PACIFICORP
A MIDAMERICAN ENERGY HOLDINGS COMPANY

SMALL GENERATOR INTERCONNECTION
SYSTEM IMPACT STUDY REPORT

COMPLETED FOR

("INTERCONNECTION CUSTOMER")
A QUALIFYING FACILITY

PROPOSED INTERCONNECTION
ON PACIFICORP'S EXISTING
PACIFICORP'S 69-KV SAND HILLS LINE BETWEEN
CASPER AND PLATTE JUNCTION

AUGUST 8, 2008

TABLE OF CONTENTS

1.0 DESCRIPTION OF THE GENERATING FACILITY

("Interconnection Customer") has proposed interconnecting 19.5 MW of new wind generation to PacifiCorp's ("Transmission Provider") 69-kV, Sand Hills Line between Casper and Platte Junction located in Natrona County, Wyoming. The Interconnection Customer's facility consists of thirteen 1.5 MW GE wind turbines for a total output of 19.5 MW. The requested commercial operation date is approximately June 30, 2009.

The Transmission Provider has assigned the facility "Q0171."

2.0 SCOPE OF THE STUDY

The System Impact Study Report consists of a power flow analysis, transient stability analysis and a short circuit analysis, voltage drop and flicker studies, protection and set point coordination studies, and grounding reviews, as necessary. The System Impact Study states assumptions upon which it is based, results of the analyses, and requirements or potential impediments to provide the requested interconnection service, including a preliminary indication of the cost and length of time that would be necessary to correct any problems identified in those analyses and implement the interconnection. The System Impact Study also provides a list of facilities that are required as a result of the Interconnection Request and a non-binding good faith estimate of cost responsibility and time to construct.

3.0 TYPE OF INTERCONNECTION SERVICE

Interconnection Customer will operate this generator as a Qualified Facility (QF) as defined by the Public Utility Regulatory Policies Act of 1978 (PURPA).

4.0 DESCRIPTION OF PROPOSED INTERCONNECTION

The system impact study assumes that the 19.5 MW of generation for the Interconnection Customer will be connected to the Sand Hills Line between Casper and Platte Junction located in Natrona County, Wyoming. This line is normally operated as a radial line, open between Evans Tap and Big Muddy substation and open between Community Park substation and Red Butte substation. Under this normal operating condition the power generated by the Interconnection Customer's proposed generation facility could flow towards Community Park and Evans substations during heavy load and towards Casper and Evans substations during light load.

There are long range plans to rebuild the existing 69-kV Sand Hills Line between Casper and Platte Junction to 115-kV, when this occurs the Interconnection Customer's interconnection facilities would need to be converted to 115-kV. As a result of this conversion, the interconnection of this proposed generation facility has been analyzed at both of these voltage levels. Should the Interconnection Customer interconnect to the lower voltage line, prior to the conversion, the Interconnection Customer is responsible for the actual cost to upgrade the interconnection facilities upon the conversion of the line.

5.0 STUDY ASSUMPTIONS

The Interconnection Customer's request for energy or delivery as a QF interconnection service in and of itself does not convey transmission service. Only a Network Customer can make a request to designate a generating resource as a network resource. Since the queue of higher

priority transmission service requests may be different when and if a Network Customer requests network resource designation for this generation facility, the available capacity or transmission modifications necessary to provide network resource interconnection service may be significantly different. Therefore, the Interconnection Customer should regard the results of this study as informational rather than final from a transmission capacity perspective.

Generator tripping may be required for certain outages.

All facilities will meet or exceed the minimum WECC, NERC, and PacifiCorp performance and design standards.

6.0 STUDY RESULTS

Study results show that the existing system has sufficient capacity to deliver full output of the Interconnection Customer's proposed generation for at least some hours (non-firm service). However, it should be noted that the number of available generation hours will be diminished due to the large number of higher-queued interconnection facility's being constructed in this area.

Transient stability analysis was simulated for the following contingencies to determine if the Facility causes any adverse affects to the system or if the Facility trips off-line during low voltage conditions:

- Three-phase fault (5 cycles) at the Casper 230 kV bus with outage of the Casper – Dave Johnston 230 kV transmission line.
- Three-phase fault (5 cycles) at the Casper 230 kV bus with outage of the Casper – Riverton 230 kV transmission line.
- Three-phase fault (5 cycles) at the Casper 115 kV bus with outage of the Casper – Center 115 kV transmission line.
- Three-phase fault (24 cycles) at the Q0171 69 kV POI bus with outage of the Q0171 – Platte Junction 69 kV transmission line.
- Single-phase fault (15 cycles, delayed clearing) at the Casper 230 kV bus with outage of the Casper – Dave Johnston 230 kV line.

The WECC ride-through criteria states that a wind facility must ride through a 3 phase-fault with normal clearing and a SLG fault with delayed clearing. Study results identified that the Interconnection Customer's generation facility did not trip off-line during any of the above contingencies; therefore, the generation facility meets the ride through criteria. Transient stability plots for the above contingencies are provided in Appendix B.

6.1 REQUIREMENTS

6.1.1 GENERATING FACILITY MODIFICATIONS

The Interconnection Customer shall design its generating facility to operate under automatic voltage control utilizing General Electric's Wind Park Management

System with the voltage sensed electrically at the point of interconnection, and to have sufficient reactive capacity to enable the facility to deliver 100 percent of the plant output to the point of interconnection at unity power factor measured at 1.0 p.u. voltage. Within this range of voltage (measured at the point of interconnection), from 1.01 to 1.03 per unit, this scheme should operate so as to minimize the reactive interchange between the Interconnection Customer's generation facility and the Transmission Provider's system (operation at a fixed 1.0 power factor). The Transmission Provider may, from time to time, change the upper and lower control band setting in response to operating conditions. If the voltage is outside the upper or lower band, the voltage control scheme should operate so as to utilize the reactive capability of the facility to maintain the voltage to a value within the control band.

The Interconnection Customer's generation facility shall be equipped with an automatic real power output limiter available twenty-four/seven and used in a manner as described by wind generators, as 'feathering'. In addition the following requirements must be met for this generation facility:

1. **Scheduling**: In real time, the real power output of the facility (or the net output of a group of wind generation facilities in a pre-defined area) will be limited to a generation level that will not exceed the amount scheduled from that facility for that scheduling hour.

2. **Curtailment**: During certain periods in which the PacifiCorp's control area is unable to meet its control obligations due to excess generating resources or for any other operating emergency, the output limiter function may be used to reduce generation at the Facility. Curtailments are expected to occur infrequently and, if required, the amount the curtailed will be allocated on a pro rata basis to all generating facilities to the extent practical.

The Interconnection Customer is responsible for providing any and all protective equipment (circuit breakers, relays, fuses, etc.) needed to properly protect their assets.

6.1.2 TRANSMISSION MODIFICATIONS

It is recommended that the Interconnection Customer purchase and install a dual-voltage rated transformer (rated for either 69-kV or 115-kV high-side operation), so that the substation can be initially energized at the existing 69-kV level and later energized at 115-kV without having to install a new transformer. It is also recommended that the Customer construct their high-voltage facilities to an avian-safe 115-kV insulation level such that when the 69-kV to 115-kV conversion takes place the substation will not have to be rebuilt.

The proposed generation facility is not anticipated to cause any thermal overload or voltage limit violations as long as the proposed generation facility remains within proscribed +/- 0.95 power factor limitations.

At the point of interconnection with Transmission Provider's 69-kV Sand Hills line three manually operated air break switches will need to be installed. The switches will be one-way 115-kV switches with contact vacuum bottles per Transmission Provider standards. These switches will require one switching platform per switch for switch operation and a three-way guyed deadend structure at the intersection of the two lines.

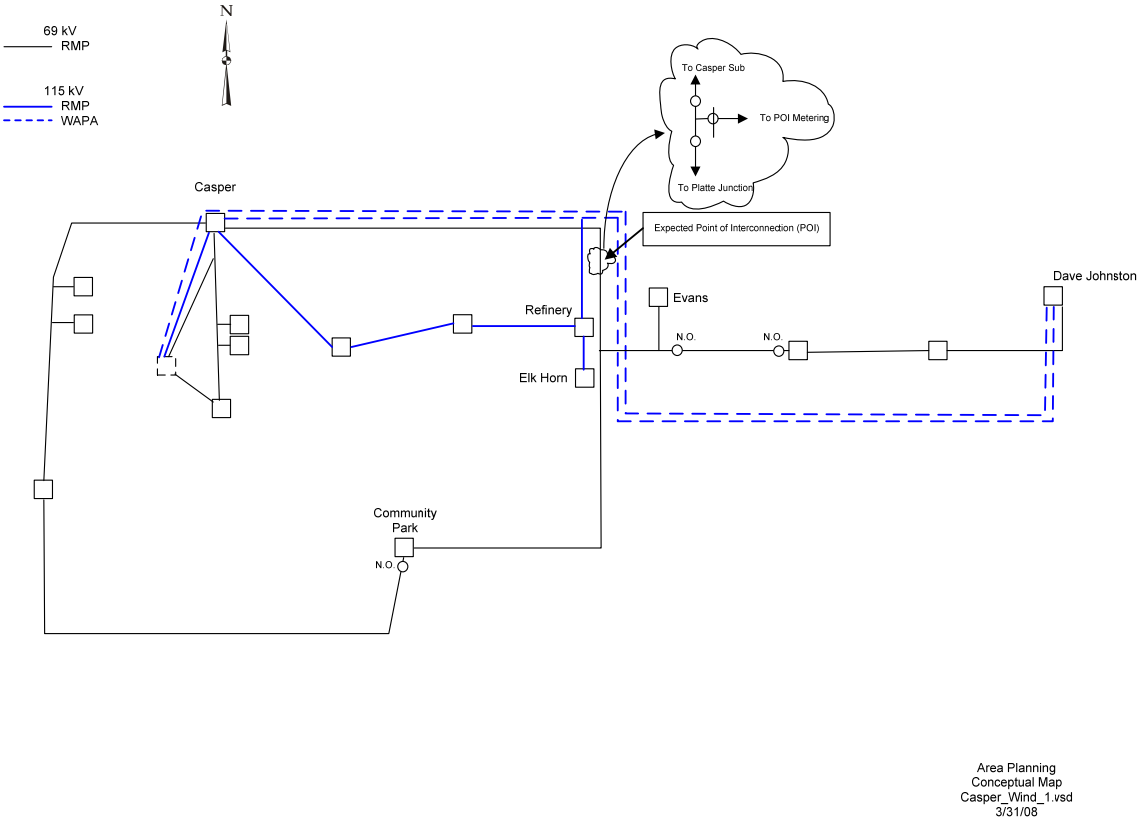


Figure 1: Area One-Line Diagram

The Transmission Provider will own a substation adjacent to the Interconnection Customer's collector substation. The substation ground mats will be tied together so that control cables can be used between the two yards. These facilities will be at the end of the 1140 foot 69-kV tap line from the three 69-kV line switches. Figure 2 illustrates a simplified one-line diagram of the interconnection of this proposed generation facility. The Transmission Provider's point of interconnection substation will require the following: a 69-kV breaker with disconnect switches, protective relays, and interchange metering.

All protective equipment installed and owned by the Transmission Provider is intended to protect the transmission system from the generation facility. A separate fault interrupting device, owned and operated by the Interconnection Customer, will need to be installed for purposes of protecting the customer owned

step up transformer. A device such as a circuit switcher or transrupter may be used for this purpose.

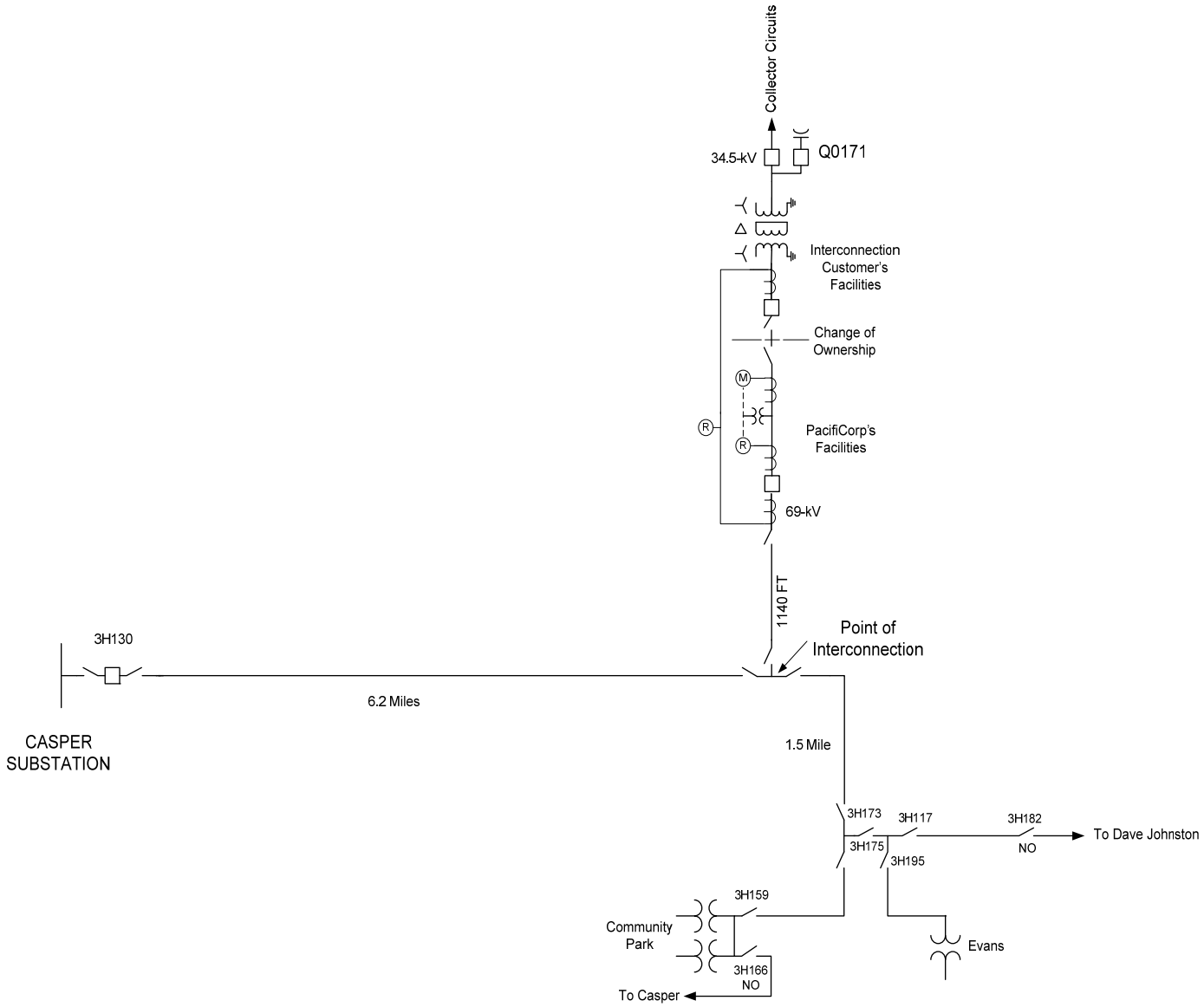


Figure 2: System One-Line Diagram

6.1.3 EXISTING BREAKER MODIFICATIONS – SHORT-CIRCUIT

The increase in the fault duty on the system as the result of the addition of the proposed generation facility with thirteen – 1.5 MW GE wind turbine generators feeding through one 12/16/20 MVA step up transformer with 8% impedance will not push the fault duty above the interrupting rate of any of the Transmission Provider's equipment.

6.1.4 PROTECTION AND CONTROL REQUIREMENTS

The Interconnection Customer's generation facility will need to disconnect from the transmission system in a high speed manner for any fault(s) on the transmission line that the Interconnection Customer's generation facility is interconnected to. Because of the variety of potential configurations that the transmission system can be operated in, this will be difficult to accomplish. A relay package will be installed at the Transmission Provider's point of interconnection substation that will be adjacent to the Interconnection Customer's collector station.

During normal transmission line configuration this relay package will receive a transfer trip from Casper substation any time a fault is detected on the line by the existing relay system at Casper substation. A communication system will need to be installed between the collector station and Casper substation for the transfer trip circuit. This same communication system will be used to carry data from the collector station to the Transmission Provider's control center. The relay package at the point of interconnection substation will also be set to detect line faults, but the relay settings will be delayed to coordinate with the relays on the other lines out of Casper substation. These relay functions will normally only operate if the transfer trip signal fails to reach the point of interconnection substation relays.

When the transmission system is operated in one of the alternate configurations the transfer trip will be disabled and alternate relay settings will be enabled on the line relays. These relay settings may not coordinate with the other line relays, but will cause the generation facility to disconnect as quickly can be accomplished for the alternate operation state.

In addition to the line protective relaying, a relay used for under/over voltage and over/under frequency protection of the system will be installed at the point of interconnection substation. If the voltage, magnitude or frequency, is outside of the normal operation range this relay will trip open all of the Interconnection Customer's 34.5-kV line breakers at the collector station.

A bus differential relay will need to be installed to detect faults on the tie line between the Transmission Provider's point of interconnection substation line breaker and the Interconnection Customer's transformer fault interrupter. The bus differential relay will be located in the point of interconnection substation. The Interconnection Customer will need to supply the secondary signals from a set of current transformers associated with the high side bushings of the step-up transformer for the bus differential relay. The operation of this relay will trip both the Transmission Provider's breaker and the Interconnection Customer's fault interrupter.

6.1.5 DATA REQUIREMENTS (RTU)

Data from the collector station will need to be fed into the Transmission Provider's supervisory control and data acquisition (SCADA) system to facilitate

the operation of the transmission system. To accomplish this, a remote terminal unit (RTU) will be installed in the point of interconnection substation. The RTU will need to communicate with the Transmission Provider's SCADA master in Salt Lake City. Besides the remote control and indication of the line breaker in the point of interconnection substation; data will be needed from the collector station. A data concentrator will be instated in the collector station and the data from the data concentrator will be fed via a fiber optical cable into a data port on the point of interconnection substation RTU. The data stream will use the DNP 3.0 protocol. The following data will be monitored by the RTU from the two facilities:

Point of interconnection substation:

Analogs:

- Net generation MW
- Net generator MVAR
- A phase 69-kV voltage
- B phase 69-kV voltage
- C phase 69-kV voltage
-

Status:

- 69-kV circuit breaker
- Line relay trouble alarm

Accumulator Pulses:

- Interchange metering kWH

Collector station:

Analogs:

- Real power output from the 34.5-kV collector circuit
- Reactive power output from the 34.5-kV collector circuit
- Reactive power output from the switched reactive source
- Wind speed

Status:

- 34.5-kV and 69-kV circuit breakers

Because of the different transmission configurations, the line relays at the point of interconnection substation will need to be switched to different setting groups for the different line configurations. To accomplish the switching of the setting groups, remotely controlled contacts from the RTU will be used to control the line relays.

The interchange real power MW will need to be telemetered to the PacifiCorp alternative control center at Casper Substation independent of the analog supplied to the RTU

6.1.6 COMMUNICATION REQUIREMENTS

In order to meet the communication needs of the Interconnection Customer's generation facility, fiber optic ground wire (OPGW) is to be installed on the existing line from Casper substation to the collector substation. Fiber nodes and multiplex will be required at both ends. Along with an RTU required at the collector station using channels on both the new fiber and existing communication infrastructure running to Casper service center and SCC control center.

The Transmission Provider currently has a project planned to convert the 69-kV Sand Hills Line between Casper and Community Park substations to 115-kV ("Conversion Project"). This Conversion Project is currently in the planning stages and is anticipated to be under construction prior to the execution of the Interconnection Agreement for the proposed generation facility. In order to coordinate with the current Conversion Project that the Transmission Provider is undertaking and the future plans to interconnect the proposed generation facility to this same line. Under a separate agreement the Interconnection Customer has requested that Transmission Provider replace the planned shield wire with optical ground wire ("OPGW") that will allow the Interconnection Customer to install the required communication system to support the proposed generation facility.

<u>For Line Protection</u>

High speed communication will be required between the collector substation and Casper Substation.

<u>For Data Delivery to the Control Centers</u>

Communication between the collector substation and Casper Substation and configuration of the appropriate channels on the Transmission Provider's existing communication system will be required.

6.1.7 SUBSTATION REQUIREMENTS

To interconnect the proposed generation facility, a 72.5-kV circuit breaker, metering unit and associated disconnect switches that allow for the connection of the Interconnection Customer's facility on to PacifiCorp's Sand Hills 69-kV Transmission line will need to be installed.

Since the required point of interconnection substation will be built adjacent to the facility, the Transmission Provider and the Interconnection Customer's facility's ground mat are to be tied together. The Transmission Provider's portion of the yard is to be included in the client's fence in area and is to contain gate(s) that are accessible by PacifiCorp personnel and their vehicles. It is assumed that the facility will provide space in their control house for PacifiCorp's panels and will supply the required A/C & D/C circuits to PacifiCorp's breaker and panels. The following is a list of the major equipment required:

1 – 72.5-kV, 2000A circuit breaker

2 – 69-kV, 2000A, TPST, vertical break, manually operated switch

3 – 48-kV MCOV surge arresters

3 – 69-kV metering units

6.1.8 METERING REQUIREMENTS

The interchange metering planned for the proposed generation facility will be rated for the total net generation of the facility. The Transmission Provider will design, procure and install all interconnection revenue metering. The metering structures will be designed to accommodate both 69-kV and 115-KV instrument transformers. The metering instrument transformers shall be manufactured by Areva-Ritz and be a combination KOTEF CT/VT wye connected design. The primary metering transformers shall be extended range for high accuracy metering with ratio's to be determined once the facilities study is completed.

The metering design package will include two revenue quality meters, a test switch, and all digital and analog data terminated at a metering interposition block. One meter will be designated a primary meter and be used for EMS data that includes bidirectional KWH quantities, and instantaneous MW, MVAR and per phase voltage data sent to the Transmission Provider's SCADA system. The second or backup meter will be used for telemetry MW data sent to the alternate control center. A dial-up phone line is required for retail sales and generation accounting via the MV-90 translation system.

6.2 COST ESTIMATE

The following estimate represents only scopes of work that will be performed by the Distribution Provider. Costs for any work being performed by the Interconnection Customer are not included.

*Point of Interconnection Substation *Protection & Controls, Substation, Metering, Communications and Project Management*	$ 1,422,150
*Casper Substation *Protection & Controls, Substation, Metering, Communications and Project Management*	$ 172,425
Transmission Line *Transmission Line work, Communications and Project Management*	$ 292,350
Additional Communications Work *Generation facility, WECC communications, SCC Communications Project Management*	$ 29,300
Total Project	**$ 1,916,225**

**The current scope of work allows for approximately seven miles of OPGW (from Casper substation to the point of interconnection) to be installed as part of a separate agreement with the Transmission Provider. Should that separate agreement not proceed, the cost associated with the OPGW will need to be determined and added to the total scope of work for this project.*

Note: If necessary to complete the construction, costs for all excavation, duct installation and easements shall be borne by the Interconnection Customer and are not included in this estimate. This estimate is as accurate as possible given the level of study that has been undertaken to date and approximates the costs incurred by PacifiCorp to interconnecting this generator to PacifiCorp's electrical distribution system. A more detailed estimate is calculated during the Facilities Study. The Interconnection Customer will be responsible for all actual costs, regardless of the estimated costs communicated to or approved by the Interconnection Customer.

