Final Report R19-04B

Stability Studies of the Proposed Cielo Caprock-East Wind Farm Project

Prepared for

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Executive Summary

PTI was contracted by XES to perform a stability study in order to evaluate the impact of a proposed Cielo Caprock-East Wind Farm Project near Tucumcari, New Mexico on the Southwestern Public Service Company (SPS) transmission system.

The proposed point of interconnection (POI) of Cielo Wind farm is about 16% down the 115 kV line V47 between F.E.C. Interchange and Curry County. The wind farm is located 9 miles from the interconnection point into SPS system, and is comprised of 80 units of Mitsubishi 1000A 1000 kW turbines. The rated output is 80 MW.

The reactive power support of the wind farm is comprised of the three items as following:

1. At the 34.5 kV collector bus, two D-VAR modules, 8 MVAR each, will be installed.
2. At the 34.5 kV collector bus, 9 capacitor banks, 3.6 MVAR each will be installed for steady-state reactive power support.
3. At the 34.5 kV collector bus, 2 capacitor banks, 16 MVAR each, will be installed.

A set of stability studies comprising fourteen disturbances was performed to evaluate the wind farm using PTI's power system simulation program PSS/E, revision 29. The proposed reactive compensation system provided adequate support for the wind farm to ride through most of the disturbances.

Two disturbances resulted in islanding the wind farm and the Tucumcari loads. It should be noted that these disturbances would result in loss of load even without the presence of the wind farm.

One simulated disturbance caused 25 units out of the total 80 units to be tripped during peak load conditions. During light load conditions with the wind farm generating 100% rated output, all or most of the 80 units of the Cielo Wind Farm were tripped off-line in two simulated disturbances. With the output reduced to 75% (60 MW), the wind farm was able to ride through all disturbances. The details are given in Section 3.2.

The reactive compensation system has an important role in supporting the voltage of the wind farm during and after disturbances. For disturbances that do not result in an isolation of the generation and nearby loads from the SPS network, whether the reactive power support is sufficient and activated in a timely manner has a direct impact on the generator terminal voltages, and hence whether the generators remained connected to the grid.

From the simulation results, it appears that the proposed reactive power compensation scheme has to be adjusted to cope with the few disturbances resulting in generator tripping. In the absence of the control block diagram of the DVAR model, it is difficult to advance comments on the behavior and possible limitations of the reactive compensation system.

Section

1

Introduction

PTI was contracted by XES to perform a specified set of stability studies in order to evaluate the impact of a proposed Cielo Caprock-East Wind Farm Project near Tucumcari, New Mexico. This report summarizes results of the study.

In August 2002, PTI has performed stability studies of the Proposed York wind farm (PTI report number R25-02). The project was sold to Cielo Wind and the new developers have changed the wind turbines from the original Vestas V80 to Mitsubishi 1000A 1000kW turbines, in addition to changing the location. The wind farm will be located 9 miles from the interconnection point into SPS system, and is comprised of 80 units of Mitsubishi 1000A 1000 kW turbines.

The setup for load flow and dynamic simulation was based on the previously completed York Wind Farm study. DC lines PNM and EPE are both modeled. All the 80 wind turbine units were modeled in detail according to the wind farm layout submitted by the developer. The dynamic model for Mitsubishi wind turbines was developed based on manufacturer's data and PTI's experience in wind farm modeling.

A set of stability studies was performed to evaluate the wind farm using PTI's power system simulation program PSS/E, revision 29.

Section

2

Data Preparation

The proposed point of interconnection (POI) of Cielo Wind farm is about 16% down the 115 kV line V47 between F.E.C. Interchange and Curry County. The geographical location of the plant is indicated in Figure 2-1.

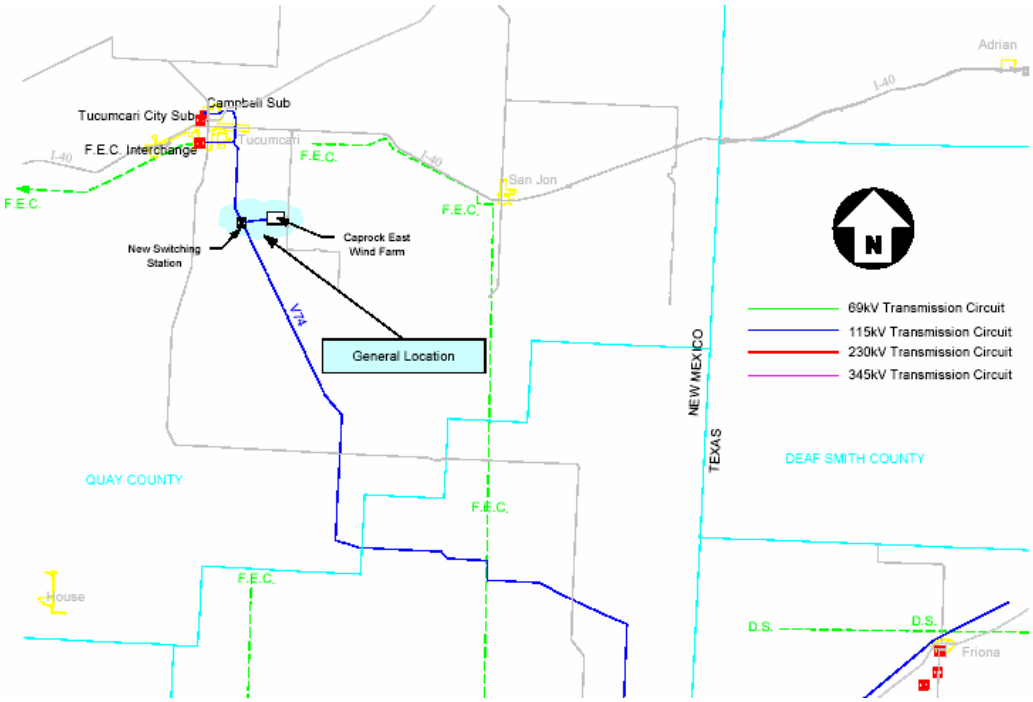


Figure 2-1: Geographical location of the Cielo Wind Farm

A customer-owned 9.1 miles line will connect the plant to the POI. At the end of the customer-owned line, a 48/64/80 MVA transformer serves to connect the 34.5 kV side of the plant. Figure 2-2 shows the details of the point of interconnection.

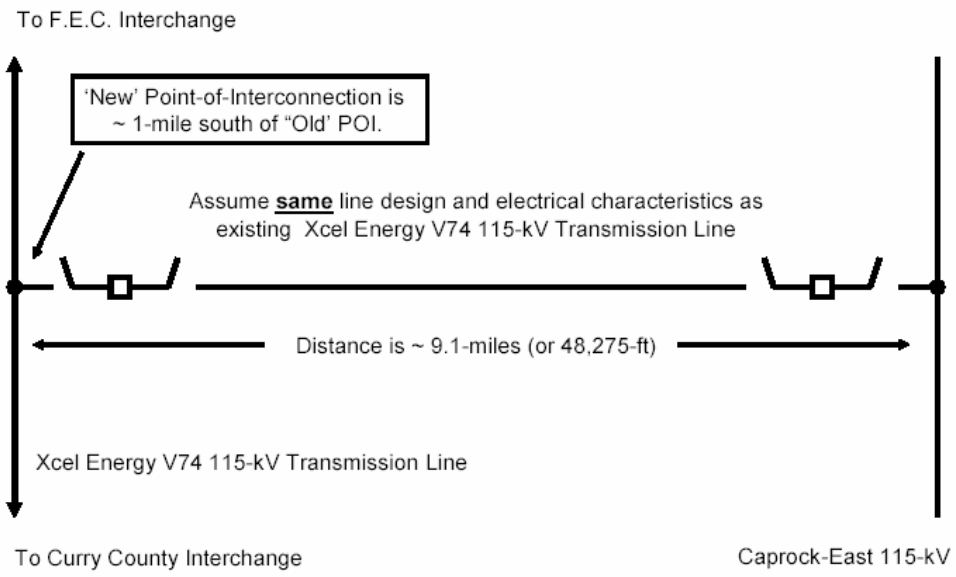


Figure 2-2: Point of Interconnection of the Cielo Wind Farm

2.1 Load Flow Data

The detailed plant layout was submitted by the developer. Accordingly, three major collector branches were established. The number of units along each feeder is listed in Table 2-1.

Table 2-1: number of wind turbines along each collection cable

	Feeder 1	Feeder 2	Feeder 3
# of units	28	25	27

The parameters of the cables were calculated based on the cable size and length.

2.1.1 Generator data

Table 2-2 lists the original equivalent induction generator parameters that were retrieved from Attachment J (page 13) in the scope of work for the Cielo project.

Table 2-2: original generator parameters

	Ohm	Per unit
R1	0.0066	0.0202
X1	0.1082	0.3306
X2	0.0679	0.2075
R2	0.0127	0.0379
Xm	3.72	11.3668

Figure 2-3 is the induction motor curve using the parameters above. The maximum torque is only 0.9 pu, much too low compared with typical induction motors. There is no operating point for the value of torque needed to represent full load and no range above it for dynamic responses. Additionally, the equivalent starting current is only 2 pu. In PSS/E, the induction generator is not started as an induction machine, but the equivalent starting current is still a useful quantifying number. The induction generator can not be initialized with these parameters at the specified loading.

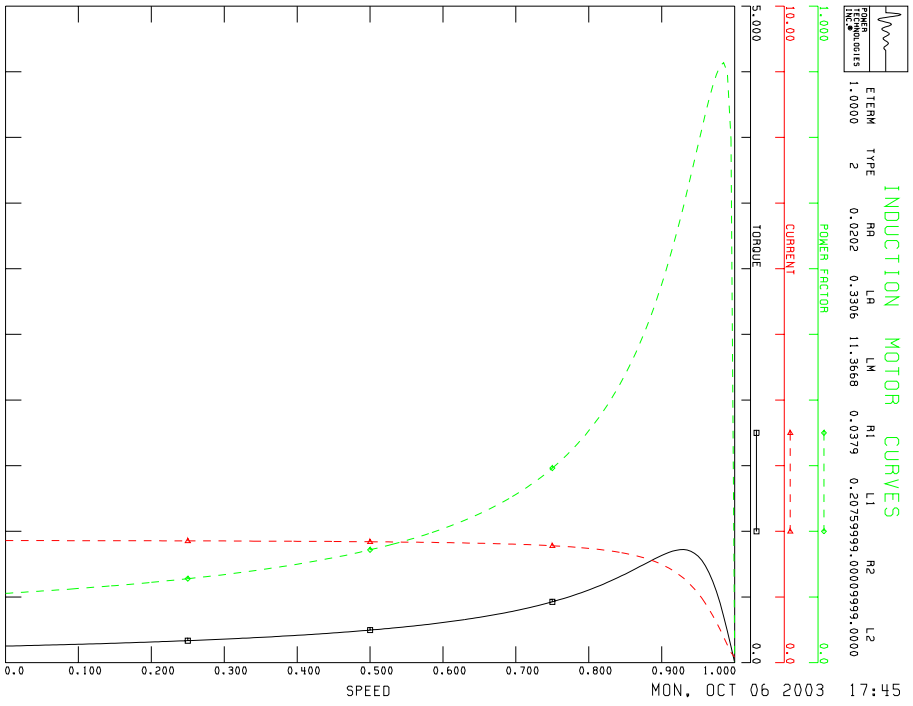


Figure 2-3: induction motor curves with original values

To investigate, we tried the following approach. We assumed the original values retrieved are not in ohms (as specified in the document), but in per unit. Figure 2-4 is the resulting induction motor curve. The maximum torque is 2 pu while the starting current is about 5.8 pu. These numbers are closer to typical induction generator parameters. In addition, the resulting curves are similar to those given in the manufacturer's data sheets.
It was agreed between Cielo Wind, XES and PTI to use the original values as per unit values. Communications had been established between Cielo Wind and the manufacturer Mitsubishi in the hope to solve the problem. At the moment of issuing the report, no response about this issue is yet received from Mitsubishi. All the simulations following in this report are based on the assumption of treating the original values as per unit values.

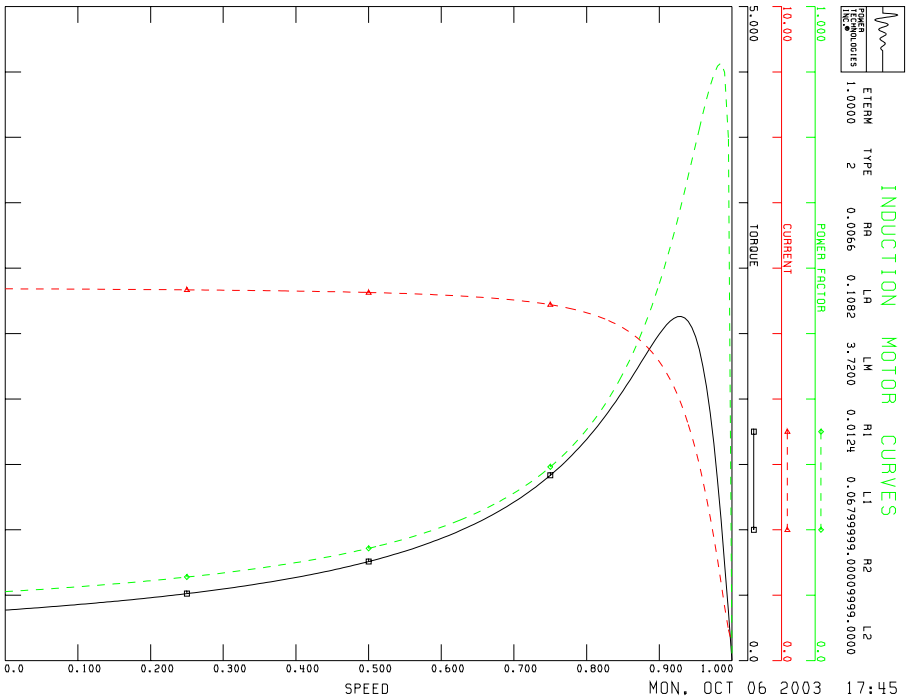


Figure 2-4: induction motor curves with alternative values

2.1.2 Analysis of reactive power support

Mitsubishi wind turbines have a nominal output of 1000 kW per turbine, and their base voltage is 600 V. The nominal power factor is 0.97 leading (absorbing VARs) at rated output with reactive power compensation. Each induction generator has a power factor of 0.891 before power factor correction, and 260 kVAR of capacitance is installed in order to correct the power factor to 0.97. For a real power output of 80 MW, 20 MVAR reactive power support will be needed just to maintain the power factor to 1.0 pu. In addition, to account for the loss on the 115/34.5 kV transformers and the 34.5 kV collector cables, more reactive power has to be planned to support the power factor to be 1.0 pu at the 115 kV point of interconnection.

The power factors before and after the reactive power compensation were calculated from manufacturer's data sheets. Table 2-3 summarizes the power factors of different output level.

Table 2-3: power factors of the Mitsubishi wind turbine with and without capacitors

% of rated output	Unit P generation	PF w/o cap (leading)	KVAR generation	Cap KVAR	PF w/i cap (leading)
100	1100 kW	0.89	-563.5	260	0.964
90.9	1000 kW	0.89	-510.6	260	0.970
50	550 kW	0.86	-326.4	260	0.993

Figure 2-5 is the one-line diagram in the immediate neighborhood of Cielo - Caprock East Wind Farm with the wind farm off-line. Color coding is used to distinguish different voltage

levels: green for 100 kV and below, red for between 100 and 200 kV, and black for above 200 kV. The load flow results were obtained when the plant if off-line. The voltages in the vicinity are within criteria.

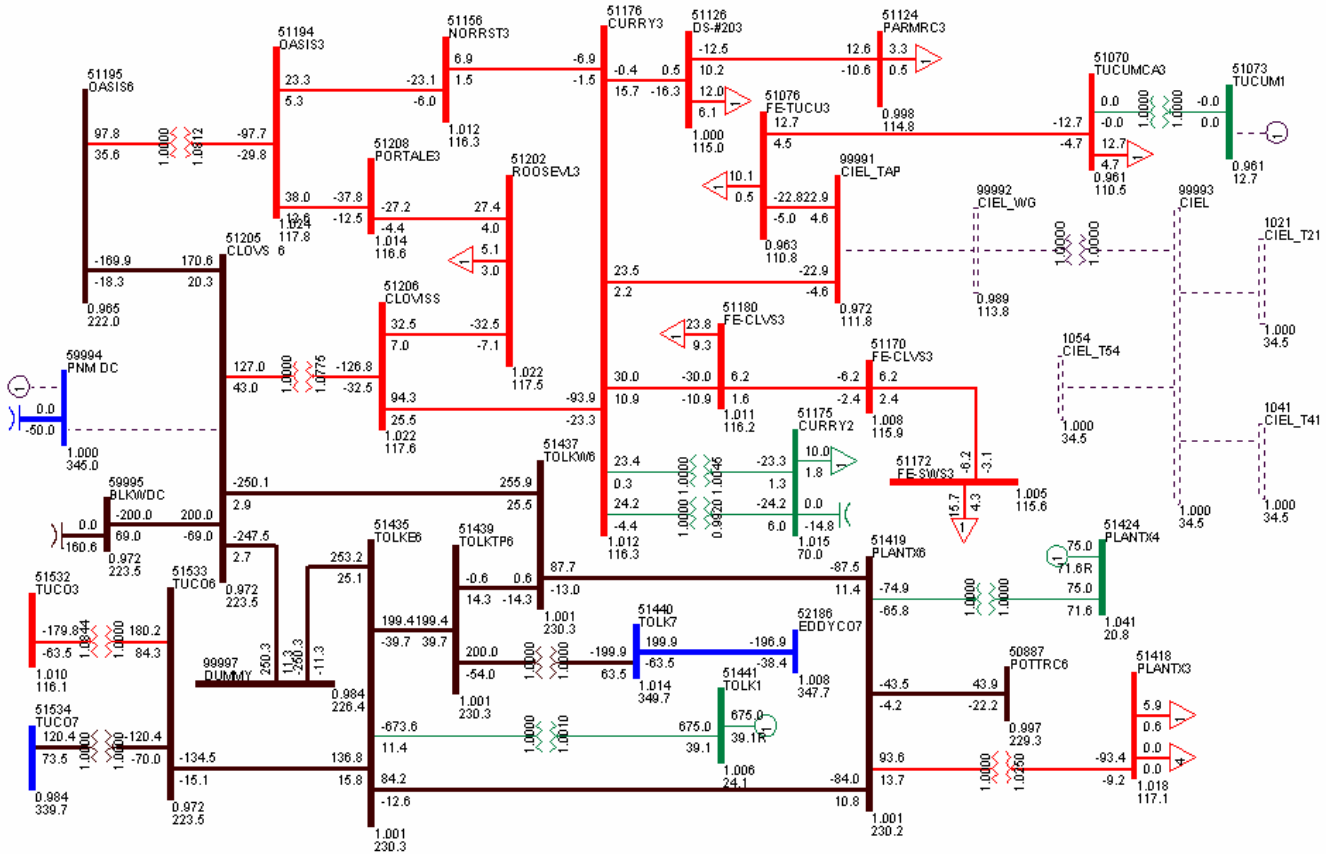


Figure 2-5: one-line diagram with Cielo wind farm off-line

With the Cielo Wind Farm on-line at 100% rated output (80MW) without additional reactive power support, the wind farm has to absorb reactive power from the SPS network to maintain the voltage and power factor. More analysis on the size and form of appropriate reactive power support was therefore performed.

2.1.2.1 P-V Curve analysis

To investigate problems encountered when trying to solve the load flow case, a quick power-voltage sensitivity analysis was conducted to test the strength of the network. The plant will use Mitsubishi MWT-1000A units. The wind generators have a power factor of 0.97 leading when fully loaded. To have more insights on how the reactive consumption might impact the neighboring system, three power factors of the plant at the 34.5 kV collector bus were tested: 1.0, 0.99 (leading), and 0.97 (leading).

Figure 2.6 shows the resulting P-V curve at the interconnection point (bus 99991).

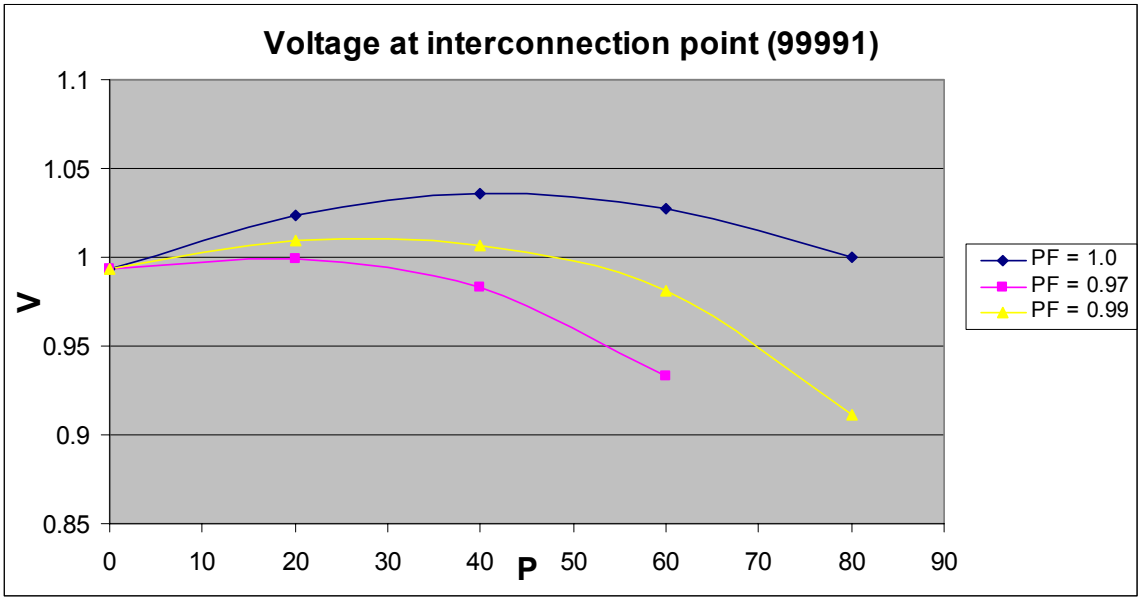


Figure 2-6: P-V curve at 115 kV bus 99991

Figure 2-7 shows the resulting P-V curve at the 34.5 kV collector bus 99993.

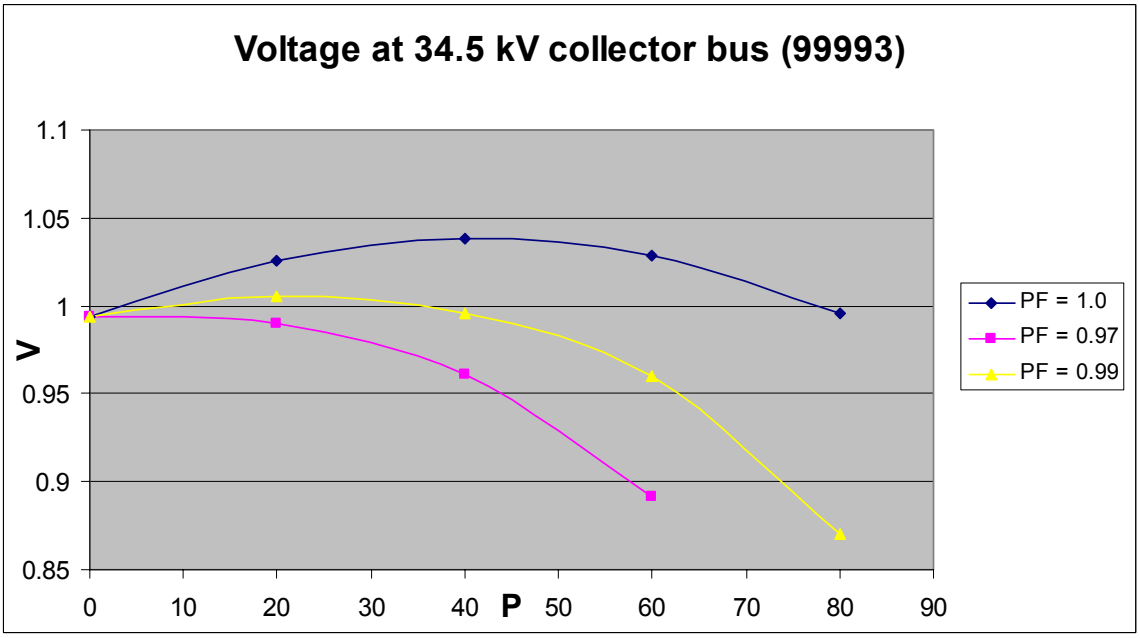


Figure 2-7: P-V curve at the 34.5 kV collector bus

Table 2-4 summarizes the P and Q output of the plant and the corresponding voltage at the 115kV interconnection bus (99991) and the 34.5 kV collector bus (99993) at three different power factors:

Table 2-4: P-V curve analysis of the wind farm

	Plant PF = 1.0			Plant PF = 0.99			Plant PF = 0.97		
P	Q	V(99991)	V(99993)	Q	V(99991)	V(99993)	Q	V(99991)	V(99993)
80	0	0.99981	0.99573	-11.4	0.91086	0.87023	-20	N/A[1]	N/A[1]
60	0	1.02738	1.02819	-8.55	0.98121	0.96014	-15	0.93312	0.89165
40	0	1.03571	1.03833	-5.7	1.00698	0.99613	-10	0.98319	0.96127
20	0	1.02317	1.02553	-2.85	1.00973	1.00555	-5	0.99919	0.98987
0	0	0.99381	0.99398	0	0.99381	0.99398	0	0.99381	0.99398

[1] Load flow solution did not converge.

Note that the voltage at the interconnection point is very sensitive to the power factor of the plant. At 100% rated output, voltage at the interconnection point drops from 0.9998 to 0.9109 when the plant power factor was lowered from 1.0 pu to 0.99 pu. When the plant power factor is 0.99, the power factor at the 115 kV interconnection point is only 0.931. If the plant power factor is to be lower than 0.99, the reactive power support in the neighboring network becomes so weak that the load flow has trouble converging. This indicates that the network is not capable of transmitting 80MW at the power factor of 0.97.

To operate the plant at 100% rated output, a proper source of reactive power has to be installed to maintain the voltage should the power factor of the plant output be less than unity. Moreover, during dynamic simulations, the voltage fluctuations will be even greater than the differences we see in steady state.

2.1.2.2 Capacitor Sizing Analysis

As a result of the P-V curve analysis, the capacitor sizing analysis was performed to evaluate the amount of reactive power needed for the steady-state plant operation .Two objectives are observed in this capacitor sizing analysis:

1. To insure the major load at 115 kV bus 51070 Tucumcari being supplied adequately, with the requirement that the voltage at bus 51070 has to above 0.98 pu
2. The power factor of the output of the wind farm at the interconnection point (bus 99991) must be above 0.98 pu

Table 2-5 lists the results of a multi-variable capacitor sizing analysis. To assess the necessary reactive power support, the two objectives have to be both fulfilled: the power factor at POI has to be above 0.98 pu while the voltage at bus 51070 to be above 0.98 pu as well.

Table 2-5: multi-variable capacitor sizing analysis

Plant output	80 MW	44 MW
% of rated output	100 %	55.0 %
% of max output	90.9 %	50 %
unit PF with cap	0.970	0.993
Unit P gen. (MW)	1.0000	0.550
Unit Q gen. (MVAR)	-0.5095	-0.3264
SVC cap (MVAR)	24.5	1.7
Volt at 51070	0.980	0.995
Flow at POI	78.2 – j15.5	43.5 – j 8.6
PF at POI	0.9809	0.981

As the output level decreases, the power factor of each unit increases, and thus the reactive power support demanded from the system decreases as well.

If the plant is to operate at 100% rated output, 24.5 MVAR of reactive power is needed at the 34.5 kV collector bus in order to maintain both the voltage of the major load at bus 51070 and the power factor at the interconnection point. On the other hand, if the plant is to operate at 55% of rated output, only 1.7 MVAR of reactive power support is needed at the same location.

The analysis study indicates that an SVC or STATCOM might be necessary for the wind farm in order to stabilize the voltage. In this case, three locations can be considered: the interconnection point (bus 99991), 9 miles from the POI (bus 99992), and the 34.5 kV collector bus of the wind farm (bus 99993).

2.1.2.3 DVAR

As a result of the P-V curve and capacitor sizing analysis, Cielo Wind Power contracted American Super Conductor (AMSC) to propose a design of the reactive power support required in order to comply with the voltage and power factor design criteria proposed by XES. A reactive compensation system containing three items is proposed by AMSC to provide proper reactive power support during both steady-state operation and under disturbances. The three items are the following:

1. At the 34.5 kV collector bus, install two D-VAR modules, 8 MVAR each. The D-VARs provide the main dynamic voltage boost for all faults, and control for all of the capacitor banks.
2. At the 34.5 kV collector bus, install 9 capacitor banks, 3.6 MVAR each for steady-state reactive power support. This helps to maintain unity power factor and regulate voltage at the Cielo 115 kV bus. These capacitor banks can be switched by the D-VARs as the wind farm's generation varies.
3. At the 34.5 kV collector bus, install 2 capacitor banks, 16 MVAR each. These two capacitor banks provide additional voltage boost for the worst faults. These capacitor banks are also switched by the D-VARs for voltage support.

2.1.3 Light Load

A light load case was created by XES. The load and generation in the control area of SPS was scaled to reflect the light load conditions. The load was scaled down to 57% while the generation is scaled down approximately 58%. The power output of the Cielo wind farm remains 100% rated output.

During light load conditions, the SPS network requires less reactive power support. Therefore, the reactive power output from the SVC at Eddy County was reduced to approximately 10 MVAR from 60 MVAR by raising the scheduled voltage from 1.0 pu to 1.025 pu. The fictitious capacitive bus shunt was reduced to 21.2 MVAR.

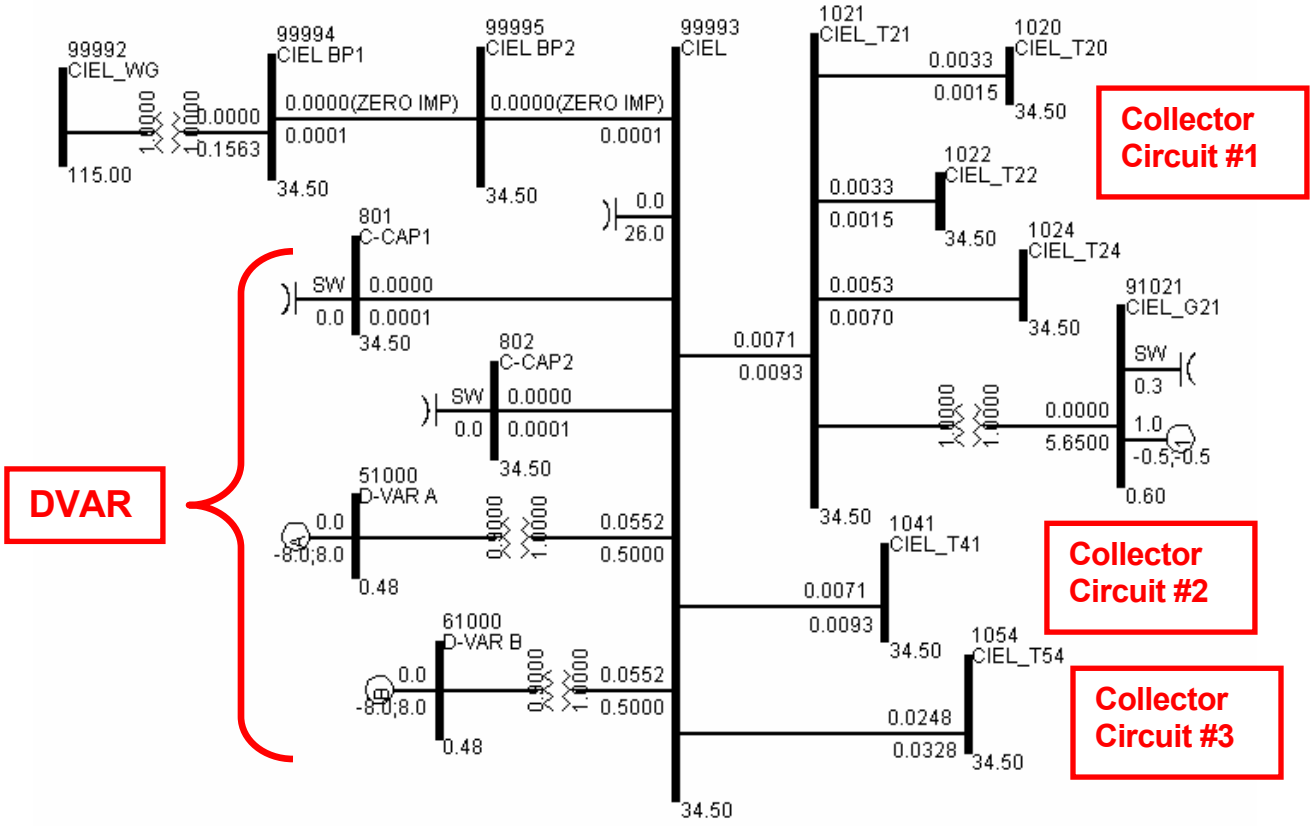
The network near the Cielo wind farm is very sensitive to the amount of reactive power support provided by the DVAR and capacitors banks. Table 2-6 lists the voltage at the collector bus with three different amount of capacitive bus shunt. Note that the voltage increases 3% when the reactive shunt increased from 21.0 to 21.6 MVAR. This also confirms the need of installing the DVAR or a SVC to provide the reactive power support to achieve the fast and precise control required by the Cielo wind farm.

Table 2-6: comparison of the voltage and shunt at the collector bus

Capacitive bus shunt at 99993	Voltage at 99993
21.6 MVAR	1.04738 pu
21.2 MVAR	1.02767 pu
21.0 MVAR	1.01604 pu

2.1.4 PSS/E Setup

All 80 units have identical equipments. A 34.5kV/600V transformer with 5.65% impedance connects the wind turbine unit to the collector bus. The complete load flow data of the wind farm is included in Appendix A. WTG 21 is shown on the diagram below as an example for the layout of a single wind turbine generator (WTG). The bus number for the 34.5 kV side (collector side) is 1021, and the 600 V side (generator side) is 91021.



2.2 Dynamics Data

80 units of Mitsubishi MWT-1000A wind turbines are used in the Cielo Caprock-East wind farm. The dynamic model of the wind turbine generators was developed by PTI. Note that this is an approximate model that incorporates only those components that are known to influence system performance in the timeframe of interest.

Wound-rotor induction generators are used by the Mitsubishi units, and the PSS/E induction generator model CIMTR3 is used to represent the generator. In addition, these turbines have a voltage protection that trips the unit when the voltage drops too low. The protection scheme helps to prevent the induction generators from stalling and absorbing too much current from the neighboring system. Two levels of under-voltage protections are simulated:

- Instantaneous trip for WTG 600-V bus voltage less than 0.6 p.u
- Trip when WTG 600-V bus voltage between 0.6 p.u and 0.95 p.u. for more than 0.2 seconds

The following is the model data for the wind turbine generator at bus 91001 from PSS/E. Buses 91002 to 91080 all have the same model representation and parameters.

```
** CIMTR3 **  BUS X-- NAME --X BASEKV MC    C O N S     S T A T E S     V A R S      ICON
            91001     CIEL_G1  0.6000 1  115331-115343  43117-43122    5702-5704      932

             MBASE     Z S O R C E         X T R A N       GENTAP
               1.1  0.00000+J 0.17490  0.00000+J 0.00000  1.00000

                 T'    T''      H      X      X'      X''     XL
              0.810  0.000   1.20  3.8282  0.1749  0.0000  0.1082

               E1      S(E1)     E2      S(E2)         D    SYN-POW
            1.0000   0.0600   1.2000   0.5250       0.00    0.0000


              *** CALL VBDCN(  1012,116373,     0,  5942) ***

               BUS   NAME  BSKV        GENR BUS   NAME  BSKV
             91001 CIEL_G1 .600              0 CIEL_G1 .600

                 I C O N S      C O N S       V A R
                 1012-1015   116373-116376    5942

                   VLO       VUP      PICKUP     TB
                   0.600     5.000     0.016     0.030

              *** CALL VBDCN(  1332,116693,     0,  6022) ***

               BUS   NAME  BSKV        GENR BUS   NAME  BSKV
             91001 CIEL_G1 .600              0 CIEL_G1 .600

                 I C O N S      C O N S       V A R
                 1332-1335   116693-116696    6022

                   VLO       VUP      PICKUP     TB
                   0.950     5.000     0.200     0.030
```

The setup of the reactive compensation system for PSS/E simulation was provided by AMSC.

Each 8 MVAR DVAR module has a three per unit over-current capability under system disturbances. Combining two modules, the transient reactive power support provided by the DVAR modules is equal to 8 MVAR * 2 * 3 = 48 MVAR.

During severe disturbances, it is essential that the two 16 MVAR capacitor banks are switched in, along with the DVAR, to prevent the voltage from dropping too low and thus tripping the wind farm turbines. The present setting for the switched shunts is that if the voltage drops below 0.925 pu for longer than 0.1 seconds, the capacitors will be switched in. In the case of over-voltage, if the voltage rises above 1.05 pu for longer than 0.35 seconds, the capacitors will be switched out.

In addition, a second logic is implemented to decide when the capacitor banks should be switched in. The reactive power compensation system will be armed any time the voltage at the 34.5 kV collector bus 99993 goes below 95%. The control system will wait 6 cycles (0.1 seconds) before it operates. This will allow the 2 D-VAR units 1 cycle to boost the voltage at the 34.5 kV collector bus back up to at least 90%. If the voltage is not above 90% within 0.1 second, the caps will be switched in 28 ms. If the voltage is above 90%, they will not be switched in yet, and the decision will be delayed. If at any point in time, the voltage goes below the "Fast Cap Turn On Line", the fast caps will be

turned on in 28 ms. On a voltage-time plot, the "Fast Cap Turn On Line" is a straight line defined by two points: the first point has time equal to 6 cycles and voltage equal to 0.9 pu, and the second point has time equal to 10 cycles and voltage equal to 0.95 pu. This straight line functions as a blind. If the voltage of the collector bus remains on the left side of the line, which indicates rapid voltage recovery, the caps remains off-service. However, if the voltage enters the right side of the line, which indicates the voltage is not recovering fast enough, then the fast caps will be turned on.

26 MVAR of reactive power is needed to maintain the voltage and power factor criteria during steady-state operation. It is simulated as a capacitive bus-shunt in the load flow case. This equivalent bus shunt represents the amount of reactive power support needed to maintain steady-state operation from the nine 3.6 MVAR capacitor banks and two 8 MVAR DVAR. The following is the model data for the16 MVAR capacitor bank at bus 801 and the 8 MVAR DVAR at bus 51000. The other DVAR is located at bus 61000 while the second 16 MVAR capacitor bank is at bus 802, with the same parameters as below.

```
                *** CALL SWSHN1(  1686,117073,  6148) ***

** SWSHN1 **  BUS X-- NAME --X BASEKV   I C O N S      C O N S       V A R S
              801 C-CAP1       34.500   1686-1692   117073-117078   6148-6151

 REMOTE BUS  SWITCHES  VIN1     PT1      ST1      VIN2     PT2      ST2
    99993        99   0.0000   0.3500   0.0280   0.0000   0.1000   0.0280


 * CDSMES * BUS NAME    BSKV MACH   C O N S     S T A T E S     V A R S
          51000 D-VAR A  .480 A  117013-117042  43599-43601    6102-6124

                                    I C O N S      MBASE
                  VLTG SRC CNV      1652-1668        8.0


         SRATED  VDC      IINIT    IMIN     TDIS     TON     TOFF
       8.0000   3.0000   1.0500   0.4000   0.6000   0.0010   0.0010

    V1      V2      V3      V4     KAVR       T1       T2        T3       T4    AVRDROOP
  1.0500  0.9300   0.9000   0.5000 300.0000   1.0000   1.0000   1.0000   1.0000   0.0000

    PAUX_THRESH  TOVLD   TBACK    KOL    TBOOST_BEG BOOST_DUR STEP_VREF      KOV
       0.1000   1.0000   1.0000 300.00009999.0000   1.0000   0.0100       110.0000

                      VQMAX  VQMIN    IACMAX    PMAX    PMIN
                  999.0000-999.0000   3.0000 999.0000   0.0000
```

The PSS/E model CDSMES used here is not the same as the standard PSS/E model CDSMES. AMSC has modified the model to simulate the transient response of the DVAR through customized setup. The parameters listed in the DOCU output are not used in the dynamic simulation. Table 2-7 lists the actual parameters for the 8 MVAR DVAR at bus 51000.

Table 2-7: parameters of the 8 MVAR DVAR

Value	Name	Value	Name
0.95	Low Reg Level (pu)	0	Util2: FastT2 (s)
1.05	High Reg Level (pu)	0.3	Util2: FastT3 (s)
0.5	Near Fault Level (pu)	0	Util2: FastT4 (s)
1.08	Over Voltage Limit (pu)	0.01	Util2: FastT5 (s)
35	Inverter Current Ref Minimum (A)	0.95	Util2: Fast Boost Trip Level (pu)
300	Inverter I Rated (A)	1	Util2: SlowDelay (CTicks)
60	Overload Cycles	1	Alt A2d is Ac input
3	OverLoad Multiplier	1	Dc Bus is Disconnected
60	Ramp Down (Line Cycles)	60	Undervoltage Inhibit T1 (cycles)
300	Thermal Recovery Time (s)	300	Undervoltage Inhibit T2 (cycles)
480	Inverter Terminal Voltage (V)	240	Max UnderVolt Inhibit delay (cycles)
60	Operating Frequency (Hz)	1	Alt Protection Level (pu)
0.1	No Reaction Level (pu)	0	Alt Protection Slope (pu A/pu V)
8	Stacks	1.06	Util2: Upper Buck Trip Level (pu)
0.92	Voltage Comp Level (pu)	4	Util2: Upper Buck Trip Time (CTicks)
0	Trailer Has Magnet Subsystem (1=true)	0.03	Upper Nominal Neg Seq Limit (pu)
1.35	High AC Peak Fault Limit (pu)	4	Min Throttled Inv Count
4	Trailer Configuration Type	60	Pos Seq Avg Block cycles
0	External Cap Control Type	60	Neg Seq Avg Block cycles
16	Onset Ring Blanking (Cticks)	1.1	PLL cutoff freq (Hz)
100	LeadLag: Gain 1	0.1	PLL Damping Const
1	LeadLag: Gain 2	120	Seq Notch Filter Freq (Hz)
1	LeadLag: T1 (s)	0.707	Seq Notch Damping Const
0	LeadLag: T2 (s)	90	Seq Low Pass Cutoff Freq (Hz)
3	LeadLag: T3 (s)	1	Enable Stack Throttling
0	LeadLag: T4 (s)	0.005	Slow Threshold Err (pu)
0.04	LeadLag: T5 (s)	0.025	Fast Threshold Err (pu)
1.03	LeadLag: Target V (pu)	0.005	Alt Slow Threshold Err (pu)
0.02	LeadLag: Droop	0.025	Alt Fast Threshold Err (pu)
20	LeadLag: Upper Limit	10	Slow Filt Cutoff Freq (Hz)
-20	LeadLag: Lower Limit	400	Fast Filt Cutoff Freq (Hz)
1.03	LeadLag: Boost Off (pu)	0.02	Boost On Err (pu)
1.03	LeadLag: Buck Off (pu)	0.03	Buck On Err (pu)
11.26	V Comp Slope (pu A/pu V)	0.25	Pos Droop Filt K
5	V Comp Type	1.08	Max Drooped Upper Lvl (pu)
0.125	V Comp Scale	0.92	Max Drooped Lower Lvl (pu)
1.03	Util2: Rapid Boost SlewOff (pu)	20	Slow Avg Cutoff Freq (Hz)
1.03	Util2: Rapid Buck SlewOff (pu)	20	Bandlimited Cutoff Freq (Hz)
4	Util2: Lower Boost Trip Time (CTicks)	0	Bumpless Turn On Time (cycles)
100	Util2: Upper Boost Trip Time (CTicks)	0	Require Alt Input above NoReact
0.85	Util2: Lower Boost Trip Level (pu)	1	Phase Lock to Primary PT

Value	Name	Value	Name
1.01	Util2: Upper Boost Trip Level (pu)	0.99	Pos Seq Longterm Limit (pu)
0.2	Max 3-Phs Imbalance (Neg Seq) (pu)	1.15	Fixed Upper Limitor (pu)
4	Util2: Low 3Phs Trip Time (CTicks)	0.8	Fixed Lower Limitor (pu)
1.045	Util2: Lower Buck Trip Level (pu)	0.03	Limitor Hysterisis (pu)
20	Util2: Lower Buck Trip Time (CTicks)	5	Max Neg Seq Run time (s)
200	Util2: FastGainK1	20	Max Pos Seq Run time (s)
0.1	Util2: FastT1 (s)	0.2	PSS-E: V-compliance speed factor

Section

3

Stability Analysis

3.1 Disturbances

The following faults were simulated in the study (3 phase and single phase):

1. Faults on the Tolk (51435) – Cloviss (51205) 230kV Line (mid-line). A new bus (*Mid-Line bus*) was established in the electrical middle of the line.

   FLT13PH - 3 Phase Fault

   a. Apply the fault at the *Mid-Line bus*.
   b. Clear Fault after 5 cycles, by remove lines from 51435 to *Mid-Line bus* and *Mid-Line bus* to 51205.
   c. Wait 20 cycles and then re-close both lines in (b) back into the fault.
   d. Leave fault on for 5 cycles, then trip both lines in (b) to remove fault.

   FLT11PH - 1 phase Fault

   a. Same as FLT13PH above.

2. Fault on the Tucumcari 115kV Bus (51070), removing the load bus.

   FLT23PH - 3 Phase Fault

   a. Apply the fault on the Tucumcari 115kV Bus (51070).
   b. Clear Fault after 3 cycles[1], by removing the lines from 99991 to 51076 and from 51076 to 51070
   c. DO NOT RE-CLOSE

   This simulates a high side transformer fault at Tucumcari.

   FLT21PH - 1 phase Fault

   a. Same as FLT23PH above.

3. Fault on the Roosevelt (51202) – Cloviss(51206) 115kV Line, near Roosevelt.

   FLT33PH - 3 Phase Fault

   a. Apply fault at the Roosevelt bus (51202).
   b. Clear Fault after 5 cycles by remove the 115kV line from 51202 to 51206.
   c. Wait 20 cycles, then re-close line in (b) into the fault.
   d. Leave fault on for 5 cycles, then trip the line in (b) and remove the fault.

   FLT31PH - 1 phase Fault

   a. Same as FLT33PH above.

[1] Faster relays with three cycle pick-up timers were assumed to replace the existing relays with five cycle pick-up timers

4. Fault on the Tolk (51440) – Eddy County (52186) 345kV Line, near Eddy County.
   FLT43PH - 3 Phase Fault
   b. Apply fault at bus 52186.
   c. Clear Fault after 5 cycles by remove the line from 51440 to 52186.
   d. Wait 30 cycles, then re-close line in (b) into the fault.
   e. Leave fault on for 5 cycles, then trip the line in (b) and remove the fault.

   FLT41PH - 1 phase Fault
   a. Same as FLT43PH above.

5. Fault on Curry County (51176) – Caprock East Tap (99991) 115kV Line, near Curry
   FLT53PH - 3 Phase Fault
   a. Apply fault at the Curry County bus (51176).
   b. Clear Fault after 5 cycles by remove the line from 51176 to 99991.
   c. DO NOT RE-CLOSE

   This fault has no re-closing. XES is concerned with "Voltage Holdup" at Tucumcari (51070) and at FEC-Tucumcari (51076) (i.e. what does having the wind farm and the DVAR device connected to these two buses do to the voltage at these locations immediately following the fault).

   FLT51PH - 1 phase Fault
   a. Same as FLT53PH above.

6. Fault on Tolk (51435) – Tuco (51533) 230kV Line
   FLT63PH - 3 Phase Fault
   a. Apply fault at the Tuco bus (51533).
   b. Clear Fault after 5 cycles by remove the 230 kV line from 51533 to 51435.
   c. Wait 20 cycles, then re-close line in (b) into the fault.
   d. Leave fault on fro 5 cycles, then trip the line in (b) and remove the fault.

   FLT61PH - 1 phase Fault
   a. Same as FLT63PH above.

7. Fault on Cloviss (51206) – Curry County (51176) 115kV Line, near Cloviss
   FLT73PH - 3 Phase Fault
   e. Apply fault at the Cloviss bus (51206).
   f. Clear Fault after 5 cycles by remove the line from 51206 to 51176.
   g. Wait 20 cycles, then re-close line in (b) into the fault.
   h. Leave fault on fro 5 cycles, then trip the line in (b) and remove the fault.

   FLT71PH - 1 phase Fault
   a. Same as FLT73PH above.

The actual single-line-to-ground fault impedance's at the substations were given by XES. Table 3-1 summarizes the single-line-to-ground fault impedances in per unit for each fault. The exact SLG equivalent fault impedance of the 115 kV substation Cloviss was not available. To simulate fault FLT71PH, the equivalent fault impedance of the nearby 115 kV substation Roosevelt was used. The resulting bus voltage of Cloviss 115 kV substation with a SLG fault is approximately 0.6 pu, which concludes the estimate to be reasonable.

Table 3-1: SLG equivalent fault impedance

bus name	kV	R-	X-	R0	X0
mid Tuco-Roosevelt	230	0.00353	0.03035	0.01193	0.05257
Tucumcari	115	0.14634	0.51204	0.06648	0.60102
Roosevelt	115	0.00593	0.05616	0.00311	0.03964
Eddy County	345	0.00451	0.05243	0.00142	0.03167
Curry County	115	0.01133	0.06678	0.01354	0.07276
Tuco	230	0.00268	0.0236	0.00319	0.02532

The PSAS files for simulating the disturbances in peak load conditions are included in Appendix B.

The locations of the faults are illustrated in Figure 3-1.

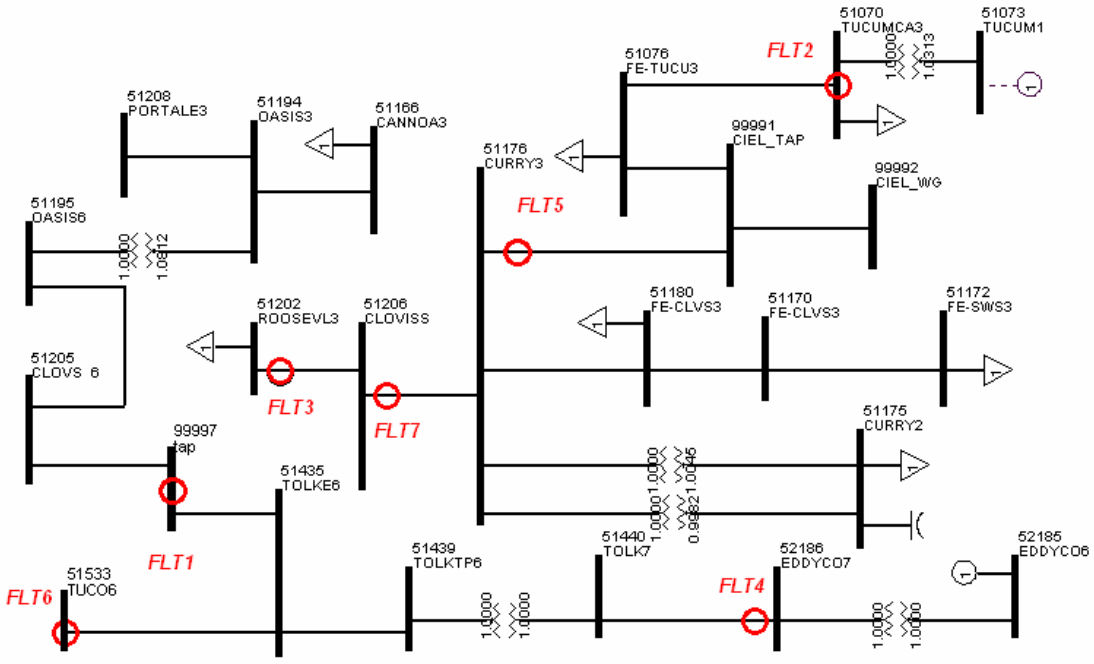


Figure 3-1: fault locations

3.2 Results and Discussions

Simulations were performed with a 0.1-second steady-state run followed by the appropriate disturbance described in Section 3.1. Simulations were run to at least 10 seconds to confirm proper machine damping.

The “dynamic” reactive power support from the two 8 MVAR DVAR units and two 16 MVAR capacitor banks has an important role in supporting the voltage of the wind farm during and

after disturbances. For disturbances that do not result in an isolation of the generation and nearby loads from the SPS network, whether the reactive power support is sufficient and activated in the timely manner has a direct impact on the generator terminal voltages, and hence the ability of the generators to remain connected to the grid.

Two levels of under-voltage protections are simulated:

- Instantaneous trip for WTG 600-V bus voltage less than 0.6 p.u
- Trip when WTG 600-V bus voltage is between 0.6 p.u and 0.95 p.u. for greater than 0.2-seconds

For all the disturbances simulated in this study, the terminal voltages of the generators remained above 0.6 pu, and the first level of protection was not triggered. All the fault durations are 5 cycles, and therefore it is essential for the voltage to recover above 95% within 15 cycles. Otherwise, the second level of voltage protection scheme would be activated to trip the wind turbine units off-line.

During peak load with the Cielo wind farm on-line, the wind farm was able to ride through all disturbances simulated except FLT5 (both single- and three-phase-to-ground fault near Curry County on the 115 kV line between Curry County and Caprock East Tap)) and FLT73PH (three-phase-to-ground fault on the 115 kV line between Clovis and Curry County). During light load, the wind turbine generators were tripped in one additional disturbance: FLT13PH (three-phase-to-ground fault on the mid point of the 230 kV line between Tolk and Clovis).

FLT53PH and FLT51PH are the most severe faults among all those simulated. Both disturbances caused the 115 kV line to be tripped from Cielo Wind farm to Curry County, leaving the wind farm and the loads isolated at Tucumcari (bus 51070) and FEC-Tucumcari (bus 51076). During peak load, the combined load at both substations is 22 MW, while during light load conditions, the combined load is 10 MW. When the load is isolated with the wind farm output at 80 MW, the severe power unbalance causes the network to collapse, at both peak and light load.

The DVAR is simulated as a generator with no real power output. Their user-written model requires that the steady-state output of the DVAR has to be zero in order for the model to be initialized correctly in dynamic simulations. To accommodate this requirement, an equivalent bus shunt was established at the collector bus for the combined output of the capacitor banks and the DVAR in steady-state, so the Q output of the DVAR generator can stay zero. In reality, the field engineer would adjust the so steady-state capacitor banks so the DVAR output is minimized, though it doesn't have to be zero. For peak load conditions, the equivalent bus shunt is 26 MVAR. It is 21.2 MVAR during light load conditions.

The logic to automatically adjust the amount of the bus shunt at the collector bus (representing the nine 3.6 MVAR and two 16 MVAR banks) has not been provided. If the wind farm is operating at less than the rated output, the reactive power support required must be adjusted accordingly both in steady-state and dynamic simulations. The logic to adjust the compensation following, for example, tripping of wind turbine generators, has not been supplied.

The response of the wind farm to disturbances during peak load conditions is described in Section 3.2.1. The response under light load conditions is given in Section 3.2.2.

Simulations were also performed on the peak load case with the Cielo wind farm off-line. More details are included in Section 3.2.3.

3.2.1 Peak load conditions with Cielo Wind Farm on-line at 100% rated output

The wind farm was able to ride through all disturbances except FLT53PH, FLT51PH and FLT73PH. The plots of the dynamic simulations are included in Appendix C.

For the most severe disturbance, FLT5 (both three- and single-phase-to-ground fault near Curry County on the 115 kV line between Curry County and Caprock East Tap), the severe imbalance between the load and generation caused the speed of the wind turbine generators to increase dramatically. The generator terminal voltages exceed 110% at approximately 0.3 seconds after the fault. The over-speed and over-voltage protection schemes were not given in the manufacturer's data sheet, and thus not modeled in the simulation; otherwise, the wind farm would have been tripped and the load at Tucumcari would have been lost.

Figure 3-2 shows the voltages at the collector bus 99993 and generator terminal bus 91001, and the reactive power output from the DVAR during the simulation of FLT73PH (three-phase-to-ground fault on the 115 kV line between Clovis and Curry County). Note that the generator terminal voltage reached 95% at 0.19 seconds after the fault, just in time to reset the under-voltage protection relay and prevent the wind farm generators from being tripped off-line.

The 80 wind turbine units of the Cielo Wind Farm spread across a large area with cables connecting the units to the collector feeders. The voltages at the generator terminal buses thus vary along the cables. During the fault FLT73PH, 25 units did not have their voltage recover above 95% within 0.2 seconds and were tripped by the under-voltage protection relay. In other words, the wind farm lost approximately 30% of its rated output under the disturbance FLT73PH.

The current user-written model of the DVAR, supplied by AMSC, does not automatically adjust the amount of the equivalent bus shunt at the collector bus to account for changes in the number of generators on-line. It is not clear how the nine 3.6 MVAR capacitor banks would be adjusted following a 30% drop in the wind farm output. In the present simulation, without adjusting the shunt compensation, the voltages at the 115 kV load buses FEC Tucumcari (51076) and Tucumcari (51070) recovered to 103% approximately 1 second after the fault.

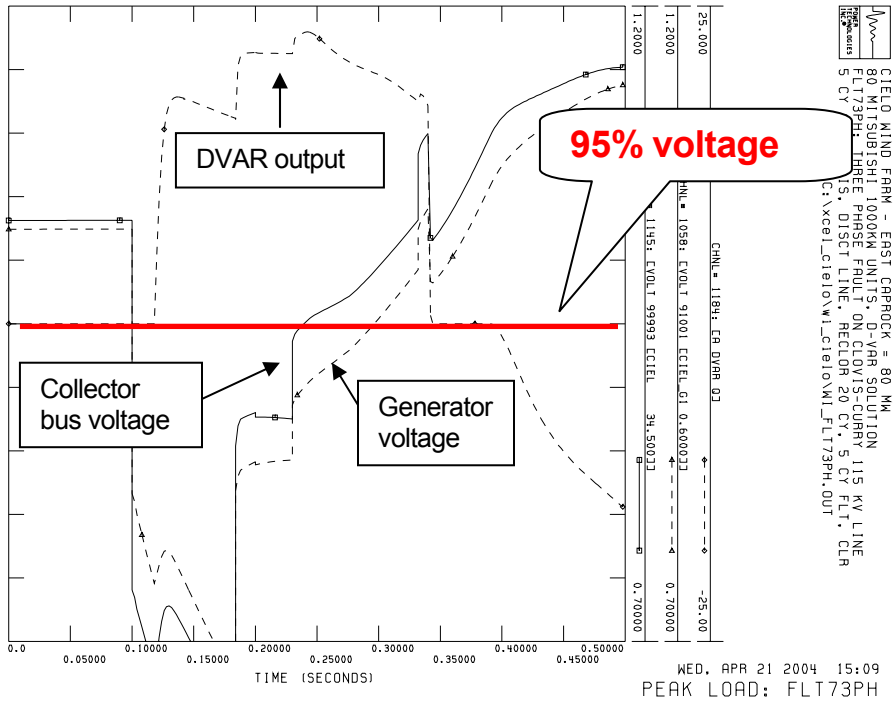


Figure 3-2: voltage and DVAR output of FLT73PH

During FLT33PH (three-phase-to-ground fault on the 115 kV line between Clovis and Roosevelt), the reactive power support from the combination of two 8 MVAR DVAR and two 16 MVAR capacitor banks was sufficient to sustain the bus voltages of the wind turbines during and after the fault so the under-voltage protection scheme was not triggered to protect the turbines.

During other less severe three-phase-to-ground and single-line-to-ground faults, the reactive power support from the two 8 MVAR DVAR units was sufficient for the wind farm to ride through the simulated disturbances.

3.2.2 Light load conditions with Cielo Wind Farm on-line at 100% rated output

During light load conditions, the disturbance FLT5, which results in the isolation of the wind farm with the small amount of load results in the complete shutdown of that part of the system. Response to disturbance FLT73PH was similar to that described above for the peak load condition except that all wind farm generators tripped.

In addition, the wind farm was not able to ride through the disturbance FLT13PH. All or most of the 80 units were tripped off-line by the under-voltage protection scheme under these disturbances.

During the simulation of fault FLT13PH, the two 16 MVAR capacitor banks were not switched in because the voltage at the collector bus remained above 95% after the fault was cleared. However, the generator terminal voltage reached approximately 93%. Consequently, the under-voltage protection relay tripped the units when the voltage was below 95% for over 0.2

seconds. 72 units, out of the 80 units, were tripped. Figure 3-3 shows the voltages at the 34.5 kV collector bus 99993 and the generator terminal voltage at bus 91001.

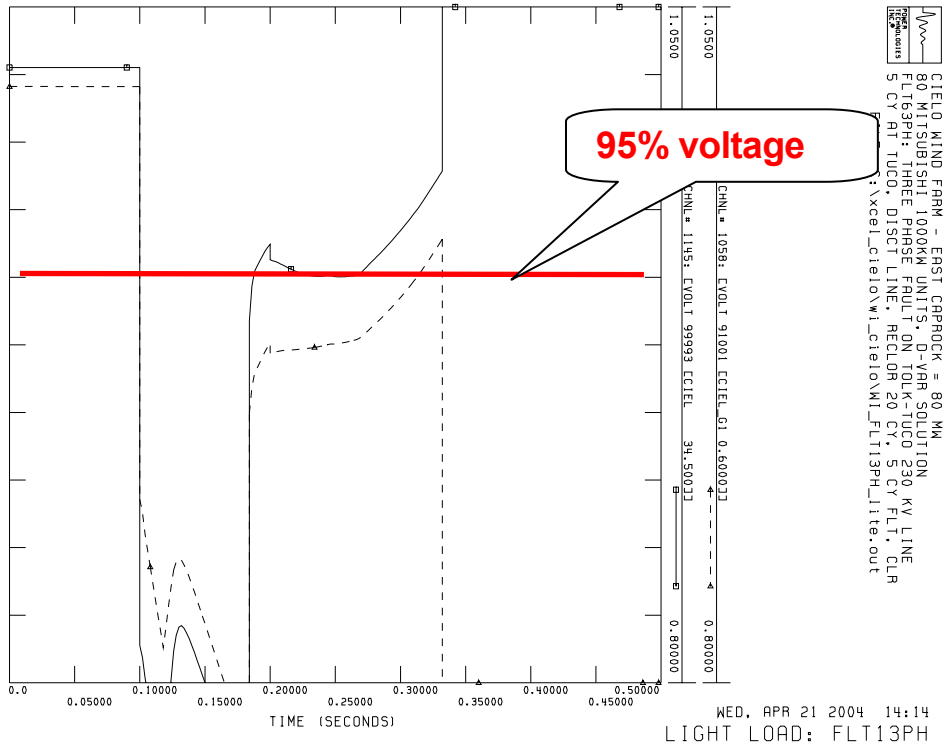


Figure 3-3: voltage comparison of the collector and generator bus

Figure 3-4 shows the voltage at the collector bus 99993 and the DVAR output during the first 0.5 second of FLT13PH. Note that the reactive power output reached maximum at 0.1 seconds after the fault first took place, and the output level remained around 20 MVAR until the wind turbine generators were tripped at approximately 0.23 seconds after the fault was applied. The two DVAR units thus responded, including use of their over-current capabilities, but not enough to avoid the wind turbine generators tripping in this simulation. Severe over-voltages resulted from the presence of the two 16 MVAR capacitor banks on-line after the wind farm generators tripped off, indicating the need for coordination between generator tripping and capacitor tripping.

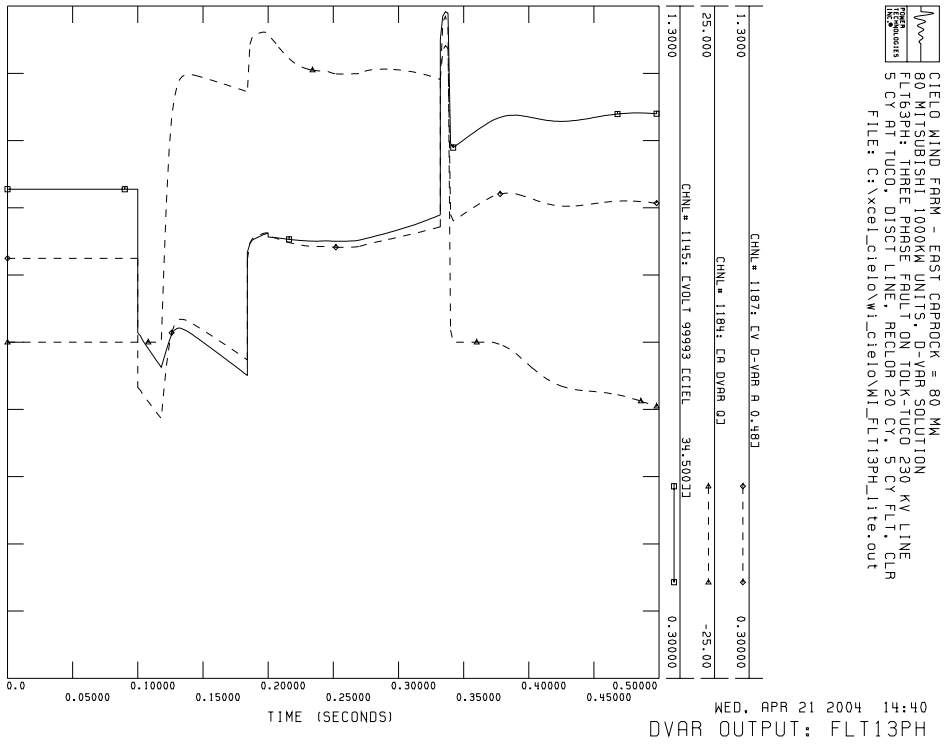
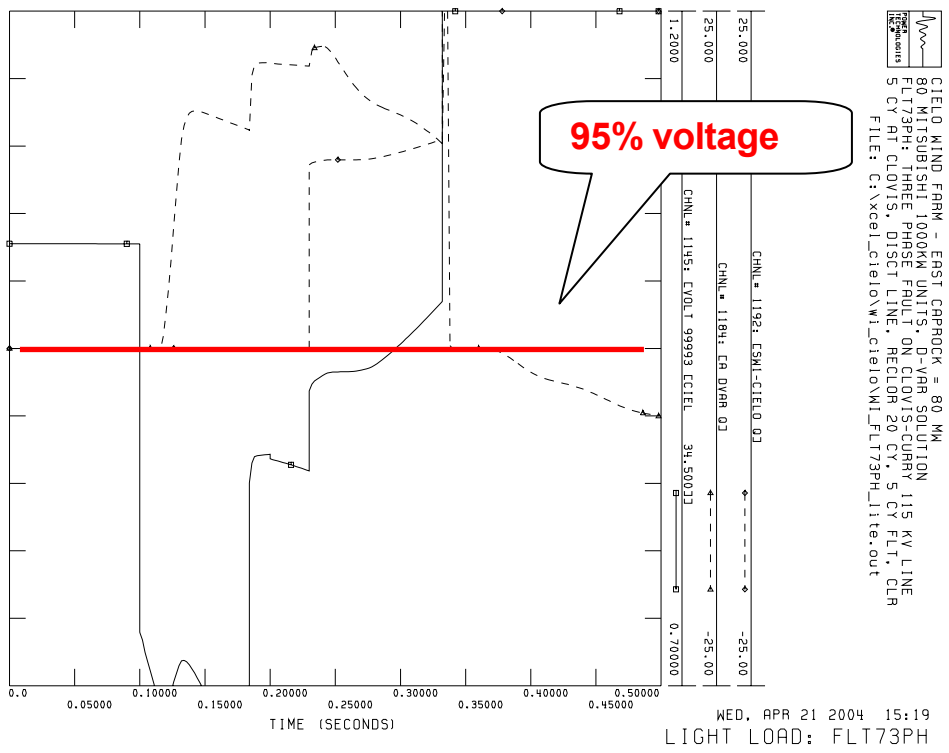


Figure 3-4: DVAR output of FLT13PH

During the simulation of FLT73PH, the voltage at the collector bus did not recover to 90% within 6 cycles, so the two 16 MVAR capacitors were turned on at 0.13 seconds after the fault was first applied. Even with the reactive power support from both the DVAR and switched capacitors, the generator terminal voltage did not recover to above 95% within 0.2 seconds. Therefore, all 80 wind turbine units were tripped off by the under-voltage protection.

With the 21.2 MVAR fixed bus shunt in-service, the voltages at the 115 kV load buses nearby were well above 110% after the fault was cleared and the wind farm tripped off-line. It is essential to further investigate how the DVAR controls the nine 3.6 MVAR and the two 16 MVAR capacitor banks under disturbances.



For the most severe disturbance, FLT53PH, the severe imbalance between the load and generation caused the wind farm to be tripped at approximately 4.5 seconds after the fault.

The plots of all the dynamic simulations for light load are included in Appendix D.

