consumption Charge (R)			
Total_Gross_Rev_(R)	Total Gross Revenue (R)			
Energy_Inc_(R)	Energy Incentives (R)			

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Demand_Inc_(R)	Demand Incentives (R)			
Other_Inc_(R)	Other Incentives (R)			
Third_Party_Adj_(R)	Third Party Incentives (R)			
Financial_Adj_(R)	Prior Adjustments (R)			
Total_Deductions_(R)	Total Incentives (R)			
Total_Nett_Rev_(R)	Total Nett Revenue (R)			
Gross_Energy_Price_(R/kWh)	Gross_Energy_Price_(R/kWh)			
Gross_Other_Price_(R/kWh)	Gross_Other_Price_(R/kWh)			
Nett_Price_(R/kWh)	Nett_Price_(R/kWh)			
Gross_Price_(R/kWh)	Gross_Price_(R/kWh)			
Gross_Chargeable_Dem_Price_(R/kVA)	Gross Chargeable Demand Price (R/kVA)			
Chargeable_Dem_Price_(R/kVA)	Chargeable_Dem_Price_(R/kVA)			
Network_Access_Price_(R/kVA)	Network Capacity Price (R/kVA)			
Tx Network Charge Price (R/kVA)	Tx Network Charge Price (R/kVA)			
Basic_Charge_Tariff_(R/Acc)	Service and Admin Price (R/ACC/Day)			
Rate Re-balancing Levy Price (R/kWh)	Electrification and Rural Subsidy Price			
Dx Network_Access_Price_(R/kVa)	Dx Network Capacity Price (R/kVa)			
Tx Network_Access_Price_(R/kVA)	Tx Network Capacity Price (R/kVA)			
Service Charge Price (R/day/Acc)	Service Charge Price (R/day/Acc)			
Network_Demand_Price_(R/kVA)	Network_Demand_Price_(R/kVA)			
Admin Charge Price (R/day/Premise)	Admin Charge Price			

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	(R/day/Premise)			
Reliability Service Price (R/kWh)	Ancillary Service Price (R/kWh)			
Energy_Inc_Price_(R/kWh)	Energy Incentive Price (R/kWh)			
Demand_Inc_Price_(R/kVA)	Demand Incentive Price (R/kVA)			
Other_Inc_Price_(R/kWh)	Other Incentive Price (R/kWh)			
NonTOU_Price_(R/kWh)	NonTOU_Price_(R/kWh)			
OffPeak_Price_(R/kWh)	OffPeak_Price_(R/kWh)			
Standard_Price_(R/kWh)	Standard_Price_(R/kWh)			
Peak_Price_(R/kWh)	Peak_Price_(R/kWh)			
Price_Hi_(R/kWh)	Price_Hi_(R/kWh)			
Price_Lo_(R/kWh)	Price_Lo_(R/kWh)			
Dx Network_Demand_Price_(R/kVa)	Dx Network Demand Price (R/kVa)			
Price_Energy_Base_(R/kWh)	Price_Energy_Base_(R/kWh)			
Block 1(R/kWh)	Block 1(R/kWh)			
Block 2(R/kWh)	Block 2(R/kWh)			
Block 3(R/kWh)	Block 3(R/kWh)			
Block 4(R/kWh)	Block 4(R/kWh)			
Afford_Sub_price	Affordability Subsidy Price R/kWh			
c/kWh_Dem_Price	c/kWh Demands price R/kWh			
Low_Volt_charge	Urban low voltage price R/kVA			
POD price R/POD/day	Network POD Price			

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Appendix B:

The reports screenshots have been reflected:

Sales forecasting department report screenshots.

Eskom Sales: Jun 19 Performance & Highlights

Sales Performance: Jun '19

- **Total Eskom:** Sales for the month were **17 487 GWh**, against a budget of ***17 633 GWh.*** This is **147 GWh** lower than expected, includes 9 GWh sold to IPP's. Monthly sales were also lower than last years actual of ***18 148 GWh***, representing an unfavourable year on year growth of -3.6%.
  Eskom sales for the YTD was **52 205 GWh**, this is 398 GWh lower than the Budget of **52 603 GWh**. This reflects a negative year on year growth of -0.8%, as it is lower than last year's YTD sales of ***52 613 GWh.***
- **Customer Service:** Sales for the month were **200 GWh lower** than budget. The lower volume was mainly due to warmer than expected winter temperatures across most of the OU's. This was augmented by lower than anticipated economic growth as well as a stronger than expected focus on energy efficiency.
  The YTD sales were **108 GWh lower**, mainly as a result of warmer a winter and slower than expected growth in the OU's.
- **Top Customers:** Sales were **106 GWh lower** for the month. In the Industrial sector, Sasol Synthetic sustained higher co-gen levels while Tubatse Alloys delayed the introduction of planned furnaces following a decline in commodity prices. In Mining, the Sibanye mines are still reeling from last years crippling strike, while Palabora Copper mine has yet to return to normal levels following a safety incident which left six miners dead last year.
  The YTD was **570 GWh lower**, with SSF optimizing their co-gen (gas & steam) and significantly reducing their offtake from Eskom. Several Sibanye mines maintained lower production following earlier industrial action, although the situation has improved in recent months.
- **International (SAE):** Cross border sales were 157 **GWh higher.** Over a portion of the month, higher volumes occurred at NamPower, with trading via the Phokoje-Insukamini line having resumed on 11 Jun. DAM sales were also higher following limited competition in the SAPP, as a result of the constraint at Inskamini as well as drought in the region.
  The YTD was **273 GW higher**. The Insukamini breaker was opened last month to protect Eskom system stability, following the recent cyclone in Mozambique. This has led to a temporary increase in sales to various neighboring utilities as well as on the DAM.

Sales Highlights: Jun '19

- **Eskom:** No load shedding occurred during the month.
- **SAE:** Higher interim sales following supply constraints in neighboring countries.

Figure 13 : Sales performance highlights, challenges

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Figure 14 : Sales performance highlights, challenges cont

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Customer Services Business Report (for month june Sales Overview)

Eskom Distribution

CUSTOMER SERVICE BUSINESS REPORT: 2019-06
SALES OVERVIEW

The following schedule is a summary of the month and year-end actuals in relation to the budget and the previous year's actual.

ESKOM External SALES: GWh	ACTUAL	BUDGET	VAR	VAR %	PREV YR	% GROWTH
Month	17 486.6	17 633.3	(146.7)	(0.8)	18 147.7	(3.6)
Year To Date	52 205.4	52 603.1	(397.7)	(0.8)	52 612.6	(0.77)
Year end	207 911.2	209 122.8	(1 211.6)	(0.6)	208 319.4	(0.20)
DEMAND MVA	**ACTUAL**	**BUDGET**	**VAR**	**VAR %**	**PREV YR**	**% GROWTH**
Month	21 996.6	24 375.8	(2 379.2)	(9.8)	23 590.9	(6.8)
Year To Date	66 524.4	71 692.8	(5 168.4)	(7.2)	67 013.6	(0.7)
Year end	275 875.6	281 919.6	(6 044.0)	(2.1)	262 208.9	5.2
REVENUE Rm (Excl IFRS)	**ACTUAL**	**BUDGET**	**VAR**	**VAR %**	**PREV YR**	**% GROWTH**
Month	20 786.1	21 417.7	(631.6)	(2.9)	19 798.5	5.0
Year To Date	50 863.6	51 830.3	(966.7)	(1.9)	47 063.4	8.1
Year end	210 561.4	212 671.5	(2 110.1)	(1.0)	187 500.9	12.3
PRICE c/kWh (Excl IFRS)	**ACTUAL**	**BUDGET**	**VAR**	**VAR %**	**PREV YR**	**% GROWTH**
Month	118.9	121.5	(2.6)	(2.1)	109.1	9.0
Year To Date	97.4	98.5	(1.1)	(1.1)	89.5	8.9
Year end	101.3	101.7	(0.4)	(0.4)	90.0	12.5

Revenue excludes the IRFS Adjustment.

Figure 15: Total Eskom Sales for Month

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	MONTH					YEAR TO DATE				
	Actual	Budget	2018/19	Variance	Var %	Actual	Budget	2018/19	Variance	Var %
Energy Sales GWh	**5 932.5**	**6 038.7**	**6 175.1**	**-106.3**	**-1.8**	**18 474.4**	**19 044.2**	**18 885.3**	**-569.7**	**-3.0**
Municipalities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Industrial	3 423.9	3 474.9	3 662.0	-50.9	-1.5	11 135.8	11 449.6	11 446.2	-313.8	-2.7
Mining	2 186.5	2 232.8	2 184.8	-46.2	-2.1	6 384.3	6 615.2	6 469.1	-230.9	-3.5
Traction	198.4	208.9	204.4	-10.5	-5.0	573.9	618.9	605.3	-45.0	-7.3
Residential	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial	123.5	122.2	123.9	1.4	1.1	380.5	360.5	364.7	20.0	5.5
Agricultural	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prepayment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
International Sales	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Environmental Levy										
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Figure 16 : Total Eskom Sales for year to date

Eskom Distribution

CUSTOMER SERVICE BUSINESS REPORT: 2019-06
SALES OVERVIEW

REVENUE

	Month			Year-To-Date			Year-End		
	Net revenue	Price variance	Volume Variance	Net revenue	Price variance	Volume Variance	Net revenue	Price variance	Volume Variance
Municipalities	(383.4)	(236.4)	(147.0)	(283.7)	(421.6)	137.9	(494.0)	(433.3)	(60.7)
Industrial	(194.2)	(153.0)	(41.3)	(452.7)	(198.7)	(253.9)	(619.7)	(335.3)	(284.4)
Mining	(154.4)	(92.9)	(61.4)	(293.3)	(22.3)	(271.0)	(363.5)	(46.8)	(316.7)
Traction	(23.6)	(4.5)	(19.0)	(59.5)	3.0	(62.5)	(110.8)	24.7	(135.5)
Residential	(48.6)	(10.5)	(38.1)	(192.5)	(62.6)	(129.9)	(312.9)	(43.4)	(269.6)
Commercial	(45.9)	(33.3)	(12.5)	(72.7)	(46.8)	(25.9)	(121.4)	(89.1)	(32.2)
Agricultural	10.7	(24.4)	35.1	(29.3)	(85.7)	56.3	50.2	(115.9)	166.1
Prepayment	(98.2)	(7.4)	(90.8)	(214.5)	(14.6)	(199.9)	(420.8)	(9.0)	(411.9)
International Sales	318.2	192.7	125.5	690.6	499.6	191.0	344.1	343.1	1.0
Environmental Levy	(14.0)	-	(14.0)	(41.5)	-	(41.5)	(41.5)	-	(41.5)
IPP network charge	1.7	1.7	-	(17.6)	(17.6)	-	(19.8)	(19.8)	-
Other-: RCA & Accrual	0.0	0.0		0.0	0.0		-	-	
IFRS Adjustment	(255.0)	(255.0)		(252.5)	(252.5)		(50.0)	(50.0)	
Revenue recovery	-	-		-	-		-	-	
Total (Excl IFRS & Env levy)	(617.6)	(368.0)	(249.5)	(925.3)	(367.4)	(557.9)	(2 068.7)	(724.9)	(1 343.8)

Figures have been rounded to the first decimal place and totals may be impacted by rounding

Figure 17: Total Revenue

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Customer Services (Dx) Price variance: Month (R 356.4 m) ; YTD (R 654.7 m)

	Month			Year-To-Date			Year-End		
	Net revenue	Price variance	Volume Variance	Net revenue	Price variance	Volume Variance	Net revenue	Price variance	Volume Variance
Municipalities	(383.4)	(236.4)	(147.0)	(283.7)	(421.6)	137.9	(494.0)	(433.3)	(60.7)
Industrial	4.5	(13.1)	17.6	4.7	(15.3)	19.9	(5.5)	(57.6)	52.1
Mining	(37.4)	(35.4)	(2.0)	(62.2)	(28.2)	(33.9)	(136.4)	1.4	(137.8)
Traction	(5.1)	0.5	(5.6)	(5.3)	4.9	(10.2)	(7.8)	8.6	(16.4)
Residential	(48.6)	(10.5)	(38.1)	(192.5)	(62.6)	(129.9)	(312.9)	(43.4)	(269.6)
Commercial	(44.1)	(29.1)	(15.0)	(84.9)	(31.0)	(53.8)	(138.2)	(65.8)	(72.4)
Agricultural	10.7	(24.4)	35.1	(29.3)	(85.7)	56.3	50.2	(115.9)	166.1
Prepayment	(98.2)	(7.4)	(90.8)	(214.5)	(14.6)	(199.9)	(420.8)	(9.0)	(411.9)
International Sales	(0.2)	(0.6)	0.4	0.3	(0.6)	0.9	1.1	(0.3)	1.3
Environmental Levy	0.4	-	0.4	1.0	-	1.0	1.0	-	1.0
Other:- RCA & Accrual	0.0	0.0		0.0	0.0		-	-	
IFRS Adjustment	(255.0)	(255.0)		(252.5)	(252.5)		(50.0)	(50.0)	
Revenue recovery	-	-		-	-		-	-	
Total (Excl IFRS)	(601.7)	(356.4)	(245.3)	(867.5)	(654.7)	(212.8)	(1 464.5)	(715.3)	(749.2)

Figure 18: Customer Services (Dx) Price variance

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KIC (KSACS) Customers Price variance: Month (R 212.1 m) ; YTD (R 201.7 m)

	Month			Year-To-Date		
	Net revenue	Price variance	Volume Variance	Net revenue	Price variance	Volume Variance
Total (Excl IFRS)	(335.9)	(212.1)	(123.9)	(730.5)	(201.7)	(528.9)
Municipalities	-	-	-	-	-	-
Industrial	(198.8)	(145.8)	(52.9)	(457.3)	(196.5)	(260.9)
Mining	(117.0)	(58.3)	(58.7)	(231.2)	5.6	(236.7)
Traction	(18.5)	(4.4)	(14.1)	(54.2)	(2.3)	(51.9)
Residential	-	-	-	-	-	-
Commercial	(1.7)	(3.5)	1.8	12.2	(8.4)	20.7
Agricultural	-	-	-	-	-	-
Prepayment	-	-	-	-	-	-
Environmental Levy	29.8	-	29.8	90.3	-	90.3
Other	-	-	-	-	-	-

Figure 19: KIC (KSACS) Customers Price variance

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	Month			Year-To-Date		
	Net revenue	Price variance	Volume Variance	Net revenue	Price variance	Volume Variance
Total	318.3	193.8	124.6	690.3	500.5	189.9
Municipalities	-	-	-	-	-	-
Industrial	-	-	-	-	-	-
Mining	-	-	-	-	-	-
Traction	-	-	-	-	-	-
Residential	-	-	-	-	-	-
Commercial	-	-	-	-	-	-
Agricultural	-	-	-	-	-	-
Environmental Levy	-	-	-	0.8	-	0.8
International Sales	318.3	193.8	124.6	690.3	500.5	189.9
Other						

Figure 20: SAE Price Variance

	Rev R'm	Sales GWh
Budget	**212 671**	**209 123**
Variance Bud vs Act	**(2 110)**	**(1 212)**
Municipalities	(494)	(61)
Industrial	(620)	(339)
Mining	(363)	(304)
Residential	(313)	(137)
Commercial	(121)	(24)
Agricultural	50	95
Prepayment	(421)	(343)
Other (Include RCA)	172	(99)
June Y/E Proj	**210 561**	**207 911**

Figure 21: Year-end Variances (The June year-end projection versus the Budget is 1 212 GWh unfavourable on volume, and R2 110m unfavourable on revenue.

