Southwest Power Pool
SYSTEM PROTECTION AND CONTROL WORKING GROUP and SPP UFLS
Standard Drafting Team Meeting
MINUTES
March 10, 2011
9:00 a.m. – 11:00 a.m.
Net conference

Item 1 – Administrative:

The System Protection and Control Working Group (SPCWG) meeting was called to order at 9:00 a.m. The agenda was approved (Attachment 1 – Agenda).

Following members were available for this meeting:

Heidt Melson	: SPS
Louis Guidry	: CELE
Shawn Jacobs	: OG&E
Bud Averill	: GRDA
Ken Zellefrow	: SPRM
Ron McIvor	: OPPD
Lynn Schroeder	: WERE
Brent Carr	: AECC
Steve Wadas	: NPPD
Mathew Thykkuttathil	: SUNC
Jason Speer	: SPP Staff

Other meeting attendees were:

Forrest Brock	: WFEC
David Kelley	: SPP Staff
Shane McMinn	: GSEC
Thomas Teafatiller	: SPP RE

Item 2: SPP UFLS Standard

The Standard Drafting Team (SDT) discussed the results of the voting for the SPP UFLS Regional Standard. The main concern was the voting of the SPP members that are represented by members on the SDT. Only four members represented on the SDT voted in favor of the Regional Standard.

Four member companies represented on the SDT registered to vote for the Standard but didn't officially vote. Those companies stated internal miscommunication was the reason that they didn't vote. Some of these companies put measures in place to make sure that they vote during the next voting period.

NPPD and OPPD mentioned the generator tripping in R7 of the standard as a reason why their company voted against it. This will be one of the topics of discussion at future meetings.

AECC believes the upper limits for Steps 1 and 2 are too restrictive and should be removed. The SDT discussed the differences between an operational-based Standard and a planning-based Standard. The SDT discussed adding some performance-based measurements to the Standard.

There are two main items that the SDT will need to consider before sending the Standard out for another vote. It will need to reconsider the generator tripping and the performance-based measures. These topics will be discussed at the next meeting.

Item 3: Misoperations Data

The System Protection and Control Working Group (SPCWG) discussed the changes to SPP Criteria 7 regarding the definitions of the misoperation categories. The group decided to change the definitions in SPP Criteria 7.2.4 and 7.7.2 to be consistent with the NERC definitions. SPP staff will send out the latest draft of the SPP Criteria to the group for any last comments. These changes will need to be approved before it gets sent to MOPC for their April meeting. (Attachment 2 – SPP Criteria 7 Changes)

Item 4: Closing Administrative Duties

SPP staff will send out a survey to determine the best day for the next net conference.

The net conference was adjourned at 11:00 a.m.

Respectfully submitted,

Jason Speer, Secretary

SOUTHWEST POWER POOL
SYSTEM PROTECTION AND CONTROL WORKING GROUP and SPP REGIONAL STANDARD DEVELOPMENT MEETING
March 10, 2011 (9:00 a.m. till 11:00 a.m.)
Net Conference

- AGENDA -

Item 1 – Administrative

- Call to order
- Proxies
- Approve agenda

Item 2 – SPP UFLS Standard (All)

- Results of 1st Vote
- Next Steps

Item 3 – Misoperations Data (All)

- Revisions to SPP Criteria 7

Item 4 – Closing Administrative Duties

- Next meeting place & date
  - May 10-11, 2011
  - August 10-11, 2011
  - November 9-10, 2011
- Upcoming meeting topics
- Adjourn meeting

Southwest Power Pool

CRITERIA

LATEST REVISION: January 25, 2011

Southwest Power Pool

CRITERIA

FOREWORD

All members of Southwest Power Pool (SPP) adopted the NAPSIC (now North American Electric Reliability Council or NERC) Operating Guides on March 11, 1970. Over the years, these documents have developed into policies, procedures, principles, criteria, standards and guides. In some instances, the NERC documents are not in sufficient detail to meet specific needs of SPP. Additional necessary details have been adopted by SPP as Criteria. This Criteria is considered as the policies, standards or principles of conduct by which the coordinated planning and operation of the interconnected electric system is achieved. Reference to SPP in terms of responsibilities for activities means SPP organizational groups which are defined in SPP Bylaws and the SPP Directory. Reference to the SPP bulk electric system means the combined interconnected electric systems of members. Reliability Coordination (Coordinator) and Security Coordination (Coordinator) are used interchangeably in this Criteria.