3.2.3 Light load conditions with Cielo Wind Farm on-line at 75% rated output

With the wind farm output reduced from 80 MW to 60 MW, the wind farm was able to ride through all disturbances but FLT53PH and FLT51PH during light load conditions.

3.2.4 Peak load conditions with Cielo Wind Farm off-line

The SPS network was able to ride through all the disturbances simulated. During the simulation of FLT53PH and FLT51PH, when the branch is tripped between 115 kV substations Curry and FEC Tucumcari, the load at Tucumcari is tripped as well due to isolation; there is no power source within the island. The plots of the dynamic simulations are included in Appendix E.

Appendix

A

Load Flow Data of the Cielo Wind Farm

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E WED, APR 21 2004 16:37
SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW BRANCH DATA
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION

X------FROM------X			X-------TO-------X							Z	S			
BUS#	NAME	BSKV	BUS#	NAME	BSKV	CKT	LINE R	LINE X	CHRGING	I	T	RATEA	RATEB	RATEC
801	C-CAP1	34.5*	99993	CIEL	34.5	1	0.00000	0.00011	0.00000		1	0.0	0.0	0.0
802	C-CAP2	34.5*	99993	CIEL	34.5	1	0.00000	0.00011	0.00000		1	0.0	0.0	0.0
1001	CIEL_T1	34.5*	1002	CIEL_T2	34.5	1	0.00672	0.00298	0.00000		1	0.0	0.0	0.0
1001	CIEL_T1	34.5	1010	CIEL_T1	034.5*	1	0.05393	0.02391	0.00002		1	0.0	0.0	0.0
1002	CIEL_T2	34.5*	1003	CIEL_T3	34.5	1	0.00672	0.00298	0.00000		1	0.0	0.0	0.0
1003	CIEL_T3	34.5*	1004	CIEL_T4	34.5	1	0.00672	0.00298	0.00000		1	0.0	0.0	0.0
1004	CIEL_T4	34.5*	1005	CIEL_T5	34.5	1	0.00672	0.00298	0.00000		1	0.0	0.0	0.0
1005	CIEL_T5	34.5*	1006	CIEL_T6	34.5	1	0.00672	0.00298	0.00000		1	0.0	0.0	0.0
1007	CIEL_T7	34.5*	1008	CIEL_T8	34.5	1	0.00940	0.00417	0.00000		1	0.0	0.0	0.0
1007	CIEL_T7	34.5	1081	CIEL_D1	34.5*	1	0.00940	0.00417	0.00000		1	0.0	0.0	0.0
1008	CIEL_T8	34.5*	1009	CIEL_T9	34.5	1	0.00940	0.00417	0.00000		1	0.0	0.0	0.0
1009	CIEL_T9	34.5*	1010	CIEL_T1	034.5	1	0.00940	0.00417	0.00000		1	0.0	0.0	0.0
1011	CIEL_T1	134.5*	1012	CIEL_T12	34.5	1	0.00501	0.00222	0.00000		1	0.0	0.0	0.0
1011	CIEL_T1	134.5	1081	CIEL_D1	34.5*	1	0.00501	0.00222	0.00000		1	0.0	0.0	0.0
1012	CIEL_T12	34.5*	1013	CIEL_T13	34.5	1	0.00501	0.00222	0.00000		1	0.0	0.0	0.0
1013	CIEL_T13	34.5*	1014	CIEL_T14	34.5	1	0.00501	0.00222	0.00000		1	0.0	0.0	0.0
1015	CIEL_T15	34.5*	1016	CIEL_T16	34.5	1	0.00334	0.00148	0.00000		1	0.0	0.0	0.0
1015	CIEL_T1	534.5	1031	CIEL_T3	134.5*	1	0.05343	0.02369	0.00000		1	0.0	0.0	0.0
1017	CIEL_T17	34.5	1018	CIEL_T18	34.5*	1	0.00668	0.00296	0.00000		1	0.0	0.0	0.0
1018	CIEL_T18	34.5	1024	CIEL_T24	34.5*	1	0.01336	0.00592	0.00001		1	0.0	0.0	0.0
1019	CIEL_T19	34.5	1020	CIEL_T20	34.5*	1	0.00334	0.00148	0.00000		1	0.0	0.0	0.0
1020	CIEL_T20	34.5	1021	CIEL_T21	34.5*	1	0.00334	0.00148	0.00000		1	0.0	0.0	0.0
1021	CIEL_T21	34.5*	1022	CIEL_T22	34.5	1	0.00334	0.00148	0.00000		1	0.0	0.0	0.0
1021	CIEL_T21	34.5*	1024	CIEL_T24	34.5	1	0.00529	0.00699	0.00001		1	0.0	0.0	0.0
1021	CIEL_T21	34.5	99993	CIEL	34.5*	1	0.00706	0.00933	0.00002		1	0.0	0.0	0.0
1022	CIEL_T22	34.5*	1023	CIEL_T23	34.5	1	0.00334	0.00148	0.00000		1	0.0	0.0	0.0
1024	CIEL_T24	34.5*	1025	CIEL_T25	34.5	1	0.02672	0.01185	0.00001		1	0.0	0.0	0.0
1024	CIEL_T24	34.5*	1081	CIEL_D1	34.5	1	0.00529	0.00699	0.00001		1	0.0	0.0	0.0
1025	CIEL_T25	34.5*	1026	CIEL_T26	34.5	1	0.00672	0.00298	0.00000		1	0.0	0.0	0.0
1026	CIEL_T26	34.5*	1027	CIEL_T27	34.5	1	0.00672	0.00298	0.00000		1	0.0	0.0	0.0
1027	CIEL_T27	34.5*	1028	CIEL_T28	34.5	1	0.00672	0.00298	0.00000		1	0.0	0.0	0.0
1028	CIEL_T28	34.5*	1029	CIEL_T29	34.5	1	0.00672	0.00298	0.00000		1	0.0	0.0	0.0
1029	CIEL_T29	34.5*	1030	CIEL_T30	34.5	1	0.00672	0.00298	0.00000		1	0.0	0.0	0.0
1031	CIEL_T31	34.5	1048	CIEL_T48	34.5*	1	0.03362	0.01491	0.00000		1	0.0	0.0	0.0
1032	CIEL_T32	34.5	1033	CIEL_T33	34.5*	1	0.00334	0.00148	0.00000		1	0.0	0.0	0.0
1033	CIEL_T33	34.5	1034	CIEL_T34	34.5*	1	0.00334	0.00148	0.00000		1	0.0	0.0	0.0
1034	CIEL_T34	34.5	1035	CIEL_T35	34.5*	1	0.00334	0.00148	0.00000		1	0.0	0.0	0.0

```
 1035 CIEL_T3534.5   1083 CIEL_D3 34.5* 1   0.00334  0.00148  0.00000   1    0.0    0.0    0.0
 1036 CIEL_T3634.5*  1037 CIEL_T3734.5  1   0.00334  0.00148  0.00000   1    0.0    0.0    0.0
 1036 CIEL_T3634.5   1083 CIEL_D3 34.5* 1   0.01336  0.00592  0.00000   1    0.0    0.0    0.0
 1038 CIEL_T3834.5   1039 CIEL_T3934.5* 1   0.00668  0.00296  0.00000   1    0.0    0.0    0.0
 1038 CIEL_T3834.5*  1083 CIEL_D3 34.5  1   0.00668  0.00296  0.00000   1    0.0    0.0    0.0
 1039 CIEL_T3934.5   1040 CIEL_T4034.5* 1   0.00668  0.00296  0.00000   1    0.0    0.0    0.0
 1040 CIEL_T4034.5   1082 CIEL_D2 34.5* 1   0.00668  0.00296  0.00000   1    0.0    0.0    0.0
 1041 CIEL_T4134.5*  1082 CIEL_D2 34.5  1   0.00353  0.00466  0.00001   1    0.0    0.0    0.0
 1041 CIEL_T4134.5  99993 CIEL    34.5* 1   0.00706  0.00933  0.00002   1    0.0    0.0    0.0
 1042 CIEL_T4234.5*  1043 CIEL_T4334.5  1   0.00151  0.00200  0.00000   1    0.0    0.0    0.0
 1042 CIEL_T4234.5   1082 CIEL_D2 34.5* 1   0.00151  0.00200  0.00000   1    0.0    0.0    0.0
 1043 CIEL_T4334.5*  1044 CIEL_T4434.5  1   0.00151  0.00200  0.00000   1    0.0    0.0    0.0
 1044 CIEL_T4434.5*  1045 CIEL_T4534.5  1   0.00151  0.00200  0.00000   1    0.0    0.0    0.0
 1045 CIEL_T4534.5*  1046 CIEL_T4634.5  1   0.00151  0.00200  0.00000   1    0.0    0.0    0.0
 1046 CIEL_T4634.5*  1047 CIEL_T4734.5  1   0.00151  0.00200  0.00000   1    0.0    0.0    0.0
 1047 CIEL_T4734.5*  1048 CIEL_T4834.5  1   0.00151  0.00200  0.00000   1    0.0    0.0    0.0
 1048 CIEL_T4834.5*  1049 CIEL_T4934.5  1   0.00334  0.00148  0.00000   1    0.0    0.0    0.0
 1049 CIEL_T4934.5*  1050 CIEL_T5034.5  1   0.00334  0.00148  0.00000   1    0.0    0.0    0.0
 1050 CIEL_T5034.5*  1051 CIEL_T5134.5  1   0.00334  0.00148  0.00000   1    0.0    0.0    0.0
 1051 CIEL_T5134.5*  1052 CIEL_T5234.5  1   0.00334  0.00148  0.00000   1    0.0    0.0    0.0
 1052 CIEL_T5234.5*  1053 CIEL_T5334.5  1   0.03473  0.01540  0.00001   1    0.0    0.0    0.0
 1054 CIEL_T5434.5*  1055 CIEL_T5534.5  1   0.00132  0.00175  0.00000   1    0.0    0.0    0.0
 1054 CIEL_T5434.5  99993 CIEL    34.5* 1   0.02484  0.03283  0.00007   1    0.0    0.0    0.0
 1055 CIEL_T5534.5*  1056 CIEL_T5634.5  1   0.00132  0.00175  0.00000   1    0.0    0.0    0.0
 1056 CIEL_T5634.5*  1057 CIEL_T5734.5  1   0.00132  0.00175  0.00000   1    0.0    0.0    0.0
 1057 CIEL_T5734.5*  1058 CIEL_T5834.5  1   0.00132  0.00175  0.00000   1    0.0    0.0    0.0
 1058 CIEL_T5834.5*  1059 CIEL_T5934.5  1   0.00706  0.00933  0.00002   1    0.0    0.0    0.0
 1059 CIEL_T5934.5*  1060 CIEL_T6034.5  1   0.00706  0.00933  0.00002   1    0.0    0.0    0.0
 1060 CIEL_T6034.5*  1061 CIEL_T6134.5  1   0.00247  0.00326  0.00001   1    0.0    0.0    0.0
 1061 CIEL_T6134.5*  1062 CIEL_T6234.5  1   0.00247  0.00326  0.00001   1    0.0    0.0    0.0
 1062 CIEL_T6234.5*  1063 CIEL_T6334.5  1   0.00247  0.00326  0.00001   1    0.0    0.0    0.0
 1063 CIEL_T6334.5*  1064 CIEL_T6434.5  1   0.00247  0.00326  0.00001   1    0.0    0.0    0.0
 1064 CIEL_T6434.5*  1065 CIEL_T6534.5  1   0.01026  0.00672  0.00001   1    0.0    0.0    0.0
 1065 CIEL_T6534.5*  1066 CIEL_T6634.5  1   0.00779  0.00346  0.00000   1    0.0    0.0    0.0
 1066 CIEL_T6634.5*  1067 CIEL_T6734.5  1   0.00779  0.00346  0.00000   1    0.0    0.0    0.0
 1067 CIEL_T6734.5*  1068 CIEL_T6834.5  1   0.00779  0.00346  0.00000   1    0.0    0.0    0.0
 1068 CIEL_T6834.5*  1069 CIEL_T6934.5  1   0.00779  0.00346  0.00000   1    0.0    0.0    0.0
 1069 CIEL_T6934.5*  1070 CIEL_T7034.5  1   0.00779  0.00346  0.00000   1    0.0    0.0    0.0
 1070 CIEL_T7034.5*  1071 CIEL_T7134.5  1   0.00779  0.00346  0.00000   1    0.0    0.0    0.0
 1071 CIEL_T7134.5*  1072 CIEL_T7234.5  1   0.00779  0.00346  0.00000   1    0.0    0.0    0.0
 1072 CIEL_T7234.5*  1073 CIEL_T7334.5  1   0.00779  0.00346  0.00000   1    0.0    0.0    0.0
 1073 CIEL_T7334.5*  1074 CIEL_T7434.5  1   0.00779  0.00346  0.00000   1    0.0    0.0    0.0
 1074 CIEL_T7434.5*  1075 CIEL_T7534.5  1   0.00779  0.00346  0.00000   1    0.0    0.0    0.0
 1075 CIEL_T7534.5*  1076 CIEL_T7634.5  1   0.01714  0.00760  0.00001   1    0.0    0.0    0.0
 1076 CIEL_T7634.5*  1077 CIEL_T7734.5  1   0.00935  0.00415  0.00000   1    0.0    0.0    0.0
 1077 CIEL_T7734.5*  1078 CIEL_T7834.5  1   0.00935  0.00415  0.00000   1    0.0    0.0    0.0
 1078 CIEL_T7834.5*  1079 CIEL_T7934.5  1   0.00935  0.00415  0.00000   1    0.0    0.0    0.0
 1079 CIEL_T7934.5*  1080 CIEL_T8034.5  1   0.00935  0.00415  0.00000   1    0.0    0.0    0.0
51076 FE-TUCU3 115* 99991 CIEL_TAP 115  1   0.02167  0.07150  0.00861   1  112.0  146.0    0.0
51176 CURRY3   115  99991 CIEL_TAP 115* 1   0.11331  0.37386  0.04504   1  112.0  146.0    0.0
99991 CIEL_TAP 115  99992 CIEL_WG  115* 1   0.01625  0.05362  0.00651   1  112.0  146.0    0.0
99993 CIEL    34.5  99995 CIEL BP234.5* 1   0.00000  0.00010  0.00000 Z 1    0.0    0.0    0.0
99993 CIEL    34.5  99995 CIEL BP234.5* 2   0.00000  0.00010  0.00000 Z 0    0.0    0.0    0.0
```

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E WED, APR 21 2004 16:38
SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW 2 WINDING XFRMER
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION IMPEDANCE DATA

X------FROM------X			X-------TO-------X			C	C								
BUS#	NAME	BSKV	BUS#	NAME	BSKV	CKT	Z	M	R 1-2	X 1-2	W1BASE	MAG1	MAG2	RATA	RATB	RATC
1001	CIEL_T1	34.5	91001	CIEL_G1	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1002	CIEL_T2	34.5	91002	CIEL_G2	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1003	CIEL_T3	34.5	91003	CIEL_G3	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1004	CIEL_T4	34.5	91004	CIEL_G4	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1005	CIEL_T5	34.5	91005	CIEL_G5	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1006	CIEL_T6	34.5	91006	CIEL_G6	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1007	CIEL_T7	34.5	91007	CIEL_G7	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1008	CIEL_T8	34.5	91008	CIEL_G8	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1009	CIEL_T9	34.5	91009	CIEL_G9	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1010	CIEL_T10	34.5	91010	CIEL_G10	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1011	CIEL_T11	34.5	91011	CIEL_G11	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1012	CIEL_T12	34.5	91012	CIEL_G12	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1013	CIEL_T13	34.5	91013	CIEL_G13	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1014	CIEL_T14	34.5	91014	CIEL_G14	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1015	CIEL_T15	34.5	91015	CIEL_G15	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1016	CIEL_T16	34.5	91016	CIEL_G16	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1017	CIEL_T17	34.5	91017	CIEL_G17	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1018	CIEL_T18	34.5	91018	CIEL_G18	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1019	CIEL_T19	34.5	91019	CIEL_G19	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1020	CIEL_T20	34.5	91020	CIEL_G20	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1021	CIEL_T21	34.5	91021	CIEL_G21	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1022	CIEL_T22	34.5	91022	CIEL_G22	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1023	CIEL_T23	34.5	91023	CIEL_G23	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1024	CIEL_T24	34.5	91024	CIEL_G24	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1025	CIEL_T25	34.5	91025	CIEL_G25	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1026	CIEL_T26	34.5	91026	CIEL_G26	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1027	CIEL_T27	34.5	91027	CIEL_G27	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1028	CIEL_T28	34.5	91028	CIEL_G28	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1029	CIEL_T29	34.5	91029	CIEL_G29	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1030	CIEL_T30	34.5	91030	CIEL_G30	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1031	CIEL_T31	34.5	91031	CIEL_G31	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1032	CIEL_T32	34.5	91032	CIEL_G32	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1033	CIEL_T33	34.5	91033	CIEL_G33	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1034	CIEL_T34	34.5	91034	CIEL_G34	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1035	CIEL_T35	34.5	91035	CIEL_G35	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1036	CIEL_T36	34.5	91036	CIEL_G36	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1037	CIEL_T37	34.5	91037	CIEL_G37	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1038	CIEL_T38	34.5	91038	CIEL_G38	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1039	CIEL_T39	34.5	91039	CIEL_G39	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1040	CIEL_T40	34.5	91040	CIEL_G40	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1041	CIEL_T41	34.5	91041	CIEL_G41	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1042	CIEL_T42	34.5	91042	CIEL_G42	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1043	CIEL_T43	34.5	91043	CIEL_G43	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1044	CIEL_T44	34.5	91044	CIEL_G44	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1045	CIEL_T45	34.5	91045	CIEL_G45	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1046	CIEL_T46	34.5	91046	CIEL_G46	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1047	CIEL_T47	34.5	91047	CIEL_G47	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0
1048	CIEL_T48	34.5	91048	CIEL_G48	.600	1	1	1	0.00000	5.65000	100.0	0.0000	0.0000	1	0	0

```
 1049 CIEL_T4934.5 91049 CIEL_G49.600  1   1 1  0.00000  5.65000  100.0  0.0000  0.0000    1    0    0
 1050 CIEL_T5034.5 91050 CIEL_G50.600  1   1 1  0.00000  5.65000  100.0  0.0000  0.0000    1    0    0
 1051 CIEL_T5134.5 91051 CIEL_G51.600  1   1 1  0.00000  5.65000  100.0  0.0000  0.0000    1    0    0
 1052 CIEL_T5234.5 91052 CIEL_G52.600  1   1 1  0.00000  5.65000  100.0  0.0000  0.0000    1    0    0
 1053 CIEL_T5334.5 91053 CIEL_G53.600  1   1 1  0.00000  5.65000  100.0  0.0000  0.0000    1    0    0
 1054 CIEL_T5434.5 91054 CIEL_G54.600  1   1 1  0.00000  5.65000  100.0  0.0000  0.0000    1    0    0
 1055 CIEL_T5534.5 91055 CIEL_G55.600  1   1 1  0.00000  5.65000  100.0  0.0000  0.0000    1    0    0
 1056 CIEL_T5634.5 91056 CIEL_G56.600  1   1 1  0.00000  5.65000  100.0  0.0000  0.0000    1    0    0
 1057 CIEL_T5734.5 91057 CIEL_G57.600  1   1 1  0.00000  5.65000  100.0  0.0000  0.0000    1    0    0
 1058 CIEL_T5834.5 91058 CIEL_G58.600  1   1 1  0.00000  5.65000  100.0  0.0000  0.0000    1    0    0
 1059 CIEL_T5934.5 91059 CIEL_G59.600  1   1 1  0.00000  5.65000  100.0  0.0000  0.0000    1    0    0
 1060 CIEL_T6034.5 91060 CIEL_G60.600  1   1 1  0.00000  5.65000  100.0  0.0000  0.0000    1    0    0
 1061 CIEL_T6134.5 91061 CIEL_G61.600  1   1 1  0.00000  5.65000  100.0  0.0000  0.0000    1    0    0
 1062 CIEL_T6234.5 91062 CIEL_G62.600  1   1 1  0.00000  5.65000  100.0  0.0000  0.0000    1    0    0
 1063 CIEL_T6334.5 91063 CIEL_G63.600  1   1 1  0.00000  5.65000  100.0  0.0000  0.0000    1    0    0
 1064 CIEL_T6434.5 91064 CIEL_G64.600  1   1 1  0.00000  5.65000  100.0  0.0000  0.0000    1    0    0
 1065 CIEL_T6534.5 91065 CIEL_G65.600  1   1 1  0.00000  5.65000  100.0  0.0000  0.0000    1    0    0
 1066 CIEL_T6634.5 91066 CIEL_G66.600  1   1 1  0.00000  5.65000  100.0  0.0000  0.0000    1    0    0
 1067 CIEL_T6734.5 91067 CIEL_G67.600  1   1 1  0.00000  5.65000  100.0  0.0000  0.0000    1    0    0
 1068 CIEL_T6834.5 91068 CIEL_G68.600  1   1 1  0.00000  5.65000  100.0  0.0000  0.0000    1    0    0
 1069 CIEL_T6934.5 91069 CIEL_G69.600  1   1 1  0.00000  5.65000  100.0  0.0000  0.0000    1    0    0
 1070 CIEL_T7034.5 91070 CIEL_G70.600  1   1 1  0.00000  5.65000  100.0  0.0000  0.0000    1    0    0
 1071 CIEL_T7134.5 91071 CIEL_G71.600  1   1 1  0.00000  5.65000  100.0  0.0000  0.0000    1    0    0
 1072 CIEL_T7234.5 91072 CIEL_G72.600  1   1 1  0.00000  5.65000  100.0  0.0000  0.0000    1    0    0
 1073 CIEL_T7334.5 91073 CIEL_G73.600  1   1 1  0.00000  5.65000  100.0  0.0000  0.0000    1    0    0
 1074 CIEL_T7434.5 91074 CIEL_G74.600  1   1 1  0.00000  5.65000  100.0  0.0000  0.0000    1    0    0
 1075 CIEL_T7534.5 91075 CIEL_G75.600  1   1 1  0.00000  5.65000  100.0  0.0000  0.0000    1    0    0
 1076 CIEL_T7634.5 91076 CIEL_G76.600  1   1 1  0.00000  5.65000  100.0  0.0000  0.0000    1    0    0
 1077 CIEL_T7734.5 91077 CIEL_G77.600  1   1 1  0.00000  5.65000  100.0  0.0000  0.0000    1    0    0
 1078 CIEL_T7834.5 91078 CIEL_G78.600  1   1 1  0.00000  5.65000  100.0  0.0000  0.0000    1    0    0
 1079 CIEL_T7934.5 91079 CIEL_G79.600  1   1 1  0.00000  5.65000  100.0  0.0000  0.0000    1    0    0
 1080 CIEL_T8034.5 91080 CIEL_G80.600  1   1 1  0.00000  5.65000  100.0  0.0000  0.0000    1    0    0
51000 D-VAR A .480 99993 CIEL    34.5  1   1 1  0.05520  0.50000  100.0  0.0000  0.0000    8    8    8
61000 D-VAR B .480 99993 CIEL    34.5  1   1 1  0.05520  0.50000  100.0  0.0000  0.0000    8    8    8
99992 CIEL_WG  115 99994 CIEL BP134.5  1   1 1  0.00000  0.15625  100.0  0.0000  0.0000   48   64   80


     PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E      WED, APR 21 2004  16:38
SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW            GENERATOR
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION                           UNIT DATA
 BUS#   NAME  BSKV CD ID ST  PGEN   QGEN   QMAX   QMIN   PMAX   PMIN OWN FRACT OWN FRACT  MBASE  Z S O R C E
91001 CIEL_G1 .600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91002 CIEL_G2 .600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91003 CIEL_G3 .600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91004 CIEL_G4 .600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91005 CIEL_G5 .600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91006 CIEL_G6 .600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91007 CIEL_G7 .600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91008 CIEL_G8 .600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91009 CIEL_G9 .600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91010 CIEL_G10.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91011 CIEL_G11.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91012 CIEL_G12.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91013 CIEL_G13.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
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```
91014 CIEL_G14.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91015 CIEL_G15.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91016 CIEL_G16.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91017 CIEL_G17.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91018 CIEL_G18.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91019 CIEL_G19.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91020 CIEL_G20.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91021 CIEL_G21.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91022 CIEL_G22.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91023 CIEL_G23.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91024 CIEL_G24.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91025 CIEL_G25.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91026 CIEL_G26.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91027 CIEL_G27.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91028 CIEL_G28.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91029 CIEL_G29.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91030 CIEL_G30.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91031 CIEL_G31.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91032 CIEL_G32.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91033 CIEL_G33.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91034 CIEL_G34.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91035 CIEL_G35.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91036 CIEL_G36.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91037 CIEL_G37.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91038 CIEL_G38.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91039 CIEL_G39.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91040 CIEL_G40.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91041 CIEL_G41.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91042 CIEL_G42.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91043 CIEL_G43.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91044 CIEL_G44.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91045 CIEL_G45.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91046 CIEL_G46.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91047 CIEL_G47.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91048 CIEL_G48.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91049 CIEL_G49.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91050 CIEL_G50.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91051 CIEL_G51.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91052 CIEL_G52.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91053 CIEL_G53.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91054 CIEL_G54.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91055 CIEL_G55.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91056 CIEL_G56.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91057 CIEL_G57.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91058 CIEL_G58.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91059 CIEL_G59.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91060 CIEL_G60.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91061 CIEL_G61.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91062 CIEL_G62.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91063 CIEL_G63.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91064 CIEL_G64.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91065 CIEL_G65.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91066 CIEL_G66.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91067 CIEL_G67.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
```

```
91068 CIEL_G68.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91069 CIEL_G69.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91070 CIEL_G70.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91071 CIEL_G71.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91072 CIEL_G72.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91073 CIEL_G73.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91074 CIEL_G74.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91075 CIEL_G75.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91076 CIEL_G76.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91077 CIEL_G77.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91078 CIEL_G78.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91079 CIEL_G79.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
91080 CIEL_G80.600 -2 1  1    1.0   -0.5   -0.5   -0.5    1.0    0.0   1 1.000              1.1 0.0000 0.1749
99993 CIEL    34.5 -2 1  0    0.0    0.0  999.0 -999.0    0.0    0.0   1 1.000            100.0 0.0000 1.0000
```

Appendix

B

PSAS File

```
PSS
PDEV
2 1 1
PDEV_WI_FLT13PH.TXT
ODEV
2 1 1
PDEV_WI_FLT13PH.TXT
FIN
RECOVER FROM WI_CIELO_CHAN.SNP AND WI_CIELO_CNV.SAV
INITIALIZE OUTPUT WI_FLT13PH.OUT
RUN TO 0.1 SECONDS PRINT 0 PLOT 1
APPLY FAULT AT BUS 99997 ADMITTANCE 0 -2E+10 MVA
RUN FOR 5 CYCLES PRINT 0 PLOT 1
DISCONNECT BUS 99997
CLEAR FAULT
RUN FOR 20 CYCLES PRINT 0 PLOT 1
CHANGE BUS 99997 CODE TO 1
RECLOSE LINE FROM BUS 99997 TO BUS 51435 CKT 2
RECLOSE LINE FROM BUS 99997 TO BUS 51205 CKT 2
APPLY FAULT AT BUS 99997 ADMITTANCE 0 -2E+10 MVA
RUN FOR 5 CYCLES PRINT 0 PLOT 1
DISCONNECT BUS 99997
RUN TO 5 SECONDS PRINT 0 PLOT 1
RUN TO 10 SECONDS PRINT 0 PLOT 7
PSS
PDEV
1
ODEV
7
FIN
```

```
PSS
PDEV
2 1 1
PDEV_WI_FLT11PH.TXT
ODEV
2 1 1
PDEV_WI_FLT11PH.TXT
FIN
RECOVER FROM WI_CIELO_CHAN.SNP AND WI_CIELO_CNV.SAV
INITIALIZE OUTPUT WI_FLT11PH.OUT
RUN TO 0.1 SECONDS PRINT 0 PLOT 1
APPLY FAULT AT BUS 99997 ADMITTANCE 217.3 -1165.47 MVA
RUN FOR 5 CYCLES PRINT 0 PLOT 1
DISCONNECT BUS 99997
CLEAR FAULT
RUN FOR 20 CYCLES PRINT 0 PLOT 1
CHANGE BUS 99997 CODE TO 1
RECLOSE LINE FROM BUS 99997 TO BUS 51435 CKT 2
RECLOSE LINE FROM BUS 99997 TO BUS 51205 CKT 2
APPLY FAULT AT BUS 99997 ADMITTANCE 217.3 -1165.47 MVA
RUN FOR 5 CYCLES PRINT 0 PLOT 1
DISCONNECT BUS 99997    / REMOVES TOLK-CLOVS 230 KV LINE FROM SERVICE
RUN TO 5 SECONDS PRINT 0 PLOT 1
RUN TO 10 SECONDS PRINT 0 PLOT 7
PSS
PDEV
1
ODEV
7
FIN

PSS
PDEV
2 1 1
PDEV_WI_FLT23PH.TXT
ODEV
2 1 1
PDEV_WI_FLT23PH.TXT
FIN
RECOVER FROM WI_CIELO_CHAN.SNP AND WI_CIELO_CNV.SAV
INITIALIZE OUTPUT WI_FLT23PH.OUT
RUN TO 0.1 SECONDS PRINT 0 PLOT 1
APPLY FAULT AT BUS 51070 ADMITTANCE 0 -2E+10 MVA
RUN FOR 3 CYCLES PRINT 0 PLOT 1
TRIP LINE FROM BUS 51076 TO BUS 99991 CKT 1
TRIP LINE FROM BUS 51070 TO BUS 51076 CKT 1
CLEAR FAULT
RUN TO 5 SECONDS PRINT 0 PLOT 1
RUN TO 10 SECONDS PRINT 0 PLOT 7
PSS
PDEV
```

```
1
ODEV
7
FIN

PSS
PDEV
2 1 1
PDEV_WI_FLT21PH.TXT
ODEV
2 1 1
PDEV_WI_FLT21PH.TXT
FIN
RECOVER FROM WI_CIELO_CHAN.SNP AND WI_CIELO_CNV.SAV
INITIALIZE OUTPUT WI_FLT21PH.OUT
RUN TO 0.1 SECONDS PRINT 0 PLOT 1
APPLY FAULT AT BUS 51070 ADMITTANCE 16.57 -866.74 MVA
RUN FOR 3 CYCLES PRINT 0 PLOT 1
TRIP LINE FROM BUS 51076 TO BUS 99991 CKT 1
TRIP LINE FROM BUS 51070 TO BUS 51076 CKT 1
CLEAR FAULT
RUN TO 5 SECONDS PRINT 0 PLOT 1
RUN TO 10 SECONDS PRINT 0 PLOT 7
PSS
PDEV
1
ODEV
7
FIN

PSS
PDEV
2 1 1
PDEV_WI_FLT33PH.TXT
ODEV
2 1 1
PDEV_WI_FLT33PH.TXT
FIN
RECOVER FROM WI_CIELO_CHAN.SNP AND WI_CIELO_CNV.SAV
INITIALIZE OUTPUT WI_FLT33PH.OUT
RUN TO 0.1 SECONDS PRINT 0 PLOT 1
APPLY FAULT AT BUS 51202 ADMITTANCE 0 -2E+10 MVA
RUN FOR 5 CYCLES PRINT 0 PLOT 1
TRIP LINE FROM BUS 51202 TO BUS 51206 CKT 2
CLEAR FAULT
RUN FOR 20 CYCLES PRINT 0 PLOT 1
RECLOSE LINE FROM BUS 51202 TO BUS 51206 CKT 2
APPLY FAULT AT BUS 51202 ADMITTANCE 0 -2E+10 MVA
RUN FOR 5 CYCLES PRINT 0 PLOT 1
TRIP LINE FROM BUS 51202 TO BUS 51206 CKT 2
CLEAR FAULT
```

```
RUN TO 5 SECONDS PRINT 0 PLOT 1
RUN TO 10 SECONDS PRINT 0 PLOT 7
PSS
PDEV
1
ODEV
7
FIN

PSS
PDEV
2 1 1
PDEV_WI_FLT31PH.TXT
ODEV
2 1 1
PDEV_WI_FLT31PH.TXT
FIN
RECOVER FROM WI_CIELO_CHAN.SNP AND WI_CIELO_CNV.SAV
INITIALIZE OUTPUT WI_FLT31PH.OUT
RUN TO 0.1 SECONDS PRINT 0 PLOT 1
APPLY FAULT AT BUS 51202 ADMITTANCE 97.63 -1034.63 MVA
RUN FOR 5 CYCLES PRINT 0 PLOT 1
TRIP LINE FROM BUS 51202 TO BUS 51206 CKT 2
CLEAR FAULT
RUN FOR 20 CYCLES PRINT 0 PLOT 1
RECLOSE LINE FROM BUS 51202 TO BUS 51206 CKT 2
APPLY FAULT AT BUS 51202 ADMITTANCE 97.63 -1034.63 MVA
RUN FOR 5 CYCLES PRINT 0 PLOT 1
TRIP LINE FROM BUS 51202 TO BUS 51206 CKT 2
CLEAR FAULT
RUN TO 5 SECONDS PRINT 0 PLOT 1
RUN TO 10 SECONDS PRINT 0 PLOT 7
PSS
PDEV
1
ODEV
7
FIN

PSS
PDEV
2 1 1
PDEV_WI_FLT43PH.TXT
ODEV
2 1 1
PDEV_WI_FLT43PH.TXT
FIN
RECOVER FROM WI_CIELO_CHAN.SNP AND WI_CIELO_CNV.SAV
INITIALIZE OUTPUT WI_FLT43PH.OUT
RUN TO 0.1 SECONDS PRINT 0 PLOT 1
APPLY FAULT AT BUS 52186 ADMITTANCE 0 -2E+10 MVA
```

```
RUN FOR 5 CYCLES PRINT 0 PLOT 1
TRIP LINE FROM BUS 51440 TO BUS 52186 CKT 1
CLEAR FAULT
RUN FOR 30 CYCLES PRINT 0 PLOT 1
RECLOSE LINE FROM BUS 51440 TO BUS 52186 CKT 1
APPLY FAULT AT BUS 52186 ADMITTANCE 0 -2E+10 MVA
RUN FOR 5 CYCLES PRINT 0 PLOT 1
TRIP LINE FROM BUS 51440 TO BUS 52186 CKT 1
CLEAR FAULT
RUN TO 5 SECONDS PRINT 0 PLOT 1
RUN TO 10 SECONDS PRINT 0 PLOT 7
PSS
PDEV
1
ODEV
7
FIN

PSS
PDEV
2 1 1
PDEV_WI_FLT41PH.TXT
ODEV
2 1 1
PDEV_WI_FLT41PH.TXT
FIN
RECOVER FROM WI_CIELO_CHAN.SNP AND WI_CIELO_CNV.SAV
INITIALIZE OUTPUT WI_FLT41PH.OUT
RUN TO 0.1 SECONDS PRINT 0 PLOT 1
APPLY FAULT AT BUS 52186 ADMITTANCE 83.43 -1183.18 MVA
RUN FOR 5 CYCLES PRINT 0 PLOT 1
TRIP LINE FROM BUS 51440 TO BUS 52186 CKT 1
CLEAR FAULT
RUN FOR 30 CYCLES PRINT 0 PLOT 1
RECLOSE LINE FROM BUS 51440 TO BUS 52186 CKT 1
APPLY FAULT AT BUS 52186 ADMITTANCE 83.43 -1183.18 MVA
RUN FOR 5 CYCLES PRINT 0 PLOT 1
TRIP LINE FROM BUS 51440 TO BUS 52186 CKT 1
CLEAR FAULT
RUN TO 5 SECONDS PRINT 0 PLOT 1
RUN TO 10 SECONDS PRINT 0 PLOT 7
PSS
PDEV
1
ODEV
7
FIN

PSS
PDEV
2 1 1
```

```
PDEV_WI_FLT53PH.TXT
ODEV
2 1 1
PDEV_WI_FLT53PH.TXT
FIN
RECOVER FROM WI_CIELO_CHAN.SNP AND WI_CIELO_CNV.SAV
INITIALIZE OUTPUT WI_FLT53PH.OUT
RUN TO 0.1 SECONDS PRINT 0 PLOT 1
APPLY FAULT AT BUS 51176 ADMITTANCE 0 -30000 MVA
RUN FOR 5 CYCLES PRINT 0 PLOT 1
TRIP LINE FROM BUS 51176 TO BUS 99991 CKT 1
CLEAR FAULT
RUN TO 5 SECONDS PRINT 0 PLOT 1
RUN TO 10 SECONDS PRINT 0 PLOT 7
PSS
PDEV
1
ODEV
7
FIN

PSS
PDEV
2 1 1
PDEV_WI_FLT51PH.TXT
ODEV
2 1 1
PDEV_WI_FLT51PH.TXT
FIN
RECOVER FROM WI_CIELO_CHAN.SNP AND WI_CIELO_CNV.SAV
INITIALIZE OUTPUT WI_FLT51PH.OUT
RUN TO 0.1 SECONDS PRINT 0 PLOT 1
APPLY FAULT AT BUS 51176 ADMITTANCE 123.79 -694.58 MVA
RUN FOR 5 CYCLES PRINT 0 PLOT 1
TRIP LINE FROM BUS 51176 TO BUS 99991 CKT 1
CLEAR FAULT
RUN TO 5 SECONDS PRINT 0 PLOT 1
RUN TO 10 SECONDS PRINT 0 PLOT 7
PSS
PDEV
1
ODEV
7
FIN
```

```
PSS
PDEV
2 1 1
PDEV_WI_FLT63PH.TXT
ODEV
2 1 1
PDEV_WI_FLT63PH.TXT
FIN
RECOVER FROM WI_CIELO_CHAN.SNP AND WI_CIELO_CNV.SAV
INITIALIZE OUTPUT WI_FLT63PH.OUT
RUN TO 0.1 SECONDS PRINT 0 PLOT 1
APPLY FAULT AT BUS 51533 ADMITTANCE 0 -30000 MVA
RUN FOR 5 CYCLES PRINT 0 PLOT 1
TRIP LINE FROM BUS 51533 TO BUS 51435 CKT 1
CLEAR FAULT
RUN FOR 20 CYCLES PRINT 0 PLOT 1
RECLOSE LINE FROM BUS 51533 TO BUS 51435 CKT 1
APPLY FAULT AT BUS 51533 ADMITTANCE 0 -30000 MVA
RUN FOR 5 CYCLES PRINT 0 PLOT 1
TRIP LINE FROM BUS 51533 TO BUS 51435 CKT 1
CLEAR FAULT
RUN TO 5 SECONDS PRINT 0 PLOT 1
RUN TO 10 SECONDS PRINT 0 PLOT 7
PSS
PDEV
1
ODEV
7
FIN

PSS
PDEV
2 1 1
PDEV_WI_FLT61PH.TXT
ODEV
2 1 1
PDEV_WI_FLT61PH.TXT
FIN
RECOVER FROM WI_CIELO_CHAN.SNP AND WI_CIELO_CNV.SAV
INITIALIZE OUTPUT WI_FLT61PH.OUT
RUN TO 0.1 SECONDS PRINT 0 PLOT 1
APPLY FAULT AT BUS 51533 ADMITTANCE 241.8 -2015.14 MVA
RUN FOR 5 CYCLES PRINT 0 PLOT 1
TRIP LINE FROM BUS 51533 TO BUS 51435 CKT 1
CLEAR FAULT
RUN FOR 20 CYCLES PRINT 0 PLOT 1
RECLOSE LINE FROM BUS 51533 TO BUS 51435 CKT 1
APPLY FAULT AT BUS 51533 ADMITTANCE 241.8 -2015.14 MVA
RUN FOR 5 CYCLES PRINT 0 PLOT 1
TRIP LINE FROM BUS 51533 TO BUS 51435 CKT 1
CLEAR FAULT
```

```
RUN TO 5 SECONDS PRINT 0 PLOT 1
RUN TO 10 SECONDS PRINT 0 PLOT 7
PSS
PDEV
1
ODEV
7
FIN

PSS
PDEV
2 1 1
PDEV_WI_FLT73PH.TXT
ODEV
2 1 1
PDEV_WI_FLT73PH.TXT
FIN
RECOVER FROM WI_CIELO_CHAN.SNP AND WI_CIELO_CNV.SAV
INITIALIZE OUTPUT WI_FLT73PH.OUT
RUN TO 0.1 SECONDS PRINT 0 PLOT 1
APPLY FAULT AT BUS 51206 ADMITTANCE 0 -2E+10 MVA
RUN FOR 5 CYCLES PRINT 0 PLOT 1
TRIP LINE FROM BUS 51206 TO BUS 51176 CKT 2
CLEAR FAULT
RUN FOR 20 CYCLES PRINT 0 PLOT 1
RECLOSE LINE FROM BUS 51206 TO BUS 51176 CKT 2
APPLY FAULT AT BUS 51206 ADMITTANCE 0 -2E+10 MVA
RUN FOR 5 CYCLES PRINT 0 PLOT 1
TRIP LINE FROM BUS 51206 TO BUS 51176 CKT 2
CLEAR FAULT
RUN TO 5 SECONDS PRINT 0 PLOT 1
RUN TO 10 SECONDS PRINT 0 PLOT 7
PSS
PDEV
1
ODEV
7
FIN
```

```
PSS
PDEV
2 1 1
PDEV_WI_FLT71PH.TXT
ODEV
2 1 1
PDEV_WI_FLT71PH.TXT
FIN
RECOVER FROM WI_CIELO_CHAN.SNP AND WI_CIELO_CNV.SAV
INITIALIZE OUTPUT WI_FLT71PH.OUT
RUN TO 0.1 SECONDS PRINT 0 PLOT 1
APPLY FAULT AT BUS 51206 ADMITTANCE 17.38 -76.63 MVA
RUN FOR 5 CYCLES PRINT 0 PLOT 1
TRIP LINE FROM BUS 51206 TO BUS 51176 CKT 2
CLEAR FAULT
RUN FOR 20 CYCLES PRINT 0 PLOT 1
RECLOSE LINE FROM BUS 51206 TO BUS 51176 CKT 2
APPLY FAULT AT BUS 51206 ADMITTANCE 17.38 -76.63 MVA
RUN FOR 5 CYCLES PRINT 0 PLOT 1
TRIP LINE FROM BUS 51206 TO BUS 51176 CKT 2
CLEAR FAULT
RUN TO 5 SECONDS PRINT 0 PLOT 1
RUN TO 10 SECONDS PRINT 0 PLOT 7
PSS
PDEV
1
ODEV
7
FIN

END
```

Appendix

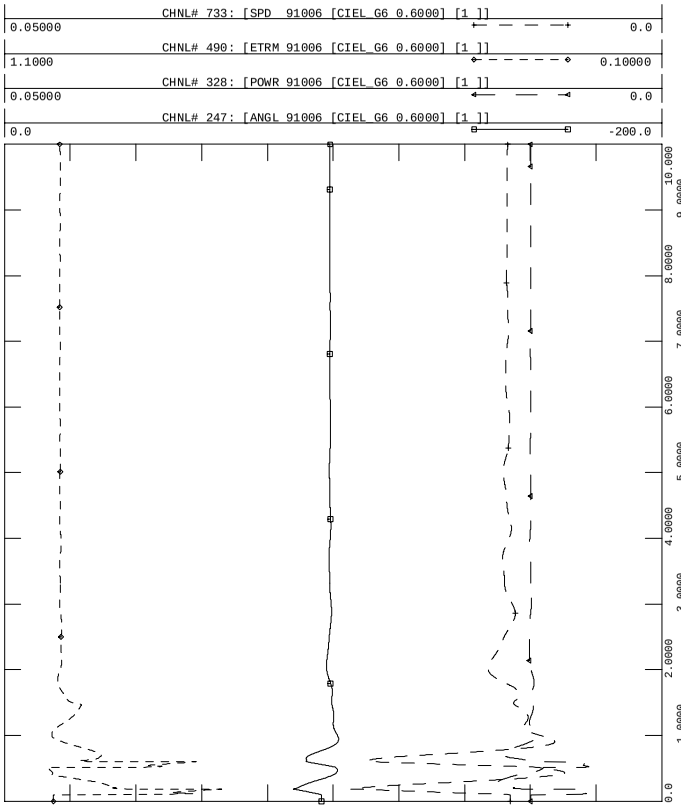
C

Plots of Dynamic Simulation with Cielo Wind Farm on-line during Peak Load Conditions

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH.OUT

FRI, MAY 21 2004 10:31 2

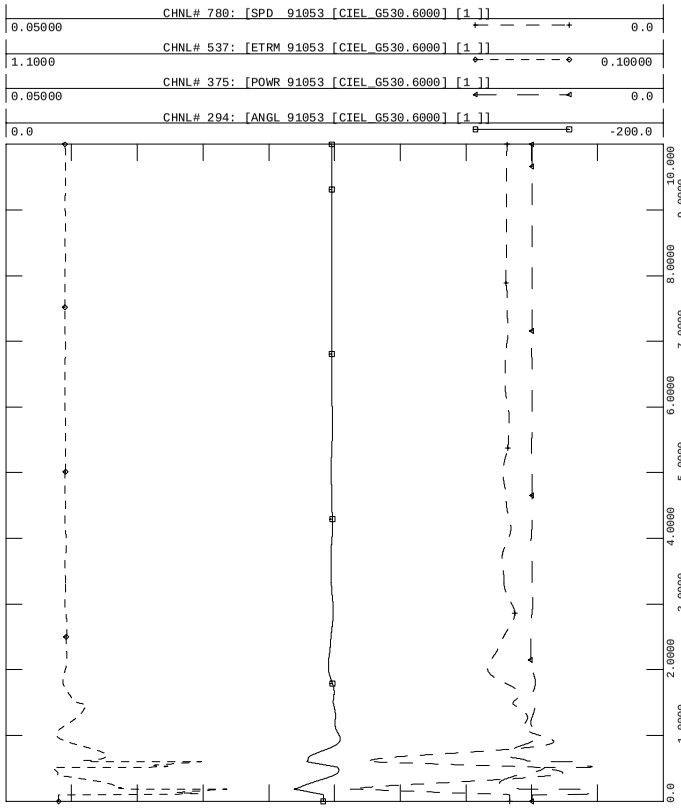
CIELO CABLE1 GEN6



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH.OUT

FRI, MAY 21 2004 10:31 4

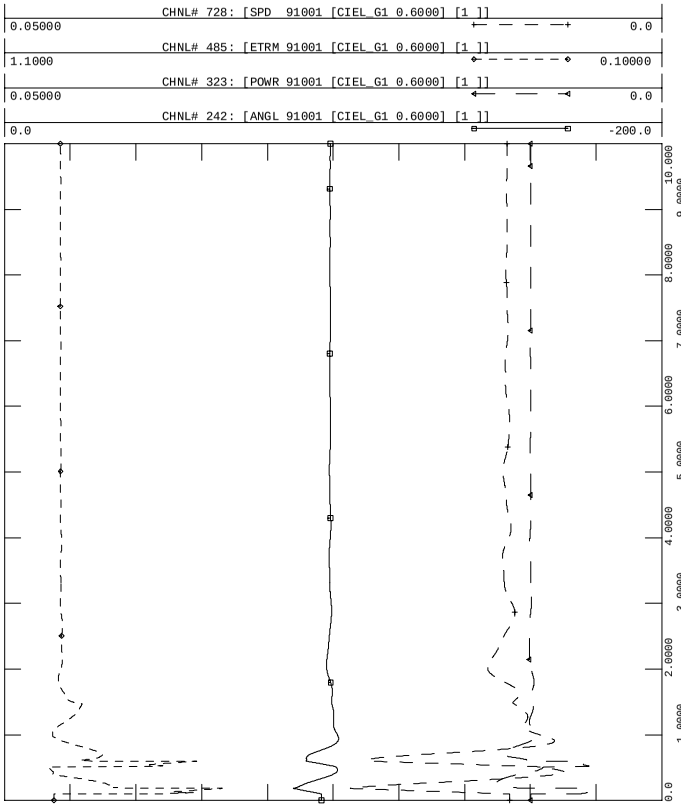
CIELO CABLE2 GEN53



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH.OUT

FRI, MAY 21 2004 10:31 1

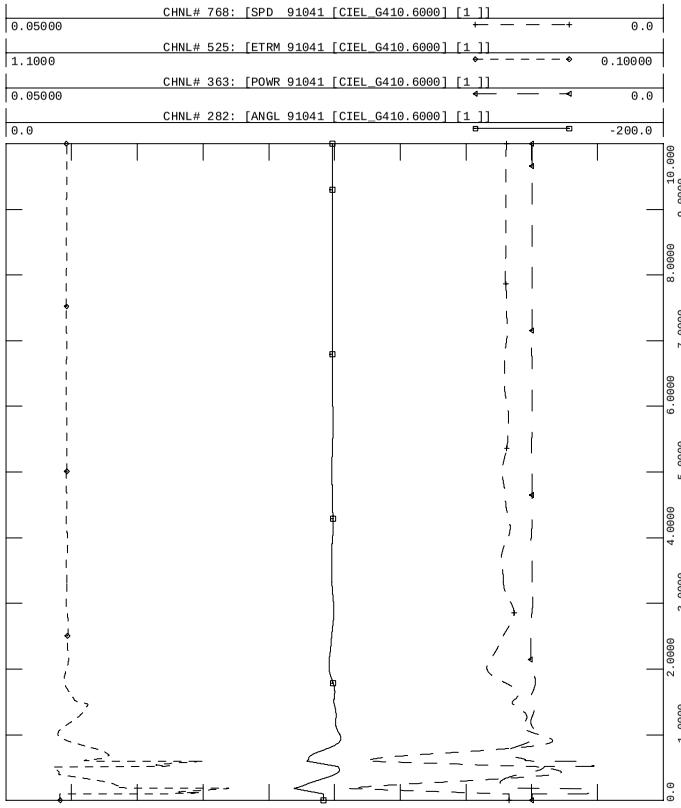
CIELO CABLE1 GEN1



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH.OUT

FRI, MAY 21 2004 10:31 3

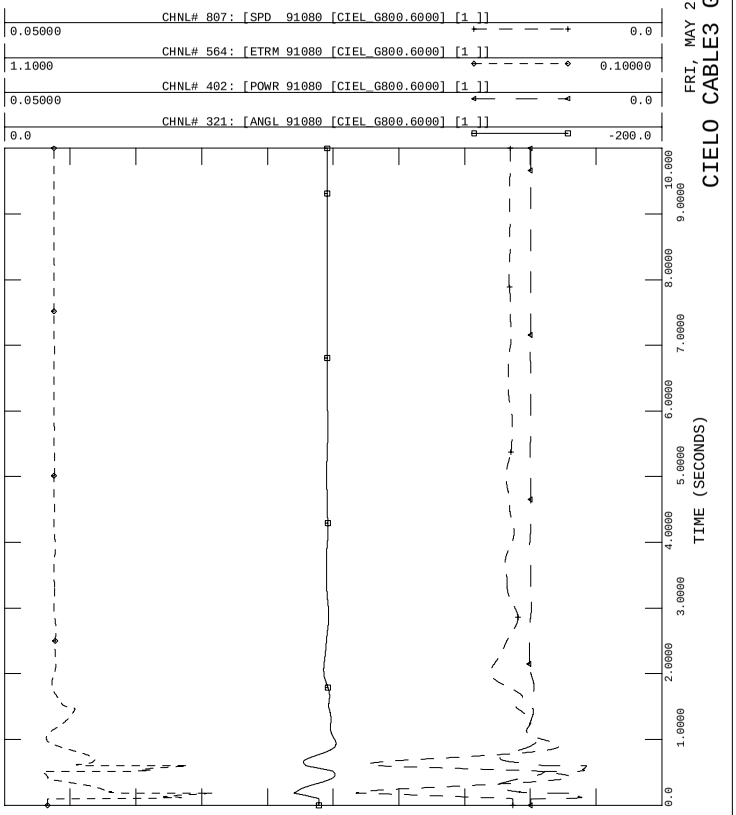
CIELO CABLE2 GEN41



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH.OUT

FRI, MAY 21 2004 10:31 6

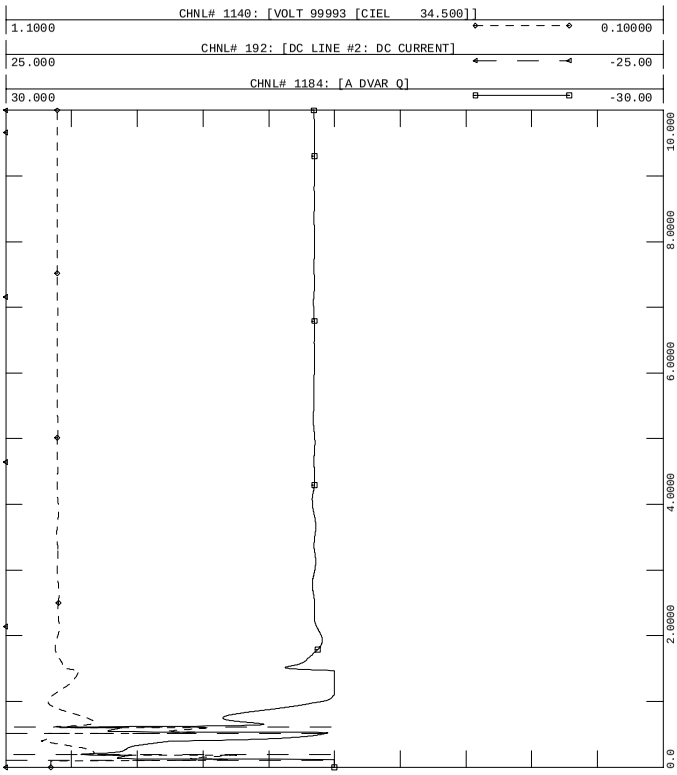
CIELO CABLE3 GEN80



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH.OUT

FRI, MAY 21 2004 10:31 8

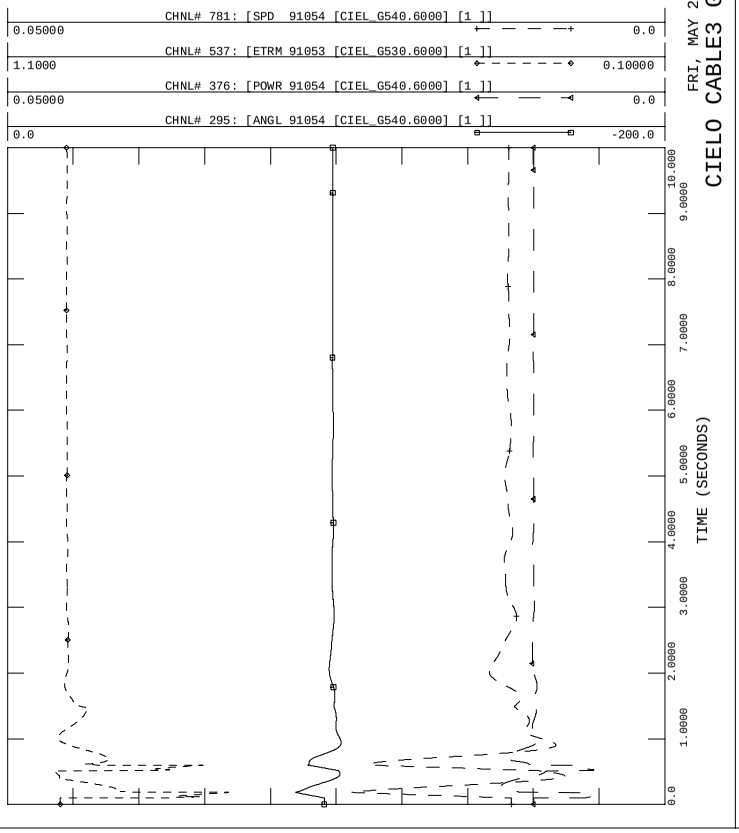
DVAR OUTPUT



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH.OUT

FRI, MAY 21 2004 10:31 5

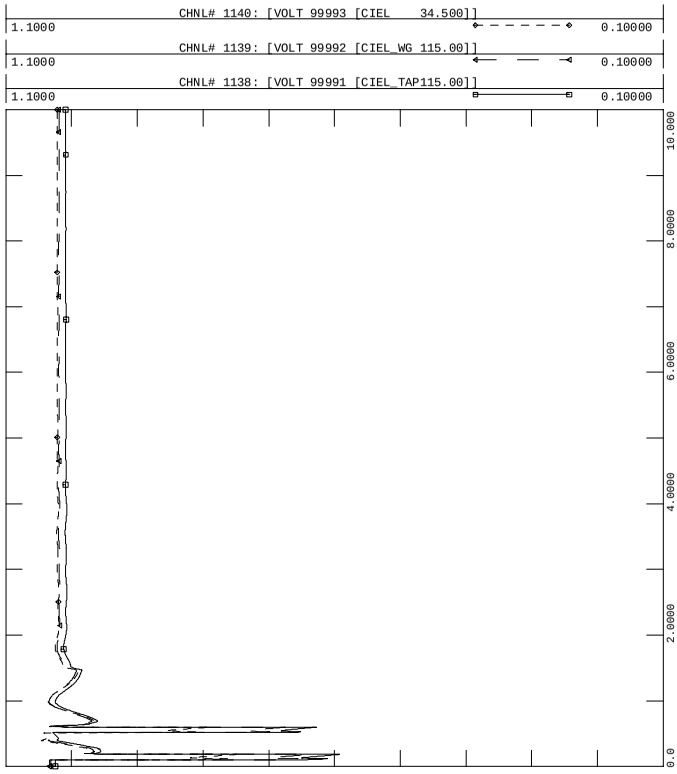
CIELO CABLE3 GEN54



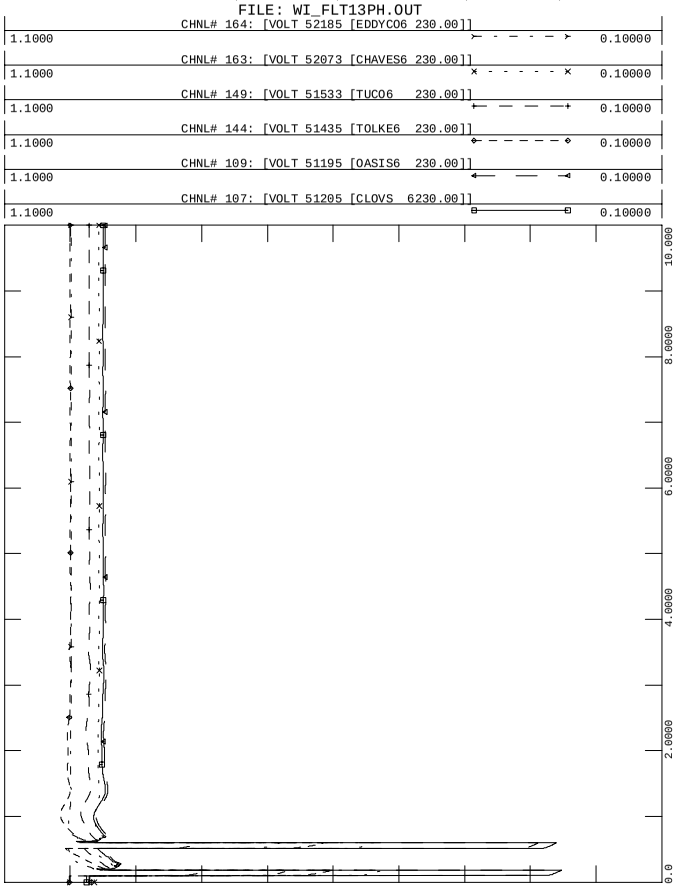
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH.OUT

FRI, MAY 21 2004 10:31 7

CIELO VOLTAGE

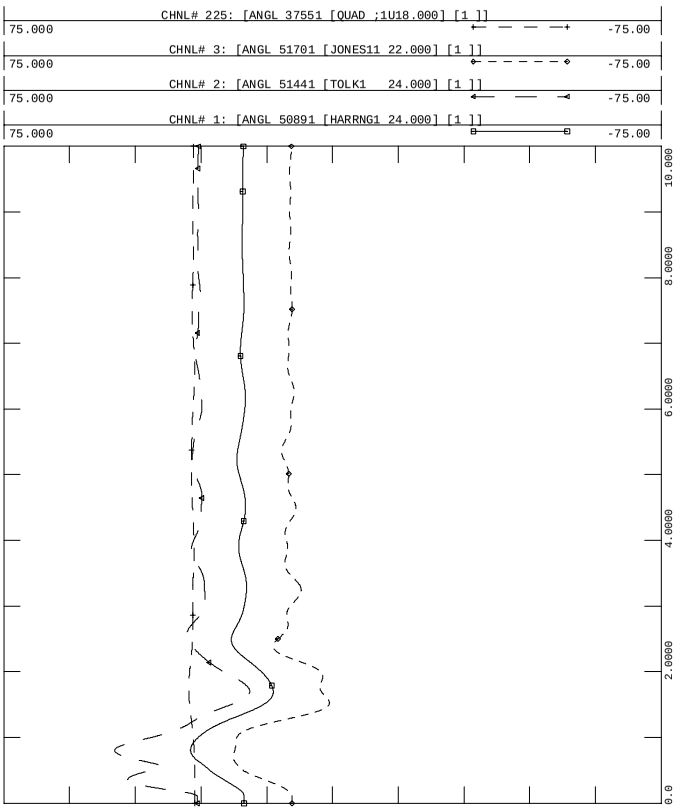


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH.OUT



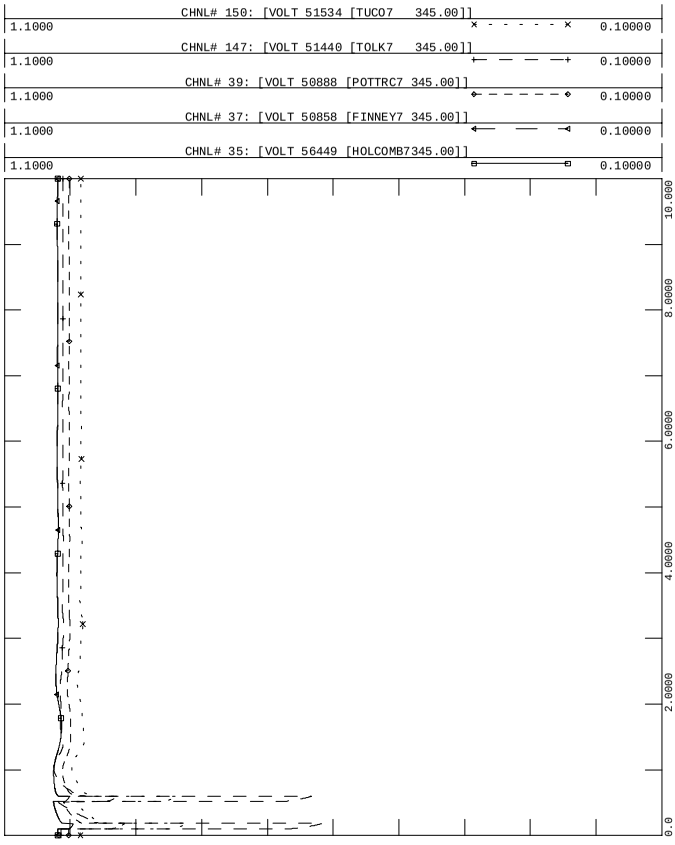
FRI, MAY 21 2004 10:31
SPP:230 KV BUS VOLTAGE 10

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH.OUT



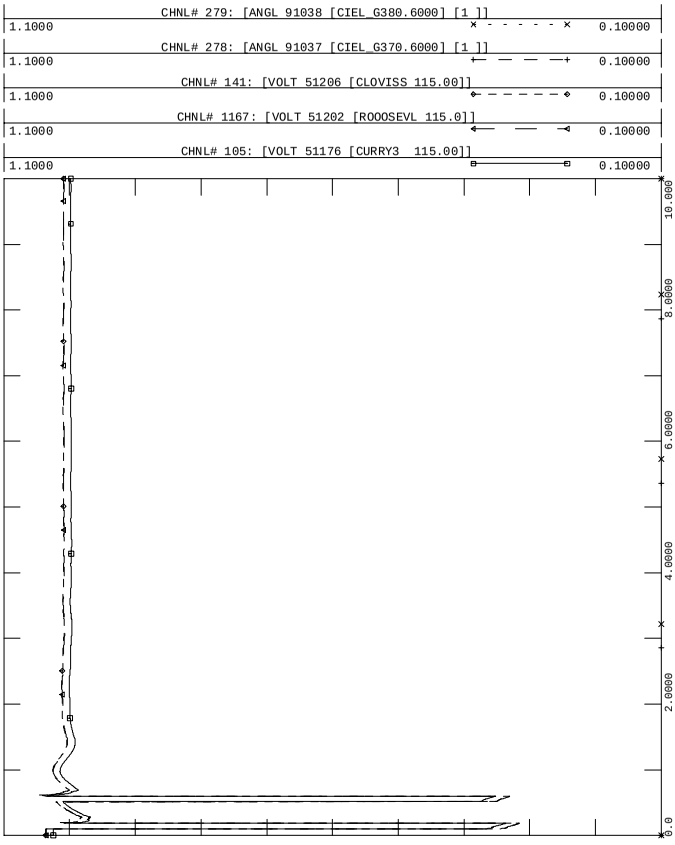
FRI, MAY 21 2004 10:31
SPP: ROTOR ANGLE 12