The table above summarises the changes against budget

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	YTD					
	GWh			R'm		
	2019/20	2018/19	Growth %	2019/20	2018/19	Growth %
CITY POWER	2 590	2 746	-5.7%	2 342	2 358	-0.7%
DURBAN METROPOLITAN	2 691	2 744	-1.9%	2 228	2 158	3.3%
EKURHULENI METROPOLITAN	2 612	2 706	-3.5%	2 466	2 440	1.1%
HILLSIDE ALUMINIUM	2 566	2 571	-0.2%	859	901	-4.6%
CITY OF CAPE TOWN	2 290	2 289	0.0%	2 028	1 945	4.3%
CITY OF TSWANE METROPOLITAN	2 335	2 436	-4.1%	1 966	1 950	0.8%
SASOL SYNTHETIC COMPLEX	1 420	1 683	-15.6%	1 322	1 391	-5.0%
NELSON MANDELA METRO	872	873	-0.1%	789	749	5.4%
IMPALA PLATINUM	632	629	0.4%	612	543	12.7%
RICHARDS BAY TITANIUM	484	407	18.7%	422	334	26.3%
TOTAL TOP 10	18 492	19 085	-3.1%	15 034	14 768	1.8%
AS % OF TOTAL CUSTOMER SERVICE	35%	36%	-2.4%	30%	31%	-5.8%
REST OF CUSTOMER SERVICES	33 714	33 528	0.6%	35 830	32 295	10.9%
TOTAL CUSTOMER SERVICES (Excl IFRS Adj)	52 205	52 613	-0.8%	50 864	47 063	8.1%

Figure 22: The Top 10 customers for year to date

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Eskom Sales and Revenue Report (Presentation)

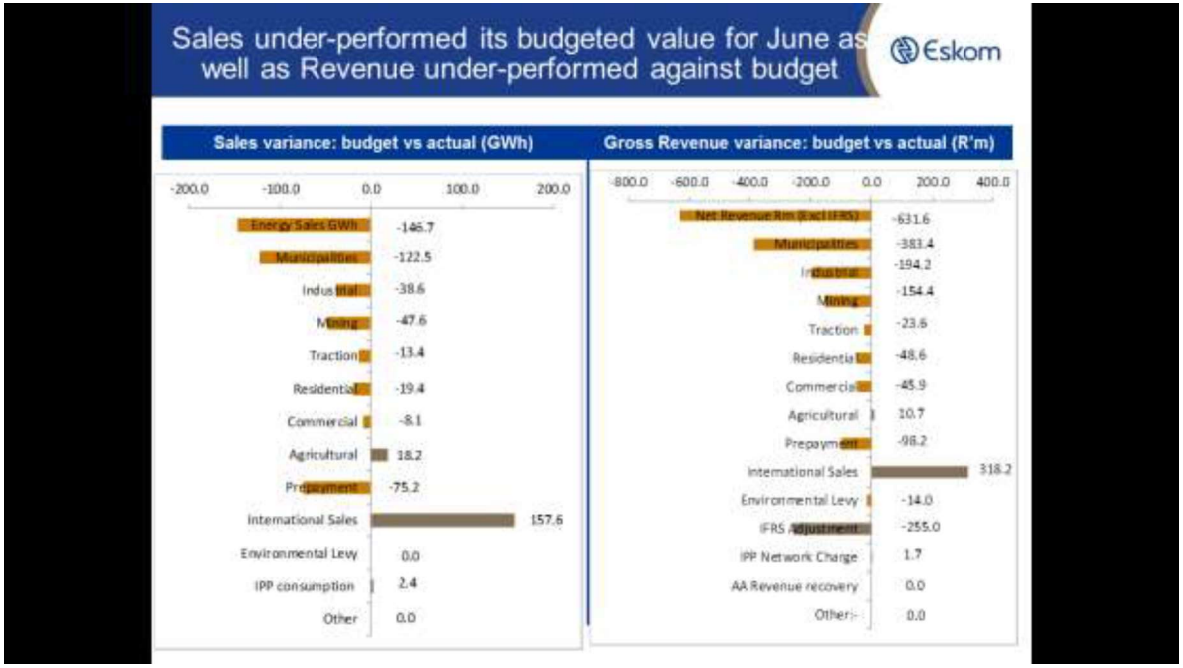

Figure 23: Overview

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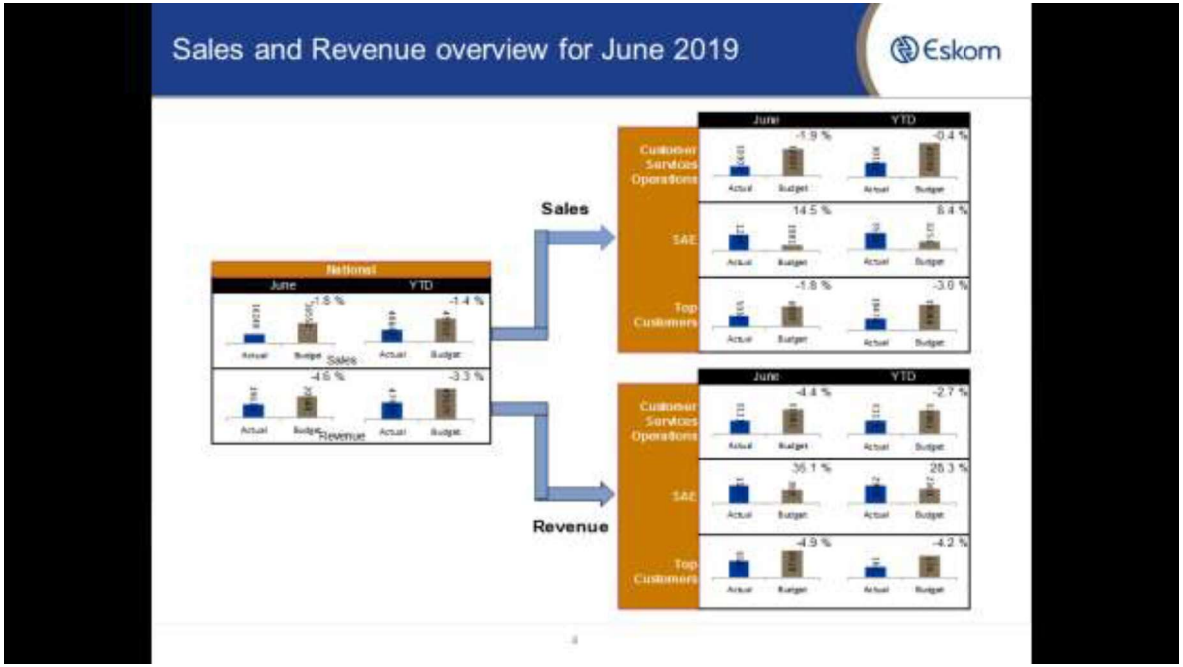

Figure 24: Overview

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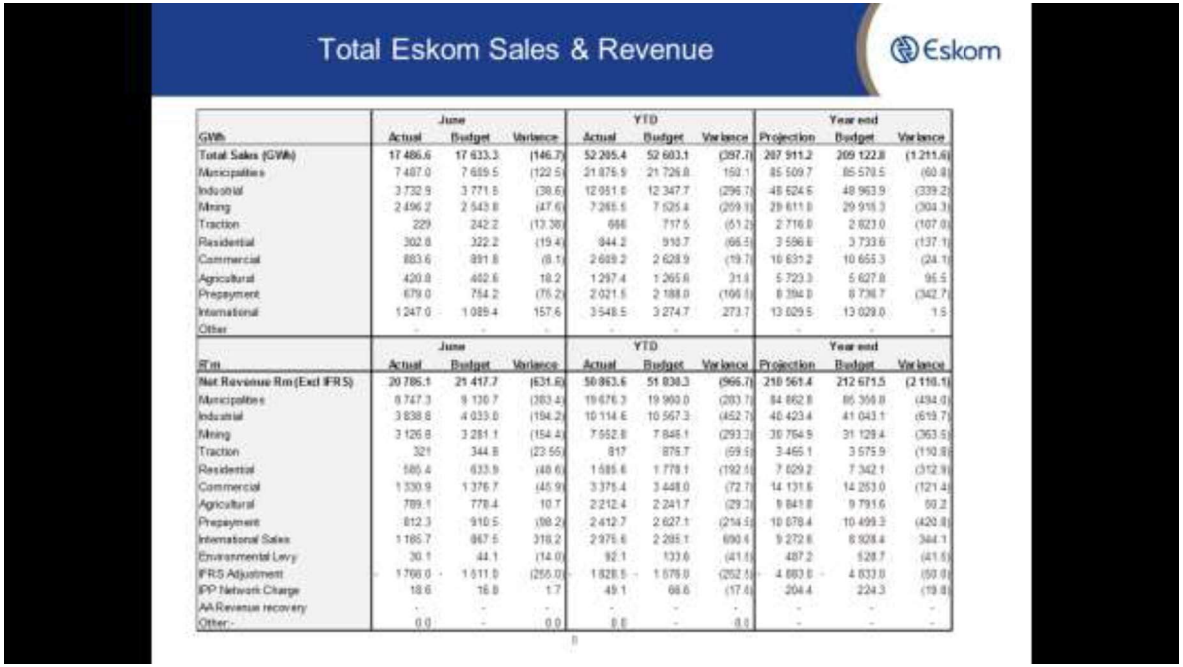

GWh	June Actual	June Budget	June Variance	YTD Actual	YTD Budget	YTD Variance	Year end Projection	Year end Budget	Year end Variance
Total Sales (GWh)	17 486.6	17 633.3	(146.7)	52 285.4	52 603.1	(297.7)	207 911.2	209 122.8	(1 211.6)
Municipalities	7 487.0	7 609.5	(122.5)	21 876.9	21 726.8	150.1	85 509.7	85 570.5	(60.8)
Industrial	3 732.9	3 771.5	(38.6)	12 051.0	12 347.7	(296.7)	48 624.6	48 963.9	(339.2)
Mining	2 496.2	2 543.8	(47.6)	7 265.5	7 525.4	(259.9)	29 611.0	29 915.3	(304.3)
Traction	229	242.2	(13.38)	666	717.5	(51.2)	2 716.0	2 823.0	(107.0)
Residential	302.8	322.2	(19.4)	844.2	910.7	(66.5)	3 596.6	3 733.6	(137.1)
Commercial	883.6	891.8	(8.1)	2 609.2	2 628.9	(19.7)	10 631.2	10 655.3	(24.1)
Agricultural	420.8	402.6	18.2	1 297.4	1 265.6	31.8	5 723.3	5 627.8	95.5
Prepayment	679.0	764.2	(76.2)	2 021.5	2 188.0	(166.5)	8 394.0	8 736.7	(342.7)
International	1 247.0	1 089.4	157.6	3 548.5	3 274.7	273.7	13 029.5	13 029.0	1.5
Other	-	-	-	-	-	-	-	-	-

R'm	June Actual	June Budget	June Variance	YTD Actual	YTD Budget	YTD Variance	Year end Projection	Year end Budget	Year end Variance
Net Revenue Rm (Excl IFRS)	20 785.1	21 417.7	(631.6)	50 863.6	51 830.3	(966.7)	210 561.4	212 671.5	(2 110.1)
Municipalities	8 747.3	9 130.7	(383.4)	19 676.3	19 960.0	(283.7)	84 862.8	85 356.8	(494.0)
Industrial	3 838.8	4 033.0	(194.2)	10 114.6	10 567.3	(452.7)	40 423.4	41 043.1	(619.7)
Mining	3 126.8	3 281.1	(154.4)	7 952.8	7 846.1	(293.3)	30 764.9	31 128.4	(363.5)
Traction	321	344.8	(23.55)	817	876.7	(59.5)	3 465.1	3 575.9	(110.8)
Residential	585.4	633.9	(48.6)	1 585.6	1 778.1	(192.5)	7 029.2	7 342.1	(312.9)
Commercial	1 330.9	1 376.7	(45.9)	3 375.4	3 448.0	(72.7)	14 131.6	14 253.0	(121.4)
Agricultural	789.1	778.4	10.7	2 212.4	2 241.7	(29.3)	9 841.8	9 791.6	50.2
Prepayment	812.3	910.5	(98.2)	2 412.7	2 627.1	(214.5)	10 078.4	10 499.3	(420.8)
International Sales	1 185.7	867.5	318.2	2 975.6	2 285.1	690.4	9 272.8	8 928.4	344.1
Environmental Levy	30.1	44.1	(14.0)	92.1	133.6	(41.5)	487.2	528.7	(41.5)
IFRS Adjustment	1 766.0	1 511.0	(255.0)	1 828.5	1 576.9	(252.5)	4 883.0	4 833.0	(50.0)
IPP Network Charge	18.6	16.9	1.7	49.1	66.6	(17.6)	204.4	224.3	(19.8)
AA Revenue recovery	-	-	-	-	-	-	-	-	-
Other:-	0.0	-	0.0	0.0	-	0.0	-	-	-

Figure 25: Overview

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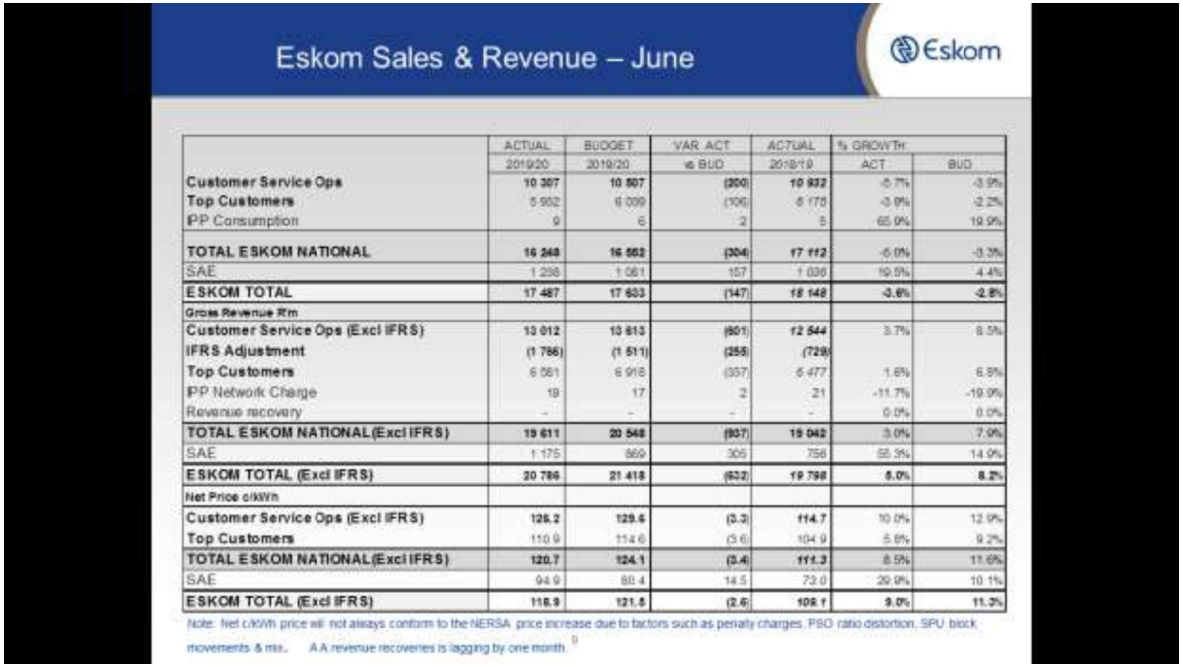

Eskom Sales & Revenue – June

	ACTUAL 2019/20	BUDGET 2019/20	VAR ACT vs BUD	ACTUAL 2018/19	% GROWTH ACT	% GROWTH BUD
Customer Service Ops	**10 307**	**10 507**	**(200)**	**10 932**	-5.7%	-3.9%
Top Customers	5 902	6 009	(106)	6 175	-4.9%	-2.2%
IPP Consumption	9	6	2	5	65.9%	19.9%
TOTAL ESKOM NATIONAL	**16 248**	**16 552**	**(304)**	**17 112**	-5.0%	-3.3%
SAE	1 238	1 061	157	1 036	19.5%	4.4%
ESKOM TOTAL	**17 487**	**17 633**	**(147)**	**18 148**	**-3.6%**	**-2.8%**
Gross Revenue Rm						
Customer Service Ops (Excl IFRS)	**13 012**	**13 613**	**(601)**	**12 544**	3.7%	8.5%
IFRS Adjustment	**(1 786)**	**(1 511)**	**(255)**	**(729)**		
Top Customers	6 561	6 918	(357)	6 477	1.6%	6.8%
IPP Network Charge	19	17	2	21	-11.7%	-19.0%
Revenue recovery	-	-	-	-	0.0%	0.0%
TOTAL ESKOM NATIONAL(Excl IFRS)	**19 611**	**20 548**	**(937)**	**19 042**	3.0%	7.9%
SAE	1 175	869	305	756	55.3%	14.9%
ESKOM TOTAL (Excl IFRS)	**20 786**	**21 418**	**(632)**	**19 798**	**5.0%**	**8.2%**
Net Price c/kWh						
Customer Service Ops (Excl IFRS)	**126.2**	**129.6**	**(3.3)**	**114.7**	10.0%	12.9%
Top Customers	110.9	114.6	(3.6)	104.9	5.8%	9.2%
TOTAL ESKOM NATIONAL(Excl IFRS)	**120.7**	**124.1**	**(3.4)**	**111.3**	8.5%	11.6%
SAE	94.9	80.4	14.5	73.0	29.9%	18.1%
ESKOM TOTAL (Excl IFRS)	**118.9**	**121.5**	**(2.6)**	**109.1**	**9.0%**	**11.3%**

Note: Net c/kWh price will not always conform to the NERSA price increase due to factors such as penalty charges, PSO ratio distortion, SPU block movements & mix. AA revenue recoveries is lagging by one month

Figure 26: Overview

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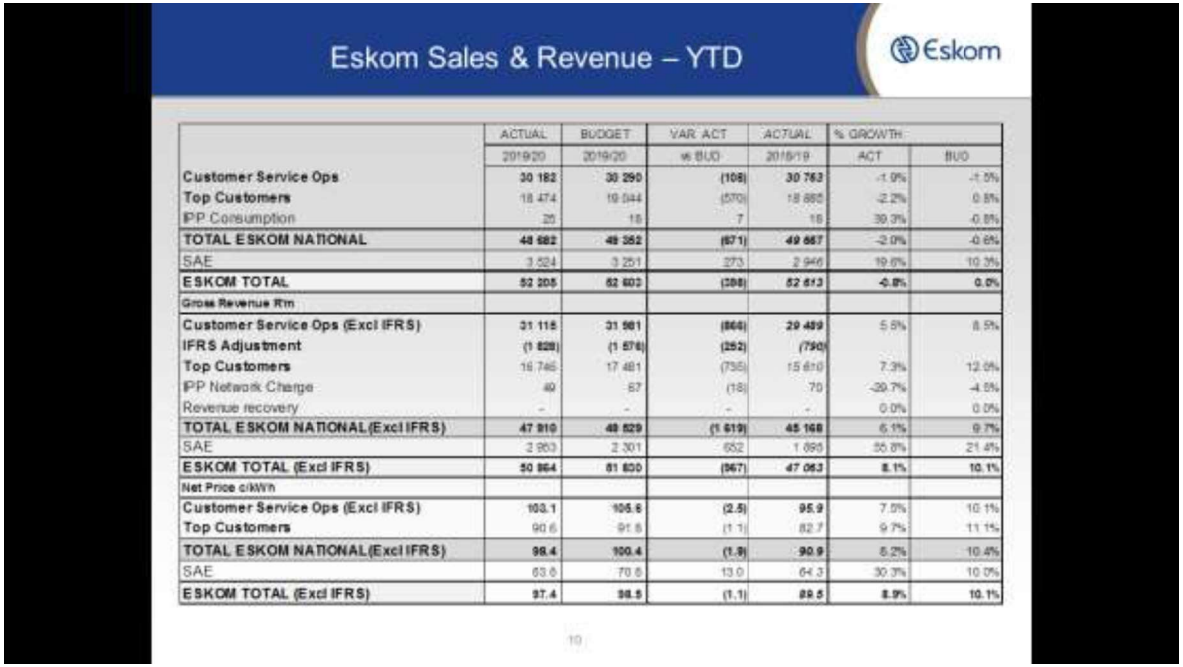