INTRODUCTION

A primary purpose of SPP is to facilitate joint planning and coordination in the construction and operation of the generation and transmission network of the individual members so as to provide for increased operating efficiency and continuing service reliability, both in SPP and the contiguous regions. To assist in achieving these objectives, the members of SPP recognize that common criteria and procedures must be used in the planning and operation of the combined electric system for cost effective, adequate and reliable bulk power supply. This Criteria presents the characteristics of a well-planned bulk power electric system, describes the basis for model testing and lists the reliability and adequacy tests to be used to evaluate the performance of the SPP bulk electric system, and describes coordinated operating procedures necessary to maintain a reliable and efficient electric system. Reliable operation of the interconnected bulk electric system of SPP requires that all members comply with this minimum Criteria. Compliance with this Criteria is considered essential to a well planned and operated electric system, and is mandatory for all SPP members. Adherence can be expected to provide adequate and effective safeguards against the occurrence of uncontrolled area-wide power disturbances and will also provide efficient utilization of the electric system resources. This Criteria is also intended to serve as a guideline for developing more specific and definitive criteria by each member of SPP.

It is the policy of SPP to maintain as high an interconnection capability with adjoining regions as is economically prudent. Interconnections with adjoining regions shall be designed such that SPP will remain interconnected following all of the more probable transmission and generation outage contingencies. Emergencies that occur in adjoining regions can affect SPP, just as the emergencies within SPP can affect adjoining regions. Therefore, joint studies shall be made on a regular basis to investigate various system emergencies that can occur and their effects on the electric system. In this way, the effectiveness of existing and planned interconnections shall be periodically measured and the design of the system periodically updated so that the interconnection capability and reliability shall be maintained.

1.0 OPEN

Each member shall provide annually to the SPP Office a 10-year forecast of peak demand and net energy requirements. This information is to conform with requirements set by SPP in conjunction with NERC and government agencies. The forecasts so provided shall be produced in accordance with generally recognized methodologies and also in accordance with the following principles.

a. Each member shall select its own load forecasting methodology and establish its own load forecast.

b. Each member shall forecast load based on expected weather conditions.

c. Method used, factors considered and assumptions made shall be submitted along with the forecast.

d. The SPP forecast shall be the total of the member forecasts.

e. High and low growth rate and extreme weather scenario bands shall be produced for the SPP Regional and Subregional demand and energy forecasts.

f. Economic, technological, sociological, demographic and any other significant factors shall be considered in producing the forecast.

2.0 CAPACITY MARGIN

This Criteria requires and provides for the sharing of reserve generating capacity as a means of reducing capacity requirements of each Member and providing reliable electric service to firm customers due to the equitable purchase, sale and exchange of generating capacity among Members.

2.1 Definitions

2.1.1 Load Serving Member

A Load Serving Member shall mean any SPP Member assuming legal obligation to provide firm electric service to a customer or group of customers within SPP.

2.1.2 Firm Power

Firm Power shall mean electric power which is intended to be continuously available to the buyer even under adverse conditions; i.e., power for which the seller assumes the obligation to provide capacity (including SPP defined Capacity Margin) and energy. Such power shall meet standards of reliability and availability as that delivered to native load customers. For purchases and sales, the contract amount governs regardless of the amount actually delivered at the time of such Load Serving Member's greatest Net Load. Power purchased shall only be considered to be Firm Power if Firm Transmission Service is in place to the Load Serving Member for delivery of such power. Firm Power does not include “financially firm” power.

2.1.3 System Capacity

A Load Serving Member’s System Capacity shall be equal to the capability of its generating facilities, including its ownership share of jointly owned units, demonstrated under procedures set forth in SPP Rating of Generating Equipment Criteria, adjusted to reflect the purchase from and/or sale to any other party of generating capacity or SPP defined Operating Reserve, under any appropriate agreement. For purchases and sales, the contract amount governs regardless of the amount actually delivered at the time of such Load Serving Member's greatest Net Load. Capacity purchases shall only be considered if Firm Transmission Service is in place to the Load Serving Member for delivery of power from such capacity.

Unless reported separately, generating facilities owned by others within the Load Serving Member's system that are obligated to furnish firm power to customers within the Load Serving Member's system shall also be reported. Absent any bilateral contractual arrangements with the host Control Area, the host Control Area will not be required to be responsible for capacity and/or reserve requirements. The reporting of generating facilities owned by others does not constitute an obligation on the Load Serving Member's part to furnish reserves or back up power for that generation.