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH.OUT



FRI, MAY 21 2004 10:31
SPP:345 KV BUS VOLTAGE 9

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH.OUT

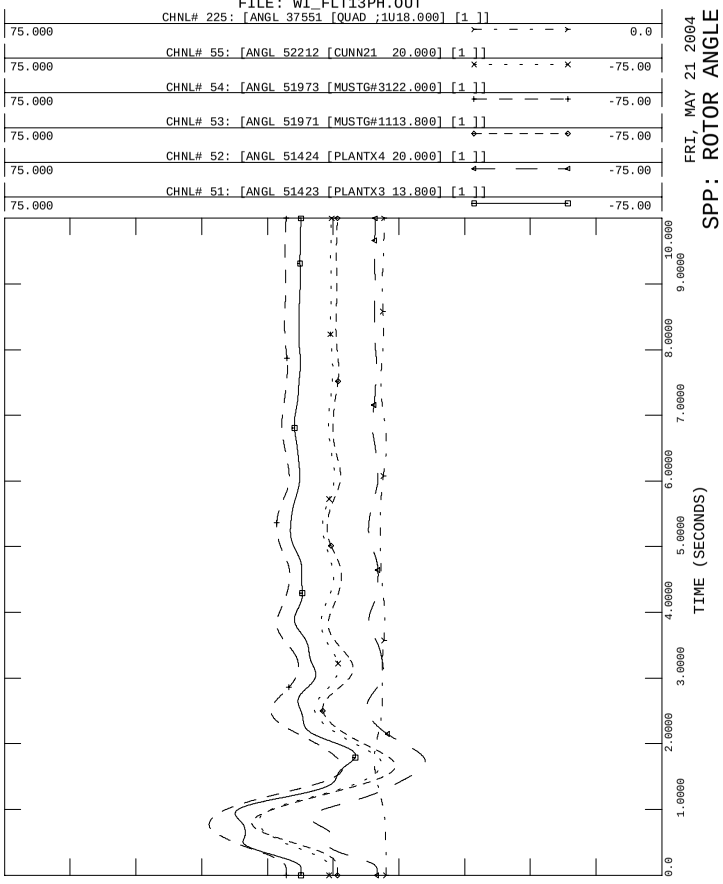


FRI, MAY 21 2004 10:31
SPP:115 KV BUS VOLTAGE 11

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH.OUT

FRI, MAY 21 2004 10:31 14

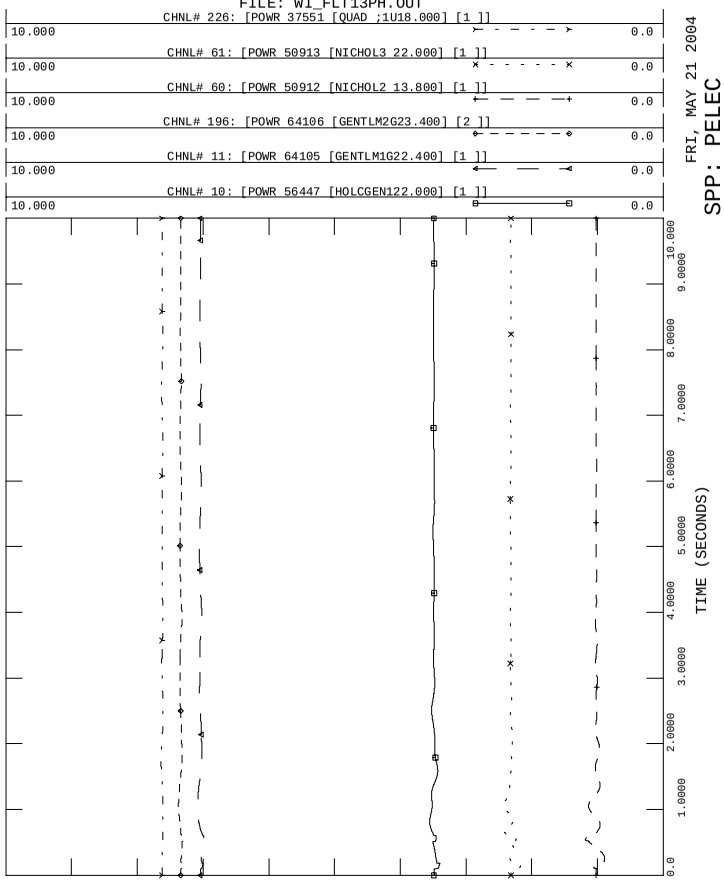
SPP: ROTOR ANGLE



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH.OUT

FRI, MAY 21 2004 10:31 16

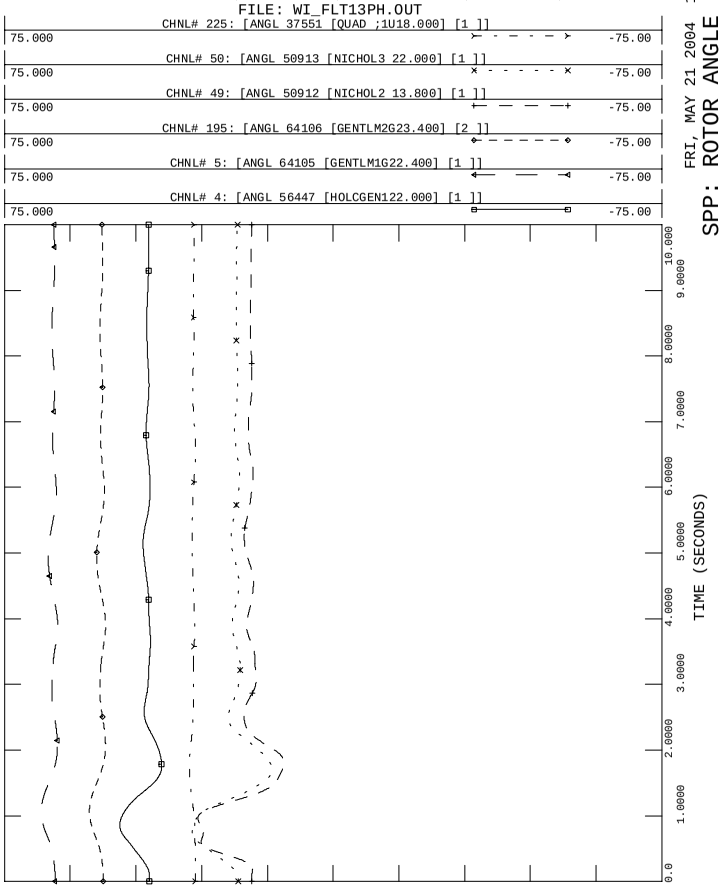
SPP: PELEC



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH.OUT

FRI, MAY 21 2004 10:31 13

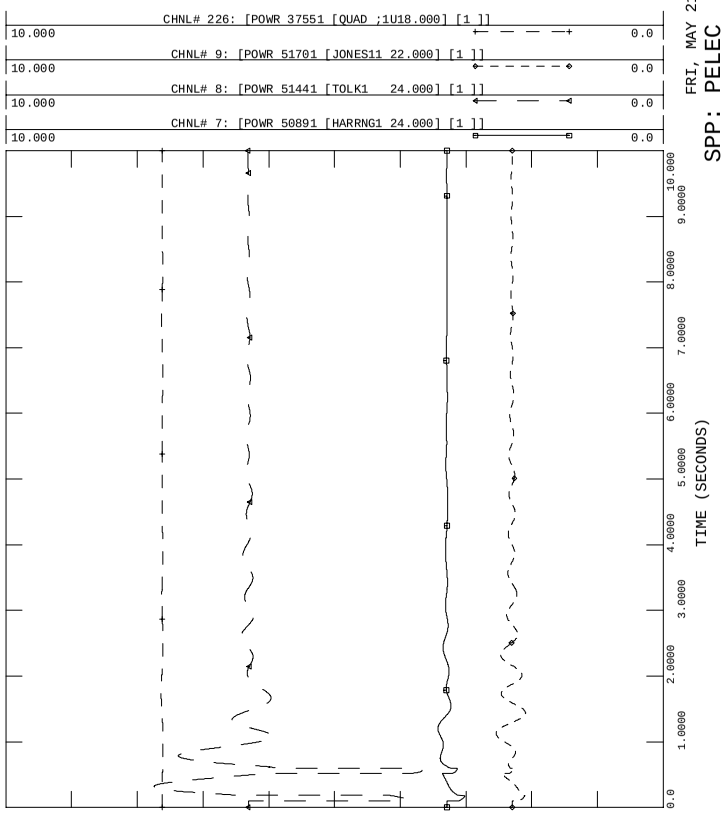
SPP: ROTOR ANGLE



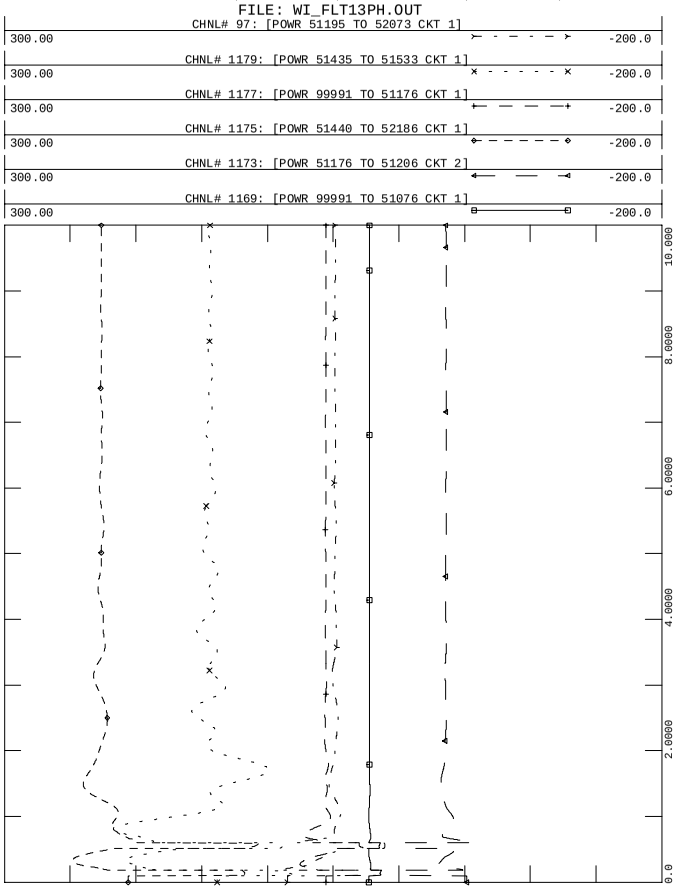
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH.OUT

FRI, MAY 21 2004 10:31 15

SPP: PELEC

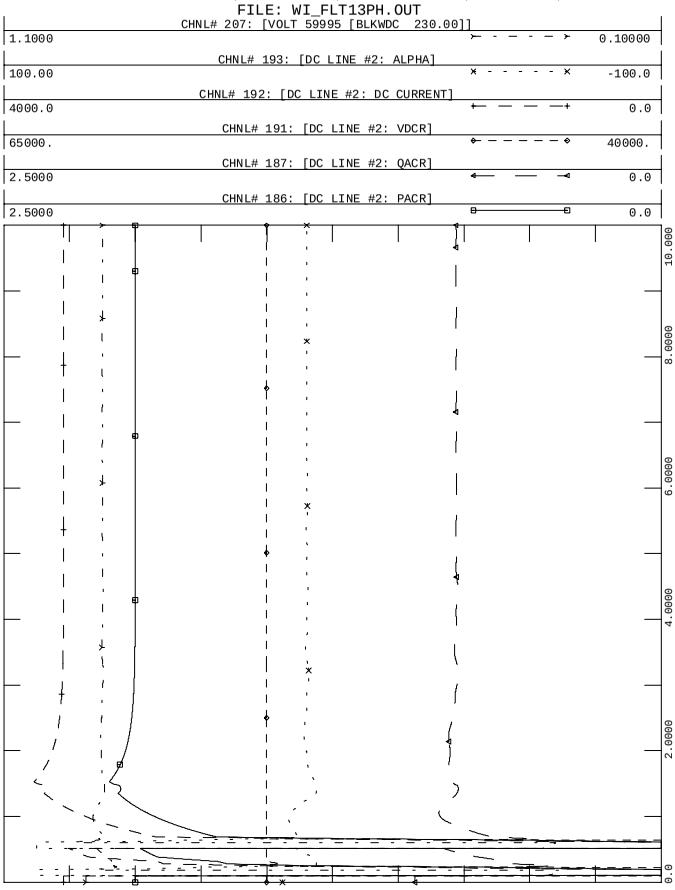


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH.OUT



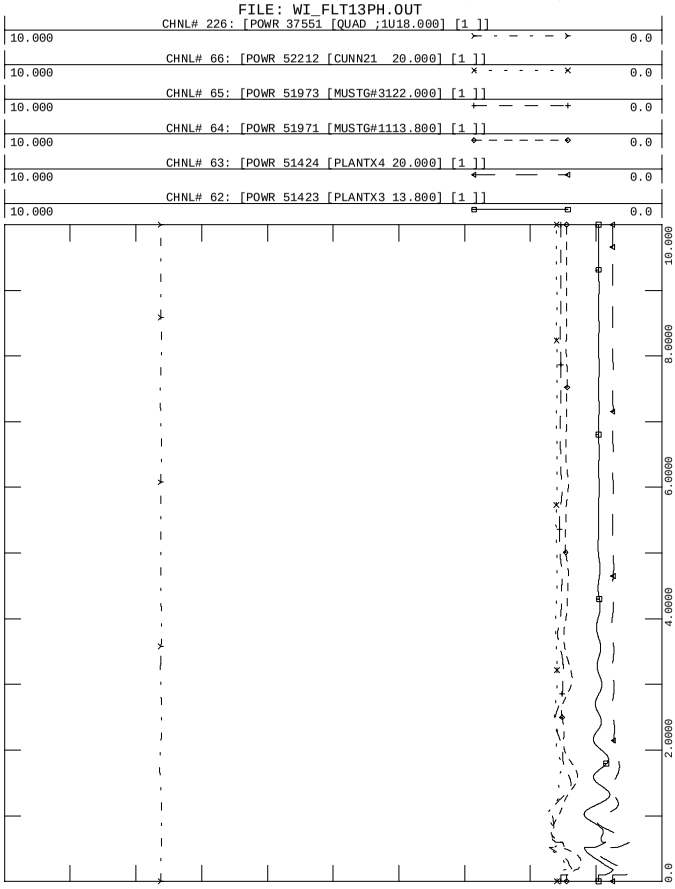
FRI, MAY 21 2004 10:31 18
BRANCH FLOW

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH.OUT



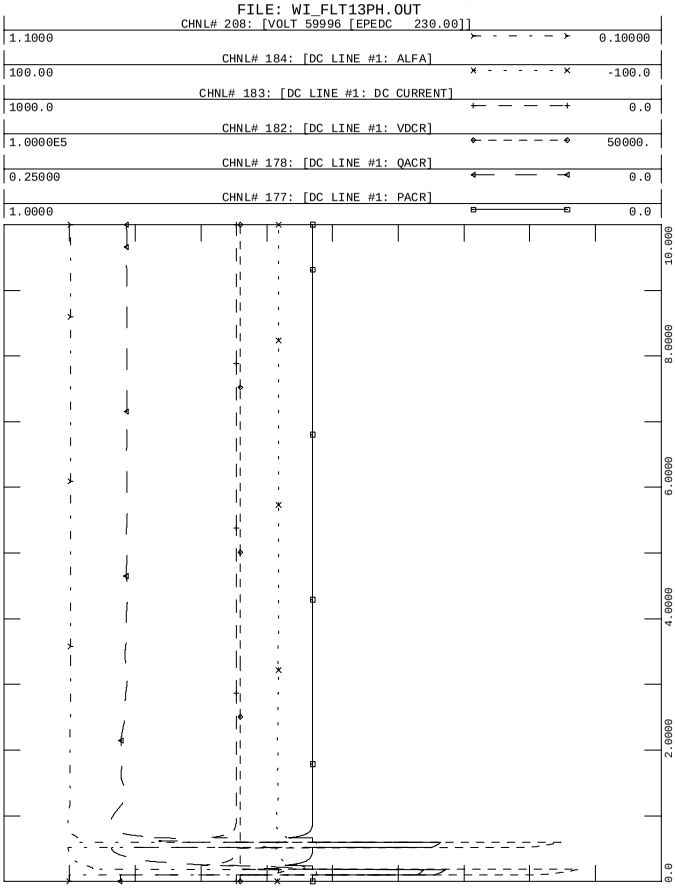
FRI, MAY 21 2004 10:31 20
DC LINE PNM

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH.OUT



FRI, MAY 21 2004 10:31 17
SPP: PELEC

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH.OUT



FRI, MAY 21 2004 10:31 19
DC LINE EPE

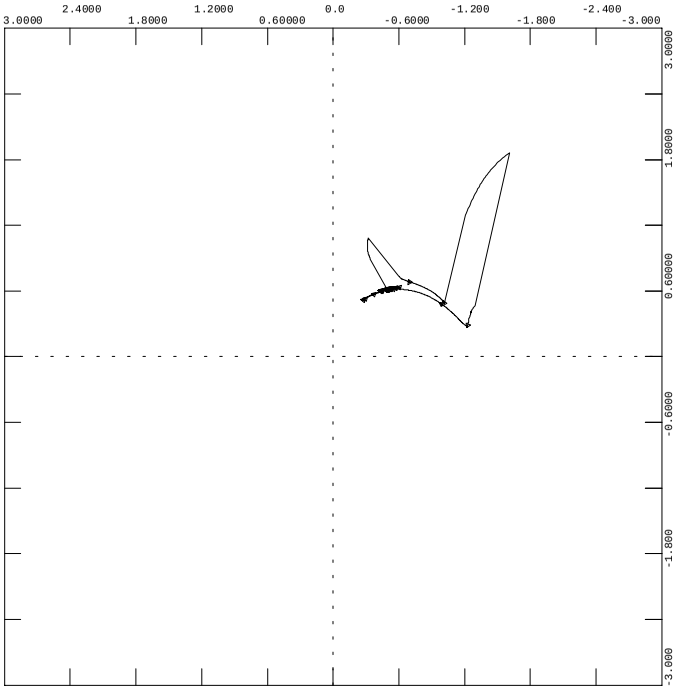
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

22

FILE: WI_FLT13PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25

CHNL# 116: [APPX 50858 TO 50888 CKT 1]



FRI, MAY 21 2004 10:31 POTTER-FINNEY

CHNL# 115: [APPR 50858 TO 50888 CKT 1]

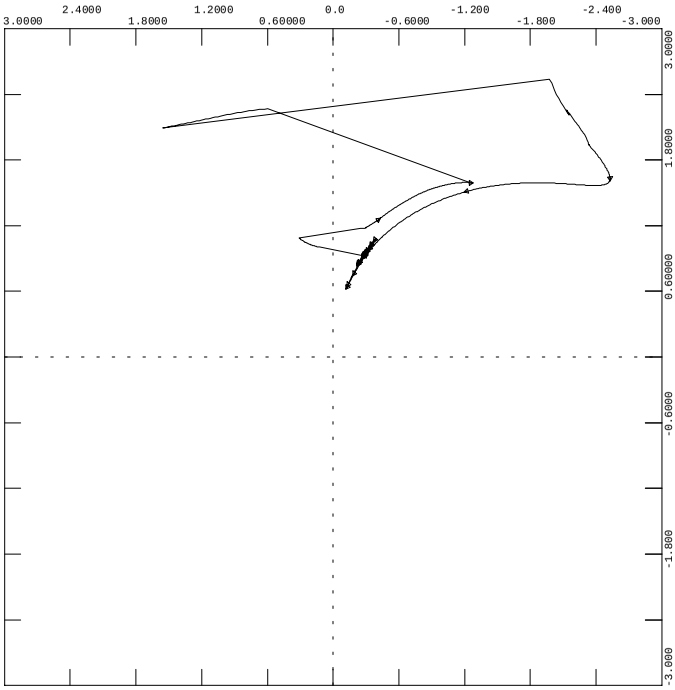
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

21

FILE: WI_FLT13PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25

CHNL# 114: [APPX 56449 TO 50858 CKT 1]



FRI, MAY 21 2004 10:31 FINNEY-HOLCOMB

CHNL# 113: [APPR 56449 TO 50858 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH.OUT

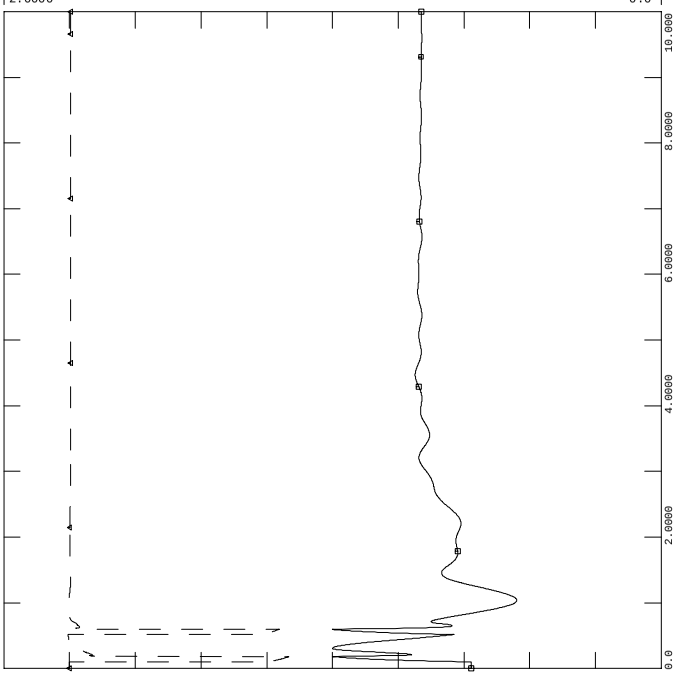
23

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]

1.1000 0.10000

CHNL# 117: [BUS 52185 SVC OUTPUT]

2.0000 0.0



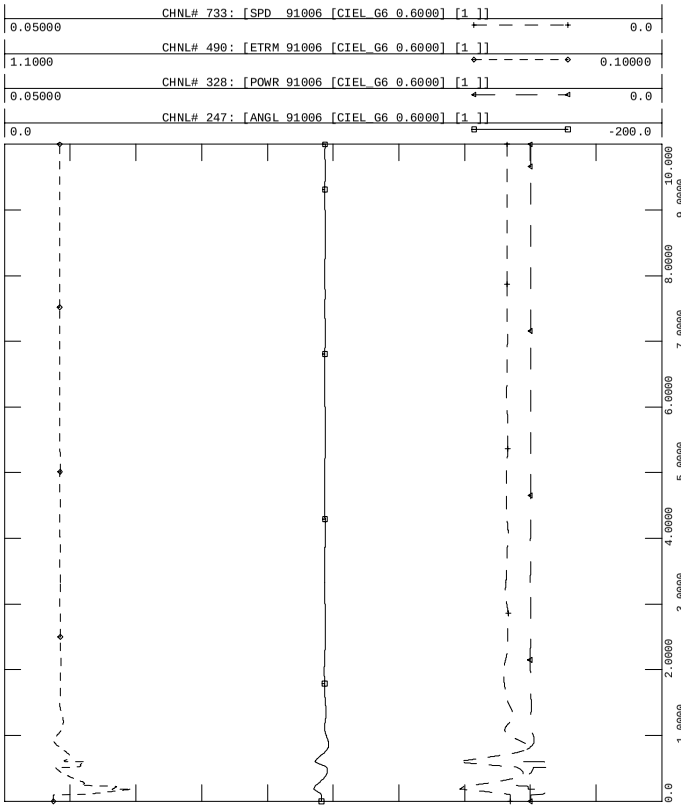
FRI, MAY 21 2004 10:31 SVC OUTPUT

TIME (SECONDS)

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH.OUT

FRI, MAY 21 2004 10:31 2

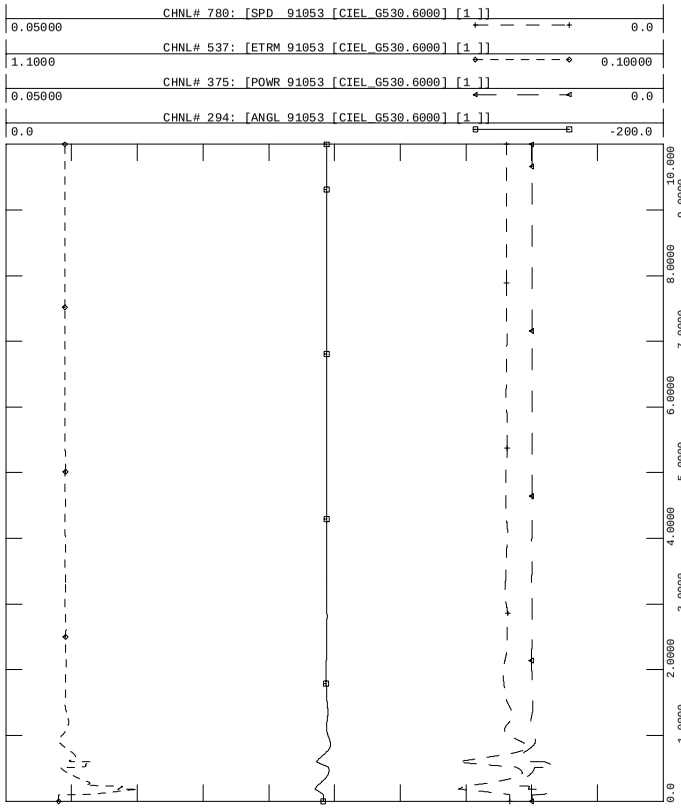
CIELO CABLE1 GEN6



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH.OUT

FRI, MAY 21 2004 10:31 4

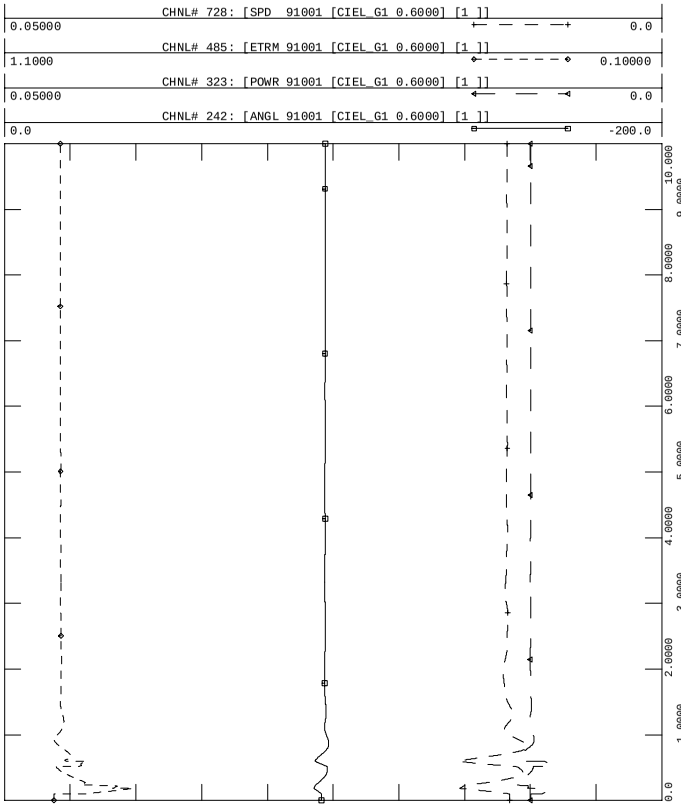
CIELO CABLE2 GEN53



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH.OUT

FRI, MAY 21 2004 10:31 1

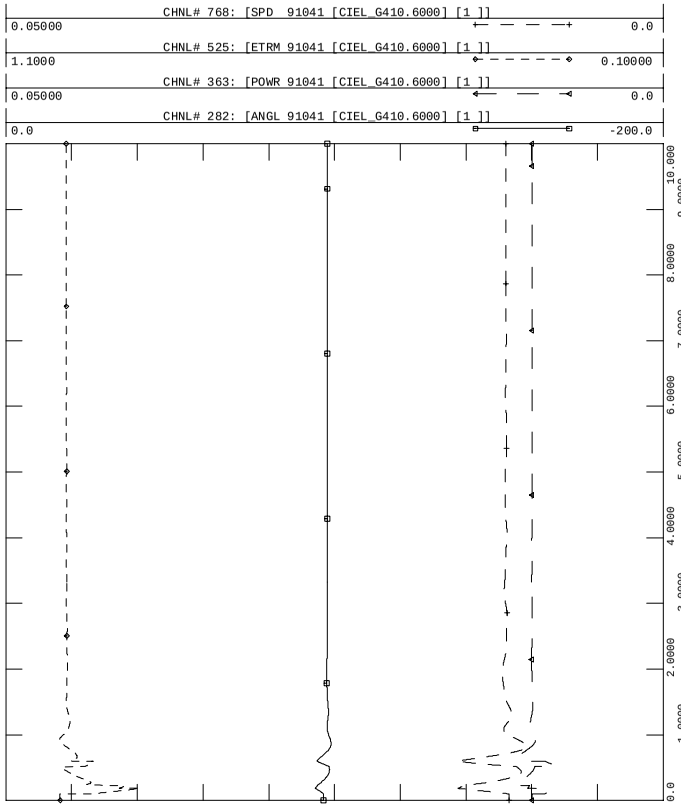
CIELO CABLE1 GEN1



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH.OUT

FRI, MAY 21 2004 10:31 3

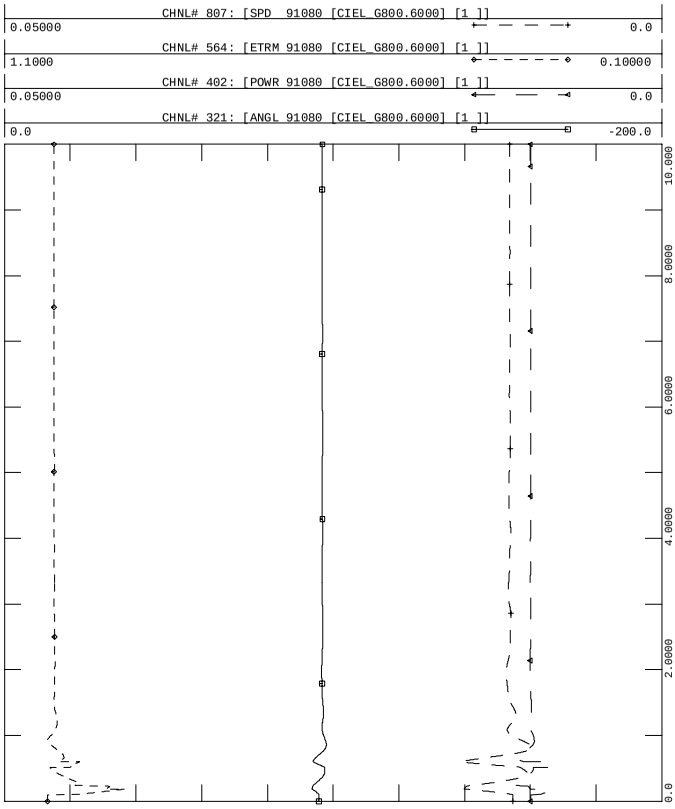
CIELO CABLE2 GEN41



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH.OUT

FRI, MAY 21 2004 10:31 6

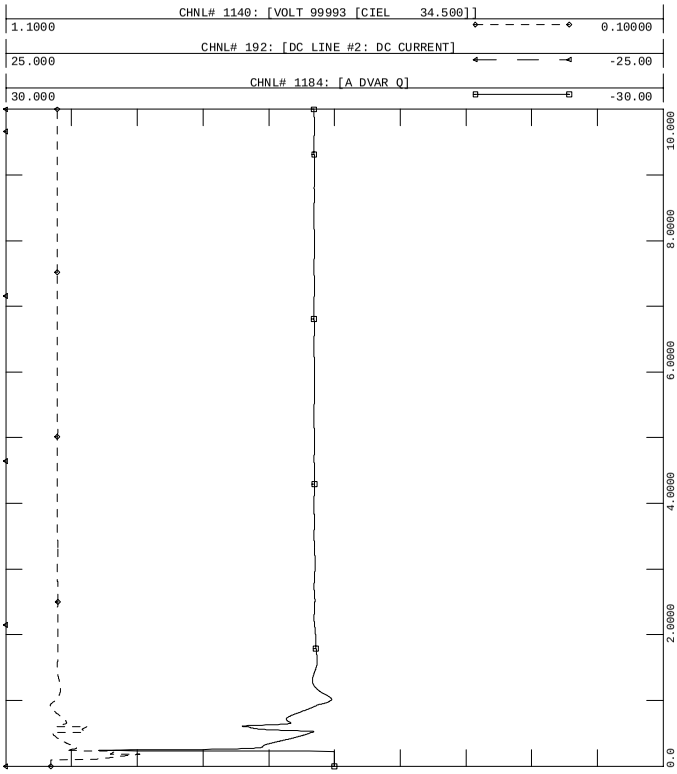
CIELO CABLE3 GEN80



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH.OUT

FRI, MAY 21 2004 10:31 8

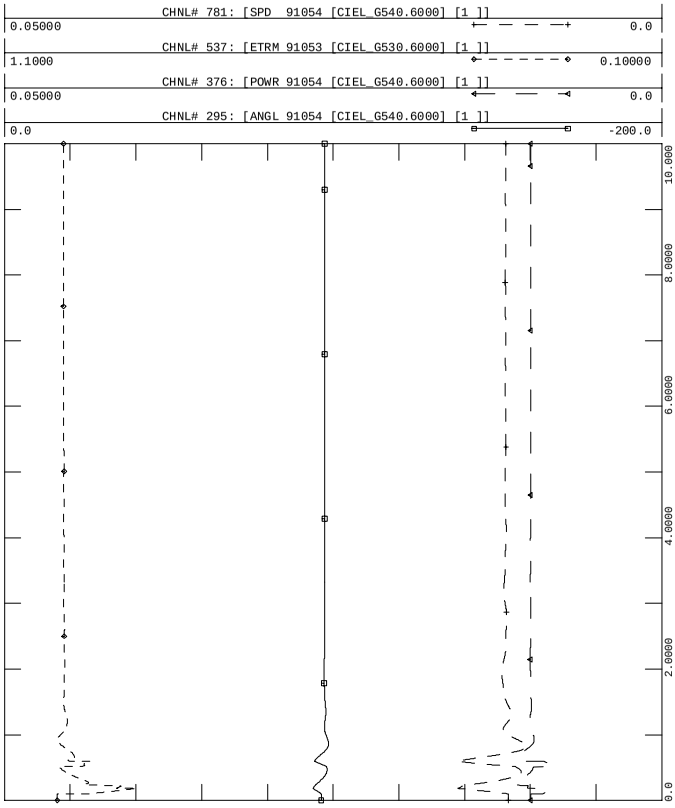
DVAR OUTPUT



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH.OUT

FRI, MAY 21 2004 10:31 5

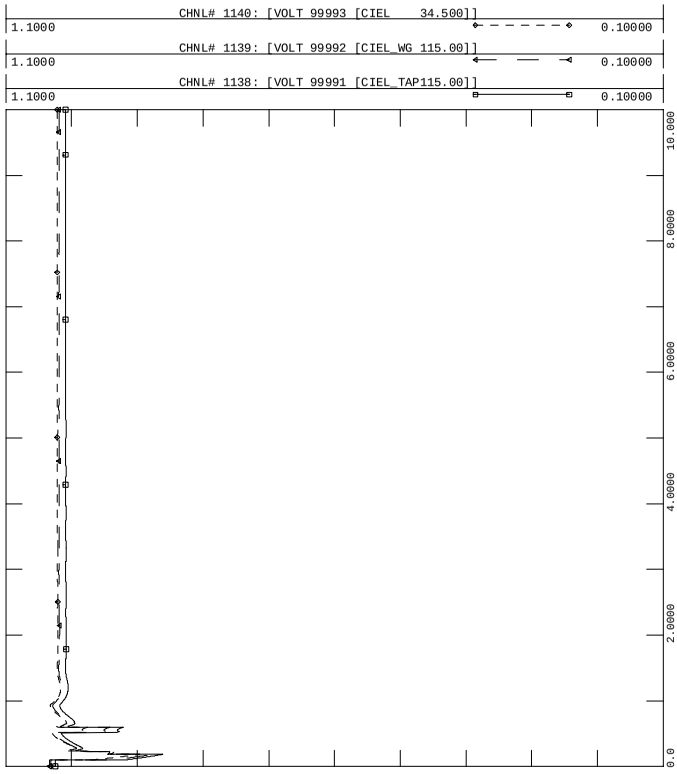
CIELO CABLE3 GEN54



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH.OUT

FRI, MAY 21 2004 10:31 7

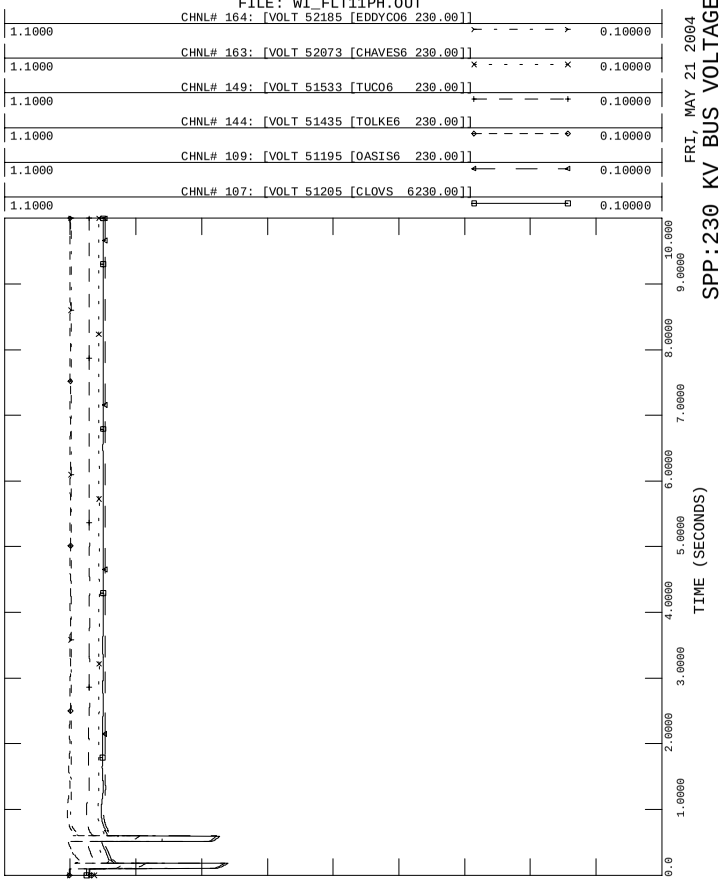
CIELO VOLTAGE



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH.OUT

FRI, MAY 21 2004 10:31

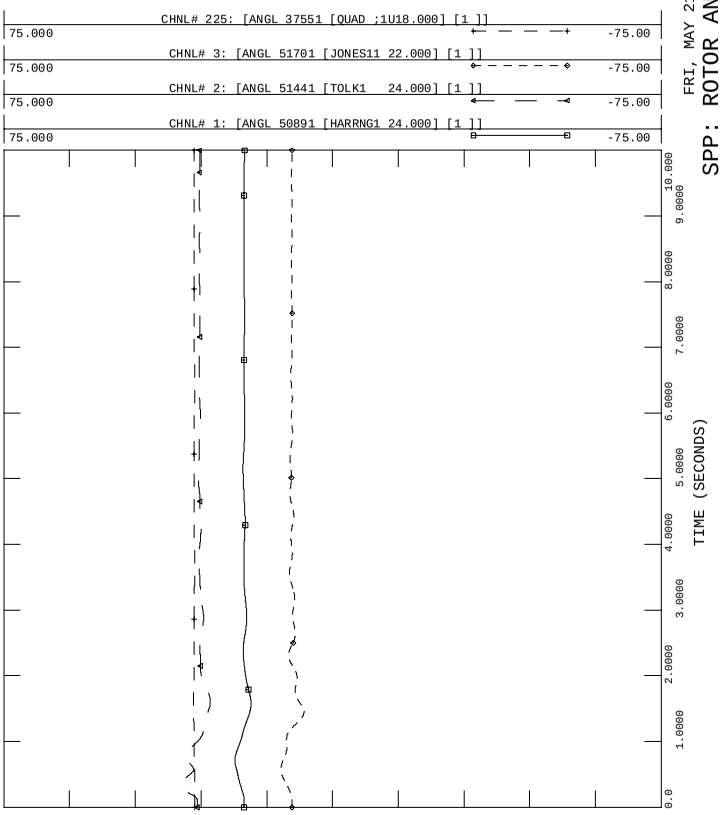
SPP:230 KV BUS VOLTAGE 10



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH.OUT

FRI, MAY 21 2004 10:31

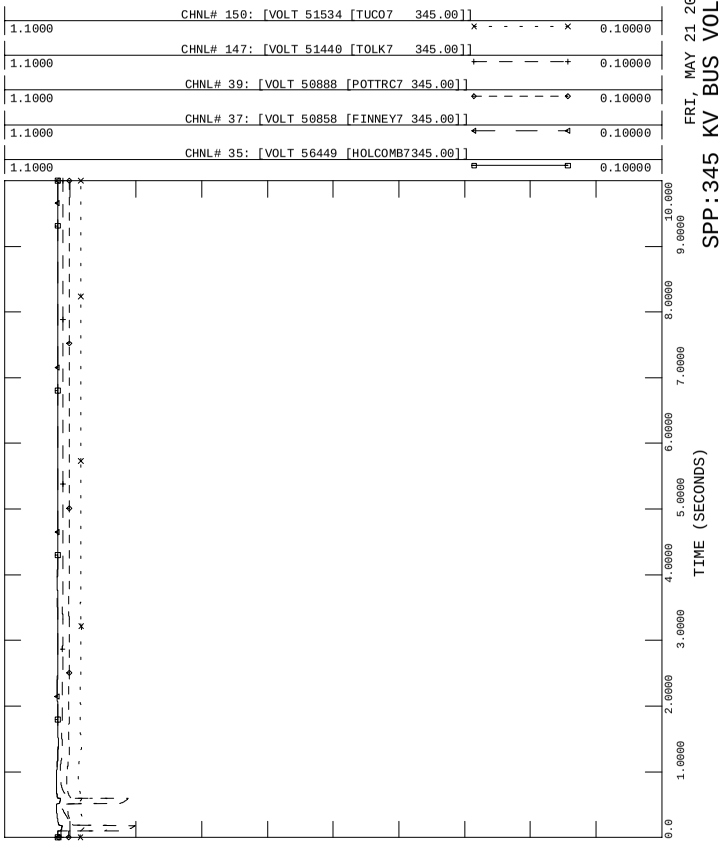
SPP: ROTOR ANGLE 12



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH.OUT

FRI, MAY 21 2004 10:31

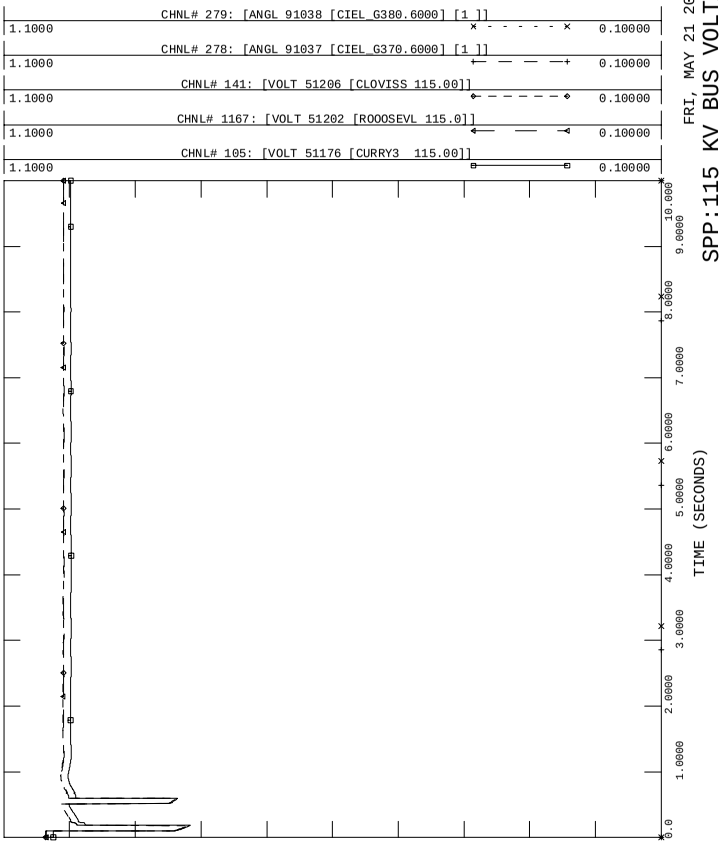
SPP:345 KV BUS VOLTAGE 9



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH.OUT

FRI, MAY 21 2004 10:31

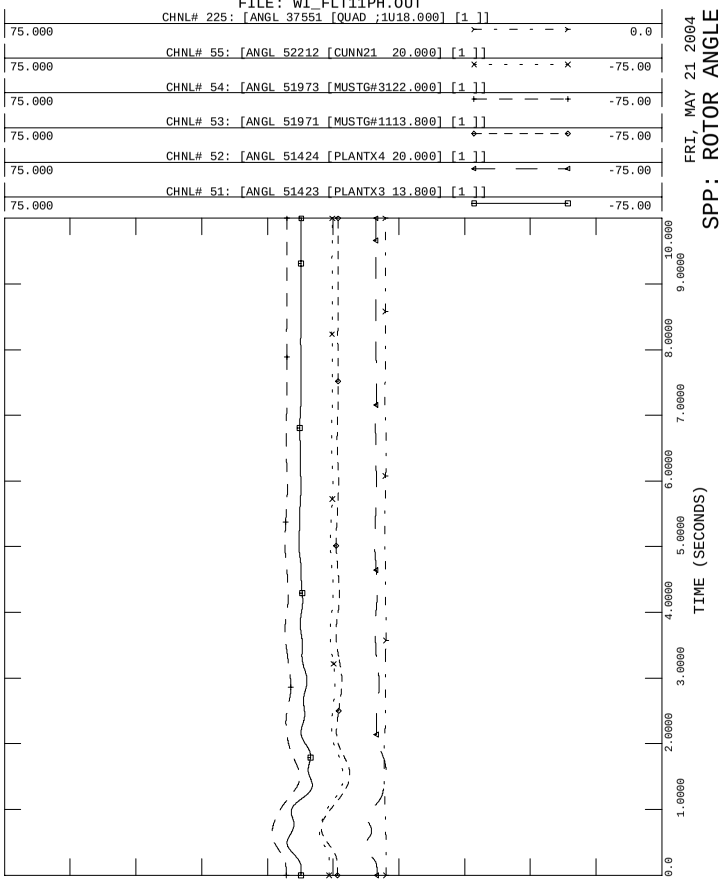
SPP:115 KV BUS VOLTAGE 11



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH.OUT

FRI, MAY 21 2004 10:31 14

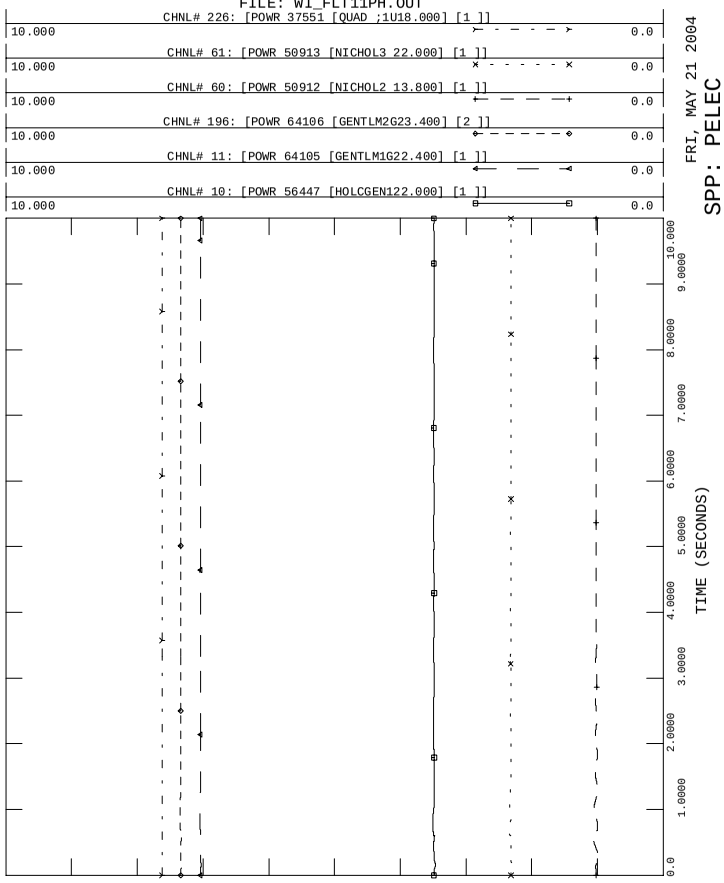
SPP: ROTOR ANGLE



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH.OUT

FRI, MAY 21 2004 10:31 16

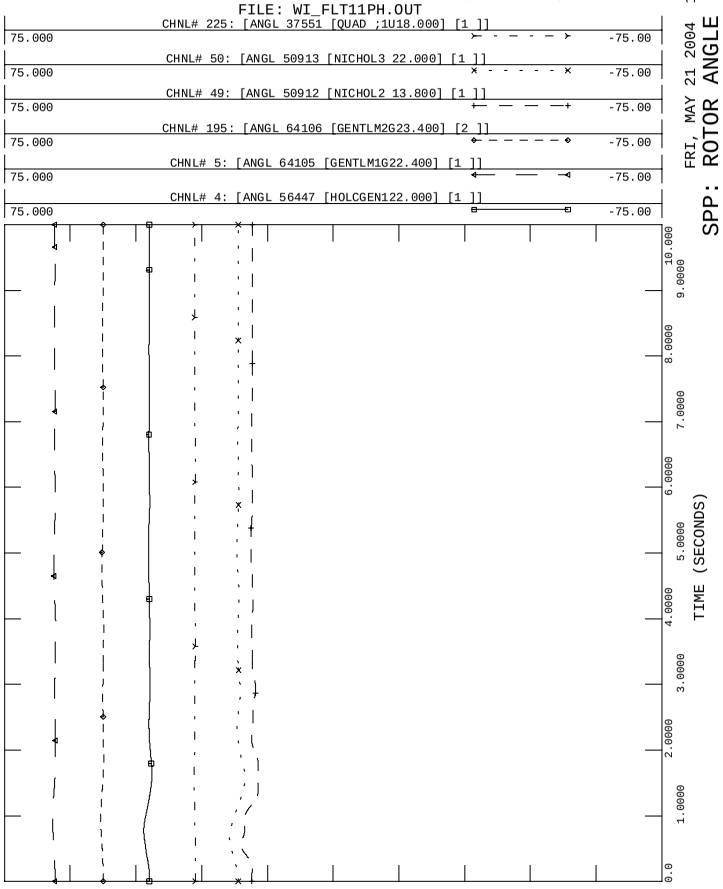
SPP: PELEC



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH.OUT

FRI, MAY 21 2004 10:31 13

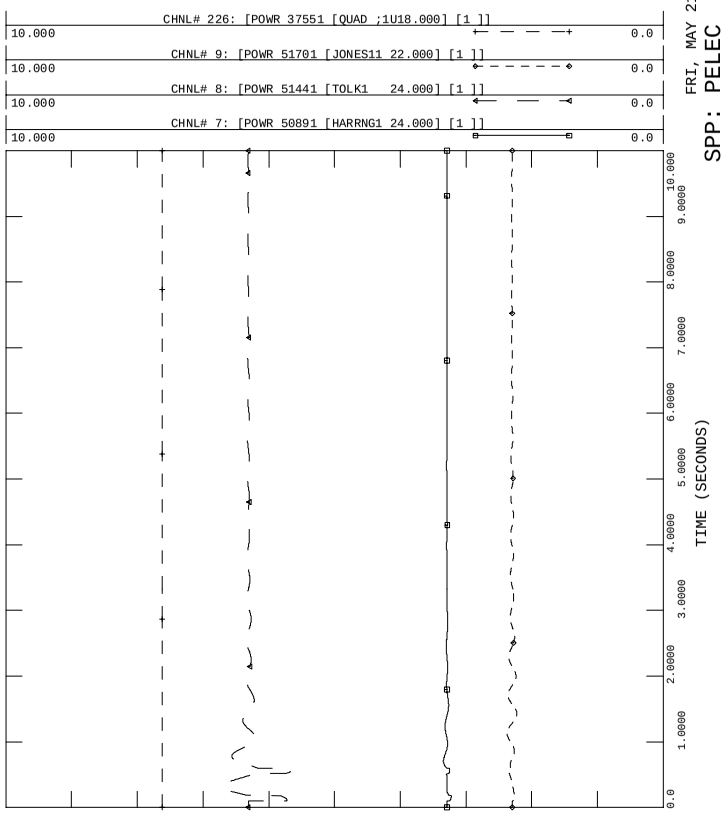
SPP: ROTOR ANGLE



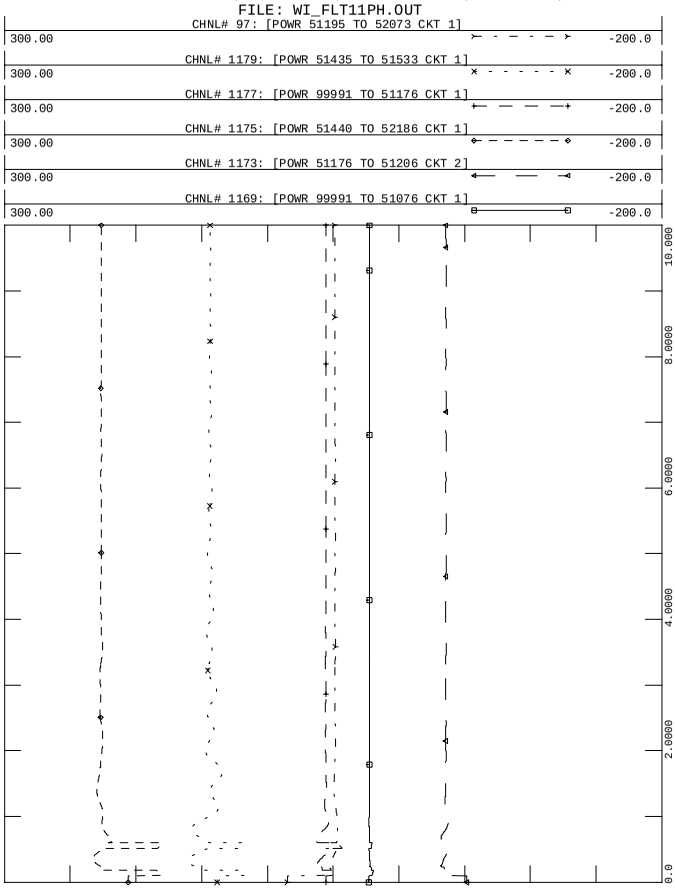
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH.OUT

FRI, MAY 21 2004 10:31 15

SPP: PELEC

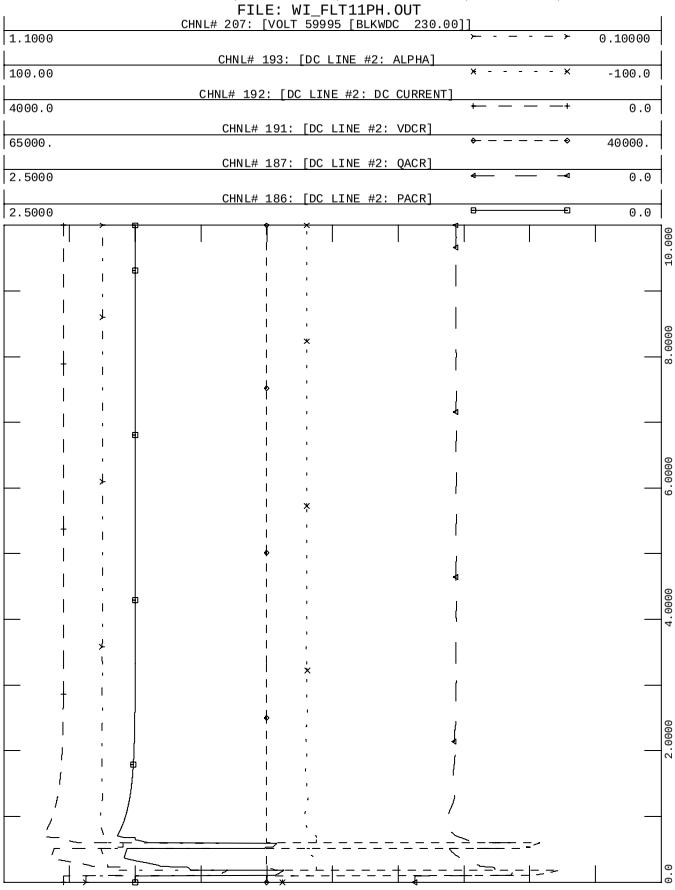


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH.OUT



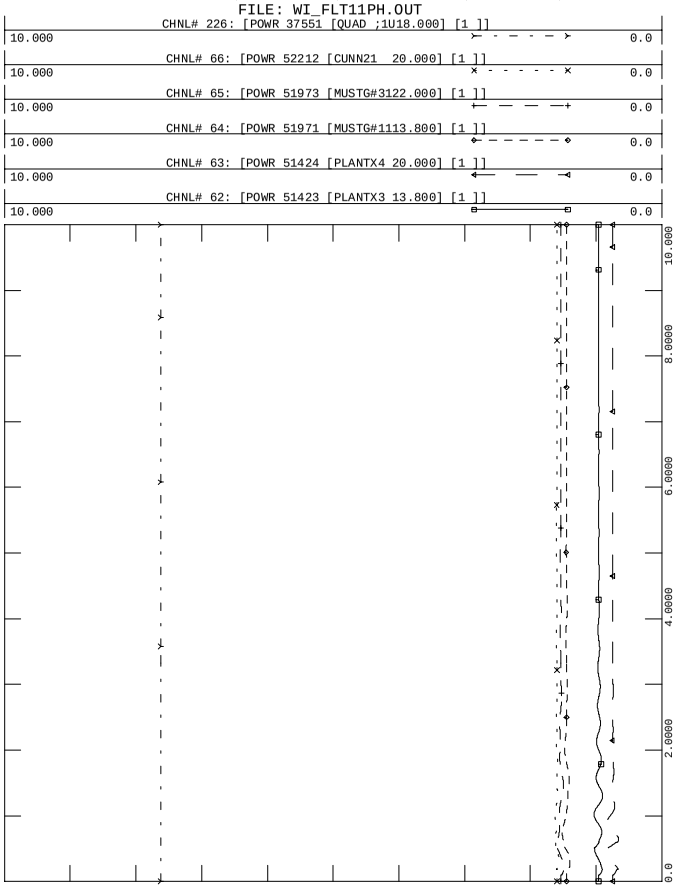
FRI, MAY 21 2004 10:31 18
BRANCH FLOW

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH.OUT



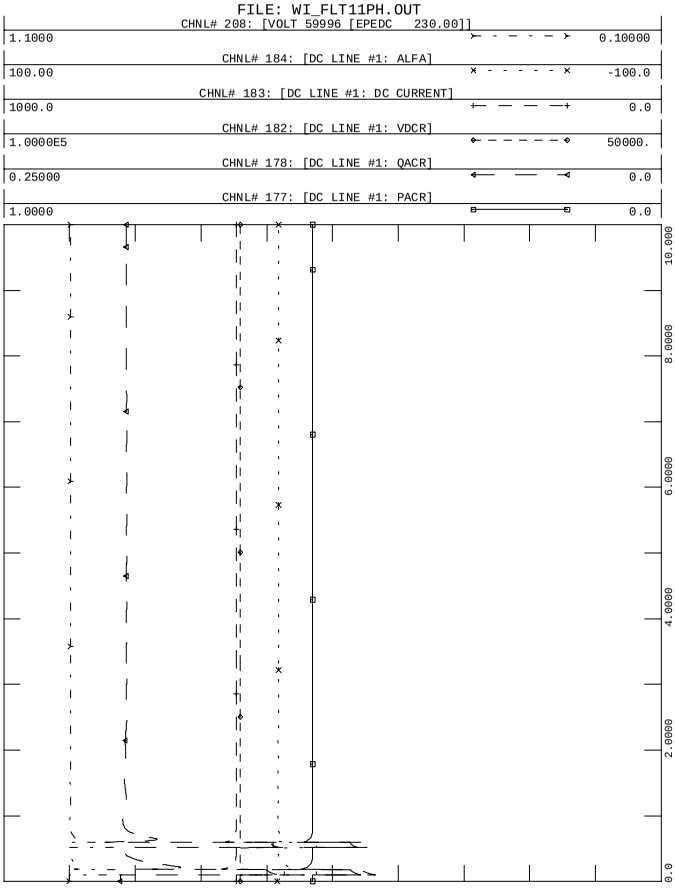
FRI, MAY 21 2004 10:31 20
DC LINE PNM

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH.OUT



FRI, MAY 21 2004 10:31 17
SPP: PELEC

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH.OUT



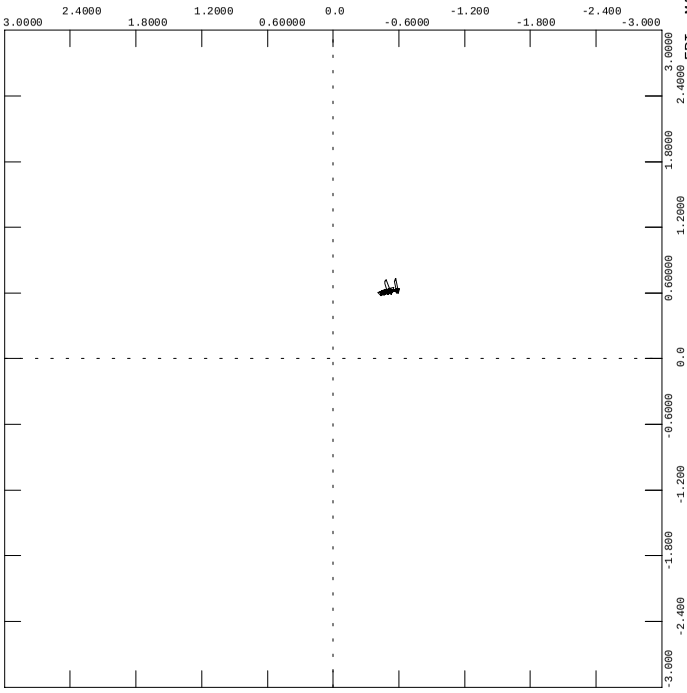
FRI, MAY 21 2004 10:31 19
DC LINE EPE

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR

22

FILE: WI_FLT11PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 116: [APPX 50858 TO 50888 CKT 1]



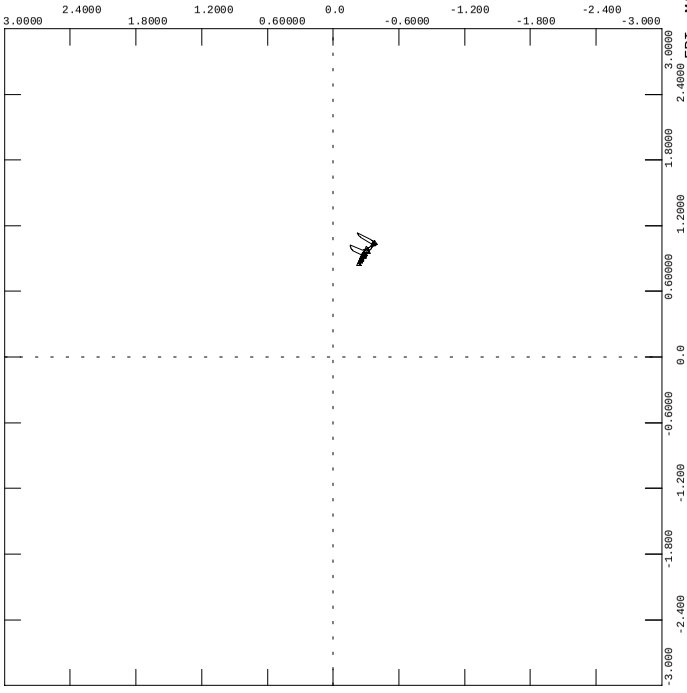
FRI, MAY 21 2004 10:31
POTTER-FINNEY
CHNL# 115: [APPR 50858 TO 50888 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR

21

FILE: WI_FLT11PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 114: [APPX 56449 TO 50858 CKT 1]

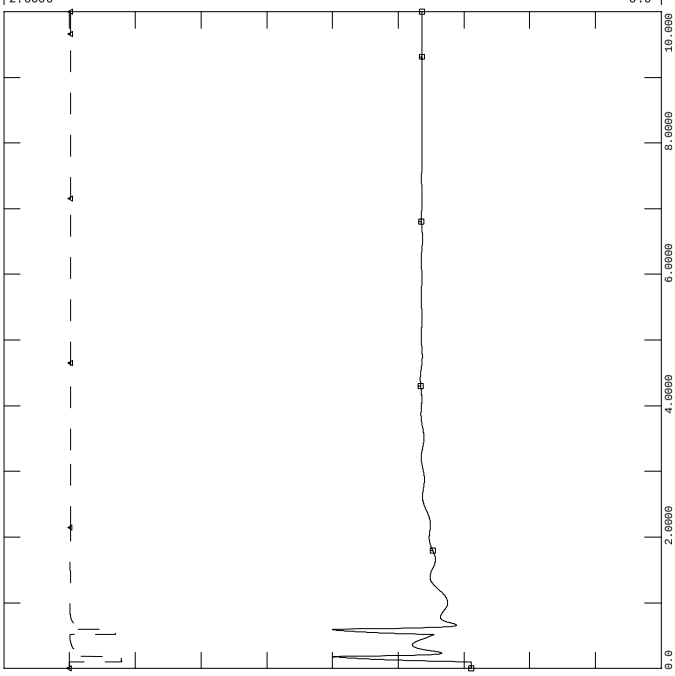


FRI, MAY 21 2004 10:31
FINNEY-HOLCOMB
CHNL# 113: [APPR 56449 TO 50858 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH.OUT

23

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]
1.1000 0.10000
CHNL# 117: [BUS 52185 SVC OUTPUT]
2.0000 0.0

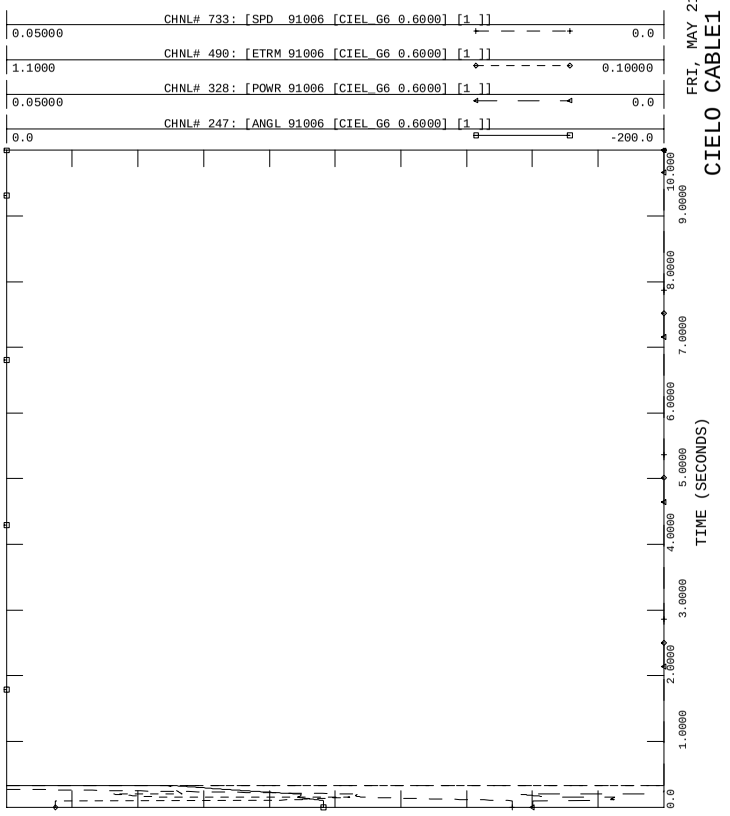


FRI, MAY 21 2004 10:31
SVC OUTPUT
TIME (SECONDS)

