

Recognized as an
American National Standard (ANSI)

IEEE
Std 803.1-1992
(Revision and redesignation of IEEE Std 803A-1983)

IEEE Recommended Practice for Unique Identification in Power Plants and Related Facilities — Component Function Identifiers

Sponsor
**Energy Development and Power Generation Committee
of the
IEEE Power Engineering Society**

Approved March 19, 1992
IEEE Standards Board

Approved September 22, 1992
American National Standards Institute

Abstract: This recommended practice provides component function identifiers that, when used with related recommended practices concerning unique identification principles and definitions, implementation instructions, and system descriptions, provides a basis for uniquely identifying systems, structures, and components of nuclear and fossil-fueled power plant projects (electric power generating stations) and related facilities. Hydro and other types of power plant projects are not included. This recommended practice is a part of a series of recommended practices, entitled the Energy Industry Identification System (EIIS), the purpose of which is to present a common language of communication that will permit a user to correlate a system, structure, or component with that of another organization for the purposes of reporting, comparison, or general communication. A significant feature of this concept is that the unique identification code identifies the function at the component level but does not identify the hardware itself.

Keywords: component, component function identifier, function.

The Institute of Electrical and Electronics Engineers, Inc.
345 East 47th Street, New York, NY 10017-2394, USA

Copyright © 1992 by the
Institute of Electrical and Electronics Engineers, Inc.
All rights reserved. Published 1992
Printed in the United States of America

ISBN 1-55937-223-0

*No part of this publication may be reproduced in any form,
in an electronic retrieval system or otherwise,
without the prior written permission of the publisher.*

IEEE Standards documents are developed within the Technical Committees of the IEEE Societies and the Standards Coordinating Committees of the IEEE Standards Board. Members of the committees serve voluntarily and without compensation. They are not necessarily members of the Institute. The standards developed within IEEE represent a consensus of the broad expertise on the subject within the Institute as well as those activities outside of IEEE that have expressed an interest in participating in the development of the standard.

Use of an IEEE Standard is wholly voluntary. The existence of an IEEE Standard does not imply that there are no other ways to produce, test, measure, purchase, market, or provide other goods and services related to the scope of the IEEE Standard. Furthermore, the viewpoint expressed at the time a standard is approved and issued is subject to change brought about through developments in the state of the art and comments received from users of the standard. Every IEEE Standard is subjected to review at least every five years for revision or reaffirmation. When a document is more than five years old and has not been reaffirmed, it is reasonable to conclude that its contents, although still of some value, do not wholly reflect the present state of the art. Users are cautioned to check to determine that they have the latest edition of any IEEE Standard.

Comments for revision of IEEE Standards are welcome from any interested party, regardless of membership affiliation with IEEE. Suggestions for changes in documents should be in the form of a proposed change of text, together with appropriate supporting comments.

Interpretations: Occasionally questions may arise regarding the meaning of portions of standards as they relate to specific applications. When the need for interpretations is brought to the attention of IEEE, the Institute will initiate action to prepare appropriate responses. Since IEEE Standards represent a consensus of all concerned interests, it is important to ensure that any interpretation has also received the concurrence of a balance of interests. For this reason IEEE and the members of its technical committees are not able to provide an instant response to interpretation requests except in those cases where the matter has previously received formal consideration.

Comments on standards and requests for interpretations should be addressed to:

Secretary, IEEE Standards Board
445 Hoes Lane
P.O. Box 1331
Piscataway, NJ 08855-1331
USA

IEEE Standards documents are adopted by the Institute of Electrical and Electronics Engineers without regard to whether their adoption may involve patents on articles, materials, or processes. Such adoption does not assume any liability to any patent owner, nor does it assume any obligation whatever to parties adopting the standards documents.

Foreword

(This foreword is not a part of IEEE Std 803.1-1992, IEEE Recommended Practice for Unique Identification in Power Plants and Related Facilities — Component Function Identifiers.)

In April 1979, the Working Group on Unique Identification in Power Plants of the Station Design Subcommittee was formed and charged with the task of producing a series of recommended practices for unique identification in power plants. When it was realized later that this concept provided the same benefits to other types of facilities, the title of the working group was extended to include the words “and related facilities.” An example of a related facility would be radioactive waste storage or disposal, or both.

This series of recommended practices, entitled the Energy Industry Identification System (EIIS), provides a single source for unique identification of systems, structures, and components for all types of power generation and related facilities with provision for the inclusion of currently established plant system identifier codes. Using this series of recommended practices, which includes principles, a table of component-function identifier codes, implementation instructions, and system descriptions for the various types of power plants and related facilities, a user can correlate a system, structure, or component with another organization for purposes of reporting, comparison, or general communication. Numerous safety, and convenience benefits can be derived from this concept. IEEE Std 803.1-1992 provides a table of component function identifiers for use in generating unique identification codes for nuclear and fossil-fueled power-plant projects.

