



CATS HV Study Group

January 15, 2008

Draft Meeting Notes

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CATS HV

1. Introductions and Meeting Purpose

The meeting was called to order by chairman Joseph Herrera. A list of those in attendance is attached. The proposed agenda was accepted by those in attendance.

2. Approval of October 22, 2007 meeting minutes

The October 22nd, CATS HV meeting notes were approved. The detailed notes will not be presented at the SWAT meeting in Las Vegas.

3. Discussion of 10 – Year Plans (ED2, ED3, ED4, ED5, SCIP APS, Western)

The 10 year plan filing deadline for jurisdictional utilities is January 31st for 100kV and above. The purpose of this discussion was to make sure all CATS HV participating entities have a ten year plan, including sub-transmission load serving requirements, which could be used as a base case for the 2018 case study to be developed by Gary Romero (KRSA).

Mark Etherton (PDS/ED3) explained that ED3 has been looking at changes that can happen within a year and how they impact load forecasts. A graph was handed out highlighting these changes through the year 2025; showing that while changes have a minimal impact in the near term, the difference can be hundreds of megawatts when looking at the long term effects. Mark explained the challenge this presents in planning for future load requirements, since decisions are often based off of the load forecasting. It was decided that the 2007 medium load forecast will be used for the 2018 CATS HV Study Plan.

The latest forecast shows that ED3's load is going to double in ten years, based on the medium load forecast. ED2's projected annual load growth over the next ten years is 3.5%/year based on the low load forecast.

D.R. Rittenback (Pinal County) discussed the decrease in master planned community plans coming through Pinal County. There were 22 tentative subdivision plans submitted in 2007 as opposed to 46 in 2006.

Tom Martin (ED2) discussed the fact that ED2 recently did a study based on the state and county forecasting of population and job growth; and found that state and county data is an inadequate resource for accurate load forecasting as the most accurate information is not always available at the time it is needed. Pinal County is working harder to coordinate with the municipalities within the County for planning purposes, which may increase accuracy in the future. In 2006 HB2080 was passed, requiring municipalities to coordinate plans (population growth, transportation, etc.) with utilities for corridors, etc.

APS does do a ten year plan that typically comes out shortly after the January 31st deadline. They're working on a ten year plan that would cover their facilities in the entire state of Arizona.

4. 2018 Study Plan Review

The goal of this discussion was to approve the 2018 Study plan so that Mark Etherton can present it to SWAT in Las Vegas on January 16th.

TASK 1 – The objective for **Task 1** is to coordinate all of the ten year plans and incorporate them into the Westconnect Case and to produce a firm base case by May, 2008. Jason Spitzkoff (APS) will have all the information on sub-transmission lines to include in the case. A decision has not been reached as to who will receive the studies and coordinate the case.

Tom Martin (ED2) brought up the issue of new lines and power plants (i.e. TransCanada) that have not yet been included in the study. Some facilities will be brought in at the last minute that aren't represented in the Westconnect plan or the plans that are being published for January 31st. The facilities that will be included should be identified within the next three months.

TASK 2 – The group discussed the fact that short circuit and stability issues could arise due to the number of generators expected to come online at around the same time and all to tie into Pinal South. One of the questions is whether or not the Randolph site is capable of being expanded. Mark Etherton (PDS/ED3) suggested that the locations either be pared down or locations such as Randolph would be added. The possibility of breaking the study into two parts; the first being to divide with the power flow and what the related issues are, and the second being to have a more narrowed scope and focus more on the details with stability and short circuit issues ranked in terms of power flow.

Jason Spitzkoff (APS) stated that if doing a stability and short circuit study, an assumption must be made regarding what kind of generator will be used, since not all locations have specific generators defined yet. Gary Romero (KRSA) suggested that a plan of service is needed for stability and more so for short circuit. A balanced load and resource forecast is necessary for the 2018 study.

It was agreed upon that an injection matrix of 500 MW blocks (per the October 22nd meeting) will be used for the study. A generic generator size would be used unless specific information is available.

Leonard York (WAPA) suggested that if necessary, generator stability can be guestimated by taking the equipment through a short circuit. Jason Spitzkoff (APS) explained that this only applies when information is available regarding the specific generator type and interconnection. SWAT has a Short Circuit Issues group that may be able to provide this information. As the resource owner, SRP is responsible for including interconnection information in the Westconnect 2018 base case as part of their loads and resource forecast for 2018.

Joe Herrera (ED3) stated that the only comment he received regarding **TASK 1** was for the analysis to include a bus tie at Casa Grande between APS and WAPA 230kV busses. The question was asked whether or not this should be modeled in the base case. It was decided that this should be modeled in the base case and can be identified in the configuration assumptions.

For the 2018 Study Plan, an assumption should be identified regarding WAPA's upgrades from 115kV to 230kV, and whether or not they'll still be operating at 115kV. Joe Herrera (ED3) stated that for this case, we want to operate at 230kV (with the Casa Grande tie between APS and WAPA included). The last study showed the upgrade to 230kV construction standards (i.e. conductors, poles, etc.), but operating at 115kV (e.g. new impedances to reflect new conductors).

The following changes for **TASK 2, Bullet 1** were approved:

- **Sub-Bullet 1** – Santa Rosa Substation will be removed from the list, and Pinal South and Randolph will be included/added.
- **Sub-Bullet 2** – The language, "initially a matrix of the following substation sites will be evaluated for 500 MW generation..." will be added.

Joe Herrera (ED3) suggested using 500 MW generators as a default for the size of injection to use as a test in the study. If a specific size is known, it should be used rather than the default. It was agreed that the study should remain simple for the purpose of the Las Vegas SWAT meeting. A matrix will be developed with 500 MW individually and in combinations. The matrix can be put together at the next CATS HV meeting.

TASK 3 – A documented report will be presented to SWAT.

STUDY TIMELINE – The timeline and schedule will remain the same even though it will be a two year process. The second year could be a status report on the study instead of a separate study.

The Base Case is expected to be completed around April 1st. Jason Spitzkoff (APS) stated that the Westconnect case will come out as a bulk case and a detail system will have to be added to it.

RFP – Joe Herrera (ED3) expects the RFP responses to be turned in early February. The RFP is specifically for the power flow based on the tasks indicated in the approved study plan. The RFPs deadline is scheduled for February 8, 2008, at which time the CATS HV authorizing group will determine who will be awarded the study.

There is a database being created by the Short Circuit Group (part of SWAT), based on what is currently existing, which may be available to be used by CATS HV; although not all entities use the same short circuit program.

Mr. Rittenback (Pinal County) suggested that CATS HV should coordinate with Pinal County so that the information from the study could be incorporated into the County's comprehensive study. In this way, the municipalities and developers could be made aware of the utility requirements.

The 2018 Study was approved by all present.

5. Coordination of Base Case

The Base Case was part of the RFP that was sent out after the October meeting. The entity chosen to do the study will coordinate Westconnect's base case with the other CATS HV participants' base cases, with a goal to have a coordinated Base Case by May, 2008.

6. Next Meeting

The next meeting was set for **9:30 a.m., Wednesday, March 19th the ED3's office** (41630 W. Louis Johnson Drive, Maricopa, AZ 85238). The primary purpose for this meeting will be to go through the details of the assumptions and to discuss the Base Case, with the consultant present who will be coordinating the Base Case.