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH.OUT

FRI, MAY 21 2004 10:32 2

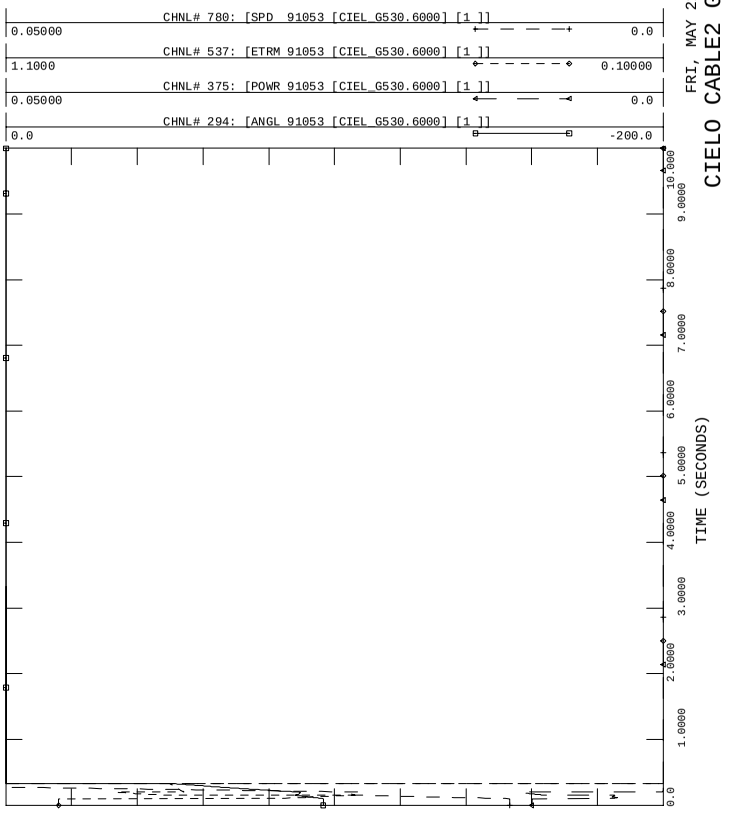
CIELO CABLE1 GEN6



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH.OUT

FRI, MAY 21 2004 10:32 4

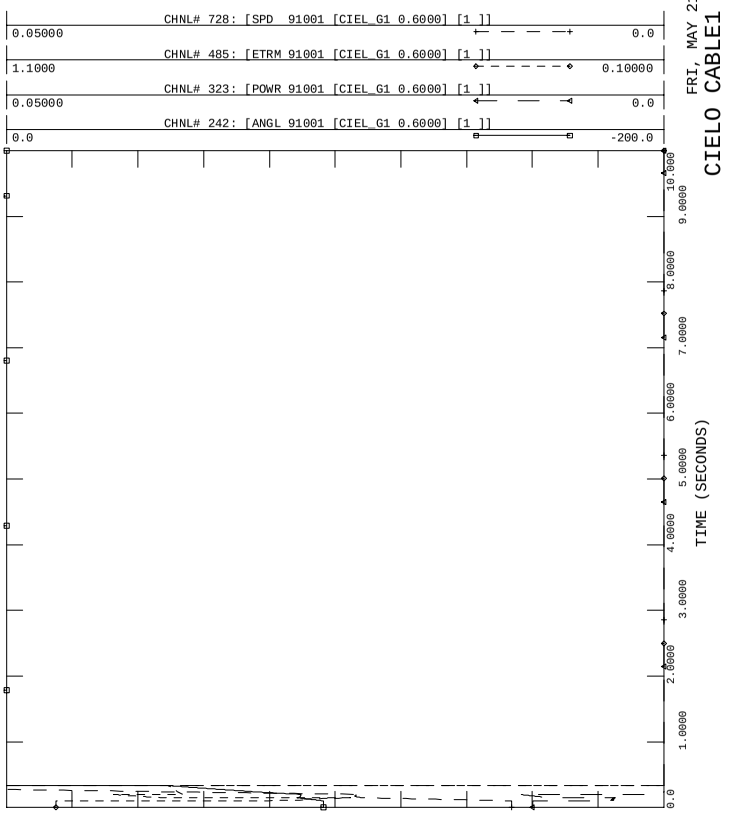
CIELO CABLE2 GEN53



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH.OUT

FRI, MAY 21 2004 10:32 1

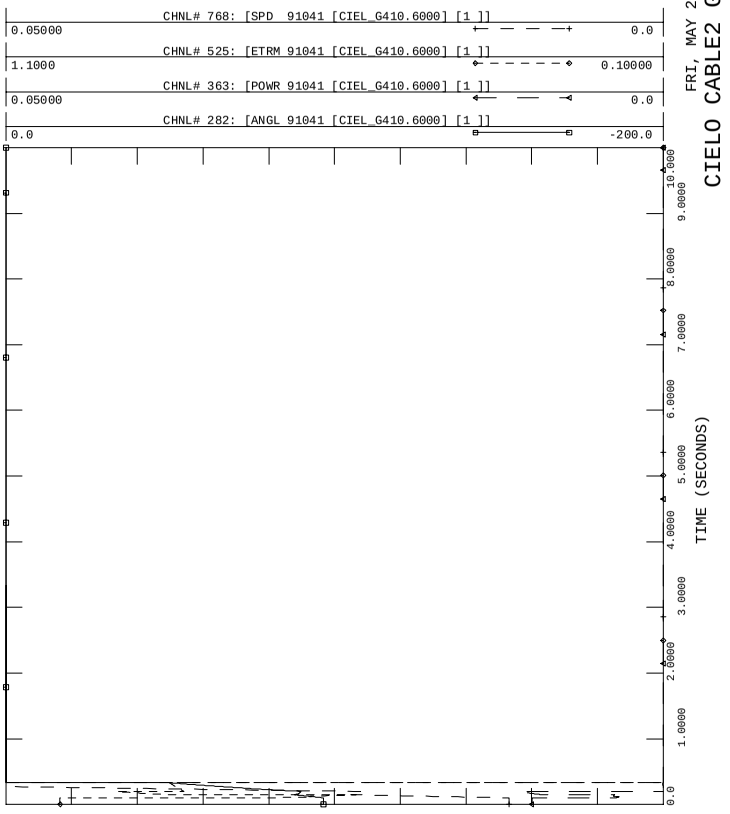
CIELO CABLE1 GEN1



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH.OUT

FRI, MAY 21 2004 10:32 3

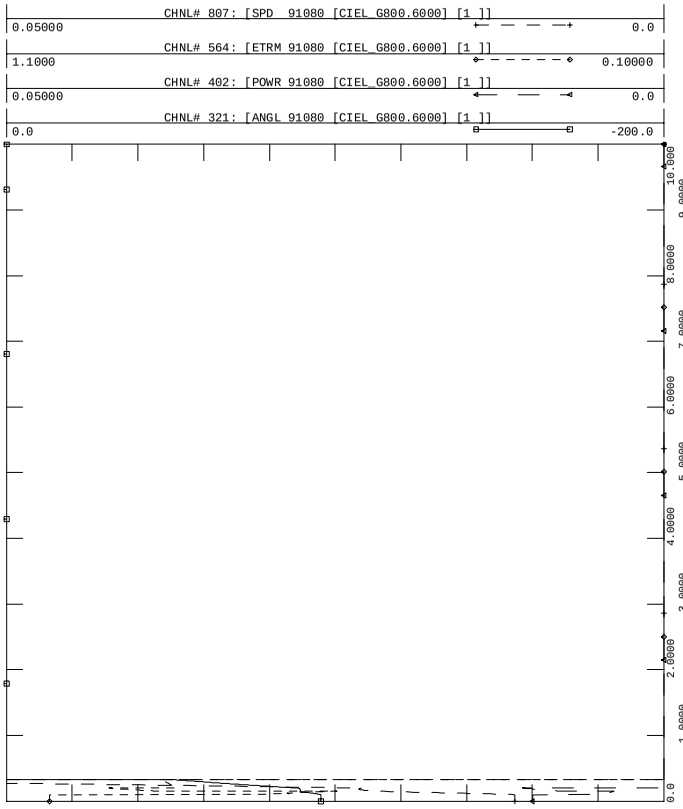
CIELO CABLE2 GEN41



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH.OUT

FRI, MAY 21 2004 10:32 6

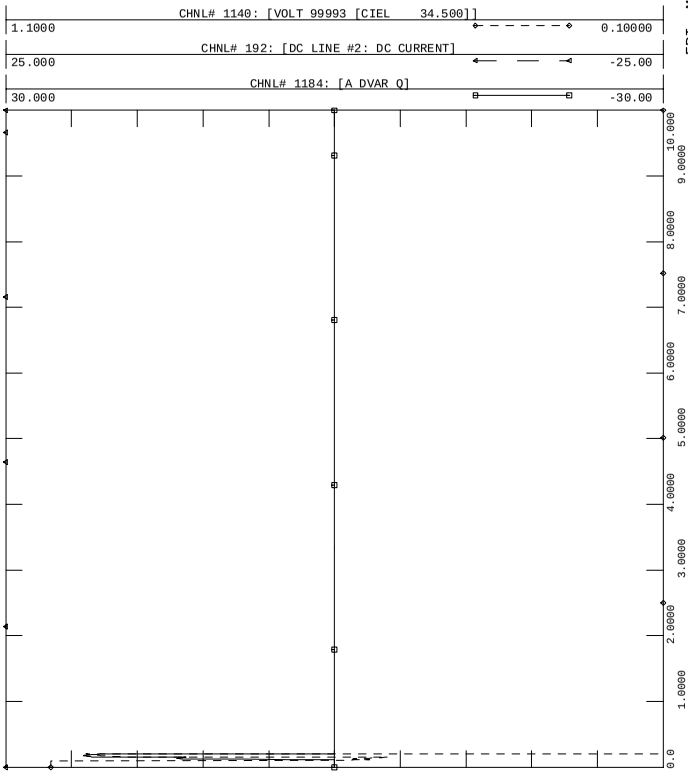
CIELO CABLE3 GEN80



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH.OUT

FRI, MAY 21 2004 10:32 8

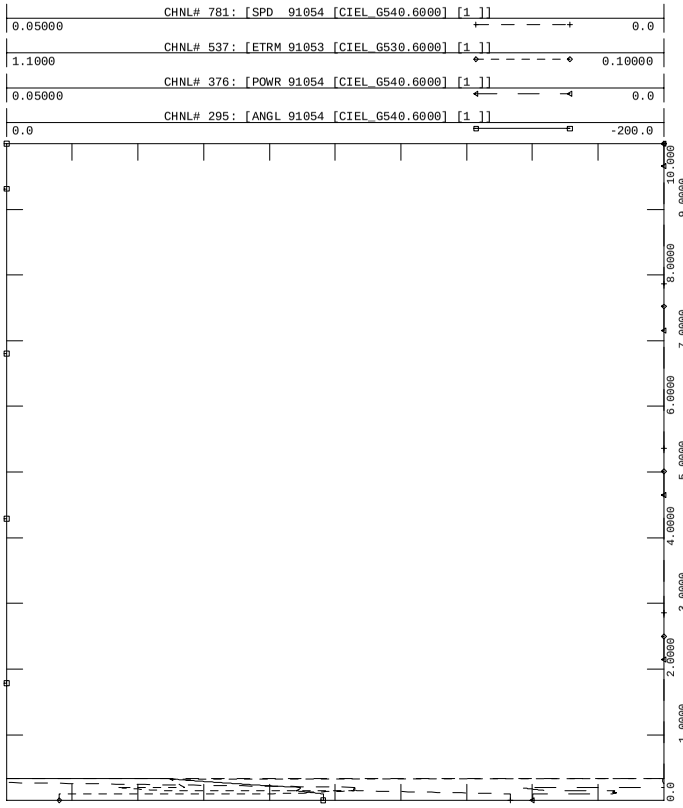
DVAR OUTPUT



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH.OUT

FRI, MAY 21 2004 10:32 5

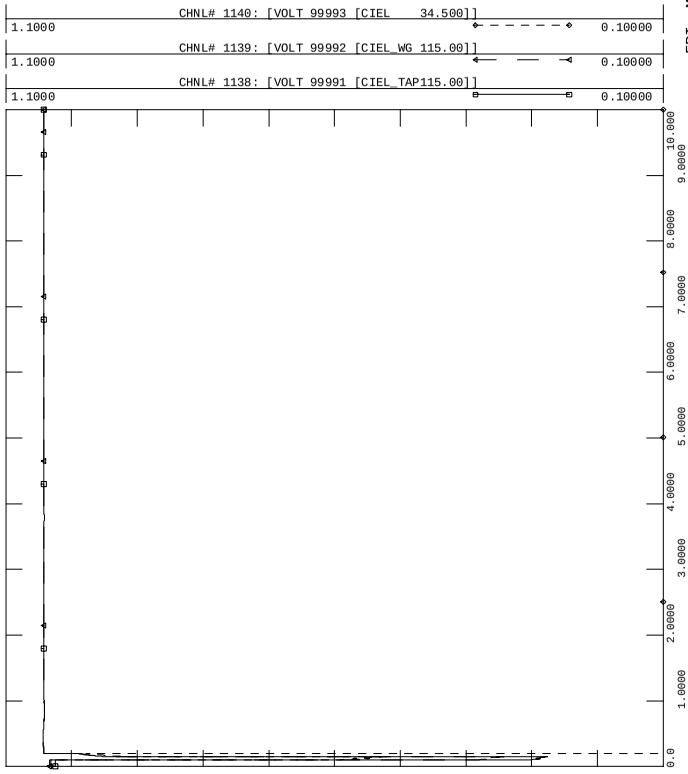
CIELO CABLE3 GEN54



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH.OUT

FRI, MAY 21 2004 10:32 7

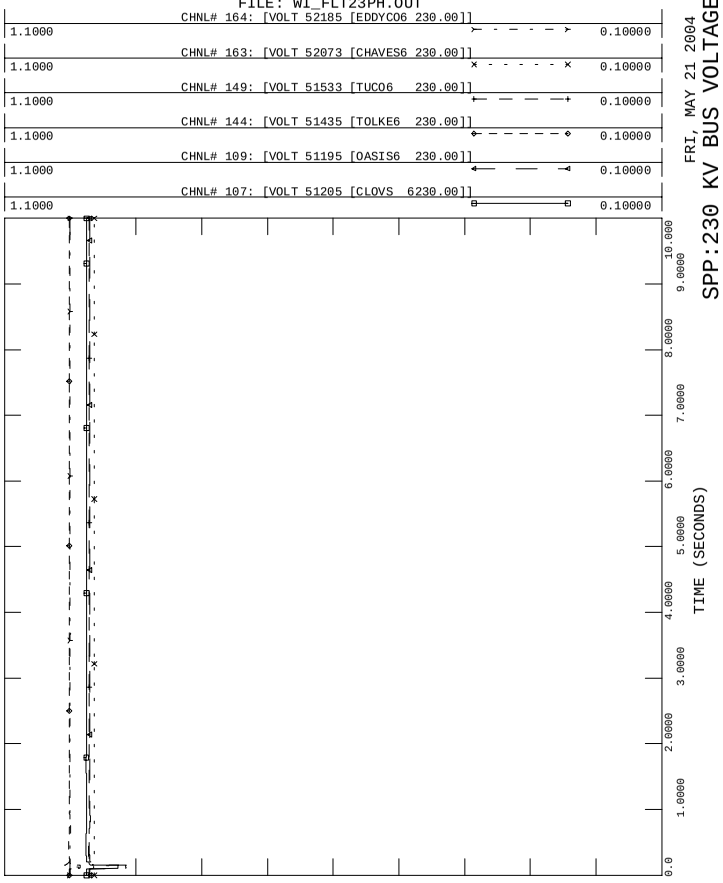
CIELO VOLTAGE



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH.OUT

FRI, MAY 21 2004 10:32

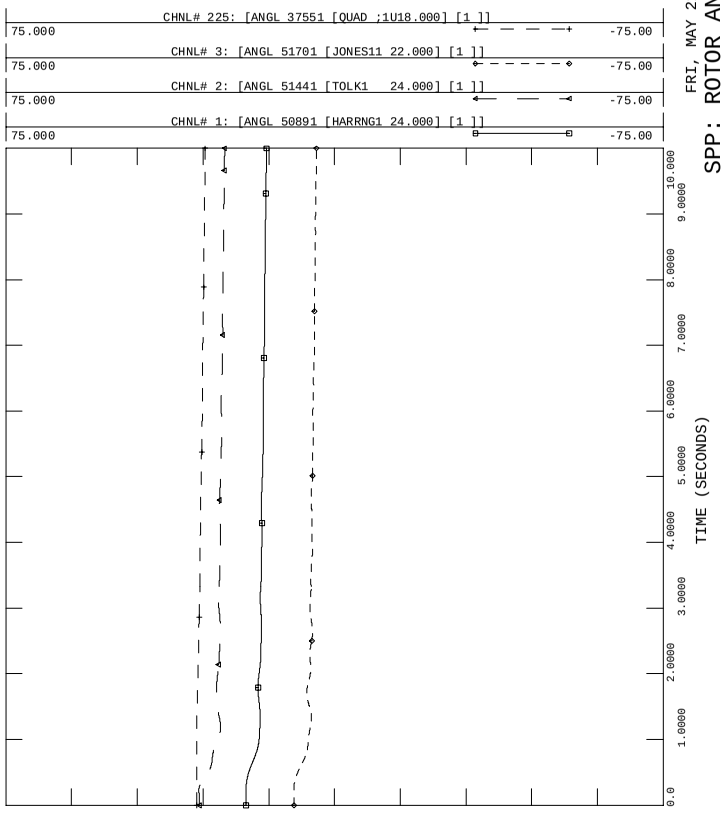
SPP:230 KV BUS VOLTAGE 10



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH.OUT

FRI, MAY 21 2004 10:32

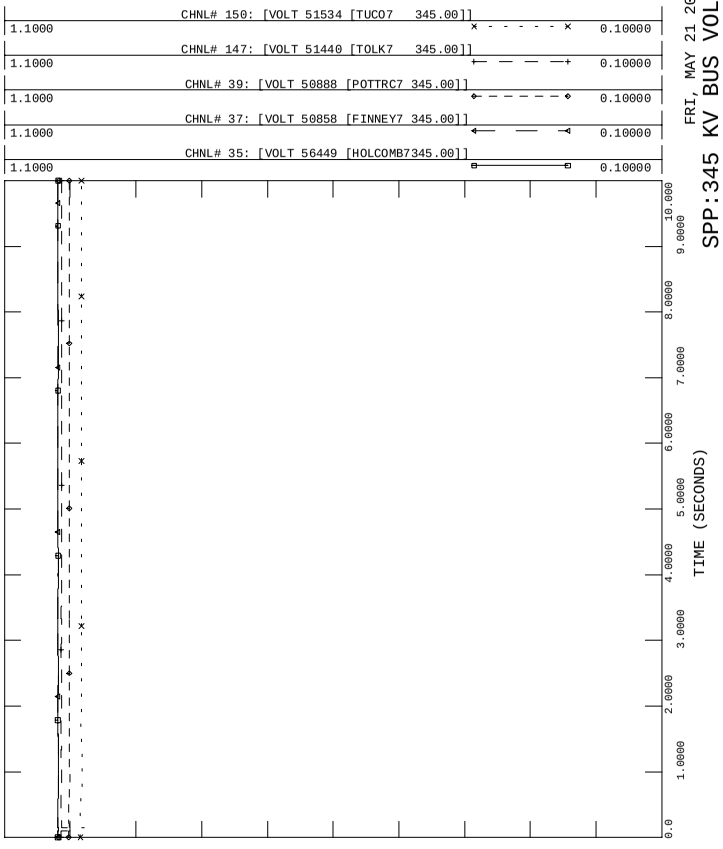
SPP: ROTOR ANGLE 12



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH.OUT

FRI, MAY 21 2004 10:32

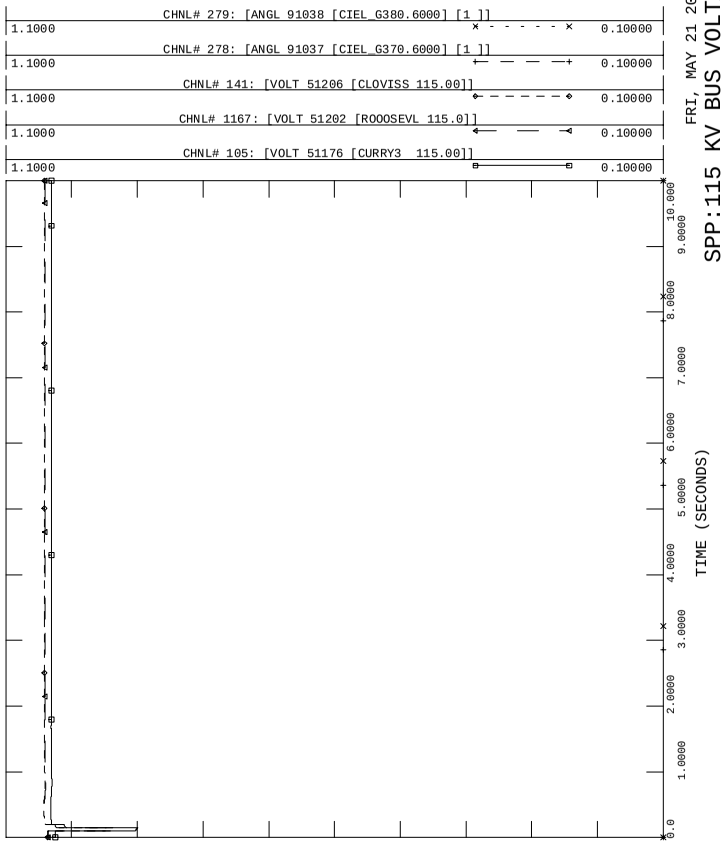
SPP:345 KV BUS VOLTAGE 9



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH.OUT

FRI, MAY 21 2004 10:32

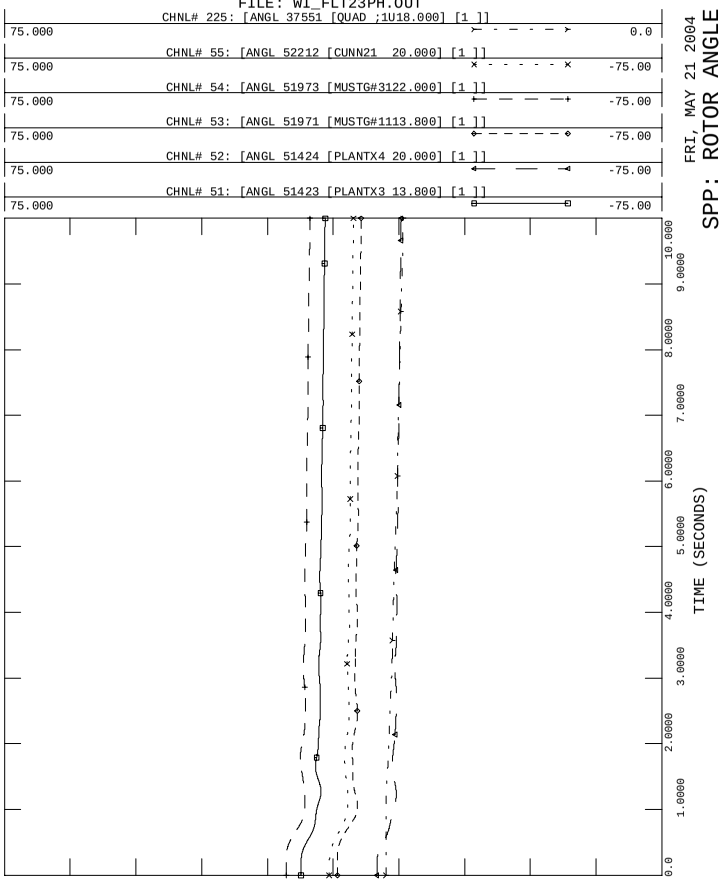
SPP:115 KV BUS VOLTAGE 11



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH.OUT

FRI, MAY 21 2004 10:32 14

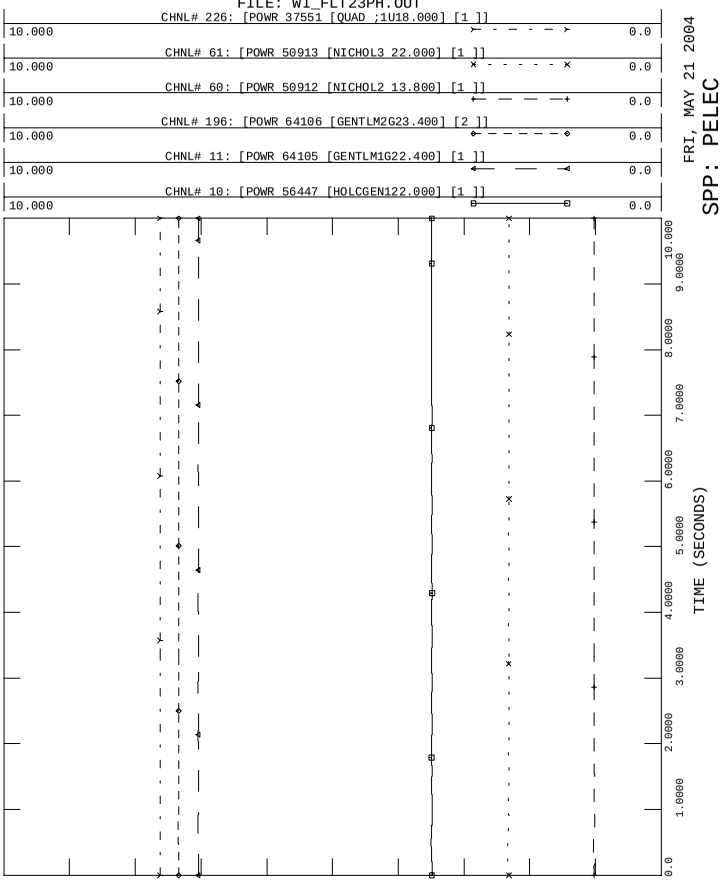
SPP: ROTOR ANGLE



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH.OUT

FRI, MAY 21 2004 10:32 16

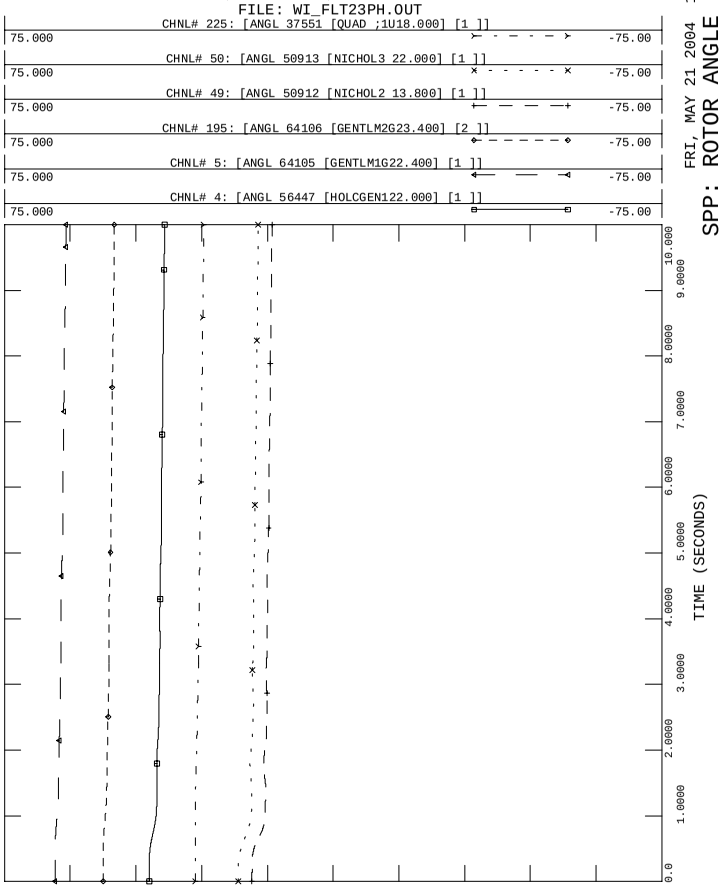
SPP: PELEC



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH.OUT

FRI, MAY 21 2004 10:32 13

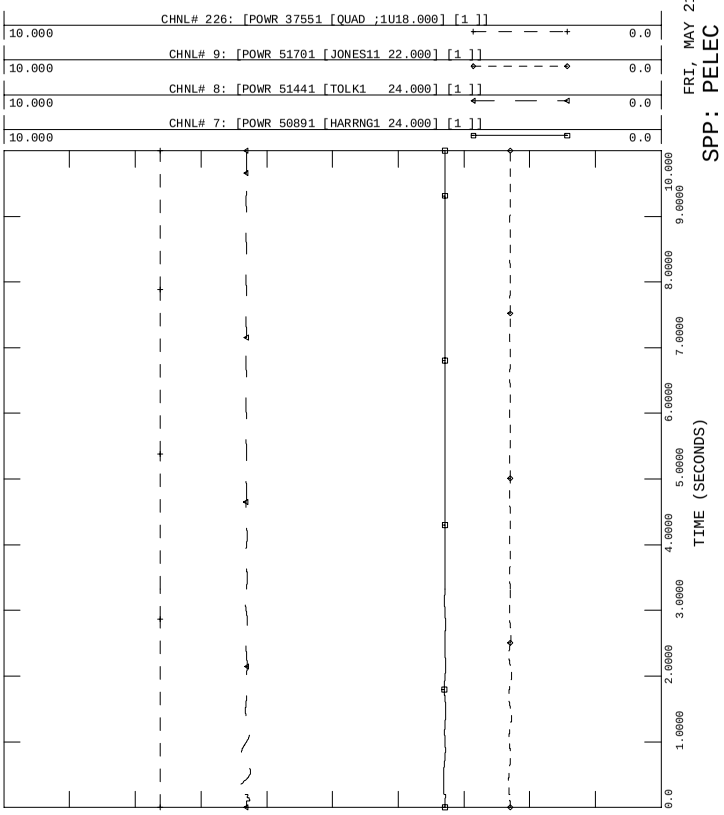
SPP: ROTOR ANGLE



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH.OUT

FRI, MAY 21 2004 10:32 15

SPP: PELEC



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH.OUT

FRI, MAY 21 2004 10:32 18

BRANCH FLOW

CHNL# 97: [POWR 51195 TO 52073 CKT 1]
300.00 -200.0

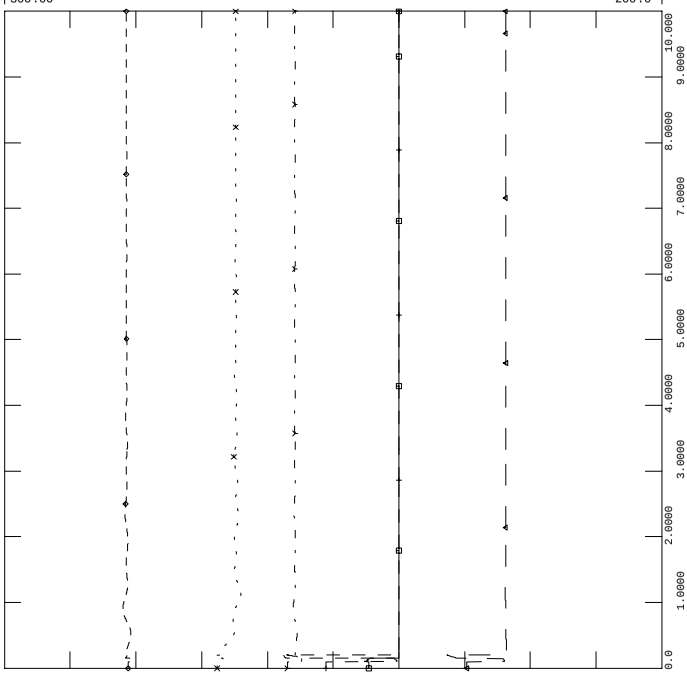
CHNL# 1179: [POWR 51435 TO 51533 CKT 1]
300.00 -200.0

CHNL# 1177: [POWR 99991 TO 51176 CKT 1]
300.00 -200.0

CHNL# 1175: [POWR 51440 TO 52186 CKT 1]
300.00 -200.0

CHNL# 1173: [POWR 51176 TO 51206 CKT 2]
300.00 -200.0

CHNL# 1169: [POWR 99991 TO 51076 CKT 1]
300.00 -200.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH.OUT

FRI, MAY 21 2004 10:32 20

DC LINE PNM

CHNL# 207: [VOLT 59995 [BLKWDC 230.00]]
1.1000 0.10000

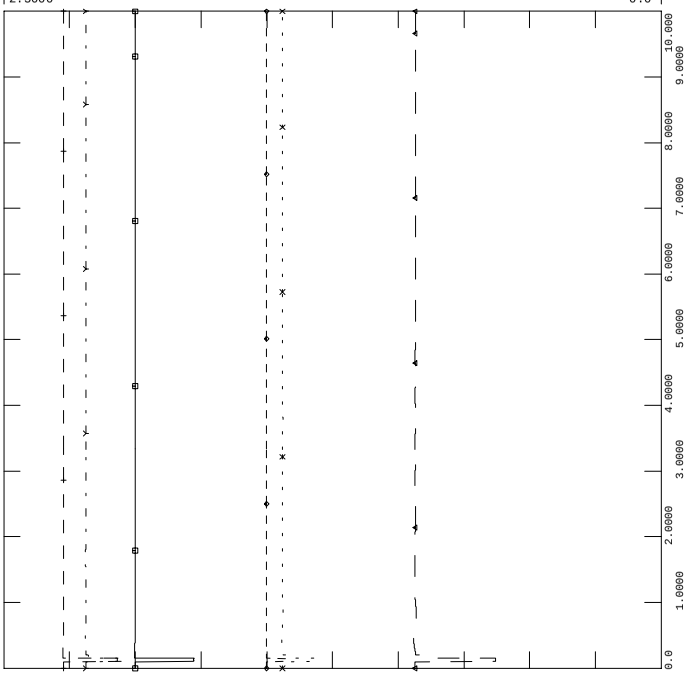
CHNL# 193: [DC LINE #2: ALPHA]
100.00 -100.0

CHNL# 192: [DC LINE #2: DC CURRENT]
4000.0 0.0

CHNL# 191: [DC LINE #2: VDCR]
65000. 40000.

CHNL# 187: [DC LINE #2: QACR]
2.5000 0.0

CHNL# 186: [DC LINE #2: PACR]
2.5000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH.OUT

FRI, MAY 21 2004 10:32 17

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
10.000 0.0

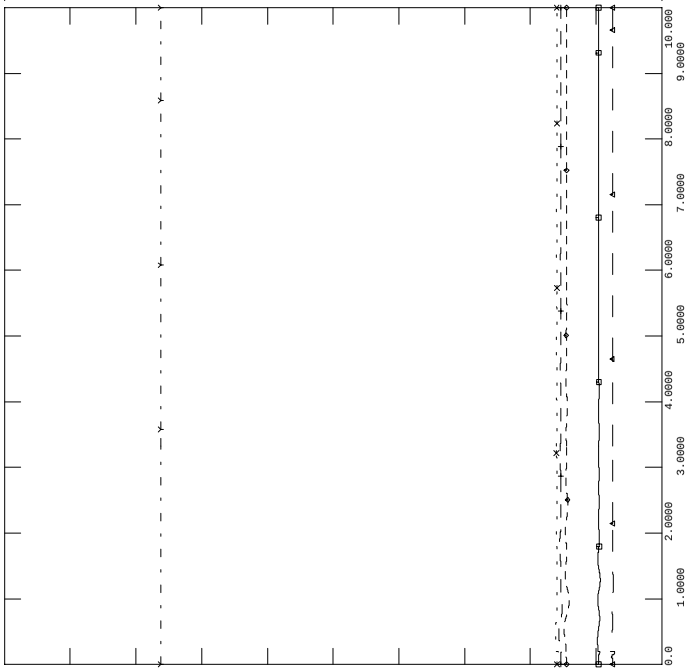
CHNL# 66: [POWR 52212 [CUNN21 20.000] [1]]
10.000 0.0

CHNL# 65: [POWR 51973 [MUSTG#3122.000] [1]]
10.000 0.0

CHNL# 64: [POWR 51971 [MUSTG#1113.800] [1]]
10.000 0.0

CHNL# 63: [POWR 51424 [PLANTX4 20.000] [1]]
10.000 0.0

CHNL# 62: [POWR 51423 [PLANTX3 13.800] [1]]
10.000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH.OUT

FRI, MAY 21 2004 10:32 19

DC LINE EPE

CHNL# 208: [VOLT 59996 [EPEDC 230.00]]
1.1000 0.10000

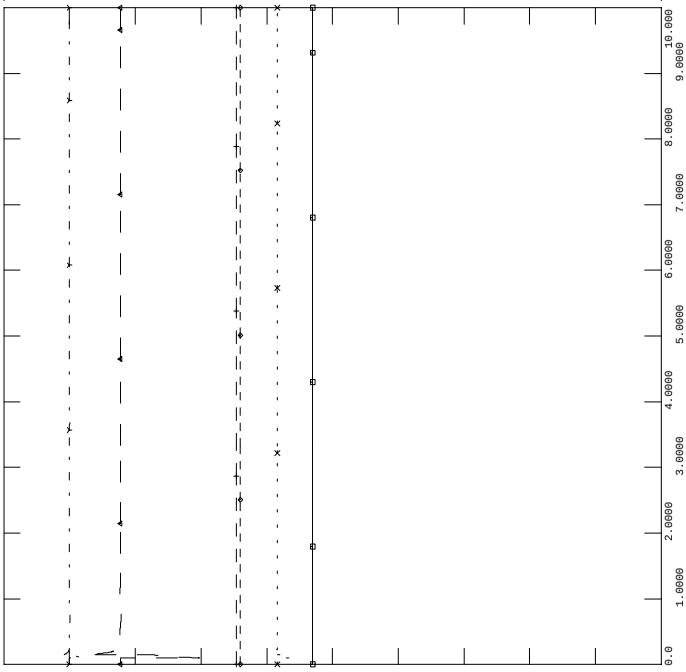
CHNL# 184: [DC LINE #1: ALFA]
100.00 -100.0

CHNL# 183: [DC LINE #1: DC CURRENT]
1000.0 0.0

CHNL# 182: [DC LINE #1: VDCR]
1.0000E5 50000.

CHNL# 178: [DC LINE #1: QACR]
0.25000 0.0

CHNL# 177: [DC LINE #1: PACR]
1.0000 0.0

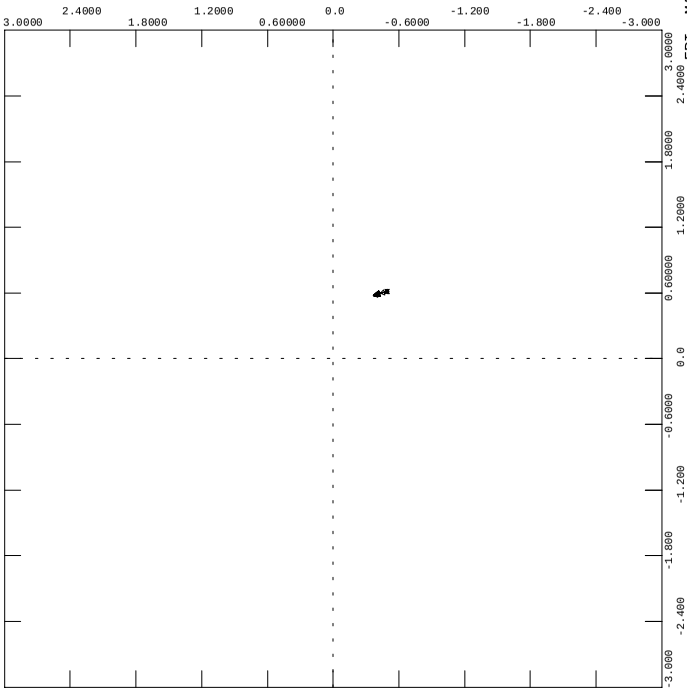


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE

22

FILE: WI_FLT23PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 116: [APPX 50858 TO 50888 CKT 1]



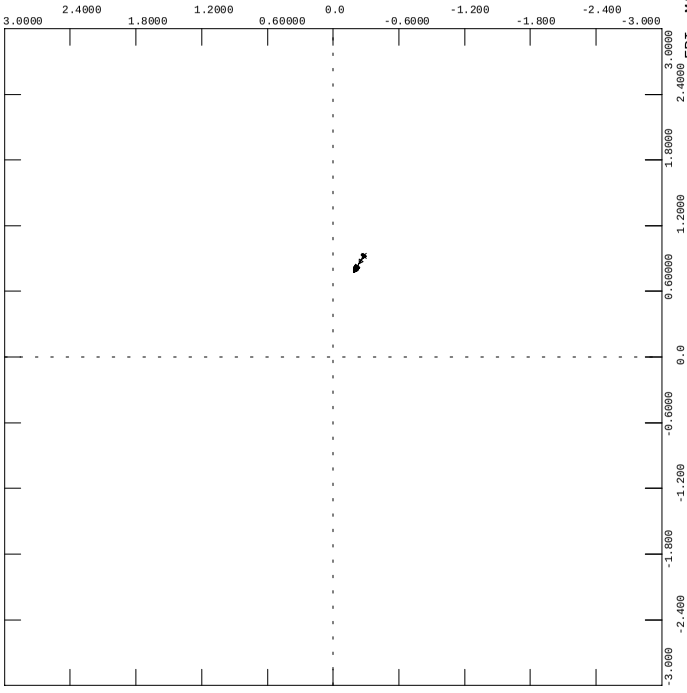
FRI, MAY 21 2004 10:32
POTTER-FINNEY

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE

21

FILE: WI_FLT23PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 114: [APPX 56449 TO 50858 CKT 1]

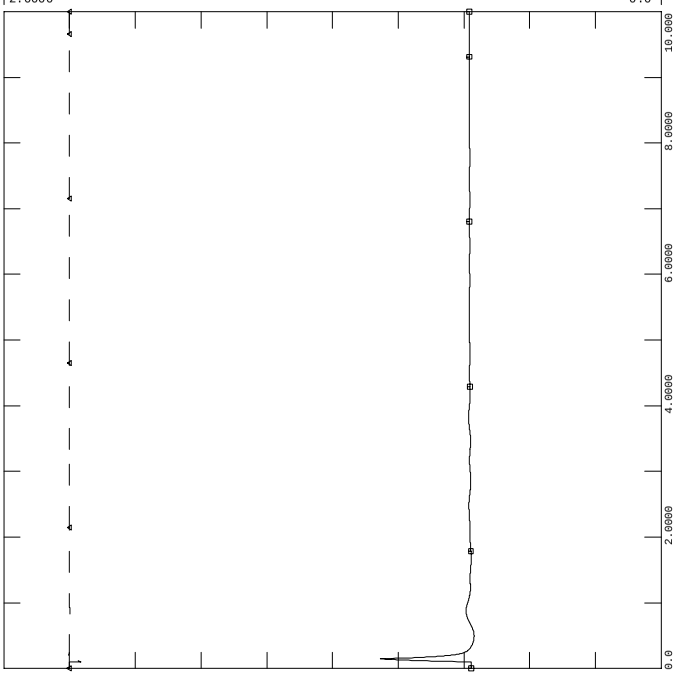


FRI, MAY 21 2004 10:32
FINNEY-HOLCOMB

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH.OUT

23

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]
1.1000 0.10000
CHNL# 117: [BUS 52185 SVC OUTPUT]
2.0000 0.0

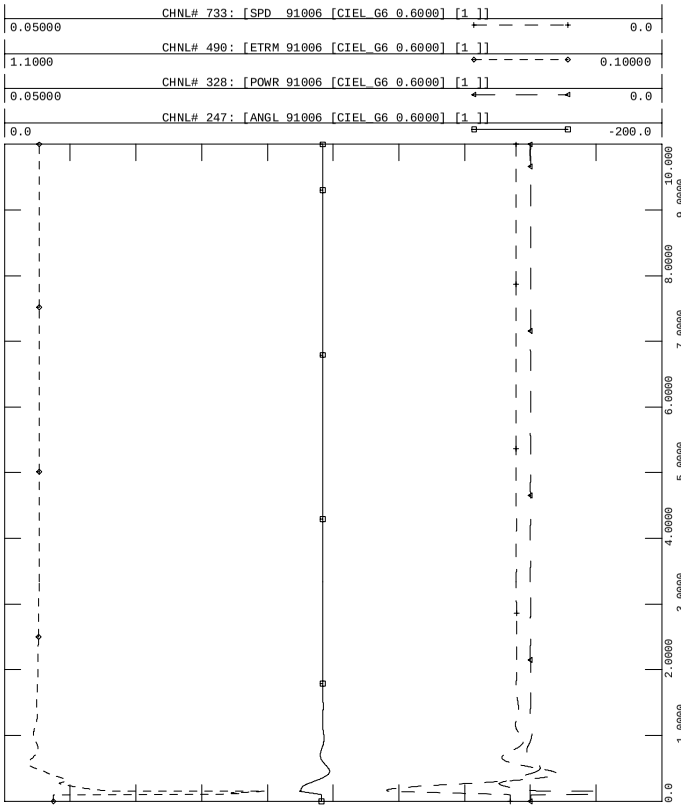


FRI, MAY 21 2004 10:32
SVC OUTPUT

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH.OUT

FRI, MAY 21 2004 10:31 2

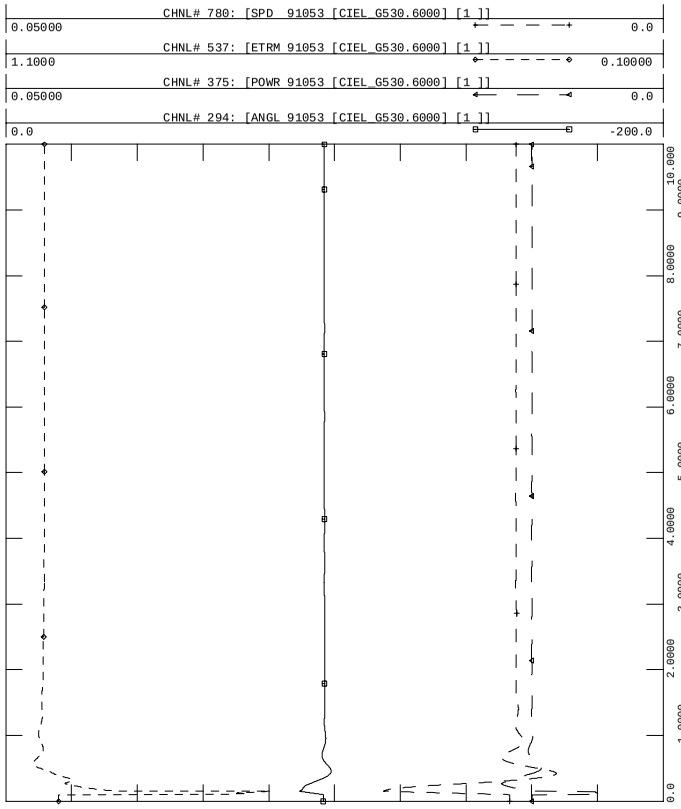
CIELO CABLE1 GEN6



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH.OUT

FRI, MAY 21 2004 10:31 4

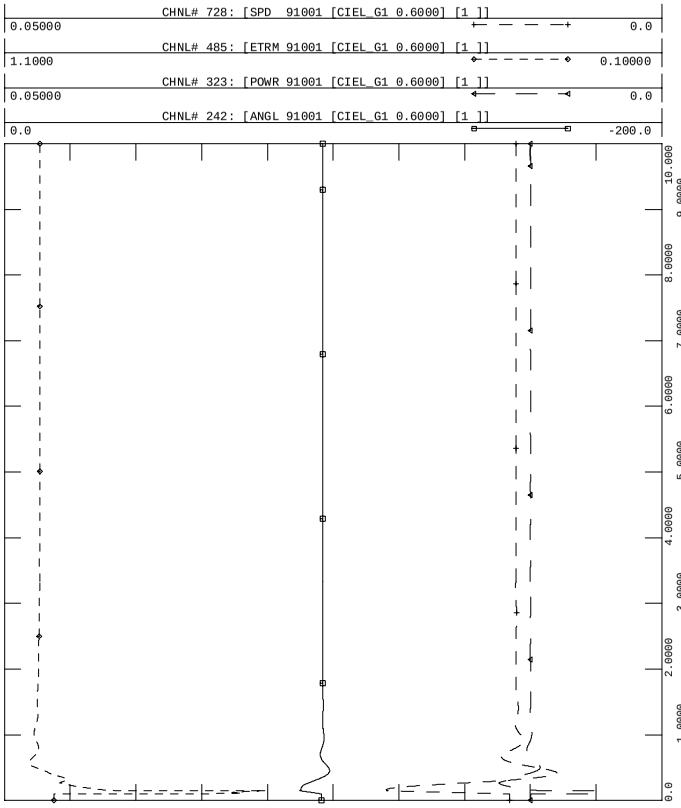
CIELO CABLE2 GEN53



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH.OUT

FRI, MAY 21 2004 10:31 1

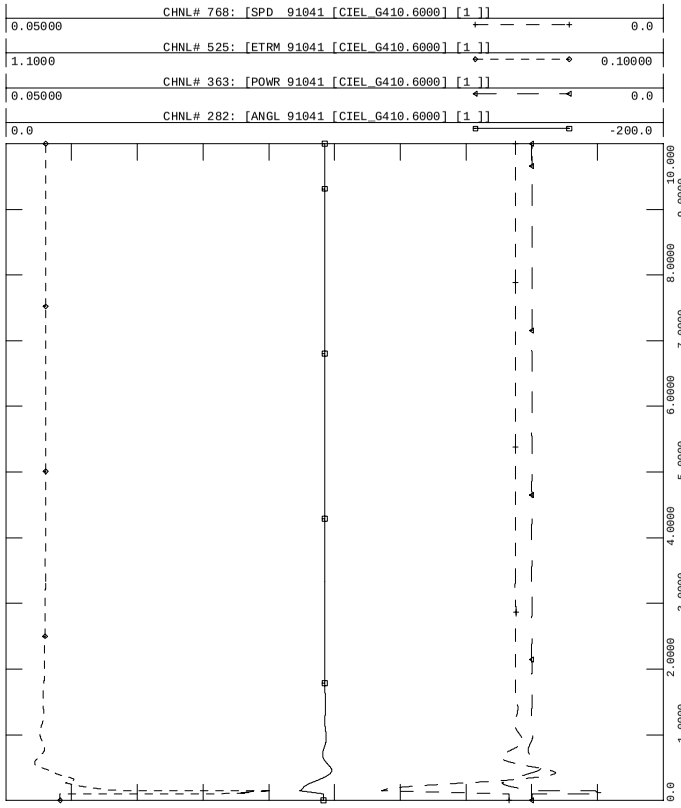
CIELO CABLE1 GEN1



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH.OUT

FRI, MAY 21 2004 10:31 3

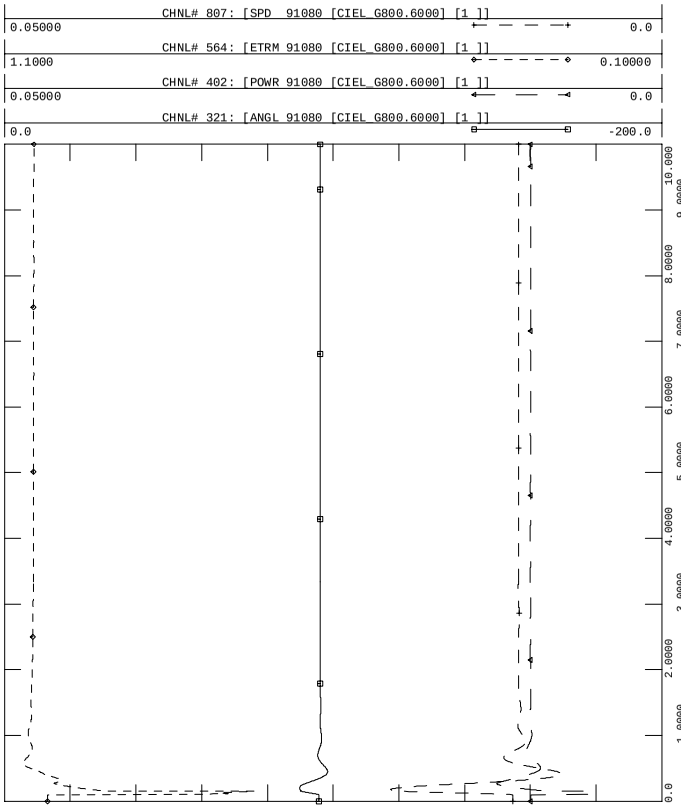
CIELO CABLE2 GEN41



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH.OUT

FRI, MAY 21 2004 10:31 6

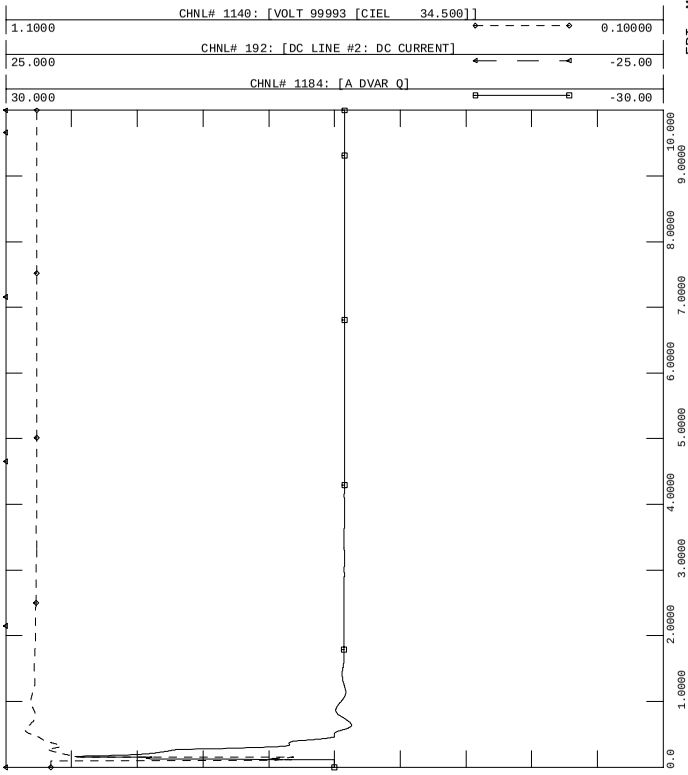
CIELO CABLE3 GEN80



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH.OUT

FRI, MAY 21 2004 10:31 8

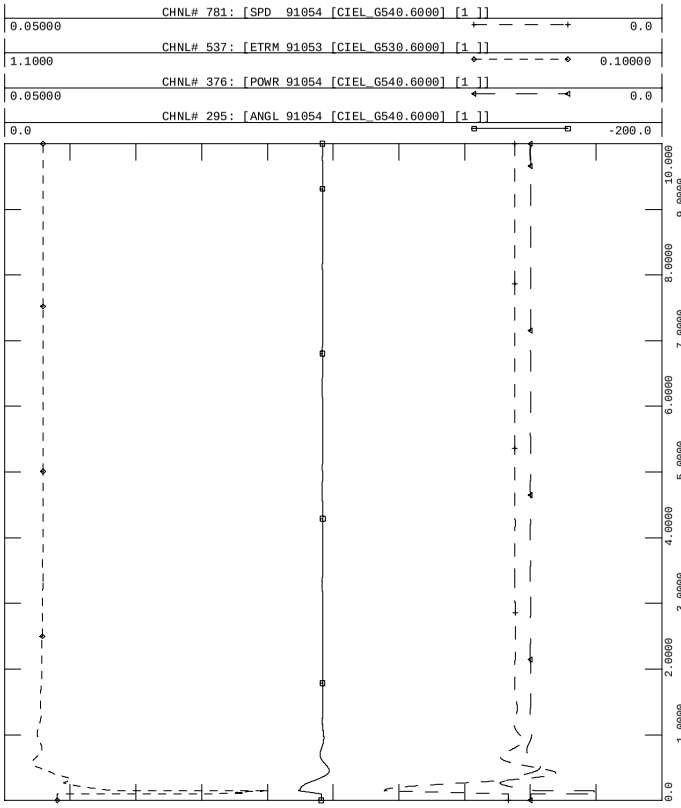
DVAR OUTPUT



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH.OUT

FRI, MAY 21 2004 10:31 5

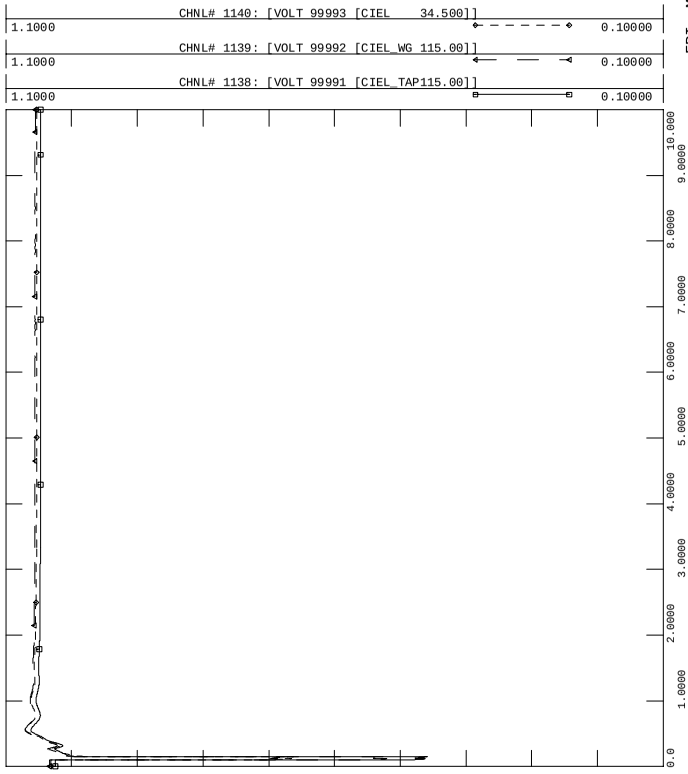
CIELO CABLE3 GEN54



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH.OUT

FRI, MAY 21 2004 10:31 7

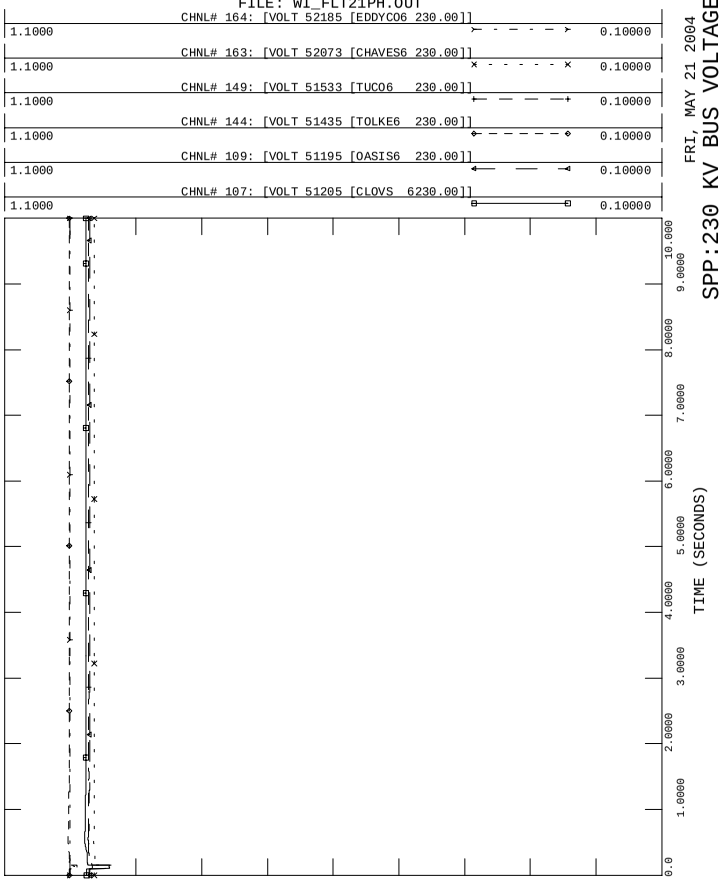
CIELO VOLTAGE



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH.OUT

FRI, MAY 21 2004 10:31

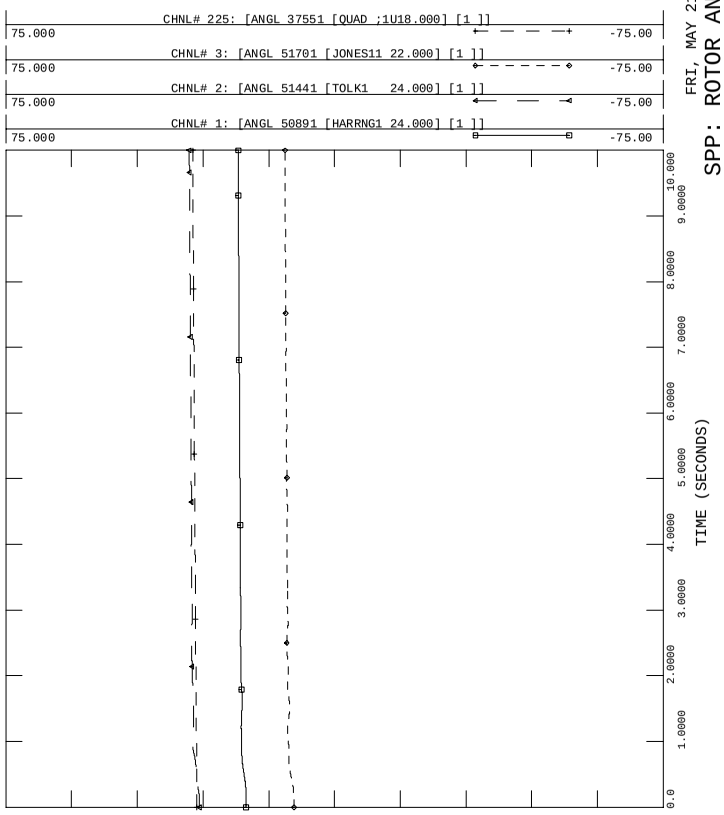
SPP:230 KV BUS VOLTAGE 10



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH.OUT

FRI, MAY 21 2004 10:31

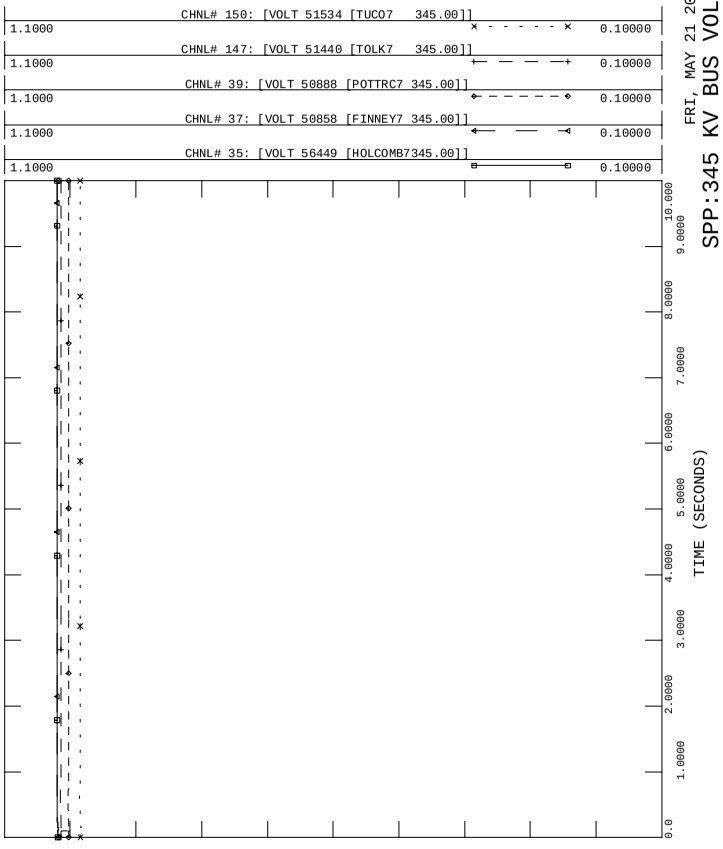
SPP: ROTOR ANGLE 12



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH.OUT

FRI, MAY 21 2004 10:31

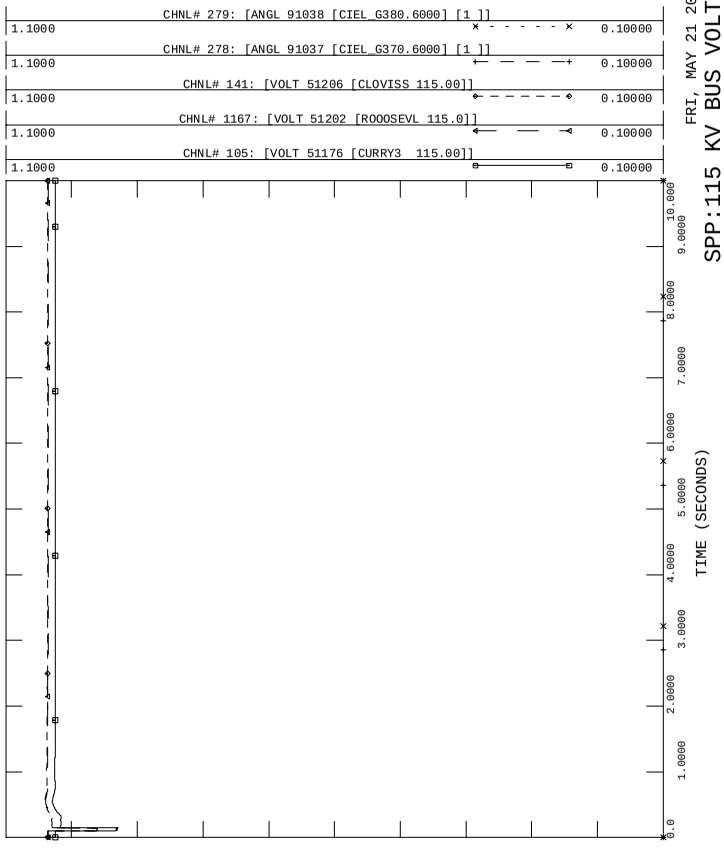
SPP:345 KV BUS VOLTAGE 9



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH.OUT

FRI, MAY 21 2004 10:31

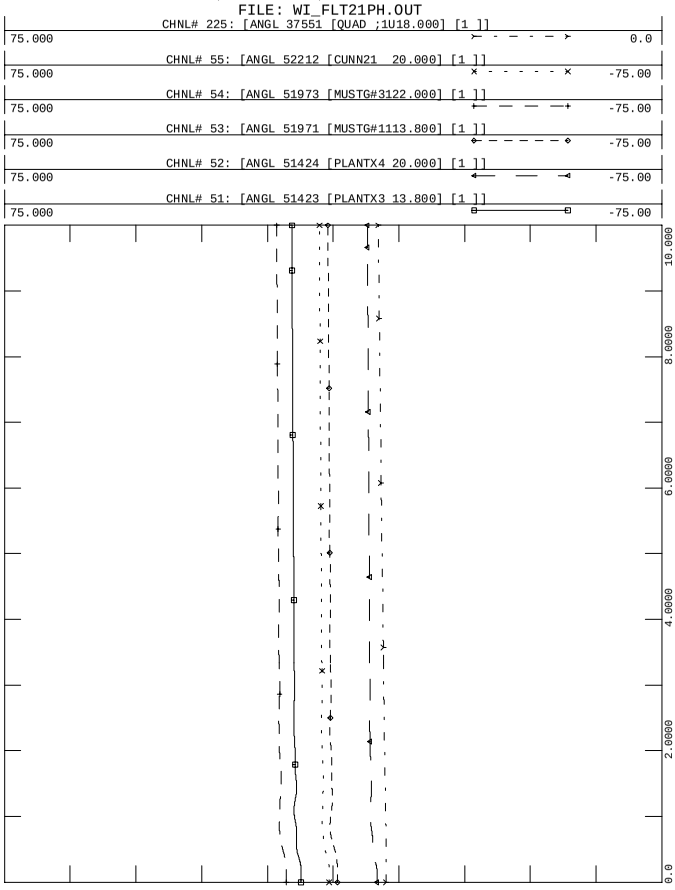
SPP:115 KV BUS VOLTAGE 11



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH.OUT

FRI, MAY 21 2004 10:31 14

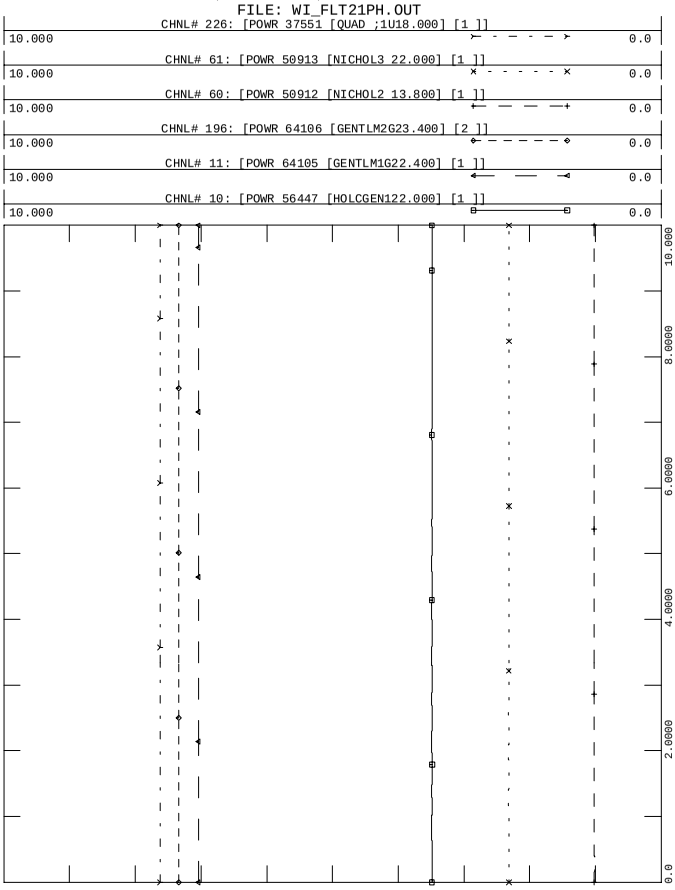
SPP: ROTOR ANGLE



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH.OUT

FRI, MAY 21 2004 10:31 16

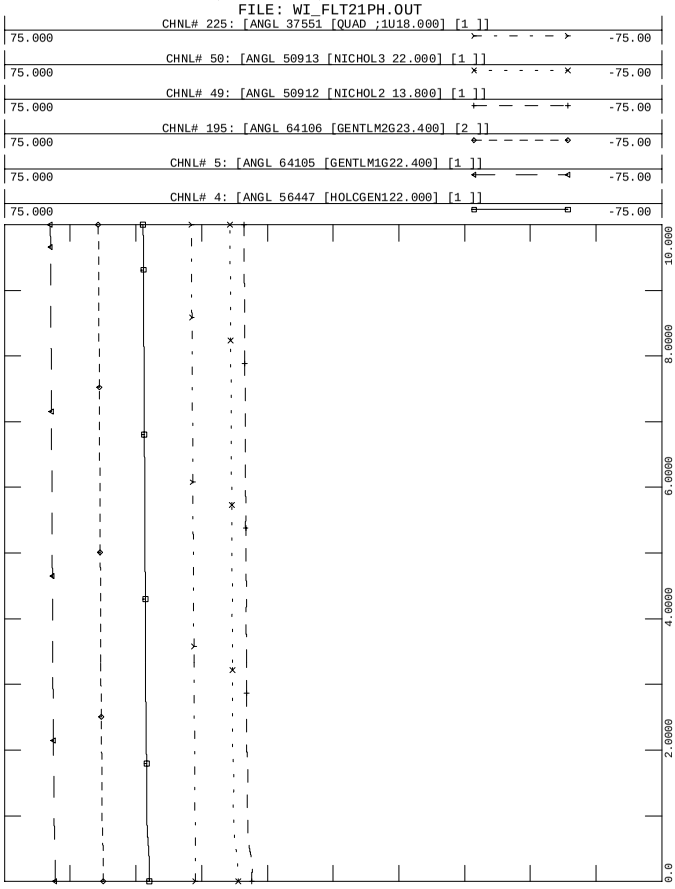
SPP: PELEC



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH.OUT

FRI, MAY 21 2004 10:31 13

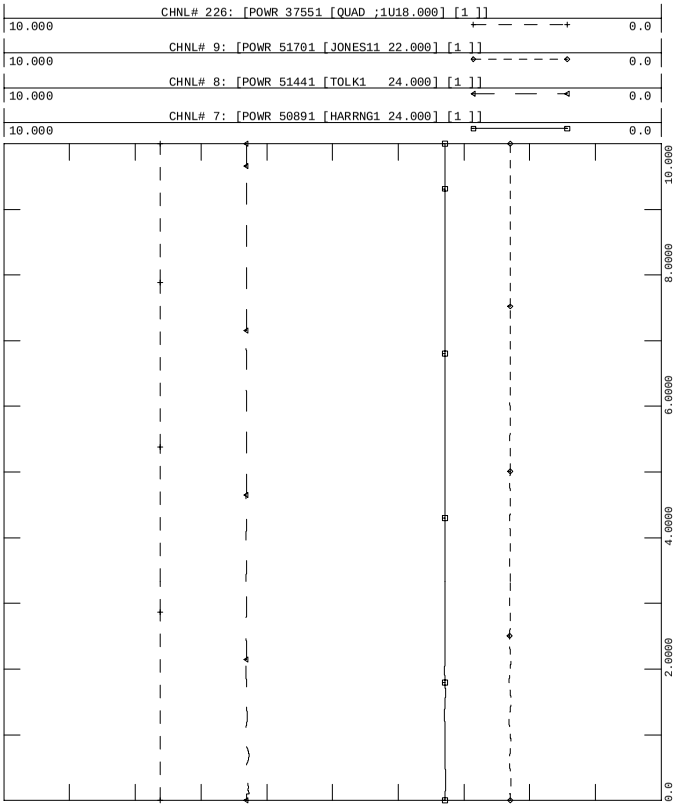
SPP: ROTOR ANGLE



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH.OUT

FRI, MAY 21 2004 10:31 15

SPP: PELEC



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH.OUT

FRI, MAY 21 2004 10:31 18

BRANCH FLOW

CHNL# 97: [POWR 51195 TO 52073 CKT 1]
300.00 -200.0

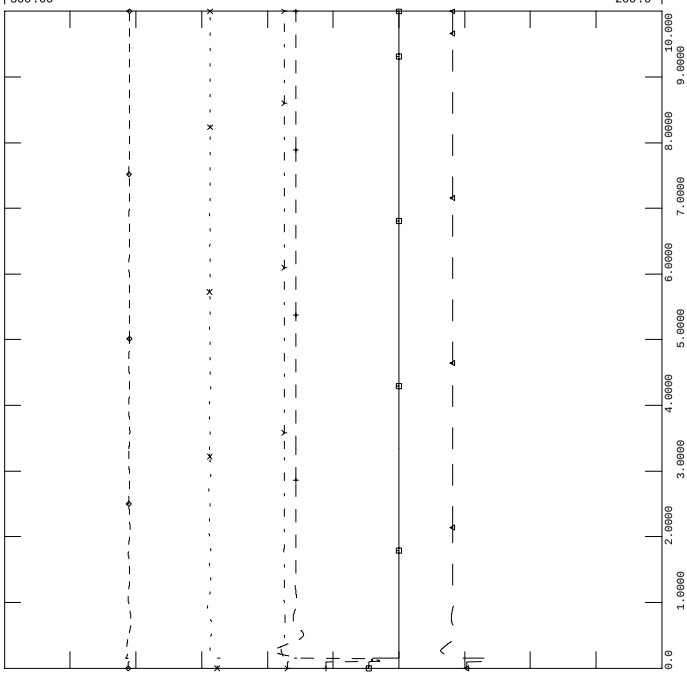
CHNL# 1179: [POWR 51435 TO 51533 CKT 1]
300.00 -200.0

CHNL# 1177: [POWR 99991 TO 51176 CKT 1]
300.00 -200.0

CHNL# 1175: [POWR 51440 TO 52186 CKT 1]
300.00 -200.0

CHNL# 1173: [POWR 51176 TO 51206 CKT 2]
300.00 -200.0

CHNL# 1169: [POWR 99991 TO 51076 CKT 1]
300.00 -200.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH.OUT

FRI, MAY 21 2004 10:31 20

DC LINE PNM

CHNL# 207: [VOLT 59995 [BLKWDC 230.00]]
1.1000 0.10000

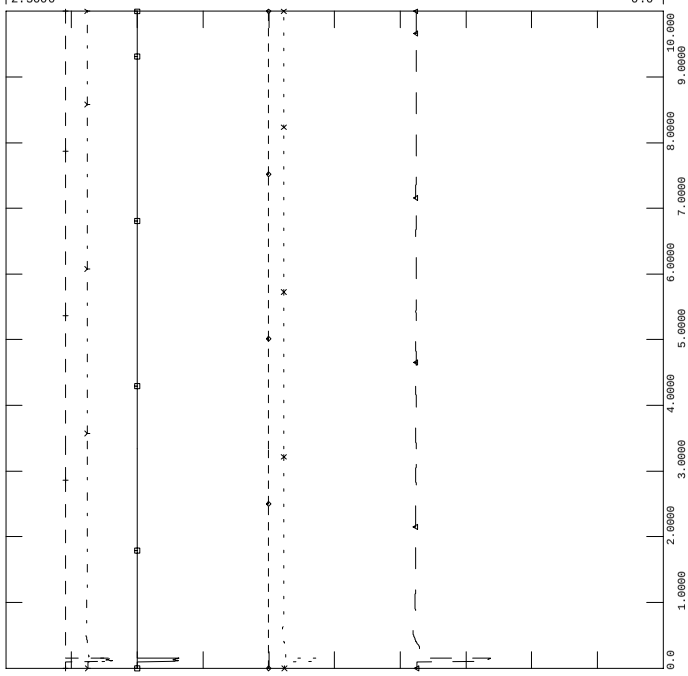
CHNL# 193: [DC LINE #2: ALPHA]
100.00 -100.0

CHNL# 192: [DC LINE #2: DC CURRENT]
4000.0 0.0

CHNL# 191: [DC LINE #2: VDCR]
65000. 40000.