The original purpose of this working group was to generate an industry-wide language of communication that could be employed by users at the interface of their organizations and that would not require users to change a viable identification concept that they were already using internally. In the event that the users do not have a viable identification concept of their own, they may choose to employ this concept for their internal applications because it has been successfully applied by several utilities and architectural/engineering firms.

At the time that this standard was completed, the Working Group for Unique Identification in Power Plants and Related Facilities of the Station Operations Subcommittee of the Energy Development and Power Generation Committee of the IEEE Power Engineering Society had the following membership:

L. T. Gordon, Chair

D. T. Hall
W. C. Henry
P. J. Hoefler
S. Mukho

D. A. Norman
J. L. Parris
J. Remer

R. W. Rohweder
P. D. Sierer
G. E. Simoneaux
J. G. Staudt

At the time that it balloted and approved this standard for submission to the IEEE Standards Board, the balloting group had the following membership:

L. D. Boydston
R. O. Bylin
R. Castleberry
R. S. Coleman
R. E. Cotta
M. L. Crenshaw
H. R. Davis
G. Engmann
W. W. Fields
J. H. Gurney
T. J. Hammons
K. Hancock

R. D. Handel
J. D. Hurley
J. H. Jones
D. K. Kelly
P. R. H. Landrieu
J. E. LeClair
G. Luri
J. T. Madill
O. S. Mazzoni
D. R. McCabe
G. R. Meloy
M. W. Migliaro

J. L. Mills
W. R. Moon
C. R. Pope
B. M. Radimer
J. Ribeiro
E. P. Rothong
C. M. Sawyer
K. H. Sebra
J. E. Stoner
F. Y. Tajaddodi
T. Whittemore
J. P. Whooley

When the IEEE Standards Board approved this standard on March 19, 1992, it had the following membership:

Marco W. Migliaro, *Chair*

Donald C. Loughry, *Vice Chair*

Andrew G. Salem, *Secretary*

Dennis Bodson
Paul L. Borrill
Clyde Camp
Donald C. Fleckenstein
Jay Forster*
David F. Franklin
Ramiro Garcia
Thomas L. Hannan

Donald N. Heirman
Ben C. Johnson
Walter J. Karplus
Ivor N. Knight
Joseph Koepfinger*
Irving Kolodny
D. N. "Jim" Logothetis
Lawrence V. McCall

T. Don Michael*
John L. Rankine
Wallace S. Read
Ronald H. Reimer
Gary S. Robinson
Martin V. Schneider
Terrance R. Whittemore
Donald W. Zipse

*Member Emeritus

Also included are the following nonvoting IEEE Standards Board liaisons:

Satish K. Aggarwal
James Beall
Richard B. Engelman
Stanley Warshaw

Adam Sicker
IEEE Standards Department Project Editor

Contents

SECTION	PAGE
1. Scope	1
1.1 Purpose	1
1.2 References.....	1
2. Definitions	2
3. Description	2
4. Implementation.....	2
TABLES	
Table 1 Unique Identification Table	3
Table 2 Component Function Identifier (Component Functions Listed Alphabetically).....	3
Table 3 Component Function Identifier (Standard Function Identifiers Listed Numerically and Alphabetically).....	14

IEEE Recommended Practice for Unique Identification in Power Plants and Related Facilities — Component Function Identifiers

1. Scope

This recommended practice provides a single source of component function identifiers that, along with related recommended practices concerning unique identification principles and definitions, implementation instructions, and system descriptions, makes up a concept, entitled the Energy Industry Identification System (EIIS), for uniquely identifying systems, structures, and components of nuclear and fossil-fueled power plant projects (electric power generating stations) and related facilities. Hydro and other types of power plant projects are not included in this concept.

1.1 Purpose. The purpose of this series of recommended practices is to present a common language of communication that will permit a user organization to correlate a system structure or component with another organization for the purposes of reporting, comparison, or general communication. This concept does not require a user organization to change its own internal identification concept, but merely to transcode at the interface of its organization from its internal language to this common language concept.

The users may, if they so choose, adopt this concept for their internal use. This recommended practice represents the accumulated practice of the industry assimilated into one set of practices. A significant feature of this concept is that the unique identification code identifies the function at the component level but does not identify the hardware itself.

1.2 References. When the following standards referred to in this recommended practice are superseded by an approved revision, the revision shall apply.

[1] IEEE C37.1-1987, IEEE Standard Definition, Specification, and Analysis of Systems Used for Supervisory Control, Data Acquisition, and Automatic Control (ANSI).¹

[2] IEEE Std 100-1988, IEEE Standard Dictionary of Electrical and Electronics Terms (ANSI).