Eskom Sales & Revenue – YTD

	ACTUAL	BUDGET	VAR ACT	ACTUAL	% GROWTH	
	2019/20	2019/20	vs BUD	2018/19	ACT	BUD
Customer Service Ops	**30 182**	**30 290**	**(108)**	**30 763**	-1.9%	-1.5%
Top Customers	18 474	19 044	(570)	18 885	-2.2%	0.8%
IPP Consumption	25	18	7	18	39.3%	-0.8%
TOTAL ESKOM NATIONAL	**48 682**	**49 352**	**(671)**	**49 667**	-2.0%	-0.6%
SAE	3 524	3 251	273	2 946	19.6%	10.3%
ESKOM TOTAL	**52 205**	**52 603**	**(398)**	**52 613**	**-0.8%**	**0.0%**
Gross Revenue Rm						
Customer Service Ops (Excl IFRS)	**31 115**	**31 981**	**(866)**	**29 489**	5.5%	8.5%
IFRS Adjustment	**(1 828)**	**(1 576)**	**(252)**	**(790)**		
Top Customers	16 746	17 481	(735)	15 610	7.3%	12.0%
IPP Network Charge	49	67	(18)	70	-29.7%	-4.5%
Revenue recovery	-	-	-	-	0.0%	0.0%
TOTAL ESKOM NATIONAL(Excl IFRS)	**47 910**	**49 529**	**(1 619)**	**45 168**	6.1%	9.7%
SAE	2 993	2 301	692	1 895	55.8%	21.4%
ESKOM TOTAL (Excl IFRS)	**50 904**	**51 830**	**(967)**	**47 063**	**8.1%**	**10.1%**
Net Price c/kWh						
Customer Service Ops (Excl IFRS)	**103.1**	**105.6**	**(2.5)**	**95.9**	7.5%	10.1%
Top Customers	90.6	91.8	(1.1)	82.7	9.7%	11.1%
TOTAL ESKOM NATIONAL(Excl IFRS)	**98.4**	**100.4**	**(1.9)**	**90.9**	8.2%	10.4%
SAE	63.6	70.6	13.0	64.3	30.3%	10.0%
ESKOM TOTAL (Excl IFRS)	**97.4**	**98.5**	**(1.1)**	**89.5**	**8.9%**	**10.1%**

10

Figure 27: Overview

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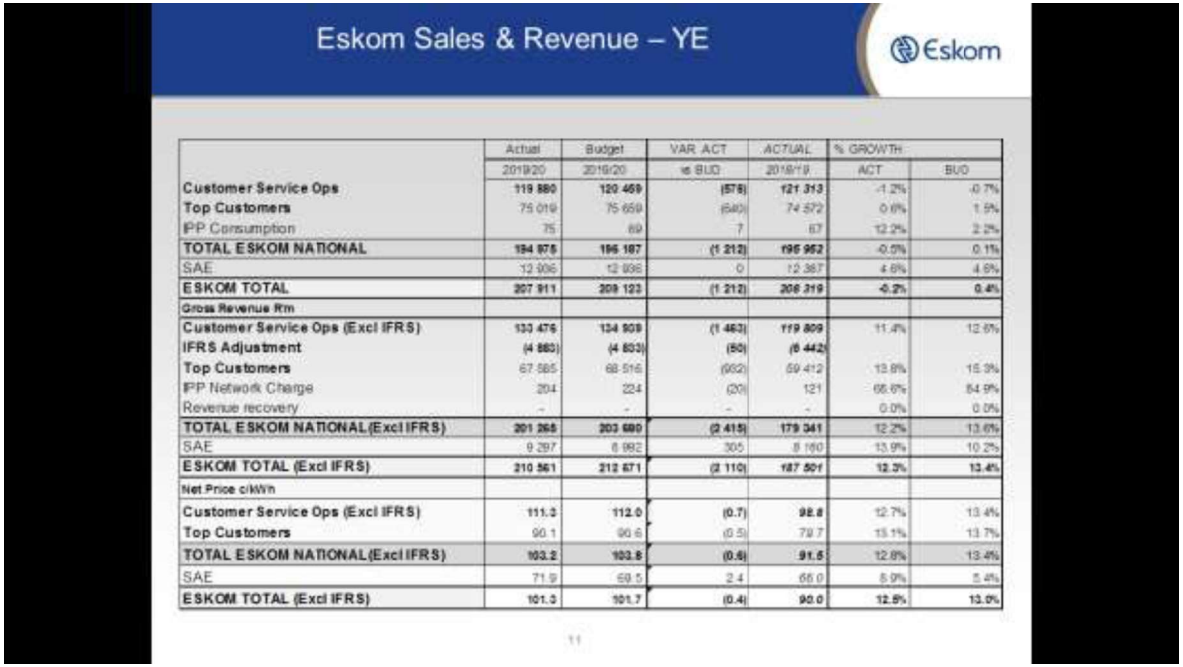

Eskom Sales & Revenue – YE

	Actual 2019/20	Budget 2019/20	VAR ACT vs BUD	ACTUAL 2018/19	% GROWTH ACT	% GROWTH BUD
Customer Service Ops	**119 880**	**120 459**	**(578)**	**121 313**	-1.2%	-0.7%
Top Customers	75 019	75 659	(640)	74 572	0.6%	1.5%
IPP Consumption	75	69	7	67	12.2%	2.2%
TOTAL ESKOM NATIONAL	**194 975**	**196 187**	**(1 212)**	**195 952**	-0.5%	0.1%
SAE	12 936	12 936	0	12 367	4.6%	4.6%
ESKOM TOTAL	**207 911**	**209 123**	**(1 212)**	**208 319**	**-0.2%**	**0.4%**
Gross Revenue Rm						
Customer Service Ops (Excl IFRS)	**133 476**	**134 939**	**(1 463)**	**119 809**	11.4%	12.6%
IFRS Adjustment	**(4 883)**	**(4 833)**	**(50)**	**(6 442)**		
Top Customers	67 585	68 516	(932)	59 412	13.8%	15.3%
IPP Network Charge	204	224	(20)	121	68.6%	84.9%
Revenue recovery	-	-	-	-	0.0%	0.0%
TOTAL ESKOM NATIONAL (Excl IFRS)	**201 265**	**203 680**	**(2 415)**	**179 341**	12.2%	13.6%
SAE	9 297	8 982	305	8 160	13.9%	10.2%
ESKOM TOTAL (Excl IFRS)	**210 561**	**212 671**	**(2 110)**	**187 501**	**12.3%**	**13.4%**
Net Price c/kWh						
Customer Service Ops (Excl IFRS)	**111.3**	**112.0**	**(0.7)**	**98.8**	12.7%	13.4%
Top Customers	90.1	90.6	(0.5)	79.7	13.1%	13.7%
TOTAL ESKOM NATIONAL (Excl IFRS)	**103.2**	**103.8**	**(0.6)**	**91.5**	12.8%	13.4%
SAE	71.9	69.5	2.4	66.0	8.9%	5.4%
ESKOM TOTAL (Excl IFRS)	**101.3**	**101.7**	**(0.4)**	**90.0**	**12.5%**	**13.0%**

Figure 28 Overview

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Figure 29: Sales Trends

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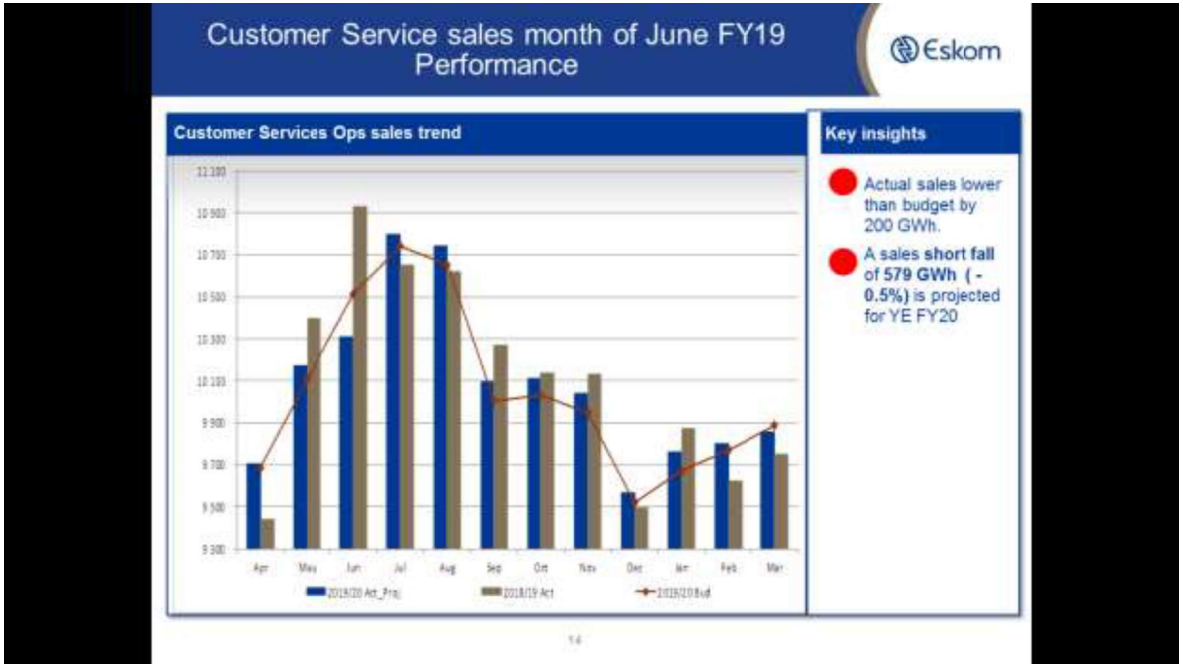

Figure 30: Sales Trends

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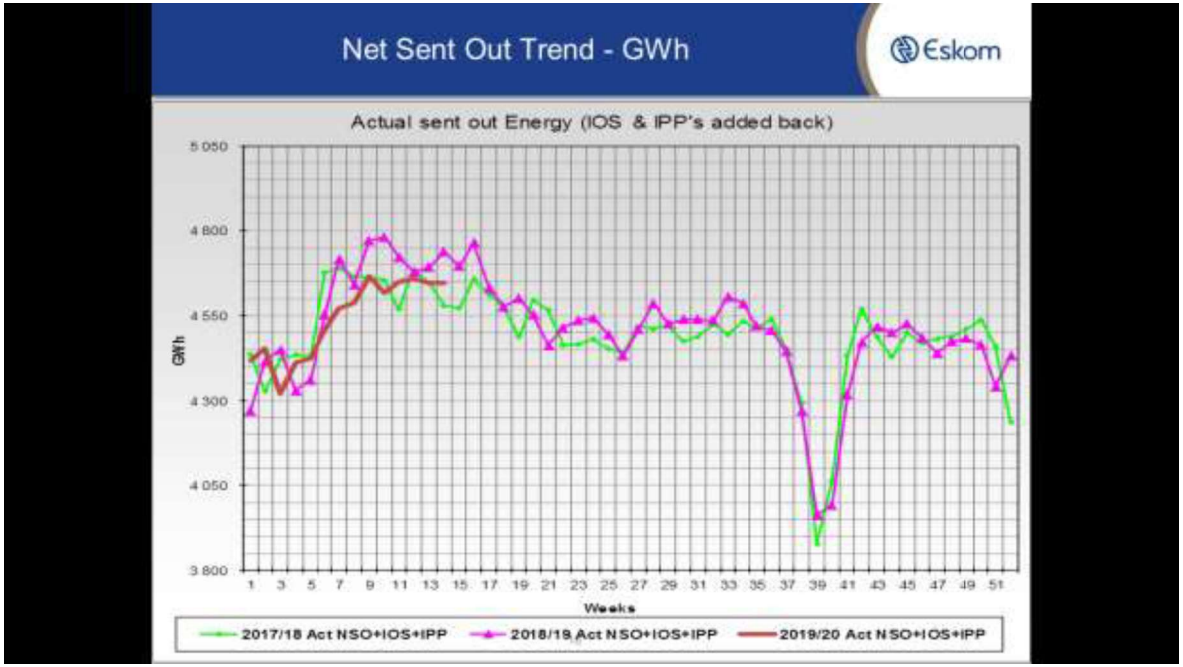

Figure 31: Sales Trends

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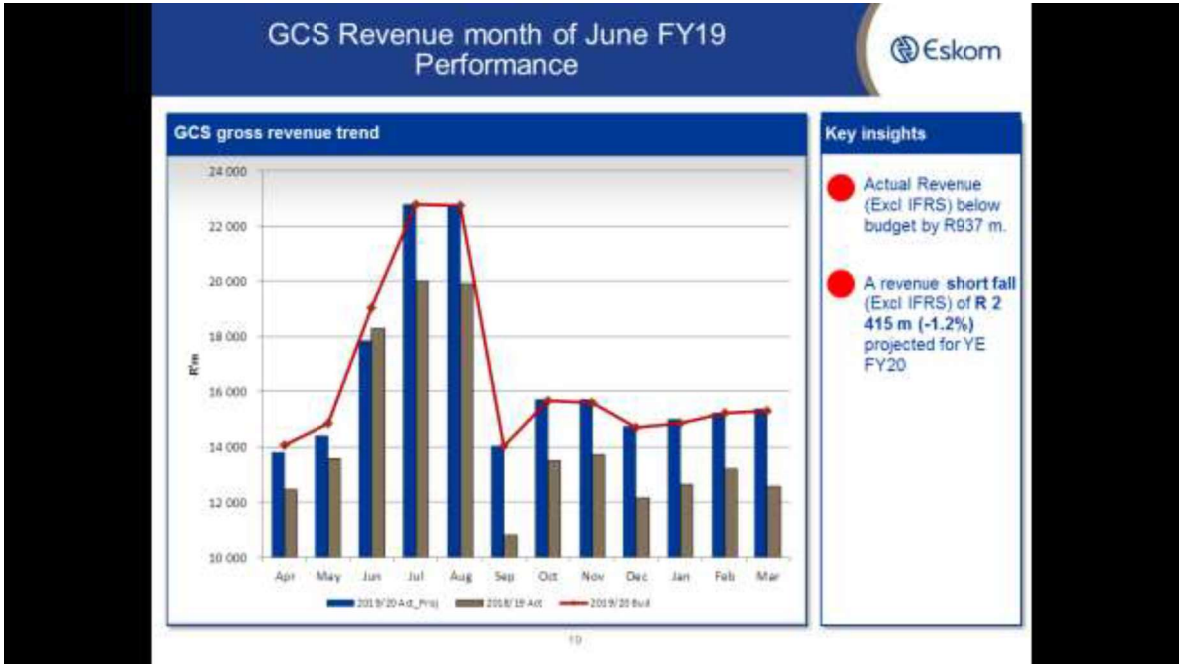

Figure 32: Revenue Trends

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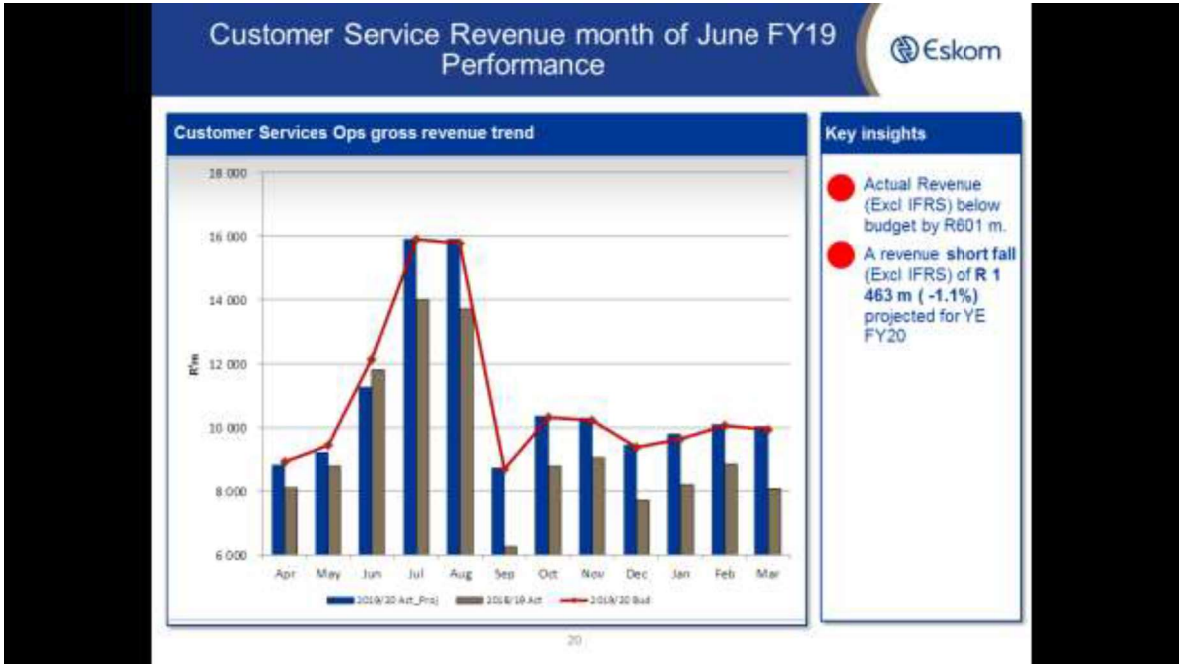