CHNL# 187: [DC LINE #2: QACR]
2.5000 0.0

CHNL# 186: [DC LINE #2: PACR]
2.5000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH.OUT

FRI, MAY 21 2004 10:31 17

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
10.000 0.0

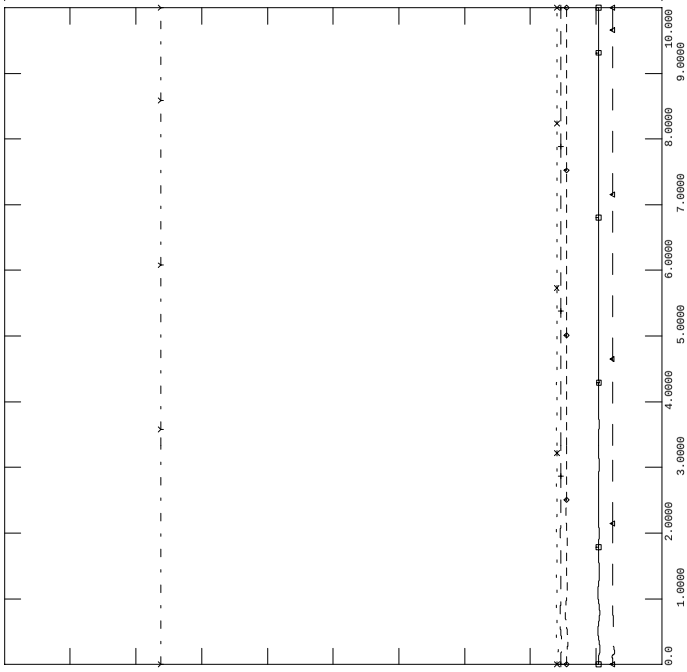
CHNL# 66: [POWR 52212 [CUNN21 20.000] [1]]
10.000 0.0

CHNL# 65: [POWR 51973 [MUSTG#3122.000] [1]]
10.000 0.0

CHNL# 64: [POWR 51971 [MUSTG#1113.800] [1]]
10.000 0.0

CHNL# 63: [POWR 51424 [PLANTX4 20.000] [1]]
10.000 0.0

CHNL# 62: [POWR 51423 [PLANTX3 13.800] [1]]
10.000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH.OUT

FRI, MAY 21 2004 10:31 19

DC LINE EPE

CHNL# 208: [VOLT 59996 [EPEDC 230.00]]
1.1000 0.10000

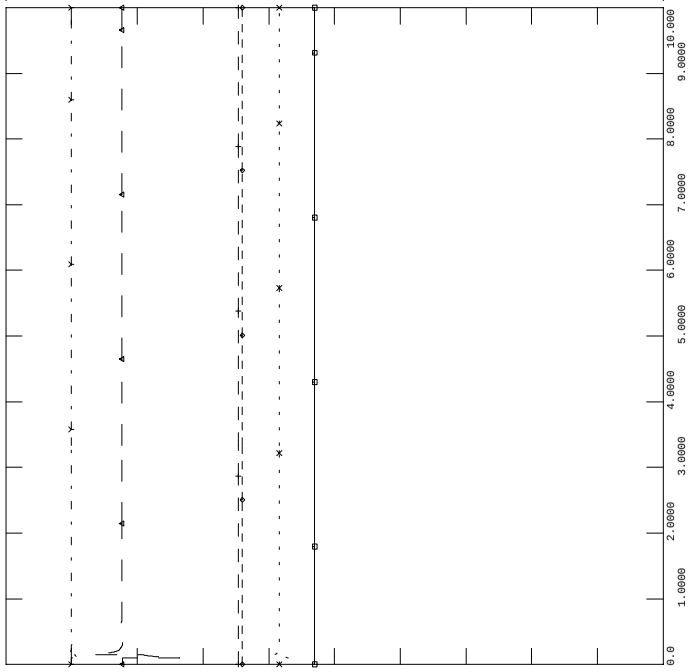
CHNL# 184: [DC LINE #1: ALFA]
100.00 -100.0

CHNL# 183: [DC LINE #1: DC CURRENT]
1000.0 0.0

CHNL# 182: [DC LINE #1: VDCR]
1.0000E5 50000.

CHNL# 178: [DC LINE #1: QACR]
0.25000 0.0

CHNL# 177: [DC LINE #1: PACR]
1.0000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE

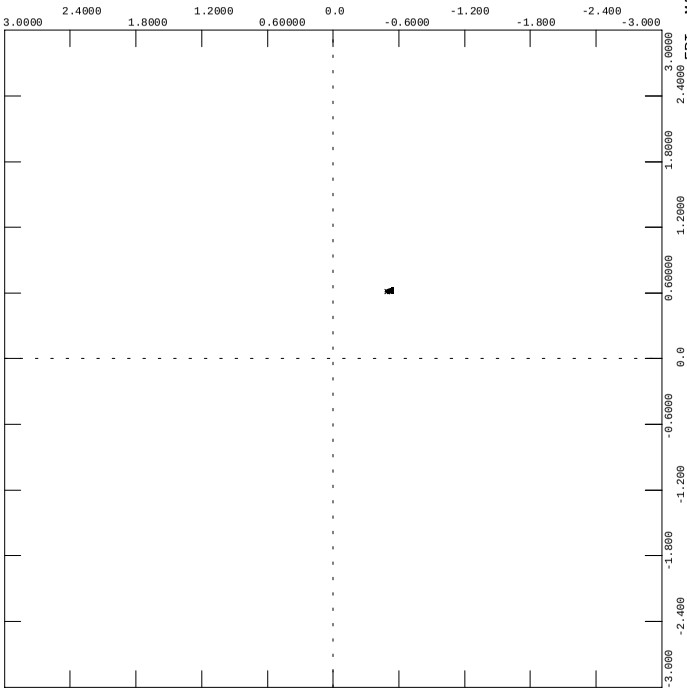
22

FRI, MAY 21 2004 10:31

POTTER-FINNEY

FILE: WI_FLT21PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 116: [APPX 50858 TO 50888 CKT 1]



CHNL# 115: [APPR 50858 TO 50888 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE

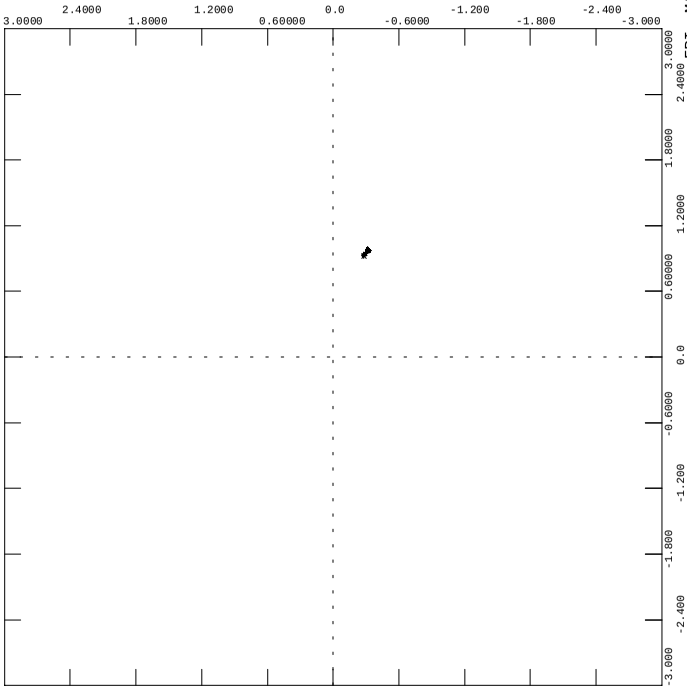
21

FRI, MAY 21 2004 10:31

FINNEY-HOLCOMB

FILE: WI_FLT21PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 114: [APPX 56449 TO 50858 CKT 1]



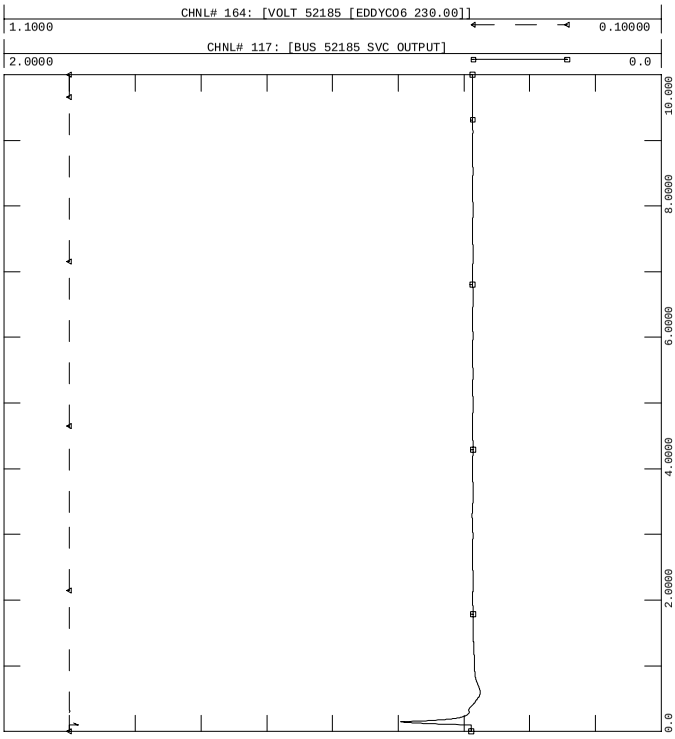
CHNL# 113: [APPR 56449 TO 50858 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH.OUT

23

FRI, MAY 21 2004 10:31

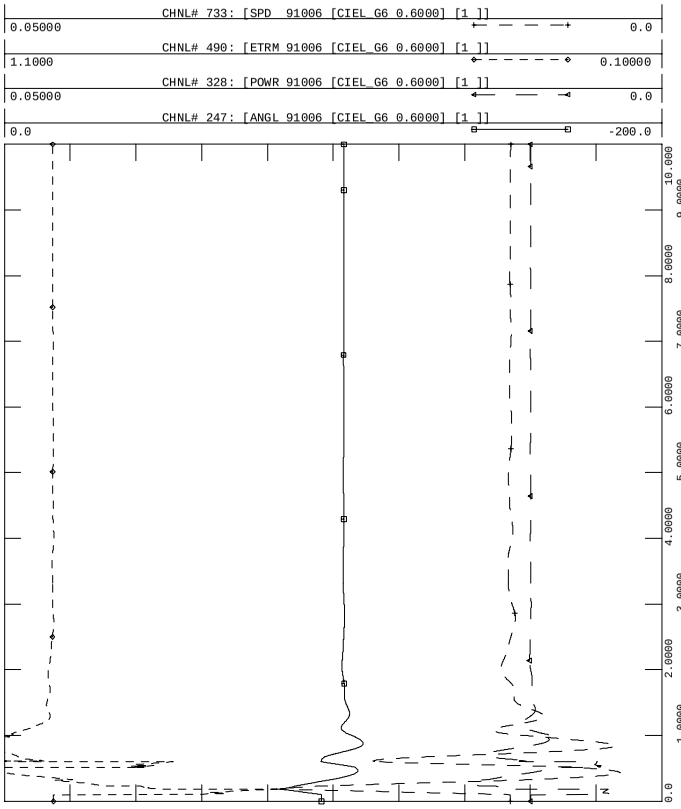
SVC OUTPUT



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH.OUT

FRI, MAY 21 2004 10:32 2

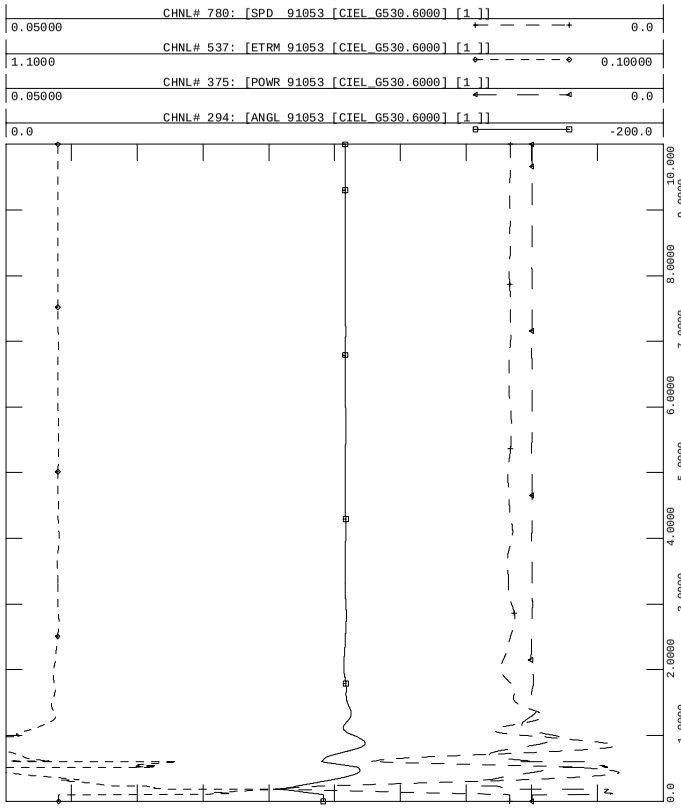
CIELO CABLE1 GEN6



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH.OUT

FRI, MAY 21 2004 10:32 4

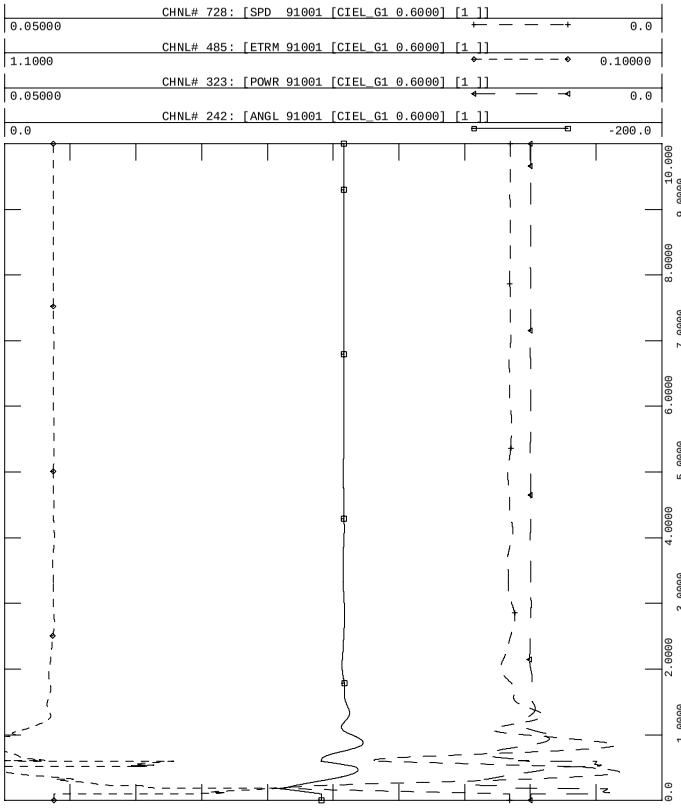
CIELO CABLE2 GEN53



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH.OUT

FRI, MAY 21 2004 10:32 1

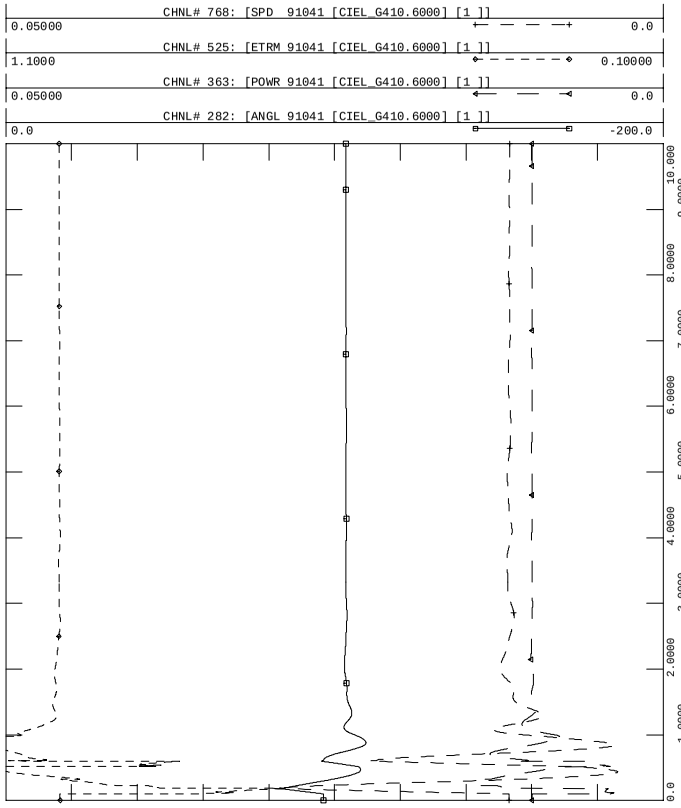
CIELO CABLE1 GEN1



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH.OUT

FRI, MAY 21 2004 10:32 3

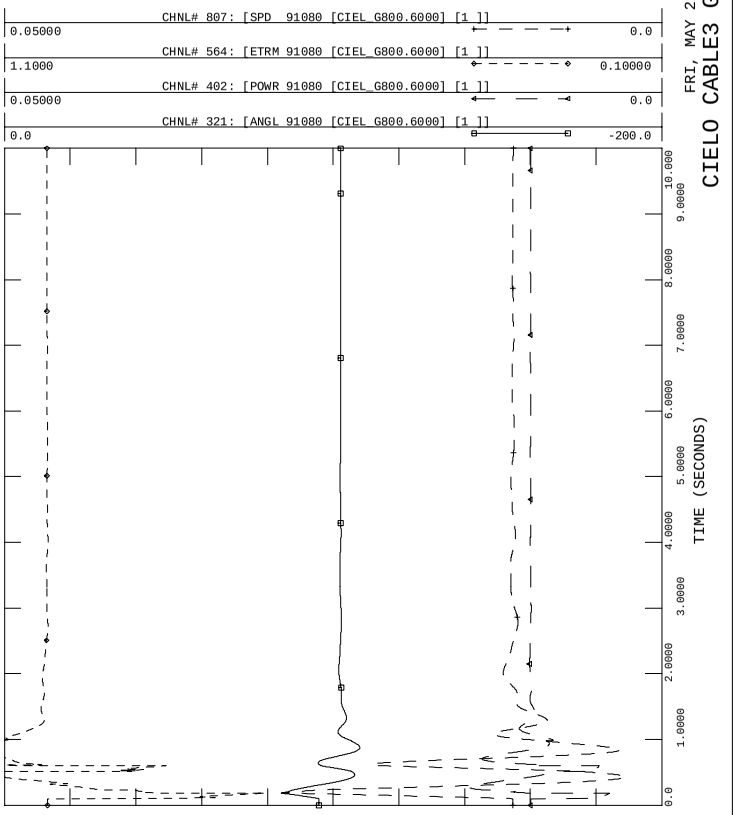
CIELO CABLE2 GEN41



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH.OUT

FRI, MAY 21 2004 10:32 6

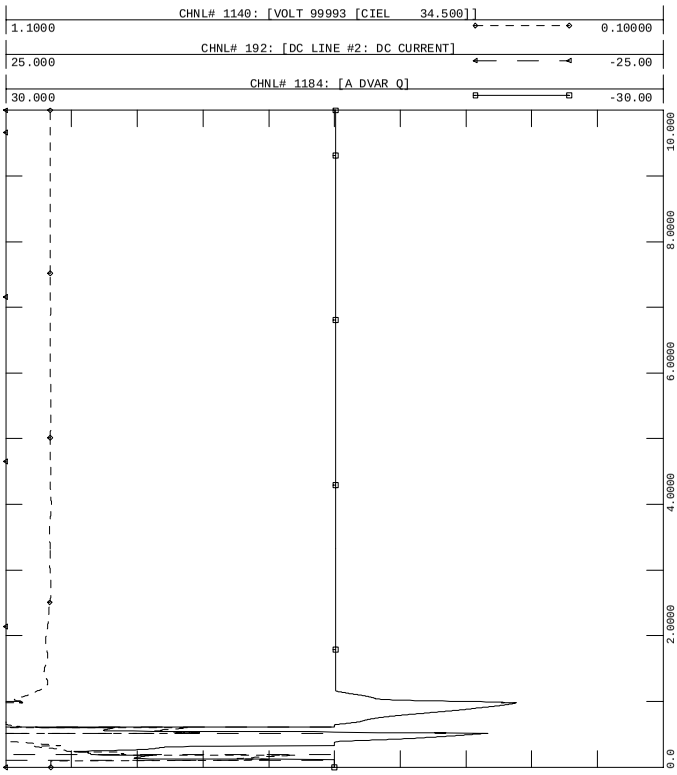
CIELO CABLE3 GEN80



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH.OUT

FRI, MAY 21 2004 10:32 8

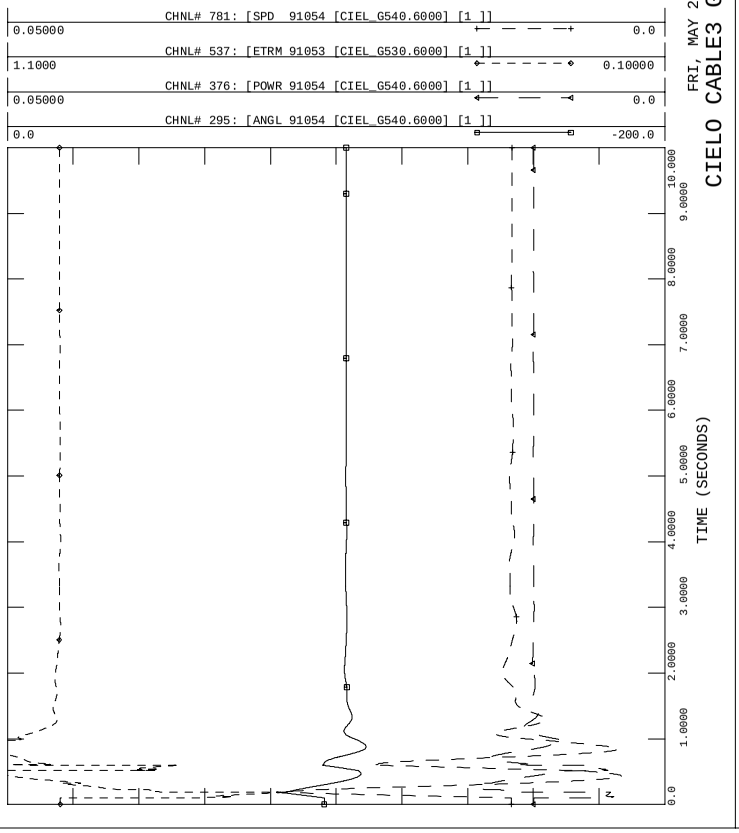
DVAR OUTPUT



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH.OUT

FRI, MAY 21 2004 10:32 5

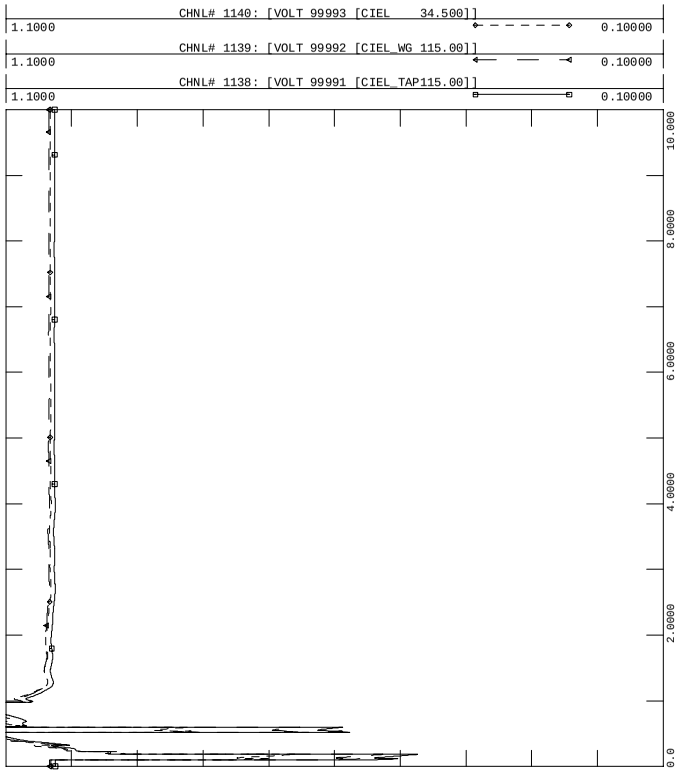
CIELO CABLE3 GEN54



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH.OUT

FRI, MAY 21 2004 10:32 7

CIELO VOLTAGE



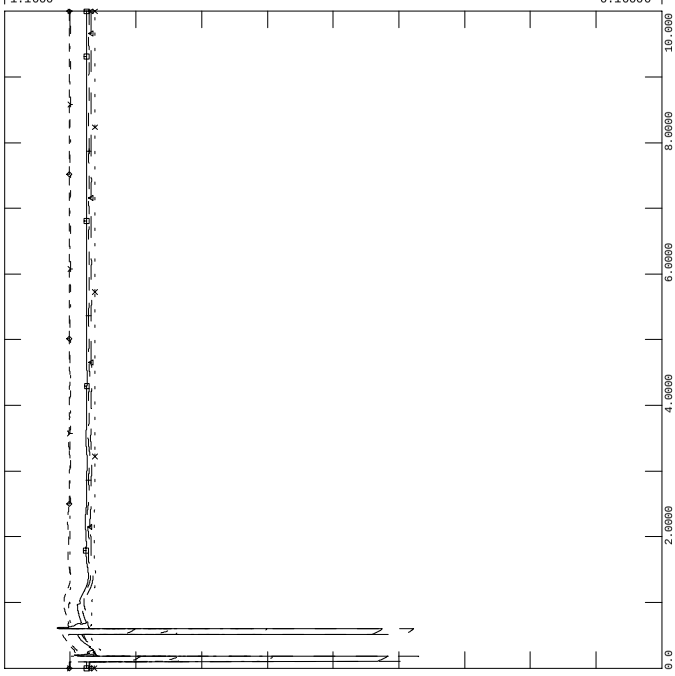
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH.OUT

FRI, MAY 21 2004 10:32

SPP:230 KV BUS VOLTAGE 10

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]
CHNL# 163: [VOLT 52073 [CHAVES6 230.00]]
CHNL# 149: [VOLT 51533 [TUCO6 230.00]]
CHNL# 144: [VOLT 51435 [TOLKE6 230.00]]
CHNL# 109: [VOLT 51195 [OASIS6 230.00]]
CHNL# 107: [VOLT 51205 [CLOVS 6230.00]]

1.1000 0.10000



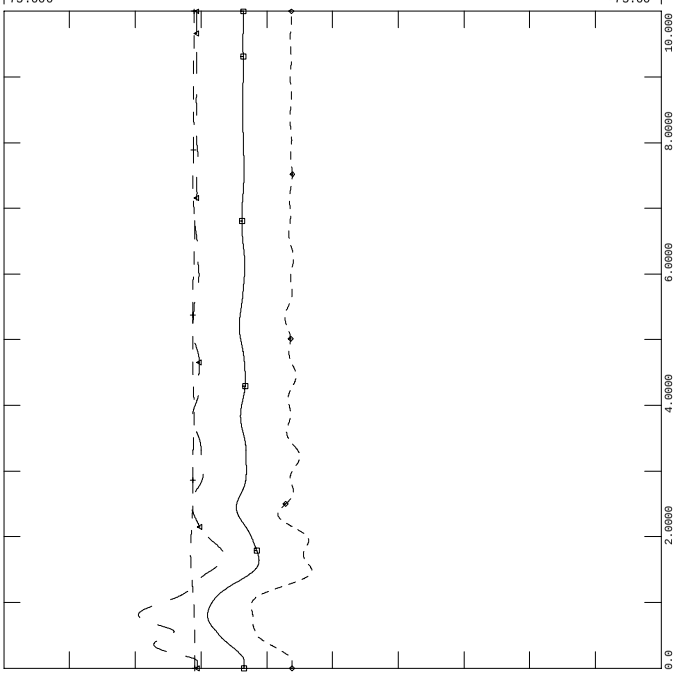
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH.OUT

FRI, MAY 21 2004 10:32

SPP: ROTOR ANGLE 12

CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]]
CHNL# 3: [ANGL 51701 [JONES11 22.000] [1]]
CHNL# 2: [ANGL 51441 [TOLK1 24.000] [1]]
CHNL# 1: [ANGL 50891 [HARRNG1 24.000] [1]]

75.000 -75.00



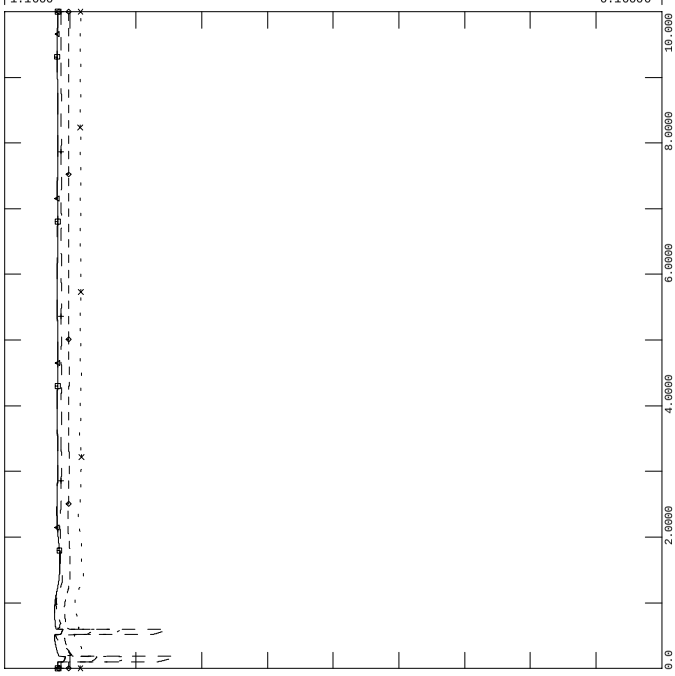
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH.OUT

FRI, MAY 21 2004 10:32

SPP:345 KV BUS VOLTAGE 9

CHNL# 150: [VOLT 51534 [TUCO7 345.00]]
CHNL# 147: [VOLT 51440 [TOLK7 345.00]]
CHNL# 39: [VOLT 50888 [POTTRC7 345.00]]
CHNL# 37: [VOLT 50858 [FINNEY7 345.00]]
CHNL# 35: [VOLT 56449 [HOLCOMB7345.00]]

1.1000 0.10000



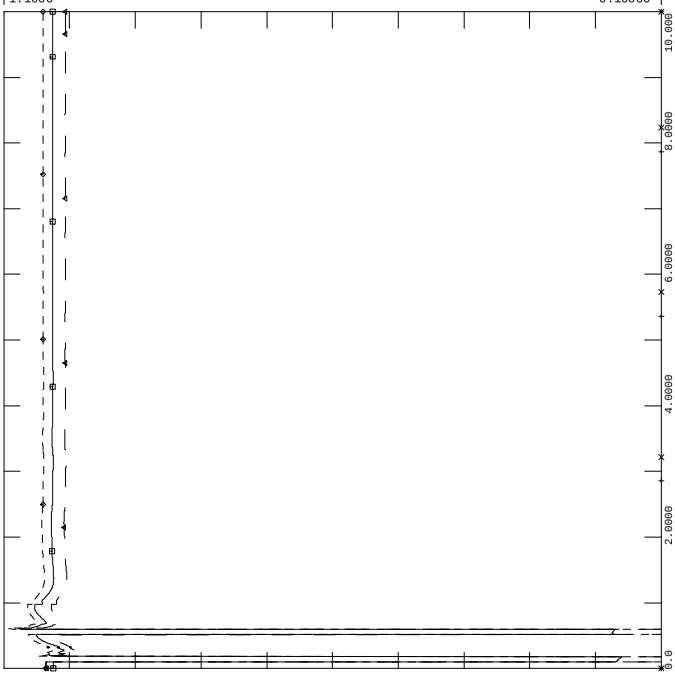
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH.OUT

FRI, MAY 21 2004 10:32

SPP:115 KV BUS VOLTAGE 11

CHNL# 279: [ANGL 91038 [CIEL_G380.6000] [1]]
CHNL# 278: [ANGL 91037 [CIEL_G370.6000] [1]]
CHNL# 141: [VOLT 51206 [CLOVISS 115.00]]
CHNL# 1167: [VOLT 51202 [ROOOSEVL 115.0]]
CHNL# 105: [VOLT 51176 [CURRY3 115.00]]

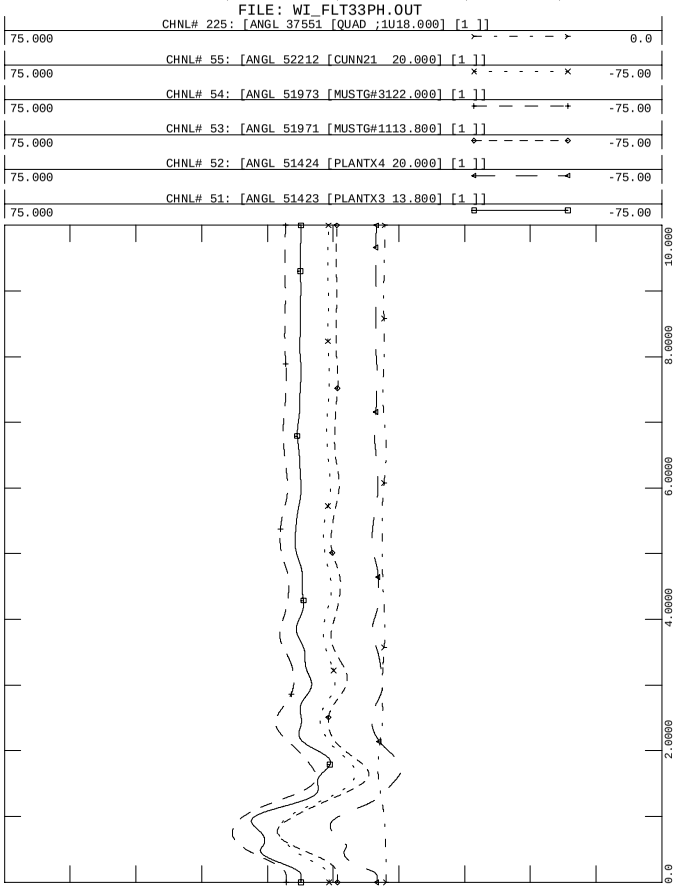
1.1000 0.10000



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH.OUT

FRI, MAY 21 2004 10:32 14

SPP: ROTOR ANGLE



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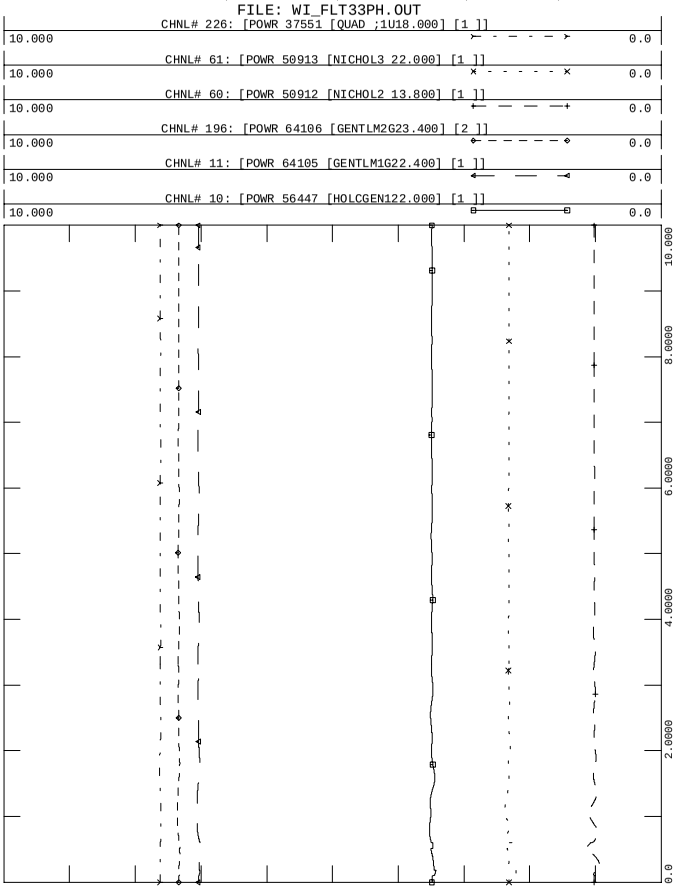
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH.OUT

FRI, MAY 21 2004 10:32 16

SPP: PELEC



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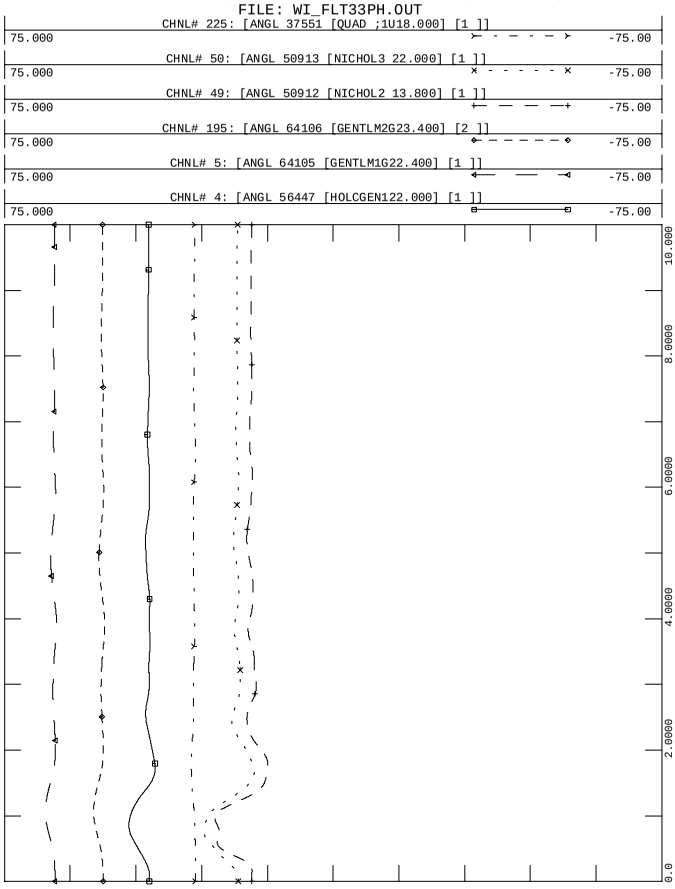
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH.OUT

FRI, MAY 21 2004 10:32 13

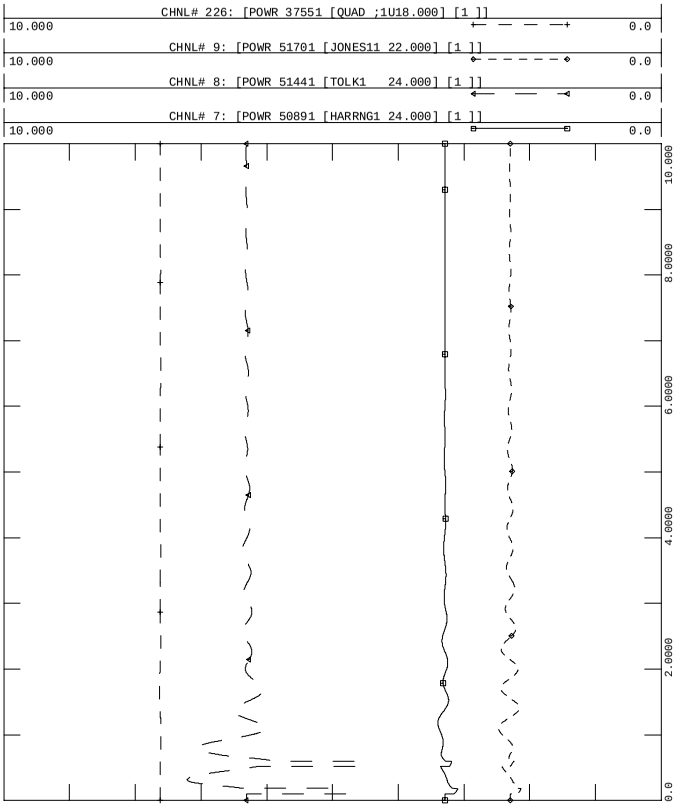
SPP: ROTOR ANGLE



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH.OUT

FRI, MAY 21 2004 10:32 15

SPP: PELEC



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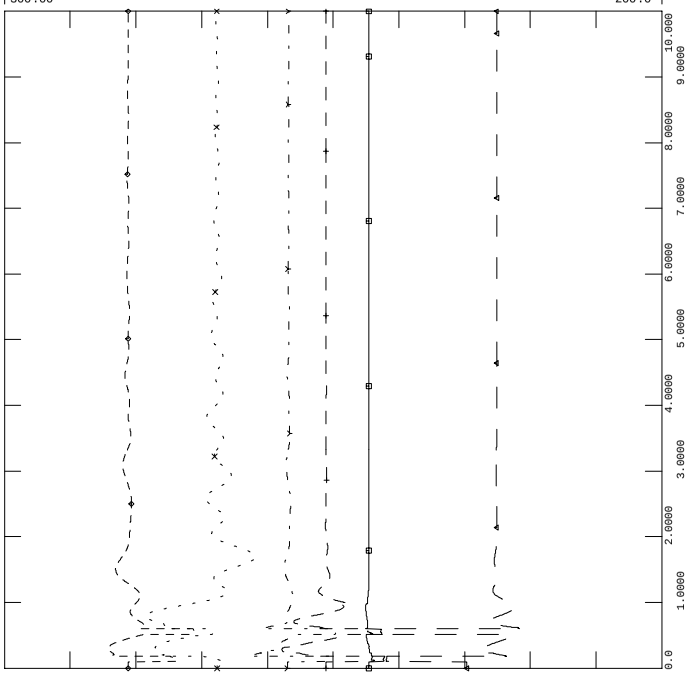
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH.OUT

FRI, MAY 21 2004 10:32 18

BRANCH FLOW

CHNL# 97: [POWR 51195 TO 52073 CKT 1] 300.00 -200.0
CHNL# 1179: [POWR 51435 TO 51533 CKT 1] 300.00 -200.0
CHNL# 1177: [POWR 99991 TO 51176 CKT 1] 300.00 -200.0
CHNL# 1175: [POWR 51440 TO 52186 CKT 1] 300.00 -200.0
CHNL# 1173: [POWR 51176 TO 51206 CKT 2] 300.00 -200.0
CHNL# 1169: [POWR 99991 TO 51076 CKT 1] 300.00 -200.0

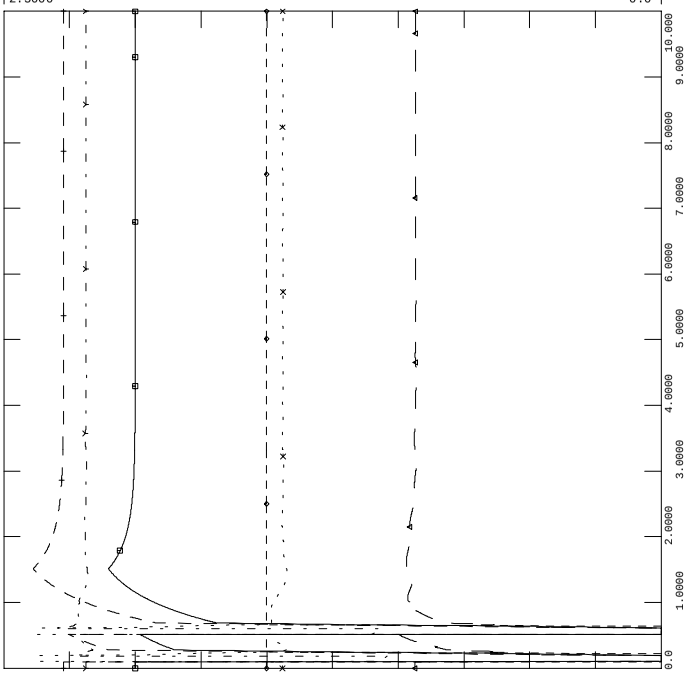


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH.OUT

FRI, MAY 21 2004 10:32 20

DC LINE PNM

CHNL# 207: [VOLT 59995 [BLKWDC 230.00]] 1.1000 0.10000
CHNL# 193: [DC LINE #2: ALPHA] 100.00 -100.0
CHNL# 192: [DC LINE #2: DC CURRENT] 4000.0 0.0
CHNL# 191: [DC LINE #2: VDCR] 65000. 40000.
CHNL# 187: [DC LINE #2: QACR] 2.5000 0.0
CHNL# 186: [DC LINE #2: PACR] 2.5000 0.0

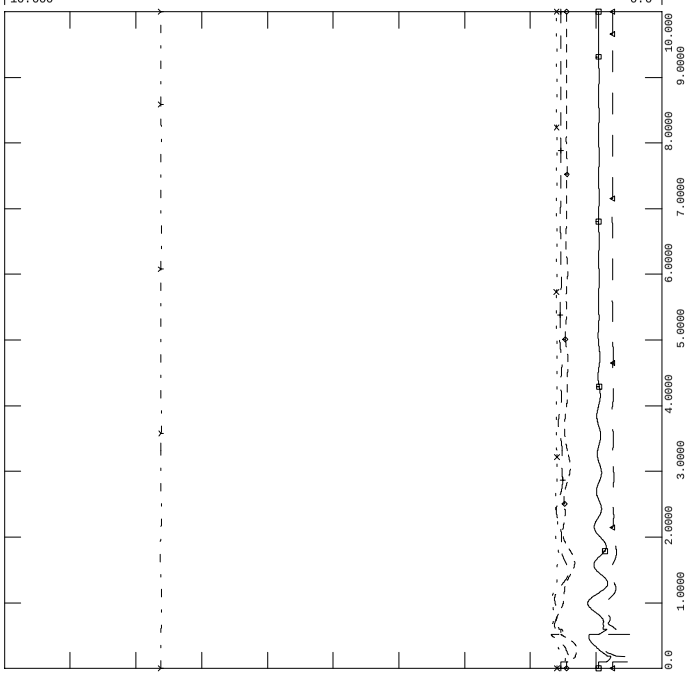


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH.OUT

FRI, MAY 21 2004 10:32 17

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]] 10.000 0.0
CHNL# 66: [POWR 52212 [CUNN21 20.000] [1]] 10.000 0.0
CHNL# 65: [POWR 51973 [MUSTG#3122.000] [1]] 10.000 0.0
CHNL# 64: [POWR 51971 [MUSTG#1113.800] [1]] 10.000 0.0
CHNL# 63: [POWR 51424 [PLANTX4 20.000] [1]] 10.000 0.0
CHNL# 62: [POWR 51423 [PLANTX3 13.800] [1]] 10.000 0.0



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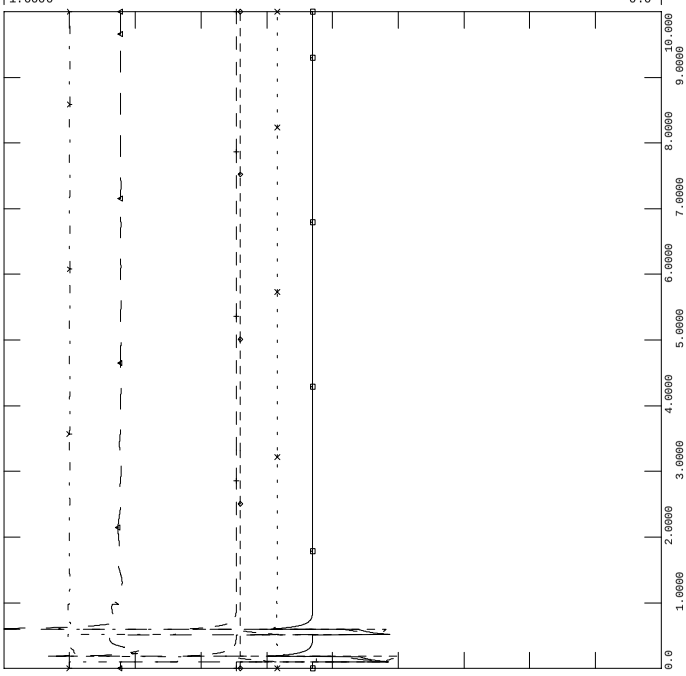
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH.OUT

FRI, MAY 21 2004 10:32 19

DC LINE EPE

CHNL# 208: [VOLT 59996 [EPEDC 230.00]] 1.1000 0.10000
CHNL# 184: [DC LINE #1: ALFA] 100.00 -100.0
CHNL# 183: [DC LINE #1: DC CURRENT] 1000.0 0.0
CHNL# 182: [DC LINE #1: VDCR] 1.0000E5 50000.
CHNL# 178: [DC LINE #1: QACR] 0.25000 0.0
CHNL# 177: [DC LINE #1: PACR] 1.0000 0.0



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80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

22

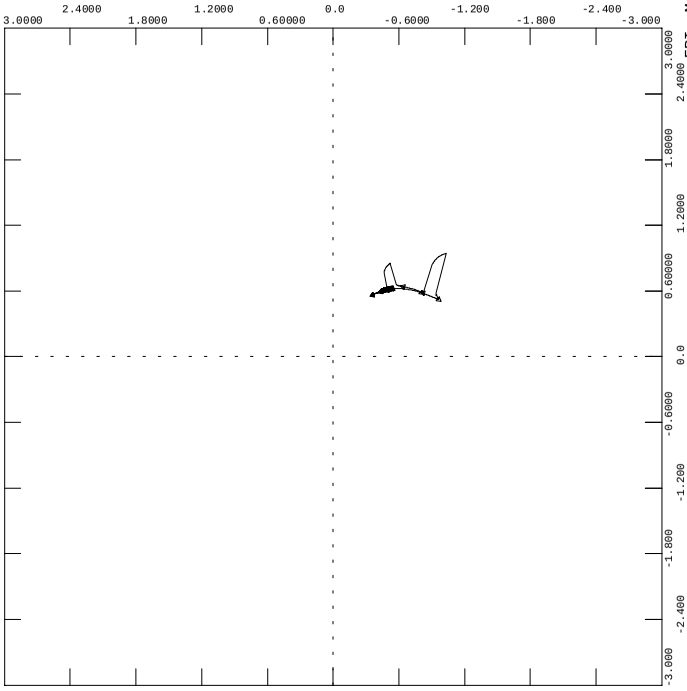
FRI, MAY 21 2004 10:32

POTTER-FINNEY

FILE: WI_FLT33PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25

CHNL# 116: [APPX 50858 TO 50888 CKT 1]



CHNL# 115: [APPR 50858 TO 50888 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
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FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

21

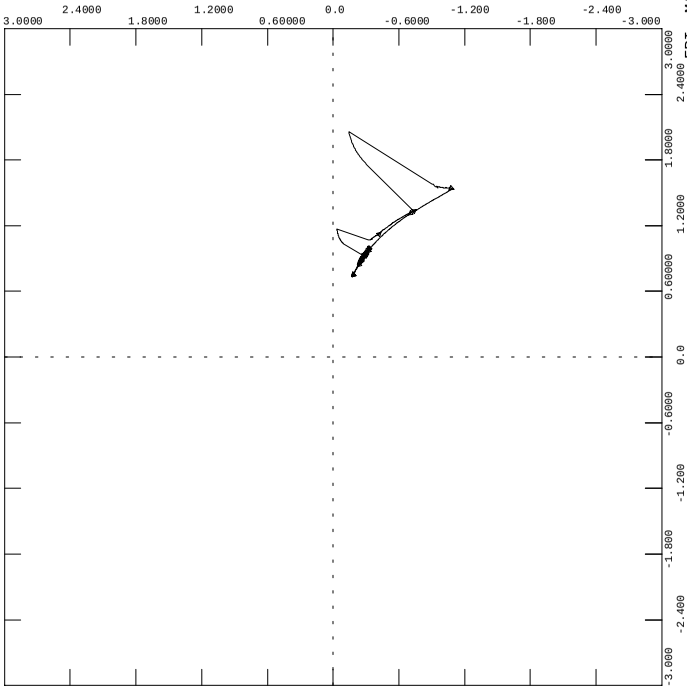
FRI, MAY 21 2004 10:32

FINNEY-HOLCOMB

FILE: WI_FLT33PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25

CHNL# 114: [APPX 56449 TO 50858 CKT 1]



CHNL# 113: [APPR 56449 TO 50858 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
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FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH.OUT

23

FRI, MAY 21 2004 10:32

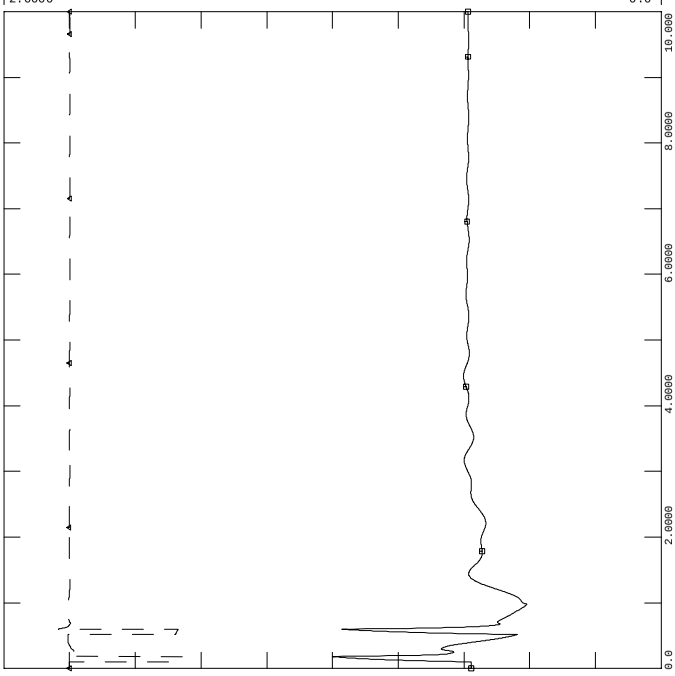
SVC OUTPUT

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]

1.1000 0.10000

CHNL# 117: [BUS 52185 SVC OUTPUT]

2.0000 0.0

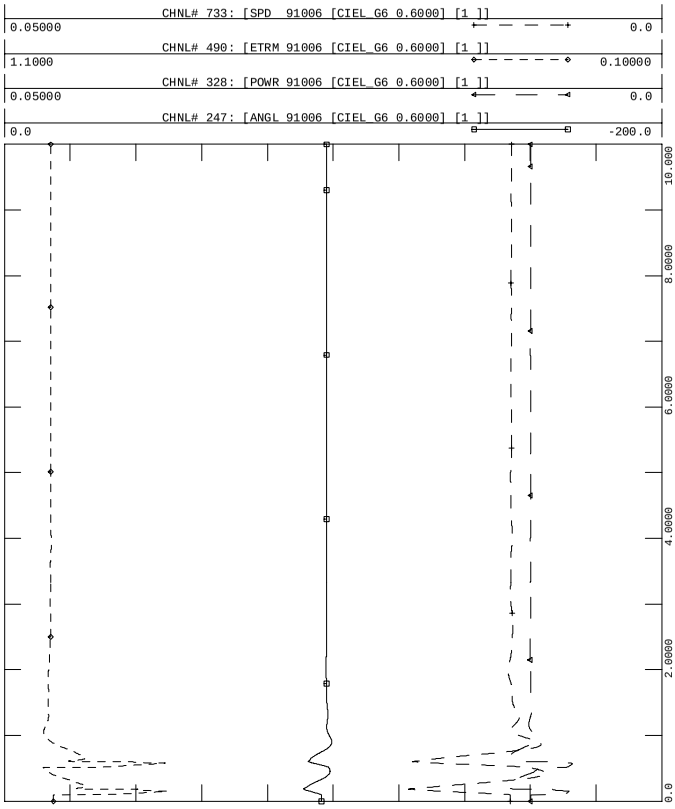


TIME (SECONDS)

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH.OUT

FRI, MAY 21 2004 10:32 2

CIELO CABLE1 GEN6



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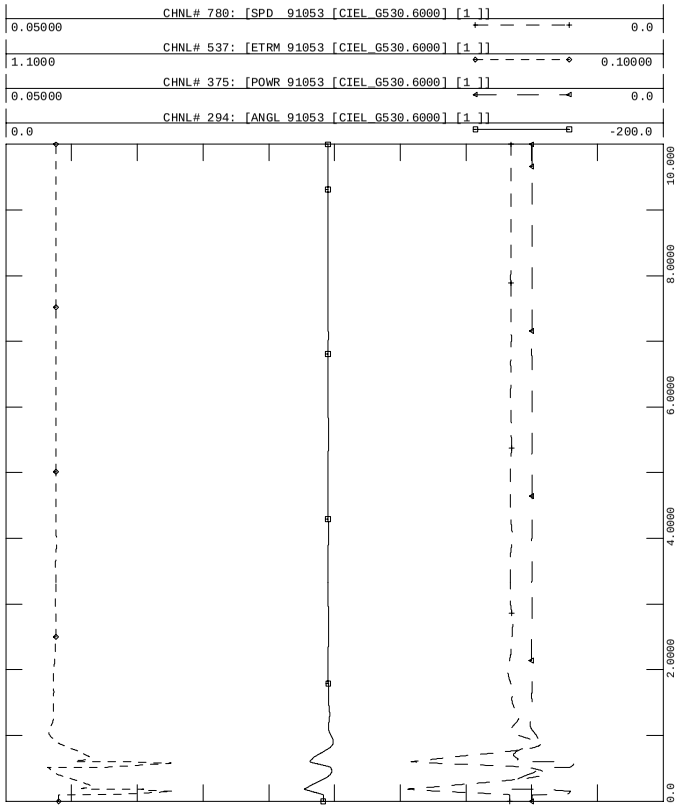
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH.OUT

