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Electricity Distribution Forms (D-FORMS) Manual/Guide

WHAT IS ELECTRICITY DISTRIBUTION FORMS (D-Forms)?

The Electricity Distribution Forms (D-Forms) is a tool used by NERSA to collect data from all licensed electricity distributors. The information is used for tariff setting and approval and also for compliance monitoring and audit processes including dissemination to other data users. The D-Forms is divided into Financial ***(D1, D2, D3 and D6)*** and Non-Financial ***(D4, D5 and D8)***.

Structure of the Electricity Distribution Forms (D-Forms)

Financial D-Forms

D1 Form: Financial information
- **Balance sheet**
- **Income statement**

D2 Form: Market information
D3 Form: Human resources information
D6 Form: Tariff information

Non-Financial D-Forms

D4 Form: Technical Information
D5 Form: Connection Information
D8 Form: Quality of Service

Purpose

The purpose of this manual is to provide guidance on how to complete the Financial and Non-Financial D-Forms.

A. Guide on how to complete the Financial D-Forms information

Introduction sheet

Please provide the basic information on this sheet:

- Full name of Licensee.
- Licence number - *(Available from the licensee's distribution licence).*
- *Title, Initials, Last name, Telephone number, Fax number and Email addresses* of the following people within the municipality/licensee.
  - ✓ Municipal Manager or Similar.
  - ✓ Chief Financial Officer (CFO) or Similar.
  - ✓ Contact Person (*Person to contact when there are queries on the Financial D-Forms per sheet/template*).

The information for the following fields on the table on "Verification of the entire document and authorization by Senior Management" should not be completed since this information is automatically populated as the form is completed.

- Total Revenue Derived From Electricity Distribution *(Automatically from the Income Statement).*
- Revenue From Sale of Electricity *(Automatically from the Income Statement).*
- Total Expenditure *(Automatically from the Income Statement).*
- Energy Purchases *(Automatically from the Income Statement).*
- Total Energy Purchased *(Automatically from the Market sheet).*
- Total Energy Sales *(Automatically from the Market sheet).*
- Total Number of Consumers *(Automatically from the Market sheet).*

The information for the following fields on the Summary table should not be completed since the calculations are automatic as the form is completed.

- Revenue from sale of electricity over total revenue derived from electricity distribution (%).
- Cost of energy purchases over total expenditure (%).
- Energy losses (%) - *(The tolerable range for energy losses is 5 - 12%).*

Lastly, the Municipal Manager or Similar and Chief Financial Officer (CFO) should verify and authorise that the data on the form is correct and can be submitted to NERSA.

1. D1 Form: Financial information

D1 is composed of Balance sheet and Income statement.

1.1 Balance sheet

The balance sheet consists of Capital Employed, Employment of Capital (Electricity Distribution Account), Current Assets and Current Liabilities. The balance sheet may not balance if the municipality/licensee is not **ring-fenced** but licensees are encouraged to apportion the assets to populated the balance sheet. The following items of the balance sheet should be checked and verified for correctness:

NB: Source of the information is the licensee Annual Financial Statement (AFS) and the assets register.

1.1.1 Capital Employed:

Statutory funds.
Reserves.
(Accumulated deficit) Retained surplus.
Trust funds.
Long-term liabilities - *(For more than 12-months).*
Consumer deposits - *(Only electricity deposits).*

1.1.2 Employment of Capital - Electricity Distribution Account

1.1.2.1 Fixed assets

Buildings & other fixed assets - *(Check and ensure that the figure is only for the electricity department).*
Electricity distribution network and equipment.
Other (please specify below):
Investments - *(Only electricity department Investments).*
Long-term debtors - *(Check and ensure that the Long term debtors are only for the electricity division and they only include those that have been in the system for more than 12-months).*
Deferred charges

1.1.2.2 Current Assets

Inventory - *(Value of all the stock/equipments in the store/warehouse for the electricity infrastructure)*.
Debtors (a) + (b).
Less than 90 days (a).
90 days or more (b) - *(Only those that have been in the system for a period of 3 - 12 months).*
Cash - *(This includes cash in the bank for the electricity department).*
Short-term investments.
Short-term portion of long-term debtors.