Figure 33: Revenue Trends

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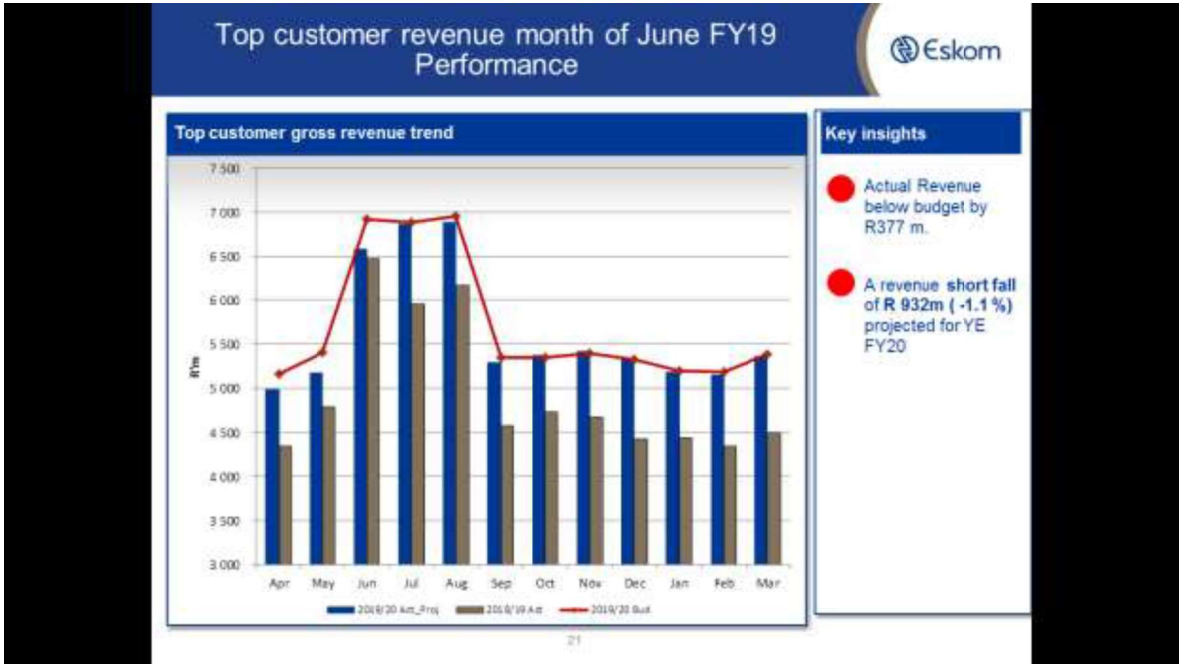

Figure 34: Revenue Trends

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Figure 35: Revenue Trends

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Eskom Sales & Revenue June 2019 Top Customer Management Team

Figure 36: Overview and Executive Summary

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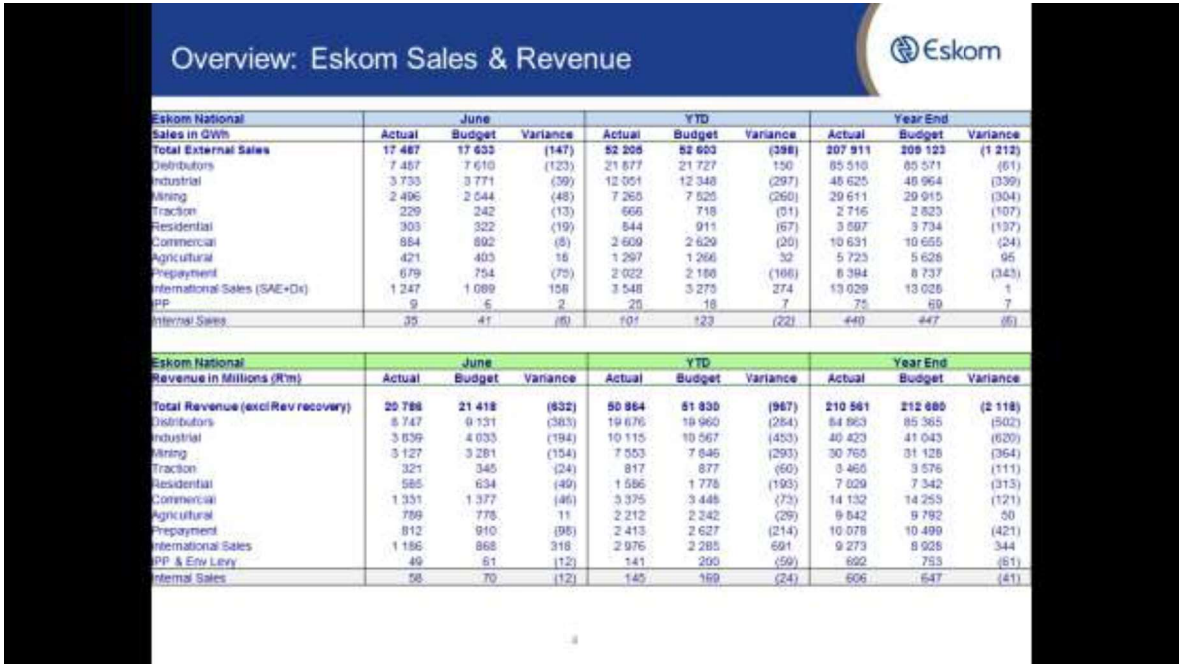

Overview: Eskom Sales & Revenue

Eskom

Eskom National Sales in GWh	June			YTD			Year End		
	Actual	Budget	Variance	Actual	Budget	Variance	Actual	Budget	Variance
Total External Sales	**17 467**	**17 633**	**(147)**	**52 205**	**52 603**	**(398)**	**207 911**	**209 123**	**(1 212)**
Distributors	7 467	7 610	(123)	21 677	21 727	150	85 510	85 571	(61)
Industrial	3 733	3 771	(39)	12 051	12 348	(297)	48 625	48 964	(339)
Mining	2 496	2 544	(48)	7 265	7 525	(260)	29 611	29 915	(304)
Traction	229	242	(13)	666	718	(51)	2 716	2 823	(107)
Residential	303	322	(19)	844	911	(67)	3 597	3 734	(137)
Commercial	884	892	(8)	2 609	2 629	(20)	10 631	10 655	(24)
Agricultural	421	403	18	1 297	1 266	32	5 723	5 628	96
Prepayment	679	754	(75)	2 022	2 188	(166)	8 394	8 737	(343)
International Sales (SAE+Dx)	1 247	1 089	158	3 548	3 275	274	13 029	13 028	1
IPP	9	6	2	25	18	7	75	69	7
Internal Sales	35	41	(6)	101	123	(22)	440	447	(6)

Eskom National Revenue in Millions (R'm)	June			YTD			Year End		
	Actual	Budget	Variance	Actual	Budget	Variance	Actual	Budget	Variance
Total Revenue (excl Rev recovery)	**20 786**	**21 418**	**(632)**	**50 864**	**51 830**	**(967)**	**210 561**	**212 680**	**(2 118)**
Distributors	8 747	9 131	(383)	19 676	19 960	(284)	84 863	85 365	(502)
Industrial	3 839	4 033	(194)	10 115	10 567	(453)	40 423	41 043	(620)
Mining	3 127	3 281	(154)	7 553	7 846	(293)	30 765	31 128	(364)
Traction	321	345	(24)	817	877	(60)	3 465	3 576	(111)
Residential	585	634	(49)	1 586	1 778	(193)	7 029	7 342	(313)
Commercial	1 351	1 377	(46)	3 375	3 448	(73)	14 132	14 253	(121)
Agricultural	789	778	11	2 212	2 242	(29)	9 842	9 792	50
Prepayment	812	910	(98)	2 413	2 627	(214)	10 078	10 499	(421)
International Sales	1 186	868	318	2 976	2 285	691	9 273	8 928	344
IPP & Env Levy	49	61	(12)	141	200	(59)	692	753	(61)
Internal Sales	58	70	(12)	145	169	(24)	606	647	(41)

Figure 37: Overview

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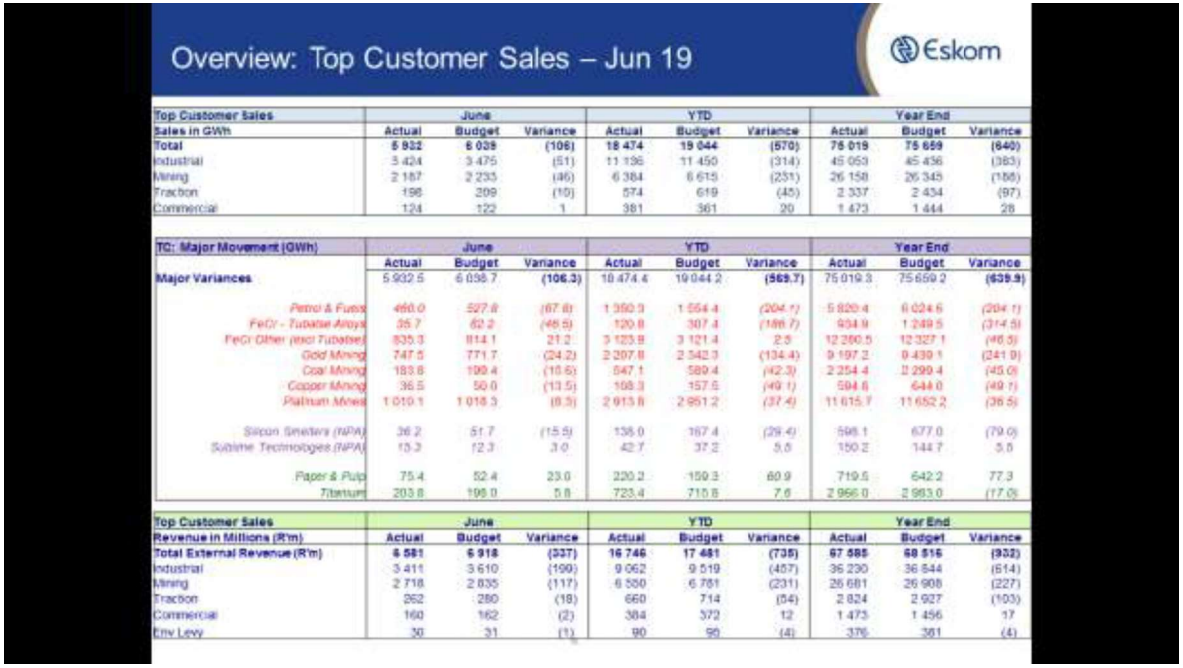

Top Customer Sales	June			YTD			Year End		
Sales in GWh	Actual	Budget	Variance	Actual	Budget	Variance	Actual	Budget	Variance
Total	5 932	6 038	(106)	18 474	19 044	(570)	75 019	75 659	(640)
Industrial	3 424	3 475	(51)	11 136	11 450	(314)	45 053	45 436	(383)
Mining	2 187	2 233	(46)	6 384	6 615	(231)	26 158	26 345	(186)
Traction	196	209	(13)	574	619	(45)	2 337	2 434	(97)
Commercial	124	122	1	381	361	20	1 473	1 444	28

TC: Major Movement (GWh)	June			YTD			Year End		
	Actual	Budget	Variance	Actual	Budget	Variance	Actual	Budget	Variance
Major Variances	5 932.5	6 038.7	(106.3)	18 474.4	19 044.2	(569.7)	75 019.3	75 659.2	(639.9)
Petrol & Fuels	460.0	527.8	(67.8)	1 350.3	1 554.4	(204.1)	5 820.4	6 024.6	(204.1)
FeCr - Tubatse Alloys	35.7	82.2	(46.5)	120.8	307.4	(186.7)	934.9	1 249.5	(314.5)
FeCr Other (excl Tubatse)	835.3	814.1	21.2	3 123.8	3 121.4	2.5	12 280.5	12 327.1	(46.5)
Gold Mining	747.5	771.7	(24.2)	2 207.8	2 342.3	(134.4)	9 197.2	9 439.1	(241.9)
Coal Mining	183.8	199.4	(15.6)	547.1	589.4	(42.3)	2 254.4	2 299.4	(45.0)
Copper Mining	36.5	50.0	(13.5)	108.3	157.5	(49.1)	594.6	644.0	(49.1)
Platinum Mines	1 010.1	1 018.3	(8.3)	2 913.8	2 951.2	(37.4)	11 615.7	11 652.2	(36.5)
Silicon Smelters (NPA)	36.2	51.7	(15.5)	136.0	167.4	(29.4)	598.1	677.0	(79.0)
Sublime Technologies (NPA)	15.3	12.3	3.0	42.7	37.2	5.5	150.2	144.7	5.5
Paper & Pulp	75.4	52.4	23.0	220.2	159.3	60.9	719.5	642.2	77.3
Titanium	203.8	199.0	5.8	723.4	715.8	7.6	2 966.0	2 983.0	(17.0)

Top Customer Sales	June			YTD			Year End		
Revenue in Millions (R'm)	Actual	Budget	Variance	Actual	Budget	Variance	Actual	Budget	Variance
Total External Revenue (R'm)	6 581	6 918	(337)	16 746	17 481	(735)	67 585	68 516	(932)
Industrial	3 411	3 610	(199)	9 062	9 519	(457)	36 230	36 844	(614)
Mining	2 718	2 835	(117)	6 550	6 781	(231)	26 681	26 908	(227)
Traction	262	280	(18)	660	714	(54)	2 824	2 927	(103)
Commercial	160	162	(2)	384	372	12	1 473	1 456	17
Env Levy	30	31	(1)	90	95	(4)	376	381	(4)

Figure 38: Top customer Sales Review

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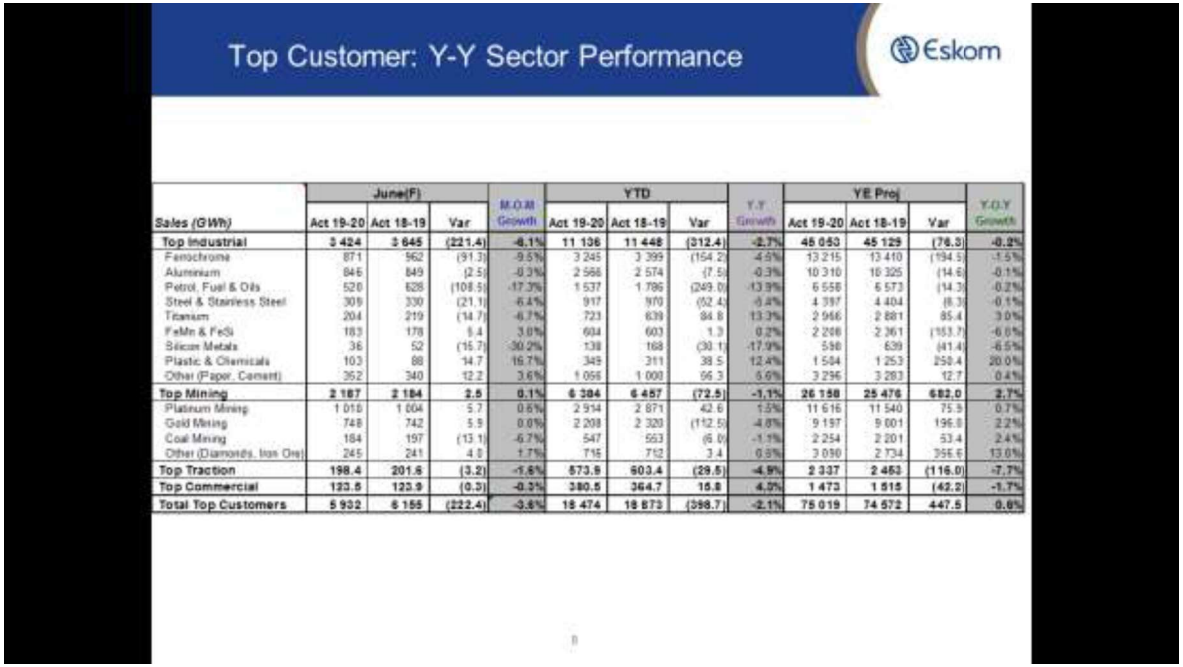

Sales (GWh)	June(F) Act 19-20	June(F) Act 18-19	June(F) Var	M.O.M Growth	YTD Act 19-20	YTD Act 18-19	YTD Var	Y-Y Growth	YE Proj Act 19-20	YE Proj Act 18-19	YE Proj Var	Y.O.Y Growth
Top Industrial	**3 424**	**3 645**	**(221.4)**	**-6.1%**	**11 136**	**11 448**	**(312.4)**	**-2.7%**	**45 053**	**45 129**	**(76.3)**	**-0.2%**
Ferrochrome	871	962	(91.2)	-9.5%	3 245	3 399	(154.2)	-4.5%	13 215	13 410	(194.5)	-1.5%
Aluminium	846	849	(2.5)	-0.3%	2 566	2 574	(7.5)	-0.3%	10 310	10 325	(14.6)	-0.1%
Petrol, Fuel & Oils	520	628	(108.5)	-17.3%	1 537	1 786	(249.0)	-13.9%	6 558	6 573	(14.3)	-0.2%
Steel & Stainless Steel	309	330	(21.1)	-6.4%	917	970	(52.4)	-5.4%	4 397	4 404	(6.3)	-0.1%
Titanium	204	219	(14.7)	-6.7%	723	639	84.8	13.3%	2 966	2 881	85.4	3.0%
FeMn & FeSi	183	178	5.4	3.0%	604	603	1.3	0.2%	2 208	2 361	(153.7)	-6.5%
Silicon Metals	36	52	(15.7)	-30.2%	138	168	(30.1)	-17.9%	598	639	(41.4)	-6.5%
Plastic & Chemicals	103	88	14.7	16.7%	349	311	38.5	12.4%	1 504	1 253	250.4	20.0%
Other (Paper, Cement)	352	340	12.2	3.6%	1 056	1 000	56.3	5.6%	3 296	3 283	12.7	0.4%
Top Mining	**2 187**	**2 184**	**2.5**	**0.1%**	**6 384**	**6 457**	**(72.5)**	**-1.1%**	**26 158**	**25 476**	**682.0**	**2.7%**
Platinum Mining	1 010	1 004	5.7	0.6%	2 914	2 871	42.6	1.5%	11 616	11 540	75.9	0.7%
Gold Mining	748	742	5.9	0.8%	2 208	2 320	(112.5)	-4.8%	9 197	9 001	196.8	2.2%
Coal Mining	184	197	(13.1)	-6.7%	547	553	(6.0)	-1.1%	2 254	2 201	53.4	2.4%
Other (Diamonds, Iron Ore)	245	241	4.0	1.7%	716	712	3.4	0.5%	3 090	2 734	356.6	13.0%
Top Traction	**198.4**	**201.6**	**(3.2)**	**-1.6%**	**573.9**	**603.4**	**(29.5)**	**-4.9%**	**2 337**	**2 453**	**(116.0)**	**-7.7%**
Top Commercial	**133.5**	**133.9**	**(0.3)**	**-0.3%**	**380.5**	**364.7**	**15.8**	**4.3%**	**1 473**	**1 515**	**(42.2)**	**-1.7%**
Total Top Customers	**5 932**	**6 155**	**(222.4)**	**-3.6%**	**18 474**	**18 873**	**(398.7)**	**-2.1%**	**75 019**	**74 572**	**447.5**	**0.6%**