FRI, MAY 21 2004 10:32 4

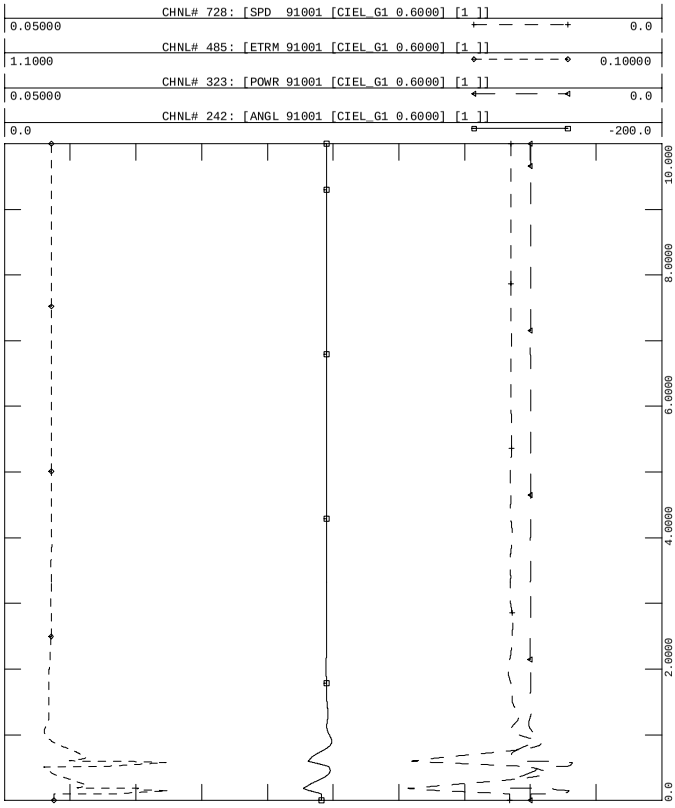
CIELO CABLE2 GEN53



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH.OUT

FRI, MAY 21 2004 10:32 1

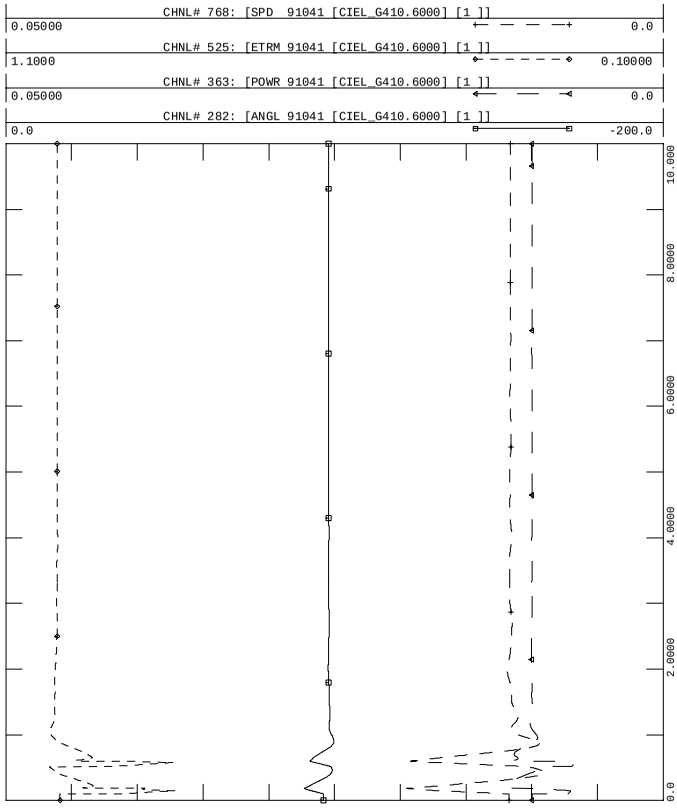
CIELO CABLE1 GEN1



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH.OUT

FRI, MAY 21 2004 10:32 3

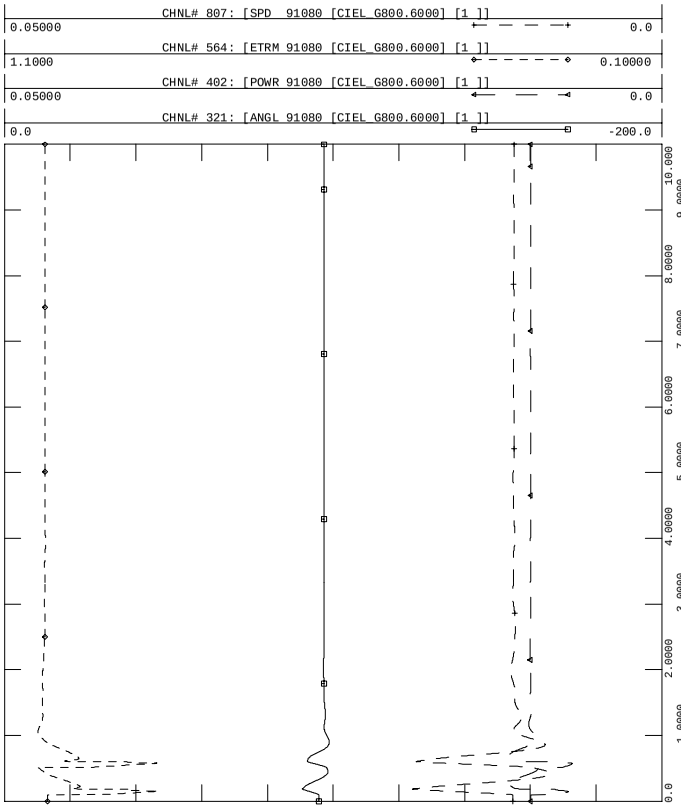
CIELO CABLE2 GEN41



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH.OUT

FRI, MAY 21 2004 10:32 6

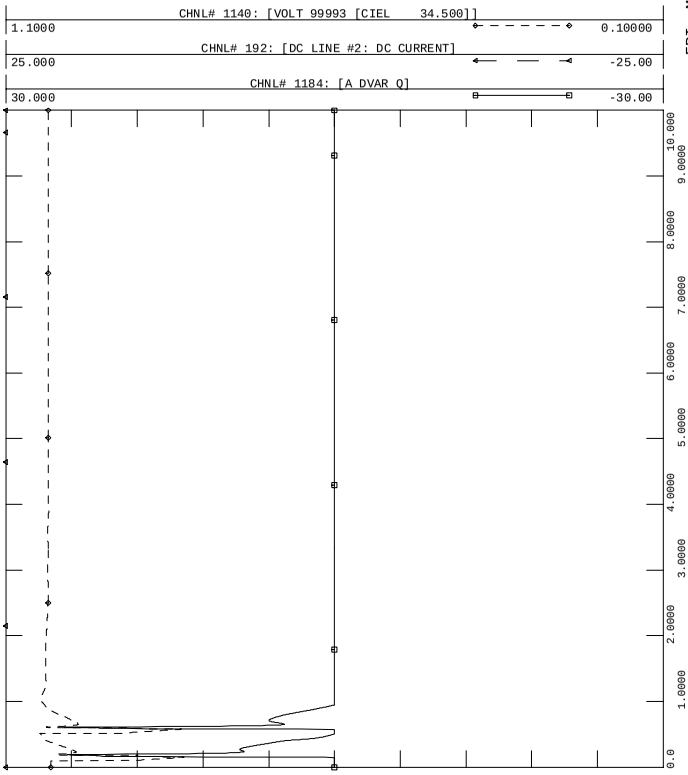
CIELO CABLE3 GEN80



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH.OUT

FRI, MAY 21 2004 10:32 8

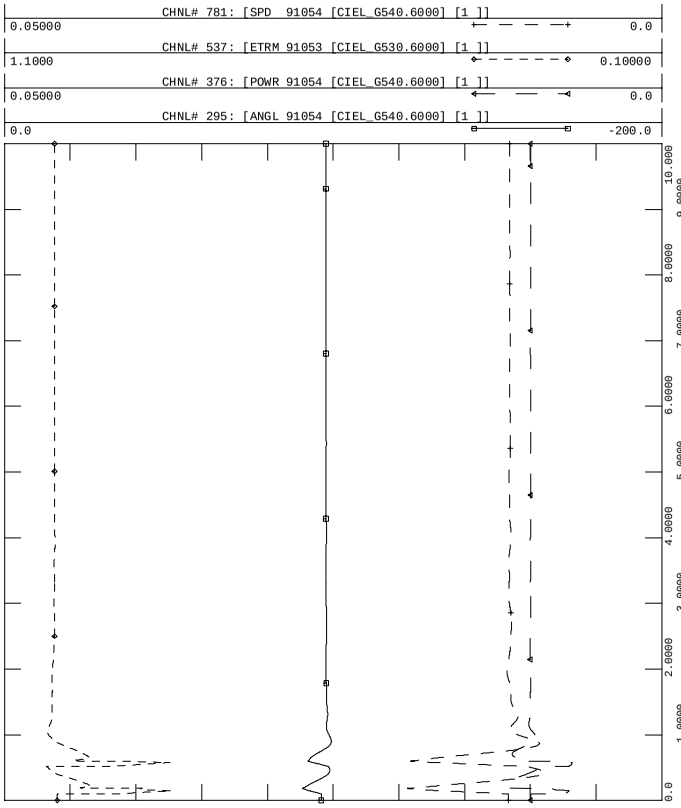
DVAR OUTPUT



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH.OUT

FRI, MAY 21 2004 10:32 5

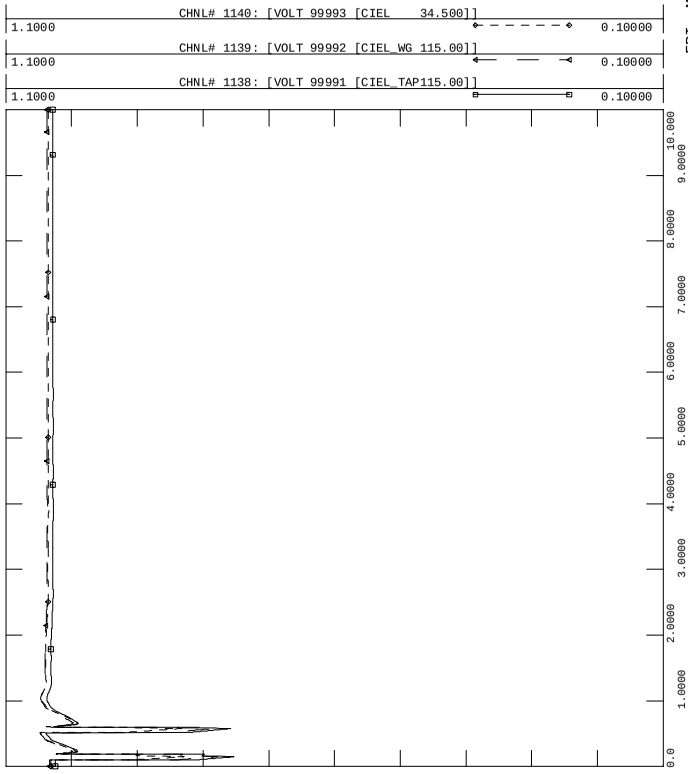
CIELO CABLE3 GEN54



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH.OUT

FRI, MAY 21 2004 10:32 7

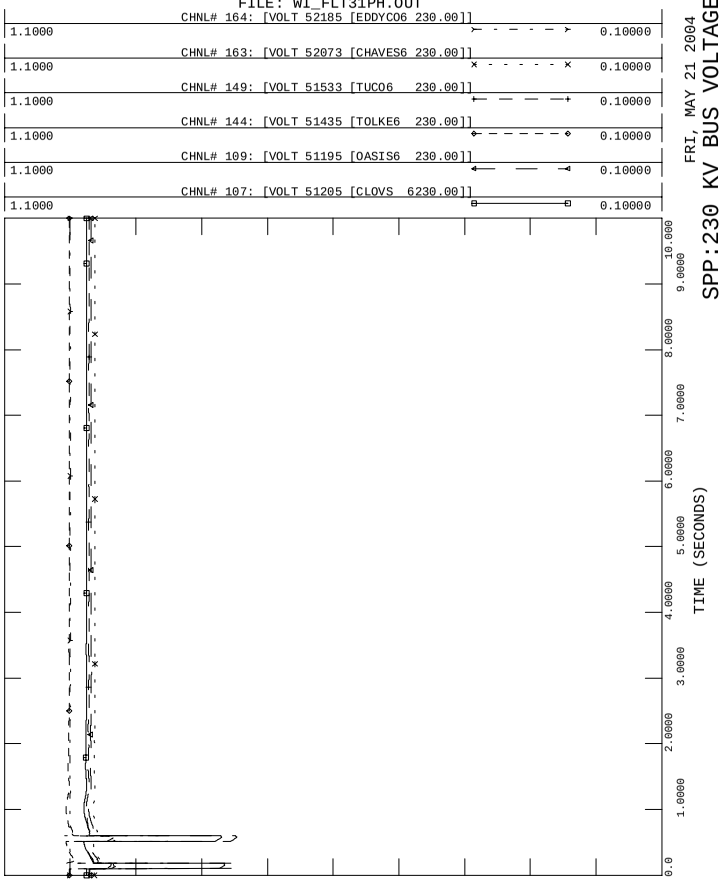
CIELO VOLTAGE



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH.OUT

FRI, MAY 21 2004 10:32

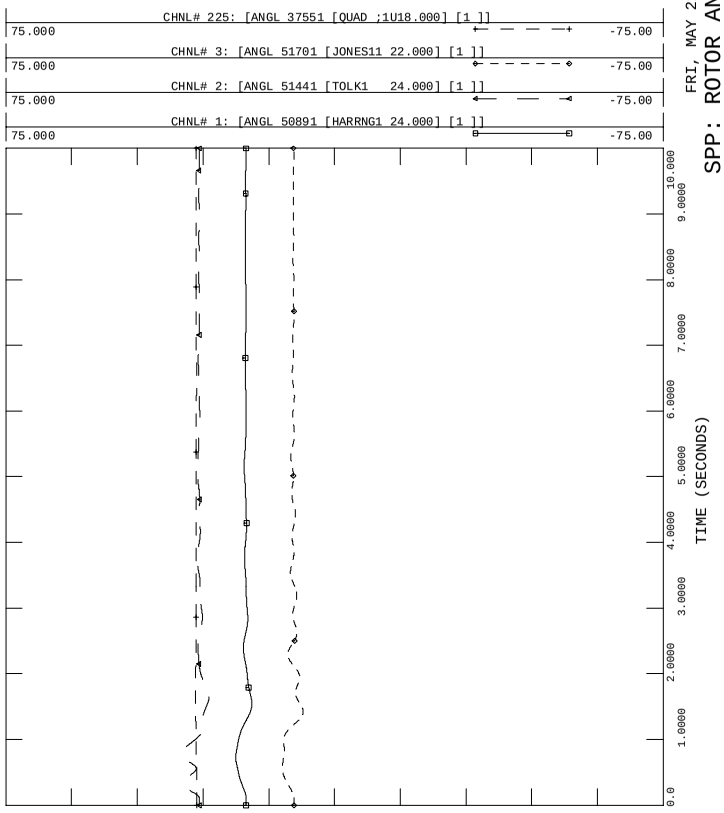
SPP:230 KV BUS VOLTAGE 10



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH.OUT

FRI, MAY 21 2004 10:32

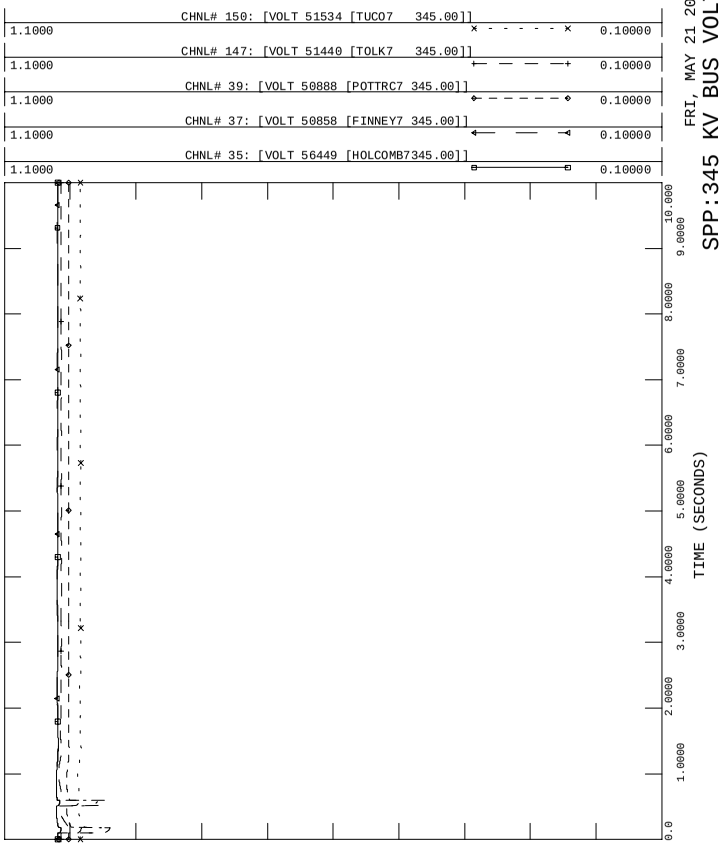
SPP: ROTOR ANGLE 12



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH.OUT

FRI, MAY 21 2004 10:32

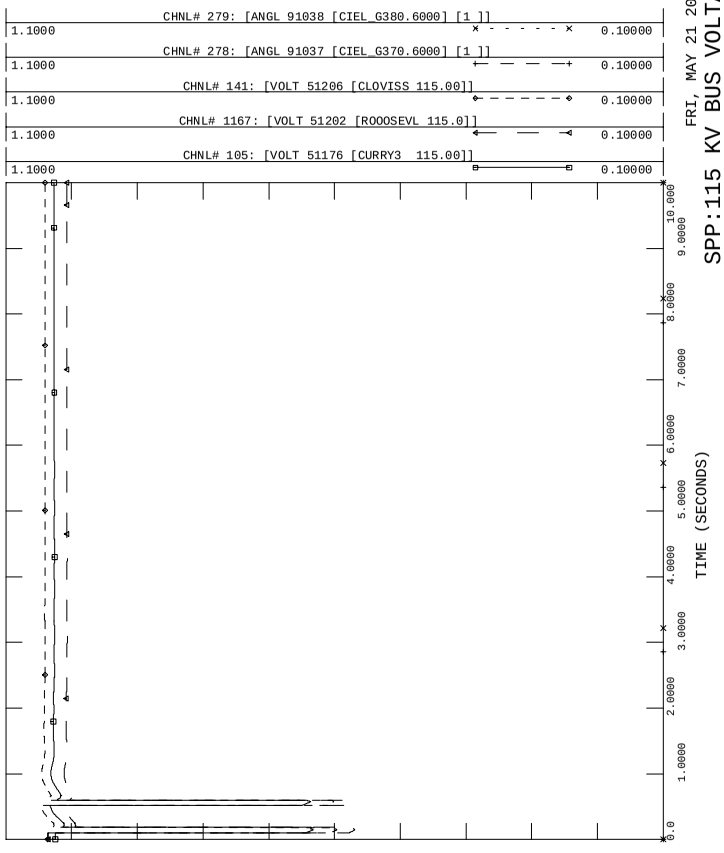
SPP:345 KV BUS VOLTAGE 9



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH.OUT

FRI, MAY 21 2004 10:32

SPP:115 KV BUS VOLTAGE 11

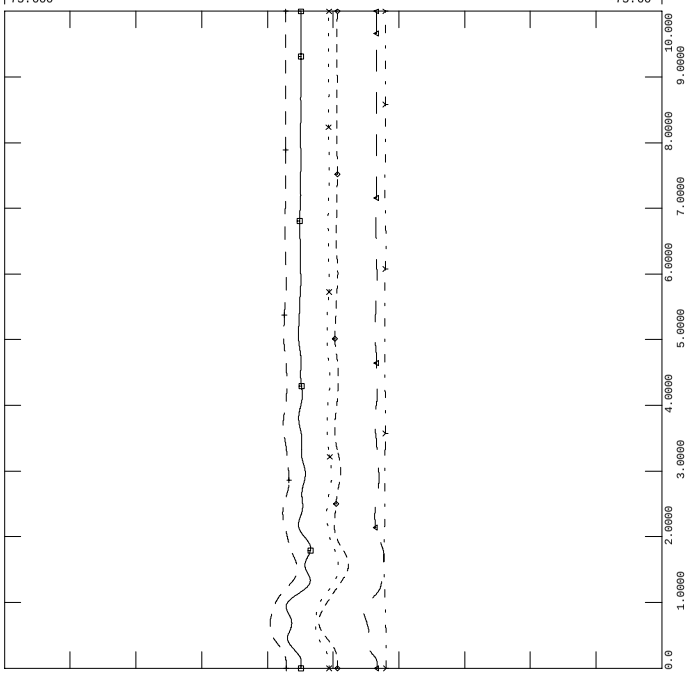


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH.OUT

FRI, MAY 21 2004 10:32 14

SPP: ROTOR ANGLE

CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]] 75.000 0.0
CHNL# 55: [ANGL 52212 [CUNN21 20.000] [1]] 75.000 -75.00
CHNL# 54: [ANGL 51973 [MUSTG#3122.000] [1]] 75.000 -75.00
CHNL# 53: [ANGL 51971 [MUSTG#1113.800] [1]] 75.000 -75.00
CHNL# 52: [ANGL 51424 [PLANTX4 20.000] [1]] 75.000 -75.00
CHNL# 51: [ANGL 51423 [PLANTX3 13.800] [1]] 75.000 -75.00

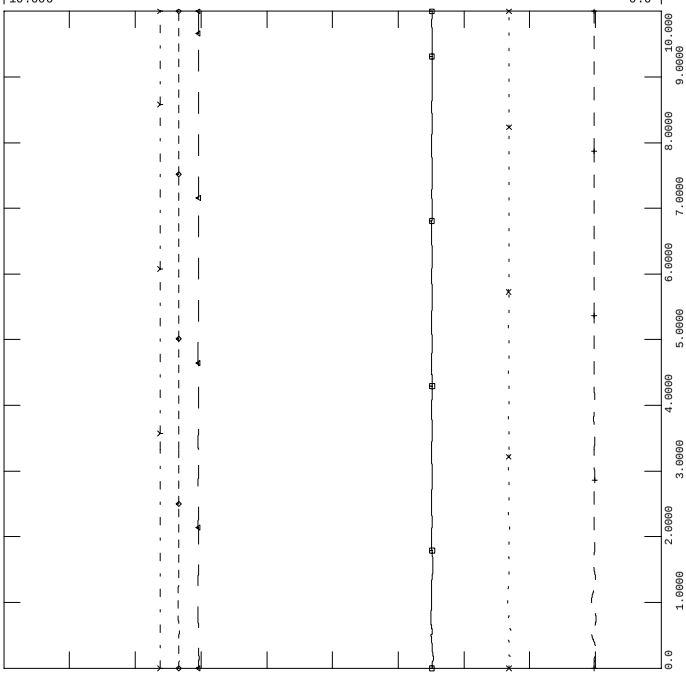


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH.OUT

FRI, MAY 21 2004 10:32 16

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]] 10.000 0.0
CHNL# 61: [POWR 50913 [NICHOL3 22.000] [1]] 10.000 0.0
CHNL# 60: [POWR 50912 [NICHOL2 13.800] [1]] 10.000 0.0
CHNL# 196: [POWR 64106 [GENTLM2G23.400] [2]] 10.000 0.0
CHNL# 11: [POWR 64105 [GENTLM1G22.400] [1]] 10.000 0.0
CHNL# 10: [POWR 56447 [HOLCGEN122.000] [1]] 10.000 0.0

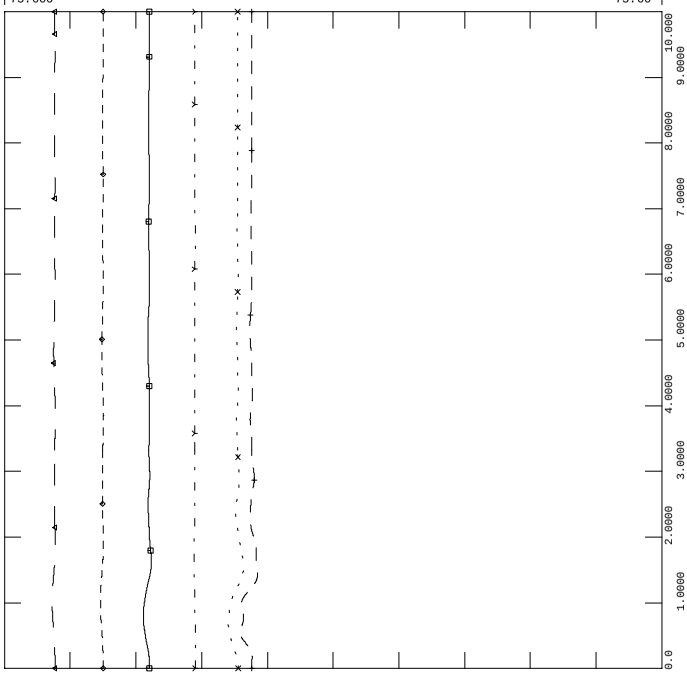


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH.OUT

FRI, MAY 21 2004 10:32 13

SPP: ROTOR ANGLE

CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]] 75.000 -75.00
CHNL# 50: [ANGL 50913 [NICHOL3 22.000] [1]] 75.000 -75.00
CHNL# 49: [ANGL 50912 [NICHOL2 13.800] [1]] 75.000 -75.00
CHNL# 195: [ANGL 64106 [GENTLM2G23.400] [2]] 75.000 -75.00
CHNL# 5: [ANGL 64105 [GENTLM1G22.400] [1]] 75.000 -75.00
CHNL# 4: [ANGL 56447 [HOLCGEN122.000] [1]] 75.000 -75.00

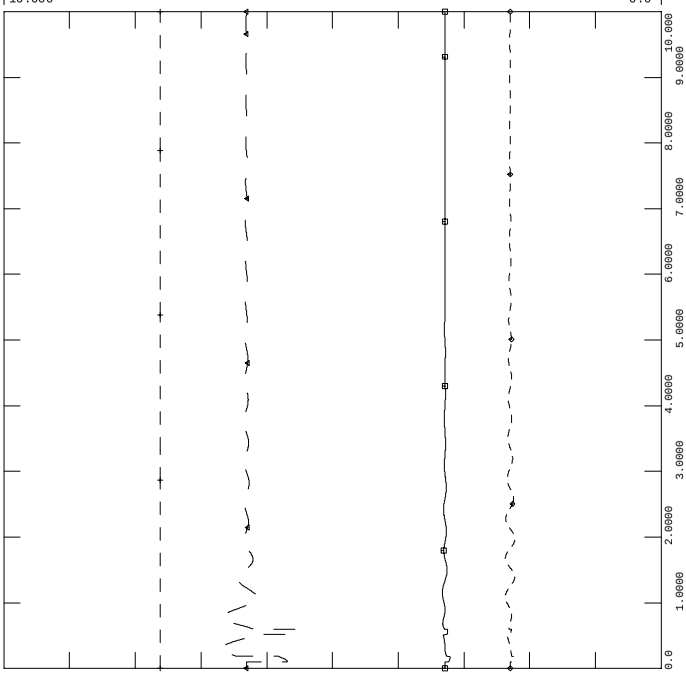


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH.OUT

FRI, MAY 21 2004 10:32 15

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]] 10.000 0.0
CHNL# 9: [POWR 51701 [JONES11 22.000] [1]] 10.000 0.0
CHNL# 8: [POWR 51441 [TOLK1 24.000] [1]] 10.000 0.0
CHNL# 7: [POWR 50891 [HARRNG1 24.000] [1]] 10.000 0.0

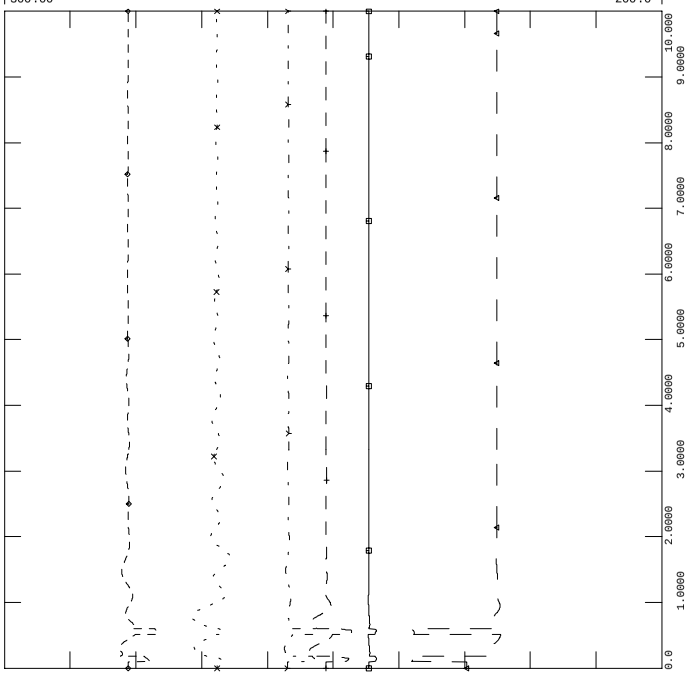


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH.OUT

FRI, MAY 21 2004 10:32 18

BRANCH FLOW

CHNL# 97: [POWR 51195 TO 52073 CKT 1] 300.00 -200.0
CHNL# 1179: [POWR 51435 TO 51533 CKT 1] 300.00 -200.0
CHNL# 1177: [POWR 99991 TO 51176 CKT 1] 300.00 -200.0
CHNL# 1175: [POWR 51440 TO 52186 CKT 1] 300.00 -200.0
CHNL# 1173: [POWR 51176 TO 51206 CKT 2] 300.00 -200.0
CHNL# 1169: [POWR 99991 TO 51076 CKT 1] 300.00 -200.0

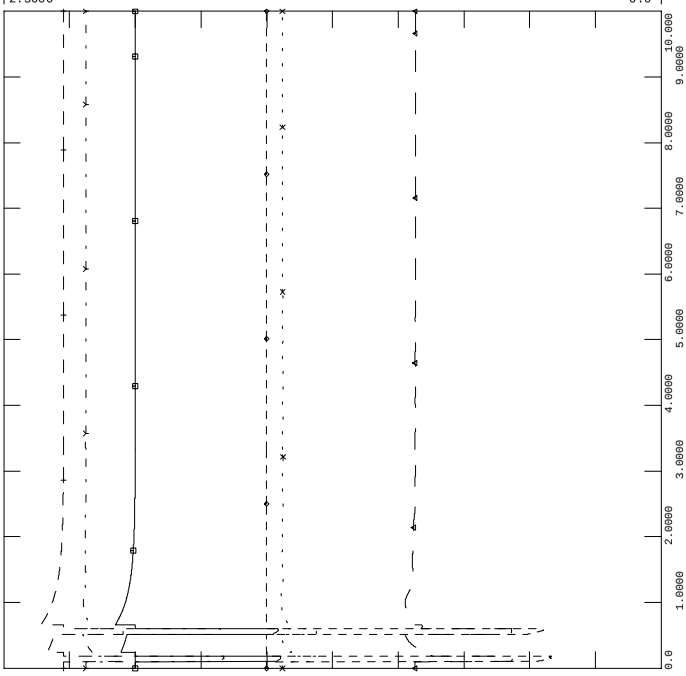


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH.OUT

FRI, MAY 21 2004 10:32 20

DC LINE PNM

CHNL# 207: [VOLT 59995 [BLKWDC 230.00]] 1.1000 0.10000
CHNL# 193: [DC LINE #2: ALPHA] 100.00 -100.0
CHNL# 192: [DC LINE #2: DC CURRENT] 4000.0 0.0
CHNL# 191: [DC LINE #2: VDCR] 65000. 40000.
CHNL# 187: [DC LINE #2: QACR] 2.5000 0.0
CHNL# 186: [DC LINE #2: PACR] 2.5000 0.0

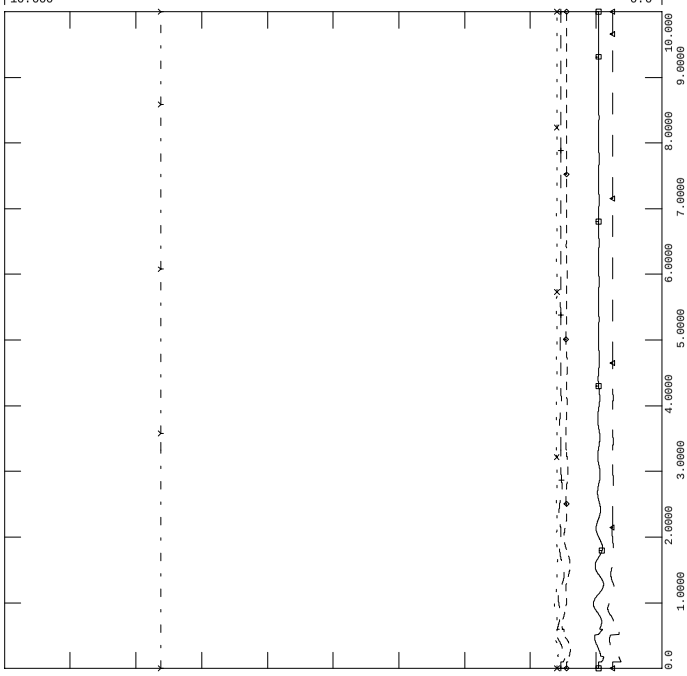


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH.OUT

FRI, MAY 21 2004 10:32 17

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]] 10.000 0.0
CHNL# 66: [POWR 52212 [CUNN21 20.000] [1]] 10.000 0.0
CHNL# 65: [POWR 51973 [MUSTG#3122.000] [1]] 10.000 0.0
CHNL# 64: [POWR 51971 [MUSTG#1113.800] [1]] 10.000 0.0
CHNL# 63: [POWR 51424 [PLANTX4 20.000] [1]] 10.000 0.0
CHNL# 62: [POWR 51423 [PLANTX3 13.800] [1]] 10.000 0.0

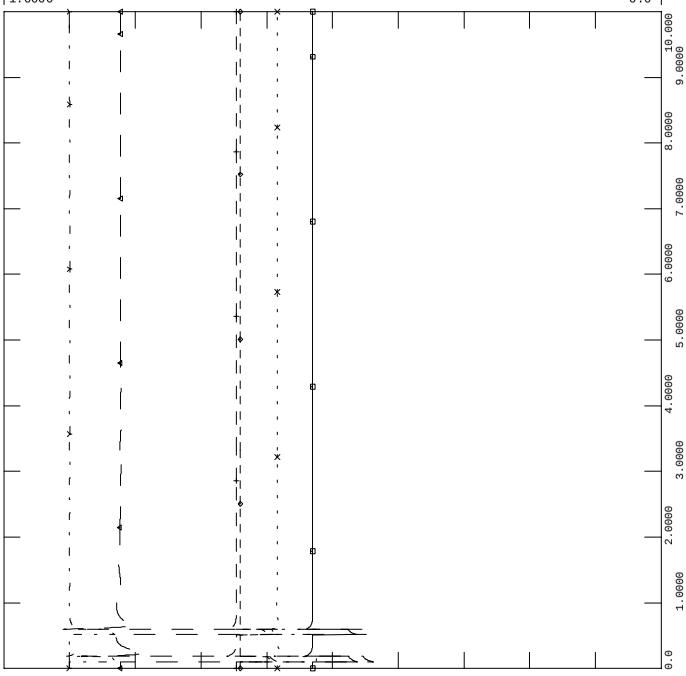


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH.OUT

FRI, MAY 21 2004 10:32 19

DC LINE EPE

CHNL# 208: [VOLT 59996 [EPEDC 230.00]] 1.1000 0.10000
CHNL# 184: [DC LINE #1: ALFA] 100.00 -100.0
CHNL# 183: [DC LINE #1: DC CURRENT] 1000.0 0.0
CHNL# 182: [DC LINE #1: VDCR] 1.0000E5 50000.
CHNL# 178: [DC LINE #1: QACR] 0.25000 0.0
CHNL# 177: [DC LINE #1: PACR] 1.0000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

22

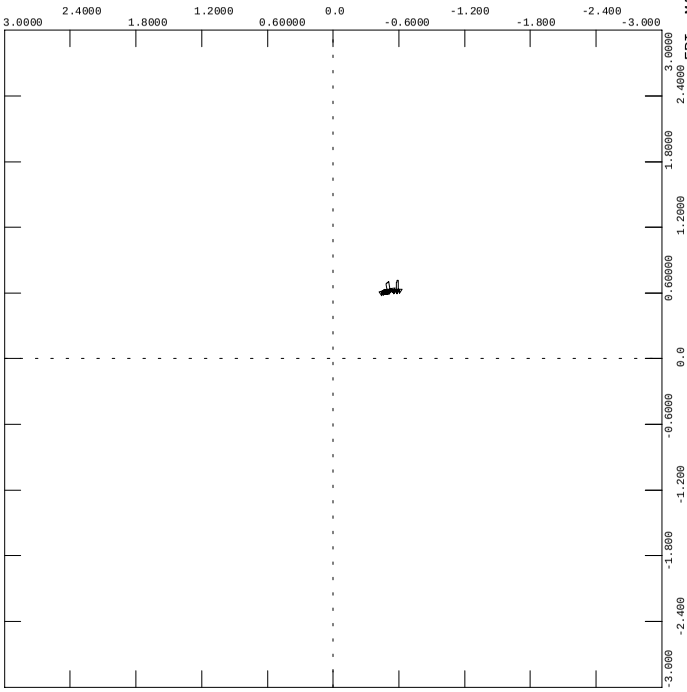
FRI, MAY 21 2004 10:32

POTTER-FINNEY

FILE: WI_FLT31PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25

CHNL# 116: [APPX 50858 TO 50888 CKT 1]



CHNL# 115: [APPR 50858 TO 50888 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

21

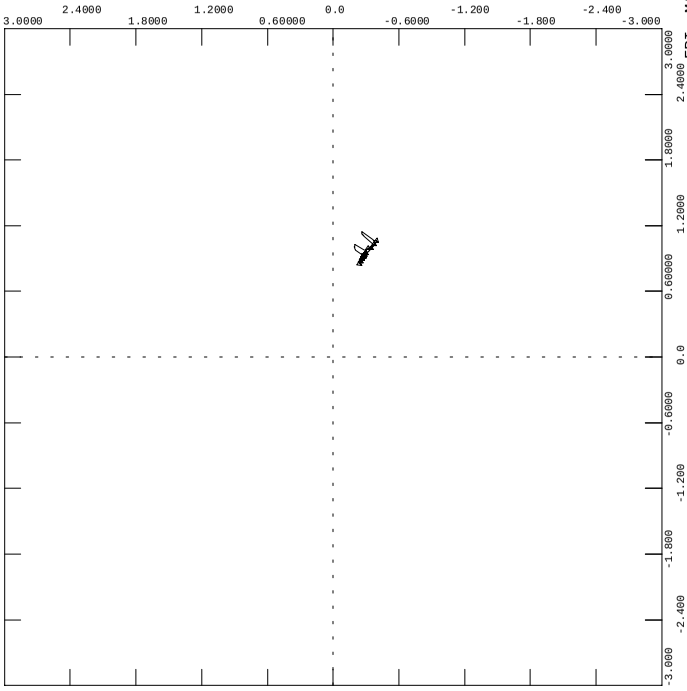
FRI, MAY 21 2004 10:32

FINNEY-HOLCOMB

FILE: WI_FLT31PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25

CHNL# 114: [APPX 56449 TO 50858 CKT 1]



CHNL# 113: [APPR 56449 TO 50858 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH.OUT

23

FRI, MAY 21 2004 10:32

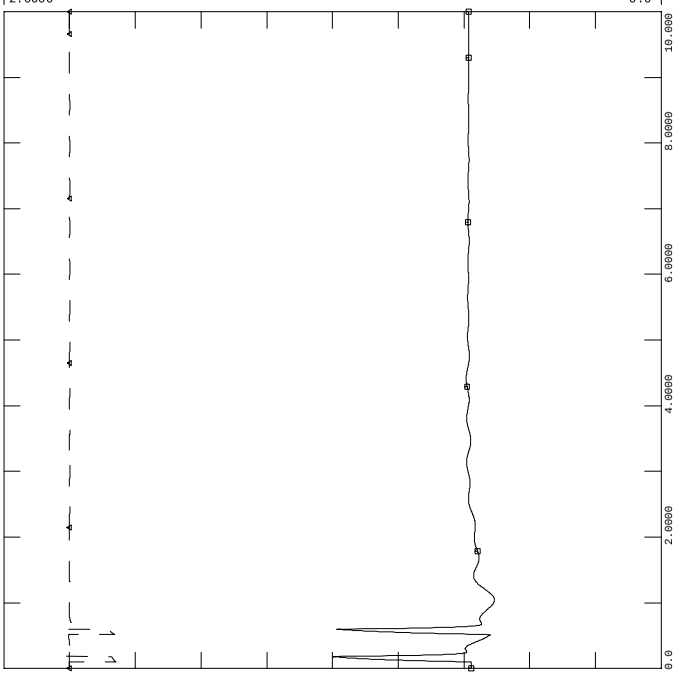
SVC OUTPUT

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]

1.1000 0.10000

CHNL# 117: [BUS 52185 SVC OUTPUT]

2.0000 0.0

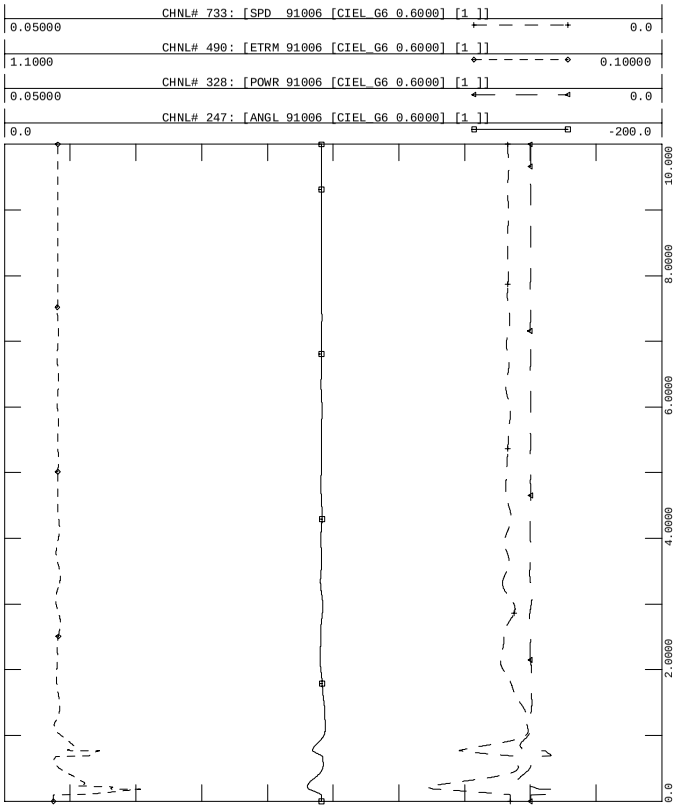


TIME (SECONDS)

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH.OUT

FRI, MAY 21 2004 10:33 2

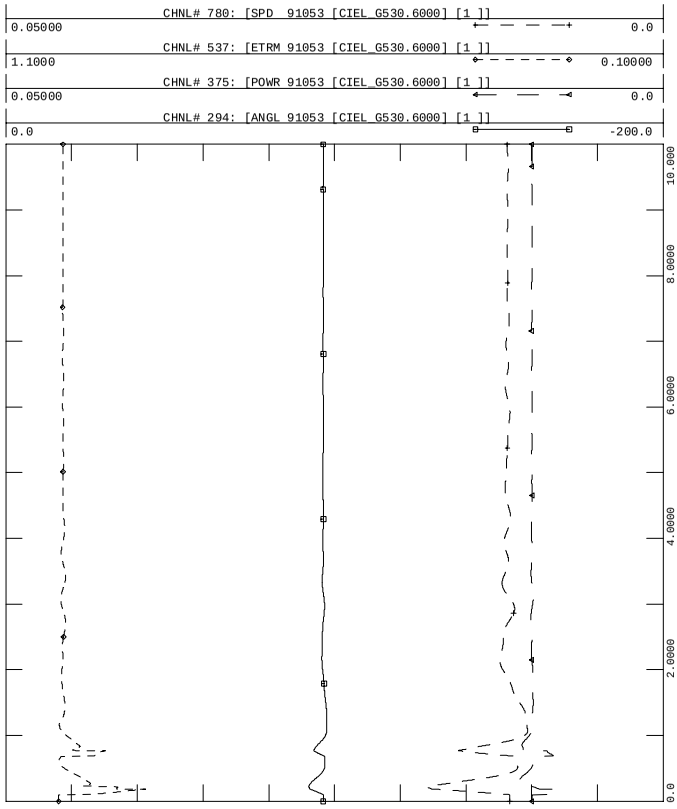
CIELO CABLE1 GEN6



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH.OUT

FRI, MAY 21 2004 10:33 4

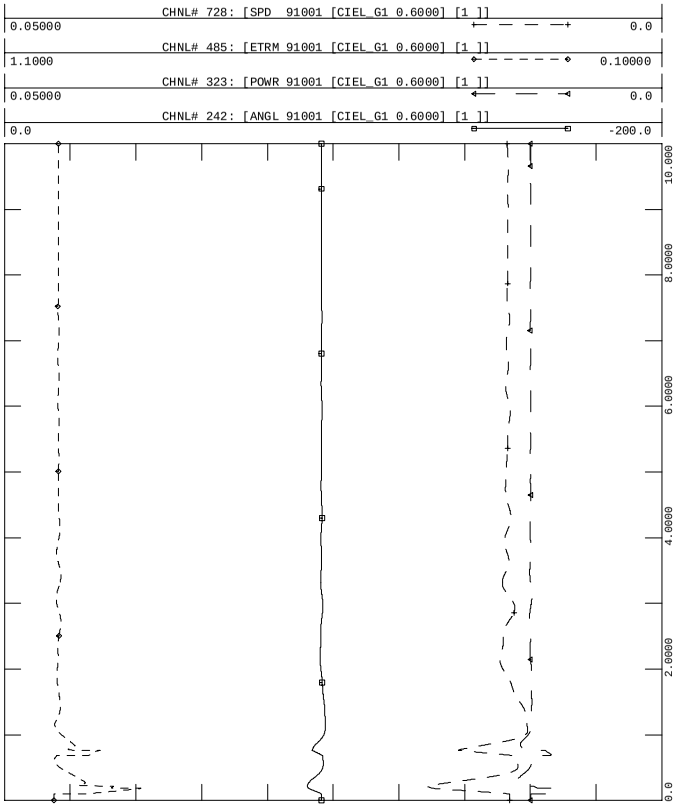
CIELO CABLE2 GEN53



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH.OUT

FRI, MAY 21 2004 10:33 1

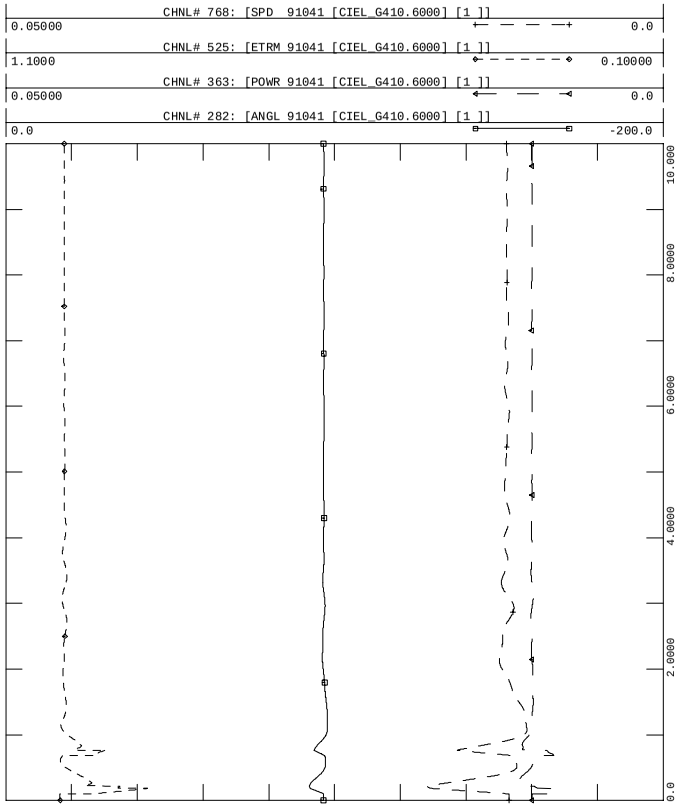
CIELO CABLE1 GEN1



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH.OUT

FRI, MAY 21 2004 10:33 3

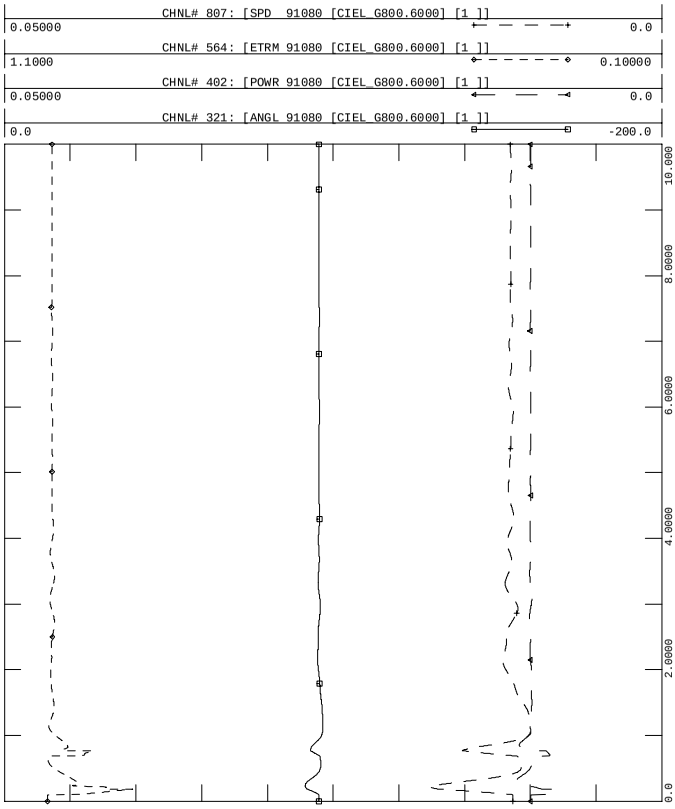
CIELO CABLE2 GEN41



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH.OUT

FRI, MAY 21 2004 10:33 6

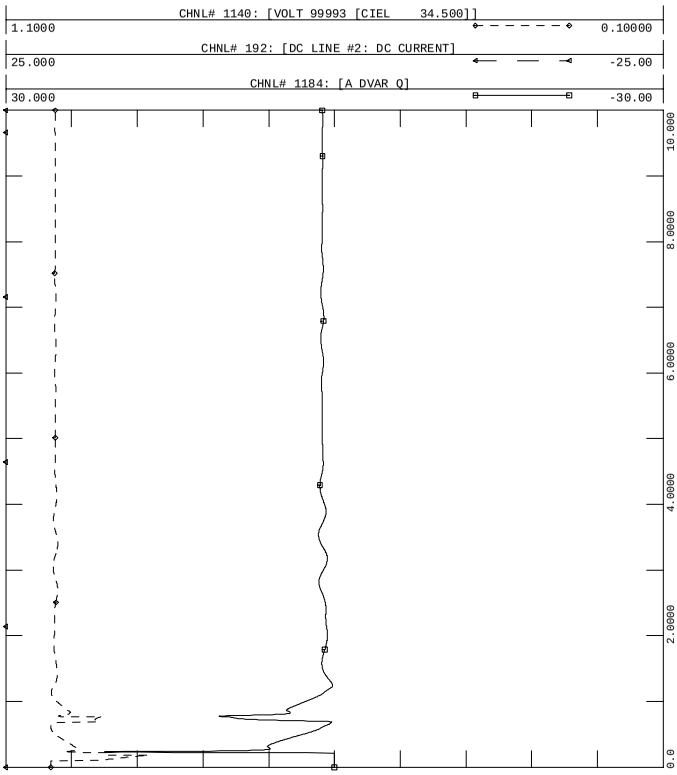
CIELO CABLE3 GEN80



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH.OUT

FRI, MAY 21 2004 10:33 8

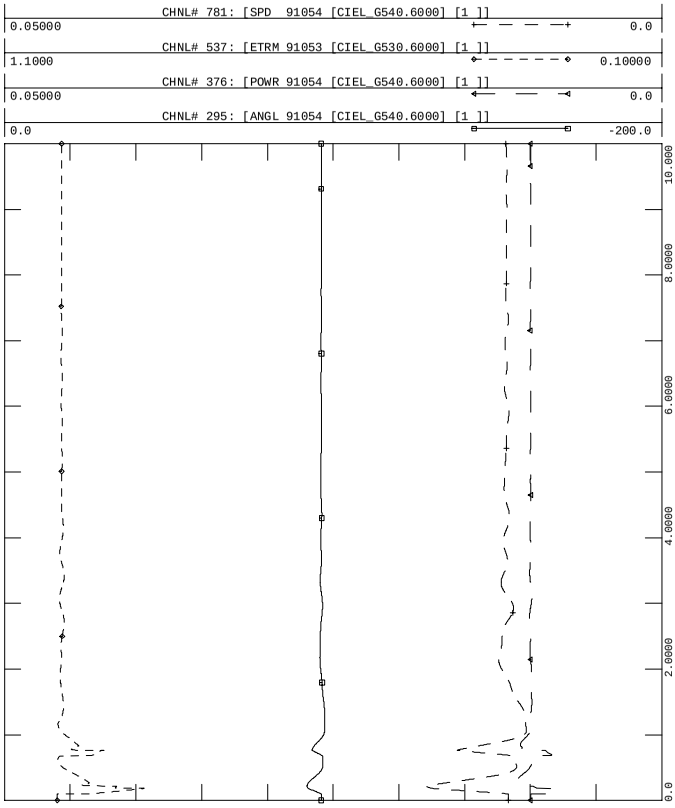
DVAR OUTPUT



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH.OUT

FRI, MAY 21 2004 10:33 5

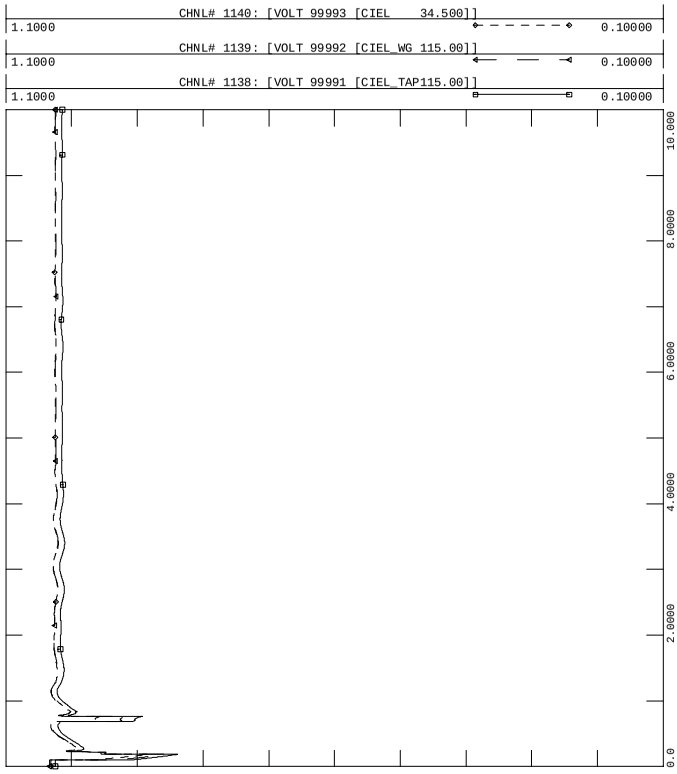
CIELO CABLE3 GEN54



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH.OUT

FRI, MAY 21 2004 10:33 7

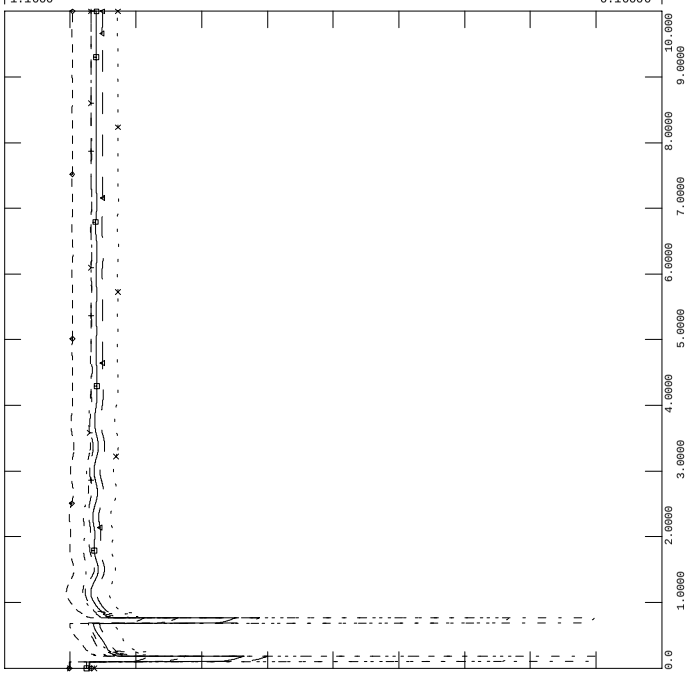
CIELO VOLTAGE



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH.OUT

FRI, MAY 21 2004 10:33

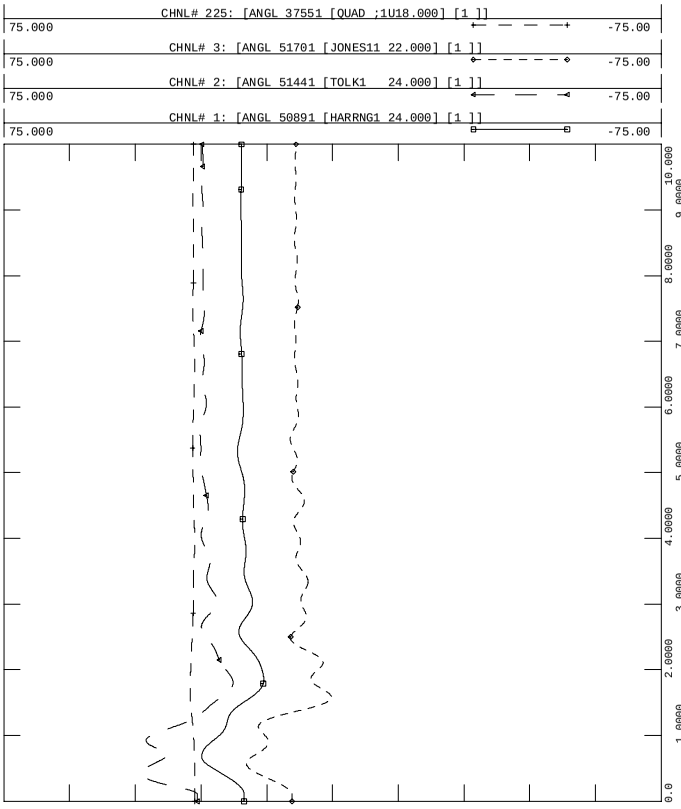
SPP:230 KV BUS VOLTAGE 10



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH.OUT

FRI, MAY 21 2004 10:33

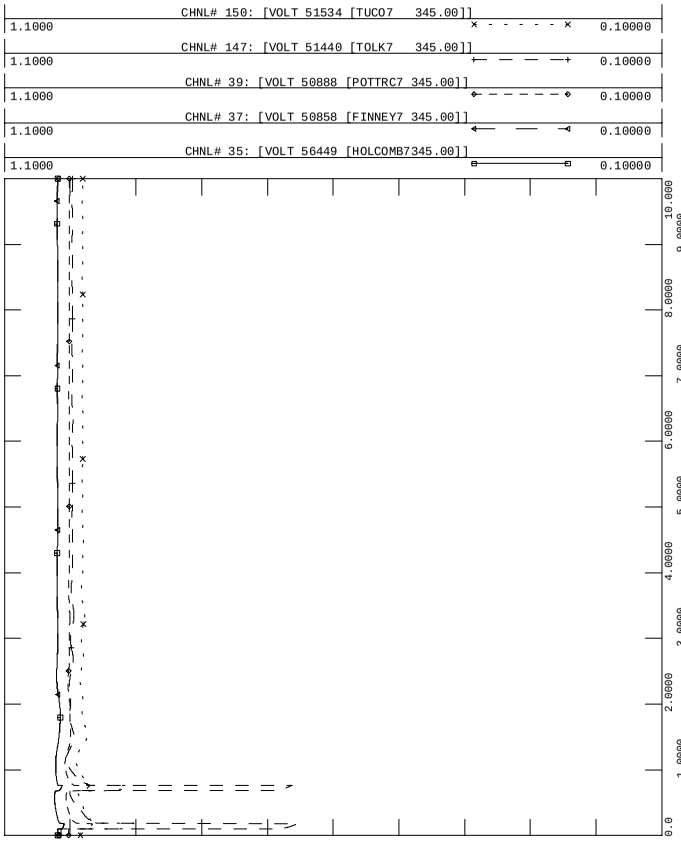
SPP: ROTOR ANGLE 12



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH.OUT

FRI, MAY 21 2004 10:33

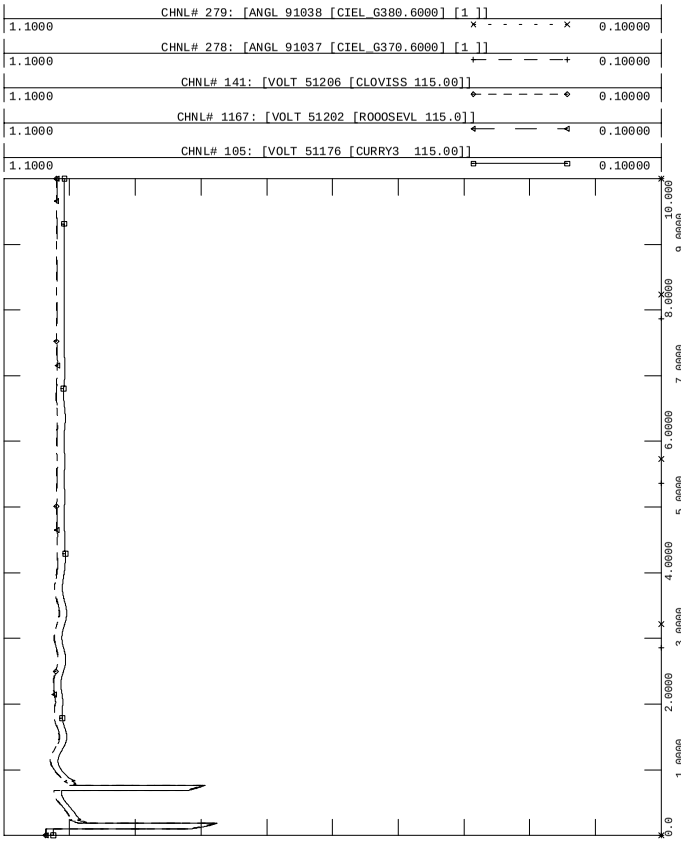
SPP:345 KV BUS VOLTAGE 9



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH.OUT

FRI, MAY 21 2004 10:33

SPP:115 KV BUS VOLTAGE 11

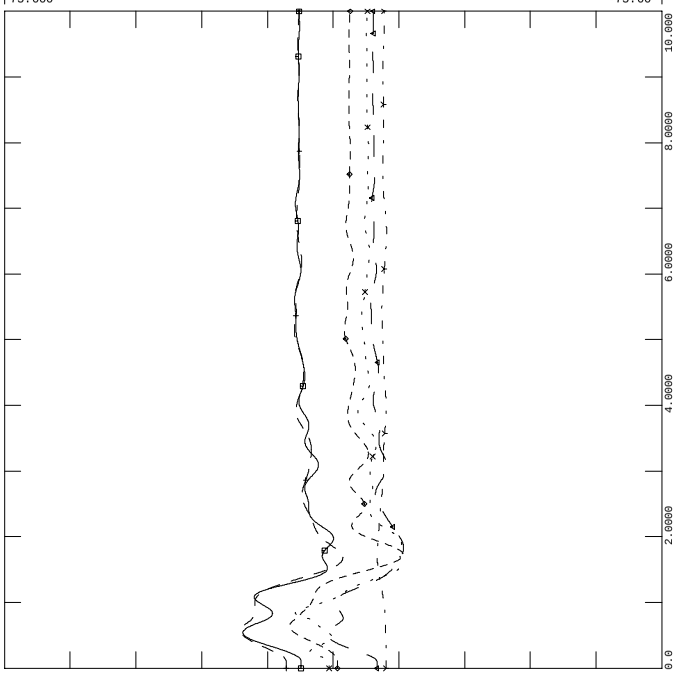


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH.OUT

FRI, MAY 21 2004 10:33 14

SPP: ROTOR ANGLE

CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]]
CHNL# 55: [ANGL 52212 [CUNN21 20.000] [1]]
CHNL# 54: [ANGL 51973 [MUSTG#3122.000] [1]]
CHNL# 53: [ANGL 51971 [MUSTG#1113.800] [1]]
CHNL# 52: [ANGL 51424 [PLANTX4 20.000] [1]]
CHNL# 51: [ANGL 51423 [PLANTX3 13.800] [1]]

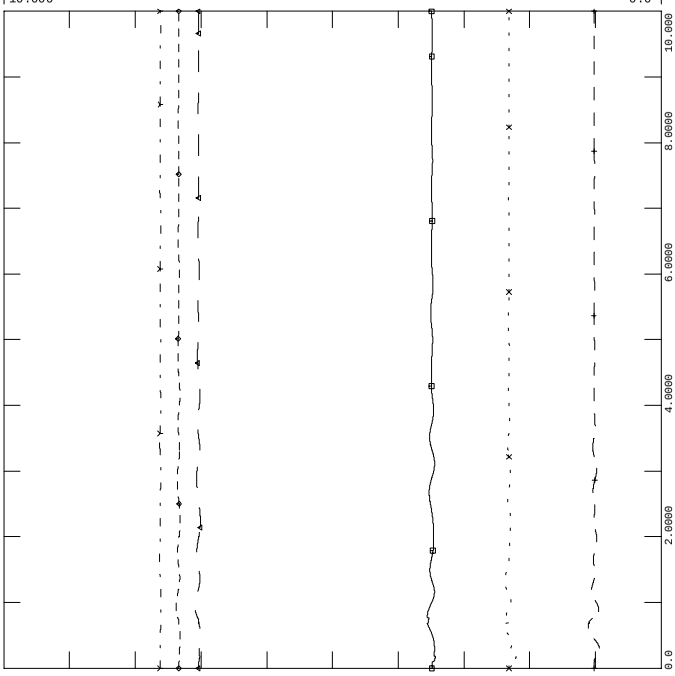


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH.OUT

FRI, MAY 21 2004 10:33 16

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
CHNL# 61: [POWR 50913 [NICHOL3 22.000] [1]]
CHNL# 60: [POWR 50912 [NICHOL2 13.800] [1]]
CHNL# 196: [POWR 64106 [GENTLM2G23.400] [2]]
CHNL# 11: [POWR 64105 [GENTLM1G22.400] [1]]
CHNL# 10: [POWR 56447 [HOLCGEN122.000] [1]]

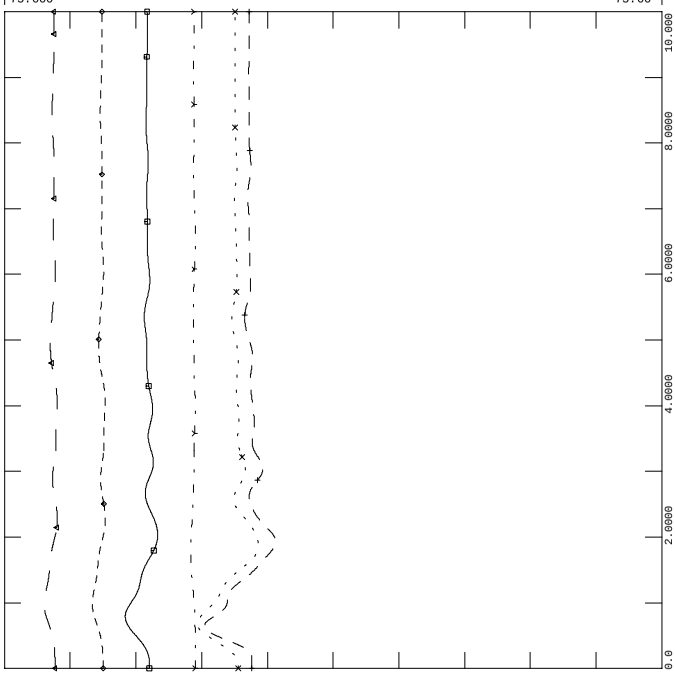


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH.OUT

FRI, MAY 21 2004 10:33 13

SPP: ROTOR ANGLE

CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]]
CHNL# 50: [ANGL 50913 [NICHOL3 22.000] [1]]
CHNL# 49: [ANGL 50912 [NICHOL2 13.800] [1]]
CHNL# 195: [ANGL 64106 [GENTLM2G23.400] [2]]
CHNL# 5: [ANGL 64105 [GENTLM1G22.400] [1]]
CHNL# 4: [ANGL 56447 [HOLCGEN122.000] [1]]

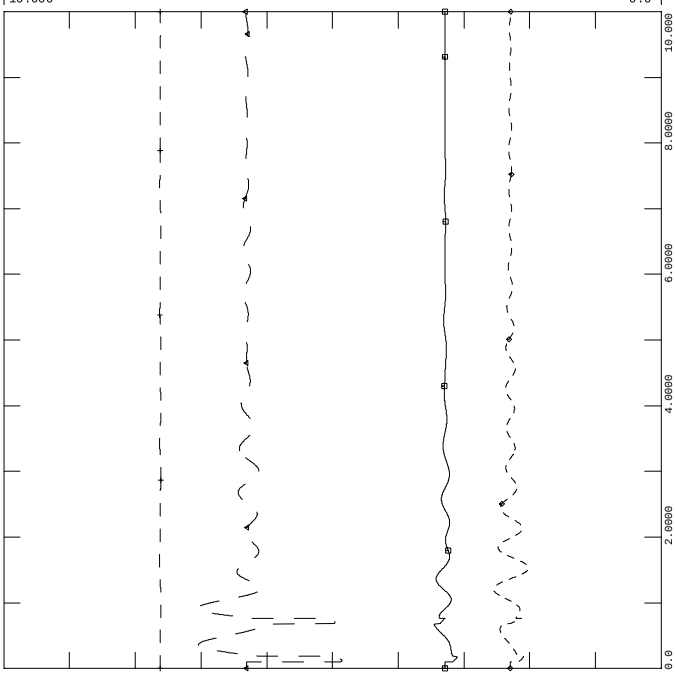


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH.OUT

FRI, MAY 21 2004 10:33 15

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
CHNL# 9: [POWR 51701 [JONES11 22.000] [1]]
CHNL# 8: [POWR 51441 [TOLK1 24.000] [1]]
CHNL# 7: [POWR 50891 [HARRNG1 24.000] [1]]

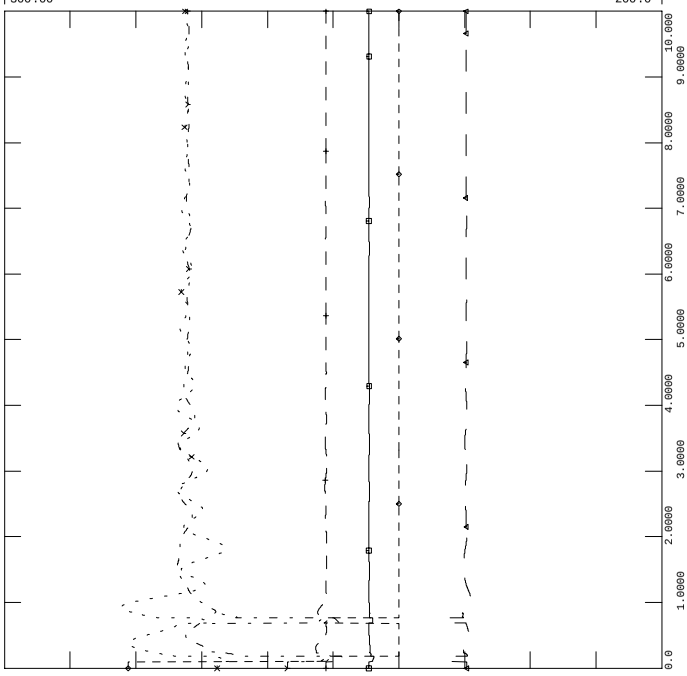


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH.OUT

FRI, MAY 21 2004 10:33 18

BRANCH FLOW

CHNL# 97: [POWR 51195 TO 52073 CKT 1]
300.00 -200.0
CHNL# 1179: [POWR 51435 TO 51533 CKT 1]
300.00 -200.0
CHNL# 1177: [POWR 99991 TO 51176 CKT 1]
300.00 -200.0
CHNL# 1175: [POWR 51440 TO 52186 CKT 1]
300.00 -200.0
CHNL# 1173: [POWR 51176 TO 51206 CKT 2]
300.00 -200.0
CHNL# 1169: [POWR 99991 TO 51076 CKT 1]
300.00 -200.0

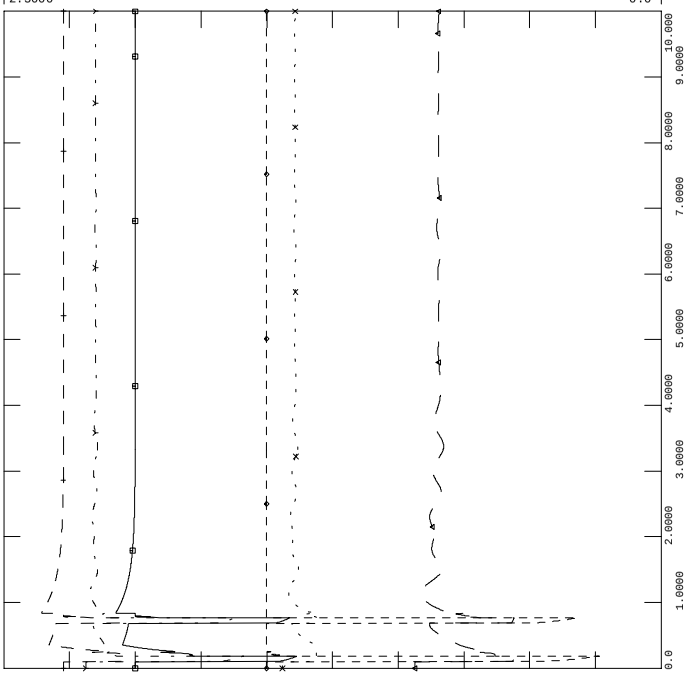


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH.OUT

FRI, MAY 21 2004 10:33 20

DC LINE PNM

CHNL# 207: [VOLT 59995 [BLKWDC 230.00]]
1.1000 0.10000
CHNL# 193: [DC LINE #2: ALPHA]
100.00 -100.0
CHNL# 192: [DC LINE #2: DC CURRENT]
4000.0 0.0
CHNL# 191: [DC LINE #2: VDCR]
65000. 40000.
CHNL# 187: [DC LINE #2: QACR]
2.5000 0.0
CHNL# 186: [DC LINE #2: PACR]
2.5000 0.0