6.3 SCHEDULE

Notwithstanding equipment lead-time, it is estimated that the upgrades required to place this facility in service could be completed within eighteen months of a signed interconnection agreement. Further details regarding the schedule will be available through the Facilities Study when a more detailed estimate has been prepared.

7.0 MAXIMUM AMOUNT OF POWER THAT CAN BE DELIVERED INTO NETWORK LOAD, WITH NO TRANSMISSION MODIFICATIONS (FOR INFORMATIONAL PURPOSES ONLY)

0 MW can be delivered on a firm basis to PacifiCorp network loads. For at least some hours on an 'as capacity is available basis', 100 % of the Facility output can be delivered to PacifiCorp network loads. See discussion in Section 5.0.

8.0 ADDITIONAL TRANSMISSION MODIFICATIONS REQUIRED TO DELIVER 100% OF THE POWER INTO NETWORK LOAD (FOR INFORMATIONAL PURPOSES ONLY)

See discussion in Section 5.0.

8.1 QUALIFIED FACILITY (QF) INTERCONNECTION SERVICE

Delivery through QF interconnection service allows the Interconnection Customer to integrate its generating facility with the Transmission Provider's transmission system in a manner comparable to how PacifiCorp integrates its generating facilities to serve native load customers. The transmission system is studied at peak load under a variety of severely stressed conditions in order to determine the transmission modifications, if any, which are necessary in order to deliver the aggregate generation in the area of the point of interconnection to PacifiCorp's aggregate load. The study assumes that some portion of existing network resources are displaced by the output of the Interconnection Customer's generating facility. Delivery as a QF interconnection service in and of itself does not convey transmission service.

8.2 STUDY RESULTS

Wyoming has more generation than load; as such, surplus energy is always exported to other states, and the transmission paths to PacifiCorp's main network load areas in

Washington, Oregon, and Northern California (the Bridger West path[1]) and to Southeast Idaho and Utah (the Monument West path[2]) are fully committed on a firm basis. In order to accommodate additional exports from Wyoming, PacifiCorp recently announced plans to construct new transmission lines (the Energy Gateway facilities) from Wyoming to points in Idaho, Oregon, Utah, and the Desert Southwest. An overview of these plans can be found at the Northern Tier Transmission Group website (http://www.nttg.biz/site/) or at the following internet locations:

- http://www.oasis.pacificorp.com/OASIS/PPW/TransmissionExpansionPlans.pdf
- http://www.pacificorp.com/Press_Release/Press_Release74796.html.

PacifiCorp's transmission expansion plan is presently in the Western Electricity Coordinating Council's Regional Planning process, a process intended to encourage participation by other entities. Until this process is complete, the exact nature of the facilities that will be required to satisfy all individual participants, as well as regional needs, is unclear. These new lines are expected to be completed in phases with the first in-service dates unlikely to occur before 2012.

PacifiCorp is reserving an amount of transmission capacity on these new transmission lines for network resource interconnection service. Since these new lines (as proposed) will extend from the Jim Bridger/Windstar/Aeolus substation areas to PacifiCorp's main network load areas in Utah as well as to the Oregon/Washington coast area, this study will assume that the capacity necessary to provide network resource interconnection service for the Interconnection Customer's Facility from these substations will be provided on these new facilities.

There is capacity from the point of interconnection to Windstar, a major Gateway hub. The Facility will require a 19.5 MW share of the Gateway West facility. However, as the Facility in-service date (June 2009) precedes the expected in-service date of the Gateway West facility and there are more existing and planned generating resources in Wyoming than delivery capacity. Until new transmission capacity is available, use of the Interconnection Customer's Facility to supply network loads will have to be via displacement of other designated network resources in Eastern Wyoming. To the extent that new network loads are added in Wyoming, the amount of 'stranded' surplus resources will be reduced, but is unlikely to be in an amount sufficient to eliminate the overall resource surplus.

The new Gateway West lines are expected to be completed in phases with the first in-service dates unlikely to occur before 2012.

9.0 PARTICIPATION BY AFFECTED SYSTEMS

Transmission Provider has identified the following systems: WAPA, Black Hills Power and Basin Electric, as potential affected systems. They will be invited to all scoping and study review meetings and have all been provided copies of the study reports.

[1] Sum of flows on the three 345kV lines west of the Jim Bridger power plant.

[2] Sum of flows on two 230kV lines west of the Monument substation.

10.0 APPENDICES

Appendix 1: Power Flow Plots

Appendix 2: Transient Stability Analysis

APPENDIX A:

POWER FLOW PLOTS

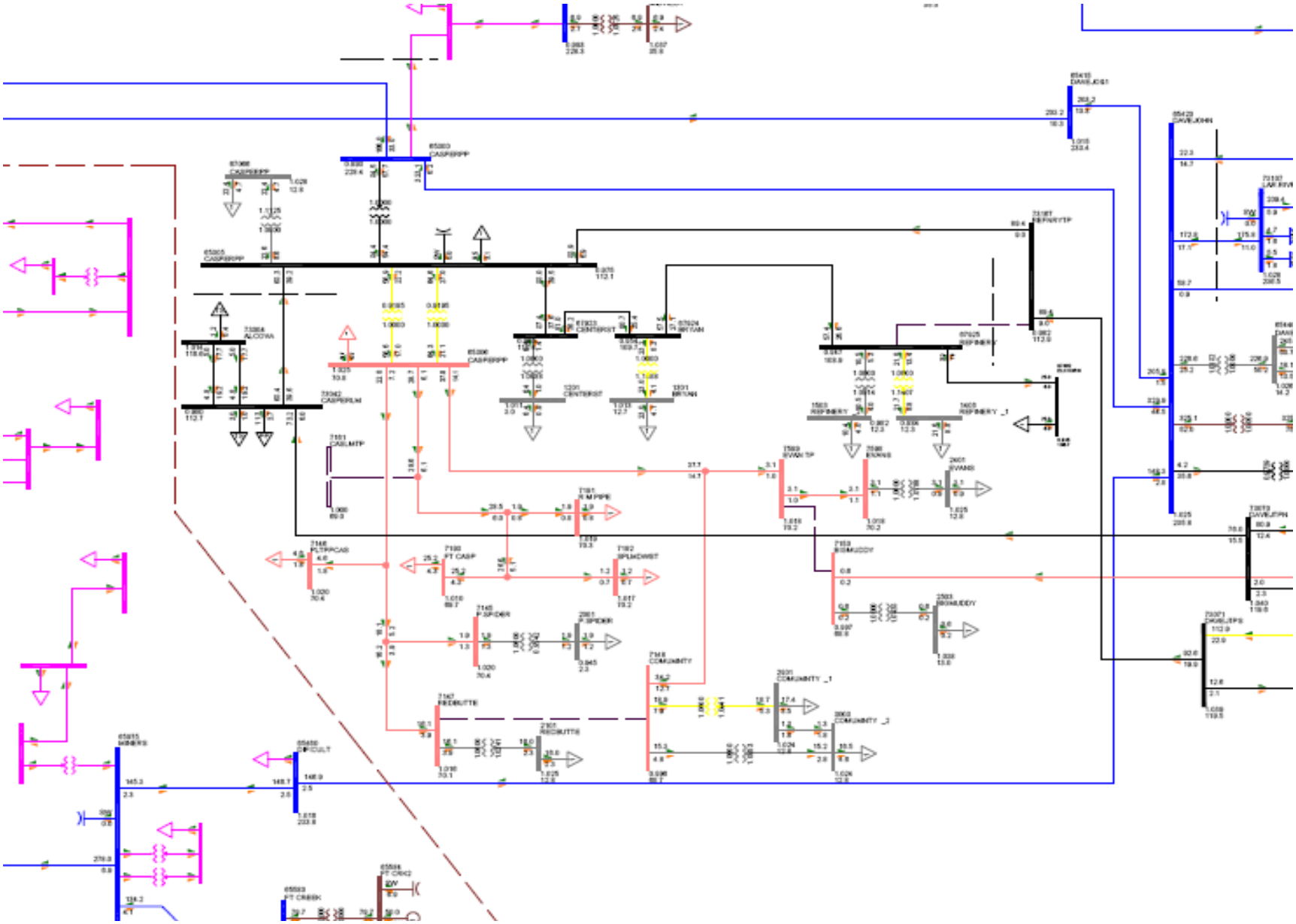


Figure A-1: Pre-Facility – Interconnection to 69 kV system

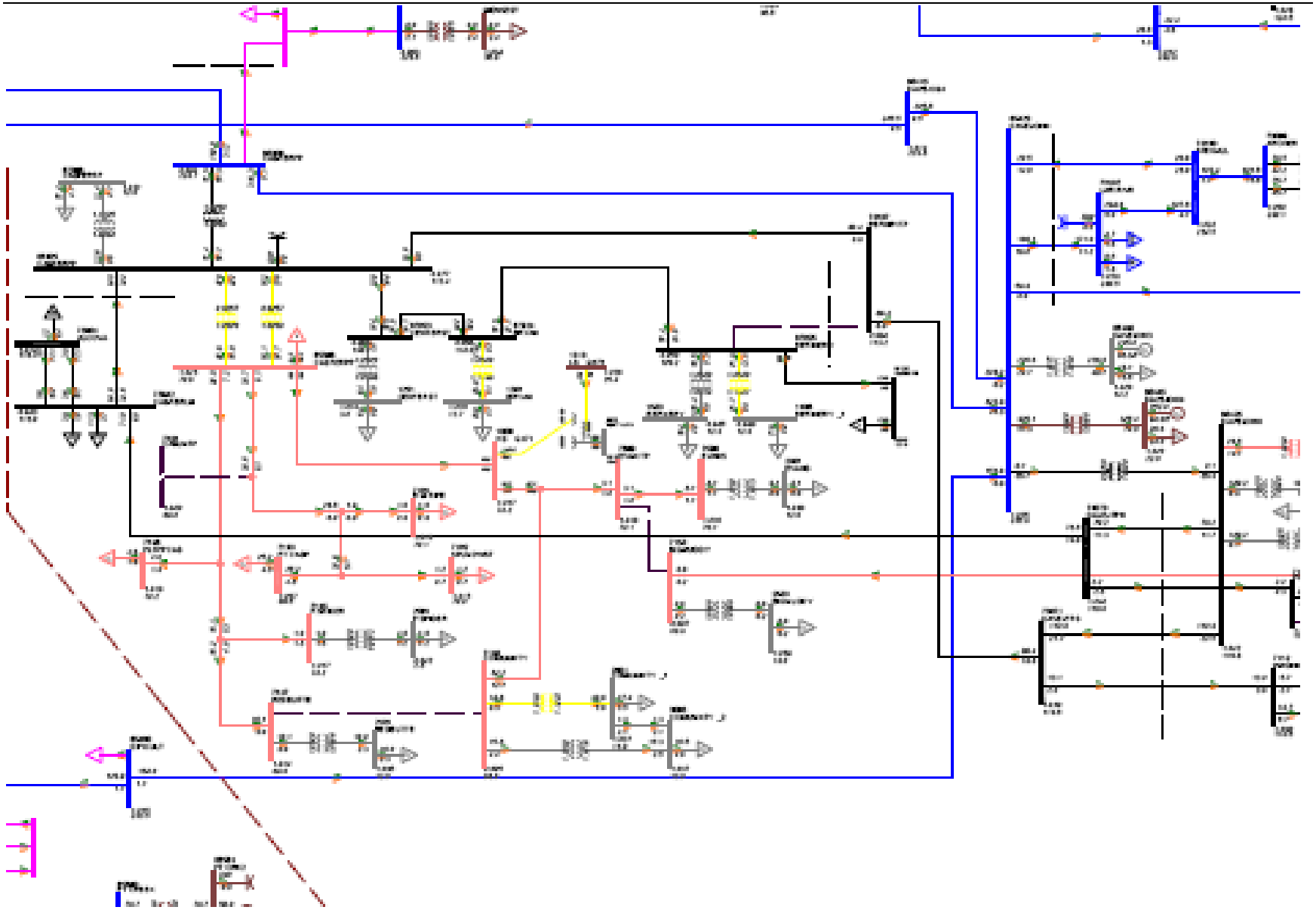


Figure A-2: Post-Facility – Interconnection to 69 kV system

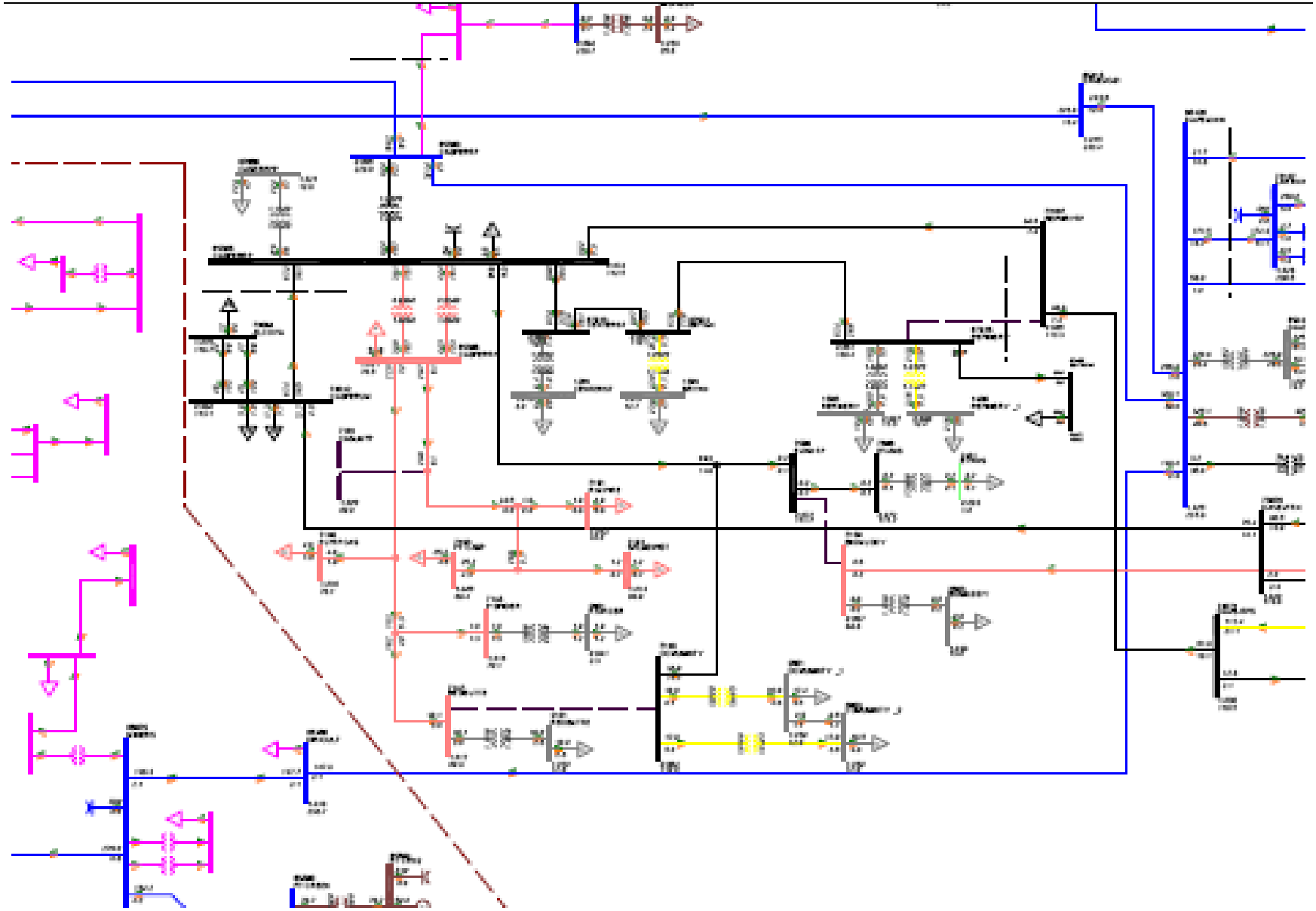


Figure A-3: Pre-Facility – Interconnection to 115 kV system

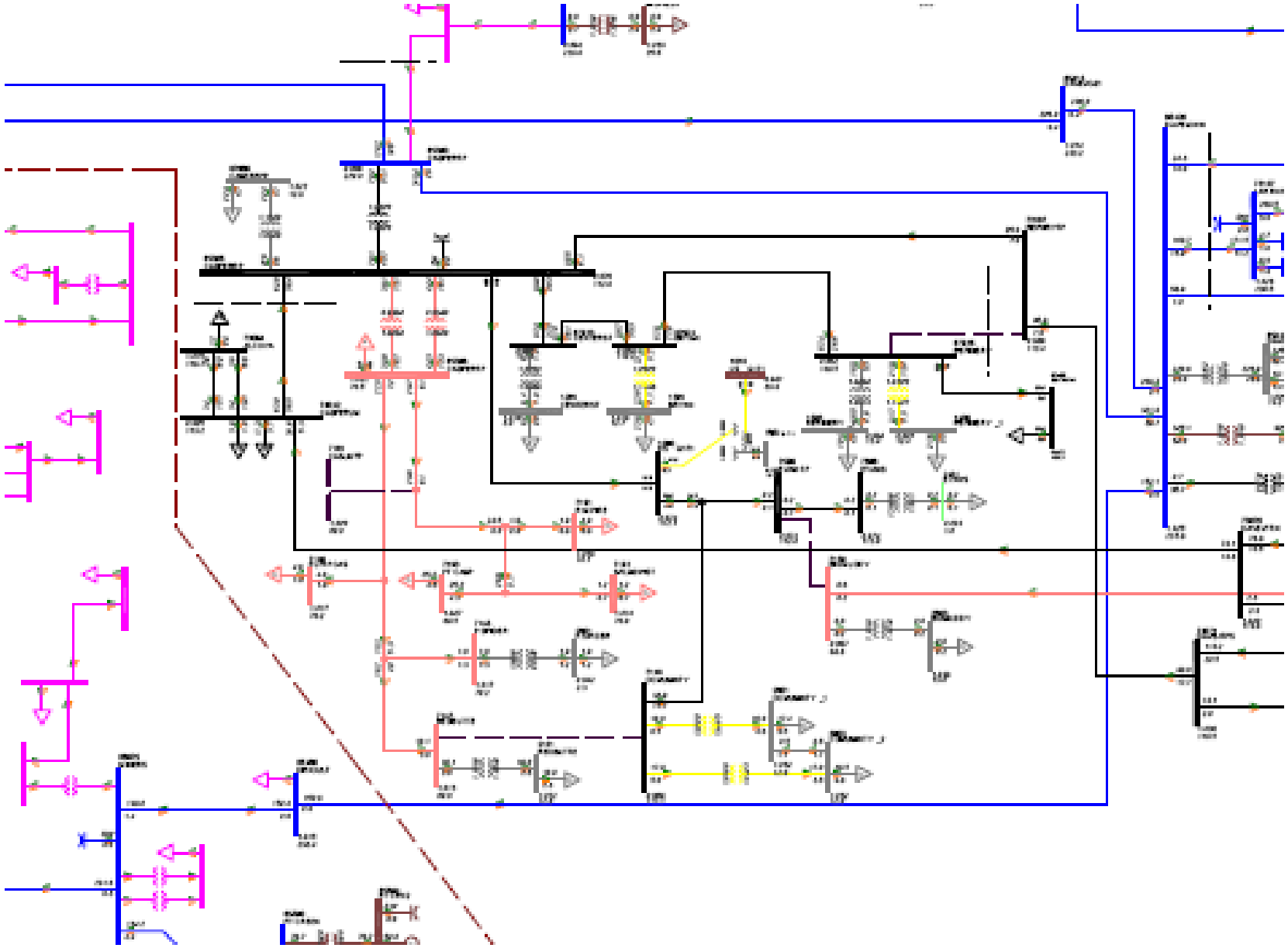
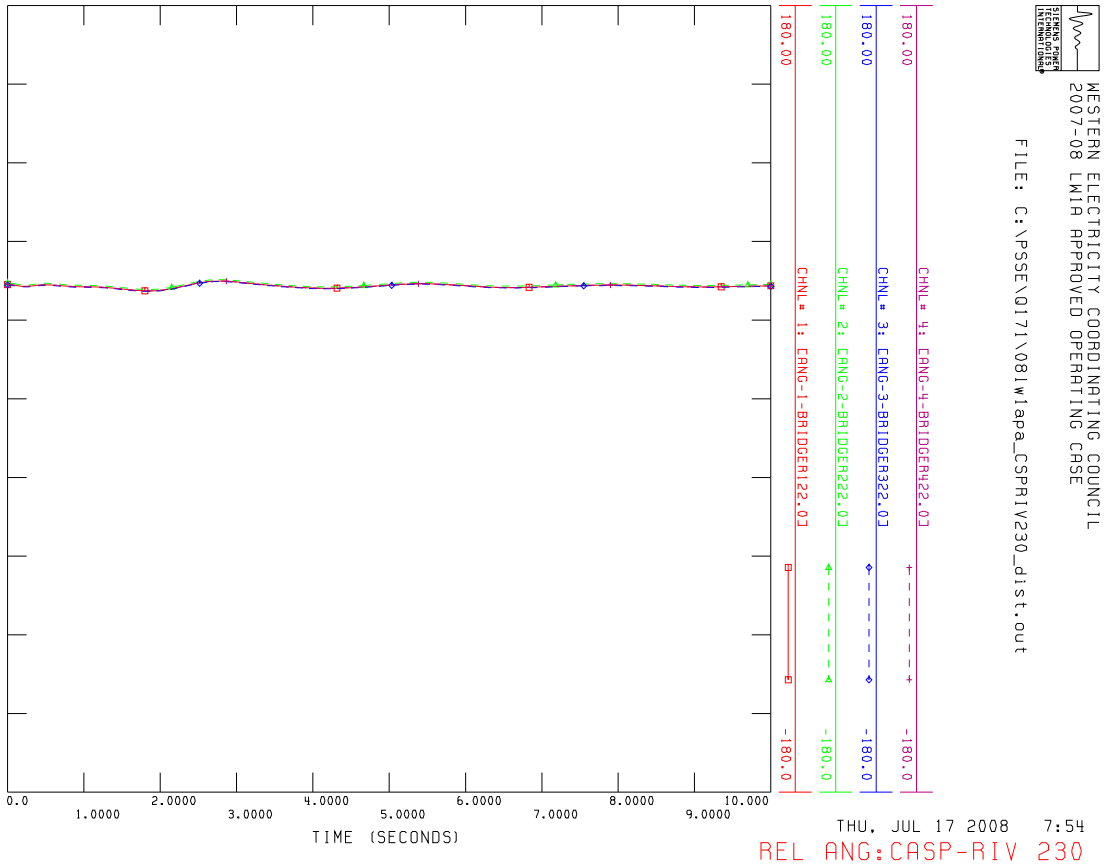