Figure 39: Top Sector View

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	Spot	Q2 19	Q3 19	Q4 19	Q1 20	2 019	2 020	2 021	2 022
Gold $/t oz	**1 416.63**	**1 327.60**	**1 413.40**	**1 423.72**	**1 429.71**	**1 369.91**	**1 437.00**	**1 457.05**	**1 477.30**
Forecast (Median)		1 310.00	1 338.00	1 350.00	1 380.00	1 323.00	1 375.00	1 324.14	1 328.11
Diff (Median - Curr)		- 17.60	- 75.40	- 73.72	- 49.71	- 46.91	- 62.00	- 132.91	- 149.19
Silver $/t oz	**15.28**	**14.88**	**15.27**	**15.42**	**15.48**	**15.28**	**15.62**	**15.97**	**16.33**
Forecast (Median)		15.40	15.95	16.09	16.00	15.63	16.25	16.03	16.50
Diff (Median - Curr)		0.52	0.68	0.67	0.52	0.35	0.63	0.05	0.17
Platinum $/t oz	**815.68**	**831.80**	**814.28**	**821.72**	**825.94**	**827.60**	**829.30**	-	-
Forecast (Median)		850.00	873.00	892.50	895.00	860.00	910.00	920.00	950.00
Diff (Median - Curr)		18.20	58.72	70.78	69.06	32.40	80.70	920.00	950.00
Palladium $/t oz	**1 559.83**	**1 441.09**	**1 536.20**	**1 537.69**	**1 527.88**	**1 489.10**	**1 516.97**	-	-
Forecast (Median)		1 350.00	1 262.50	1 200.00	1 195.00	1 320.22	1 161.25	1 312.50	1 400.00
Diff (Median - Curr)		- 91.09	- 273.70	- 337.69	- 332.88	- 168.88	- 355.72	1 312.50	1 400.00
Aluminum $/mt	**1 795.50**	**1 770.33**	**1 785.60**	**1 809.63**	**1 835.88**	**1 803.13**	**1 869.93**	**1 959.70**	**2 047.38**
Forecast (Median)		1 880.00	1 850.00	1 887.50	1 900.00	1 904.25	1 912.50	2 045.00	2 119.24
Diff (Median - Curr)		109.67	64.40	77.88	64.13	101.12	42.57	85.30	71.85
Copper $/mt	**5 982.00**	**6 003.44**	**5 989.78**	**5 998.87**	**6 008.46**	**6 076.73**	**6 028.08**	**6 080.40**	**6 123.26**
Forecast (Median)		6 250.00	6 300.00	6 281.93	6 312.61	6 300.00	6 450.00	6 800.00	6 800.00
Diff (Median - Curr)		246.56	310.22	283.06	304.14	223.27	421.92	719.60	676.74
Nickel $/mt	**12 620.00**	**12 076.19**	**12 713.67**	**12 750.10**	**12 829.08**	**12 510.62**	**12 942.19**	**13 242.81**	**13 551.27**
Forecast (Median)		12 449.13	12 500.00	12 750.00	12 781.85	12 560.96	13 112.50	13 200.00	14 250.00
Diff (Median - Curr)		372.93	- 213.67	- 0.10	- 47.23	50.34	170.31	- 42.81	698.73
Zinc $/mt	**2 484.50**	**2 670.17**	**2 490.83**	**2 466.07**	**2 457.35**	**2 588.87**	**2 446.56**	**2 414.77**	**2 370.26**
Forecast (Median)		2 688.50	2 602.66	2 552.66	2 575.00	2 662.50	2 587.50	2 600.00	2 700.00
Diff (Median - Curr)		18.33	111.83	86.59	117.65	73.63	140.94	185.23	329.74
Lead $/mt	**1 939.00**	**1 868.83**	**1 943.43**	**1 946.73**	**1 951.96**	**1 938.82**	**1 958.98**	**1 978.56**	**1 995.27**
Forecast (Median)		1 975.00	1 925.00	1 985.39	2 058.19	1 950.00	2 050.00	2 100.00	2 207.29
Diff (Median - Curr)		106.17	- 18.43	38.66	106.23	11.18	91.02	121.44	212.02
Steel-Hot R. $/ST	**560.00**	**619.59**	**565.64**	**606.11**	**609.03**	**621.22**	**598.92**		
Forecast (Median)		655.00	632.50	627.50	640.00	629.35	582.50	587.50	550.00
Diff (Median - Curr)		35.41	66.86	21.39	30.97	8.13	- 16.42		
Tin $/mt	**18 875.00**	**19 464.86**	**18 861.53**	**18 813.98**	**18 731.32**	**19 532.88**	**18 672.67**	-	-
Forecast (Median)		20 062.50	19 750.00	20 000.00	20 169.90	20 300.00	20 177.38	20 750.00	21 182.89
Diff (Median - Curr)		597.64	888.47	1 186.02	1 438.58	767.12	1 504.72	20 750.00	21 182.89
Uranium $/lb	**24.65**	**24.69**	**24.72**	**25.03**	**25.41**	**25.43**	**27.22**	**29.99**	
Forecast (Median)									
Diff (Median - Curr)									
Cobalt $/lb	**15.60**								
Forecast (Median)		14.06	14.86	15.54	16.44	15.10	18.14	20.87	
Diff (Median - Curr)									
Rhodium $/oz	**3 225.00**								
Forecast (Median)		2 920.00	2 525.00	2 375.00	2 310.00	2 640.00	2 350.00	2 450.00	
Diff (Median - Curr)									
Iron Ore Fines62% Fe spot	**113.95**	**100.08**	**106.96**	**97.68**	**91.92**	**97.05**	**85.85**		
Forecast (Median)		91.00	83.00	75.50	72.00	84.42	70.63	62.56	60.50
Diff (Median - Curr)		- 9.08	- 23.96	- 22.18	- 19.92	- 12.63	- 15.22		

Figure 40: Commodities

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Top Customers: Limpopo Sales & Revenue Budget 2020/21 – 2034/35

Figure 41: Customer view

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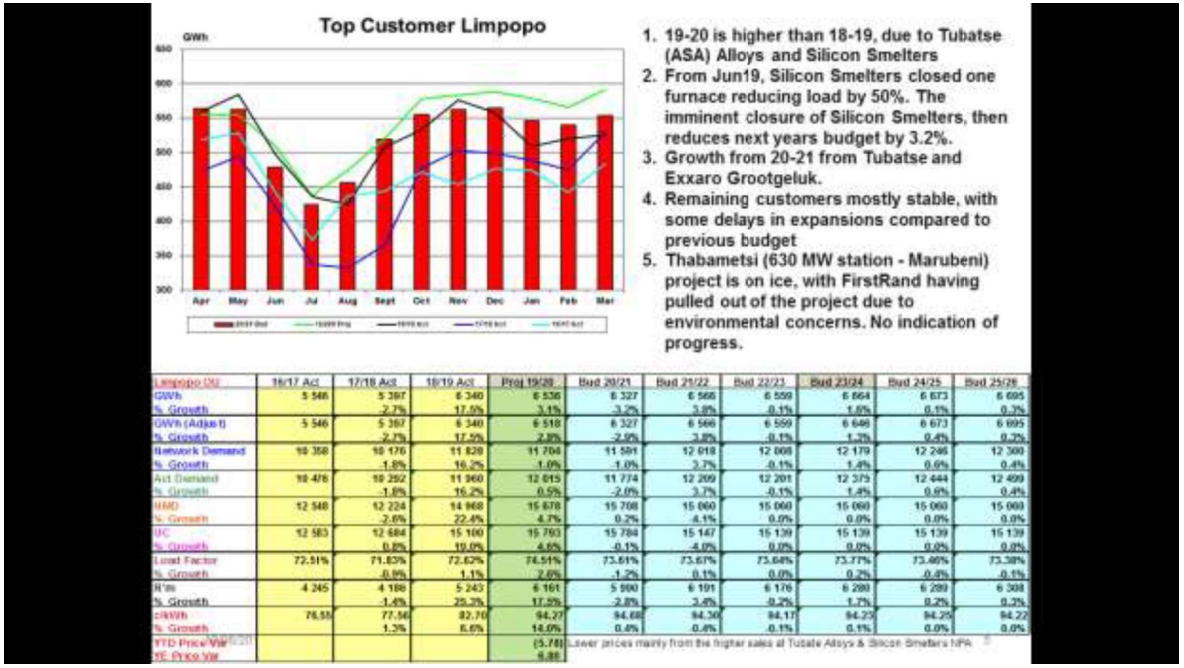

Limpopo CU	16/17 Act	17/18 Act	18/19 Act	Proj 19/20	Bud 20/21	Bud 21/22	Bud 22/23	Bud 23/24	Bud 24/25	Bud 25/26
GWh	5 546	5 397	6 340	6 536	6 327	6 566	6 559	6 664	6 673	6 695
% Growth		-2.7%	17.5%	3.1%	-3.2%	3.8%	-0.1%	1.6%	0.1%	0.3%
GWh (Adjust)	5 546	5 397	6 340	6 518	6 327	6 566	6 559	6 646	6 673	6 695
% Growth		-2.7%	17.5%	2.8%	-2.9%	3.8%	-0.1%	1.3%	0.4%	0.3%
Network Demand	10 358	10 176	11 828	11 704	11 591	12 018	12 008	12 179	12 246	12 300
% Growth		-1.8%	16.2%	-1.0%	-1.0%	3.7%	-0.1%	1.4%	0.6%	0.4%
Act Demand	10 476	10 292	11 960	12 015	11 774	12 209	12 201	12 375	12 444	12 499
% Growth		-1.8%	16.2%	0.5%	-2.0%	3.7%	-0.1%	1.4%	0.6%	0.4%
MMD	12 548	12 224	14 968	15 678	15 708	15 060	15 060	15 060	15 060	15 060
% Growth		-2.6%	22.4%	4.7%	0.2%	-4.1%	0.0%	0.0%	0.0%	0.0%
UC	12 583	12 684	15 100	15 760	15 784	15 147	15 139	15 139	15 139	15 139
% Growth		0.8%	19.0%	4.4%	0.1%	-4.0%	0.0%	0.0%	0.0%	0.0%
Load Factor	72.51%	71.83%	72.62%	74.51%	73.61%	73.67%	73.64%	73.77%	73.46%	73.38%
% Growth		-0.9%	1.1%	2.6%	-1.2%	0.1%	0.0%	0.2%	-0.4%	-0.1%
R'm	4 245	4 188	5 243	6 161	5 990	6 191	6 176	6 289	6 289	6 308
% Growth		-1.4%	25.2%	17.5%	-2.8%	3.4%	-0.2%	1.7%	0.2%	0.3%
c/kWh	76.55	77.56	82.70	94.27	94.68	94.30	94.17	94.25	94.25	94.22
% Growth		1.3%	6.6%	14.0%	0.4%	-0.4%	-0.1%	0.1%	0.0%	0.0%
YTD Price Var				(5.78)	Lower prices mainly from the higher sales at Tubatse Alloys & Silicon Smelters NPA					
YE Price Var				6.88						

Figure 42: Example Limpopo Top Industrial

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Operating Units (OU) Reports: There are 4 different types screenshots include KSACS per province 1 of 4

	2019	Total Tariffs	Total Categories			
	June(F)	June(F)	June(F)	June(F)	June(F)	June(F)
	Total Consumption (kWh)	Total Nett Revenue (R)	Total Consum	Total Nett Reve	Total Consumption (I	Total Nett Revenue (R)
	SACS June Projections	SACS June Projections	CM Budget	CM Budget	YTD Actual(F)	YTD Actual(F)
NATIONAL PETROLEUM REFINERS SA PTY .A5319935904	18 109 848.00	23 677 581.44	19 852 099.19	26 290 936.88	59 005 208	59 617 841
SAFRIPOL DIV OF KAP DIVERSIFIED IND.A7522481391.K-B	12 169 352.00	15 227 291.42	12 358 656.00	16 384 972.97	32 862 751	33 427 588
SASOL INFRACHEM - KSACS .A8023048450.K-BEN	6 329 997.00	22 825 067.92	34 194 039.10	53 566 938.18	93 513 988	120 731 300
SIBANYE GOLD LIMITED BEATRIX DIVISI.A5805382971.K-I	39 008 601.00	49 935 798.17	49 140 411.53	63 489 205.11	120 012 703	123 688 879
AVGOLD LIMITED #HARMONY) .A7010353832.K-KIM	20 028 646.00	22 724 090.98	21 306 578.46	24 541 200.76	57 087 217	56 127 886
FREEGOLD #HARMONY) #PTY) LTD .A7322825023.K-K	81 794 640.00	90 686 201.85	82 507 996.14	95 887 420.43	247 945 684	236 444 851
HARMONY VIRGINIA GMC - KSACS .A8153284911.K-KII	23 158 915.00	26 450 915.72	25 497 901.53	34 409 215.31	67 827 373	67 248 928
HARMONY MOAB KHOTSONG OPERATIONS #P.A8512364	65 702 328.00	73 106 039.93	65 321 902.57	75 236 288.45	195 283 966	187 094 481
ANGLO GOLD ASHANTI LTD - VAAL RIVER.A9781864780.K	12 609 567.00	16 732 082.17	12 401 076.07	16 893 905.87	36 126 234	38 048 419
SERITI COAL #PTY) LTD NEW VAAL .A7564508924.P939908	11 666 910.00	14 857 197.99	11 507 075.76	14 988 245.25	33 789 390	34 847 260
[redacted]	12 075 749.00	15 436 463.29	11 087 132.79	14 871 921.39	37 376 916.00	37 985 204.63
Traction Import from North West	893 778.00	1 294 089.72	885 780.55	1 339 037.17	2 648 998.00	3 464 537.41
DEAN/SATS-KIMBERLEY SECTION-KW -A5625034124.P	586 623.00	699 039.54	530 175.00	674 134.02	1 704 385.00	1 805 515.09
REGINA/SATS-KIMBERLEY SECTION-KWA5625034124.I		155 461.28	112 414.00	266 497.45	-	450 984.61
HARRISBURG TRACTION / SATS-KIMBEA5625034124.P	307 155.00	439 588.90	243 191.55	398 405.70	944 633.00	1 208 037.70
	303 548 331.00	372 946 820.60	346 100 651.68	437 899 287.75	983 480 428.00	998 747 273.63
	308.55	372.95	346.10	437.90	983.48	998.75
Total OU as reported	867.71	1 137.47	880.40	1 194.82	2 498	2 728
CUSTOMER SERVICES PORTION OF OU	564.16	764.52	534.30	756.92	1 514	1 729
	521.61	702.35	534.30	756.92	1 471.71	1 666.70
	42.55	62.17	-	-	42.55	62.17

Figure 43: KSACS Free State

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June(F)	June(F)	Financial Months	Financial Months	Financial Months	Financial Months
Total Consumption (kV	Total Nett Revenue (R)	Total Consumptic	Total Nett Revenue	Total Consumption (	Total Nett Revenue (R)
YTD Budget(F)	YTD Budget(F)	SACS June Proj	SACS June Projec	CM Budget	CM Budget
61257168.8	62738123.38	242322059.4	242367274.5	244574020.2	245467557
34149066	35708914.82	137775413.5	137391357.9	139061728.5	139672686.4
157327300.1	172538674.9	628211796.6	679978701.7	692025108.7	731786076.9
150170905.4	154070506.2	576859546.9	576184505.9	607017749.3	606566132.6
62219997.44	61334520.28	250879347.4	238467512.5	256012127.8	260114144
243591309	241327756.4	999743259.6	1010782462	995388884.6	1015665367
76139170.47	81054964.12	305519629.2	309776803.8	313831426.7	323582840.1
199836803	195786266.7	774335386.8	784499242	778888223.8	793191027.4
38490368.04	40221979.35	146433199.9	149251425.1	148797334	151424985.6
36092344.85	37177980.56	141247116.6	133585403.4	143550071.5	145032101
33 709 193.18	35 423 391.16	133 897 749.01	136 715 063.33	130 230 026.19	134 153 149.86
2 745 941.79	3 636 259.93	9 825 065.60	14 029 778.42	9 922 009.40	14 201 500.95
1 631 817.33	1 797 261.48	6 011 661.33	7 056 792.31	5 939 113.67	7 048 538.73
244 480.33	671 018.08	762 354.02	2 511 704.16	1 006 834.35	2 731 737.63
869 644.13	1 167 980.38	3 051 050.25	4 461 281.95	2 976 061.38	4 421 224.59
1 095 729 568.02	1 121 019 337.74	4 347 049 570.60	4 413 029 530.33	4 459 298 710.63	4 560 857 568.73
1 095.73	1 121.02	4 347.05	4 413.03	4 459.30	4 560.86
2 596	2 854	10 400	11 677	10 459	11 783
1 500	1 733	6 053	7 264	6 000	7 222
1 499.99	1 733.21	6 010.46	7 229.91	6 000.06	7 250.68
-	-	42.55	34.02	-	-28.40