N.B: Check and ensure that the current assets are only for the electricity division in the municipality/licensee.

1.1.2.3 Current Liabilities

Provisions.
Creditors - *(Check and ensure that the creditors are not for the entire municipality/licensee and this will include Eskom accounts)*.

- Eskom
- Other

Short-term portion of long-term liabilities.
Bank overdraft - (Only *for the electricity department).*

2. Income statement

The distribution forms' income statement consist of revenue and expenses. The main purpose of the income statement is to check if the municipality/licensee is making a loss or profit and also to determine the revenue per customer classification.

Note:

1. All the GREY cells have embedded formulas and should not be populated.
2. There are three parts of revenue; please ensure and check that all three (3) sections are fully completed.

2.1 Revenue

Below are sections of revenue and their line items:

2.1.1 Revenue from sale of electricity to the following consumers:

Domestic (pre-paid).
Domestic (conventional).
Agriculture.
Mining & quarrying.
Manufacturing / Industrial.
Commercial.
Transport.
Redistributors/Resellers.
Other consumers (*please specify all the consumers you have in your system that are not listed above*).

N.B: Municipalities/licensees are expected to complete the above line items as per the customers from their financial systems.

2.1.2 Revenue from street lighting & sold to other municipal departments

Street lighting.
Sold to other municipal departments - *(Interdepartmental charges).*

2.1.3 Other Income

Reconnection fees.
New connections - (*There should be corresponding figures/numbers of reconnections on the Non-Financial D-Forms*).
Free Basic Electricity (Equitable share).
Other revenue (*please specify all other income categories for the electricity department*).

N.B: Check and ensure that the Free Basic Electricity is not the total equitable share but a portion for electricity from the total grant amount.

2.2 EXPENSES:

Please check and verify that the following line items under expenses are populated and also ensure the reasonability.

2.2.1 Electricity Purchases from:

Eskom.
Independent Power Producers Conventional.
Independent Power Producers Renewable Energy.
Self Generation.
Other.

N.B: This relates to expenditure (*Rand amount*) on electricity bulk purchases as the municipality/licensee purchases electricity on monthly basis. Information can be sourced from the AFS expenditure or invoices from the service provider.

2.2.2 Repairs, Maintenance and Salaries

Repairs and Maintenance: *(Atleast 6% of revenue should be directed to this line item).*

1. Salaries and allowances.
2. Materials and supplies.
3. Contracted Services.

Salaries:

Salaries, wages and allowances (Excl. Repairs and Maintenance).
Payments to consultants (operational work).

2.2.3 Financial Costs

Redemption - External loans.
Interest - External loans.

2.2.4 Other Expenses

Bad debts
FBE paid to Eskom
Charges from other Municipal Departments
General Expenses (*please group the general expenses items into 4-main categories*)

3. D2 Form: Market information

N.B: All the GREY cells have embedded formulas and should not be populated.

The kWh losses are calculated as follows: $$\frac{kWh\ Purchased\ and\ Generated - kWh\ Sold}{kWh\ Purchased\ and\ Generated} \times 100\%$$

The average system load factor is calculated as follows:

$$\frac{kWh\ Purchased\ and\ Generated\ in\ the\ Month}{Monthly\ Maximum\ Demand\ in\ MW \times Number\ of\ hours\ in\ the\ month} \times 100\%$$

The main purpose of this form is to determine the energy losses (kWh), total energy sold (kWh), and the number of consumers per classification. This form is completed mostly by the information from the Eskom invoices and municipal\licensee billing system.