2.1.4 Net Load

The term Net Load for any Load Serving Member shall mean, for any clock hour:

(a) Net generation by the Load Serving Member's facilities; plus

(b) Net receipts into the Load Serving Member's system; minus

(c) Net deliveries out of such Load Serving Member's system

Unless reported separately, the Net Load of other non-Load Serving Members located within the Load Serving Member's system shall also be reported. Absent any bilateral contractual arrangements, the reporting of these loads does not constitute an obligation on the Load Serving Member's part to furnish reserves, back up power, or incur financial obligations from SPP for that load.

2.1.5 Capacity Year

Capacity Year shall mean a period of twelve consecutive months beginning on October 1 of each calendar year. Any period less than a Capacity Year shall be designated as Short Term.

2.1.6 System Peak Responsibility

System Peak Responsibility of a Load Serving Member for any Capacity Year shall mean the Load Serving Member's greatest Net Load during that Capacity Year plus:

(a) The contract amount of Firm Power sold to others under agreements in effect as of the time of such Load Serving Member's greatest Net Load which provide for the sale of a specified amount of Firm Power; and minus

(b) The contract amount of Firm Power purchased from others under agreements in effect as of the time of such Load Serving Member's greatest Net Load which provide for the purchase of a specified amount of Firm Power.

In each case, the contract amount governs regardless of the amount actually delivered at the time of a Load Serving Member's greatest Net Load.

2.1.7 Capacity Margin

Capacity Margin shall mean the amount by which a Load Serving Member's System Capacity exceeds its System Peak Responsibility.

2.1.8 Percent Capacity Margin

Percent Capacity Margin shall be defined by the formula:

Percent Capacity Margin = (Capacity Margin/System Capacity) x 100

2.1.9 Minimum Required Capacity Margin

Each Load Serving Member's Minimum Required Capacity Margin shall be twelve percent. If a Load Serving Member's System Capacity for a Capacity Year is comprised of at least seventy-five percent hydro-based generation, then such Load Serving Member's Minimum Required Capacity Margin for that Capacity Year shall be nine percent.

2.1.10 System Capacity Responsibility

A Load Serving Member's System Capacity Responsibility for any Capacity Year shall mean the sum of that Load Serving Member's System Peak Responsibility and its Minimum Required Capacity Margin.

2.1.11 Capacity Balance

Capacity Balance shall mean the amount by which a Load Serving Member's System Capacity exceeds its System Capacity Responsibility.

2.1.12 Firm Transmission Service

Firm Transmission Service is that service defined in any applicable transmission service provider tariff.

2.2 Capacity Responsibility

(a) Each Capacity Year, each Load Serving Member shall possess System Capacity at least equal to its System Capacity Responsibility.

(b) Prior to the establishment of its System Peak Responsibility for each Capacity Year, each Load Serving Member shall provide System Capacity by one or more of the following means:

(i) Establishing a unit rating consistent with SPP generating equipment rating Criteria, prior to establishing its System Peak Responsibility;

(ii) Reducing its System Peak Responsibility by purchase of Firm Power from any Member or non-Member by separate agreement;

(iii) Separate written agreement with another Member or a non-Member for purchase of a specified amount of capacity; and/or

(iv) Reducing its Net Load.

(c) A Load Serving Member may purchase Short Term capacity to provide a part of its System Capacity or Short Term Firm Power to reduce its System Peak Responsibility subject to each of the following restrictions:

(i) Such Short Term period shall not be less than four consecutive months, and shall include the day the Load Serving Member establishes its System Peak Responsibility. Such period shall begin during May 1 to June 1 or November 1 to December 1;

(ii) The amount of Short Term capacity or Short Term Firm Power purchased shall not exceed 25% of the Load Serving Member's System Peak Responsibility; and

(iii) The Load Serving Member shall purchase such Short Term Capacity or Short Term Firm Power prior to the start of the Short Term period.

(d) A Load Serving Member may sell Short Term Capacity or Short Term Firm Power from resources comprising its Capacity Balance, provided that its System Capacity Responsibility is met.

2.3 Records

Each Load Serving Member, upon request, shall provide accurate and detailed records of information related to this Criteria to the SPP Staff. Except for System Peak Responsibility, all other information shall be provided prior to establishing System Peak Responsibility for a Capacity Year and shall include; validation of System Capacity per SPP Rating of Generating Equipment Criteria, Capacity purchase and sale contracts, Firm Power purchase and sale contracts, and firm transmission service agreements. The SPP Staff

shall verify information supplied by each Load Serving Member. Calculations shall be based on the highest peak load of each of the Load Serving Members during the Capacity Year. All capacity and demand values will be rounded to the nearest whole MW for purposes of this Criteria. All data submitted to SPP related to this Criteria shall be considered confidential by the SPP Staff and shall not be released in any form except by force of law.