Figure 44 cont: KSACS Free State (Tabs continued)

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		June(F) 2018 SACS June Projections	2018 CM Budget	Traction 2018 CM Variance	Total Tariffs 2018 YTD Actual(F)	2018 YTD Budget(F)	2018 YTD Variance(F	2018 Year End Projection	2018 Year End Budget(F	2018 CM Actual	2018 YTD Actual(F)	2018 Year End Actual(F
Total Consumption (kWh)	BANK TRACTION / SATS KIMBE	59 030	59 195	-69 195	160 923	188 536	-27 613	660 754	688 367	54 953	163 075	614 646
Total Consumption (kWh)	HARDEKLIP / SATS KIMBERLE	25 685	37 690	-37 690	77 321	130 437	-53 116	428 566	481 682	28 707	83 516	341 924
Total Consumption (kWh)	SAR KATBOSLAAGTE - MP1 88	106 718	185 990	-185 990	337 513	674 639	-337 126	2 177 864	2 514 990	152 513	407 393	2 981 317
Total Consumption (kWh)	VEREENIGING;SPOORNET	868 895	804 426	-804 426	2 577 617	2 260 723	316 894	9 845 962	9 529 068	1 288 514	3 819 623	11 033 679
Total Consumption (kWh)	GROMOFONT / SATS KIMBERL	78 868	73 204	-73 204	224 331	214 441	9 890	872 379	862 489	52 455	197 126	644 744
Total Consumption (kWh)	BUCKINGHAM TRACTION / SA	53 883	75 438	-75 438	154 067	225 673	-71 606	740 588	812 193	55 893	199 770	667 274
Total Consumption (kWh)	SAR TWEEFONTEIN - MP1 88	248 122	438 843	-438 843	889 967	1 287 447	-397 480	4 587 639	4 985 119	427 006	1 256 792	4 620 943
Total Consumption (kWh)	SAR FOCHVILLE - MP1 88kV	149 383	187 914	-187 914	422 036	586 572	-164 536	1 625 982	1 790 519	159 993	530 142	2 227 500
	Total	1 582 564	1 872 699	-1 872 699	4 843 775	5 568 468	-724 693	20 939 733	21 664 426	2 218 034	6 657 436	23 132 027
Total Nett Revenue (R	BANK TRACTION / SATS KIMBE	230 914	235 419	-235 419	632 475	629 489	2 985	2 486 796	2 483 812	203 480	574 721	2 283 097
Total Nett Revenue (R)	HARDEKLIP / SATS KIMBERLE	182 703	196 012	-196 012	521 899	571 207	-49 308	2 211 380	2 260 688	163 085	470 395	1 895 553
Total Nett Revenue (R)	SAR KATBOSLAAGTE - MP1 88	264 783	348 301	-348 301	724 536	1 034 429	-309 893	3 791 465	4 101 358	282 981	712 224	3 851 459
Total Nett Revenue (R)	VEREENIGING;SPOORNET	1 095 312	1 016 498	-1 016 498	2 709 280	2 445 990	263 290	10 767 537	10 504 247	1 378 007	3 364 869	11 180 444
Total Nett Revenue (R)	GROMOFONT / SATS KIMBERL	231 753	230 250	-230 250	641 572	640 981	591	2 595 601	2 595 010	182 985	546 210	2 107 940
Total Nett Revenue (R)	BUCKINGHAM TRACTION / SA	338 747	231 837	-231 837	962 305	649 889	312 415	2 861 561	2 549 146	301 976	887 422	3 476 180
Total Nett Revenue (R)	SAR TWEEFONTEIN - MP1 88	389 030	603 737	-603 737	1 137 541	1 554 170	-416 629	5 937 820	6 254 549	508 509	1 308 955	5 223 805
Total Nett Revenue (R)	SAR FOCHVILLE - MP1 88kV	304 033	345 667	-345 667	797 244	954 633	-157 388	3 246 945	3 404 334	279 678	783 484	3 256 368
	Total	3 037 275	3 207 722	-3 207 722	8 126 852	8 480 789	-353 937	33 799 207	34 153 144	3 300 702	8 648 289	33 274 849

Figure 45: KSACS Traction exports North West

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	2019	Total.Tariffs	Total.Categories			
	June(F)	June(F)	June(F)	June(F)	June(F)	June(F)
	Total Consumption (kWh)	Total Nett Revenue (R)	Total Consumption (kWh)	Total Nett Revenue (R)	Total Consumption (kW	Total Nett Revenue (R)
	SACS June Projections	SACS June Projections	CM Budget	CM Budget	YTD Actual(F)	YTD Actual(F)
HOLCIM PTY#LTD\ DUDFIELD FACTORIA7003457309.P7003457761.S34	10 568 220.00	13 485 290.34	0	0	32591855	33269154.3
PPC CEMENT SA PTY LTD .A7668095610.K-MBA	10 358 093.00	14 461 560.49	13449102.85	18470554.7	32457473	35910567.0
LAFARGE CEMENT #PTY) LTD-KSACS .A8659513018.K-MBA	16 704 209.00	21 722 315.25	17262086.94	23271926.78	48115675	50840593.9
NUCLEAR ENERGY CORPORATION OF SA LT.A8529892502.K-PRE	5 816 630.00	7 509 251.19	6358108.242	8553297.458	16290314	17698602.8
HERNIC FERROCHROME #PTY) LTD-KSACS.A7860665235.K-PRE	48 667 485.00	58 820 940.15	86765458.01	98517631.85	281618917	263423144.
SA FERROCHROME & MINING #PTY) LTA5692875332.P5692875591.S35	39 470 660.00	51 827 882.33	38310941.52	52288991.74	183007669	176737900.
XSTRATA-KSACS A9028154261.P9028154351.S35112.MEGAI	89 702 395.00	120 233 275.24	112487144.1	149832689.5	433790271	420672363.
RUSTENBURG PLATINUM MINES LTD .A9694946942.K-RUS	83 425 702.00	104 414 355.03	95585942.64	117549831.4	251534577	251719215.
SEPHAKU CEMENT #PTY) LTD KSACS A6600642079.P8530912396.S34	13 303 228.00	17 500 163.55	12367863.8	16994440.67	32507695	35932052.7
TC SMELTERS#PTY)LTD A5765824630.P9396234892.S35112.ME	45 258 116.00	54 858 998.40	41461125.36	54961384.56	185119877	178774362.
CHEMWES #Pty)Ltd .A6821365476.K-KLE	14 471 228.00	19 843 836.58	14283915.87	20160352.95	43444314	47210605.5
CHINA AFRICAN PRECIOUS METALS #PTY).A9609412298.K-KLE	840 166.00	1 573 971.11	266903	445139.6346	2668381	4077662.4
BARPLATS MINES LTD A9321630303.P3008019263.S24240.MEC	3 074 144.00	4 618 628.41	781555.225	1876435.652	8404874	14939843.1
LONMIN PLATINUM-KSACS A7886745201.P7886745853.S24240.8	37 879 906.00	45 574 370.39	37699200	45847980.78	104236747	102424869.
THARISA MINERALS #PTY) LTD A8494350465.P7821433229.S24240.	15 721 919.00	18 021 650.28	15698400	18275065.89	45985169	42863810.1
XSTRATA ALLOYS .A9756203819.K-RUS	-	-	0	0	0	
RUSTENBURG PLATINUM MINES LTD .A6404000082.K-RUS	32 321 684.00	40 824 327.31	29824238.51	38033369.54	91909967	94435781.6
AQUARIUS PLATINUM #SA) Pty LTD-KSAC.A6607065598.K-RUS	27 534 862.00	34 150 219.35	31245405.83	39225902.14	76875341	78015182.4
PILANESBERG PLATINUM MINE .A7395251064.K-RUS	20 964 625.00	27 888 739.91	22568935.45	29736887.78	63233379	67856810.
IMPALA,PLATINUM #PTY) LTD. .A7856504676.K-RUS	233 874 304.00	259 669 195.41	217429177.9	253526230.5	632123264	612201019.
AFPLATS #PTY) LTD .A7872611576.K-RUS	26 159.00	338 881.10	23843.75	332146.9085	74478	950602.7
WESIZWE PLATINUM MINE .A8365991487.K-RUS	2 215 082.00	3 482 992.31	3801941.783	5492687.527	6026342	8272415.0
WESTERN PLATINUM-KSACS .A9644567250.K-RUS	100 772 438.00	125 254 246.64	101098088.5	128058067.3	275971579	280295177.
MASEVE INVESTMENTS 11 #PTY) LTD A8973618909.P5318975727.S24	1 936 797.00	2 895 305.50	876850.2774	1822098.04	11603830	12120399.9
XSTRATA SA #PTY) LTD-KSACS A7051080883.P7051080835.S2539	10 071 633.00	13 275 604.61	4608320.444	7024961.053	31763623	33032538.3

Figure 46: KSACS North West

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June(F)	June(F)	Financial Months	Financial Months	Financial Months	Financial Months
Total Consumption (kWh)	Total Nett Revenue (R)	Total Consumption (kWh)	Total Nett Revenue (R)	Total Consumption (kWh)	Total Nett Revenue (R)
YTD Budget(F)	YTD Budget(F)	SACS June Projections	SACS June Projections	CM Budget	CM Budget
0	0	128455823.5	119623057.2	0	0
39960481.15	43203791.71	137799227.6	147660511.9	145302235.7	154953736.6
50215416.56	53459512.48	183081908.7	191359067.1	185181650.3	193977985.7
18502386.56	20326481.54	69767064.28	79359845.35	71979136.84	79306551.63
305650870.5	290533960	1178304872	1100066904	1202336826	1127177719
181011126.1	176233683.7	730228880	695168732	728232337.1	694664514.9
473679264.5	462340916.4	1836225358	1749207343	1876114351	1790875895
272250084.5	273070489.5	1044444258	1050557547	1046432574	1055150878
37643718.65	39836457.35	135093164.8	142358370.8	140229188.4	146262775.4
178601008.4	176154010.5	733603888.3	704707715.9	727085019.7	699722768.9
43102152.11	47613053.78	174508804.3	186777121.1	174166642.4	187179569.3
566268.5	848230.0148	3867868.794	5836482.768	1765756.294	2654697.34
2257197.525	4836301.839	28405461.08	41501098.52	8082784.6	18316185.5
107091790.4	105420803.4	417837138.9	409935020.8	430391163.5	421487134.8
45066019.33	42570976.09	180901793.4	170409382.2	179982643.8	170116548.1
0	0	0	0	0	0
85202876.9	88213052.35	368395026.5	377611254.3	355772265.5	365534994.2
88542714.03	90472886.02	305198506	312631501.6	355830370	361633973.2
65510745.45	70742345.96	249686441.5	268980848.8	251963808	271866384.6
628075081.4	620850026.4	2512158168	2553787759	2496731362	2552337013
64654.44	941441.8224	300025.16	3839715.499	290201.6	3830554.592
11283182.07	13261010.33	26191444.36	34021153.29	46036652.61	52816478.05
284338137.8	291486680.6	1068911180	1093787704	1073180158	1104715377
2602265.339	4777005.617	59521589.69	63440821.89	11145025.03	20331469.91
25435520.64	25857693.77	124859411.1	127122567.6	118531308.7	119947723

Figure 47: KSACS North West cont

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Operating units (OU) reports: There are 4 different types screenshots include sales & revenue performance screenshots include 2 of 4

- sales & price by category for each month for each OU

MONTHLY SALES, DEMAND AND REVENUE REPORT June 2019

OU Consolidated view

SALES & REVENUE PERFORMANCE : SALES & PRICE BY CATEGORY

	MONTH					YEAR TO DATE					YEAR END				
	Actual	Budget	2018/19	Variance	Var %	Actual	Budget	2018/19	Variance	Var %	Projectio	Budget	2018/19	Variance	Var %
Energy Sales GWh	16 283.5	16 593.6	17 111.9	-310.1	0.0	48 782.4	49 475.0	49 666.6	-692.6	0.0	195 415.6	196 646.9	195 951.9	-1 231.3	0.0
Re-distributors	7 487.0	7 609.5	8 017.7	-122.5	0.0	21 876.9	21 726.8	22 376.7	150.1	0.0	85 509.7	85 570.5	87 168.3	-60.8	0.0
Industrial	3 732.9	3 771.5	3 964.3	-38.6	0.0	12 051.0	12 347.7	12 380.2	-296.7	0.0	48 624.6	48 963.9	48 716.6	-339.2	0.0
Mining	2 496.2	2 543.8	2 484.7	-47.6	0.0	7 265.5	7 525.4	7 382.6	-259.9	0.0	29 611.0	29 915.3	28 972.1	-304.3	0.0
Traction	228.8	242.2	237.5	-13.4	-0.1	666.3	717.5	706.7	-51.2	-0.1	2 716.0	2 823.0	2 831.4	-107.0	0.0
Residential	302.8	322.2	315.7	-19.4	-0.1	844.2	910.7	905.0	-66.5	-0.1	3 596.6	3 733.6	3 623.9	-137.1	0.0
Commercial	883.6	891.8	875.2	-8.1	0.0	2 609.2	2 628.9	2 586.5	-19.7	0.0	10 631.2	10 655.3	10 558.1	-24.1	0.0
Agricultural	420.8	402.6	396.7	18.2	0.0	1 297.4	1 265.6	1 254.2	31.8	0.0	5 723.3	5 627.8	5 796.0	95.5	0.0
Prepayment	679.0	754.2	805.2	-75.2	-0.1	2 021.5	2 188.0	2 030.8	-166.5	-0.1	8 394.0	8 736.7	8 124.1	-342.7	0.0
International Sales	8.7	8.4	9.7	0.3	0.0	24.9	24.0	25.9	0.9	0.0	93.4	91.9	94.3	1.5	0.0
Internal sales	35.1	41.3	0.0	-6.2	-0.1	100.5	122.6	0.0	-22.1	-0.2	440.5	460.2	0.0	-19.7	0.0
IPP	8.5	6.2	5.1	2.4	38.4	25.1	17.8	18.0	7.2	40.5	75.4	68.6	67.2	6.7	9.8
Environmental Levy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	16 283.5	16 593.6	17 111.9			48 782.4	49 475.0	49 666.6			195 415.6	196 646.9	195 951.9		

Figure 48: OU Report: MONTHLY SALES, DEMAND AND REVENUE REPORT (Consolidation)

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MONTHLY SALES DEMAND AND REVENUE REPORT June 2019

Gauteng OU

SALES & REVENUE PERFORMANCE : SALES & PRICE BY CATEGORY

Update Reports

	MONTH					YEAR TO DATE					YEAR END				
	Actual	Budget	2018	Variance	Var %	Actual	Budget	2018	Variance	Var %	Projection	Budget	2018	Variance	Var %
Energy Sales GWh	4 545.5	4 788.2	4 842.4	-242.8	-5.1	13 119.9	13 533.2	13 527.2	-413.3	-3.1	52 059.0	52 831.2	52 085.7	-772.2	-1.5
Re-distributors	3 086.0	3 269.1	3 286.5	-183.1	-5.6	8 832.0	9 045.8	9 025.7	-213.8	-2.4	34 482.7	34 857.9	34 601.2	-375.2	-1.1
Industrial	365.8	362.8	377.5	3.0	0.8	1 107.0	1 106.0	1 160.4	1.0	0.1	4 317.8	4 286.5	4 444.7	31.3	0.7
Mining	484.6	505.2	497.3	-20.6	-4.1	1 420.3	1 531.7	1 519.0	-111.4	-7.3	5 866.0	6 166.1	5 717.7	-280.2	-4.5
Traction	30.7	36.5	35.4	-5.7	-15.7	90.1	108.5	107.2	-18.3	-16.9	423.8	442.1	403.8	-18.3	-4.1
Residential	123.6	133.3	133.7	-9.7	-7.2	326.5	361.3	367.5	-34.8	-9.6	1 415.4	1 480.1	1 469.4	-64.7	-4.4
Commercial	343.4	341.2	354.7	2.1	0.6	1 019.9	996.6	1 008.6	23.2	2.3	4 113.0	4 042.5	4 129.0	70.5	1.7
Agricultural	30.2	26.9	28.8	3.3	12.3	81.8	78.0	79.4	3.8	4.9	343.5	335.2	345.0	8.4	2.5
Prepayment	76.3	108.6	122.7	-32.3	-29.7	228.5	292.2	244.0	-63.7	-21.8	1 020.5	1 168.2	916.2	-147.7	-12.6
International Sales	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Internal sales	4.8	4.7	5.7	0.1	2.2	13.8	13.1	15.3	0.7	5.1	56.2	52.5	58.7	3.7	7.1

