Document B-9

NORTHEAST POWER COORDINATING COUNCIL

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Guide for Rating Generating Capability

Approved by the Operating Procedure Coordinating Committee and the System Design Coordinating Committee on August 30, 1972.

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November 5, 1998

Note:

Terms in bold typeface are defined in the *NPCC Glossary of Terms* (Document A-7)

1.0 Purpose

The following guide for rating generating capability for each seasonal period (summer & winter), shall be used by members of the Northeast Power Coordinating Council (NPCC) for the purpose of determining and reporting the Net Capability of generating units claimed as operable capability in their respective **Areas**.

2.0 Net Capability Determination

2.1 Guidelines - General

2.1.1 The Net Capability of a generating unit for the purpose of this guide is defined as the megawatt output at the generator terminals, at the power factor normally expected for that unit, at the time of the seasonal peak load, minus the auxiliary electric power requirements necessary to operate the unit at maximum output and minus a fair portion of the common service load (e.g., fuel handling, lighting) required to run multiple unit generating stations.

2.1.2 Two (2) or more units in a single station and/or two (2) or more stations whose capability is limited by common elements and/or commonly assigned staffing shall have capability determined recognizing the limitation of those common elements which include, but are not limited to:

a. Staffing

b. Steam headers

c. Stacks and other boiler auxiliaries

d. Condenser cooling equipment (e.g., spray modules, pumps, screens, inlets, discharge canals, cooling towers)

e. Common river flows or watershed

2.1.3 Normal station service and unit auxiliaries (such as spray modules, cooling towers, other auxiliaries required by regulatory or governmental authority) must be in use during the period when capability demonstrations are conducted. Member systems may use discretion when estimating station service for small,

unmanned hydro and internal combustion stations where station service is not accurately metered and/or recorded on an hourly basis.

2.1.4 The Net Capability of a generating unit shall be no greater than the net output averaged over no less than two consecutive hourly periods, except for internal combustion units and gas turbine units. The Net Capability reported must be attainable under ambient and water conditions similar to those expected at the time of the specified seasonal peak.

2.1.5 Newly installed units being claimed as capability for the first time, and units being reclaimed as capability from retired or deactivated reserve status, shall have their capability determined as outlined in the above sections at the time of commercial operation or at the time a unit is reclaimed as capability. Capability determined under this provision must be reviewed and confirmed during each seasonal period in accordance with internal procedures.

2.1.6 Where a generating unit's operation is jointly owned or shared, that part of the capability to which a member system is entitled may be reported, or if the total capability is within the NPCC region, the total unit capability may be reported by only one **Area**.

2.1.7 Where a generating unit's operation is dependent upon factors not under the direct control of a member system, only that capability available to the member system on a firm basis shall be included.

2.1.8 When a firm purchase from a Non-Utility Generator (NUG) is claimed as capability, the generating unit involved in the transaction will be subject to the guidelines specified herein.

2.1.9 When the Net Capability is modified to reflect the full or partial capability of a new generating unit, or the change in rating of an existing generating unit, it shall be reported as occurring on the date it is assumed to be effective.

2.1.10 The Net Capability of a member system need not be reduced to reflect **forced outages** or temporary capacity restrictions, provided it is the intention of the member system to restore the reduced capability within a period not to exceed 18 months.

2.2 Guidelines - Individual Unit Types

In addition to the guidelines listed in Section 2.1, the following guidelines, applicable to specific unit types, shall govern capability determination:

2.2.1 Thermal Units

a. The Net Capability of a generating unit may be determined on the basis of operation under other than normal conditions (e.g., over pressure, removal of feed-water heaters, equipment overloading) provided the member system is prepared to operate the unit in accordance with these conditions for no less than two consecutive hourly periods.

b. The sum of the Net Capabilities of individual units in a generating station shall be no greater than the Net Capability of such a station.

2.2.2 Internal Combustion Units And Gas Turbine Units

a. The Net Capability for internal combustion units and gas turbine units shall not be greater than the Net Capability corresponding to the ambient conditions normally expected for the seasonal period for which the Net Capability is claimed.

b. The Net Capability of an internal combustion unit or gas turbine may be determined on the basis of its maximum peak output, provided the member system is prepared to operate the unit at its stated maximum peak output for no less than one hour.

2.2.3 Hydro Units

a. Hydro capability shall be determined on a station rather than individual unit basis.

b. The Net Capability for hydro stations shall correspond to the average conditions throughout the month. It may be estimated by each member system on the basis of whichever of the following conditions is believed to represent the most realistic condition for its system:

- yearly equivalent stream flows providing the average annual potential output
- median stream flows or median output for each month
- average stream flows or average output for each month

Stream flows and output data may be used on a river basis or a system basis rather than a station basis.

c. The Net Capability of a hydro station shall be determined on the basis of the availability of sufficient water at an adequate head to provide the output for no less than two consecutive hourly periods.

2.2.4 Short Time Net Capability

The capability of a generating unit which is not reported as Net Capability but is available for shorter periods of time than those specified in Section 2.1.4, may be reported as Short Time Net Capability provided such Short Time Net Capability is available for no less than one hour.

2.2.5 Verification of Net Capabilities

Each **Area** shall establish procedures to periodically verify that the Net Capability, including the net Capability of NUGs, which its member systems report to NPCC, is realistic and can be achieved when required. The Task Force on Coordination of Operation shall request a letter of compliance to this guide, from each **Area**, on a triennial basis.

Coordinated by: Task Force on Coordination of Operation

Review frequency: 3 years

Reviewed for concurrence by: TFCP

References: *NPCC Glossary of Terms* (Document A-7)