2.4 Generation Planning

2.4.1 Design Features

a. In order to maintain a balanced design of the electric system, excessive concentration of generating capacity in one unit, at one location, or in one area shall be avoided.

b. Auxiliary power sources shall be provided in each major generating station to provide for the safe shutdown of all the units in the event of loss of external power.

c. In each major load area of SPP, a unit capable of black start shall be provided having the capability of restarting the other units in the area.

d. Boiler controls and other essential automation of major generating units shall be designed to withstand voltage dips caused by system short circuits.

2.4.2 Fuel Supply

Assurance of having desired generating capacity depends, in part, on the availability of an adequate and reliable fuel supply. Where contractual or physical arrangements permit curtailment or interruption of the normal fuel supply, sufficient quantities of standby fuel shall be provided. Due to the dependence of hydroelectric plants on seasonal water flows, this factor shall be taken into consideration when calculating capacity for capacity margin requirements.

3.0 REGIONAL TRANSMISSION PLANNING

3.1 Concepts

The interconnected transmission system shall be capable of performing reliably under a wide variety of expected system conditions while continuing to operate within equipment and electric system thermal, voltage, and stability limits. The transmission system shall be planned to withstand all single element contingencies and maintenance outages over the load conditions of all seasonal models as developed by MDWG. Extreme event contingencies which measure the robustness of the electric systems should be evaluated for risks and consequences. The *NERC Reliability Standards* define specific requirements that provide a high degree of reliability for the bulk electric system. SPP provides additional coordinated regional transmission planning requirements to promote reliability through this Criterion and related "Coordinated Planning Procedures" in the *SPP Open Access Transmission Tariff*.

3.2 Definitions

All capitalized terms shall have their meaning as contemplated in the SPP OATT, unless defined below.

Bulk Electric System – Bulk Electric System shall have the definition as provided in the NERC Glossary of Terms Used In Reliability Standards, as may be amended from time to time.

NERC – The North American Electric Reliability Corporation, or its successor organization, which is an organization of all segments of the electric industry that recommends, sets, oversees, and implements policies and standards to ensure the continued reliability of North America's bulk electric system.

Nominal Voltage – The root-mean-square, phase-to-phase voltage by which the system is designated and to which certain operating characteristics of the system are related. Examples of nominal voltages are 500 kV, 345 kV, 230 kV, 161 kV, 138 kV, 115 kV and 69 kV. SPP shall evaluate contingencies on the transmission system for all system elements with a Nominal Voltage of 60 kV or greater.

Planned Project – A transmission project, driven by system needs and the recommended solution among considered alternatives, which is a specific commitment

to upgrade the transmission system, which has little, if any, outstanding issues, including, but not limited to: budgetary processes, siting, permitting, equipment procurement, installation, regulatory or other approvals, that could delay implementation beyond the expected in-service date.

3.3 Coordinated Planning

SPP members operate in a highly interconnected system and shall coordinate transmission planning. This coordination shall include voluntary efforts between interconnected SPP members and non-members. SPP shall be the primary responsible party for coordinated transmission planning.

The planning and development of transmission facilities shall be coordinated with neighboring systems and regions to preserve the reliability benefits of interconnected operations. The transmission systems should be planned to avoid excessive dependence on any one transmission circuit, structure, right-of-way, or substation.

The transmission system of the SPP region shall be planned and constructed so that the contingencies as set forth in the Criteria will meet the applicable *NERC Reliability Standards* for transmission planning. The Model Development Working Group (MDWG) shall annually assemble and verify power flow models, short circuit models, and stability models, which shall be used by SPP staff to check compliance with NERC Reliability Standards for transmission planning. Extreme contingency evaluations shall be conducted to measure the robustness of the transmission systems and to maintain a state of preparedness to deal effectively with such events. Although it is not practical to construct a system to withstand all possible extreme contingencies without cascading, it is desirable to understand the risks and consequences of such events and to attempt to limit the significant economic and social impacts that may result.

Sufficient reactive capacity shall be planned within the SPP electric system at appropriate places to maintain transmission system voltages 60 kV and above within plus or minus 5% of nominal voltage on all buses under normal conditions and plus 5% or minus 10% of nominal voltage on load serving buses under single contingency conditions.