SALES & REVENUE PERFORMANCE : SALES & PRICE BY CATEGORY NORTHERN CAPE June 2019

Update Reports | Print Reports

	MONTH					YEAR TO DATE					YEAR END				
	Act	Bud	2018/19	Var	Var %	Act	Bud	2018/19	Var	Var %	Act	Bud	2018/19	Var	Var %
Energy Sales GWh	**389.7**	**400.6**	**370.6**	**-10.9**	**-2.7**	**1 139.9**	**1 163.4**	**1 073.3**	**-23.5**	**-2.0**	**4 762.5**	**4 772.9**	**4 513.9**	**-10.4**	**-0.2**
Re-distributors	108.4	109.8	109.0	-1.3	-1.2	305.1	307.6	304.3	-2.5	-0.8	1 231.9	1 232.0	1 221.0	-0.1	0.0
Industrial	15.0	14.9	16.1	0.1	0.7	46.8	42.7	43.4	4.0	9.4	163.2	152.0	151.7	11.2	7.3
Mining	151.9	151.5	43.7	0.4	0.2	434.2	436.0	123.0	-1.8	-0.4	1 733.7	1 733.1	481.6	0.6	0.0
Traction	23.6	24.8	116.0	-1.2	-4.8	70.5	74.6	332.0	-4.1	-5.5	275.8	286.6	1 324.2	-10.8	-3.8
Residential	7.9	9.2	8.2	-1.3	-14.3	23.3	26.7	24.1	-3.4	-12.6	109.8	114.4	110.9	-4.6	-4.1
Commercial	24.7	28.2	25.4	-3.5	-12.3	76.4	81.6	76.7	-5.1	-6.3	338.6	345.9	340.3	-7.3	-2.1
Agricultural	36.4	37.0	31.7	-0.6	-1.6	121.9	122.9	108.8	-1.0	-0.8	642.8	628.2	614.7	14.7	2.3
Prepayment	21.3	24.3	20.2	-3.0	-12.3	60.7	69.1	60.1	-8.3	-12.1	263.2	271.5	261.8	-8.3	-3.1
International Sales	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Internal	0.3	0.8	0.3	-0.5	-60.6	0.9	2.2	0.8	-1.3	-57.9	3.6	9.1	7.7	-5.6	-60.8

Figure 49 Sales and Revenue per category

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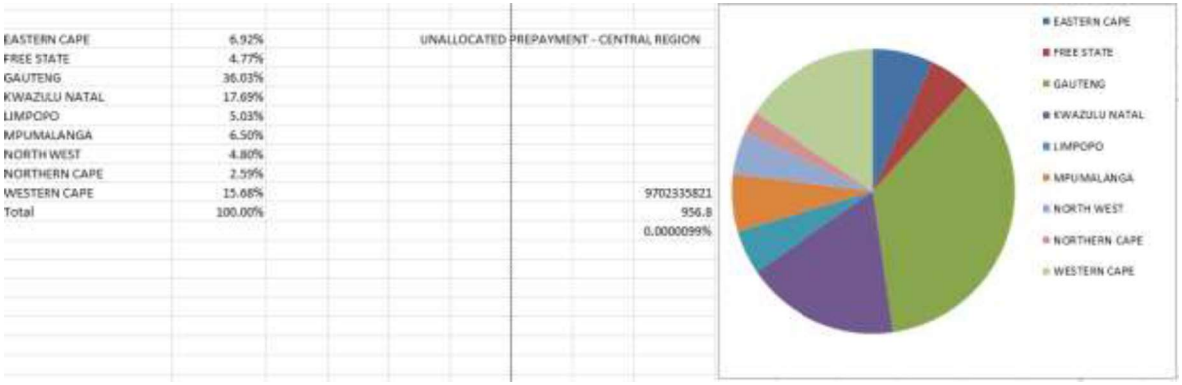
Operating Units (OU) Reports: There are 4 different types screenshots include

- % Split per province Actual 3 of 4



		UNALLOCATED PREPAYMENT - CENTRAL REGION
EASTERN CAPE	6.92%	
FREE STATE	4.77%	
GAUTENG	36.03%	
KWAZULU NATAL	17.69%	
LIMPOPO	5.03%	
MPUMALANGA	6.50%	
NORTH WEST	4.80%	
NORTHERN CAPE	2.59%	
WESTERN CAPE	15.68%	9702335821
Total	100.00%	956.8
		0.0000099%

Figure 50: Split per province

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		yr.2019 Financial Months	yr.2019 Financial Months
EASTERN CAPE	Re-distributors	6 343 561 774.92	-6 495 390 611.11
	Industrial	128 027 258.34	-160 854 549.28
	Mining	5 575 695.08	-10 129 506.16
	Traction	83 159 398.94	-126 762 581.58
	Residential	214 501 619.69	-472 600 390.44
	Commercial	475 229 634.15	-778 252 440.07
	Agricultural	319 995 182.97	-555 597 571.17
	Prepayment	1 158 078 294.62	-1 340 528 255.04
	International Sales	8 552 099.60	-12 303 139.64
	Publiclights	11 729 221.46	-11 220 171.37
	Internal_Sales	1 182 255.07	-2 666 853.56
	Total External	8 748 410 179.78	-9 963 639 215.88
	Total.Categories	8 749 592 434.84	-9 966 306 069.44
FREE STATE	Re-distributors	3978818514.16	-4232236126.13
	Industrial	282469928.44	-311573717.42
	Mining	166985703.38	-186909417.33
	Traction	35906038.19	-70601306.51
	Residential	51544294.16	-118725093.38
	Commercial	430319269.28	-566797692.00
	Agricultural	538395072.33	-1117164065.61
	Prepayment	415455212.24	-501456427.63
	International Sales	84832892.89	-73338227.72
	Publiclights	13872262.21	-13196996.83
	Internal_Sales	11861672.43	-37912099.36
	Total External	5 998 599 187.28	-7 191 999 070.56
	Total.Categories	6 010 460 859.71	-7 229 911 169.92
GAUTENG	Re-distributors	34482665762.42	-34029717398.14
	Industrial	1078061135.93	-1240721814.94
	Mining	398733536.63	-453407340.55
	Traction	43087013.91	-66100342.75
	Residential	1353215240.99	-2482164018.80
	Commercial	2815217890.59	-3642029207.06
	Agricultural	343540476.42	-541756803.30
	Prepayment	1024975779.60	-1288061818.16
	International Sales	0.00	0.00
	Publiclights	62196704.79	-58338804.76
	Internal_Sales	56237147.39	-69212378.87

Figure 51: Summary year end

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Operating Units (OU) Reports: There are 4 different types screenshots include

- % Split per province Budget (compiled annually for the Financial Year) 4 of 4

		yr.2019 April	yr.2019 May	yr.2019 June	yr.2019 July	yr.2019 August	yr.2019 September	yr.2019 October
EASTERN CAPE	Re-distributors	513 641 776.31	548 829 202.25	548 815 422.56	566 495 635.93	570 707 900.85	541 433 125.81	545 593 751.59
	Industrial	11 322 131.72	11 260 073.87	12 098 980.32	11 599 070.52	11 555 724.51	11 690 809.37	10 943 304.87
	Mining	412 969.49	385 068.97	493 179.57	370 482.29	345 742.83	441 336.23	367 109.82
	Traction	7 377 215.00	7 005 825.00	7 539 812.19	6 911 583.51	6 881 364.73	6 882 963.09	6 681 457.53
	Residential	17 477 650.41	17 744 654.02	18 237 477.91	19 143 240.99	19 192 519.54	18 685 359.98	18 758 817.51
	Commercial	40 195 123.49	40 181 667.26	42 119 616.32	42 497 084.92	42 382 651.68	45 098 071.44	42 074 916.48
	Agricultural	27 504 797.59	25 225 432.65	26 121 104.23	23 350 949.49	23 319 249.83	25 530 890.25	25 804 542.16
	Prepayment	97 344 860.85	103 635 334.29	99 966 081.66	101 459 343.80	103 490 906.78	100 330 703.85	101 336 092.06
	International Sales	701 047.95	714 708.05	799 506.09	754 703.13	777 540.57	754 979.65	654 622.08
	Publiclights	1 092 790.98	1 044 915.78	1 067 069.55	1 033 092.77	1 057 891.43	1 115 693.52	1 041 943.71
	Internal_Sales	58 443.00	73 641.00	75 948.50	83 729.42	95 678.89	79 260.60	78 501.81
	Total External	717 070 363.78	756 026 882.14	757 258 230.40	773 615 187.16	779 711 492.76	751 963 936.19	753 256 557.80
	Total Categories	717 128 806.78	756 100 523.14	757 334 178.90	773 698 916.58	779 807 171.64	752 043 190.79	753 335 059.62
FREE STATE	Re-distributors	309048797.03	341211927.99	370027922.67	380668253.31	371434821.01	329594788.70	322435689.98
	Industrial	21262457.57	22525816.26	22771215.02	22403568.91	22639983.24	23262825.93	22786860.13
	Mining	14092195.49	13931556.58	14883234.25	14219245.37	14893853.14	14506187.95	14074350.88
	Traction	3194868.51	3134592.26	3012876.71	2902741.56	2880786.70	3156389.13	3131220.85
	Residential	3885200.34	3786884.44	4703574.31	5073297.14	5323310.99	4847558.78	4437162.60
	Commercial	34935324.63	34993782.53	37385836.99	37234206.95	37694062.95	39434870.03	39151395.13
	Agricultural	37697020.76	29855454.29	32089807.66	32936005.88	36559505.39	42171704.49	50292684.41
	Prepayment	34189533.82	37749949.43	39701515.84	38803420.54	37026912.74	35189777.35	34937565.71
	International Sales	6804040.92	7364932.63	7612188.85	7850757.79	7712290.08	6950167.00	6975075.35
	Publiclights	1113814.61	1118091.45	1124197.50	1095467.02	1131775.40	1082943.38	1138749.13

Summary CS | Consolidated OU Projection | DX projection | KSACS Projection

Figure 52: Budget CS Summary

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Projection

Customer Services DX & KSACS

Sales (GWh)	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Eastern Cape	717	756	757	774	780	752	753	746	701
Free State	843	871	879	902	873	879	883	871	852
Gauteng	4 231	4 506	4 784	4 852	4 786	4 383	4 383	4 341	4 009
Kwazulu Natal	2 987	3 028	2 948	3 038	3 045	2 989	3 087	3 025	3 034
Limpopo	1 596	1 603	1 490	1 441	1 493	1 553	1 586	1 605	1 593
Mpumalanga	1 953	2 089	1 943	1 832	1 848	1 848	2 051	2 050	2 090
North West	1 668	1 720	1 590	1 549	1 557	1 678	1 693	1 711	1 677
Northern Cape	390	391	400	400	396	386	403	405	401
Western Cape	1 817	1 868	1 876	1 902	1 880	1 824	1 816	1 826	1 834
HO	-109	-117	-122	-125	-123	-113	-114	-112	-106
Balancing	0	0	0	0	0	0	0	0	0
IPP	5	6	6	6	6	6	6	5	6
Total CS	**16 089**	**16 711**	**16 552**	**16 570**	**16 540**	**16 185**	**16 547**	**16 472**	**16 091**
Total CS as per Alex handout reports & SAP GWh	**16 089**	**16 711**	**16 552**	**16 570**	**16 540**	**16 185**	**16 547**	**16 472**	**16 091**

Figure 53: Budget Consolidated OU Projections (Sales)

Electricity Revenue - excluding revenue non recognition (R'm)	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Eastern Cape	679	722	978	1 141	1 159	839	790	785	739
Free State	811	842	1 188	1 341	1 297	936	907	999	872
Gauteng	3 641	3 906	6 021	6 959	6 875	4 361	4 191	4 139	3 812
Kwazulu Natal	2 121	2 160	2 933	3 372	3 324	2 402	2 398	2 344	2 308
Limpopo	1 532	1 577	1 965	2 019	2 079	1 641	1 600	1 613	1 582
Mpumalanga	1 771	1 935	2 508	2 541	2 585	1 895	1 951	1 956	1 950
North West	1 544	1 623	2 066	2 207	2 213	1 735	1 656	1 670	1 621
Northern Cape	390	399	550	600	594	447	435	438	431
Western Cape	1 661	1 741	2 443	2 776	2 796	1 941	1 839	1 860	1 837
HO excluding IFRS	-83	-90	-121.05	-150.90	-149.07	-79.72	-76.05	-75.78	-67.63
IPP	25	25.10	16.85	16.72	12.91	20.58	16.39	15.59	16.64
Balancing	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total CS	**14 090.92**	**14 839**	**20 548**	**22 820**	**22 786**	**16 137**	**15 698**	**15 644**	**15 112**
Total CS as per Alex handout reports & SAP R'm	**14 116**	**14 865**	**20 548**	**22 820**	**22 786**	**16 137**	**15 698**	**15 644**	**15 112**

Figure 54: Budget Consolidated OU Projections Electricity Revenue - excluding revenue non recognition (R'm)

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Below is the example of a Budget presentation – this is where Sales and Forecasting require a visualisation tool to workshop the budget and get Business buy in. (Example used for Sales Budget -Platinum)

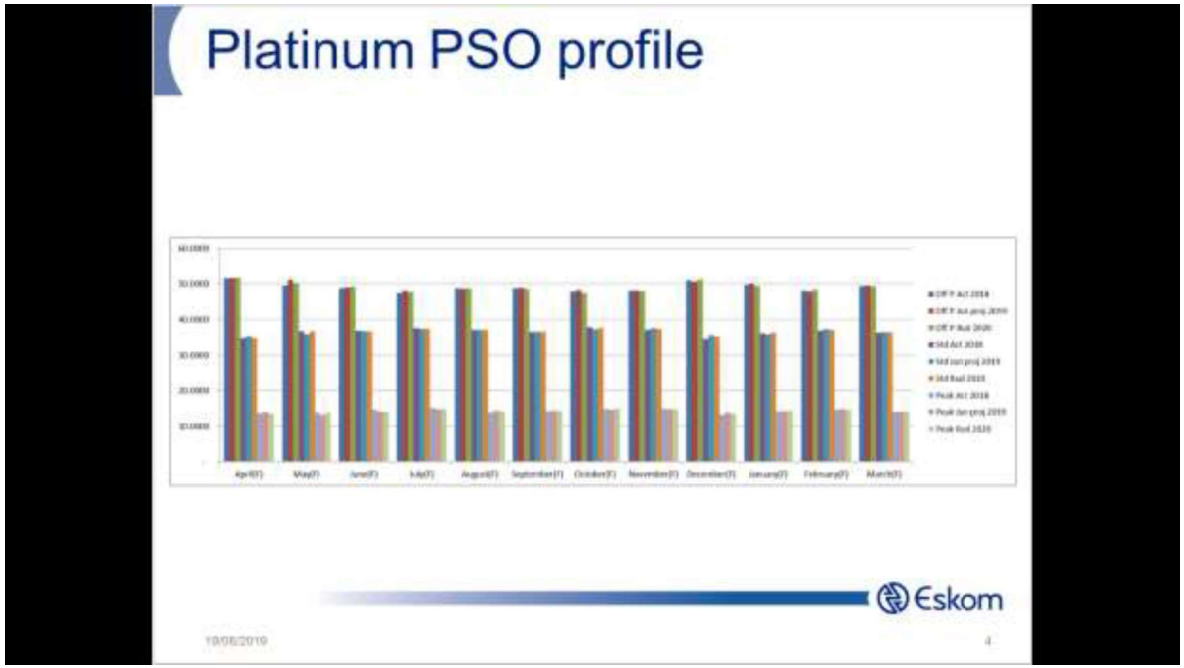

Figure 55: Previous budget vs new budget

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Figure 56: View of platinum customers

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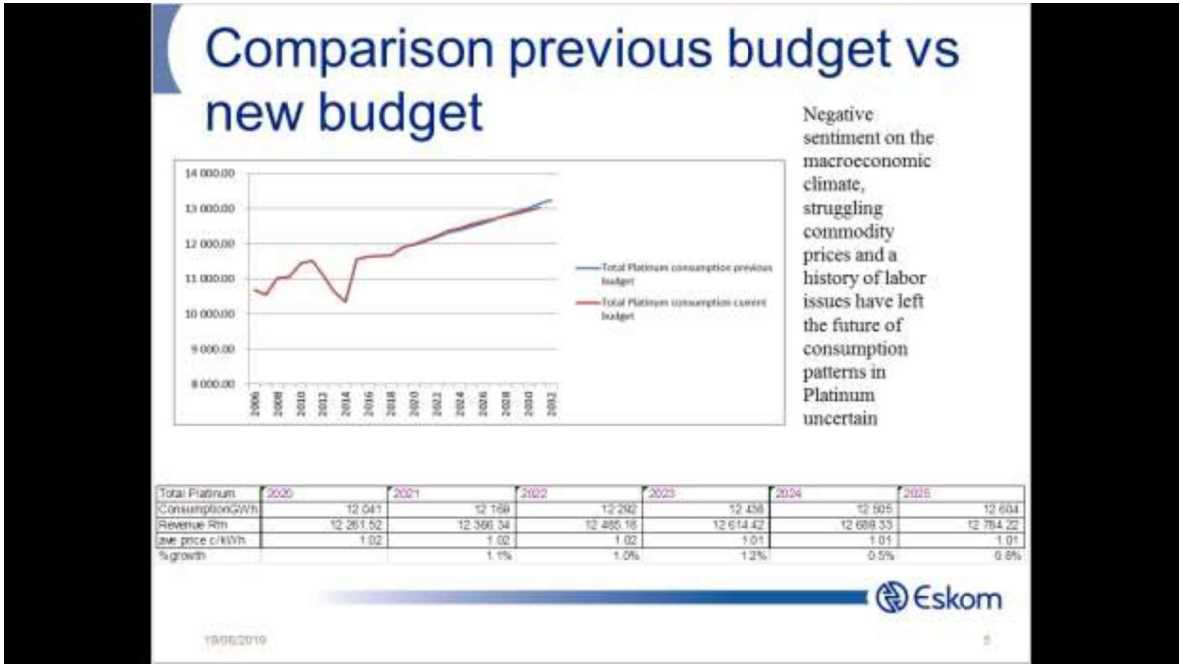

Figure 57: View of platinum customers previous budget vs new budget

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The Prepayment report and Nerve Centre report