[3] IEEE Std 803-1983, IEEE Recommended Practice for Unique Identification in Power Plants and Related Facilities — Principles and Definitions (ANSI).

[4] IEEE Std 804-1983, IEEE Recommended Practice for Implementation of Unique Identification System in Power Plants and Related Facilities (ANSI).

¹IEEE publications are available from the Institute of Electrical and Electronics Engineers, Service Center, 445 Hoes Lane, P. O. Box 1331, Piscataway, NJ 08855-1331, USA.

[5] IEEE Std 805-1984, IEEE Recommended Practice for System Identification in Nuclear Power Plants and Related Facilities (ANSI).

[6] IEEE Std 806-1986, IEEE Recommended Practice for System Identification in Fossil-Fueled Power Plants and Related Facilities (ANSI).

[7] ISA S5.1-1984, Instrumentation Symbols and Identification.²

2. Definitions

The following are definitions for terms as they are used in this unique identification concept or assigned some special or restricted meaning in this recommended practice. For other terms not defined herein, refer to IEEE Std 100-1988 [2].

component. A part or assembly of parts that is viewed as an entity for the purposes of design, operation, and reporting.

function. Normal or characteristic action of a component or the system of which it is a part.

component function identifier. A one to four (1 to 4) character alphanumeric code that identifies the function that will be performed by a component. (Reference codes have been established for the basic functions performed by the principal components currently in use in nuclear and fossil-fueled power plants and related facilities.)

3. Description

The component function identifiers have been selected considering the functional levels within a power plant that are significant to design, procurement, construction, operation, and maintenance applications. The component function identifiers may not include the level necessary for replacement part identification.

The component function identifier codes include ISA Std S5.1-1984 [7] for the more common instrumentation functions. These codes are denoted as “ISA standard” in Tables 2 and 3.

The component function identifiers include IEEE C37.1-1987 [1] for certain electrical devices. These codes are denoted as “IEEE standard” in Tables 2 and 3.

Other identifiers in Tables 2 and 3 have been selected so as not to duplicate codes from the ISA and IEEE standards.

The component function titles have generally been listed in Tables 2 and 3 in the form of “noun-modifier.” This recommended practice principally addresses “noun” functions. Special treatment has been assigned to valves because of operator importance and reportability.

The component function identifiers are sorted in two ways for convenience. The first sort lists component function titles alphabetically in Table 2. The second sort lists component function identifiers alphanumerically in Table 3.

4. Implementation

The component function identifiers listed in Tables 2 and 3 are used in conjunction with the implementation of the Unique Identification System described in IEEE Std 803-1983 [3].

²ISA publications are available from the Instrument Society of America, 67 Alexandria Drive, P. O. Box 12277, Research Triangle Park, NC 27709, USA.

The component function identifier is used in the third field of the Unique Identification Code. (See Table 1.)

Table 1
Unique Identification Code

Field 1	Field 2	Field 3	Field 4	Field 5
Project Identifier	Generating Unit/ System Identifiers	Component Function Identifier	Sequence Code	Electrical Separation Identifier

The component function identifier is left justified for computer applications. Unused character spaces are left blank. It is recognized that user project requirements may dictate use of new or additional component function identifiers in advance of working group action. In this event, an asterisk (*) should be entered in place of the dash (-) immediately in front of the sequence code field of the component's Unique Identification Code to indicate a *component function identifier that is not part of the reference list of component function identifiers*.

Table 2
Component Function Identifier
(Component Functions Listed Alphabetically)

Component Function	Standard Function Identifier	Component Function	Standard Function Identifier
Absorber	ABS	Alarm, Level	LA*
Accumulator	ACC	Alarm, Moisture	MA*
Adjuster, Rod	ADJ	Alarm, Power	JA*
Adsorber	ADS	Alarm, Pressure	PA*
Aerator	AER	Alarm, Radiation	RA*
Agitator	AGT	Alarm, Special	XA*
Air Handling Unit	AHU	Alarm, Speed	SA*
Air Lock	AL	Alarm, Temperature	TA*
Air-Conditioning Package Unit	ACU	Alarm, Vibration	VA*
Air Preheater (Gas to Air)	APHT	Alarm, Voltage	EA*
Alarm	ALM	Alarm, Weight or Force	WA*
Alarm, Analyzer	AA*	Alarm, Zone (Position)	ZA*
Alarm, Conductivity	CA*	Alternater	ALT
Alarm, Current	IA*	Ammeter (<i>See</i> : Indicator, Current)	II*
Alarm, Differential, Pressure	PDA*	Amplifier	AMP
Alarm, Fire	FRA	Analyzer, Chemical	CHMA
Alarm, Flow	FA*	Analyzer, Conductivity	CDA
Alarm, Flow (Ratio)	FFA*	Analyzer, Density	DENA
Alarm, Flow (Totalized)	FQA*	Analyzer, PH	PHA