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National Grid

National Grid
Technical
Specification

**Substation Information
Management Unit (IMU)**

NGTS 3.24.2
Issue 2
August 2003

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(National Grid Legal Services. November 1999)

Registered Office
1-3 Strand
London
WC2N 5EH

Registered in
England and Wales
No. 2366977

Published by:

National Grid Transco
NGT House
Warwick Technology Park
Gallows Hill
Warwick CV34 6DA

Uncontrolled when printed. This document will be valid on the day of printing only.

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SUBSTATION INFORMATION MANAGEMENT UNIT (IMU)

FOREWORD

This specification is a Station Function specification within the Substation Information, Control and Protection suite of technical specifications.

It is required within a substation that Intelligent Electronic Devices (IEDs) make available their operational data, historical records, settings and configuration information for use by other processes, systems and end user applications located at the substation and at locations remote from the substation. Open access to substation data will make substation data acquisition more efficient, ease data exchange between systems and encourage exploiting this data across the company, for example by expert and decision support systems.

The data from legacy devices (ie those already installed at the substation with no standard data interface), is in disparate formats and structures and needs to be extracted, recorded and conditioned to provide a common data interface. The data and information will be organised according to a pre-determined logical data model representing the plant and equipment at a substation and will make use of an appropriate reference scheme.

The Information Management Unit (IMU) provides this common access gateway to these IEDs and presents conditioned information to the substation LAN, for subsequent remote access via the National Grid WAN connection.

The IMU will be capable of being remotely re-configured, which will include the ability to load new programs, change settings and configuration parameters. To ensure consistency across all manufacturers, the reference scheme, plant and equipment data model and a set of data management services will be agreed with the manufacturers and provided in the form of an electronic deliverable. Manufacturers shall ensure that the electronic deliverable integrates seamlessly and efficiently with their IMU platform.

1 SCOPE

This specification describes the functional and performance requirements of the Substation Information Management Unit (IMU).

2 REFERENCES

This specification makes reference to, or should be read in conjunction with the following documents.

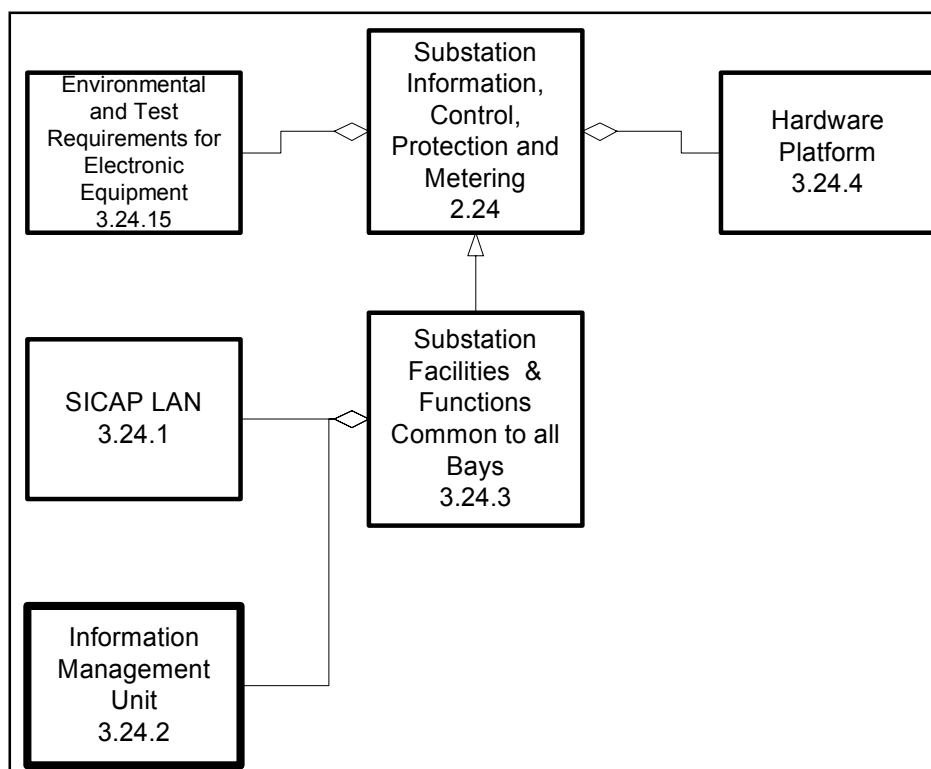
National/International Standards

IEC 60255-24 Common Format for Transient Data Exchange (COMTRADE) for power systems
IEC 61850 (UCA 2.0)

National Grid Specifications

NGTS 1 Ratings and General Requirements for Plant, Equipment, Apparatus and Services for the National Grid System and direct connections to it.
NGTS 3.24.15 Environmental and Test Requirements for Electronic Equipment.
NGTS 2.24 Substation Information Control, Protection and Metering
NGTS 3.24.1 Substation Information Control and Protection Local Area Network.
NGTS 3.24.4 Hardware Platform

Domain Diagram



a —◇ b

Indicates that “a” forms a part of “b”

a —▷ b

Indicates that “a” is a type of “b”

ABBREVIATIONS

DAS	Data Acquisition Services
DMS	Data Management Services
DRS	Data Recording Service
FTP	File Transfer Protocol
GPS	Global Positioning System
HTML	Hyper Text Mark-up Language
HTTP	Hyper Text Transfer Protocol
IED	Intelligent Electronic Device
IMU	Information Management Unit
JDBC	Java Data Base Connectivity
LAN	Local Area Network
MTBF	Mean Time Between Failures
NTP	Network Time Protocol
ODBC	Open Data Base Connectivity
OLE	Object Linking and Embedding
OPC	Object (Linking and Embedding) for Process Control
SNMP	Simple Network Management Protocol
SQL	Structured Query Language
TFTP	Trivial File Transfer Protocol
WAN	Wide Area Network
XML	Extensible Mark Up Language