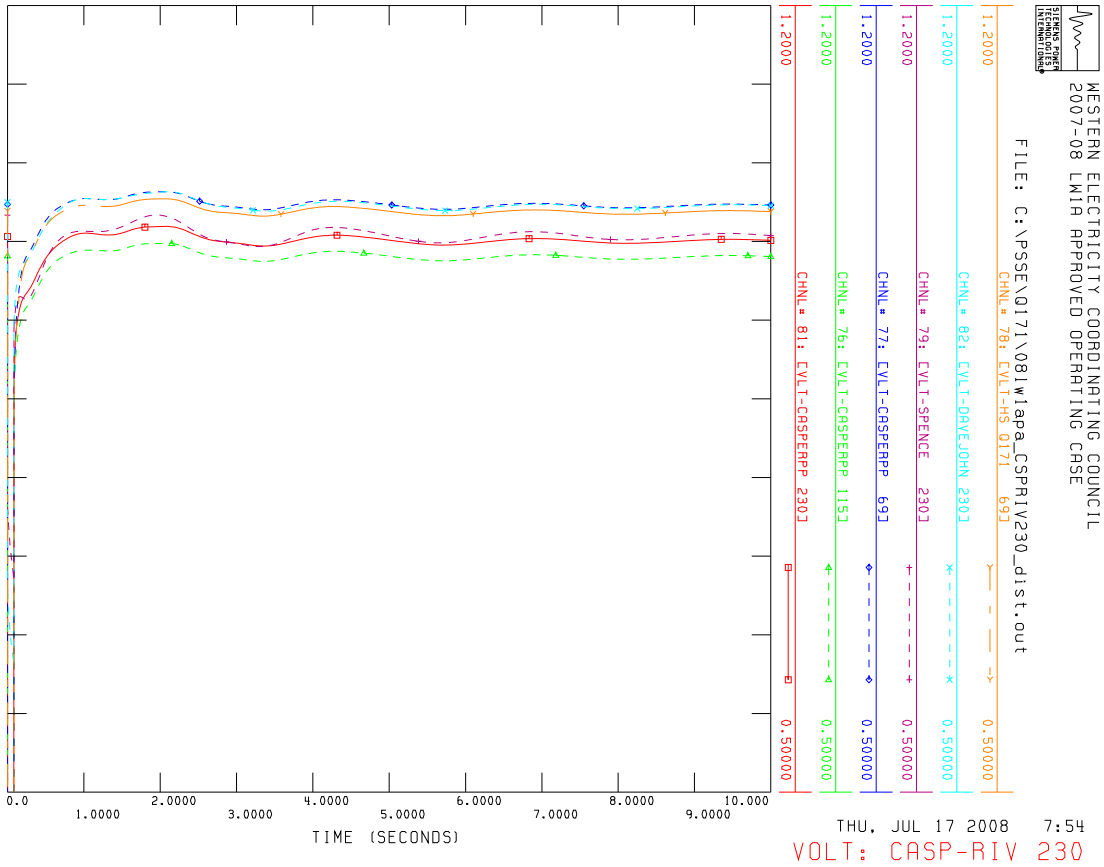
Figure A-4: Post-Facility – Interconnection to 115 kV system

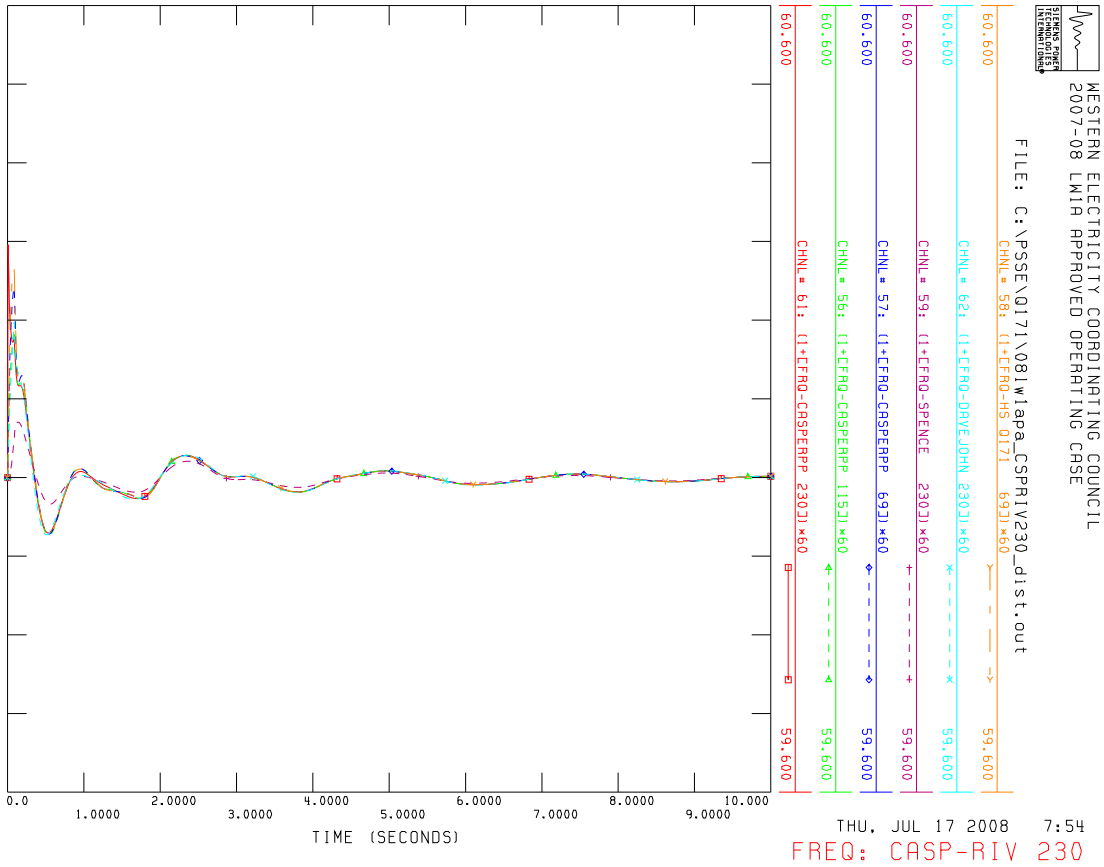
APPENDIX B:

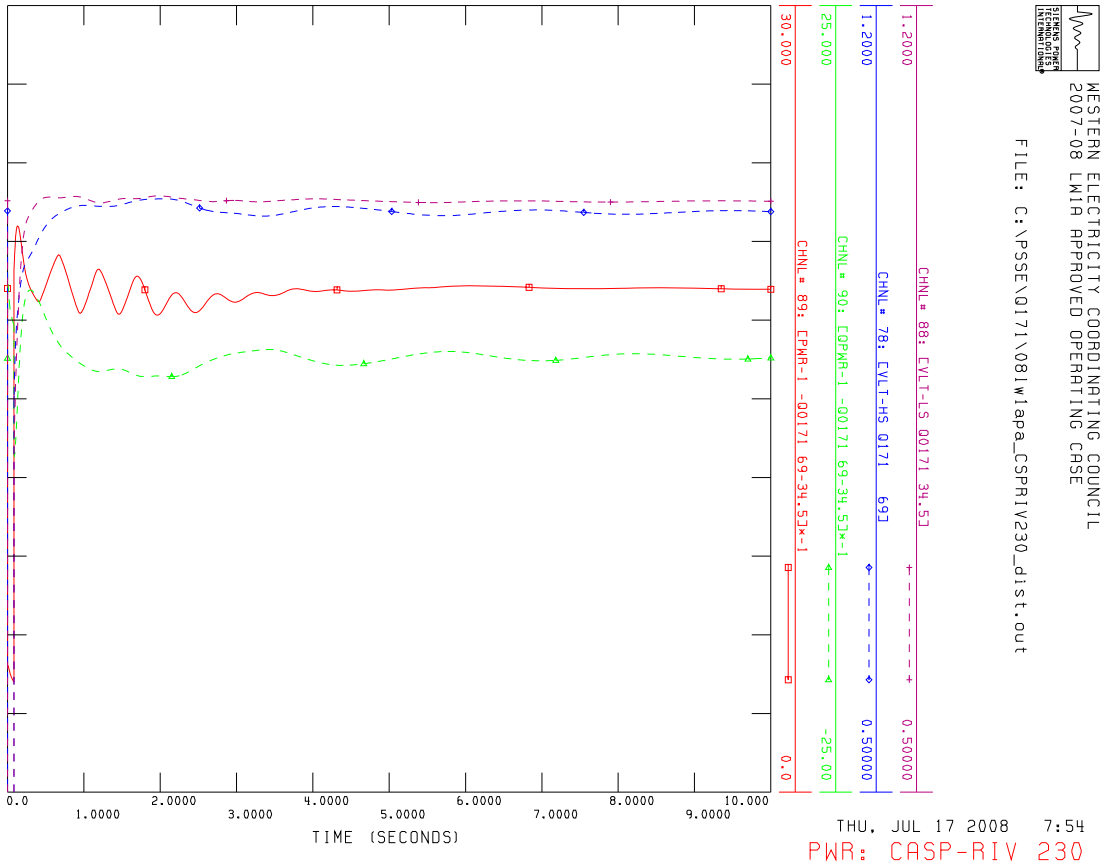
TRANSIENT STABILITY PLOTS

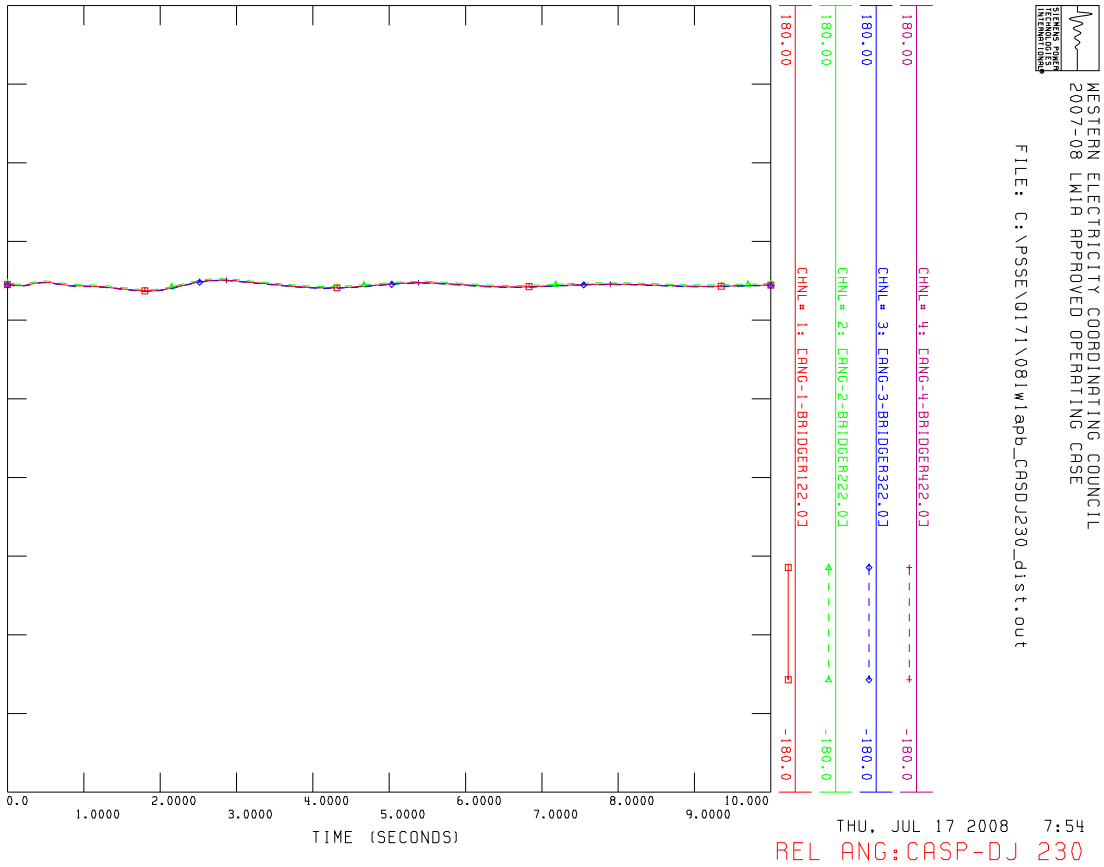
INTERCONNECTION TO 69-kV SYSTEM

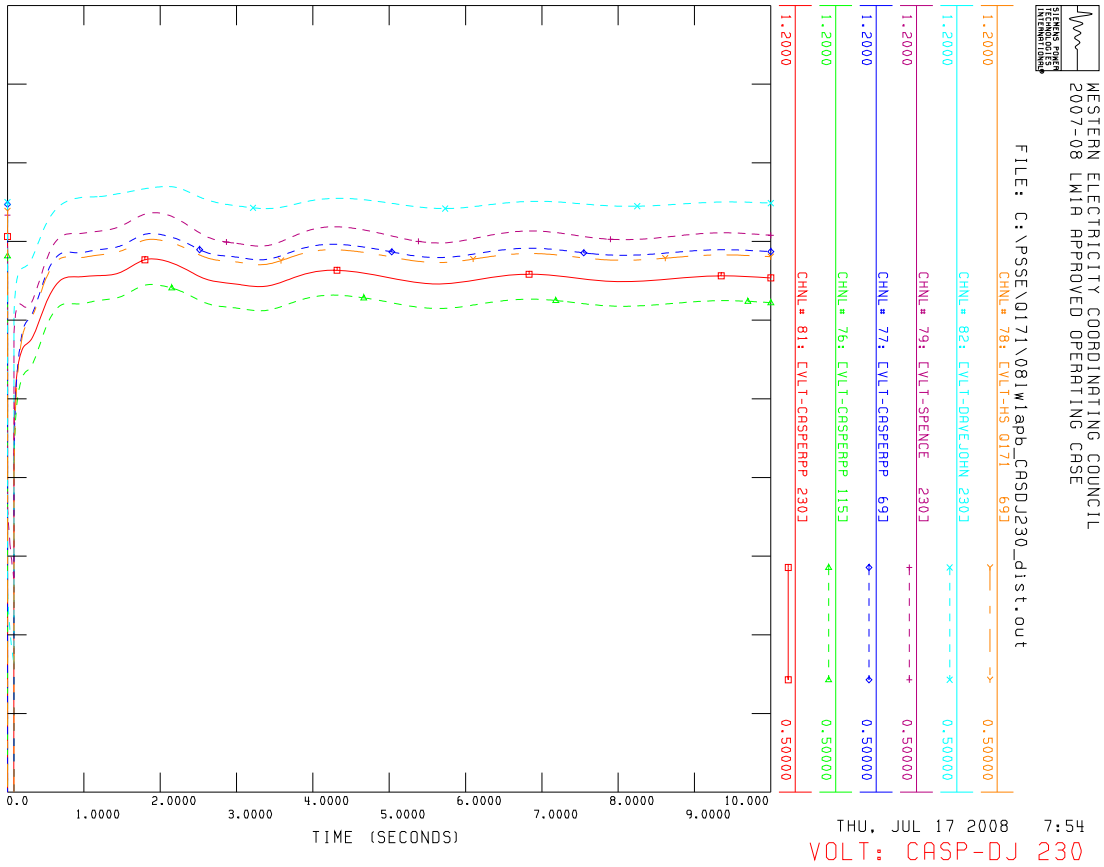

WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\Q171\08lw1apa_CSPRIV230_dist.out
180.00
CHNL= 4: [ANG-4-BRIDGER422.0]
-180.0
180.00
CHNL= 3: [ANG-3-BRIDGER322.0]
-180.0
180.00
CHNL= 2: [ANG-2-BRIDGER222.0]
-180.0
180.00
CHNL= 1: [ANG-1-BRIDGER122.0]
-180.0
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU, JUL 17 2008 7:54
REL ANG:CASP-RIV 230

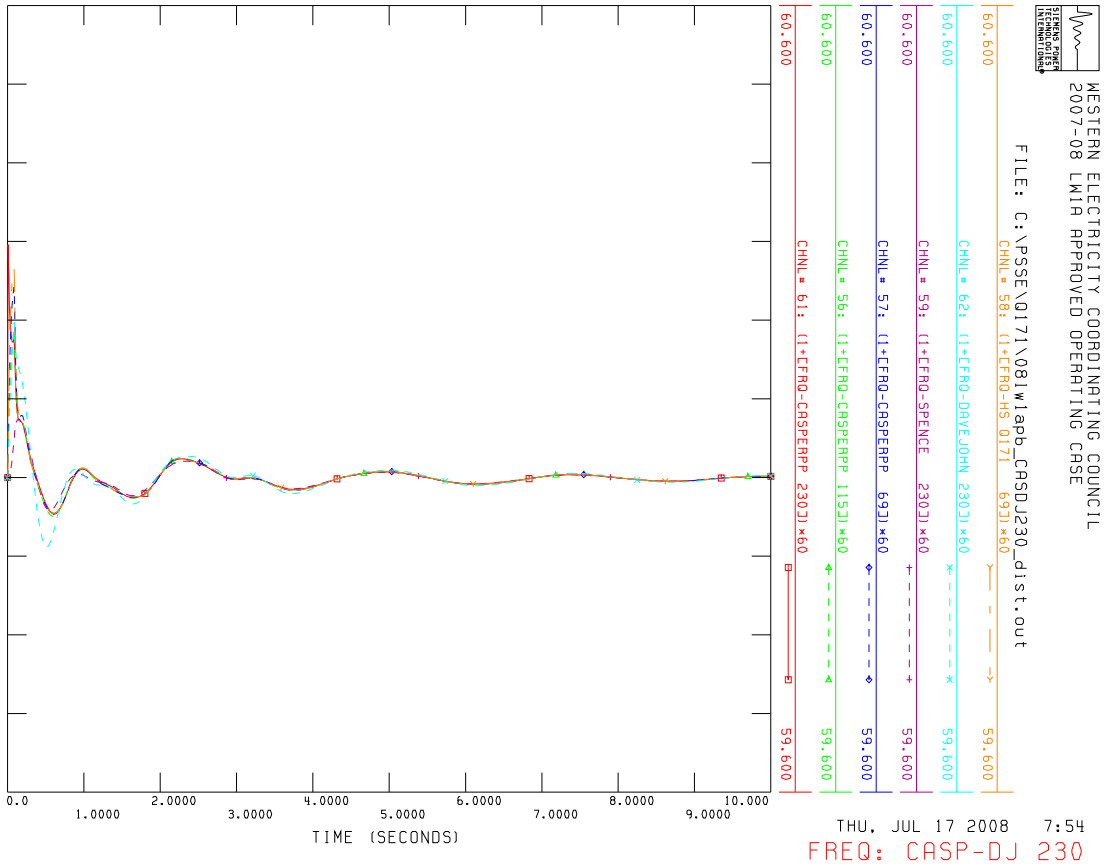

WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\0171\08lwlapa_CSPRIV230_dist.out
CHNL# 78: [VLT-HS 0171 69] 1.2000 0.50000
CHNL# 82: [VLT-DAVEJOHN 230] 1.2000 0.50000
CHNL# 79: [VLT-SPENCE 230] 1.2000 0.50000
CHNL# 77: [VLT-CASPERPP 69] 1.2000 0.50000
CHNL# 76: [VLT-CASPERPP 115] 1.2000 0.50000
CHNL# 81: [VLT-CASPERPP 230] 1.2000 0.50000
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU, JUL 17 2008 7:54
VOLT: CASP-RIV 230

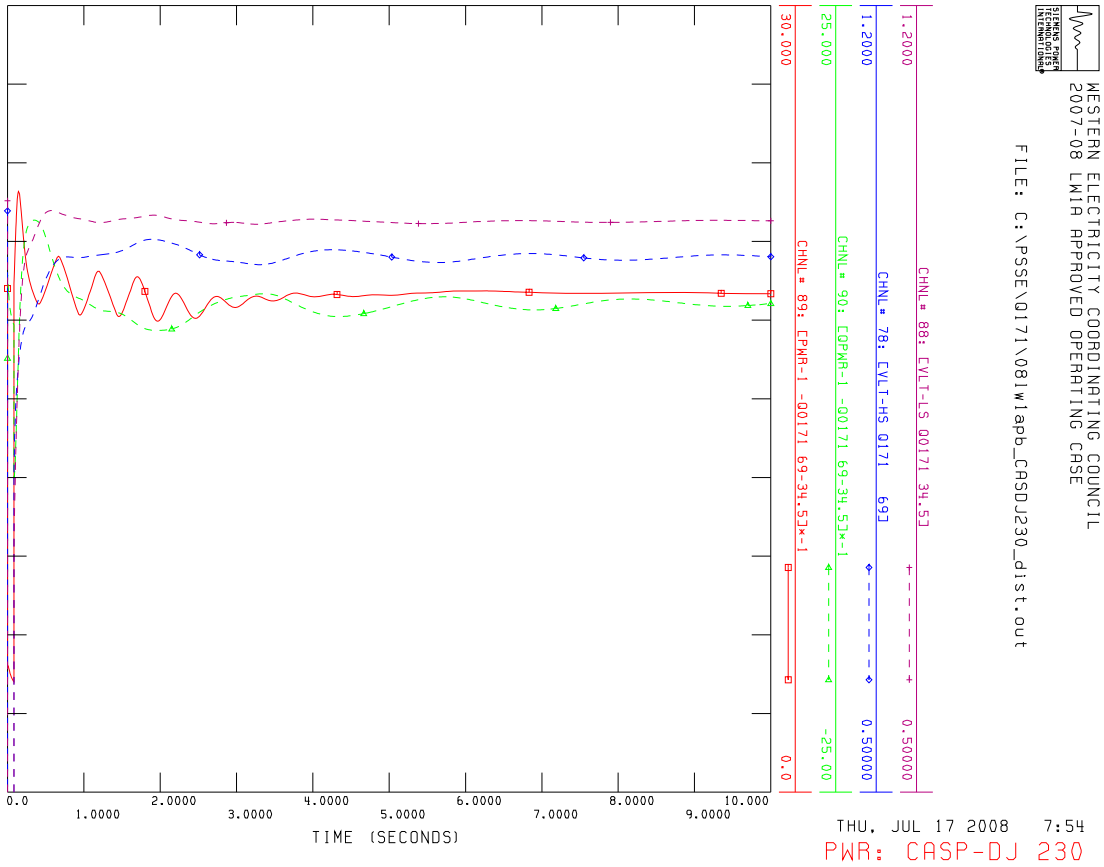

WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\Q171\08lw1apa_CSPRIV230_dist.out
CHNL= 58: [1+EFRQ-HS 0171 69]*60
CHNL= 62: [1+EFRQ-DAVEJOHN 230]*60
CHNL= 59: [1+EFRQ-SPENCE 230]*60
CHNL= 57: [1+EFRQ-CASPERAPP 69]*60
CHNL= 56: [1+EFRQ-CASPERAPP 115]*60
CHNL= 61: [1+EFRQ-CASPERAPP 230]*60
60.600
59.600
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU, JUL 17 2008 7:54
FREQ: CASP-RIV 230