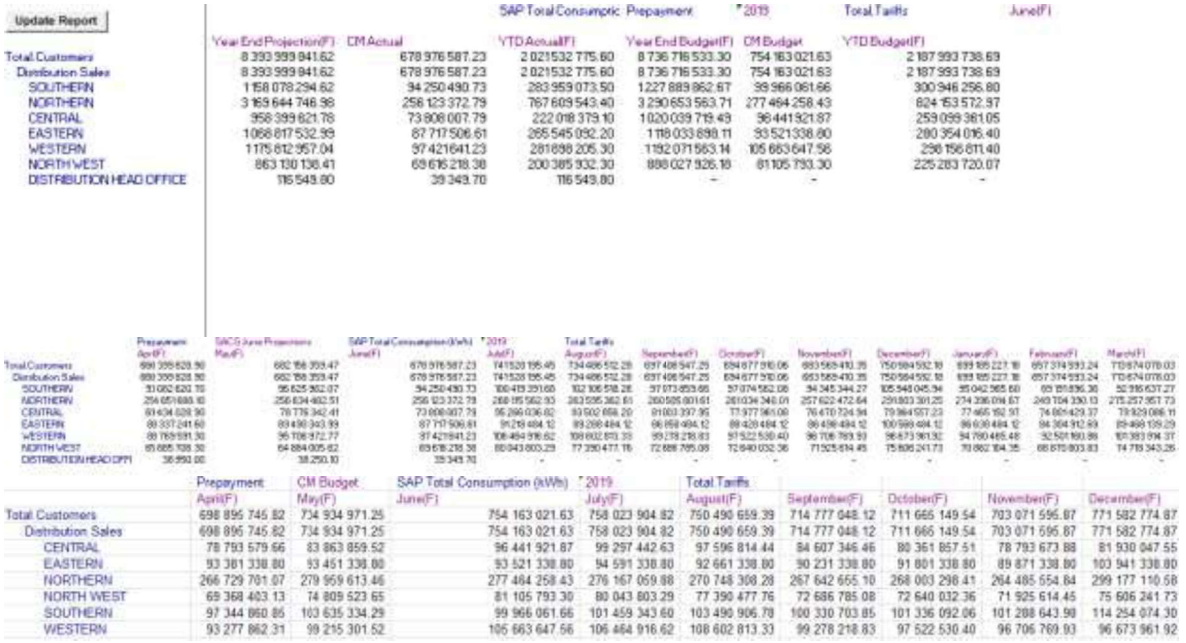

Figure 58: Nerve Centre

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			Total.Tariffs	Total.Tariffs	Total.Tariffs
			SACS April Projections	SACS May Projections	SACS June Projections
GENERATION	IPP	SAP Total Consumption (kWh	-	7 778 369.00	7 778 369.00
GENERATION	IPP	SAP Total Nett Revenue (R)	-	-14 806 153.63	-14 806 153.63
GENERATION	IPP	SAP Nett Price	-	-1.90	-1.90
GENERATION	Agricultural	SAP Total Consumption (kWh	-	-	-
GENERATION	Agricultural	SAP Total Nett Revenue (R)	-	-	-
GENERATION	Agricultural	SAP Nett Price	-	-	-
GENERATION	Re-distributors	SAP Total Consumption (kWh	-	-	-
GENERATION	Re-distributors	SAP Total Nett Revenue (R)	-	-	-
GENERATION	Traction	SAP Total Consumption (kWh	-	-	-
GENERATION	Traction	SAP Total Nett Revenue (R)	-	-	-
GENERATION	Traction	SAP Nett Price	-	-	-
GENERATION	External_Sales	SAP Total Consumption (kWh	7 778 369.00	7 778 369.00	7 778 369.00
GENERATION	External_Sales	SAP Total Nett Revenue (R)	-14 806 153.63	-14 806 153.63	-14 806 153.63
GENERATION	External_Sales	SAP Nett Price	-1.90	-1.90	-1.90
GENERATION	Internal_Sales	SAP Total Consumption (kWh	-	-	-
GENERATION	Internal_Sales	SAP Total Nett Revenue (R)	-	-	-
GENERATION	Internal_Sales	SAP Nett Price	-	-	-
GENERATION	Total.Categories	SAP Total Consumption (kWh	7 778 369.00	7 778 369.00	7 778 369.00
GENERATION	Total.Categories	SAP Total Nett Revenue (R)	-14 806 153.63	-14 806 153.63	-14 806 153.63
GENERATION	Total.Categories	SAP Nett Price	-1.90	-1.90	-1.90
Distribution Sal	IPP	SAP Total Consumption (kWh	-	-	-
Distribution Sal	IPP	SAP Total Nett Revenue (R)	-	-	-
Distribution Sal	IPP	SAP Nett Price	-	-	-
Distribution Sal	Agricultural	SAP Total Consumption (kWh	455 198 475.24	455 198 475.24	455 198 475.24
Distribution Sal	Agricultural	SAP Total Nett Revenue (R)	-697 646 046.83	-697 646 046.83	-697 646 046.83
Distribution Sal	Agricultural	SAP Nett Price	-1.53	-1.53	-1.53
Distribution Sal	Re-distributors	SAP Total Consumption (kWh	7 019 484 376.67	7 019 484 376.67	7 019 484 376.67
Distribution Sal	Re-distributors	SAP Total Nett Revenue (R)	-5 419 548 142.65	-5 419 548 142.65	-5 419 548 142.65
Distribution Sal	Re-distributors	SAP Nett Price	-0.77	-0.77	-0.77

Budget | Projection | Actual | check sum | IFRS Budget | IFRS Actual | IFRS Projection | Sheet1

Figure 59: Nerve centre extracts

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Time of use (Tariff design) department reporting screenshots (currenlty developed and resides on Power BI)

Figure 60: Overview tab

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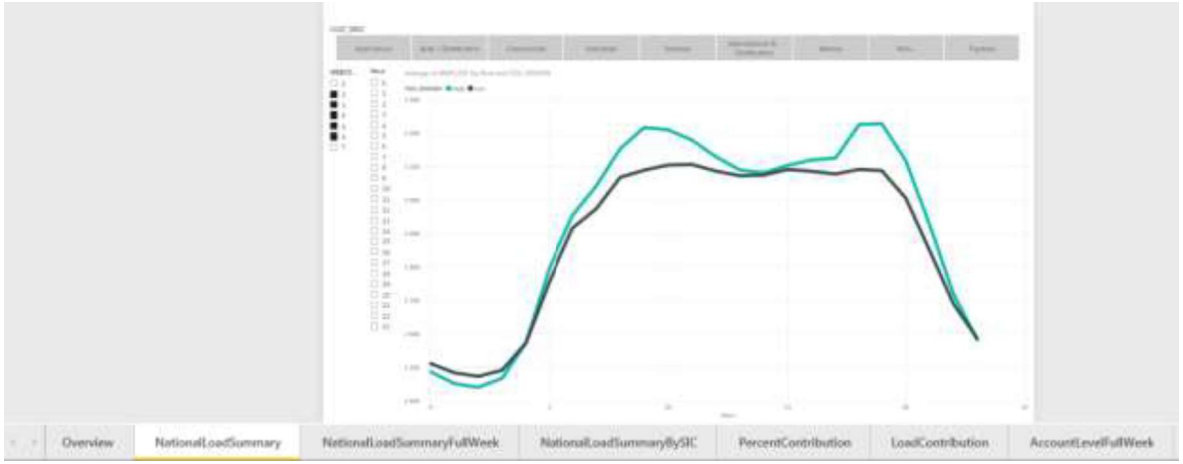

Figure 61: National load summary

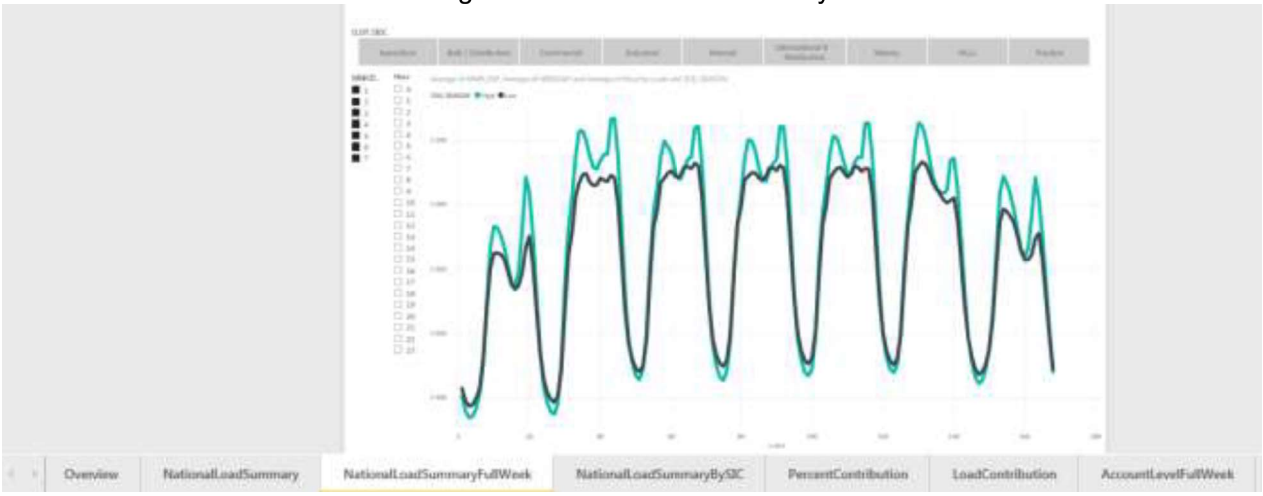

Figure 62: National load summary full week

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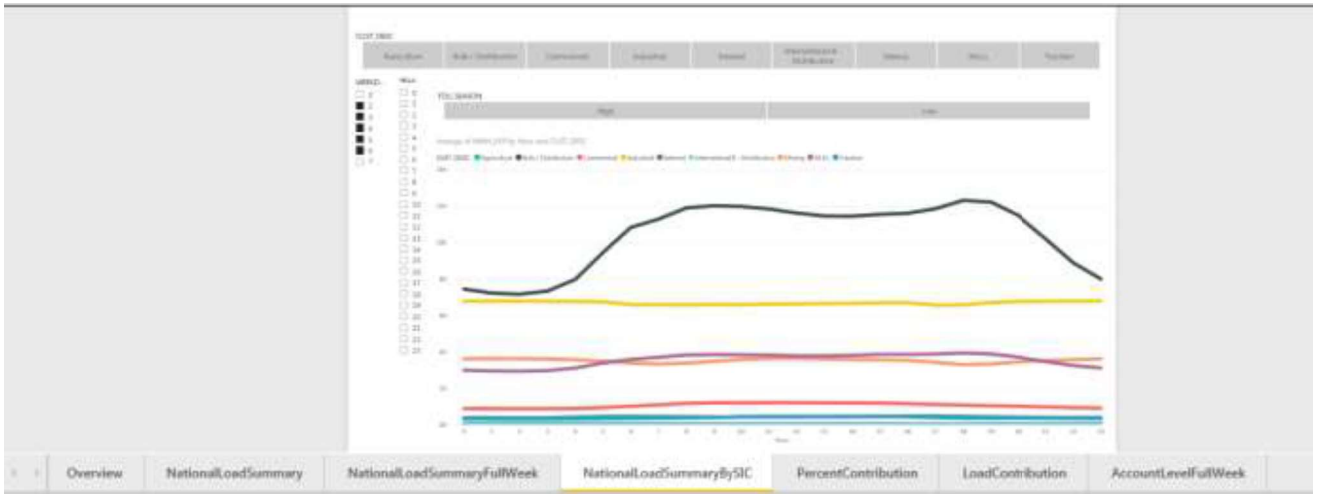

Figure 63: National load summary by Sector Industrial code SIC

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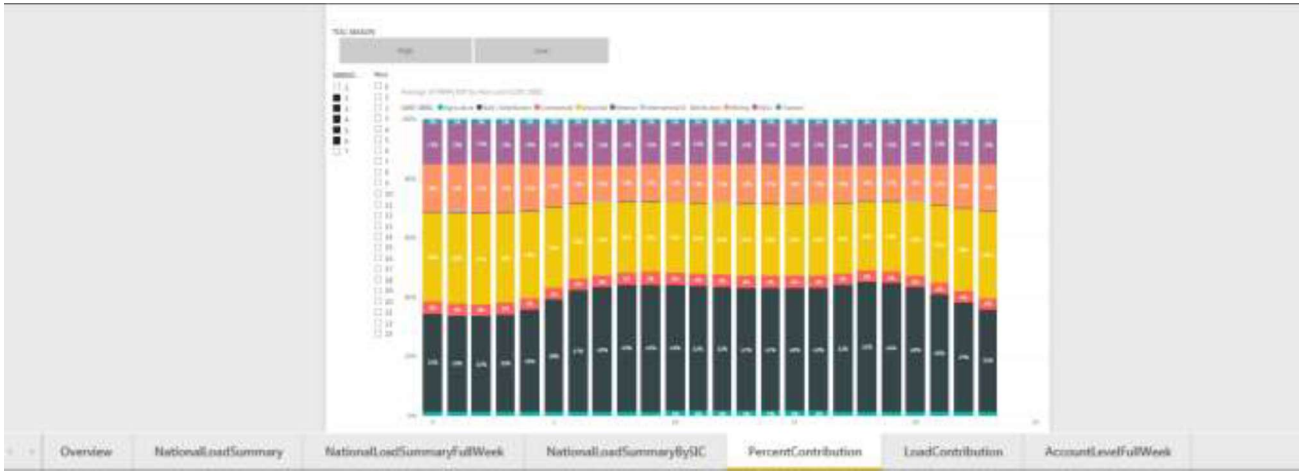

Figure 64: Percent contribution

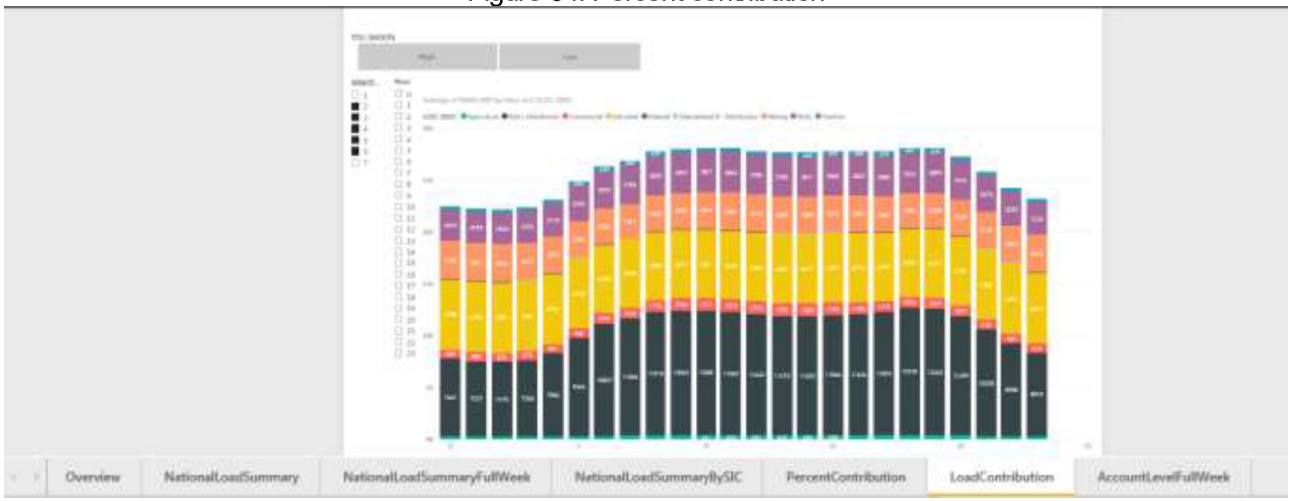

Figure 65: Load contribution

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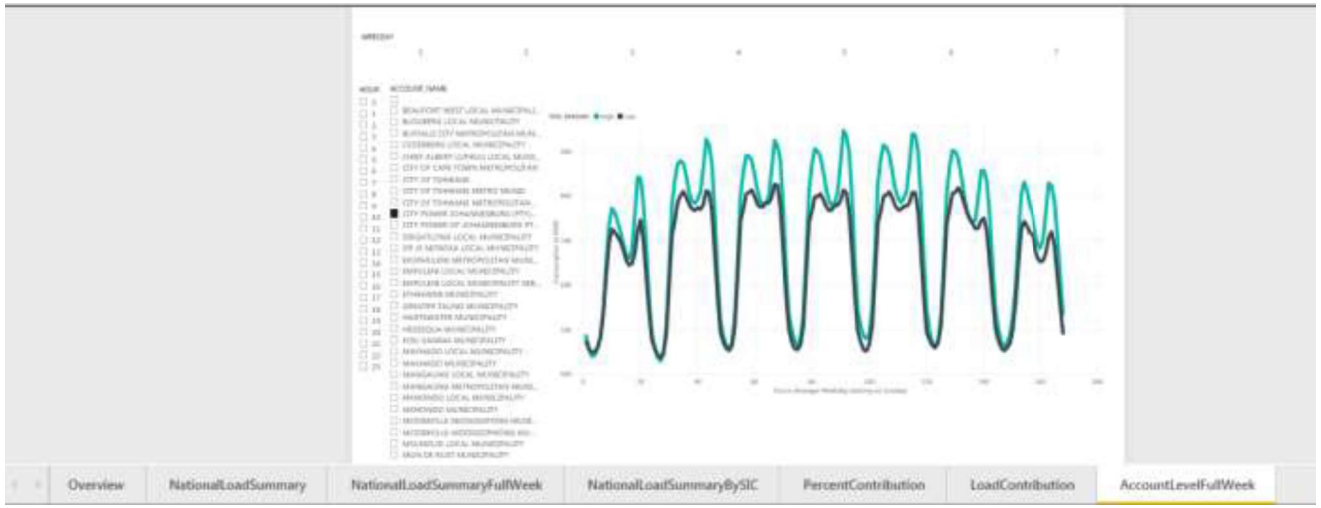

Figure 66: Account level full week

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