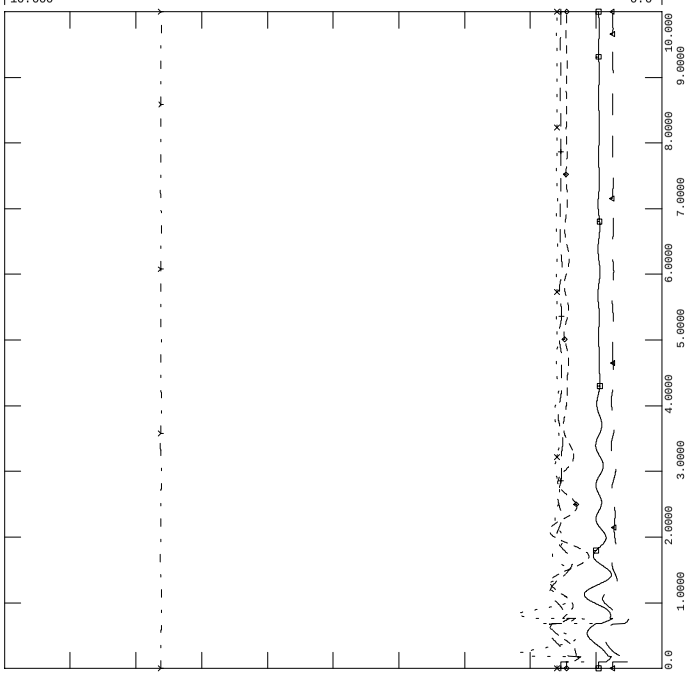


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH.OUT

FRI, MAY 21 2004 10:33 17

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
10.000 0.0
CHNL# 66: [POWR 52212 [CUNN21 20.000] [1]]
10.000 0.0
CHNL# 65: [POWR 51973 [MUSTG#3122.000] [1]]
10.000 0.0
CHNL# 64: [POWR 51971 [MUSTG#1113.800] [1]]
10.000 0.0
CHNL# 63: [POWR 51424 [PLANTX4 20.000] [1]]
10.000 0.0
CHNL# 62: [POWR 51423 [PLANTX3 13.800] [1]]
10.000 0.0

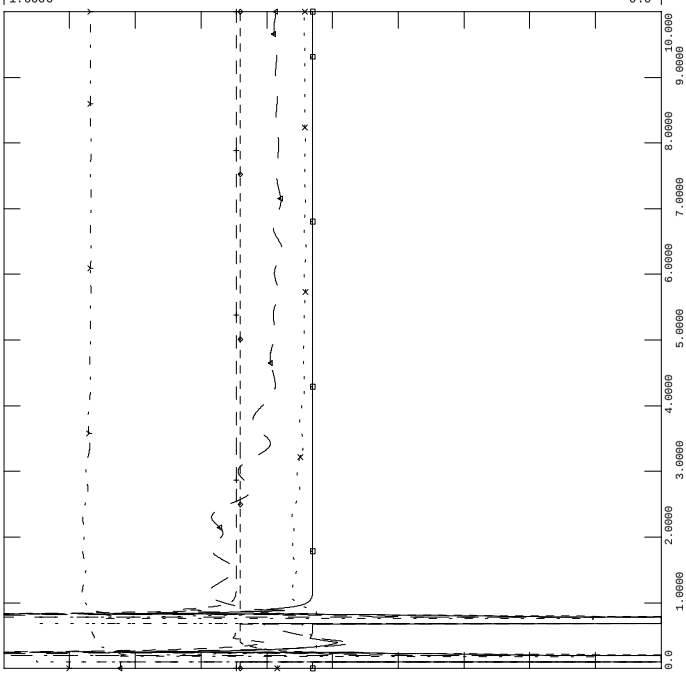


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH.OUT

FRI, MAY 21 2004 10:33 19

DC LINE EPE

CHNL# 208: [VOLT 59996 [EPEDC 230.00]]
1.1000 0.10000
CHNL# 184: [DC LINE #1: ALFA]
100.00 -100.0
CHNL# 183: [DC LINE #1: DC CURRENT]
1000.0 0.0
CHNL# 182: [DC LINE #1: VDCR]
1.0000E5 50000.
CHNL# 178: [DC LINE #1: QACR]
0.25000 0.0
CHNL# 177: [DC LINE #1: PACR]
1.0000 0.0

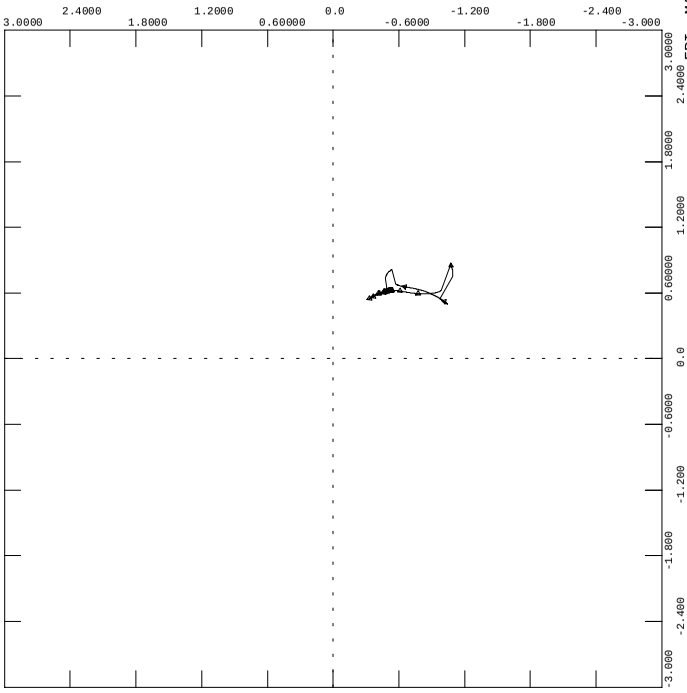


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR

22

FILE: WI_FLT43PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 116: [APPX 50858 TO 50888 CKT 1]



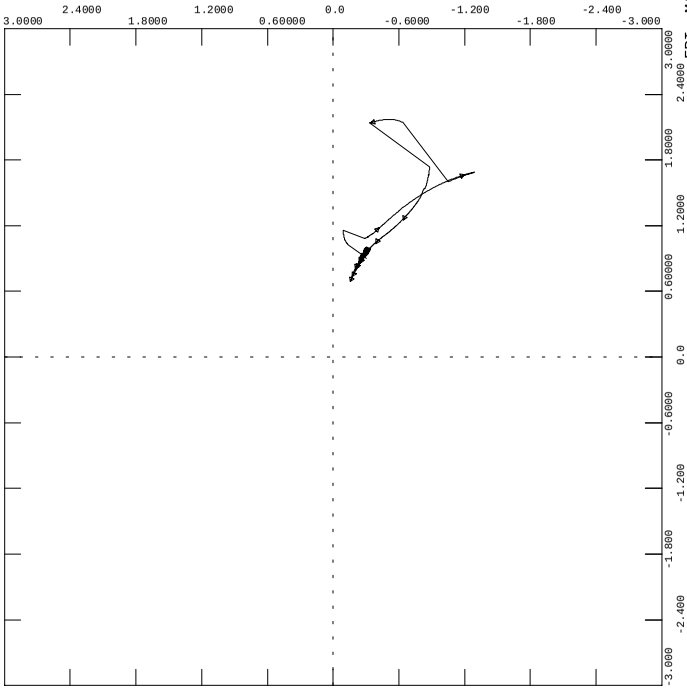
FRI, MAY 21 2004 10:33
POTTER-FINNEY
CHNL# 115: [APPR 50858 TO 50888 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR

21

FILE: WI_FLT43PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 114: [APPX 56449 TO 50858 CKT 1]

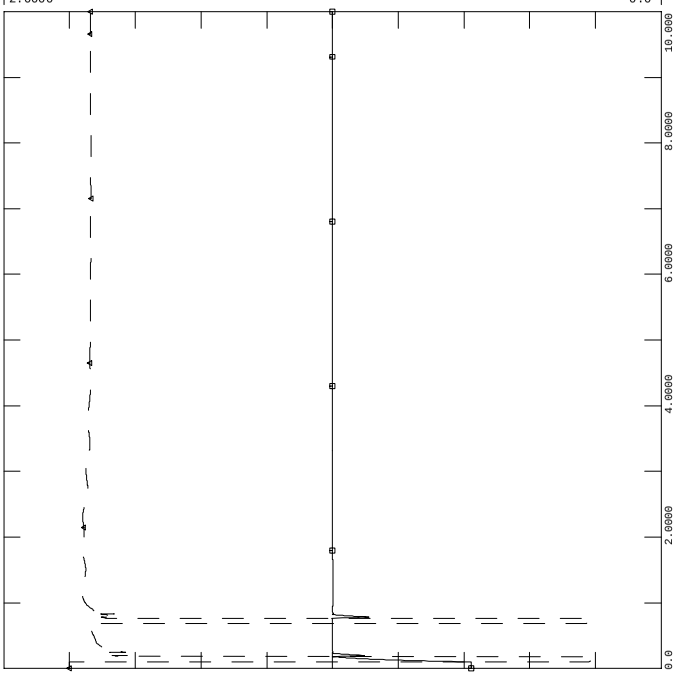


FRI, MAY 21 2004 10:33
FINNEY-HOLCOMB
CHNL# 113: [APPR 56449 TO 50858 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH.OUT

23

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]
1.1000 0.10000
CHNL# 117: [BUS 52185 SVC OUTPUT]
2.0000 0.0

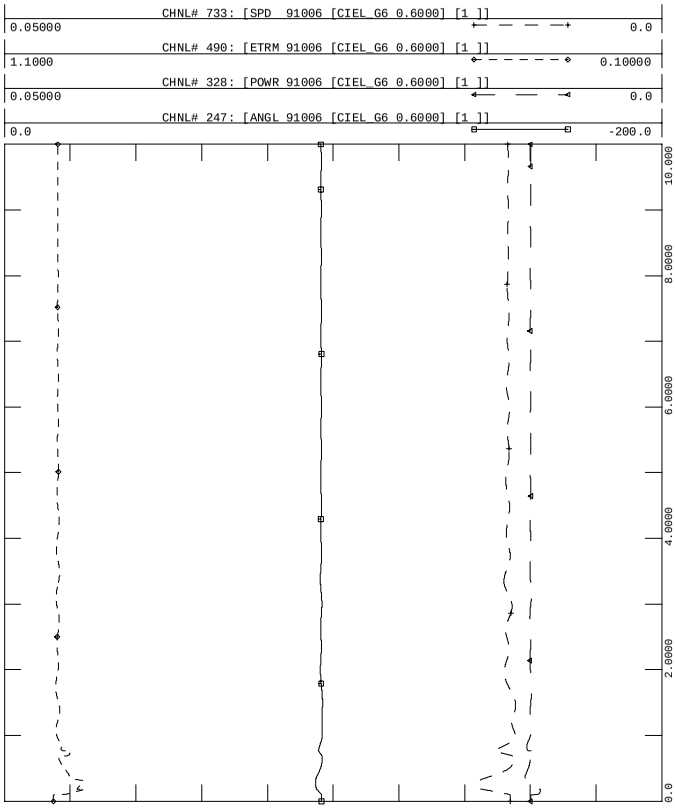


FRI, MAY 21 2004 10:33
SVC OUTPUT
TIME (SECONDS)

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH.OUT

FRI, MAY 21 2004 10:33 2

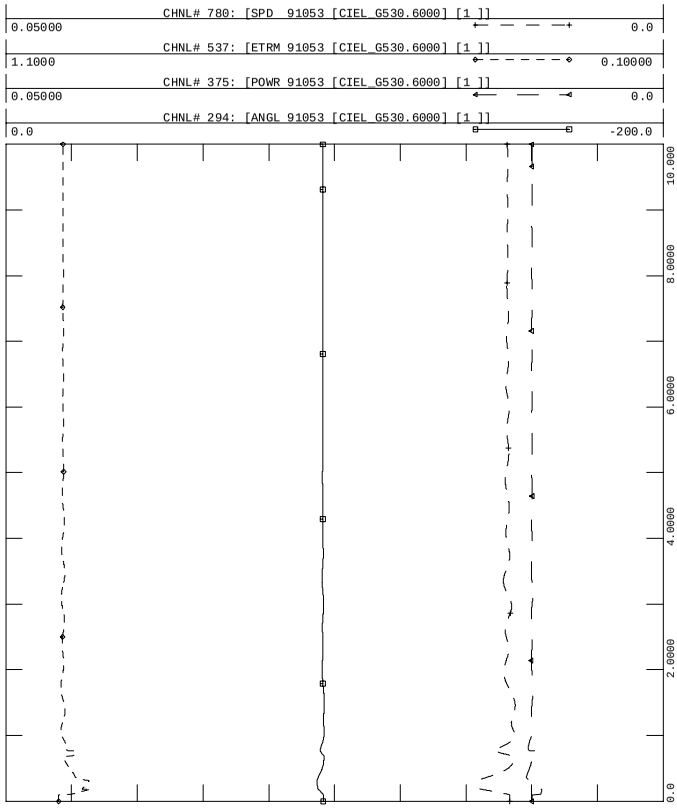
CIELO CABLE1 GEN6



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH.OUT

FRI, MAY 21 2004 10:33 4

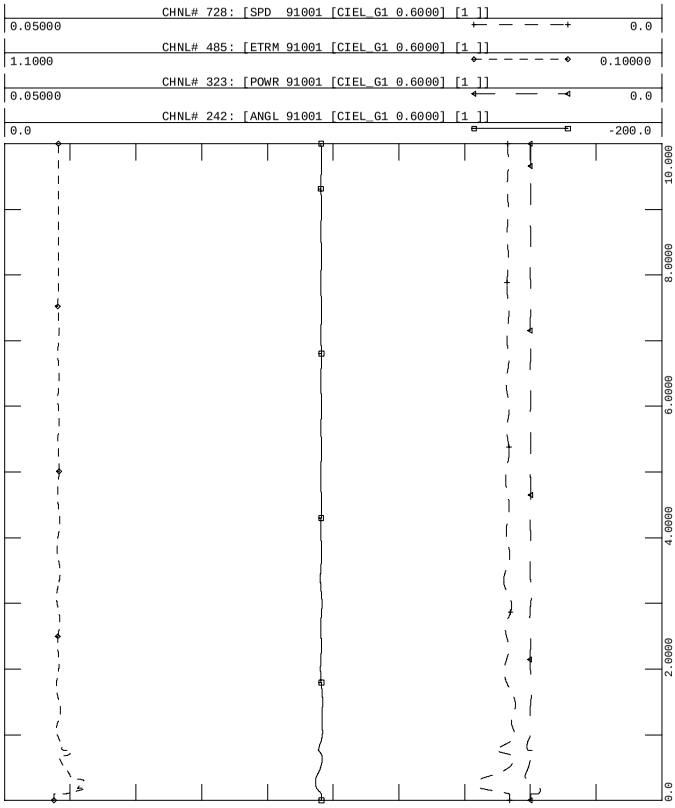
CIELO CABLE2 GEN53



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH.OUT

FRI, MAY 21 2004 10:33 1

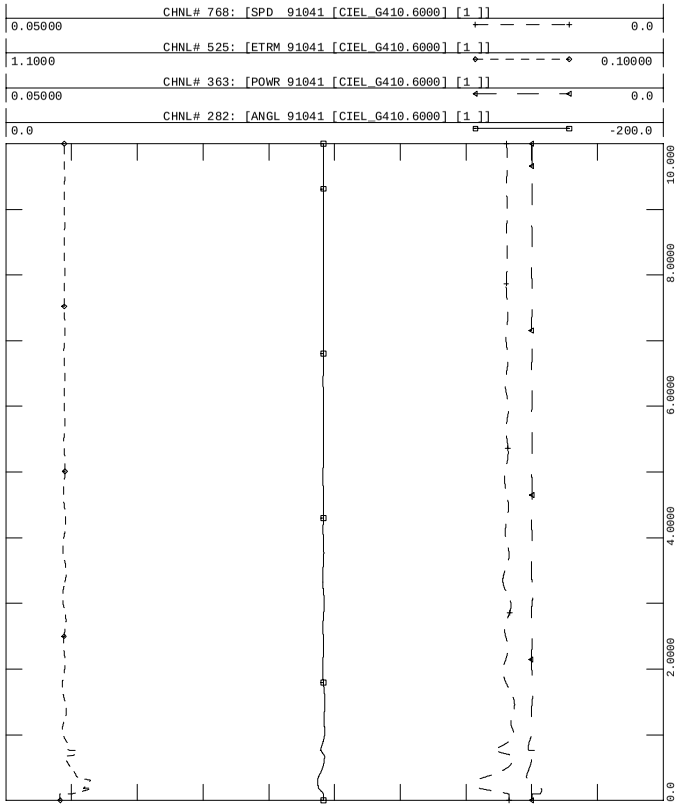
CIELO CABLE1 GEN1



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH.OUT

FRI, MAY 21 2004 10:33 3

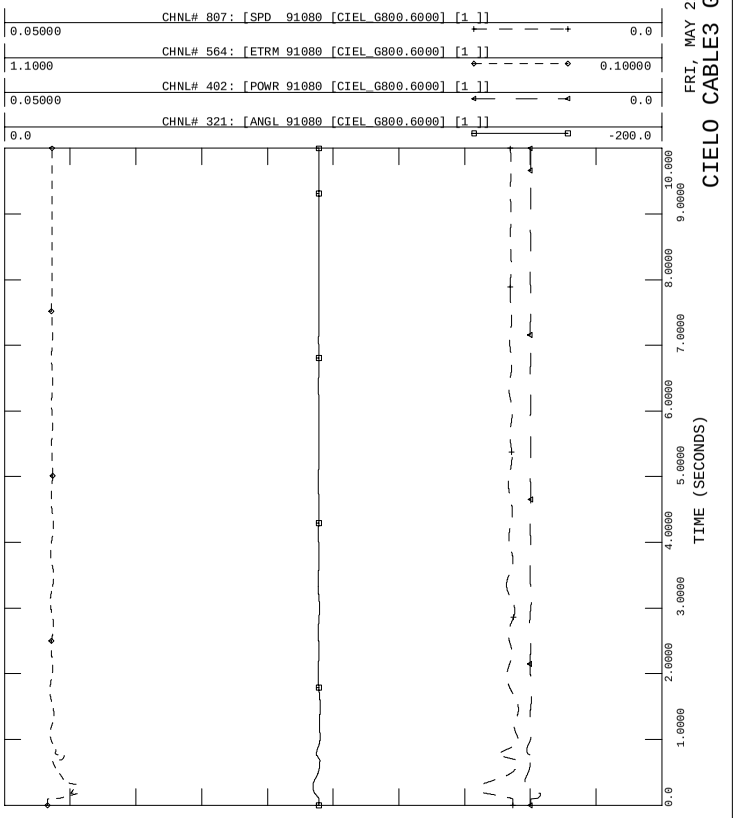
CIELO CABLE2 GEN41



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH.OUT

FRI, MAY 21 2004 10:33 6

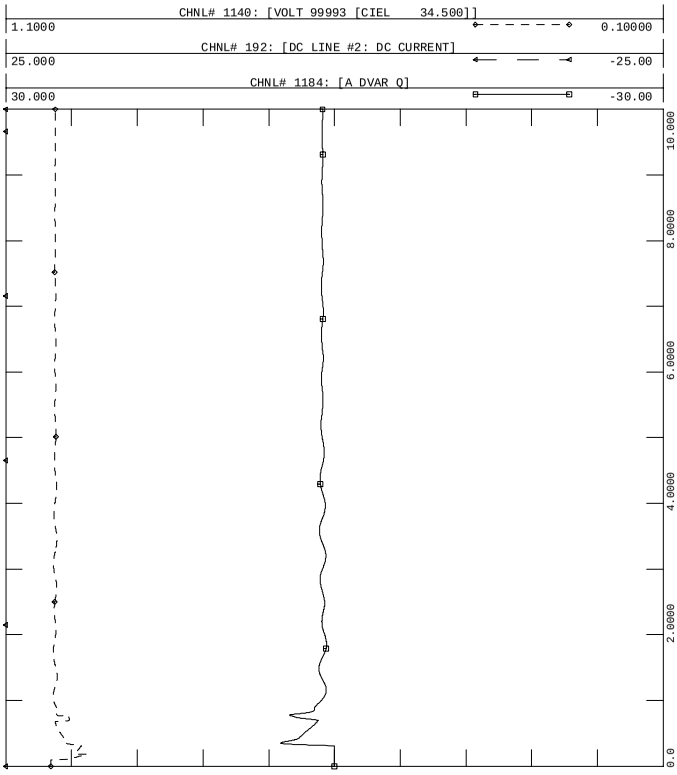
CIELO CABLE3 GEN80



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH.OUT

FRI, MAY 21 2004 10:33 8

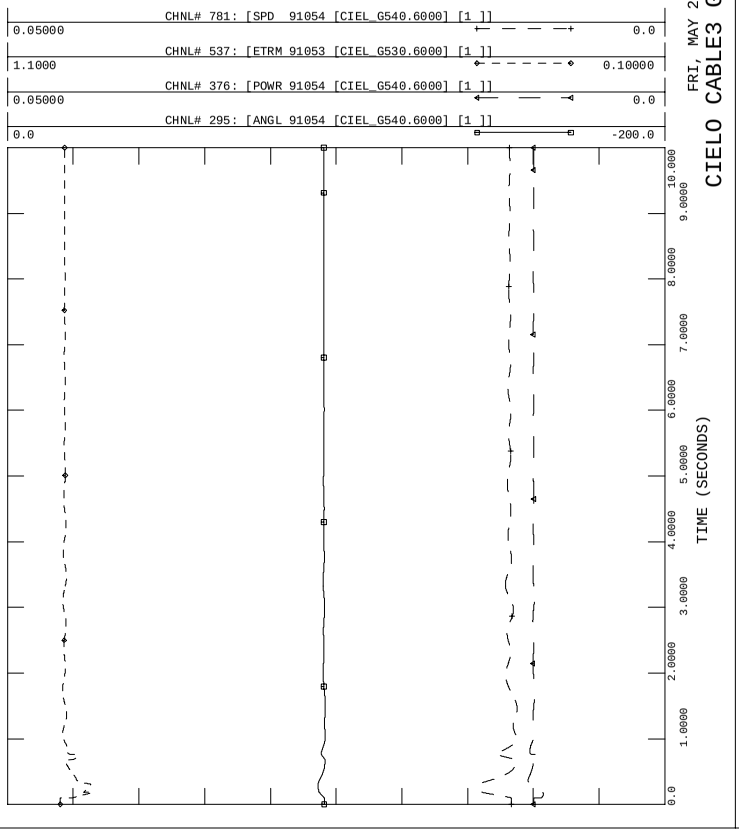
DVAR OUTPUT



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH.OUT

FRI, MAY 21 2004 10:33 5

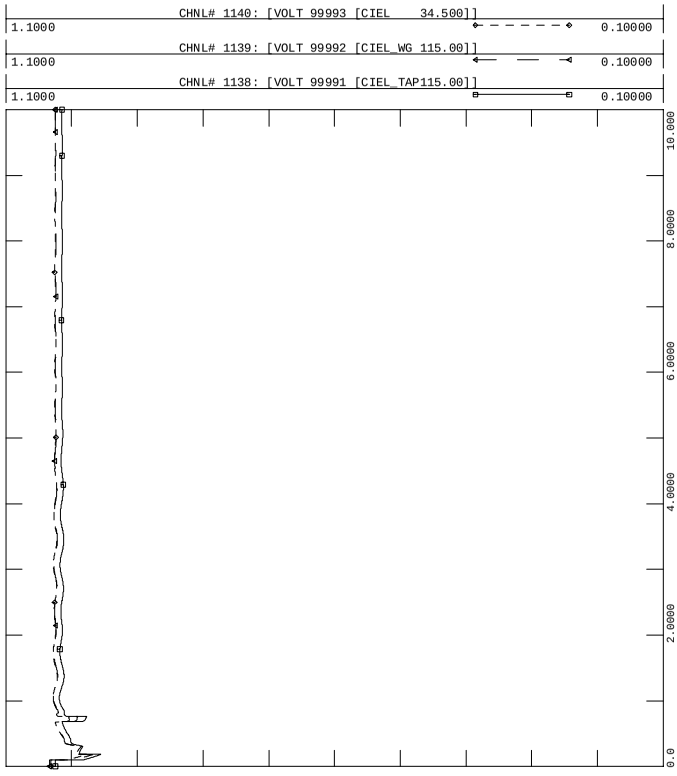
CIELO CABLE3 GEN54



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH.OUT

FRI, MAY 21 2004 10:33 7

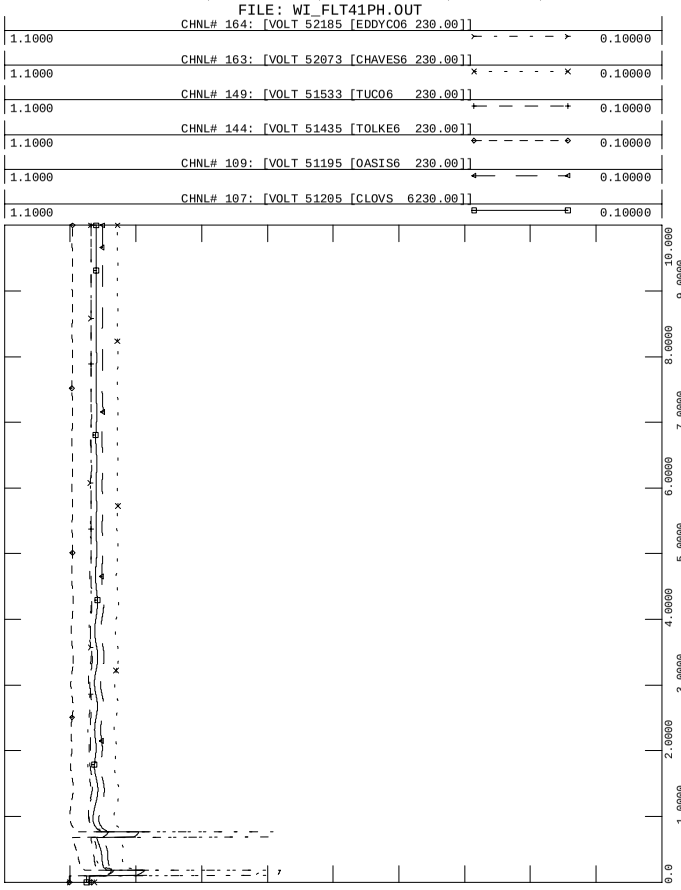
CIELO VOLTAGE



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH.OUT

FRI, MAY 21 2004 10:33

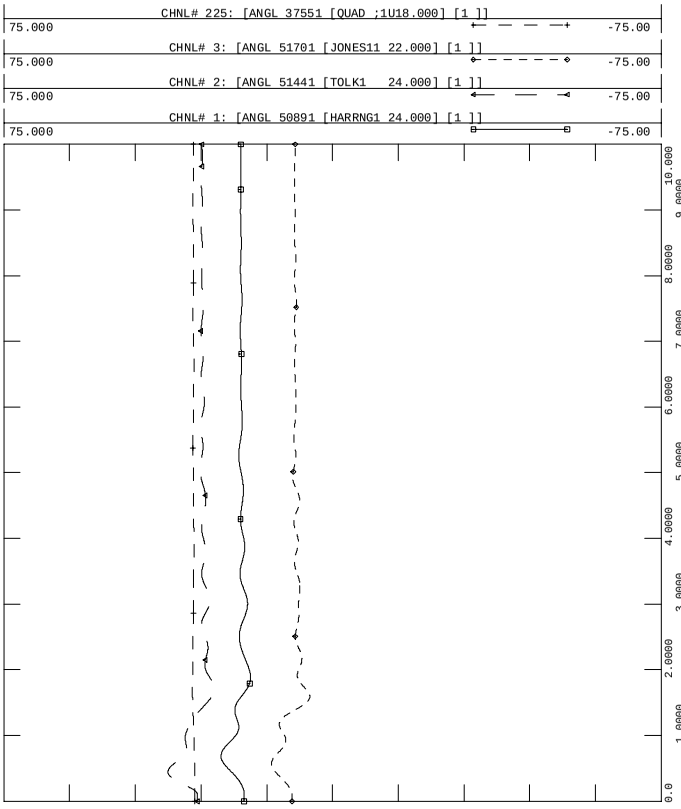
SPP:230 KV BUS VOLTAGE 10



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH.OUT

FRI, MAY 21 2004 10:33

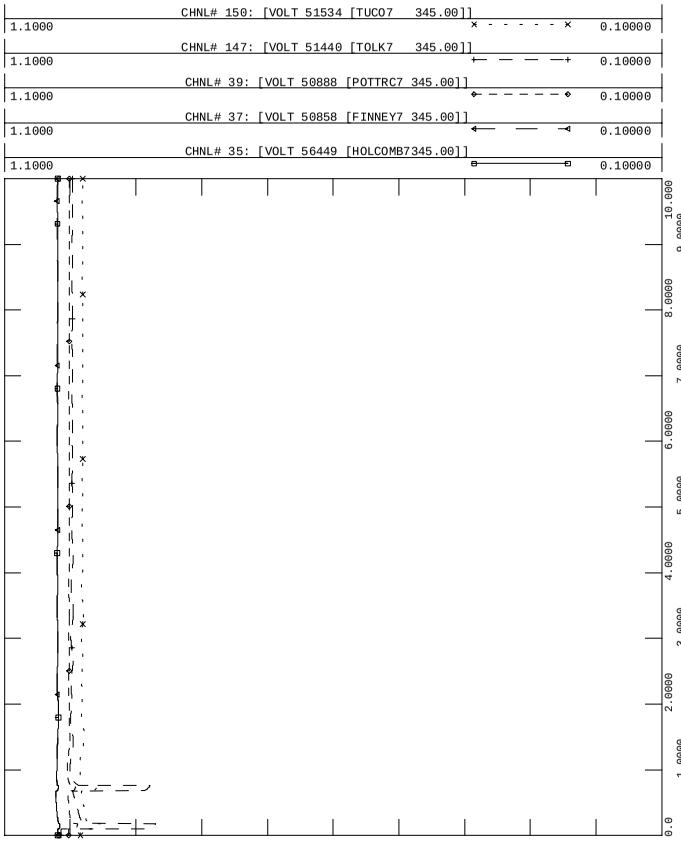
SPP: ROTOR ANGLE 12



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH.OUT

FRI, MAY 21 2004 10:33

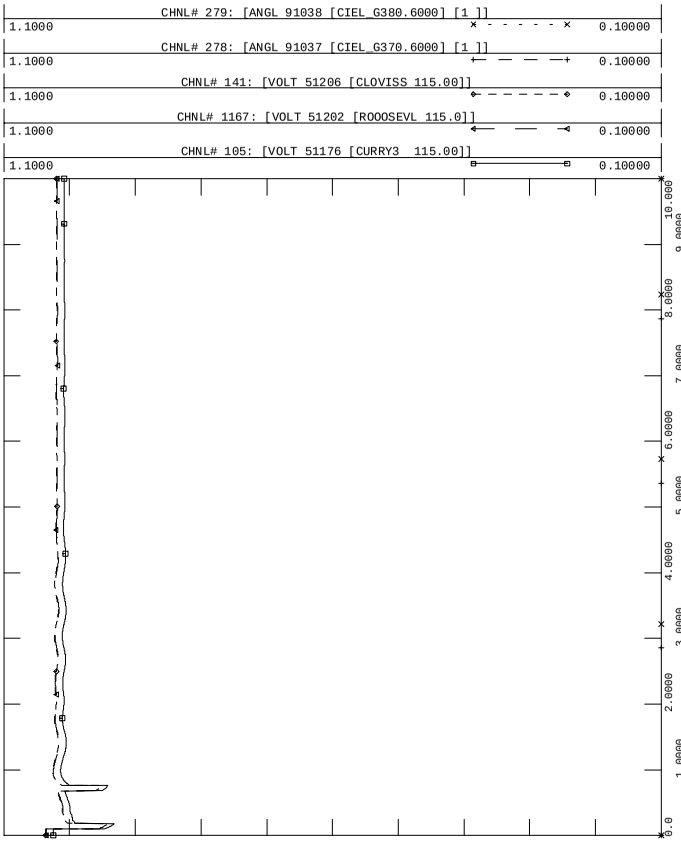
SPP:345 KV BUS VOLTAGE 9



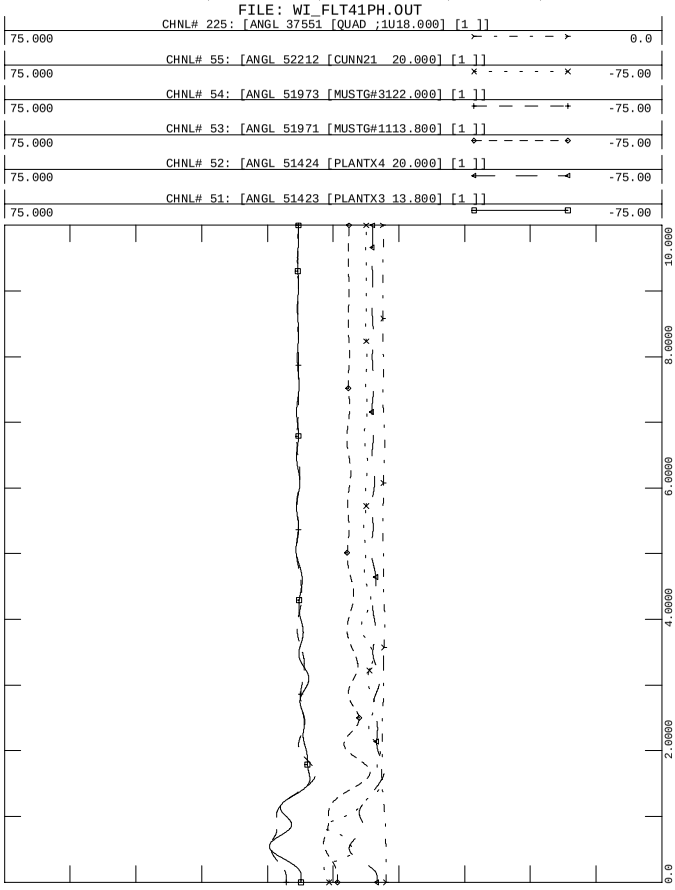
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH.OUT

FRI, MAY 21 2004 10:33

SPP:115 KV BUS VOLTAGE 11

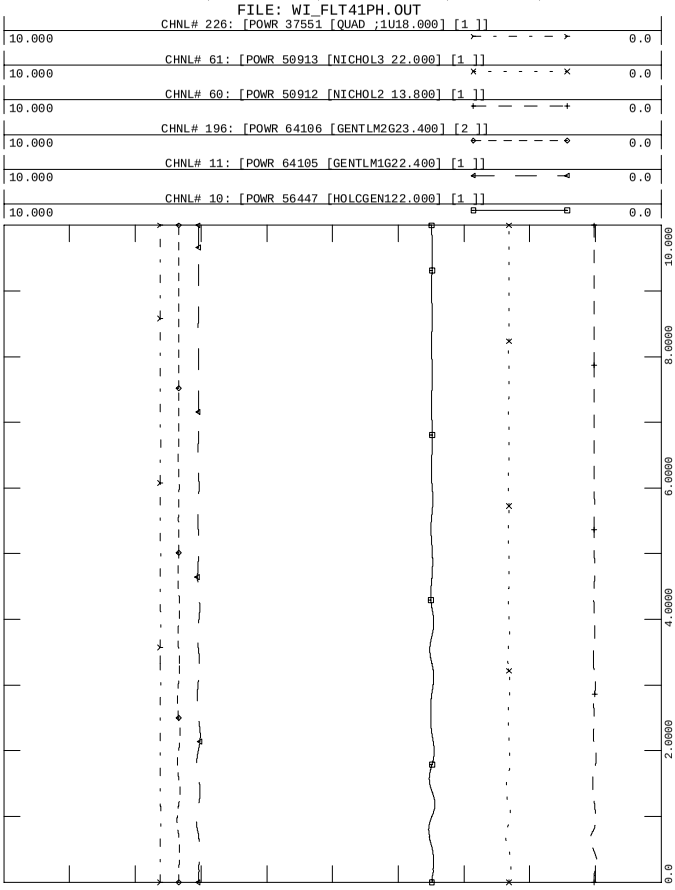


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH.OUT



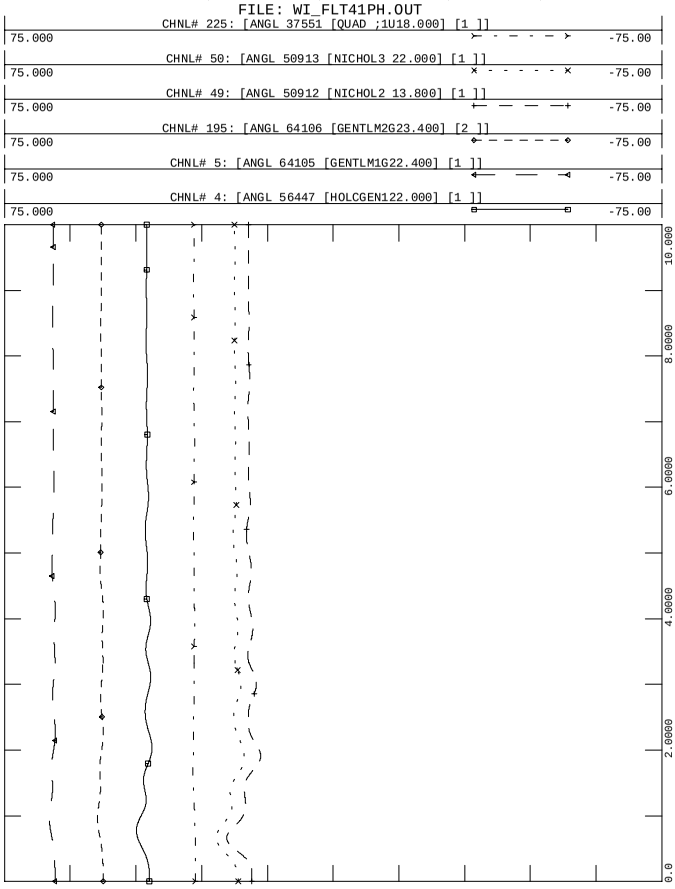
FRI, MAY 21 2004 10:33 14
SPP: ROTOR ANGLE

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH.OUT



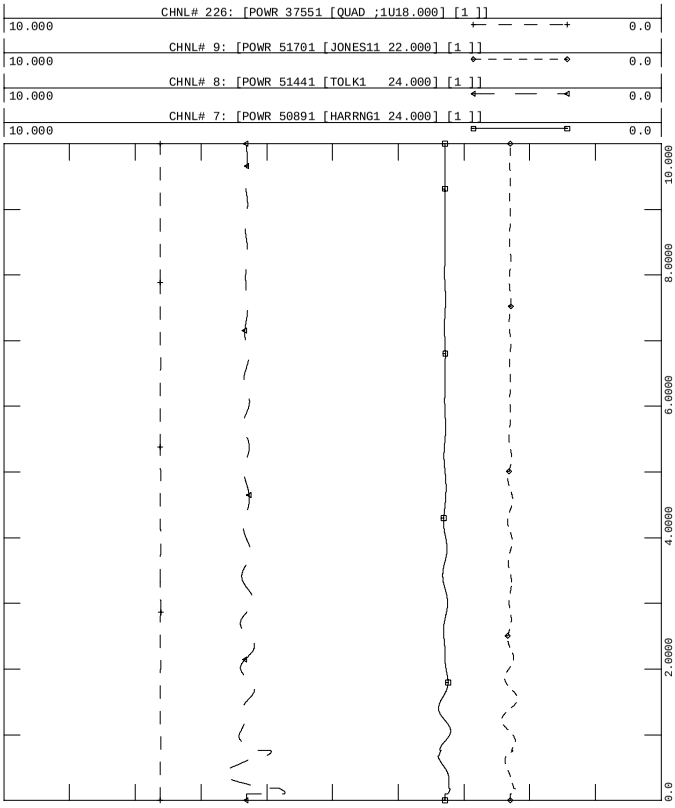
FRI, MAY 21 2004 10:33 16
SPP: PELEC

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH.OUT



FRI, MAY 21 2004 10:33 13
SPP: ROTOR ANGLE

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH.OUT



FRI, MAY 21 2004 10:33 15
SPP: PELEC

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH.OUT

FRI, MAY 21 2004 10:33 18

BRANCH FLOW

CHNL# 97: [POWR 51195 TO 52073 CKT 1]
300.00 -200.0

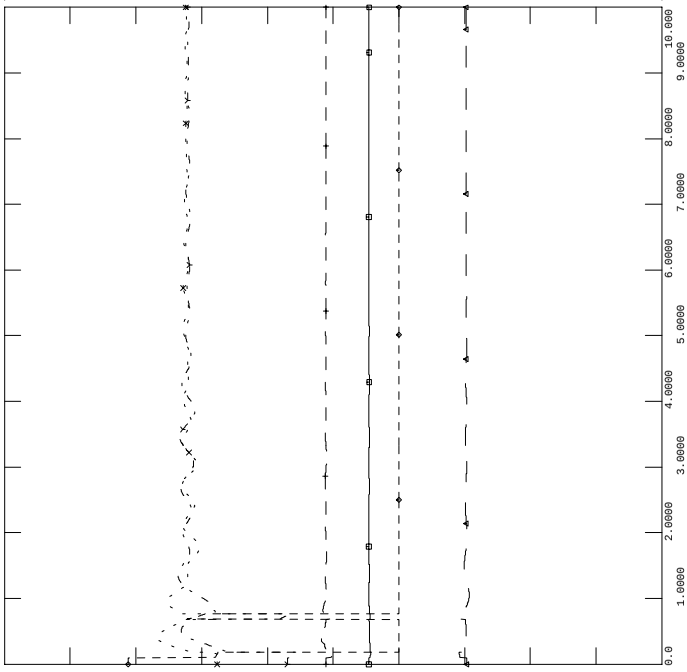
CHNL# 1179: [POWR 51435 TO 51533 CKT 1]
300.00 -200.0

CHNL# 1177: [POWR 99991 TO 51176 CKT 1]
300.00 -200.0

CHNL# 1175: [POWR 51440 TO 52186 CKT 1]
300.00 -200.0

CHNL# 1173: [POWR 51176 TO 51206 CKT 2]
300.00 -200.0

CHNL# 1169: [POWR 99991 TO 51076 CKT 1]
300.00 -200.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH.OUT

FRI, MAY 21 2004 10:33 20

DC LINE PNM

CHNL# 207: [VOLT 59995 [BLKWDC 230.00]]
1.1000 0.10000

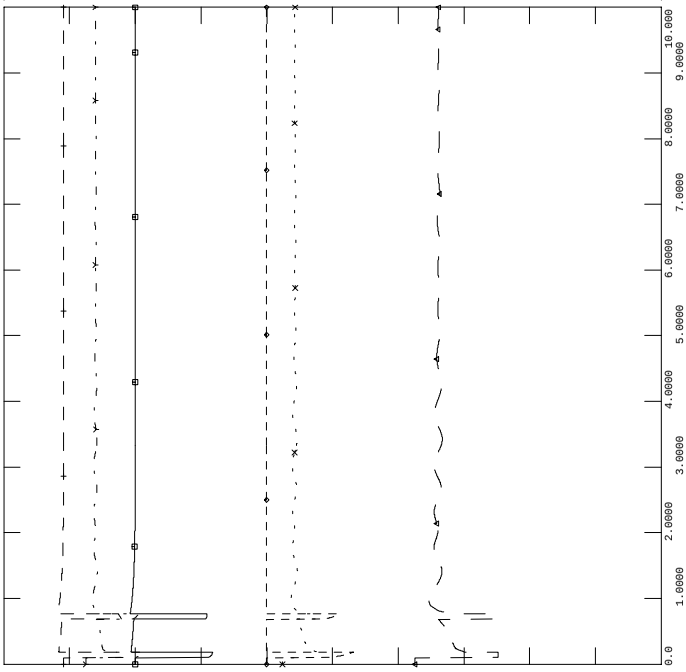
CHNL# 193: [DC LINE #2: ALPHA]
100.00 -100.0

CHNL# 192: [DC LINE #2: DC CURRENT]
4000.0 0.0

CHNL# 191: [DC LINE #2: VDCR]
65000. 40000.

CHNL# 187: [DC LINE #2: QACR]
2.5000 0.0

CHNL# 186: [DC LINE #2: PACR]
2.5000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH.OUT

FRI, MAY 21 2004 10:33 17

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
10.000 0.0

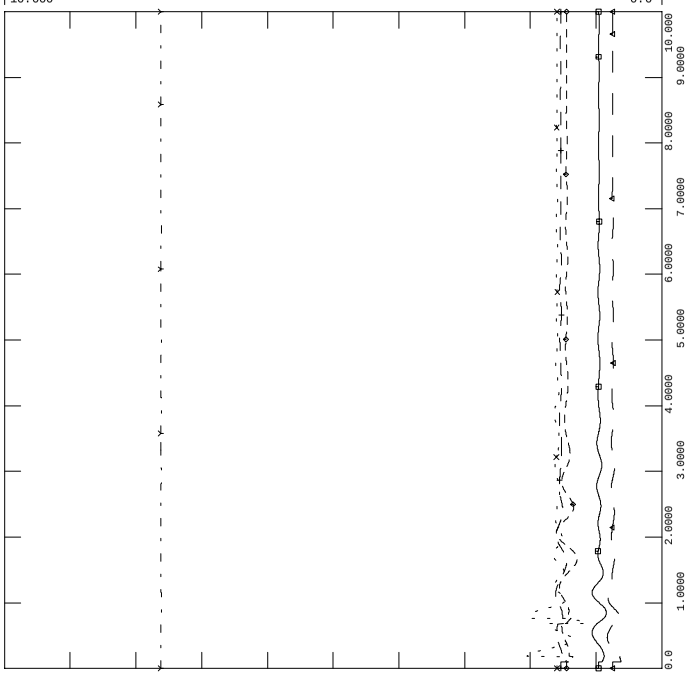
CHNL# 66: [POWR 52212 [CUNN21 20.000] [1]]
10.000 0.0

CHNL# 65: [POWR 51973 [MUSTG#3122.000] [1]]
10.000 0.0

CHNL# 64: [POWR 51971 [MUSTG#1113.800] [1]]
10.000 0.0

CHNL# 63: [POWR 51424 [PLANTX4 20.000] [1]]
10.000 0.0

CHNL# 62: [POWR 51423 [PLANTX3 13.800] [1]]
10.000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH.OUT

FRI, MAY 21 2004 10:33 19

DC LINE EPE

CHNL# 208: [VOLT 59996 [EPEDC 230.00]]
1.1000 0.10000

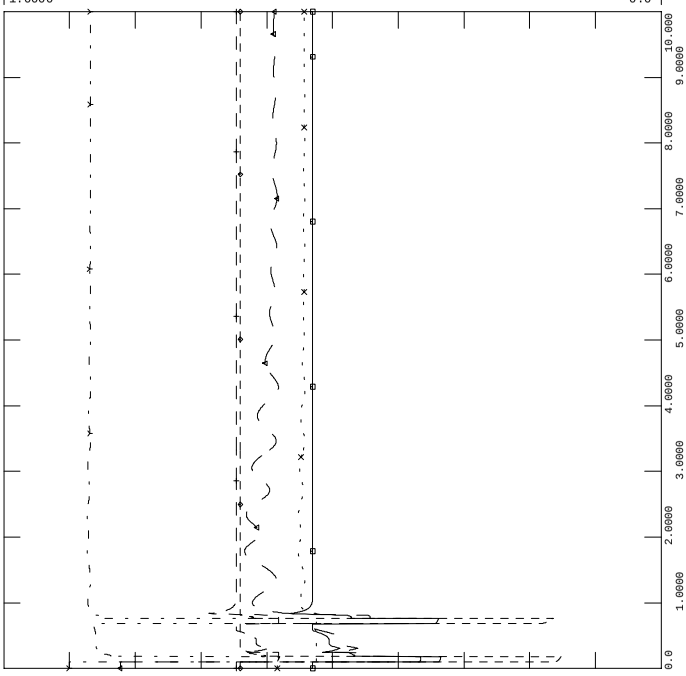
CHNL# 184: [DC LINE #1: ALFA]
100.00 -100.0

CHNL# 183: [DC LINE #1: DC CURRENT]
1000.0 0.0

CHNL# 182: [DC LINE #1: VDCR]
1.0000E5 50000.

CHNL# 178: [DC LINE #1: QACR]
0.25000 0.0

CHNL# 177: [DC LINE #1: PACR]
1.0000 0.0

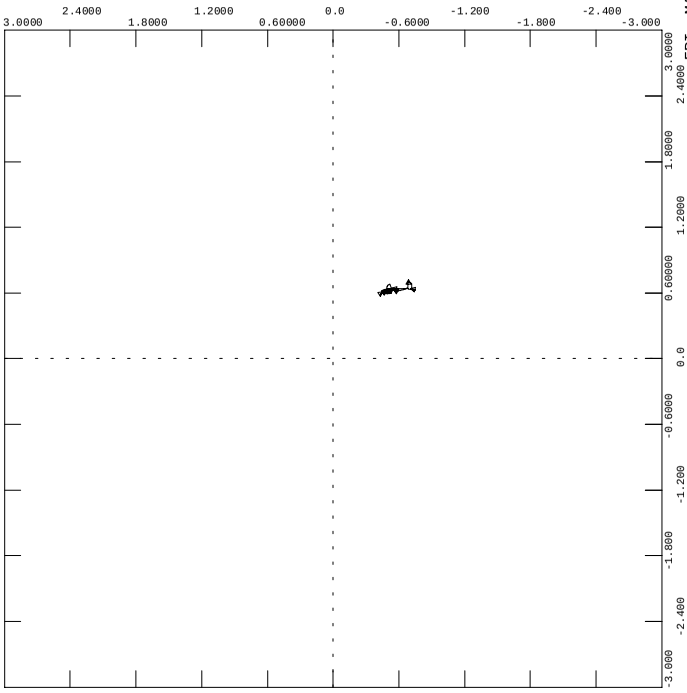


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR

22

FILE: WI_FLT41PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 116: [APPX 50858 TO 50888 CKT 1]



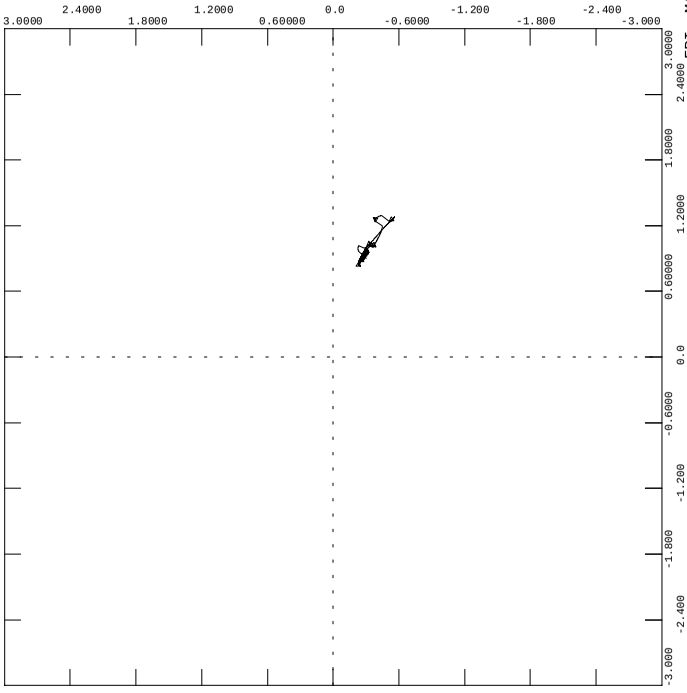
FRI, MAY 21 2004 10:33
POTTER-FINNEY
CHNL# 115: [APPR 50858 TO 50888 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR

21

FILE: WI_FLT41PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 114: [APPX 56449 TO 50858 CKT 1]

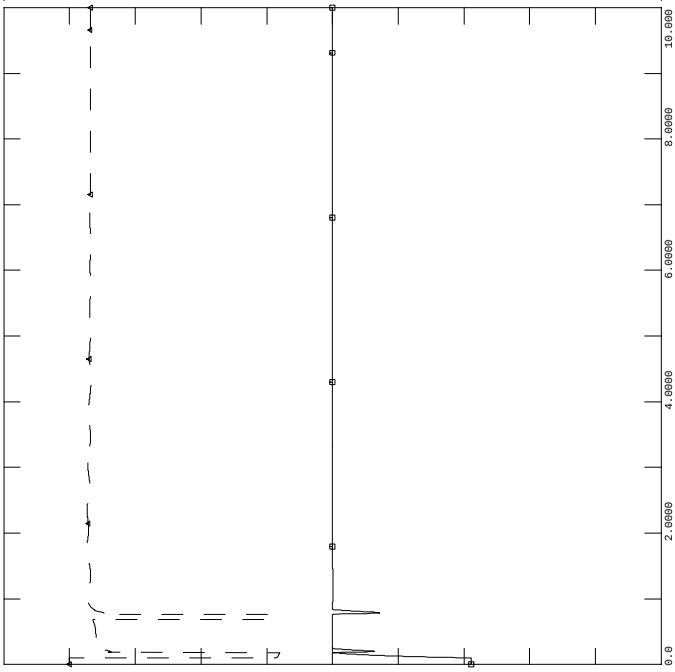


FRI, MAY 21 2004 10:33
FINNEY-HOLCOMB
CHNL# 113: [APPR 56449 TO 50858 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH.OUT

23

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]
1.1000 0.10000
CHNL# 117: [BUS 52185 SVC OUTPUT]
2.0000 0.0

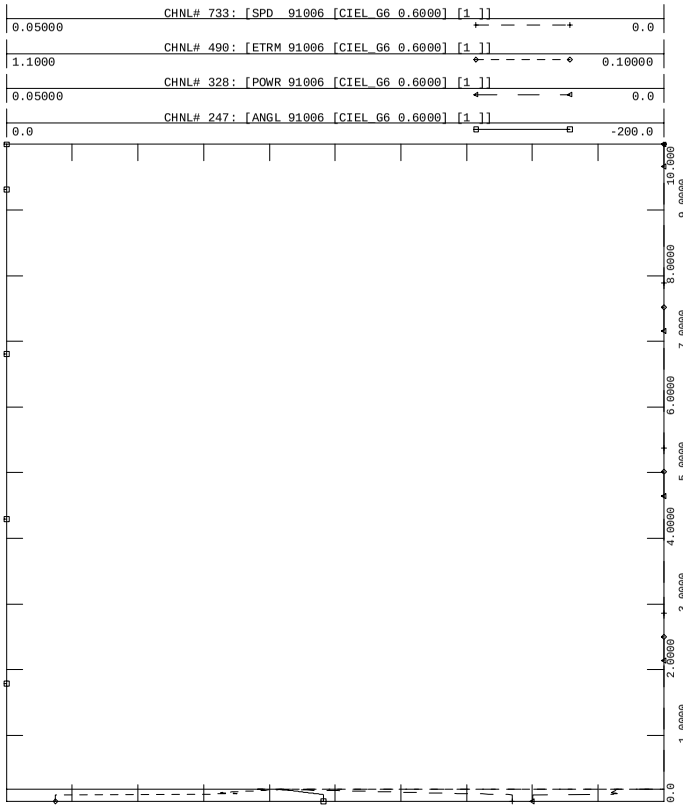


FRI, MAY 21 2004 10:33
SVC OUTPUT
TIME (SECONDS)

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH.OUT

FRI, MAY 21 2004 10:34 2

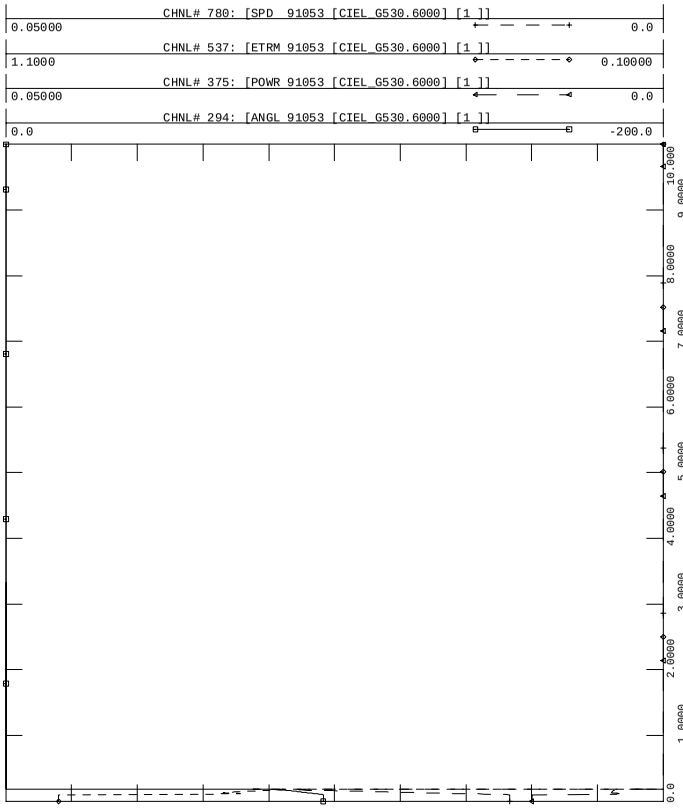
CIELO CABLE1 GEN6



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH.OUT

FRI, MAY 21 2004 10:34 4

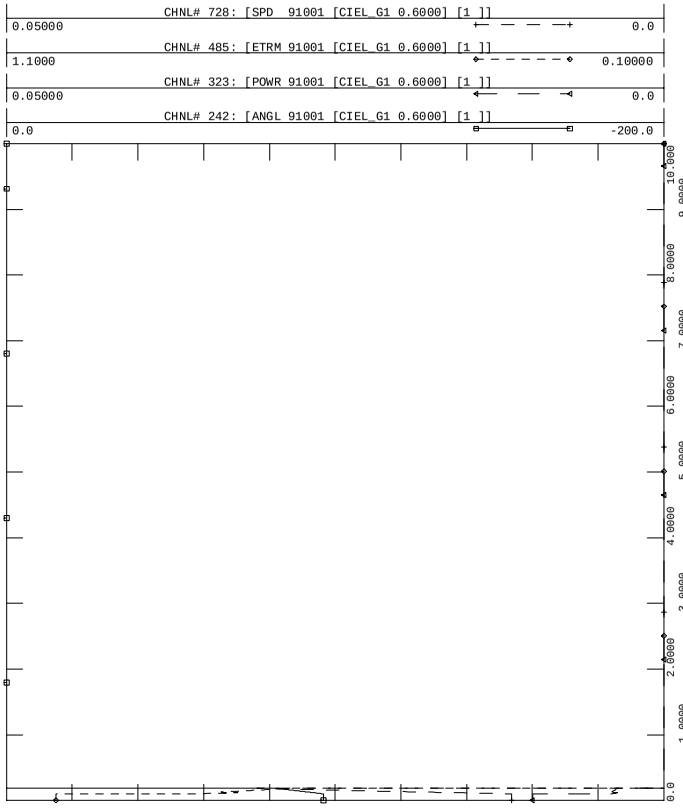
CIELO CABLE2 GEN53



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH.OUT

FRI, MAY 21 2004 10:33 1

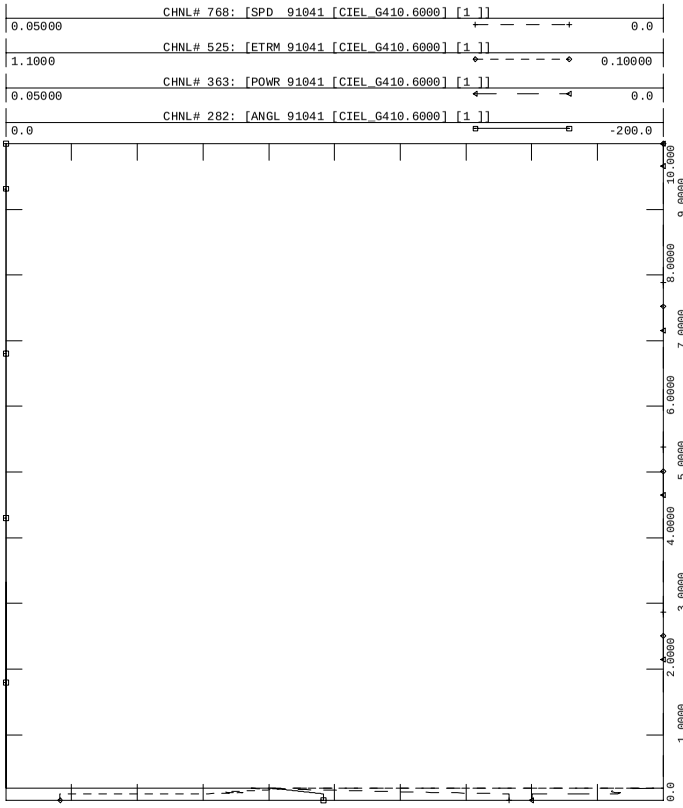
CIELO CABLE1 GEN1



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH.OUT

FRI, MAY 21 2004 10:34 3

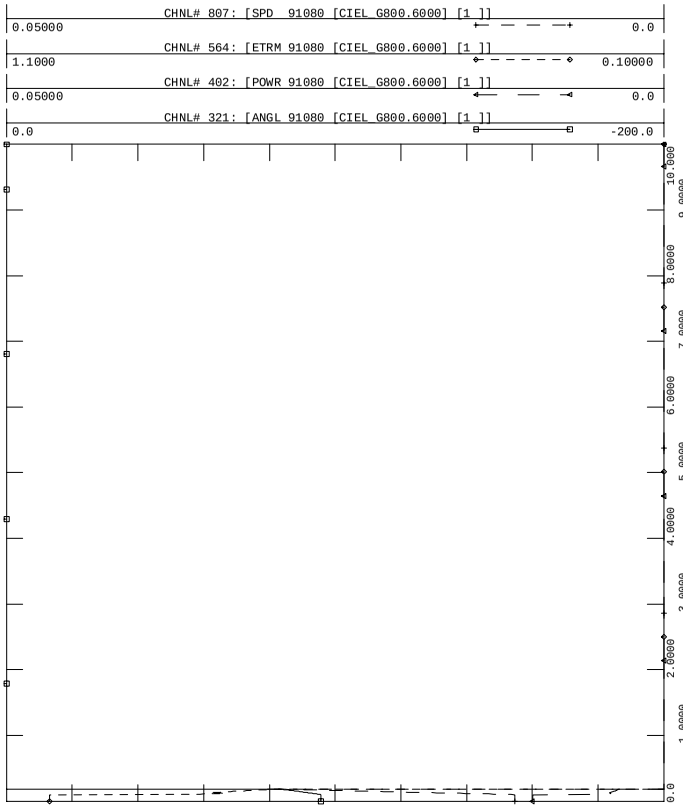
CIELO CABLE2 GEN41



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH.OUT

FRI, MAY 21 2004 10:34 6

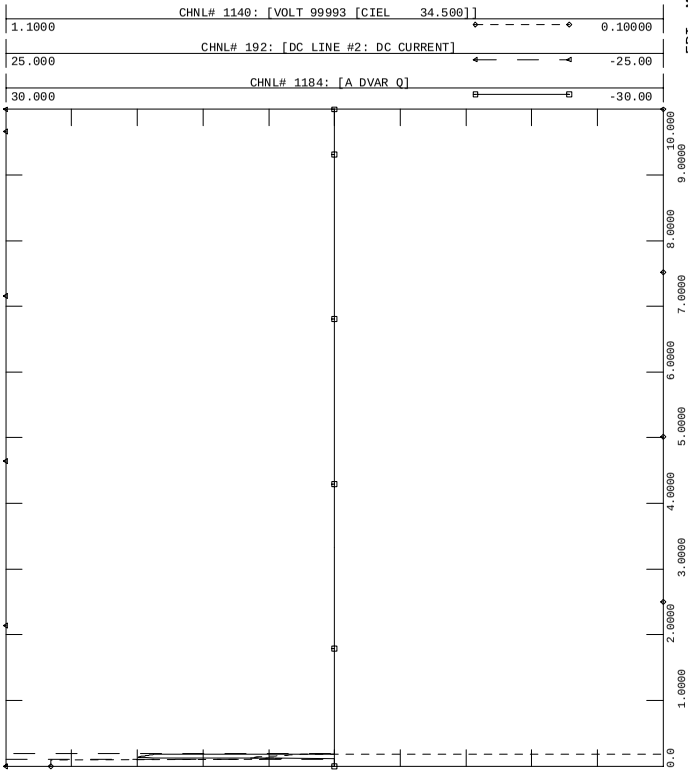
CIELO CABLE3 GEN80



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH.OUT

FRI, MAY 21 2004 10:34 8

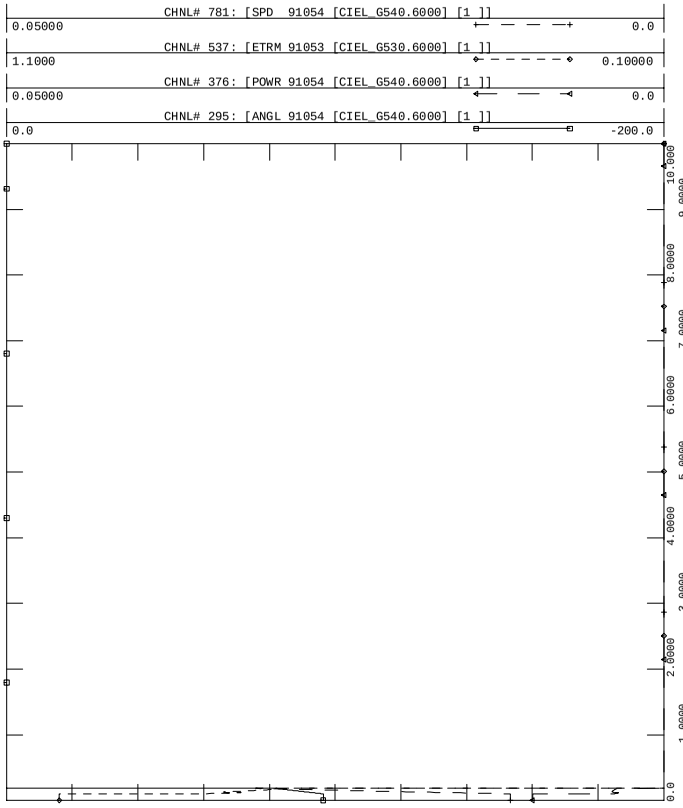
DVAR OUTPUT



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH.OUT

FRI, MAY 21 2004 10:34 5

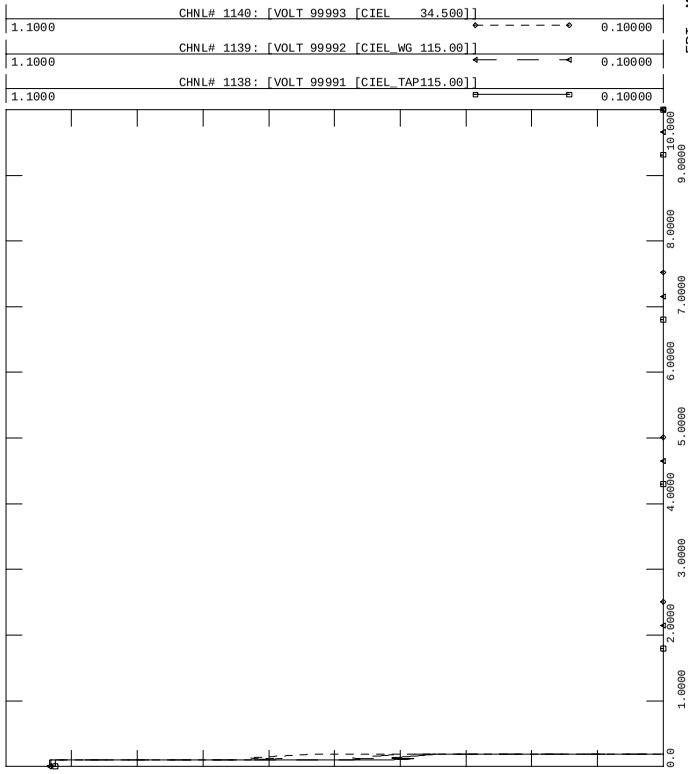
CIELO CABLE3 GEN54



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH.OUT

FRI, MAY 21 2004 10:34 7

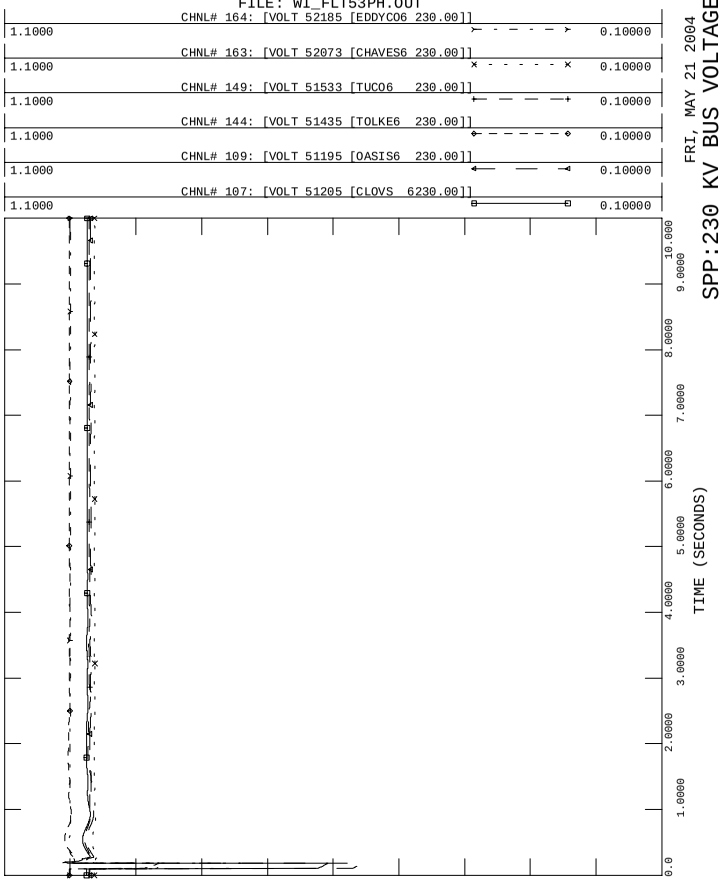
CIELO VOLTAGE



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH.OUT

FRI, MAY 21 2004 10:34

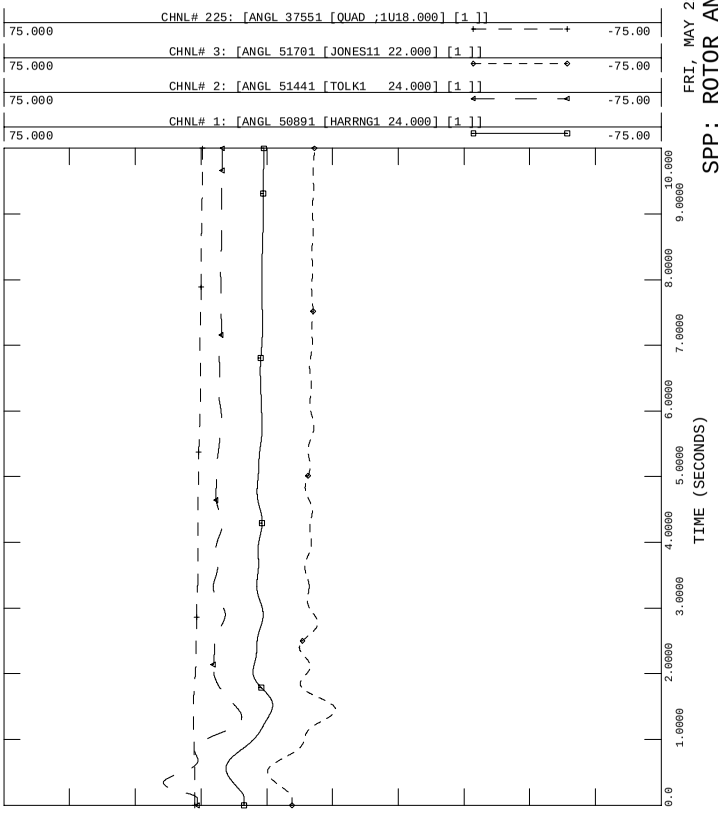
SPP:230 KV BUS VOLTAGE 10



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH.OUT

FRI, MAY 21 2004 10:34

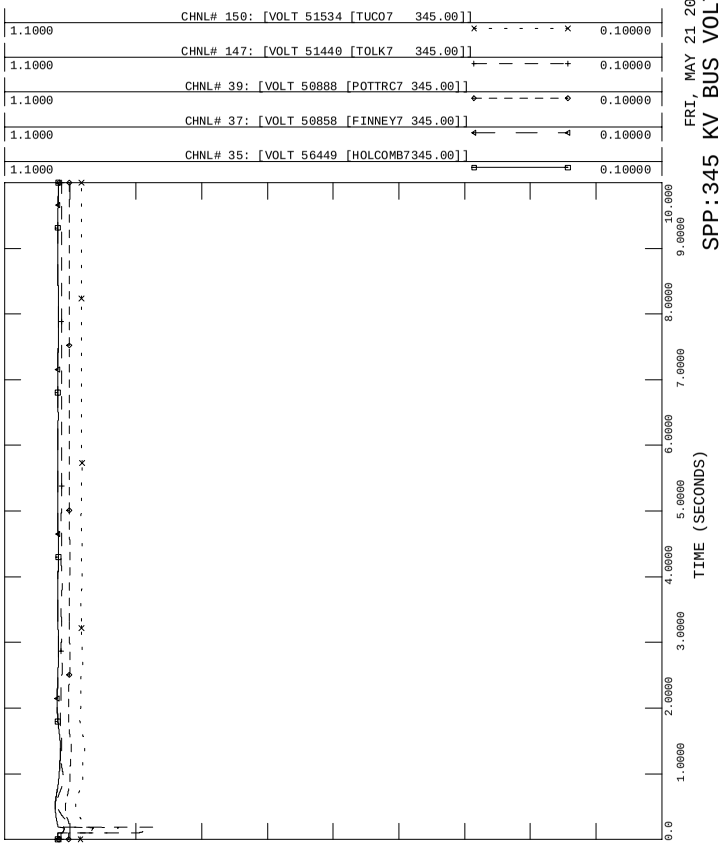
SPP: ROTOR ANGLE 12



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH.OUT

FRI, MAY 21 2004 10:34

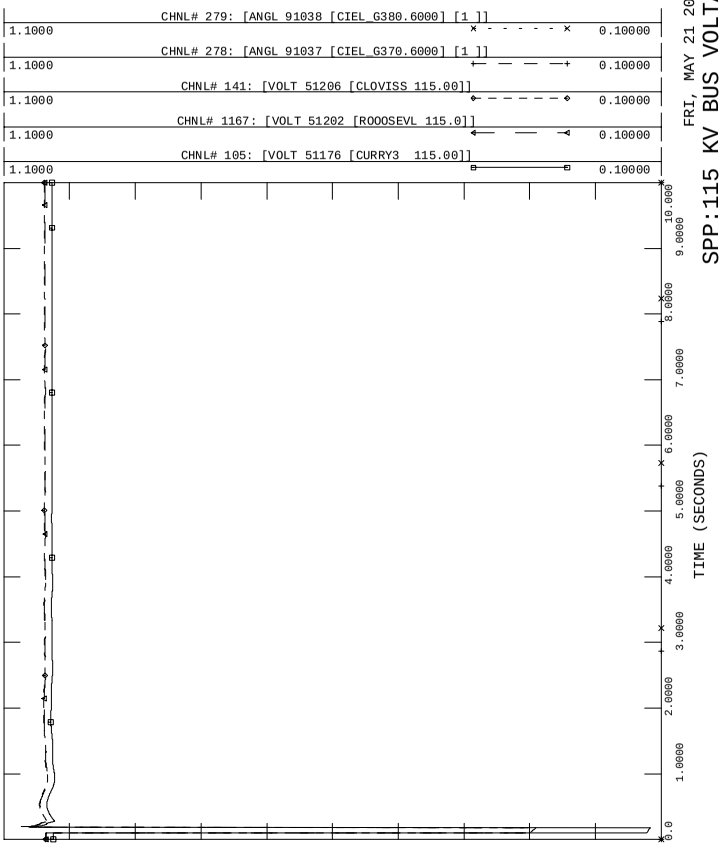
SPP:345 KV BUS VOLTAGE 9



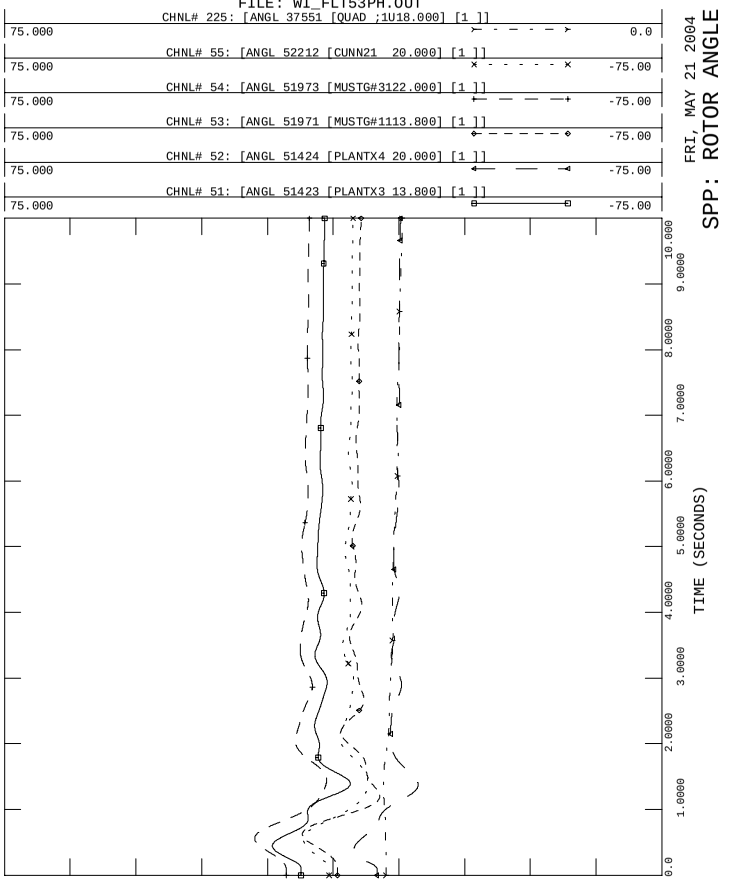
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH.OUT