- The municipality\licensee should complete the form based on the customer/consumer category they have provided on the Income statement under revenue from sale of electricity.
- Ensure that the following line items are completed as per Eskom/service provider invoices:
  => Peak monthly maximum demand - *(Highest value of the Peak demand in the 12-months)*.
  => Energy purchased by the licensee - *(Summation of monthly electricity purchases for 12 months)*
  => Average Demand Charge - *(Sourced from Eskom/service provider invoices)*

- Complete the Total number of customers, Electricity sold/sales (kWh) by the licensee/municipality to consumers and ensure that this information is populated per customer category depending on the type of customers municipality/licensee have. Also ensure that the information corresponds with the information in the income statement under revenue from sale of electricity to consumers.

N.B: The number of customers/consumers for STREET LIGHTING is not required.

- Complete the following information based on the licensee system factors:
  => Average system load factor - *(Sourced from Eskom/service provider invoices)*
  => Average system power factor - *(Ratio of the average power available for consumption and the actual amount of power used/consumed)*.
  => Energy losses (kWh) - *(Automatic calculation based on Total energy purchased and Total energy sold)*. The tolerable range for energy losses is 5 - 12%.

4. D3 Form: Human resources information

If municipality/licensee has expenses under salaries, this form is a must to populate. Only include information of personnel who are predominantly involved in the distribution of electricity e.g. (Meter readers).

5. D6 Form: Tariff information

This information is important in determining the energy sales and the revenue from approved tariffs. The following fields should be populated on this sheet:

- Tariff Name - *(From NERSA's approved tariff letter)*.
- Tariff Number - *(Number/code assigned to each tariff on the licensee's system).*
- Date approved by the NERSA - *(Date NERSA approved the tariff)*.
- Date Implemented - *(Date the licensee implemented the approved tariffs)*.
- SIC code - (*Available on the forms, please select the appropriate code).*
- Load profile code - (*Available on the forms, please select the appropriate code).*
- Tariff structure code - (*Available on the forms, please select the appropriate code).*
- Number of consumers - (Consumers per tariff).
- Energy Sales in kWh - (Energy sales per tariff).
- Revenue derived from energy charges
- Revenue derived from demand charges
- Revenue derived from fixed charge
- Extra municipal surcharge - *(Any extra charges per tariff in a % format*).

N.B: The Total number of customers, Total energy sales should correspond to the Market sheet information and Total revenue should also correspond to the Income statement revenue from sale of electricity. All the GREY cells have embedded formulas and should not be populated/completed.

B. Guide on how to complete the Non-Financial D-Forms information

<u>Introduction sheet</u>

Please provide the basic information on this sheet:

- Full name of Licensee.
- Licence number - *(Available from the licensee's distribution licence).*
- *Title, Initials, Last name, Telephone number, Fax number and Email addresses* of the following people within the municipality/licensee.

  - ✓ Municipal Manager or Similar.
  - ✓ Head of Technical Services or Electricity or Similar.
  - ✓ Contact Person (*Person to contact when there are queries on the Non-Financial D-Forms per sheet/template).*

Lastly, the Municipal Manager or Similar and Head of Technical Services or Electricity should verify and authorise that the data on the form is <u>correct</u> and can be submitted to NERSA.

1. <u>D4 Form: Technical information</u>

Please complete the following for the <u>Total Areas of supply</u> as per the distribution licence issued to the licensee by NERSA.

- <u>Circuit length (KM)</u>: Total O/H or Over head lines - *(Estimate circuit length in kilometers where precise information is not available).*
- <u>Circuit length (KM)</u>: Total Cables - *(Estimate circuit length in kilometers where precise information is unavailable).*
- <u>Transformers installed capacity</u>: Number - *(Total number of installed transformers in all areas of supply)*
- <u>Transformers installed capacity</u>: Total (MVA) - *(Group transformers according to their primary voltage and use nominal ratings to calculate installed capacity).*
- <u>Reactive compensation</u>: Number - *(Total number of reactive compensation systems installed in all areas of supply).*
- <u>Reactive compensation</u>: Total (MVA) - *(Total size of all reactive compensation systems installed in all areas of supply).*

<u>NOTE</u>:

1. Reactive compensation includes static and rotating plant specifically installed for the purpose of reactive power compensation.