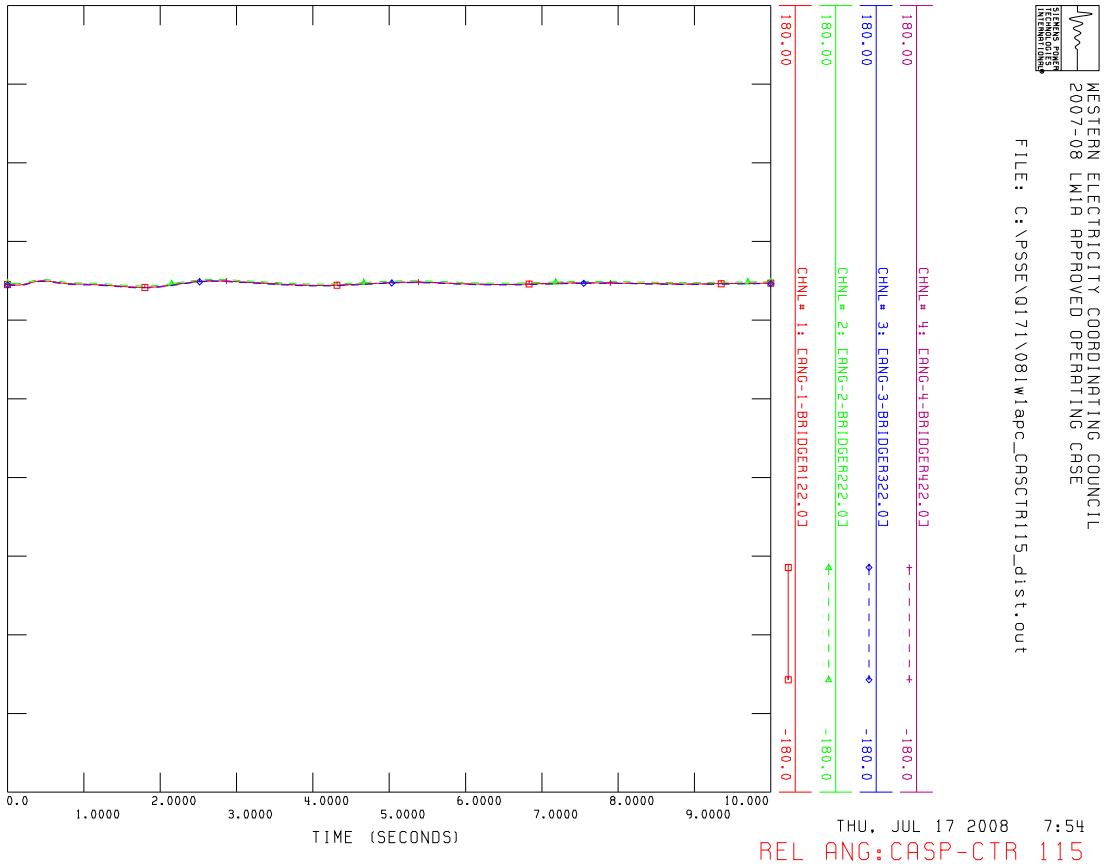

WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\0171\08lw1apa_CSPRIV230_dist.out
CHNL# 88: [VLT-LS 00171 34.5]
CHNL# 78: [VLT-HS 0171 69]
CHNL# 90: [OPWR-1 -00171 69-34.5]x-1
CHNL# 89: [PWR-1 -00171 69-34.5]x-1
1.2000
0.50000
25.000
-25.00
30.000
0.0
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU, JUL 17 2008 7:54
PWR: CASP-RIV 230

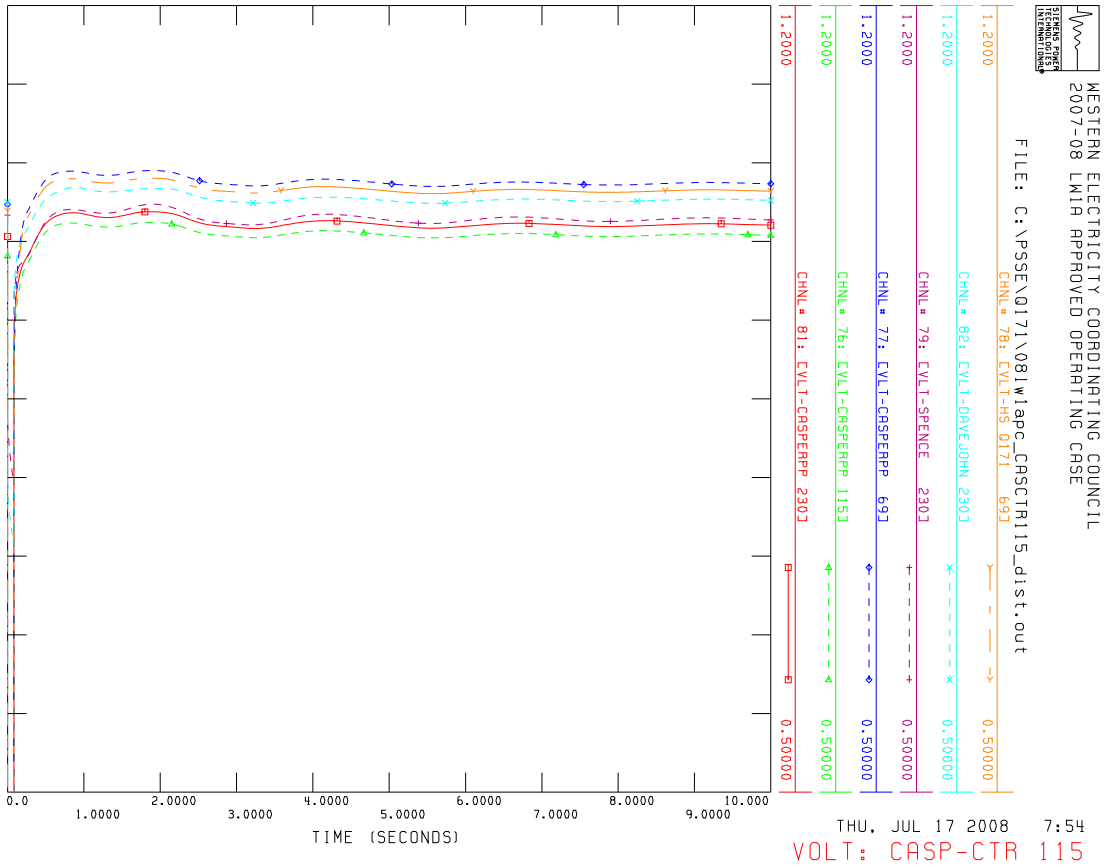

WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\Q171\08lw1apb_CASDJ230_dist.out
180.00
CHNL= 4: [ANG-4-BRIDGER422.0]
-180.0
180.00
CHNL= 3: [ANG-3-BRIDGER322.0]
-180.0
180.00
CHNL= 2: [ANG-2-BRIDGER222.0]
-180.0
180.00
CHNL= 1: [ANG-1-BRIDGER122.0]
-180.0
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU, JUL 17 2008 7:54
REL ANG:CASP-DJ 230

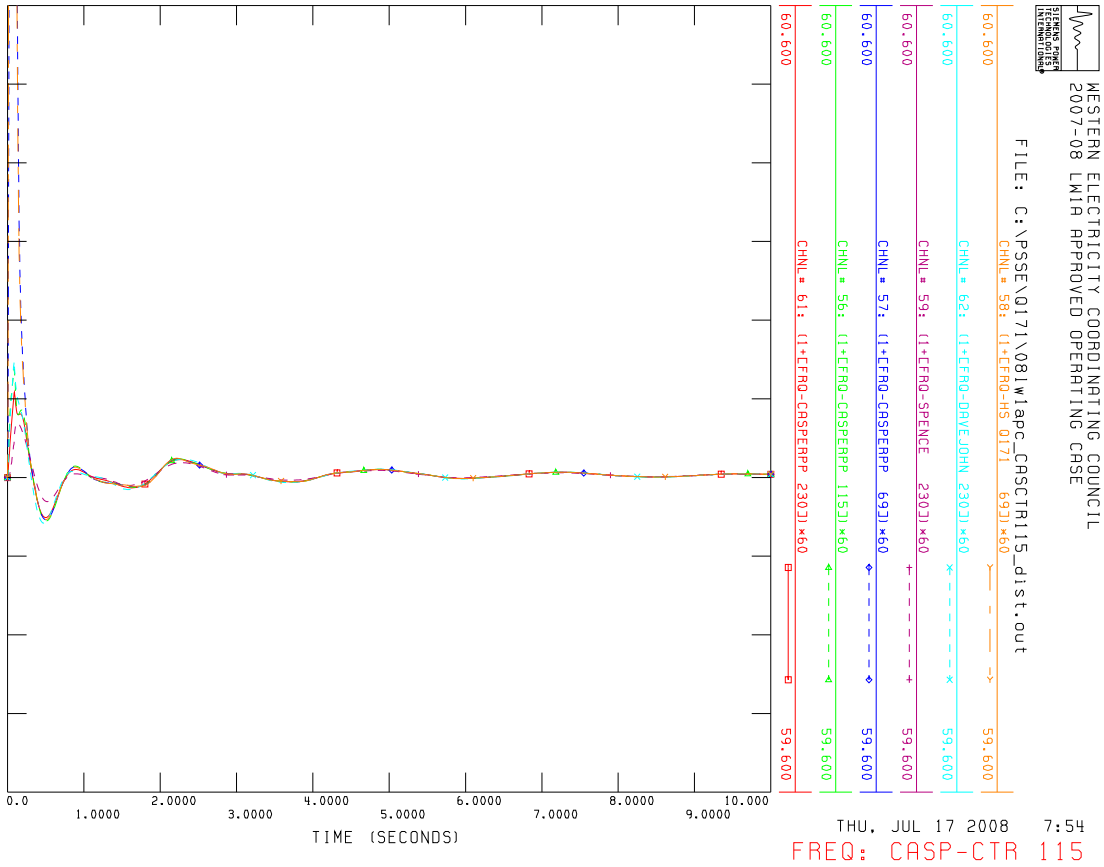

WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\Q171\08lw1apb_CASDJ230_dist.out
CHNL# 78: [VLT-HS Q171 69] 1.2000 0.50000
CHNL# 82: [VLT-DAVEJOHN 230] 1.2000 0.50000
CHNL# 79: [VLT-SPENCE 230] 1.2000 0.50000
CHNL# 77: [VLT-CASPERPP 69] 1.2000 0.50000
CHNL# 76: [VLT-CASPERPP 115] 1.2000 0.50000
CHNL# 81: [VLT-CASPERPP 230] 1.2000 0.50000
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU, JUL 17 2008 7:54
VOLT: CASP-DJ 230

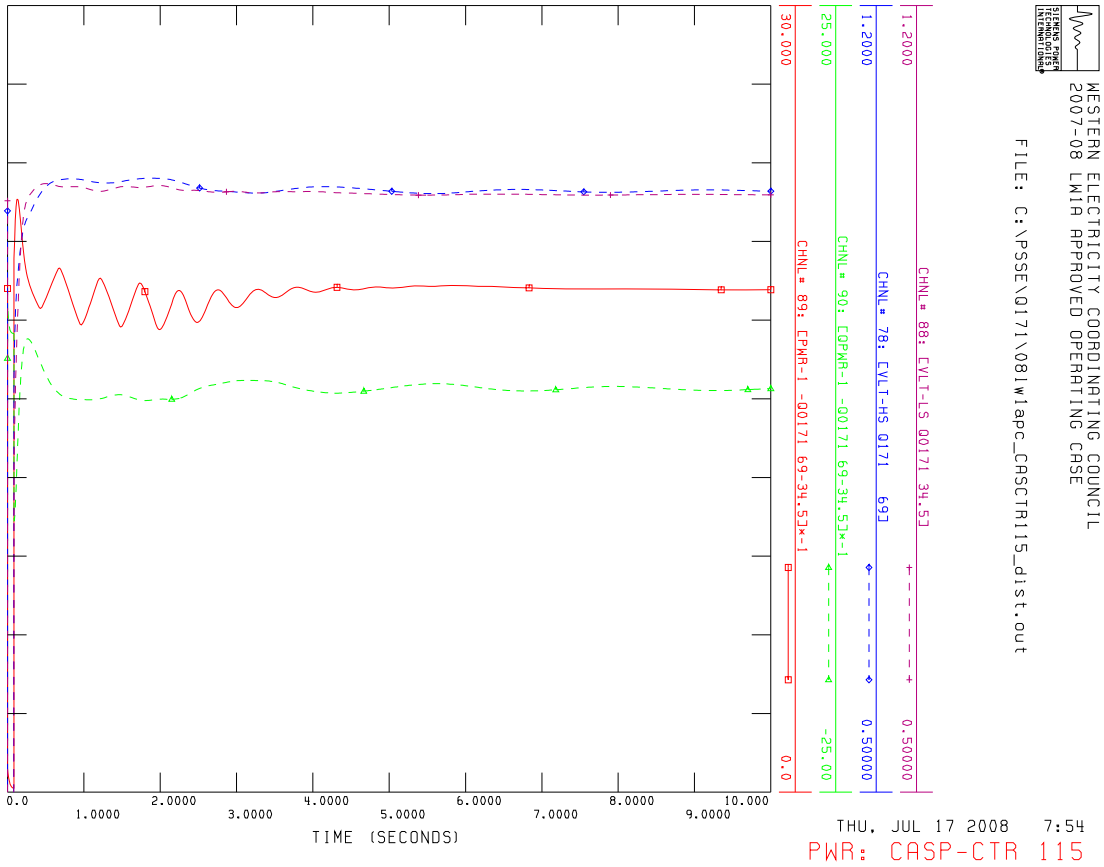

WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\Q171\08lwlapb_CASDJ230_dist.out
CHNL= 58: [1+EFRQ-HS 0171 69J]×60 60.600 59.600
CHNL= 62: [1+EFRQ-DAVEJOHN 230J]×60 60.600 59.600
CHNL= 59: [1+EFRQ-SPENCE 230J]×60 60.600 59.600
CHNL= 57: [1+EFRQ-CASPERAPP 69J]×60 60.600 59.600
CHNL= 56: [1+EFRQ-CASPERAPP 115J]×60 60.600 59.600
CHNL= 61: [1+EFRQ-CASPERAPP 230J]×60 60.600 59.600
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU. JUL 17 2008 7:54
FREQ: CASP-DJ 230

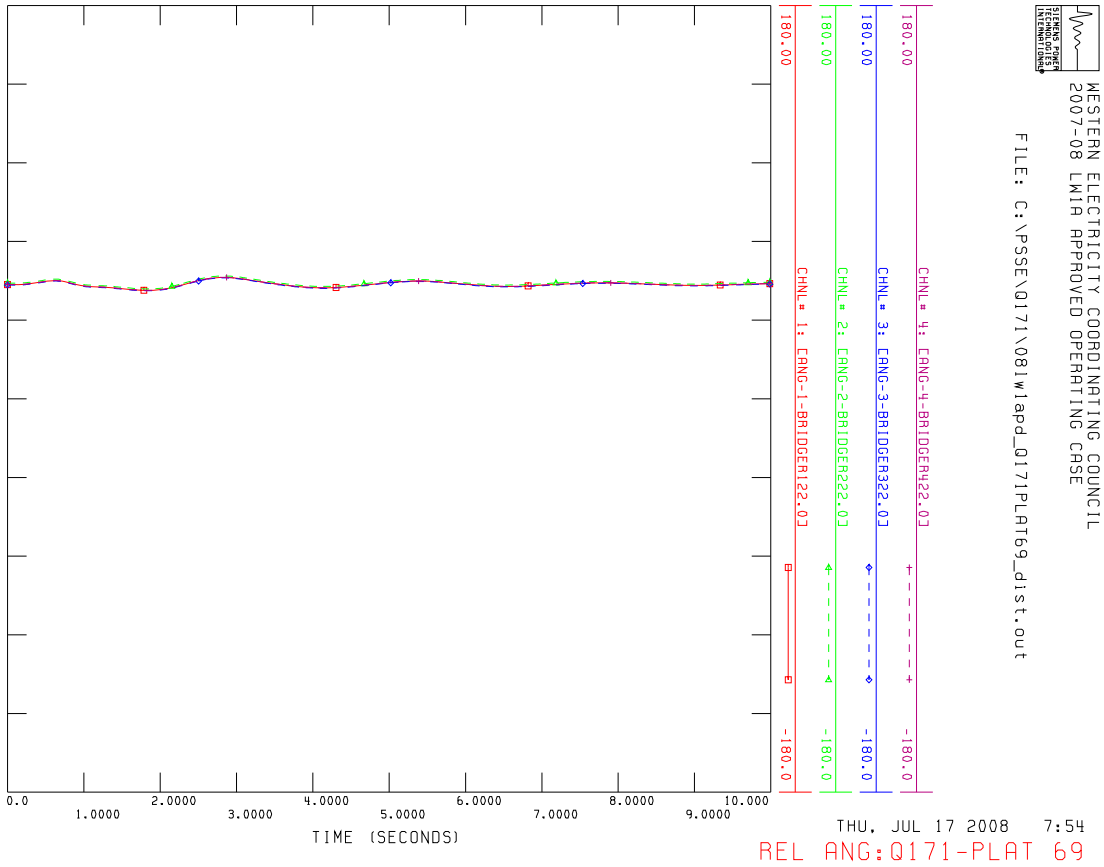

WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\Q171\08lw1apb_CASDJ230_dist.out
CHNL= 88: [VLT-LS 00171 34.5]
CHNL= 78: [VLT-HS Q171 69]
CHNL= 90: [OPWR-1 -00171 69-34.5]x-1
CHNL= 89: [PWR-1 -00171 69-34.5]x-1
1.2000
1.2000
25.000
30.000
0.50000
0.50000
-25.00
0.0
0.0
2.0000
4.0000
6.0000
8.0000
10.000
1.0000
3.0000
5.0000
7.0000
9.0000
TIME (SECONDS)
THU. JUL 17 2008 7:54
PWR: CASP-DJ 230

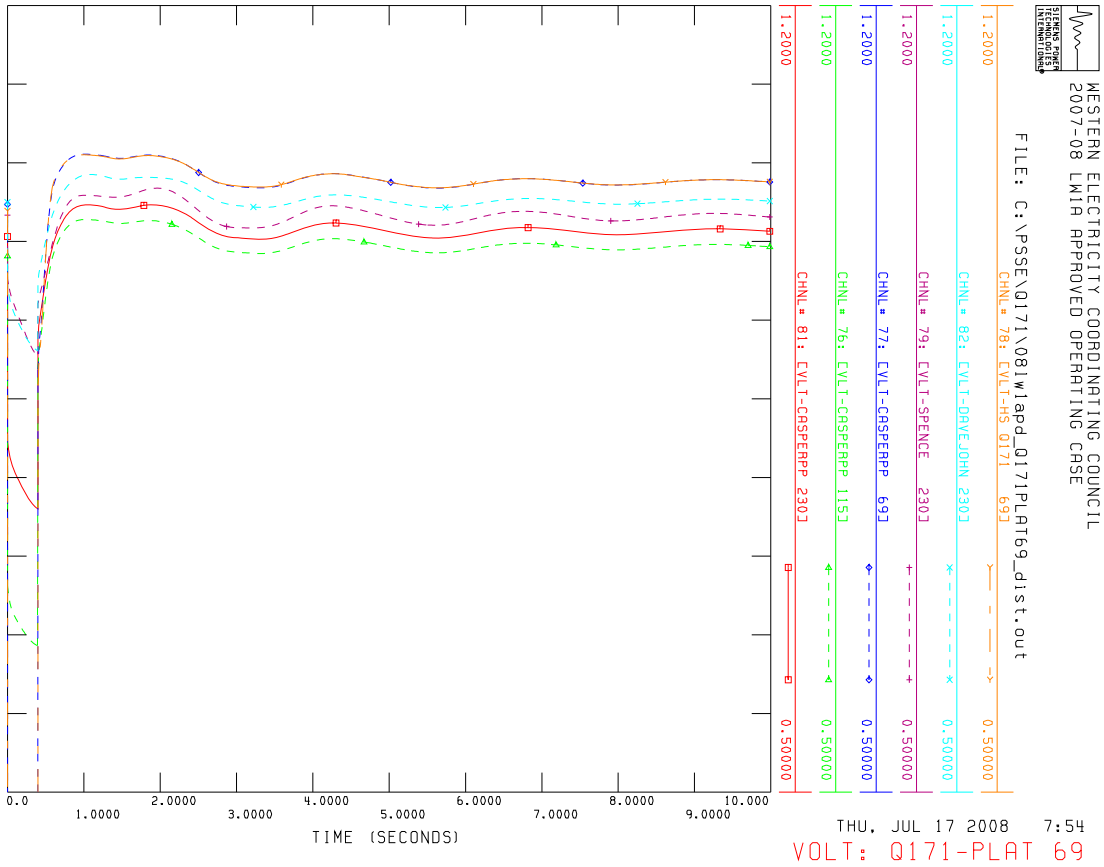

WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\0171\08lw1apc_CASCTR115_dist.out
180.00
CHNL= 4: [ANG-4-BRIDGER422.0]
-180.0
180.00
CHNL= 3: [ANG-3-BRIDGER322.0]
-180.0
180.00
CHNL= 2: [ANG-2-BRIDGER222.0]
-180.0
180.00
CHNL= 1: [ANG-1-BRIDGER122.0]
-180.0
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU, JUL 17 2008 7:54
REL ANG:CASP-CTR 115

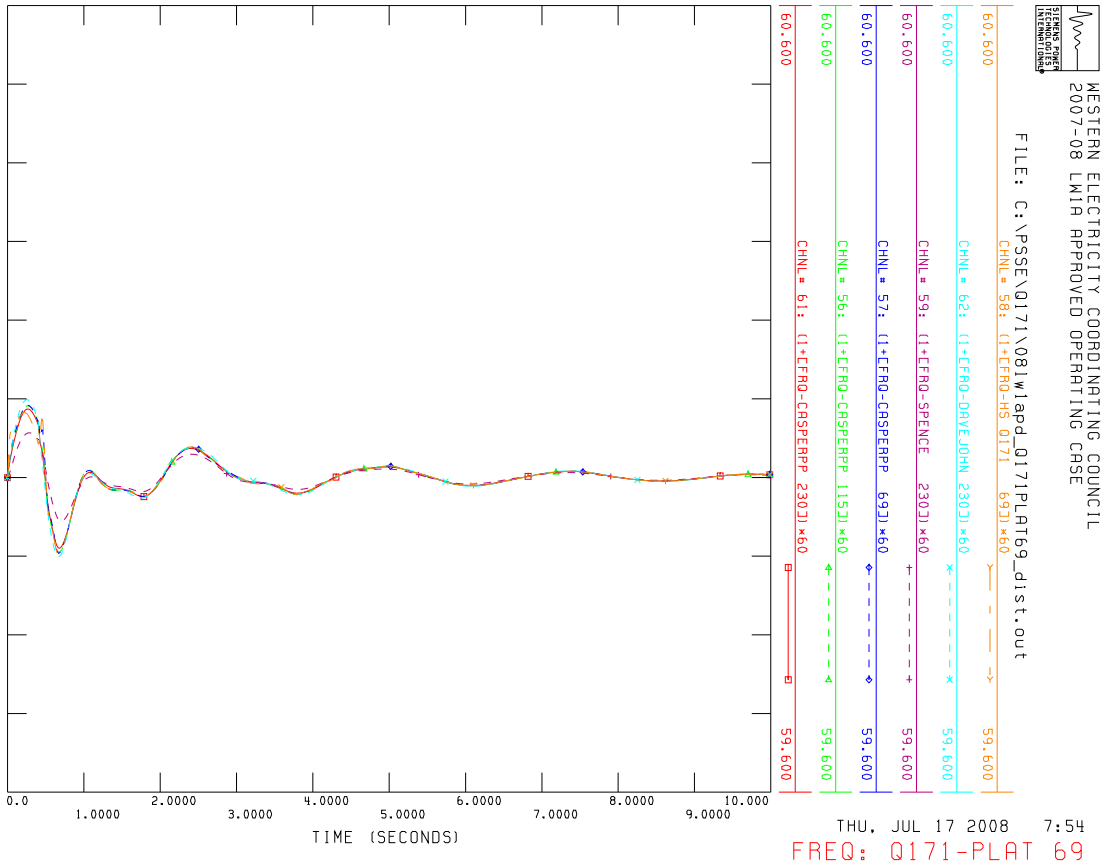

WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\0171\08lw1apc_CASCTR115_dist.out
CHNL# 78: [VLT-HS 0171 69] 1.2000 0.50000
CHNL# 82: [VLT-DAVEJOHN 230] 1.2000 0.50000
CHNL# 79: [VLT-SPENCE 230] 1.2000 0.50000
CHNL# 77: [VLT-CASPERPP 69] 1.2000 0.50000
CHNL# 76: [VLT-CASPERPP 115] 1.2000 0.50000
CHNL# 81: [VLT-CASPERPP 230] 1.2000 0.50000
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU, JUL 17 2008 7:54
VOLT: CASP-CTR 115

