



# FDG<sup>®</sup> Distribution Interruption Performance Reporting

Optimise network reliability and performance management

## What does the FDG DIPS do?

FDG DIPS can be described as a bundled application for the reporting of distribution reliability performance indices. FDG DIPS formats and standardises source network outage data, calculates industry recognized reliability indices and exploits these indices in fit for purpose scorecards, detail reports and charts.

## Why is the FDG DIPS important?

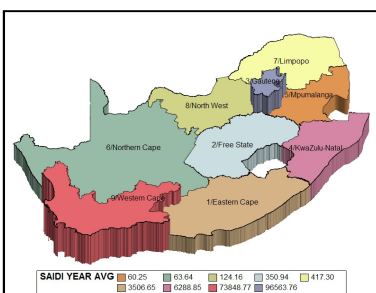
FDG DIPS ensures consistent conformance with business rules and measure definitions throughout the total process of calculating and reporting reliability indices.

FDG DIPS eliminates inconsistent, unreliable and non standardised reporting of reliability indices within and across company business units and supply utilities.

## Who is the FDG DIPS for?

FDG DIPS is developed to cater for the needs of corporate management and regulatory bodies within the electrical supply industry.

Additionally FDG DIPS supports operational management and utility engineers in the operation and analysis of the electrical networks performance.



Distribution Network Interruption Performance reporting is the standardised reporting of measures that reflect the performance reliability of an electrical distribution network.

The measures used for reporting network performance is guided by several international industry standards, most notably; Institute of Electrical and Electronics Engineers (IEEE) and International Council on Large Electric Systems (Cigre).

Inconsistent, unreliable and non standardised reporting of reliability indices across distributors is one of the main problems within the utilities industry. This is due to distributed application systems and different interpretations of international standards when calculating reliability indices.

FDG's Distribution Interruption Performance Reporting System (DIPS) helps organisations report on regulatory measures whilst complying with international standards.

This is done through data standardisation by utilising pre-defined data structures supporting international reporting standards.

Custom reporting and analysis can be built into the system as required by the business.

### DIPS Solution addresses:

- ◇ Data quality enhancement and standardisation
- ◇ Data history audit trail and tracking
- ◇ Standard measure definitions
- ◇ Consistent definition of measure components
- ◇ Consistent calculation methods
- ◇ Standard reporting

## Key Benefits

### • Data Integration

Bring together existing and separate supply chain systems and operational data to create a unified, accurate and consistent view of network assets, operations, system losses, and customer interruptions.

### • Intelligence Storage

Use a storage environment designed to disseminate information efficiently to business intelligence and analytic applications, providing faster answers to questions regardless of the amount of data held within an organisation.

### • Business Intelligence

Deliver dashboards, self-service reporting, and analysis to everyone involved so that decision makers spend less time looking for answers and more time driving decisions.

### • Analytics

Predict utilisation and create forward-looking scenarios about network operations, outages, energy losses, interruptions, durations, and root causes.

### • Reduce Operational Load

- ◇ Reduced reporting time cycle
- ◇ Remove data processing from Operational Systems
- ◇ Remove the risk of data manipulation.

### • Compliance

Centralised reporting structure for governance or regulatory reporting.

## Solution Overview

FDG's Distribution Interruption Performance Reporting Solution (DIPS) is a bundled solution application for the reporting of distribution reliability performance indices. The system consists of a ready built Data Warehouse incorporating standardised data models, calculation processing, and report surfacing. The source data is extracted into a standard format. Detailed subject area data is constructed and stored in standard dimension model formats. International calculation standards and business rules are applied to generate reliability measures. Standard formatted reports are utilised to surface the indices.

## Architecture

The FDG DIPS design consists of four primary building steps:

- ◇ The source data is loaded into a predefined operational level database. This process ensures data quality and conformity.
- ◇ An extract, transform and load process loads the data into a predefined star scheme model designed for the data subject area requirements. This process allows for KPI calculations to the lowest network level for several dimensions.
- ◇ The base components needed to calculate the KPI's are derived using a set calculation process ensuring business rule consistency and conformity.
- ◇ The Exploitation layer consists of several formatted reporting structures i.e.. KPI Scorecards, Cube Reports and Information Maps.

## Reports

Customised reports are developed from the 'clean' detail warehouse data. Custom Marts address customer specific reporting needs.

Extract data to MS Office applications for custom manipulations and presentations

Data can be analysed by utilising data analysis and mining techniques offered by SAS on Detail and summarised reliability data.

Detailed reliability forecasting reports based on AR Linear aggression forecasting methods.

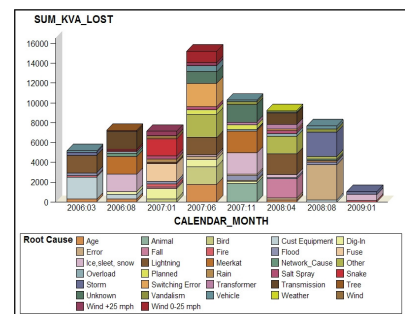
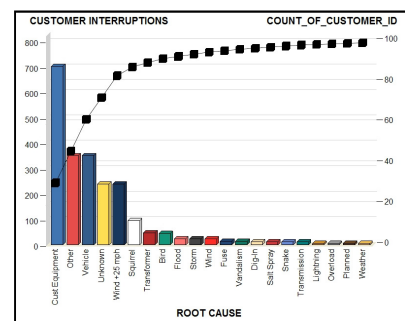
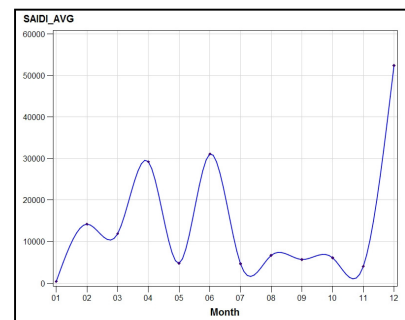
Integrated data from several reporting centers to produce business level and regulatory level reports from a single point of entry thus ensuring conformity and standardisation across data centers.

Standard KPI reports as defined in the IEEE 1366 Standards including industry common reports.

Interactive graphics to view KPI measures and base values

## About FDG

**Fifth Discipline** is a consulting firm specialising in Business Intelligence. Our team of highly skilled and professional consultants provide a wealth of business resources to our clients. In support of our philosophy of continuous learning, our team receives continuous training and development in all of the relevant consulting streams. We also instill a team-based approach with ongoing mentoring by experienced staff.



Enhanced Data Analysis Reporting



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