

An American National Standard

Approved July 20, 1984

**IEEE
Standard Dictionary
of
Electrical and
Electronics
Terms**

Third Edition

Library of Congress Catalog Number 84-081283

© Copyright 1984

The Institute of Electrical and Electronics Engineers, Inc.

*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.*

August 10, 1984

SH09332

routine. 434

nest or section (multiple system). A group of electrolytic cells placed close together and electrically connected in series for convenience and economy of operation. *See: electrorefining.* 328

net assured capability (electric power supply). The net dependable capability of all power sources available to a system, including firm power contracts and applicable emergency interchange agreements, less that reserve assigned to provide for scheduled maintenance outages, equipment and operating limitations, and forced outages of power sources. 112

net capability (electric power supply). The maximum generation expressed in kilowatt hours per hour which a generating unit, station, power source, or system can be expected to supply under optimum operating conditions. 112

net dependable capability (1) (electric power supply). The maximum generation, expressed in kilowatt hours per hour which a generating unit, station, power source, or system can be depended upon to supply on the basis of average operating conditions. 112

(2) (power system engineering). The maximum system load, expressed in kilowatthours per hour that a generating unit, station, or power source can be depended upon to supply on the basis of average operating conditions. *Note:* This capability takes into account average conditions of weather, quality of fuel, degree of maintenance and other operating factors. It does not include provision for maintenance outages. *See: generating station.* 64, 200

net generation (electric power systems). Gross generation less station or unit power requirements. 94

net head (hydroelectric power plant). The gross head less all hydraulic losses except those chargeable to the turbine. 112

net information content. A measure of the essential information contained in a message. *Note:* It is expressed as the minimum number of bits or hartleys required to transmit the message with specified accuracy over a noiseless medium. *See: bit.* 328

net interchange (power and/or energy) (control area). The algebraic sum of the power and/or energy on the area tie lines. *Note:* Positive net interchange is due to excess generation out of the area. 94

net interchange deviation (control area) (electric power systems). The net interchange minus the scheduled net interchange. 94

net interchange schedule programmer (speed-governing system). A means of automatically changing the net interchange schedule from one level to another at a predetermined time and during a predetermined period or at a predetermined rate. *See: speed-governing system.* 94

net load capability. The maximum system load expressed in kilowatt hours per hour that a generating unit, station, or power source can be expected to supply under good operating conditions. *Notes:* (1) This capability provides for variations of load within the hour that it is assumed are to be spread among all of the power sources. (2) This is sometimes called net

rated capability. *See: generating station.* 64, 200

net loss (circuit equivalent) (data transmission). The sum of all the transmission losses occurring between the two ends of the circuit, minus the sum of all the transmission gains. 59

network (1) (communication) (data transmission). (A) A series of points interconnected by communication channels. (B) The switched telephone network is the network of telephone lines normally used for dialed telephone calls. (C) A private network is a network of communications channels confined to the use of one customer. *See: leased line or private wire network; private line telegraph network; private line telephone network.* 59

(2) (software). (A) An interconnected or interrelated group of nodes. (B) In connection with a disciplinary or problem oriented qualifier, the combination of material, documentation, and human resources that are united by design to achieve certain objectives, for example, a social science network, a science information network. *See: documentation; node.* 434

(3) (distribution of electric energy). An aggregation of interconnected conductors consisting of feeders, mains, and services. *See: alternating-current distribution; network analysis.* 64

network analysis (network). The derivation of the electrical properties, given its configuration and element values. 210

network analyzer. An aggregation of electric circuit elements that can readily be connected so as to form models of electric networks. *Note:* Each model thus formed can be used to infer the electrical quantities at various points on the prototype system from corresponding measurements on the model. *See: electronic analog computer; oscillograph.* 328

network capacitance (charging inductors). The effective capacitance of the pulse-forming circuit. 137

network control (telephone switching systems). The means of determining and establishing the required connections in response to information received from the system control. 55

network feeder. A feeder that supplies energy to a network. *See: center of distribution.* 64

network function. Any impedance function, admittance function, or other function of p that can be expressed in terms of or derived from the determinant of a network and its cofactors. *Notes:* (1) This includes not only impedance and admittance functions as previously defined, but also voltage ratios, current ratios, and numerous other quantities. (2) Certain network functions are sometimes classified together for a given purpose (for example, those with common zeros or common poles). These represent subgroups that should be specifically defined in each special case. (3) In the case of distributed-parameter networks, the determinant may be an infinite one: the definition still holds. *See: network analysis.* 210

network leased line or private wire (data transmission). A series of points interconnected by telegraph or telephone channels, and reserved for the exclusive use of one customer. 59