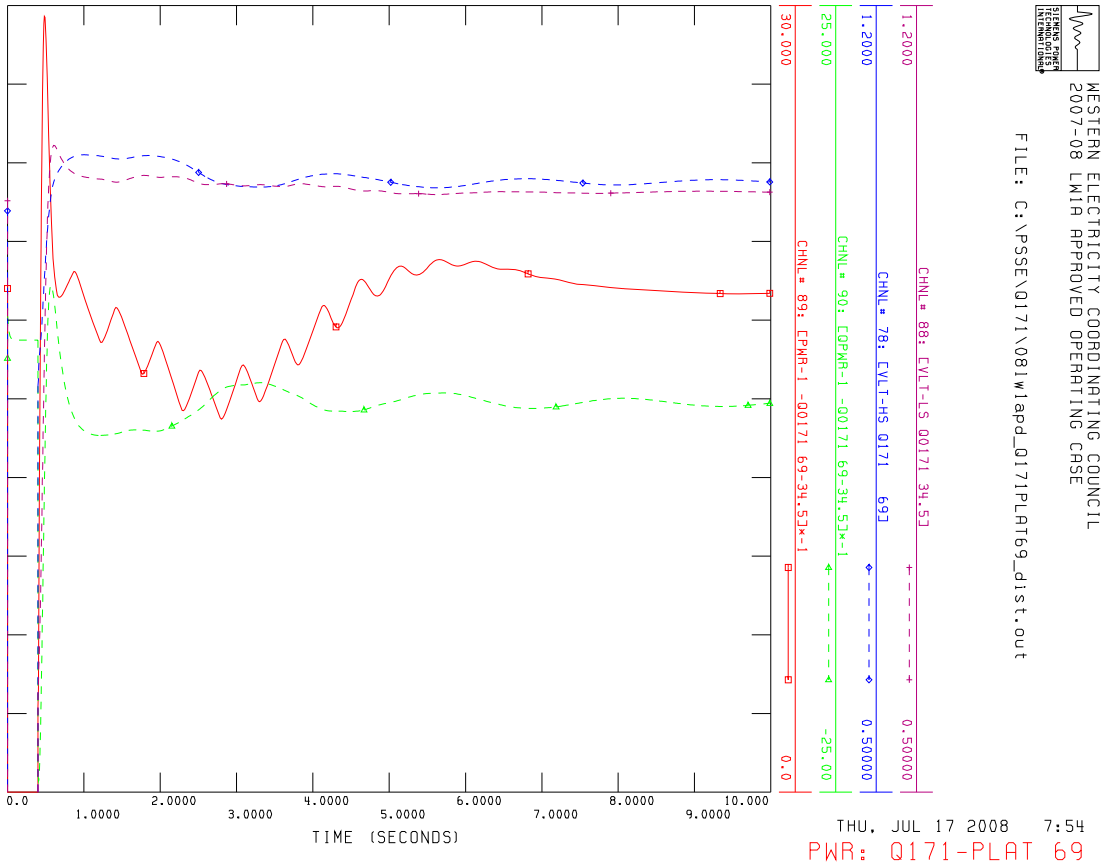

WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\Q171\08lw1apc_CASCTR115_dist.out
CHNL= 58: [1+EFRQ-HS 0171 693]×60
CHNL= 62: [1+EFRQ-DAVEJOHN 2303]×60
CHNL= 59: [1+EFRQ-SPENCE 2303]×60
CHNL= 57: [1+EFRQ-CASPERAPP 693]×60
CHNL= 56: [1+EFRQ-CASPERAPP 1153]×60
CHNL= 61: [1+EFRQ-CASPERAPP 2303]×60
60.600
59.600
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU, JUL 17 2008 7:54
FREQ: CASP-CTR 115

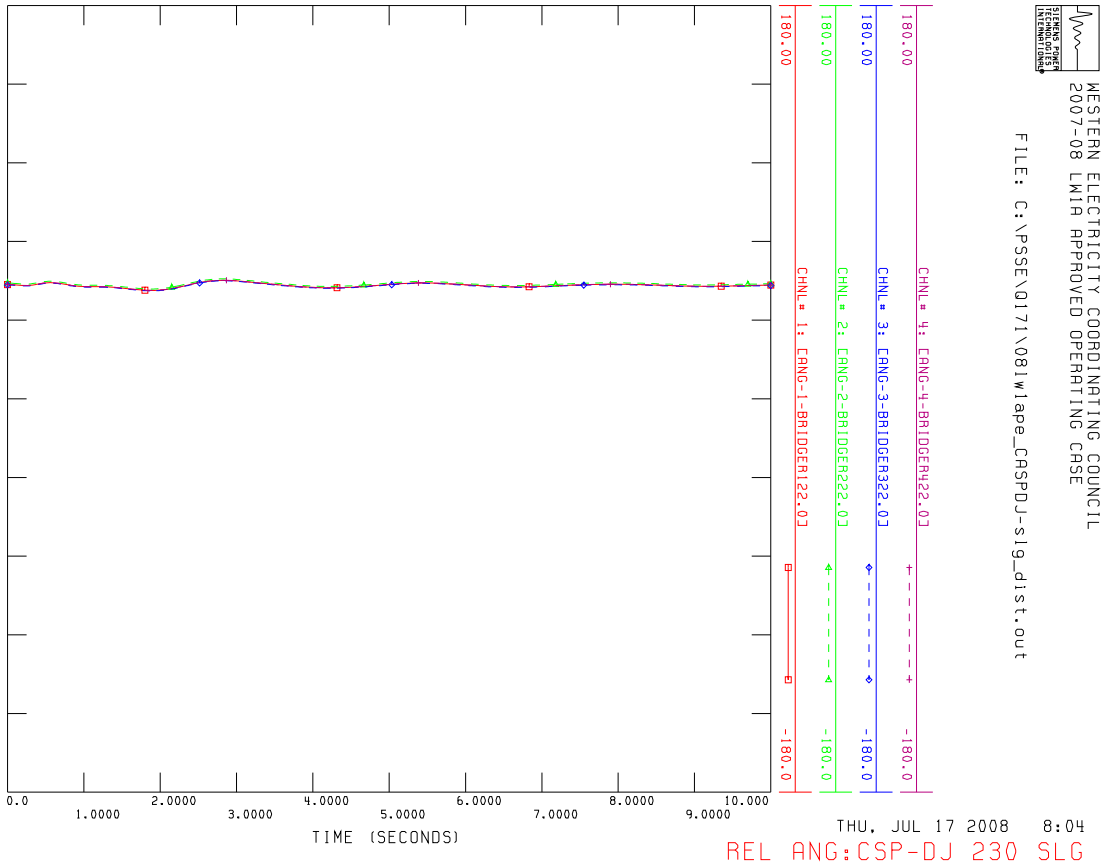

WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\0171\08lw1apc_CASCTR115_dist.out
CHNL= 88: [VLT-LS 00171 34.5]
CHNL= 78: [VLT-HS 0171 69]
CHNL= 90: [OPWR-1 -00171 69-34.5]x-1
CHNL= 89: [PWR-1 -00171 69-34.5]x-1
1.2000
0.50000
25.000
-25.00
30.000
0.0
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU, JUL 17 2008 7:54
PWR: CASP-CTR 115

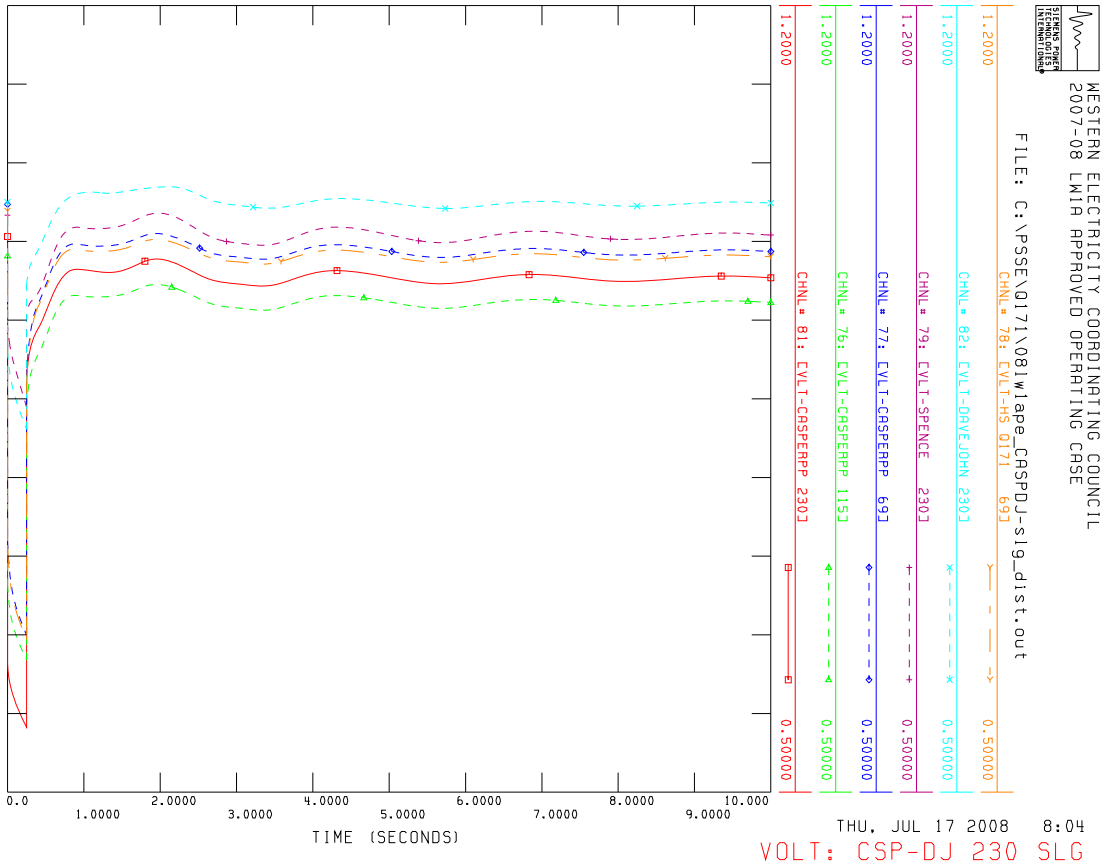

WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\Q171\08lwlapd_Q171PLAT69_dist.out
180.00
CHNL= 4: [ANG-4-BRIDGER422.0]
-180.0
180.00
CHNL= 3: [ANG-3-BRIDGER322.0]
-180.0
180.00
CHNL= 2: [ANG-2-BRIDGER222.0]
-180.0
180.00
CHNL= 1: [ANG-1-BRIDGER122.0]
-180.0
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU, JUL 17 2008 7:54
REL ANG:Q171-PLAT 69

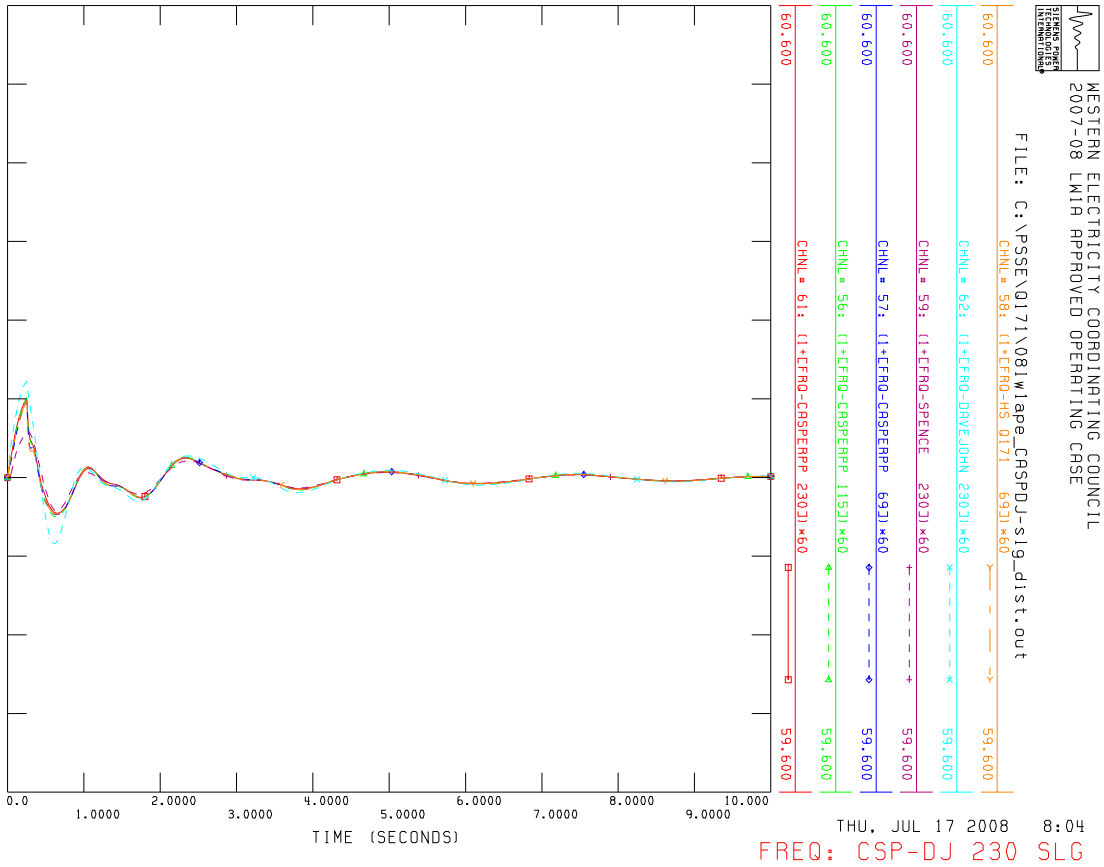

WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\Q171\08lwlapd_Q171PLAT69_dist.out
CHNL# 78: [VLT-HS Q171 69] 1.2000 0.50000
CHNL# 82: [VLT-DAVEJOHN 230] 1.2000 0.50000
CHNL# 79: [VLT-SPENCE 230] 1.2000 0.50000
CHNL# 77: [VLT-CASPERPP 69] 1.2000 0.50000
CHNL# 76: [VLT-CASPERPP 115] 1.2000 0.50000
CHNL# 81: [VLT-CASPERPP 230] 1.2000 0.50000
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU, JUL 17 2008 7:54
VOLT: Q171-PLAT 69

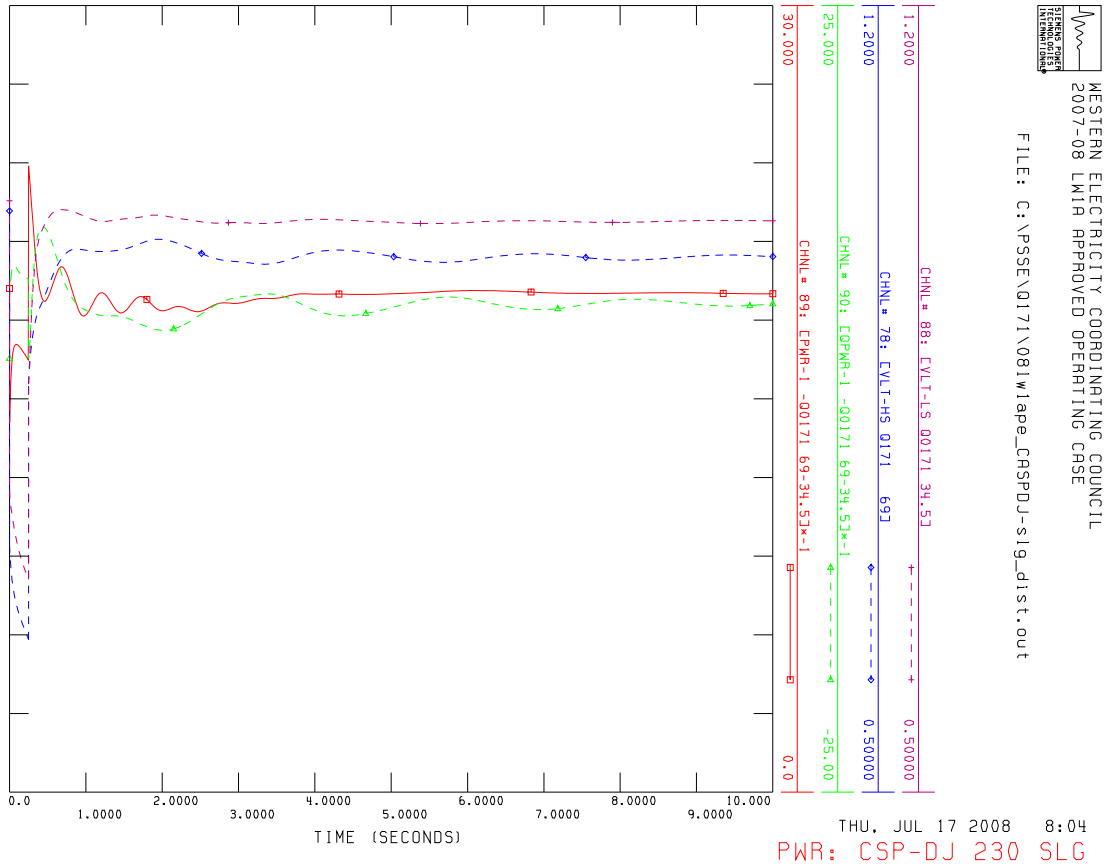

WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\Q171\08lwlapd_Q171PLAT69_dist.out
CHNL= 58: [1+EFRQ-HS Q171 69]*60
CHNL= 62: [1+EFRQ-DAVEJOHN 230]*60
CHNL= 59: [1+EFRQ-SPENCE 230]*60
CHNL= 57: [1+EFRQ-CASPERAPP 69]*60
CHNL= 56: [1+EFRQ-CASPERAPP 115]*60
CHNL= 61: [1+EFRQ-CASPERAPP 230]*60
60.600
59.600
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU. JUL 17 2008 7:54
FREQ: Q171-PLAT 69


WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\Q171\08lwlapd_Q171PLAT69_dist.out
CHNL# 88: [VLT-LS 00171 34.5] 1.2000 0.50000
CHNL# 78: [VLT-HS Q171 69] 1.2000 0.50000
CHNL# 90: [OPWR-1 -00171 69-34.5]x-1 25.000 -25.00
CHNL# 89: [PWR-1 -00171 69-34.5]x-1 30.000 0.0
0.0 1.0000 2.0000 3.0000 4.0000 5.0000 6.0000 7.0000 8.0000 9.0000 10.000
TIME (SECONDS)
THU, JUL 17 2008 7:54
PWR: Q171-PLAT 69

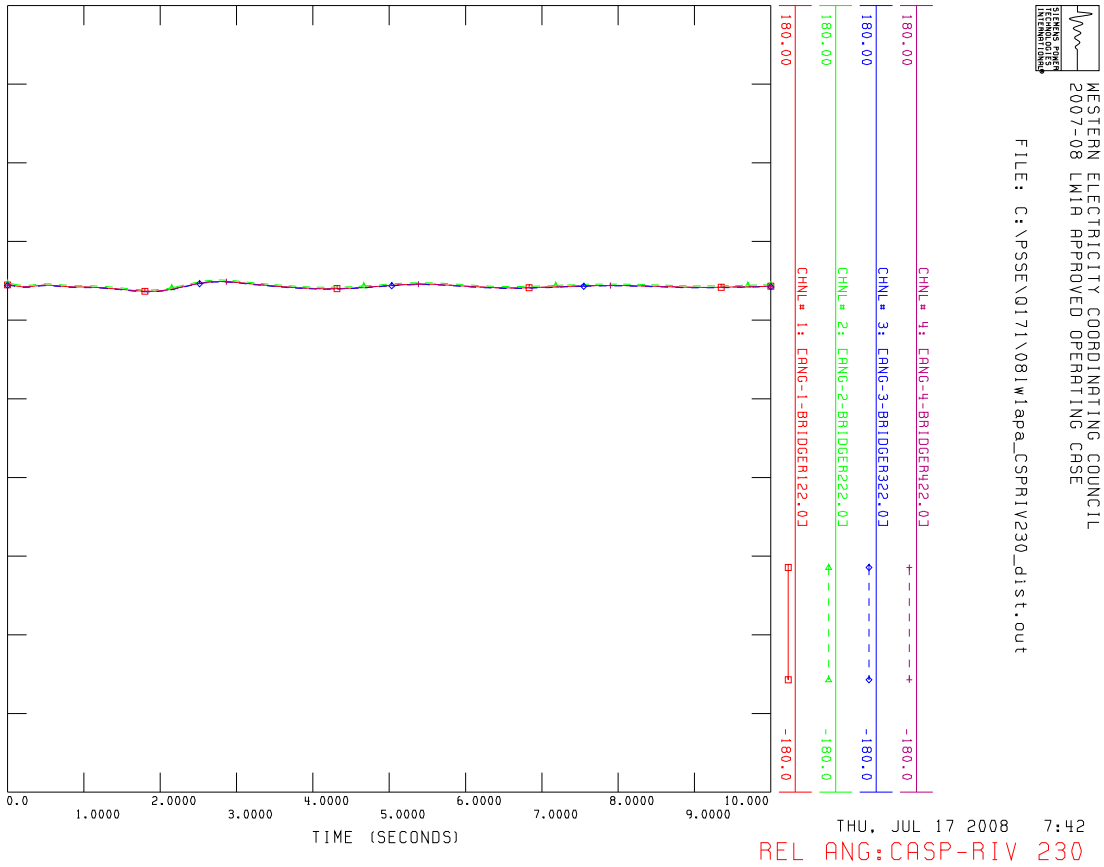

WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\017I\08lwlape_CASPDJ-slg_dist.out
180.00
CHNL= 4: [ANG-4-BRIDGER422.0]
-180.0
180.00
CHNL= 3: [ANG-3-BRIDGER322.0]
-180.0
180.00
CHNL= 2: [ANG-2-BRIDGER222.0]
-180.0
180.00
CHNL= 1: [ANG-1-BRIDGER122.0]
-180.0
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU, JUL 17 2008 8:04
REL ANG:CSP-DJ 230 SLG