2. If there was no change on the licensee infrastructure from the previous financial year, please provide the same information as the previous submitted D-Forms on Technical information.

2. <u>D5 Form: Connections information</u>

The connection information is based on the following definitions and when completing this part of the D-Forms, these definitions should be considered.

- **Urban:** An area which has been legally proclaimed as urban. This include towns, cities and metropolitan areas.
- **Rural:** All areas not proclaimed as urban, including commercial farms, small settlements, rural villages and all other areas which are not part of proclaimed towns and cities.
- **Household:** A household is a person, or a group of persons, who occupy a common dwelling (or a part of it) for at least four days in a week and who provide themselves with food and other essentials for a living.
- **INEP:** Integrated National Electrification Programme funded by the Department of Energy (DoE).

Required information for connections on this sheet is based on Actual number of connections and Total cost for connections made in (Rands) for both urban and rural per structural building **e.g.** Permanent household structures.

- ✓ Total number electrified (for the past 5-years) - *(This information includes the financial year under consideration).*
- ✓ Number of new connections - *(Total number of connections for the financial year under consideration).*
- ✓ Total number electrified from INEP - *(Total number of connections for the financial year under consideration*).

There are two questions that every licensee should provide answers to in this sheet.

1. How many indigent households are on your register? - *(The figure provided here should atleast correspond to the FBE customers in the Market sheet).*

2. How many households are serviced by resellers in all your areas of supply? - *(This is only applicable if the licensee has a contract with resellers/redistributors within its areas of supply).*

3. D8 Form: Quality of Service

The tables on this sheet are based on the NRS 047 Part 2 reporting guidelines. Should further information or clarity be required, reference should be made to the NRS 047. In order to enable NERSA and its stakeholders using this information to interpret the results, it is important to provide reasons for performance (below or above the minimum standard) where applicable.

It is also important to note that, this form only asks for a limited amount of information on the NRS 047 and the licensee is still responsible for keeping detailed information as stipulated in the NRS 047 for referral purposes in the event of a query. The quality of service form stipulates services that a licensee is rendering to its customers and the minimum standards within which those services should be rendered based on NRS 047 and 048 reporting guidelines.

- Providing quotations to consumers - *(All quotations issued to customers as per the form's classifications under the financial year in consideration).*
- Providing supply to consumers - (*This require information on new customers under the financial year in consideration).*
- Credit meter readings for residential and small business consumers of electricity - *(Indicate how the licensee reads customer meters for billing purposes).*
- Credit meter readings for consumers consuming more than 50KVA.
- Disconnections and reconnections - *(If there were disconnections, there should be reconnections and there should be REVENUE on the Income statement derived from reconnection fees).*
- Prepayment vending stations and meter accuracy queries - *(Need to quantify the number of vending stations and their operational schedules).*
- Fault reporting centres - *(Need to quantify the number of fault reporting centres in all areas of supply, their operational schedules and the type of customer information captured when a customer reports fault about the electricity supply).*
- Restoration of supply after a forced interruption - *(Quantify the total number of forced interruptions under the financial year in consideration based on the stipulated minimum standards).*
- Planned interruptions on overhead and underground networks - *(Quantify the total number of customers affected within the minimum standards, total number of interruptions and the total duration in hours for those planned interruptions).*
- Telephone services - *(Licensee should indicate if there are emergency telephone centres that are fully operational).*
- Customer complaints, enquires and requests - *(Licensee should quantify the total number of customer complaints, enquires and requests received for the financial year under consideration based on the classification of these line items and the stipulated minimum standards).*