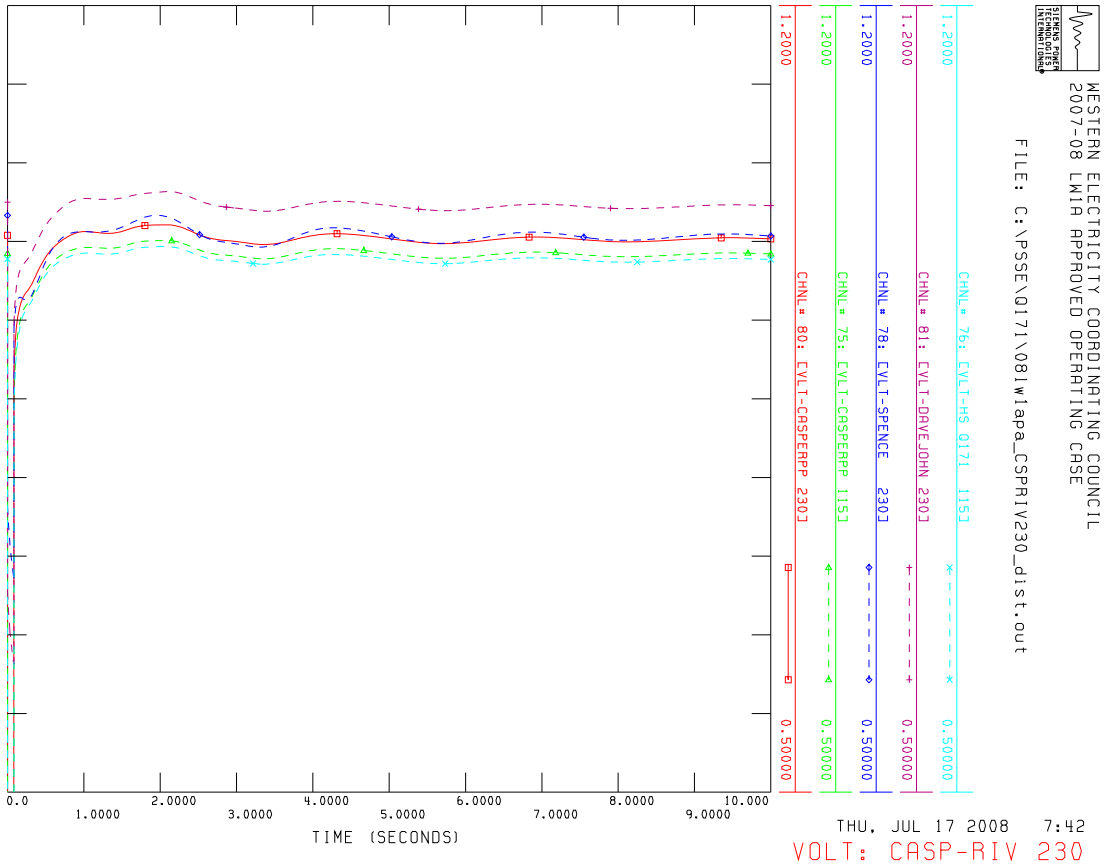

WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\Q171\08lwlape_CASPDJ-slg_dist.out
CHNL# 78: [VLT-HS Q171 69] 1.2000 0.50000
CHNL# 82: [VLT-DAVEJOHN 230] 1.2000 0.50000
CHNL# 79: [VLT-SPENCE 230] 1.2000 0.50000
CHNL# 77: [VLT-CASPERPP 69] 1.2000 0.50000
CHNL# 76: [VLT-CASPERPP 115] 1.2000 0.50000
CHNL# 81: [VLT-CASPERPP 230] 1.2000 0.50000
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU, JUL 17 2008 8:04
VOLT: CSP-DJ 230 SLG

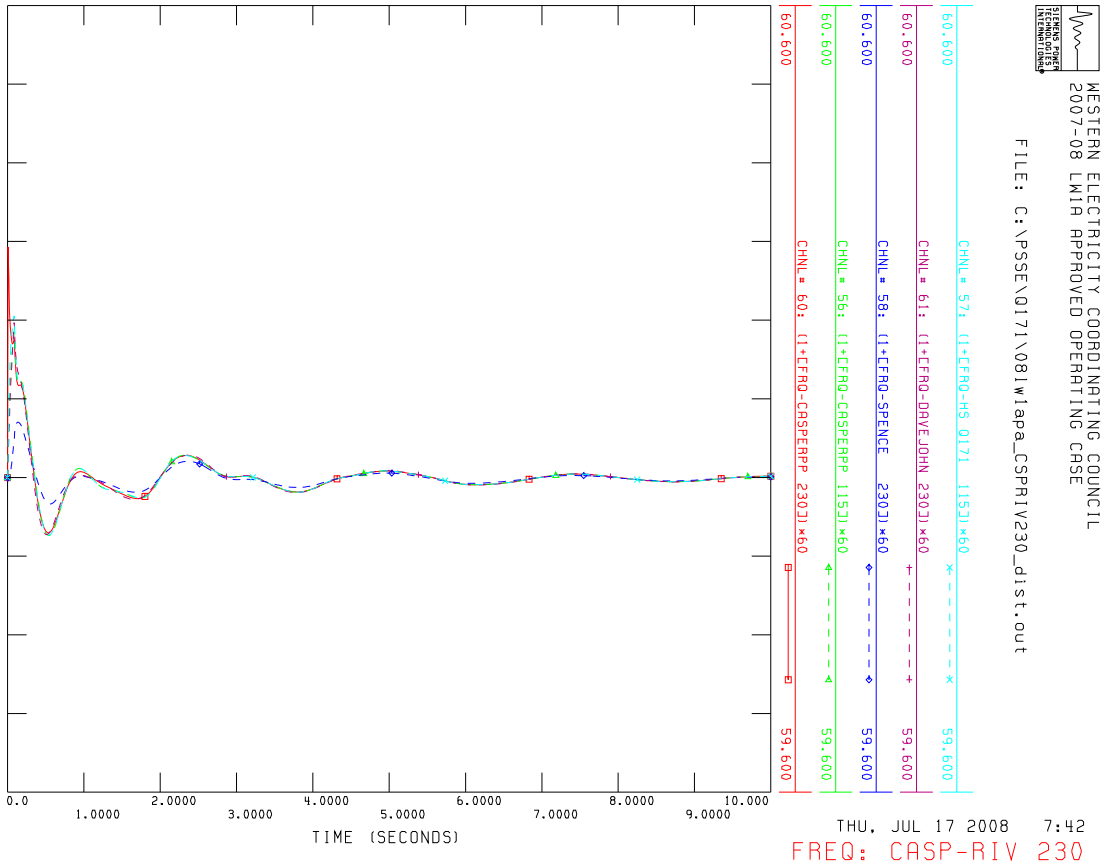

WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\Q171\08lwlape_CASPDJ-slg_dist.out
CHNL= 58: [1+EFRQ-HS Q171 69]*60
CHNL= 62: [1+EFRQ-DAVEJOHN 230]*60
CHNL= 59: [1+EFRQ-SPENCE 230]*60
CHNL= 57: [1+EFRQ-CASPERAPP 69]*60
CHNL= 56: [1+EFRQ-CASPERAPP 115]*60
CHNL= 61: [1+EFRQ-CASPERAPP 230]*60
60.600
59.600
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU. JUL 17 2008 8:04
FREQ: CSP-DJ 230 SLG

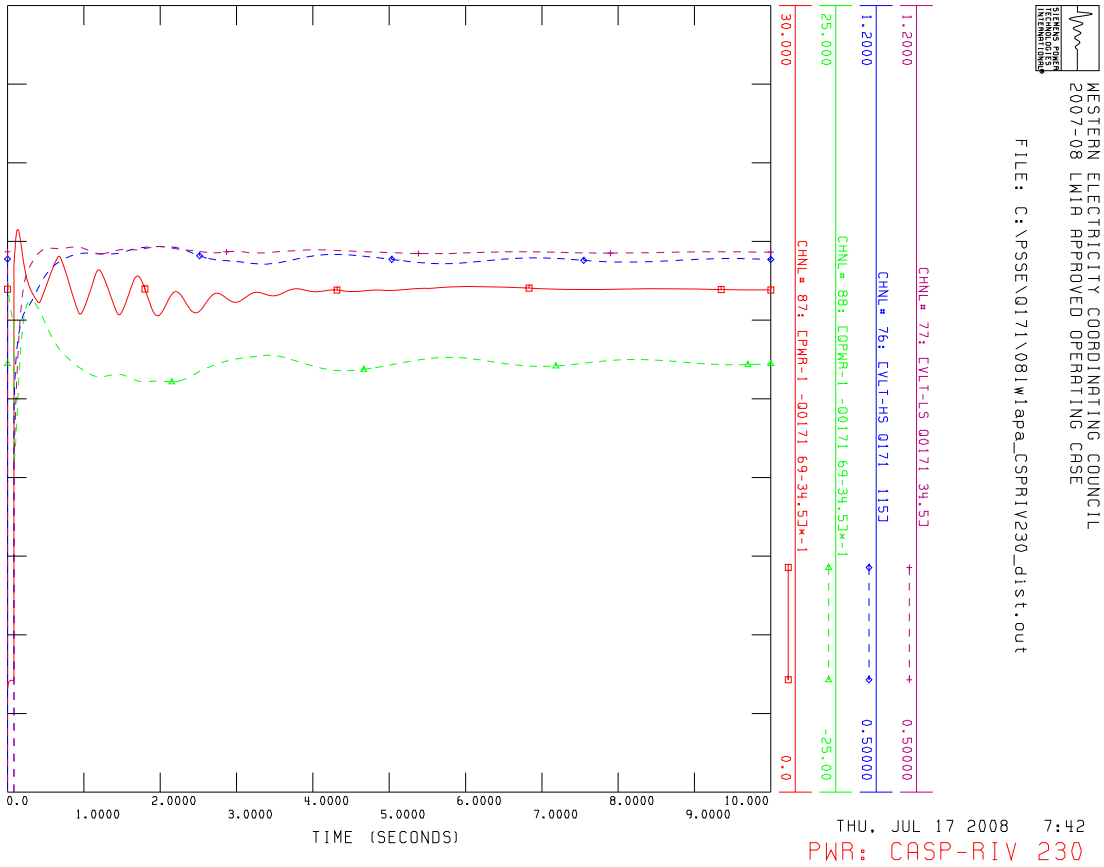

WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\0171\08lwlape_CASPDJ-slg_dist.out
CHNL= 88: [VLT-LS 00171 34.5]
1.2000
0.50000
CHNL= 78: [VLT-HS 0171 69]
1.2000
0.50000
CHNL= 90: [OPWR-1 -00171 69-34.5]x-1
25.000
-25.00
CHNL= 89: [PWR-1 -00171 69-34.5]x-1
30.000
0.0
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU, JUL 17 2008 8:04
PWR: CSP-DJ 230 SLG

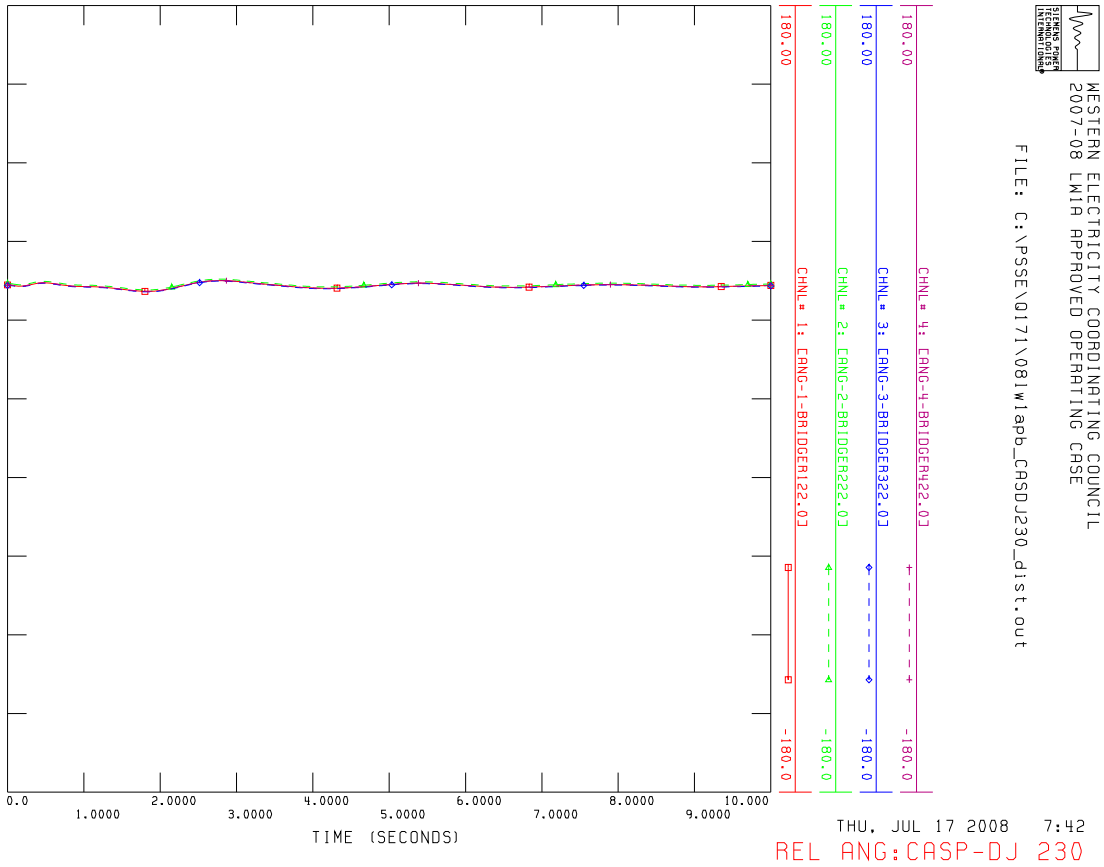
INTERCONNECTION TO 115-KV SYSTEM

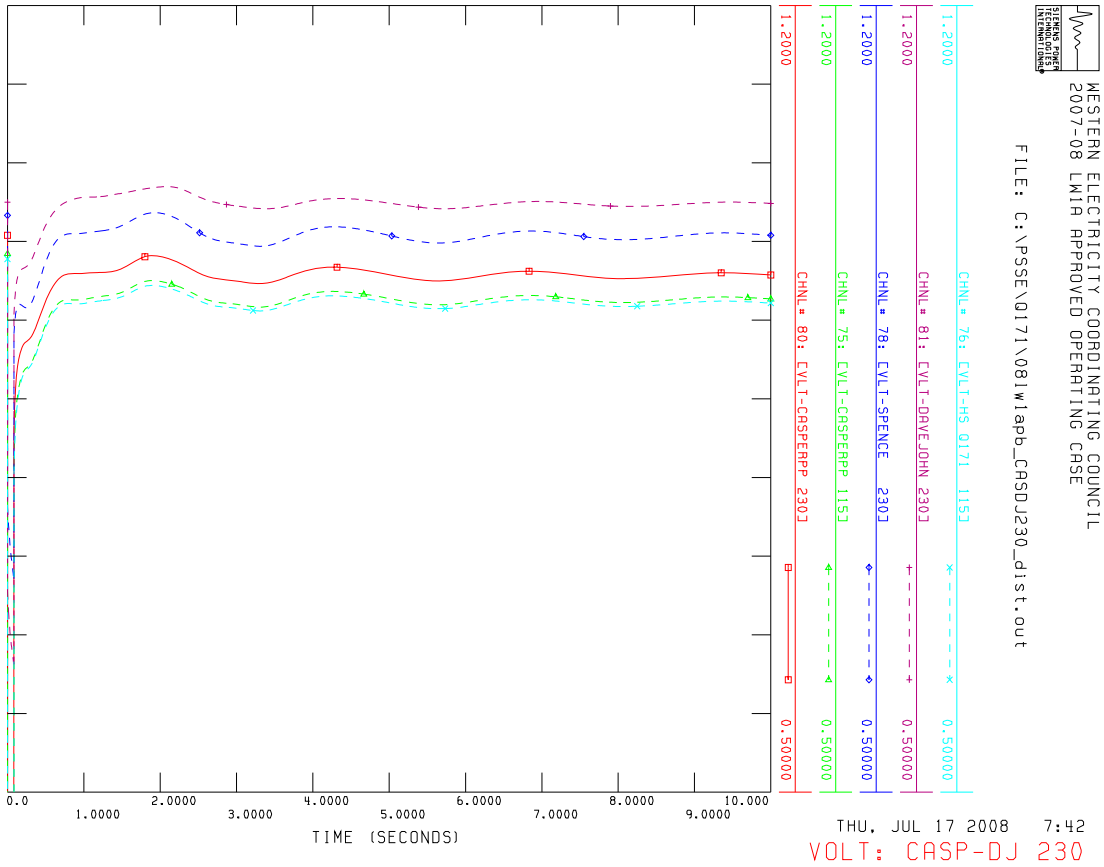

WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\0171\08lw1apa_CSPRIV230_dist.out
180.00
CHNL= 4: [ANG-4-BRIDGER422.0]
-180.0
180.00
CHNL= 3: [ANG-3-BRIDGER322.0]
-180.0
180.00
CHNL= 2: [ANG-2-BRIDGER222.0]
-180.0
180.00
CHNL= 1: [ANG-1-BRIDGER122.0]
-180.0
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU, JUL 17 2008 7:42
REL ANG:CASP-RIV 230

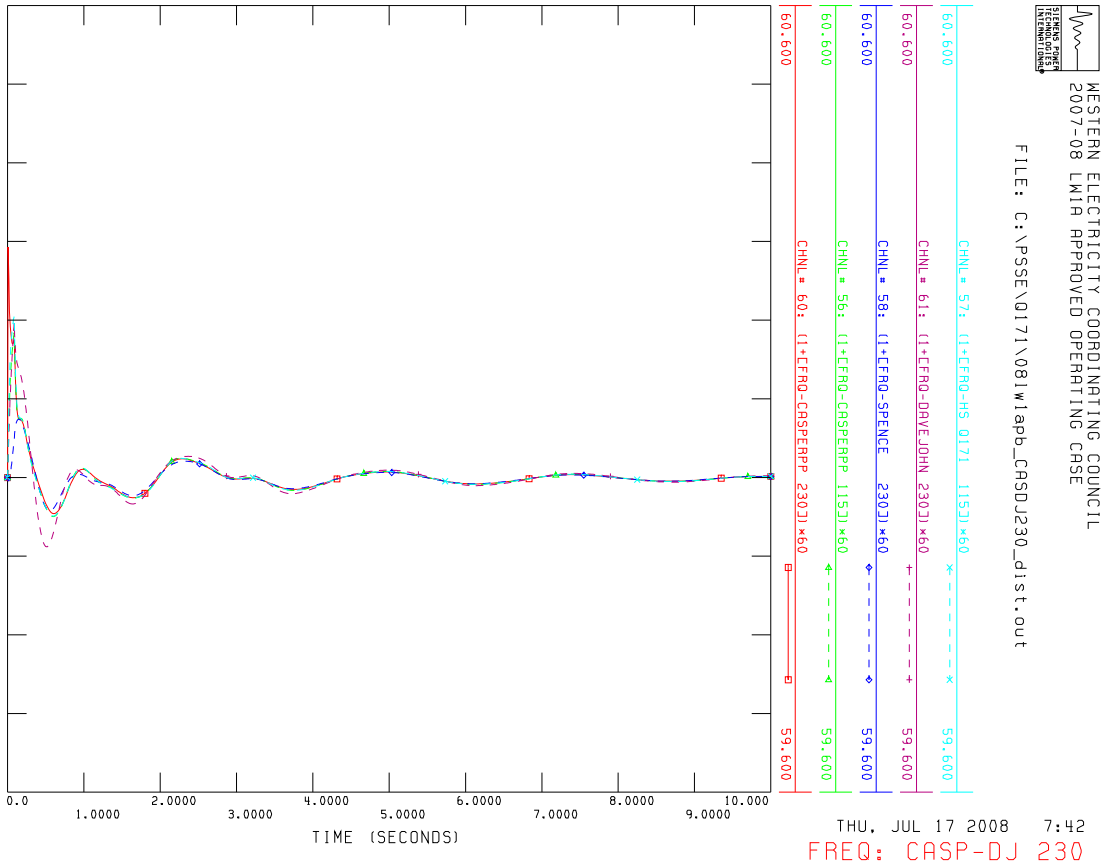

WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\Q171\08lwlapa_CSPRIV230_dist.out
CHNL# 76: [VLT-HS Q171 115]
CHNL# 81: [VLT-DAVEJOHN 230]
CHNL# 78: [VLT-SPENCE 230]
CHNL# 75: [VLT-CASPERPP 115]
CHNL# 80: [VLT-CASPERPP 230]
1.2000
0.50000
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU, JUL 17 2008 7:42
VOLT: CASP-RIV 230

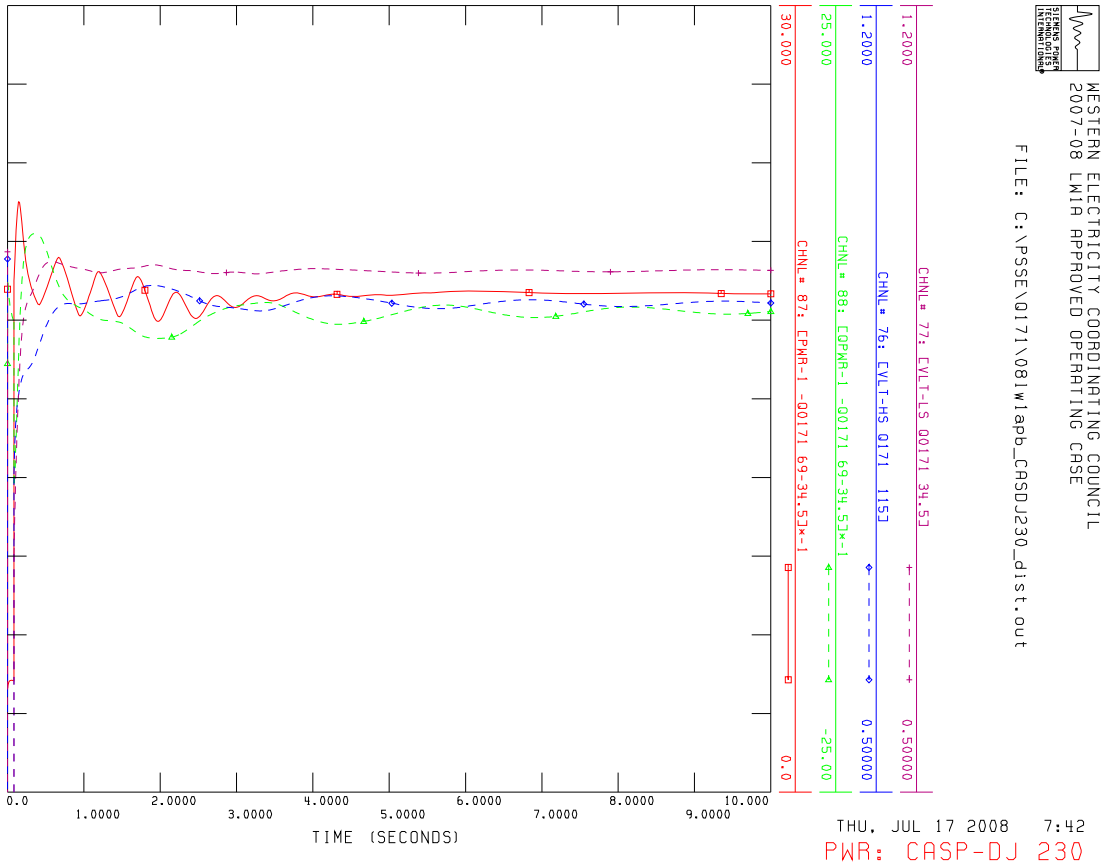

WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\Q171\08lw1apa_CSPRIV230_dist.out
CHNL= 57: [1+EFRQ-HS Q171 1153]×60
CHNL= 61: [1+EFRQ-DAYEJOHN 2303]×60
CHNL= 58: [1+EFRQ-SPENCE 2303]×60
CHNL= 56: [1+EFRQ-CASPERPP 1153]×60
CHNL= 60: [1+EFRQ-CASPERPP 2303]×60
60.600
59.600
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU. JUL 17 2008 7:42
FREQ: CASP-RIV 230

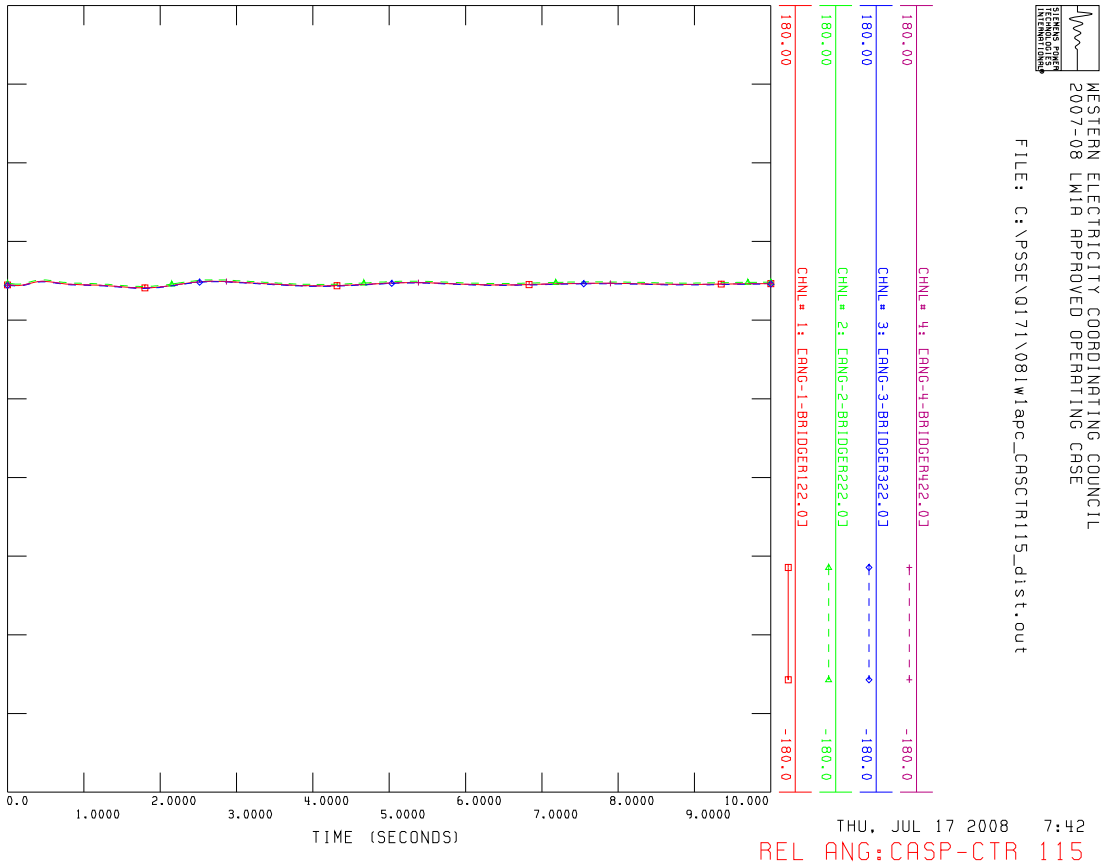

WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\0171\08lw1apa_CSPRIV230_dist.out
CHNL= 77: [VLT-LS 00171 34.5] 1.2000 0.50000
CHNL= 76: [VLT-HS 0171 115] 1.2000 0.50000
CHNL= 88: [OPWR-1 -00171 69-34.5]x-1 25.000 -25.00
CHNL= 87: [PWR-1 -00171 69-34.5]x-1 30.000 0.0
0.0 1.0000 2.0000 3.0000 4.0000 5.0000 6.0000 7.0000 8.0000 9.0000 10.000
TIME (SECONDS)
THU, JUL 17 2008 7:42
PWR: CASP-RIV 230

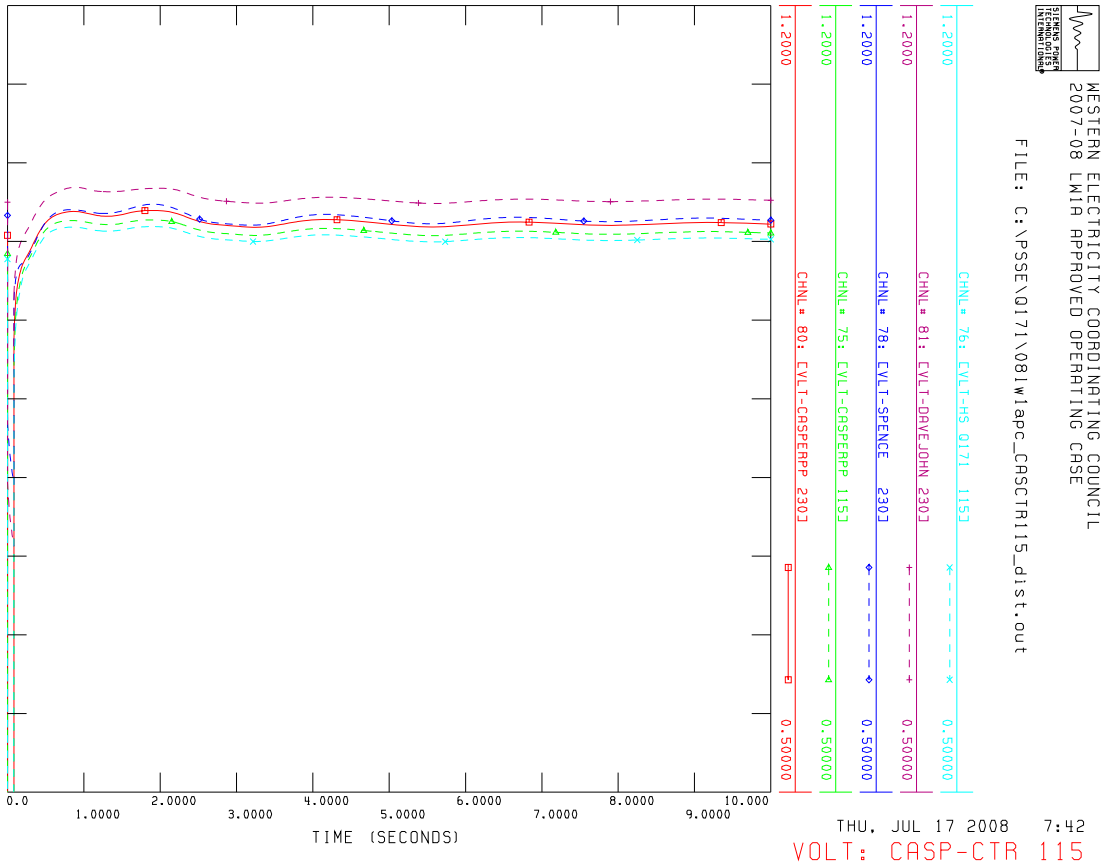

WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\Q171\08lw1apb_CASDJ230_dist.out
180.00
CHNL= 4: [ANG-4-BRIDGER422.0]
-180.0
180.00
CHNL= 3: [ANG-3-BRIDGER322.0]
-180.0
180.00
CHNL= 2: [ANG-2-BRIDGER222.0]
-180.0
180.00
CHNL= 1: [ANG-1-BRIDGER122.0]
-180.0
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU, JUL 17 2008 7:42
REL ANG:CASP-DJ 230

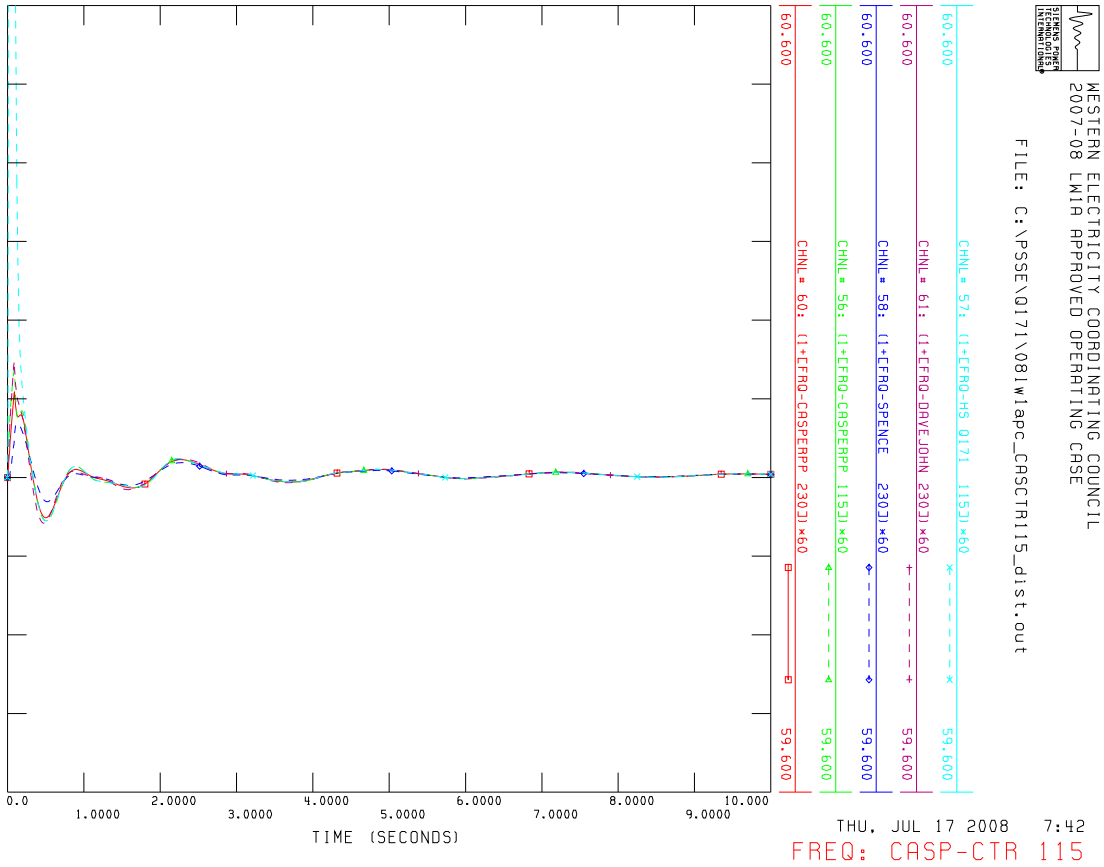

WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\Q171\08lw1apb_CASDJ230_dist.out
CHNL# 76: [VLT-HS Q171 115] 1.2000 0.50000
CHNL# 81: [VLT-DAVEJOHN 230] 1.2000 0.50000
CHNL# 78: [VLT-SPENCE 230] 1.2000 0.50000
CHNL# 75: [VLT-CASPERPP 115] 1.2000 0.50000
CHNL# 80: [VLT-CASPERPP 230] 1.2000 0.50000
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU, JUL 17 2008 7:42
VOLT: CASP-DJ 230

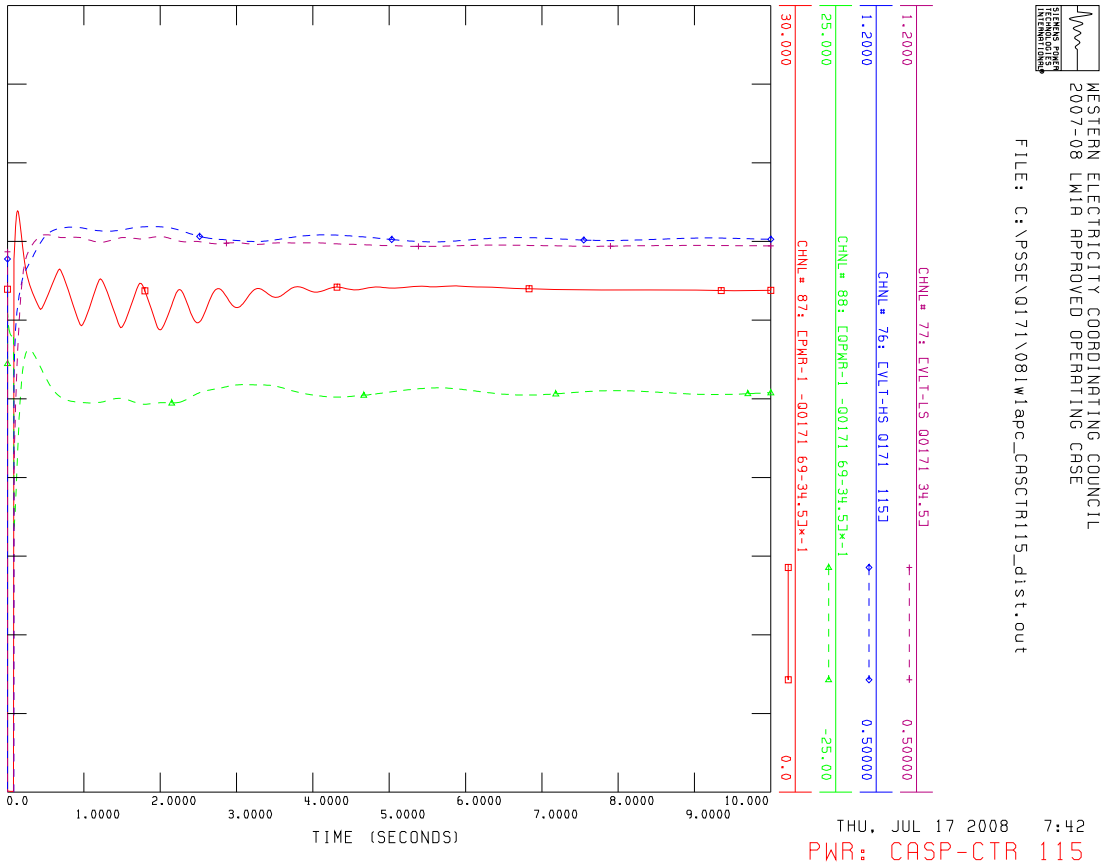

WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\Q171\08lw1apb_CASDJ230_dist.out
CHNL= 57: [1+EFRQ-HS Q171 1153]×60
CHNL= 61: [1+EFRQ-DAYEJOHN 2303]×60
CHNL= 58: [1+EFRQ-SPENCE 2303]×60
CHNL= 56: [1+EFRQ-CASPERPP 1153]×60
CHNL= 60: [1+EFRQ-CASPERPP 2303]×60
60.600
59.600
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU. JUL 17 2008 7:42
FREQ: CASP-DJ 230

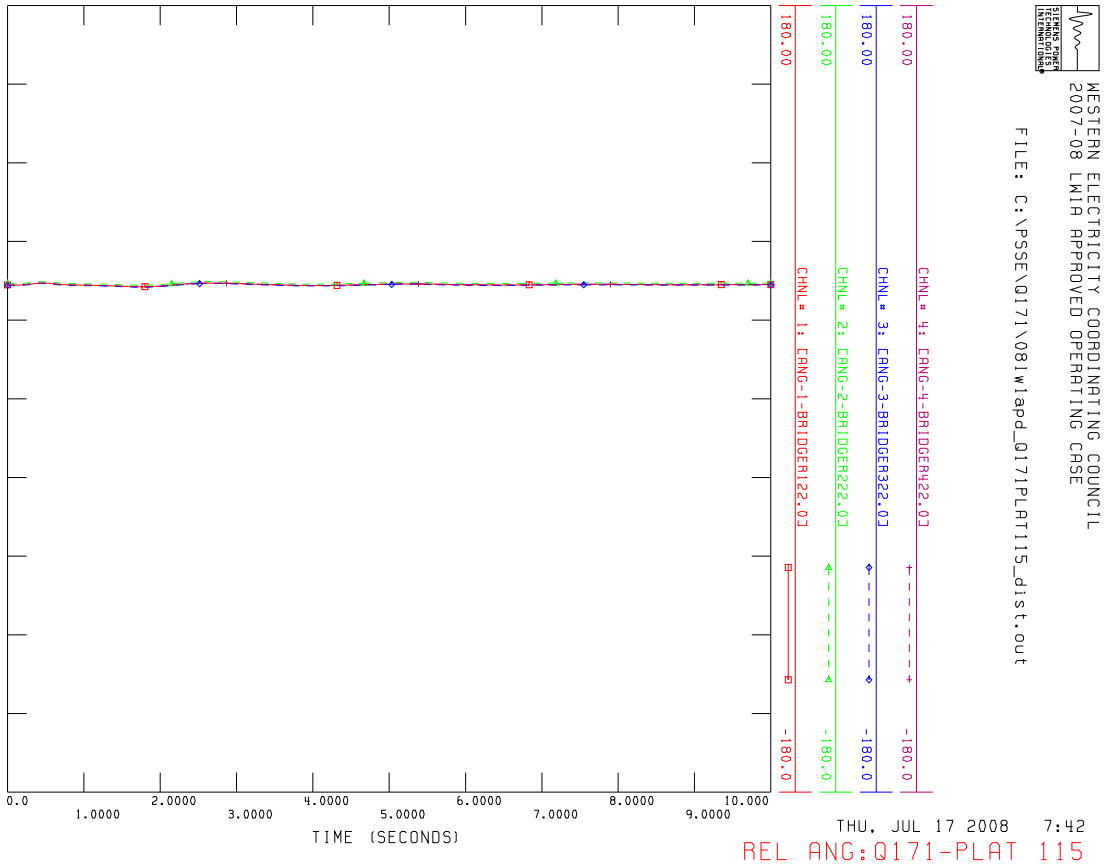

WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\0171\08lw1apb_CASDJ230_dist.out
CHNL= 77: [VLT-LS 00171 34.5]
CHNL= 76: [VLT-HS 0171 115]
CHNL= 88: [OPWR-1 -00171 69-34.5]x-1
CHNL= 87: [PWR-1 -00171 69-34.5]x-1
1.2000
0.50000
25.000
-25.00
30.000
0.0
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU, JUL 17 2008 7:42
PWR: CASP-DJ 230

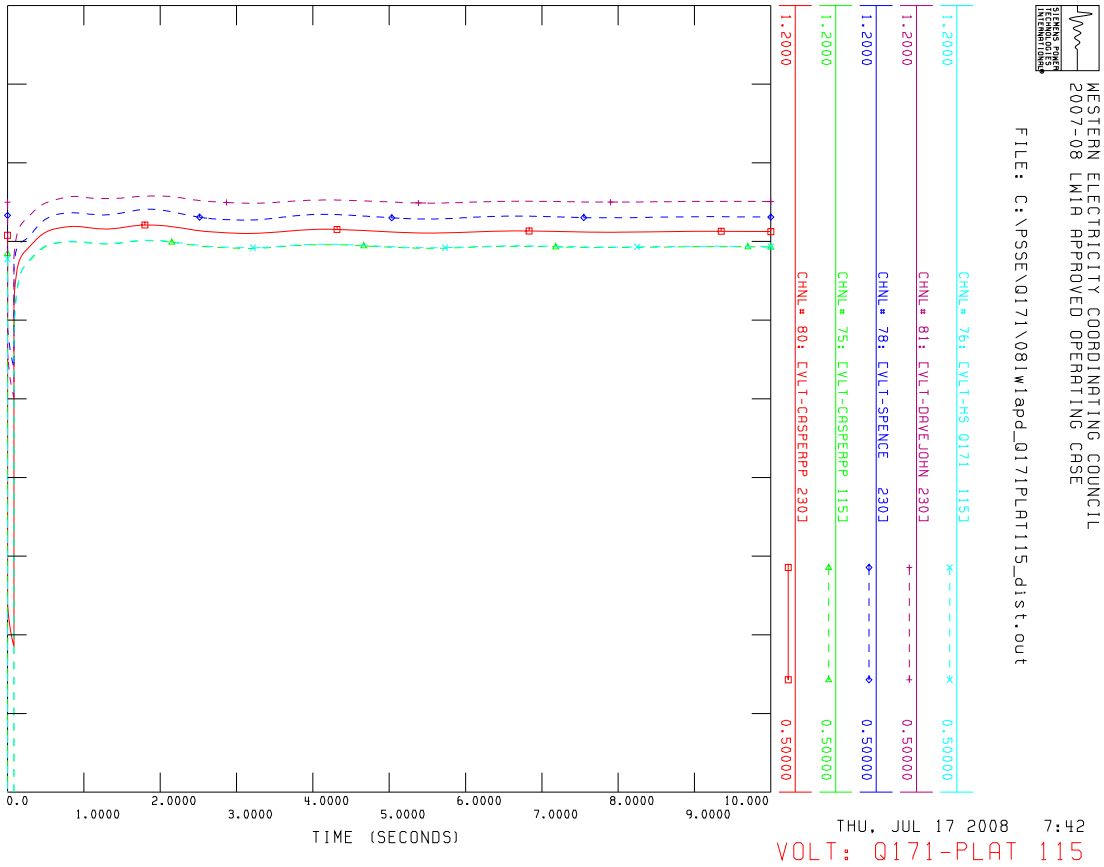

WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\0171\08lw1apc_CASCTR115_dist.out
180.00
CHNL# 4: [ANG-4-BRIDGER422.0]
-180.0
180.00
CHNL# 3: [ANG-3-BRIDGER322.0]
-180.0
180.00
CHNL# 2: [ANG-2-BRIDGER222.0]
-180.0
180.00
CHNL# 1: [ANG-1-BRIDGER122.0]
-180.0
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU, JUL 17 2008 7:42
REL ANG:CASP-CTR 115

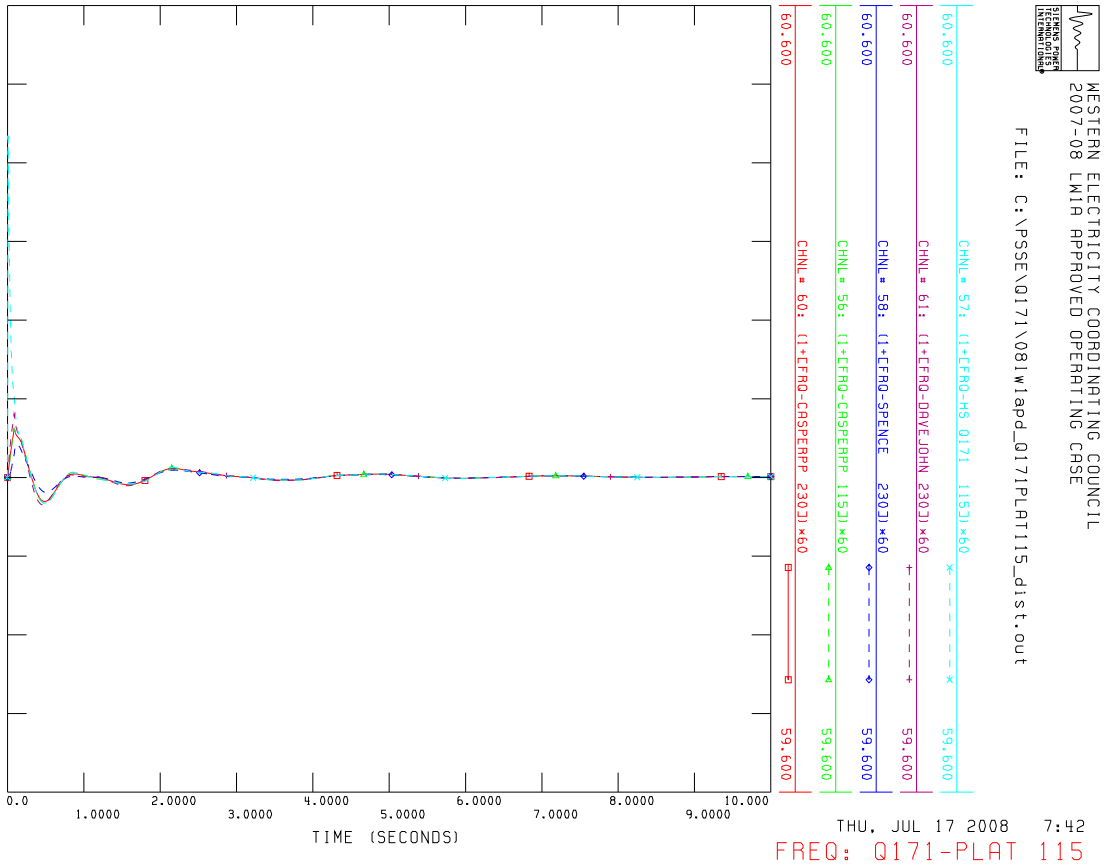

WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\Q171\08lw1apc_CASCTR115_dist.out
CHNL# 76: [VLT-HS Q171 115] 1.2000 0.50000
CHNL# 81: [VLT-DAVEJOHN 230] 1.2000 0.50000
CHNL# 78: [VLT-SPENCE 230] 1.2000 0.50000
CHNL# 75: [VLT-CASPERPP 115] 1.2000 0.50000
CHNL# 80: [VLT-CASPERPP 230] 1.2000 0.50000
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU, JUL 17 2008 7:42
VOLT: CASP-CTR 115

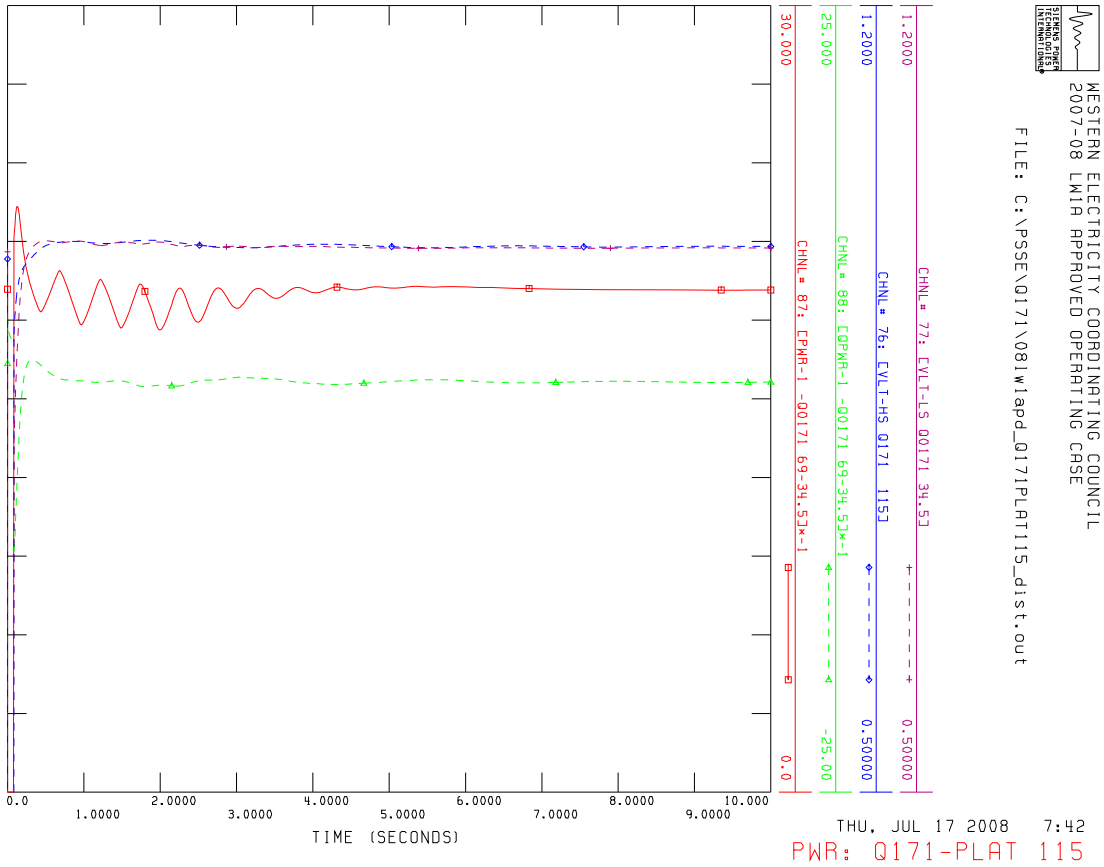

WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\Q171\08lw1apc_CASCTR115_dist.out
60.600
CHNL= 57: [1+EFRQ-HS Q171 1153]×60
59.600
60.600
CHNL= 61: [1+EFRQ-DAYEJOHN 2303]×60
59.600
60.600
CHNL= 58: [1+EFRQ-SPENCE 2303]×60
59.600
60.600
CHNL= 56: [1+EFRQ-CASPERPP 1153]×60
59.600
60.600
CHNL= 60: [1+EFRQ-CASPERPP 2303]×60
59.600
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU, JUL 17 2008 7:42
FREQ: CASP-CTR 115

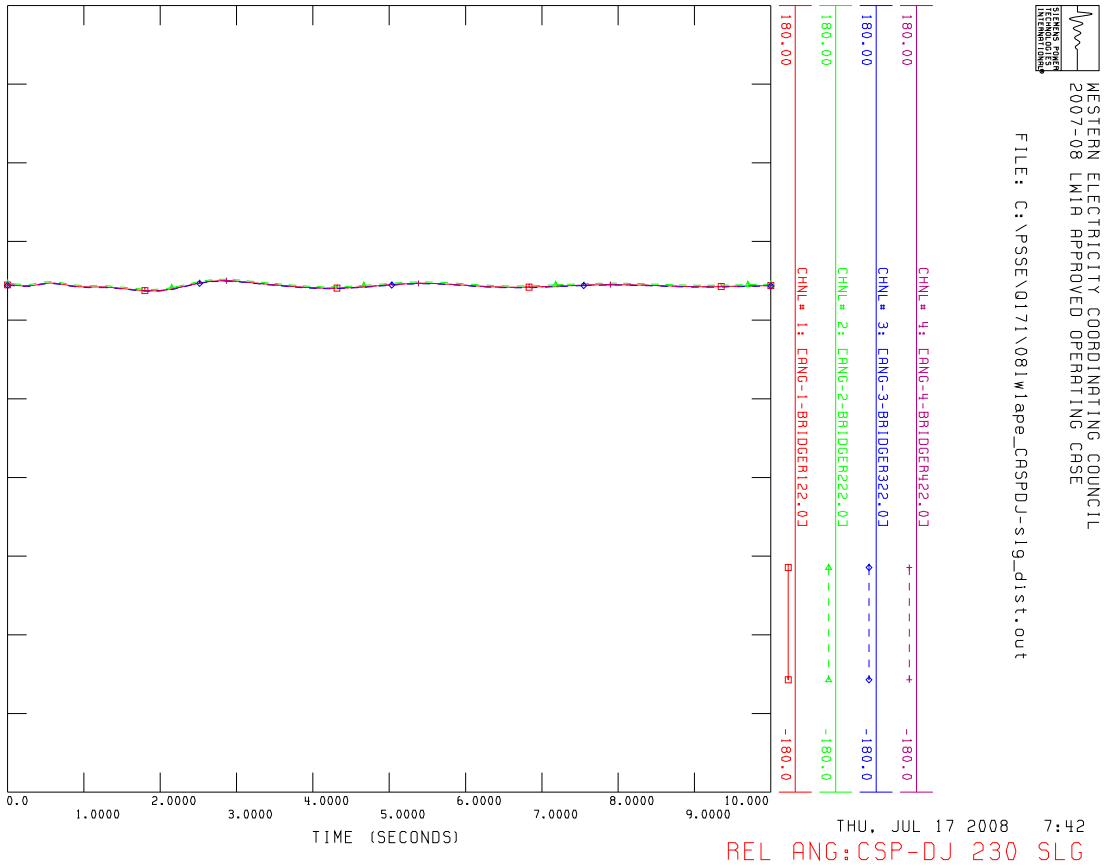

WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\0171\08lw1apc_CASCTR115_dist.out
CHNL= 77: [VLT-LS 00171 34.5]
CHNL= 76: [VLT-HS 0171 115]
CHNL= 88: [OPWR-1 -00171 69-34.5]x-1
CHNL= 87: [PWR-1 -00171 69-34.5]x-1
1.2000
1.2000
25.000
30.000
0.50000
0.50000
-25.00
0.0
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU, JUL 17 2008 7:42
PWR: CASP-CTR 115

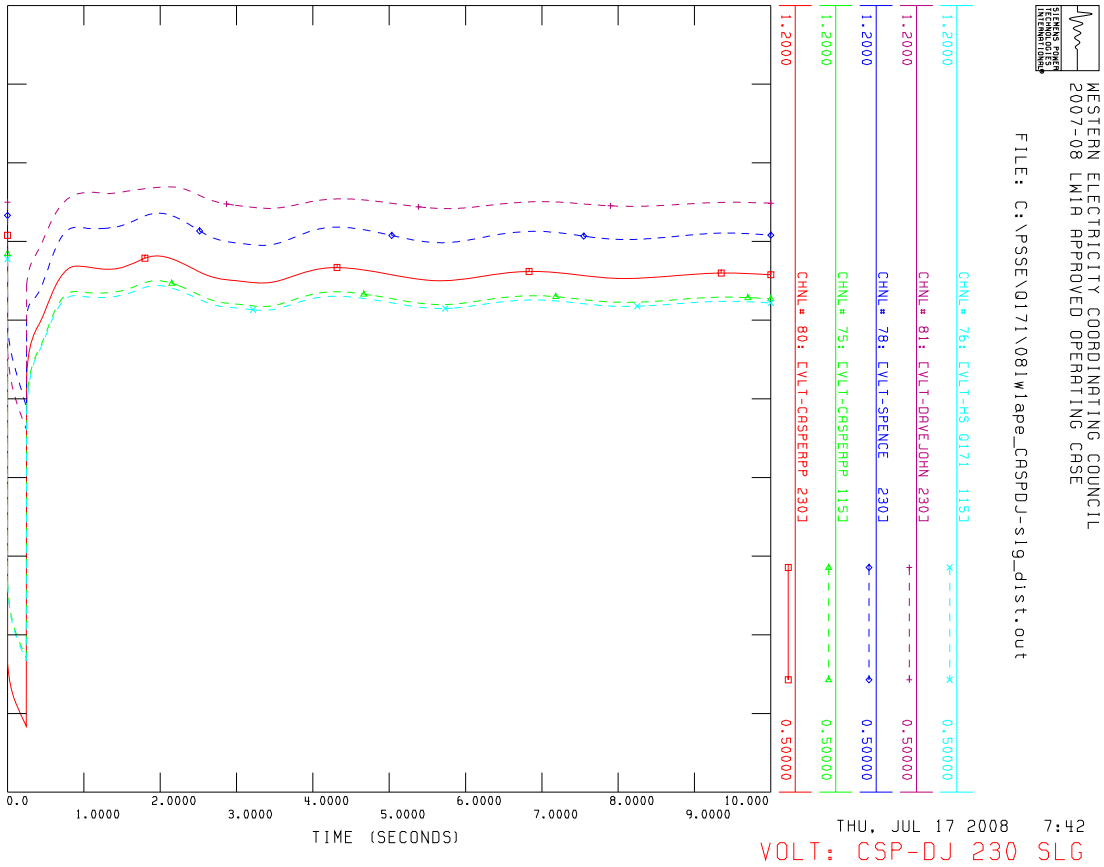

WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\Q171\08lwlapd_Q171PLAT115_dist.out
180.00
CHNL= 4: [ANG-4-BRIDGER422.0]
-180.0
180.00
CHNL= 3: [ANG-3-BRIDGER322.0]
-180.0
180.00
CHNL= 2: [ANG-2-BRIDGER222.0]
-180.0
180.00
CHNL= 1: [ANG-1-BRIDGER122.0]
-180.0
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU, JUL 17 2008 7:42
REL ANG:Q171-PLAT 115

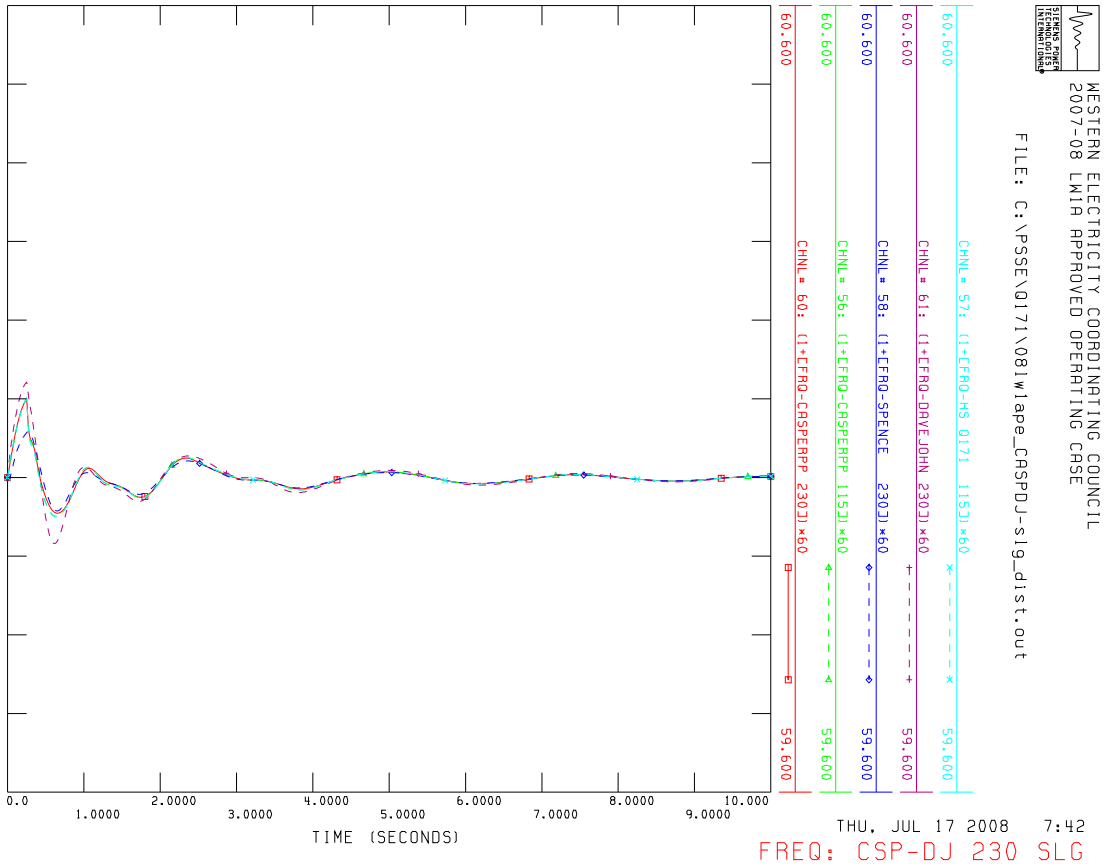

WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\Q171\08lwlapd_Q171PLAT115_dist.out
CHNL# 76: [VLT-HS Q171 115] 1.2000 0.50000
CHNL# 81: [VLT-DAVEJOHN 230] 1.2000 0.50000
CHNL# 78: [VLT-SPENCE 230] 1.2000 0.50000
CHNL# 75: [VLT-CASPERPP 115] 1.2000 0.50000
CHNL# 80: [VLT-CASPERPP 230] 1.2000 0.50000
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU, JUL 17 2008 7:42
VOLT: Q171-PLAT 115

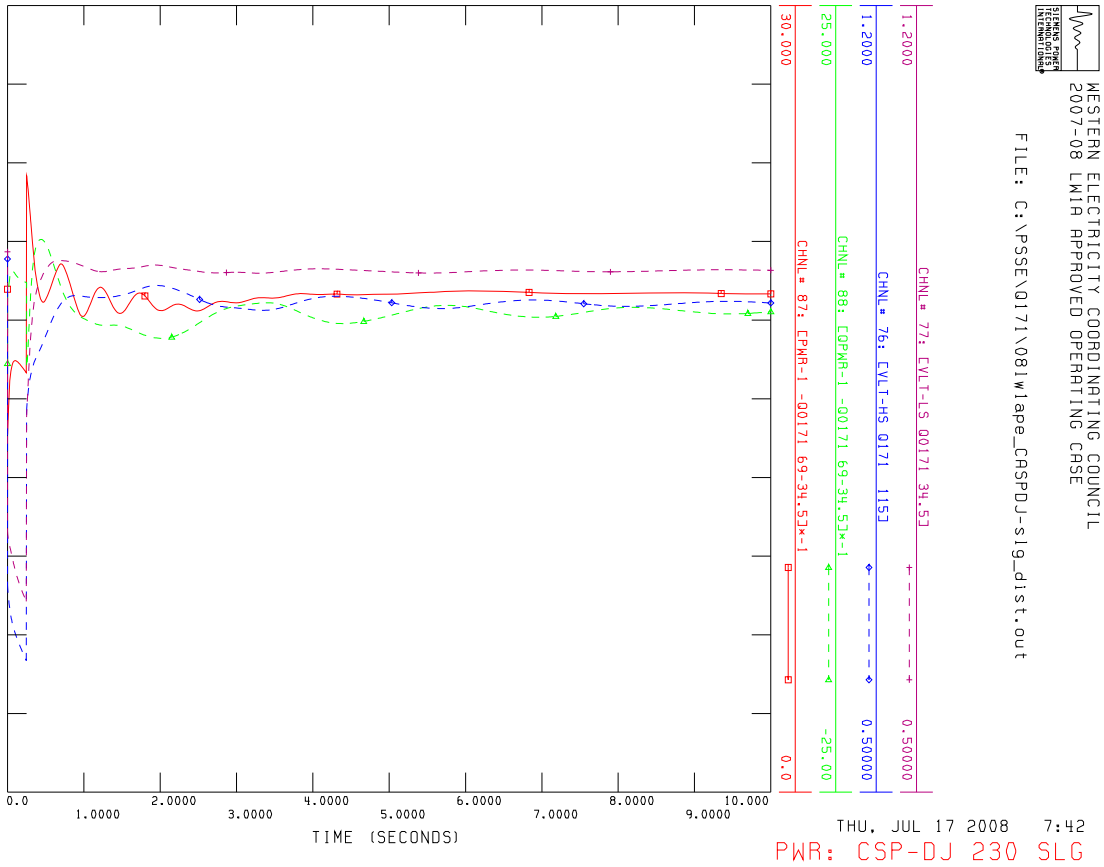

WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\Q171\08lwlapd_Q171PLAT115_dist.out
CHNL= 57: [1+EFRQ-HS Q171 115J]×60
CHNL= 61: [1+EFRQ-DAYEJOHN 230J]×60
CHNL= 58: [1+EFRQ-SPENCE 230J]×60
CHNL= 56: [1+EFRQ-CASPERPP 115J]×60
CHNL= 60: [1+EFRQ-CASPERPP 230J]×60
60.600
59.600
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU, JUL 17 2008 7:42
FREQ: Q171-PLAT 115


WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\Q171\08lwlapd_Q171PLAT115_dist.out
CHNL= 77: [VLT-LS 00171 34.5] 1.2000 0.50000
CHNL= 76: [VLT-HS Q171 115] 1.2000 0.50000
CHNL= 88: [OPWR-1 -00171 69-34.5]x-1 25.000 -25.00
CHNL= 87: [PWR-1 -00171 69-34.5]x-1 30.000 0.0
0.0 1.0000 2.0000 3.0000 4.0000 5.0000 6.0000 7.0000 8.0000 9.0000 10.000
TIME (SECONDS)
THU, JUL 17 2008 7:42
PWR: Q171-PLAT 115


WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\017I\08lwlape_CASPDJ-slg_dist.out
180.00
CHNL= 4: [ANG-4-BRIDGER422.0]
-180.0
180.00
CHNL= 3: [ANG-3-BRIDGER322.0]
-180.0
180.00
CHNL= 2: [ANG-2-BRIDGER222.0]
-180.0
180.00
CHNL= 1: [ANG-1-BRIDGER122.0]
-180.0
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU, JUL 17 2008 7:42
REL ANG:CSP-DJ 230 SLG


WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\Q171\08lwlape_CASPDJ-slg_dist.out
CHNL# 76: [VLT-HS Q171 115]
CHNL# 81: [VLT-DAVEJOHN 230]
CHNL# 78: [VLT-SPENCE 230]
CHNL# 75: [VLT-CASPERPP 115]
CHNL# 80: [VLT-CASPERPP 230]
1.2000
0.50000
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU, JUL 17 2008 7:42
VOLT: CSP-DJ 230 SLG


WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\Q171\08lwlape_CASPDJ-slg_dist.out
CHNL= 57: [1+EFRQ-HS Q171 1153]×60
CHNL= 61: [1+EFRQ-DAYEJOHN 2303]×60
CHNL= 58: [1+EFRQ-SPENCE 2303]×60
CHNL= 56: [1+EFRQ-CASPERPP 1153]×60
CHNL= 60: [1+EFRQ-CASPERPP 2303]×60
60.600
59.600
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU. JUL 17 2008 7:42
FREQ: CSP-DJ 230 SLG


WESTERN ELECTRICITY COORDINATING COUNCIL
2007-08 LW1A APPROVED OPERATING CASE
FILE: C:\PSSE\0171\08lwlape_CASPDJ-slg_dist.out
CHNL= 77: [VLT-LS 00171 34.5]
CHNL= 76: [VLT-HS 0171 115]
CHNL= 88: [OPWR-1 -00171 69-34.5]x-1
CHNL= 87: [PWR-1 -00171 69-34.5]x-1
1.2000
0.50000
25.000
-25.00
30.000
0.0
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)
THU. JUL 17 2008 7:42
PWR: CSP-DJ 230 SLG