FRI, MAY 21 2004 10:34

SPP:115 KV BUS VOLTAGE 11

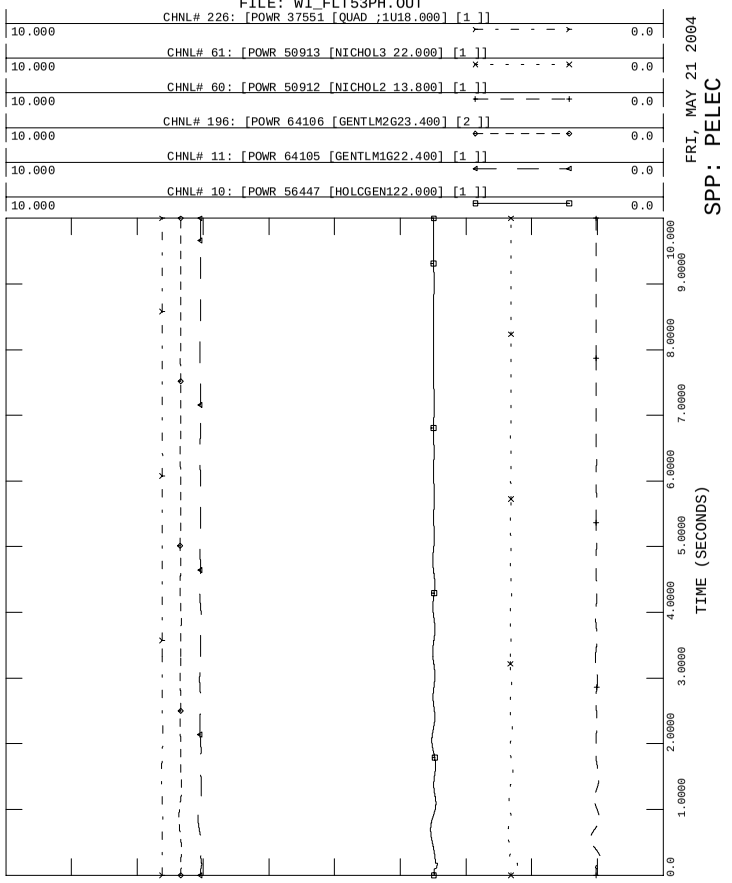


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH.OUT



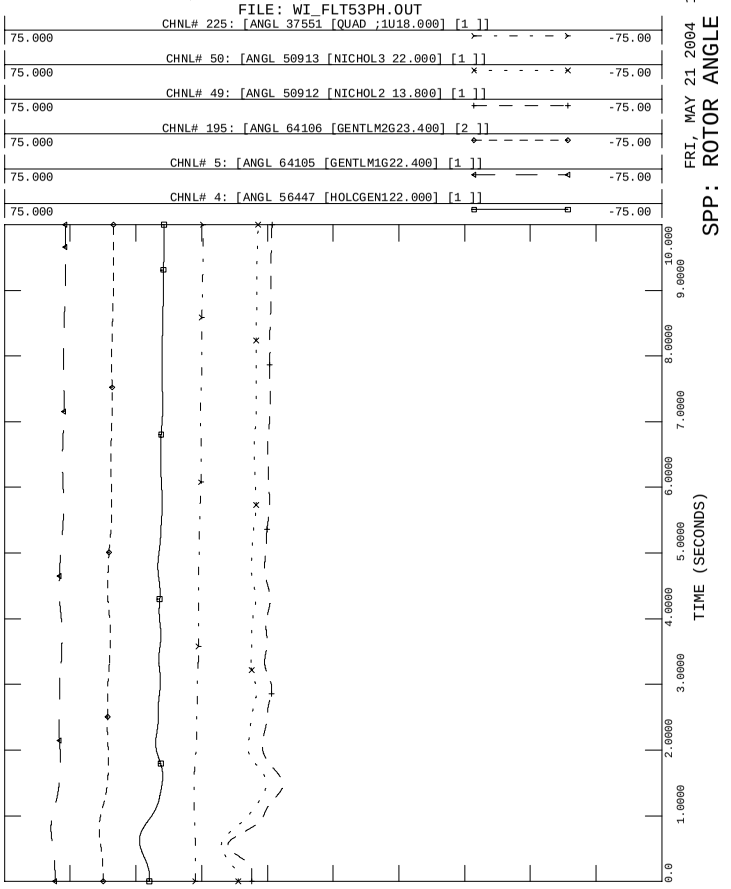
FRI, MAY 21 2004 10:34 14
SPP: ROTOR ANGLE

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH.OUT



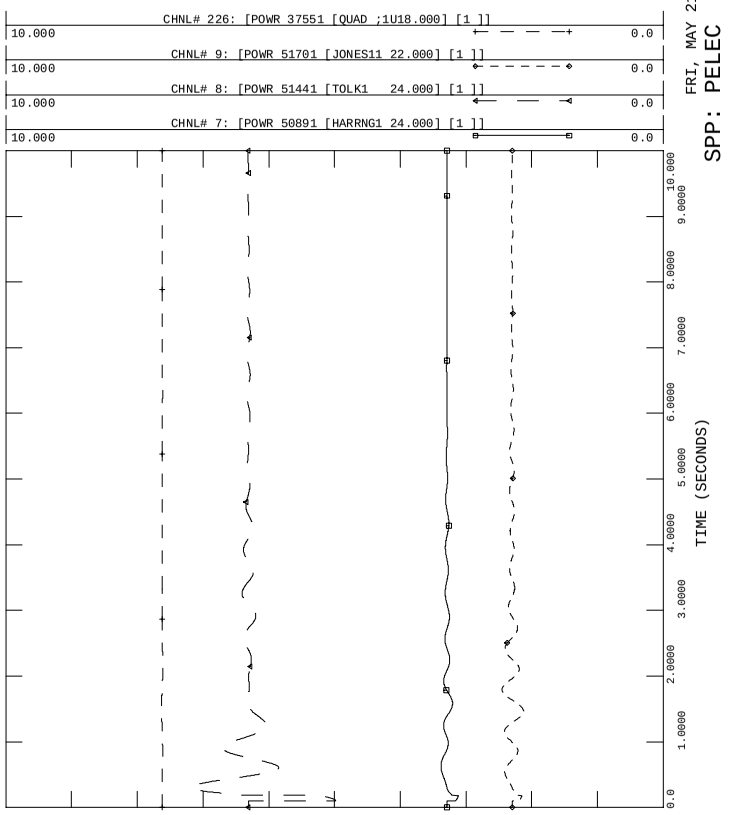
FRI, MAY 21 2004 10:34 16
SPP: PELEC

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH.OUT



FRI, MAY 21 2004 10:34 13
SPP: ROTOR ANGLE

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH.OUT

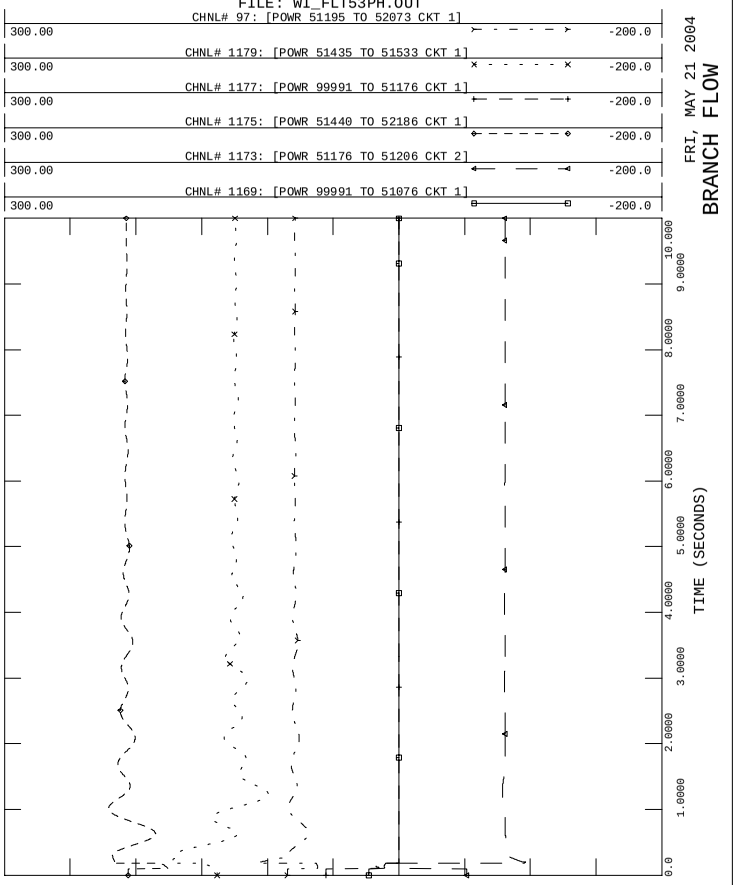


FRI, MAY 21 2004 10:34 15
SPP: PELEC

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH.OUT

FRI, MAY 21 2004 10:34 18

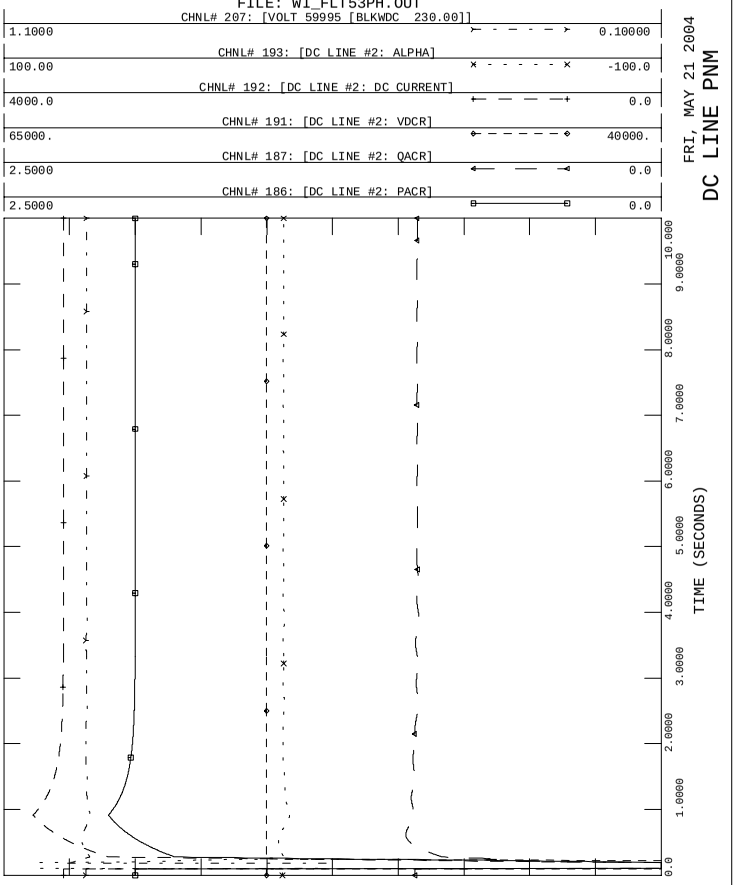
BRANCH FLOW



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH.OUT

FRI, MAY 21 2004 10:34 20

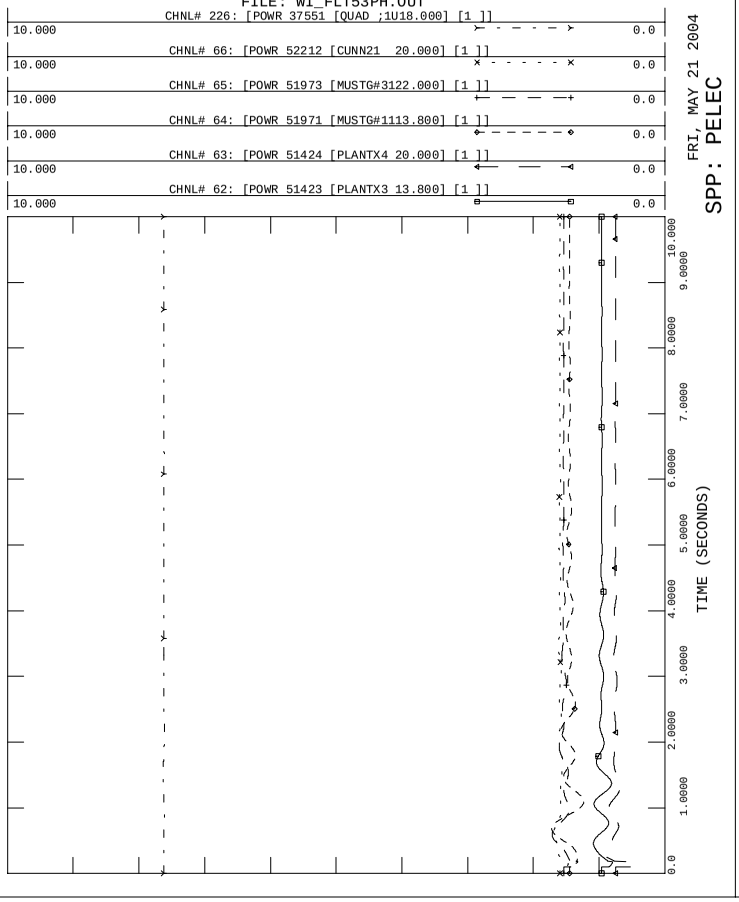
DC LINE PNM



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH.OUT

FRI, MAY 21 2004 10:34 17

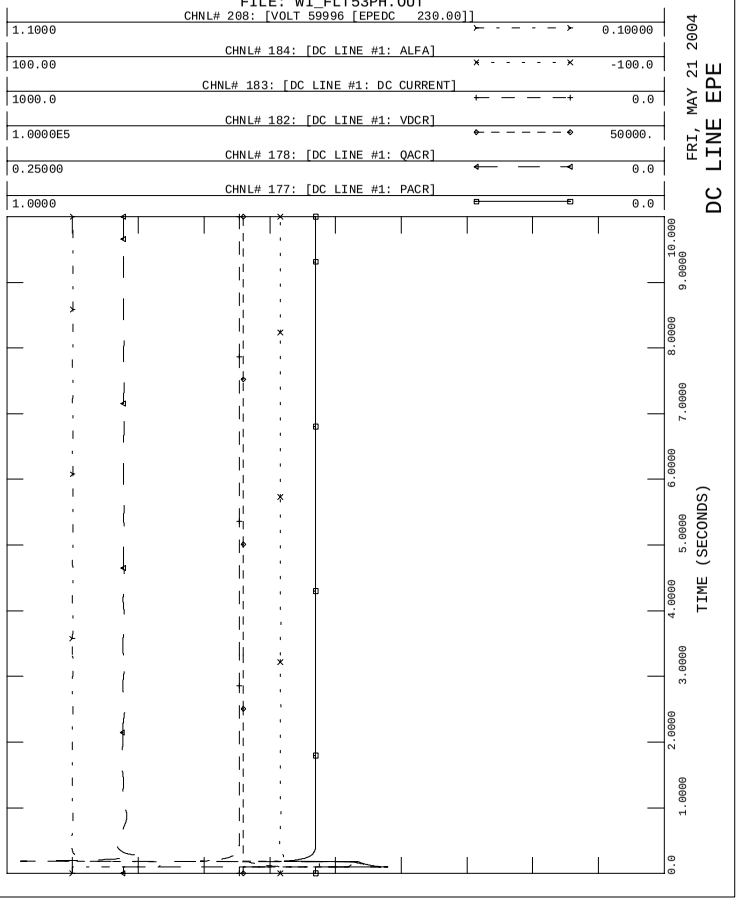
SPP: PELEC



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH.OUT

FRI, MAY 21 2004 10:34 19

DC LINE EPE



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE

22

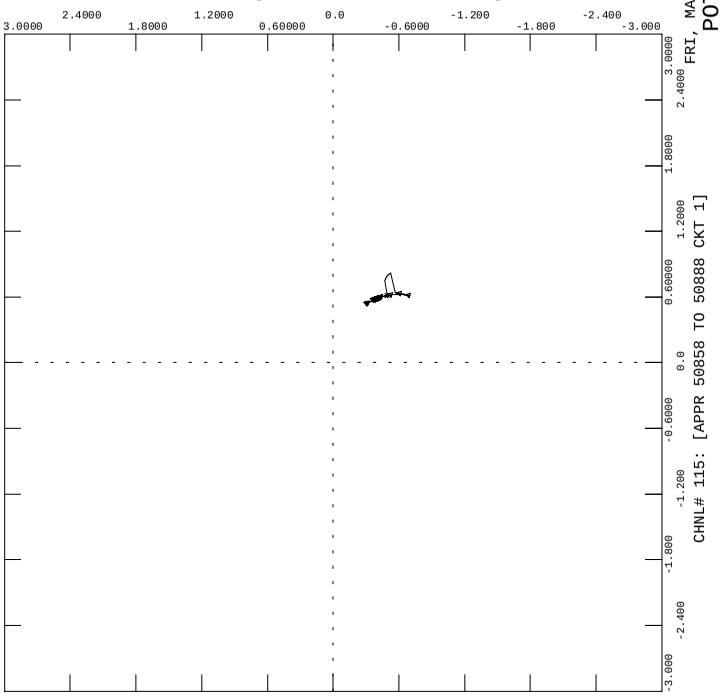
FRI, MAY 21 2004 10:34

POTTER-FINNEY

FILE: WI_FLT53PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25

CHNL# 116: [APPX 50858 TO 50888 CKT 1]



CHNL# 115: [APPR 50858 TO 50888 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE

21

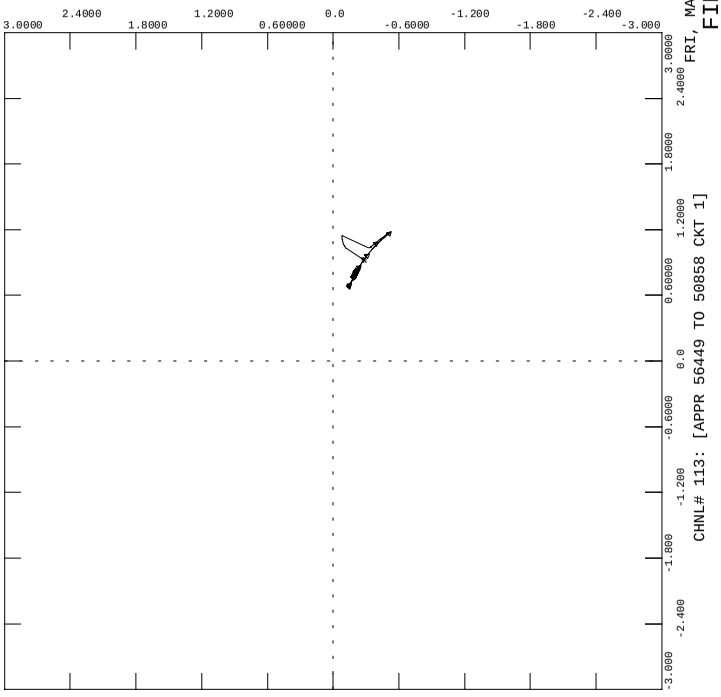
FRI, MAY 21 2004 10:34

FINNEY-HOLCOMB

FILE: WI_FLT53PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25

CHNL# 114: [APPX 56449 TO 50858 CKT 1]



CHNL# 113: [APPR 56449 TO 50858 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH.OUT

23

FRI, MAY 21 2004 10:34

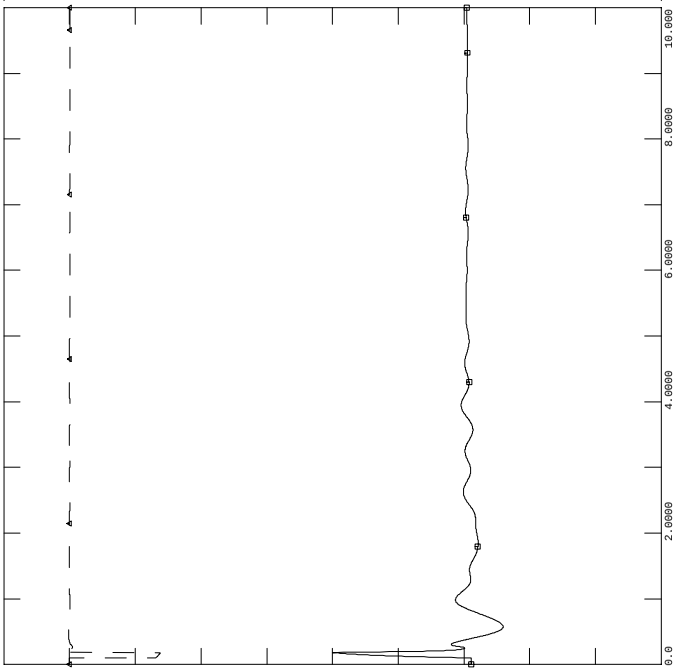
SVC OUTPUT

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]

1.1000 0.10000

CHNL# 117: [BUS 52185 SVC OUTPUT]

2.0000 0.0

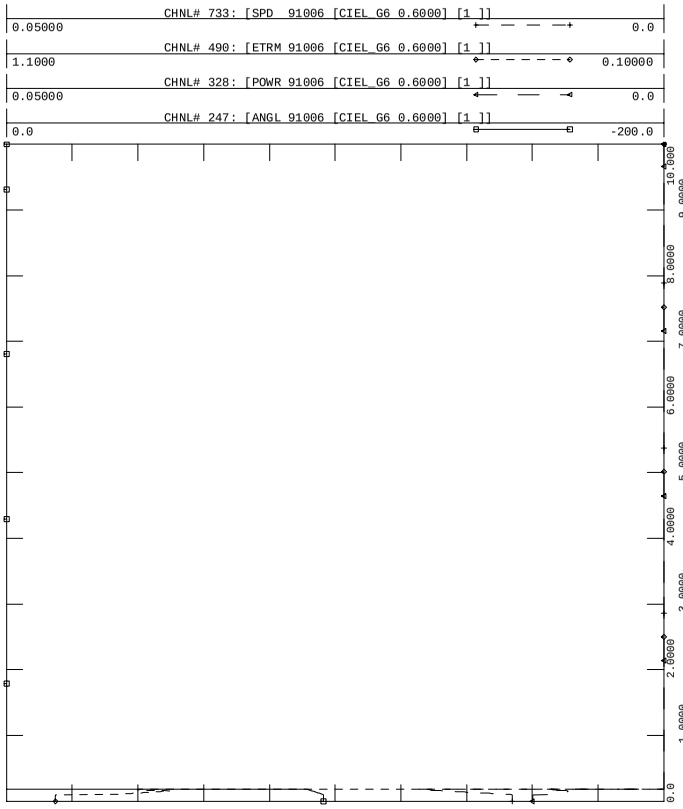


TIME (SECONDS)

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH.OUT

FRI, MAY 21 2004 10:33 2

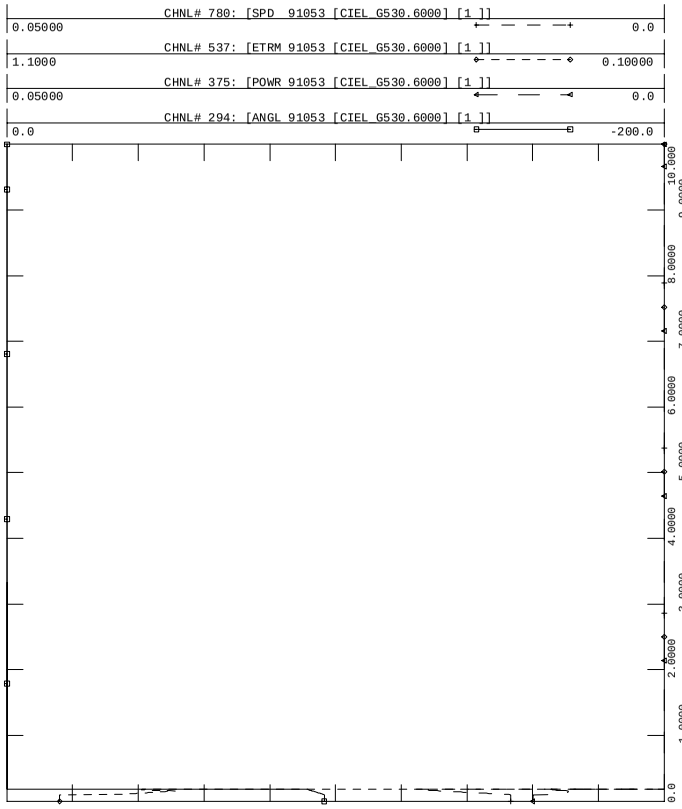
CIELO CABLE1 GEN6



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH.OUT

FRI, MAY 21 2004 10:33 4

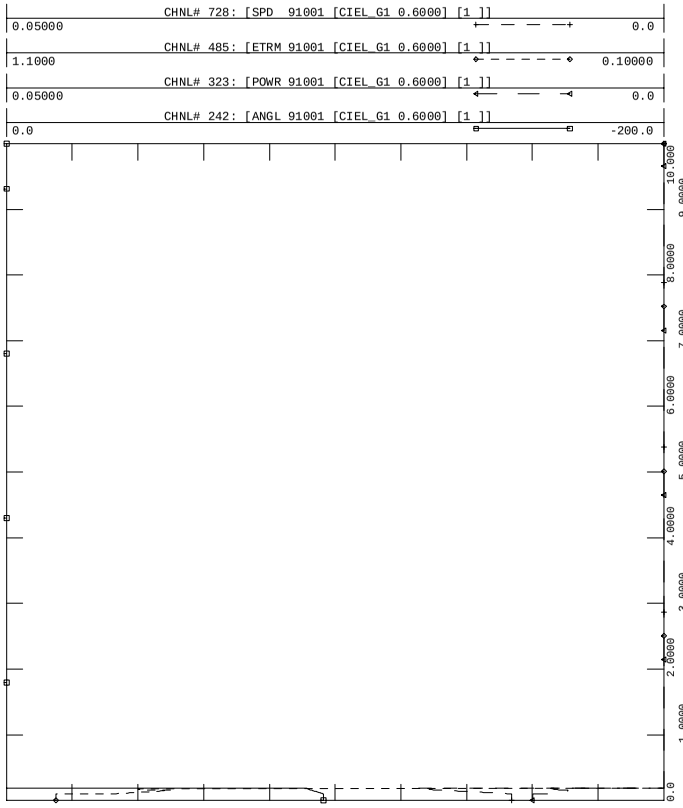
CIELO CABLE2 GEN53



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH.OUT

FRI, MAY 21 2004 10:33 1

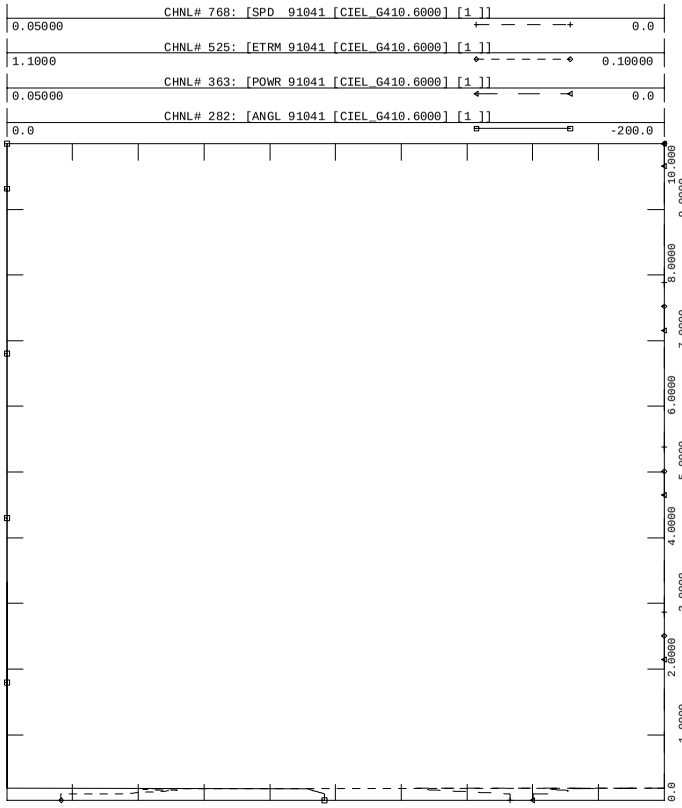
CIELO CABLE1 GEN1



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH.OUT

FRI, MAY 21 2004 10:33 3

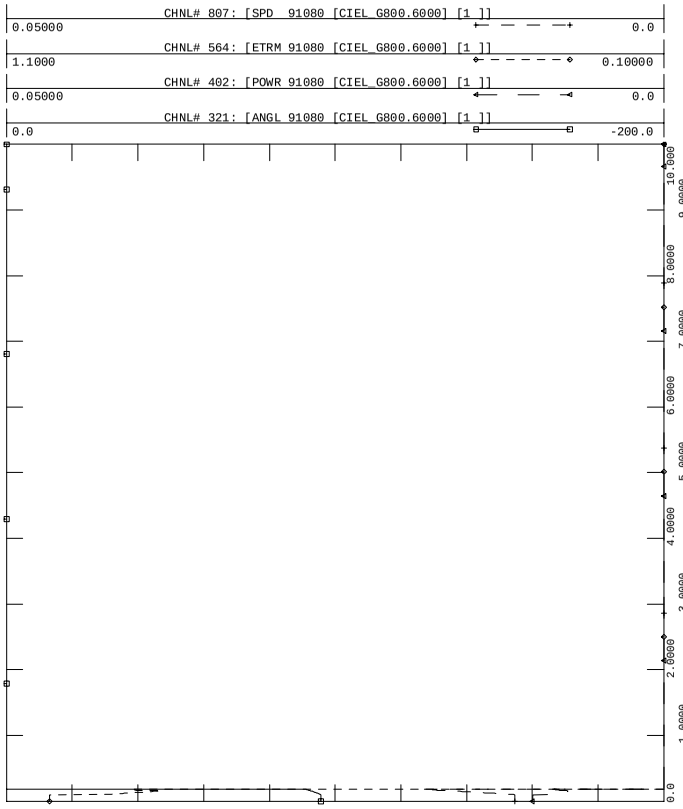
CIELO CABLE2 GEN41



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH.OUT

FRI, MAY 21 2004 10:33 6

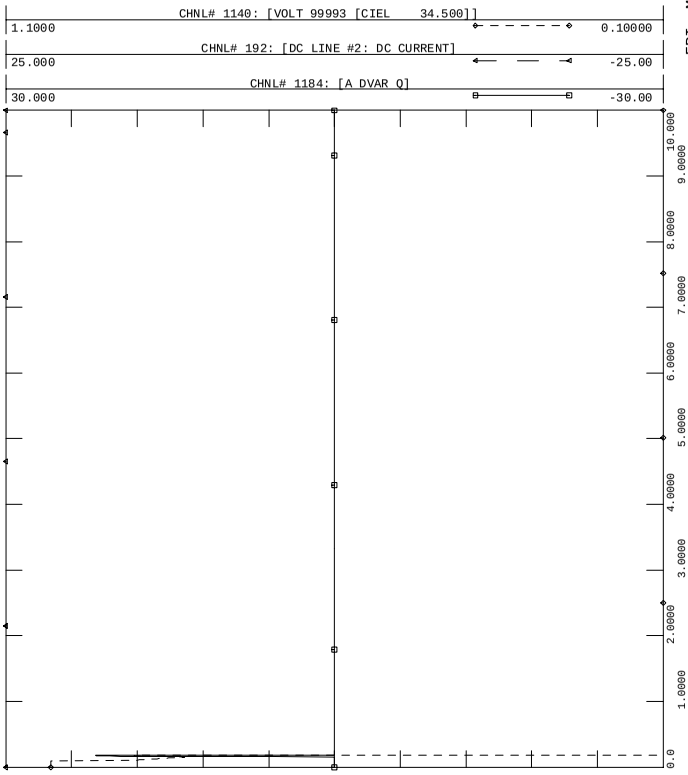
CIELO CABLE3 GEN80



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH.OUT

FRI, MAY 21 2004 10:33 8

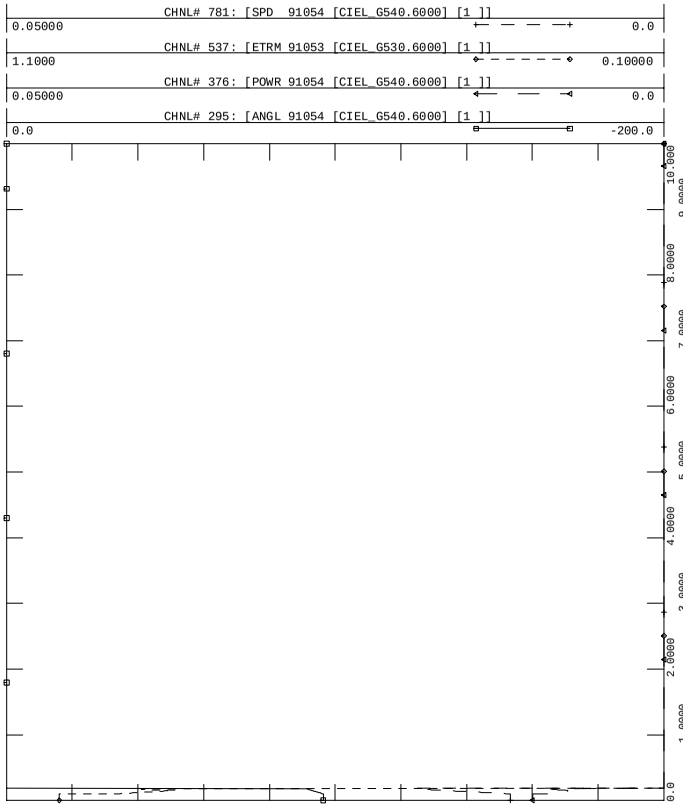
DVAR OUTPUT



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH.OUT

FRI, MAY 21 2004 10:33 5

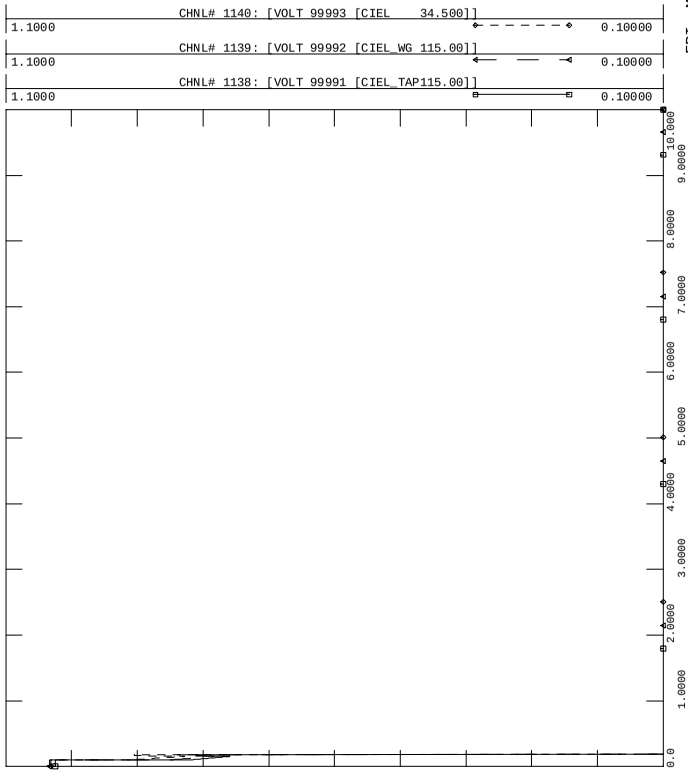
CIELO CABLE3 GEN54



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH.OUT

FRI, MAY 21 2004 10:33 7

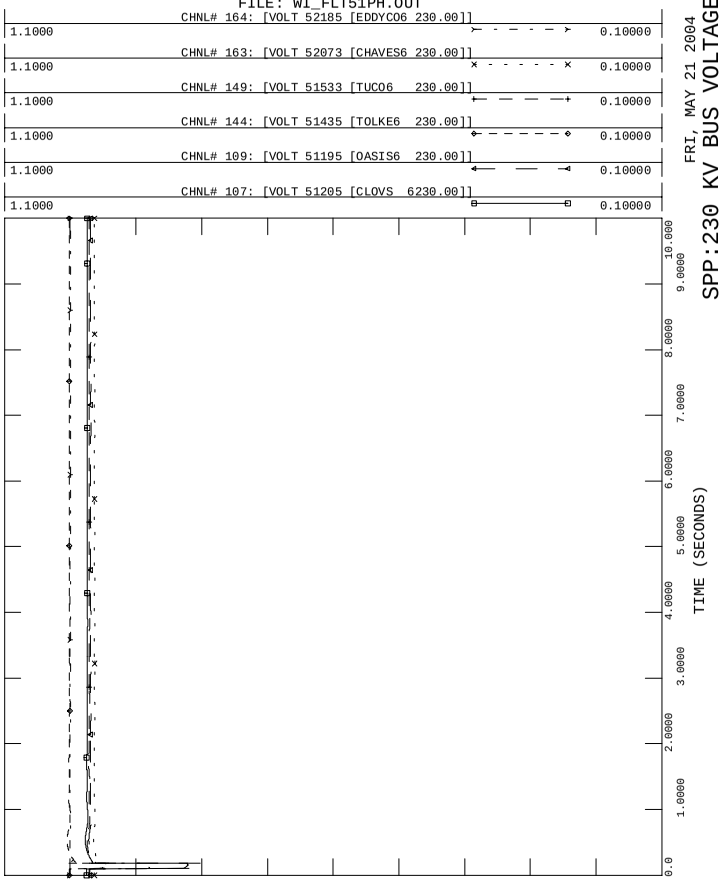
CIELO VOLTAGE



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH.OUT

FRI, MAY 21 2004 10:33

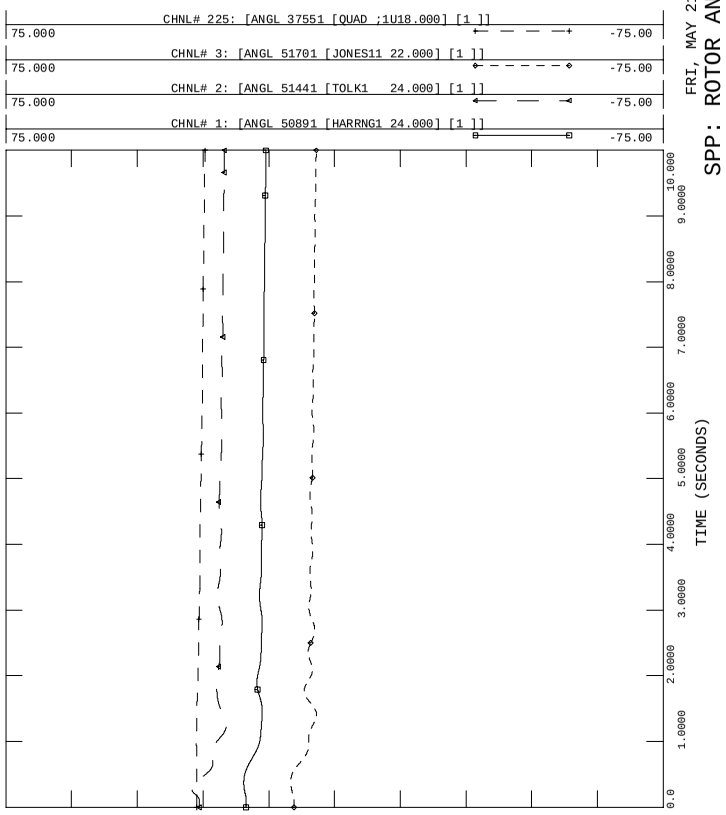
SPP:230 KV BUS VOLTAGE 10



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH.OUT

FRI, MAY 21 2004 10:33

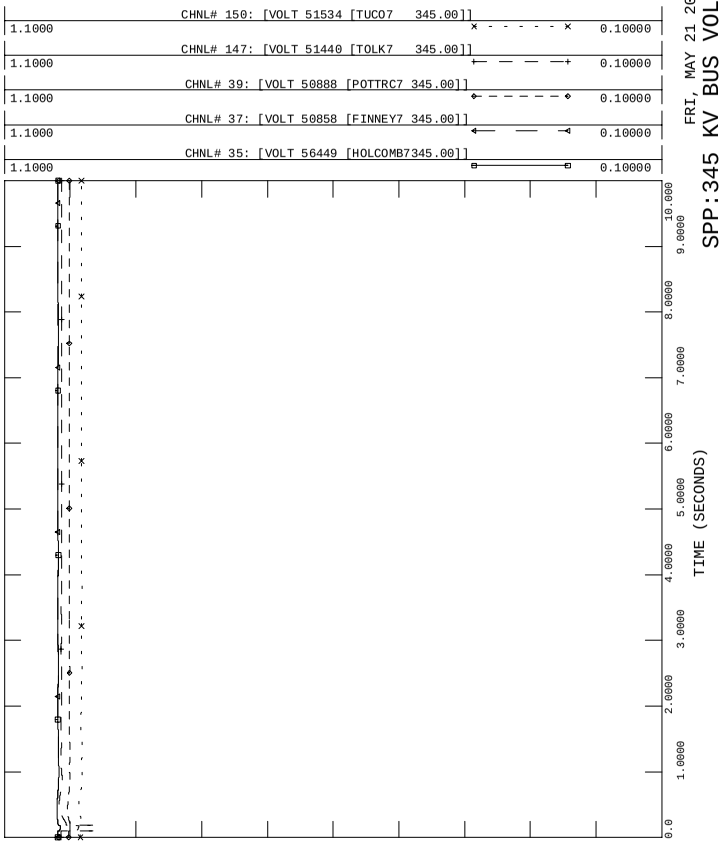
SPP: ROTOR ANGLE 12



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH.OUT

FRI, MAY 21 2004 10:33

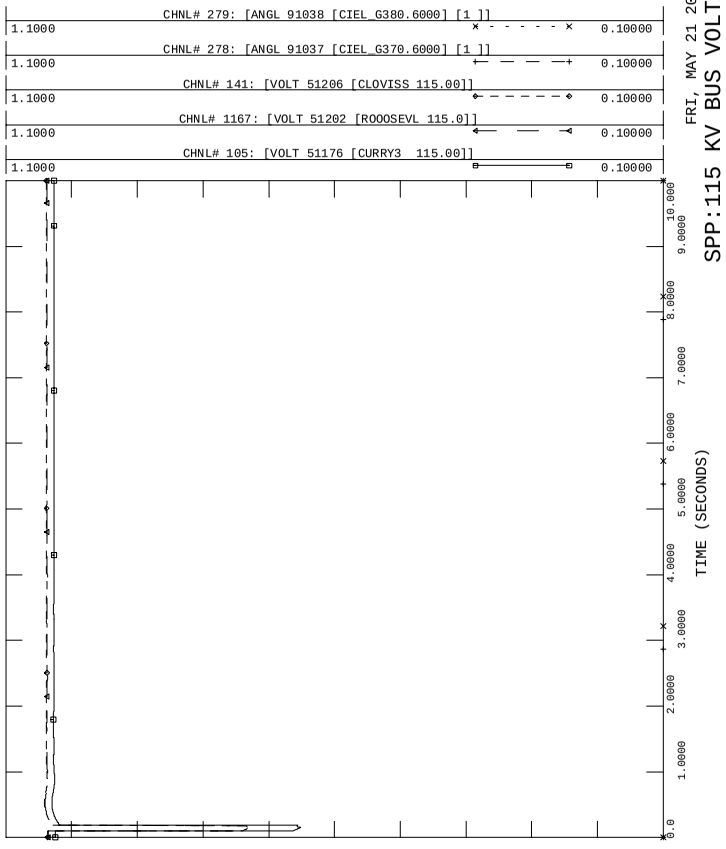
SPP:345 KV BUS VOLTAGE 9



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH.OUT

FRI, MAY 21 2004 10:33

SPP:115 KV BUS VOLTAGE 11

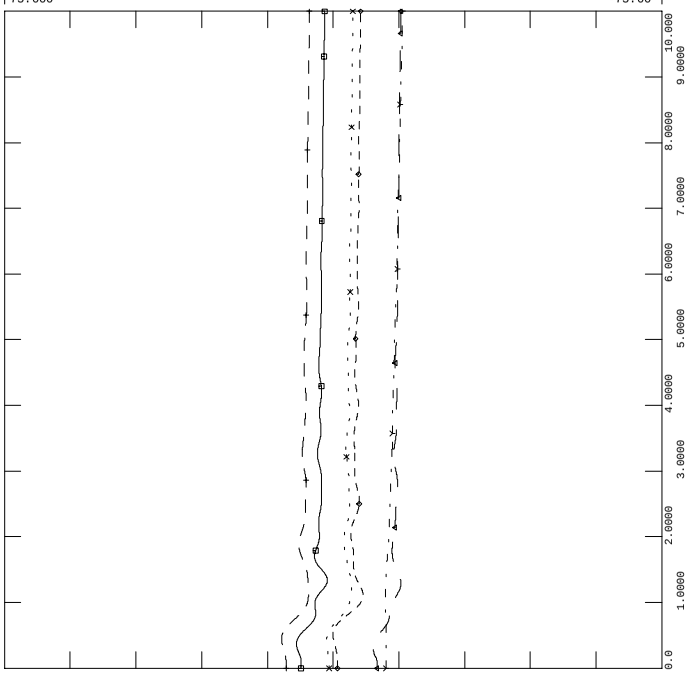


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH.OUT

FRI, MAY 21 2004 10:33 14

SPP: ROTOR ANGLE

CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]]
75.000 0.0
CHNL# 55: [ANGL 52212 [CUNN21 20.000] [1]]
75.000 -75.00
CHNL# 54: [ANGL 51973 [MUSTG#3122.000] [1]]
75.000 -75.00
CHNL# 53: [ANGL 51971 [MUSTG#1113.800] [1]]
75.000 -75.00
CHNL# 52: [ANGL 51424 [PLANTX4 20.000] [1]]
75.000 -75.00
CHNL# 51: [ANGL 51423 [PLANTX3 13.800] [1]]
75.000 -75.00

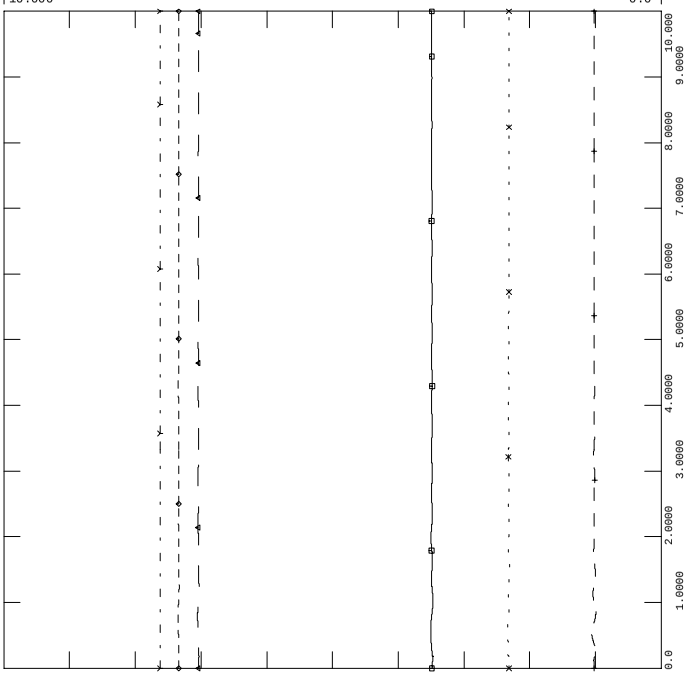


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH.OUT

FRI, MAY 21 2004 10:33 16

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
10.000 0.0
CHNL# 61: [POWR 50913 [NICHOL3 22.000] [1]]
10.000 0.0
CHNL# 60: [POWR 50912 [NICHOL2 13.800] [1]]
10.000 0.0
CHNL# 196: [POWR 64106 [GENTLM2G23.400] [2]]
10.000 0.0
CHNL# 11: [POWR 64105 [GENTLM1G22.400] [1]]
10.000 0.0
CHNL# 10: [POWR 56447 [HOLCGEN122.000] [1]]
10.000 0.0

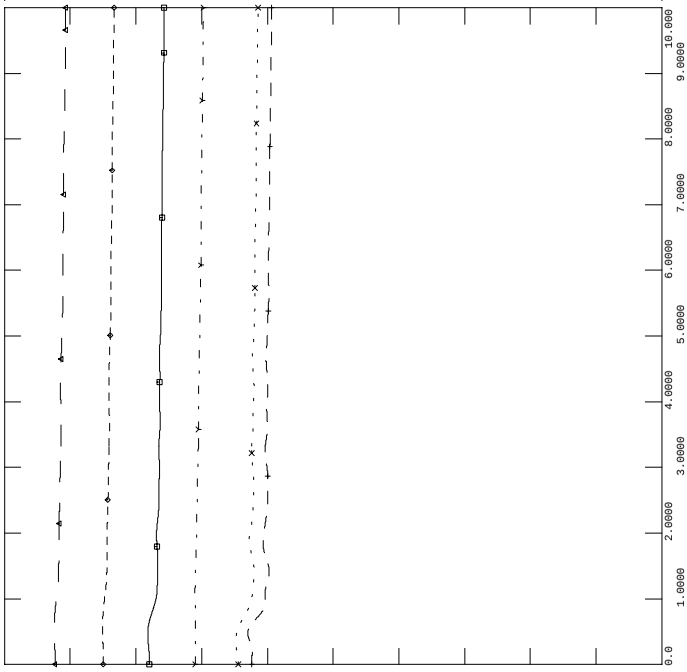


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH.OUT

FRI, MAY 21 2004 10:33 13

SPP: ROTOR ANGLE

CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]]
75.000 -75.00
CHNL# 50: [ANGL 50913 [NICHOL3 22.000] [1]]
75.000 -75.00
CHNL# 49: [ANGL 50912 [NICHOL2 13.800] [1]]
75.000 -75.00
CHNL# 195: [ANGL 64106 [GENTLM2G23.400] [2]]
75.000 -75.00
CHNL# 5: [ANGL 64105 [GENTLM1G22.400] [1]]
75.000 -75.00
CHNL# 4: [ANGL 56447 [HOLCGEN122.000] [1]]
75.000 -75.00

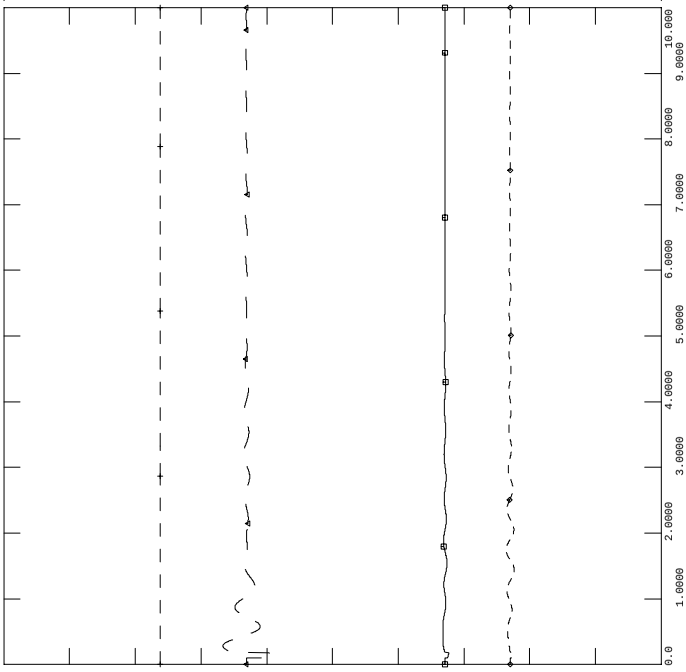


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH.OUT

FRI, MAY 21 2004 10:33 15

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
10.000 0.0
CHNL# 9: [POWR 51701 [JONES11 22.000] [1]]
10.000 0.0
CHNL# 8: [POWR 51441 [TOLK1 24.000] [1]]
10.000 0.0
CHNL# 7: [POWR 50891 [HARRNG1 24.000] [1]]
10.000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH.OUT

FRI, MAY 21 2004 10:33 18

BRANCH FLOW

CHNL# 97: [POWR 51195 TO 52073 CKT 1]
300.00 -200.0

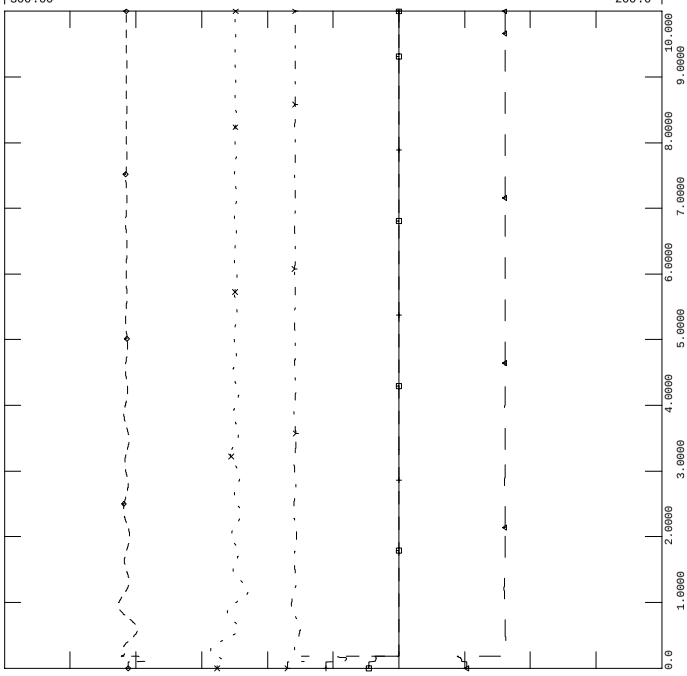
CHNL# 1179: [POWR 51435 TO 51533 CKT 1]
300.00 -200.0

CHNL# 1177: [POWR 99991 TO 51176 CKT 1]
300.00 -200.0

CHNL# 1175: [POWR 51440 TO 52186 CKT 1]
300.00 -200.0

CHNL# 1173: [POWR 51176 TO 51206 CKT 2]
300.00 -200.0

CHNL# 1169: [POWR 99991 TO 51076 CKT 1]
300.00 -200.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH.OUT

FRI, MAY 21 2004 10:33 20

DC LINE PNM

CHNL# 207: [VOLT 59995 [BLKWDC 230.00]]
1.1000 0.10000

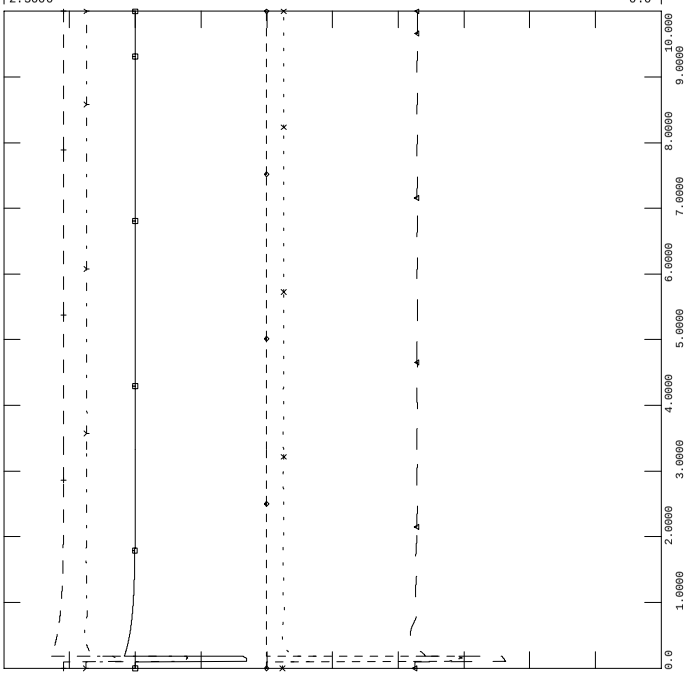
CHNL# 193: [DC LINE #2: ALPHA]
100.00 -100.0

CHNL# 192: [DC LINE #2: DC CURRENT]
4000.0 0.0

CHNL# 191: [DC LINE #2: VDCR]
65000. 40000.

CHNL# 187: [DC LINE #2: QACR]
2.5000 0.0

CHNL# 186: [DC LINE #2: PACR]
2.5000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH.OUT

FRI, MAY 21 2004 10:33 17

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
10.000 0.0

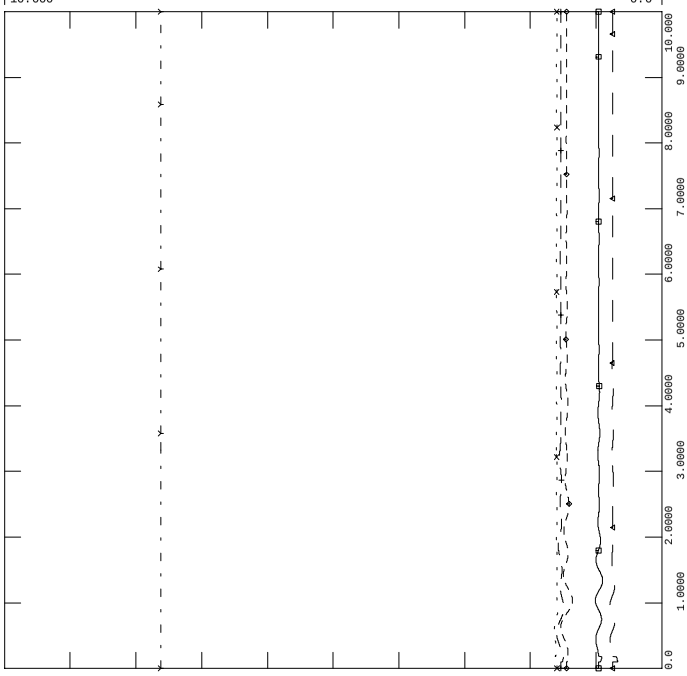
CHNL# 66: [POWR 52212 [CUNN21 20.000] [1]]
10.000 0.0

CHNL# 65: [POWR 51973 [MUSTG#3122.000] [1]]
10.000 0.0

CHNL# 64: [POWR 51971 [MUSTG#1113.800] [1]]
10.000 0.0

CHNL# 63: [POWR 51424 [PLANTX4 20.000] [1]]
10.000 0.0

CHNL# 62: [POWR 51423 [PLANTX3 13.800] [1]]
10.000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH.OUT

FRI, MAY 21 2004 10:33 19

DC LINE EPE

CHNL# 208: [VOLT 59996 [EPEDC 230.00]]
1.1000 0.10000

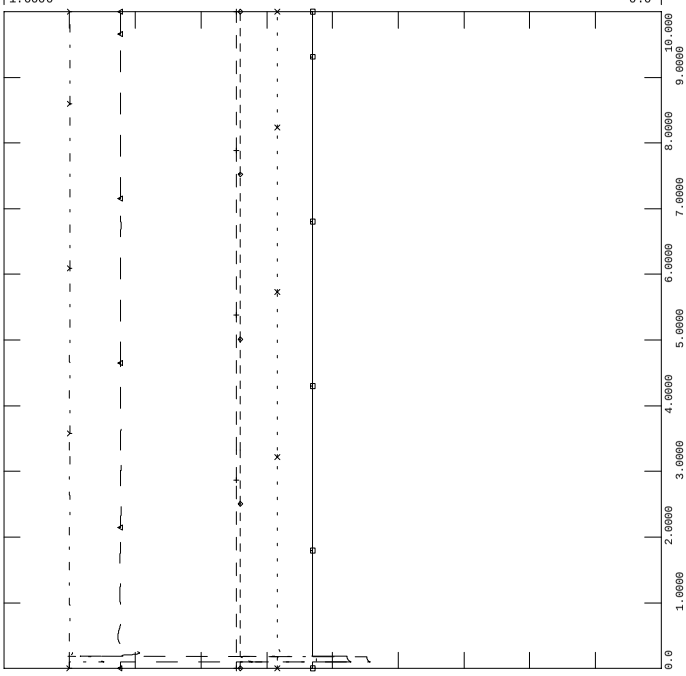
CHNL# 184: [DC LINE #1: ALFA]
100.00 -100.0

CHNL# 183: [DC LINE #1: DC CURRENT]
1000.0 0.0

CHNL# 182: [DC LINE #1: VDCR]
1.0000E5 50000.

CHNL# 178: [DC LINE #1: QACR]
0.25000 0.0

CHNL# 177: [DC LINE #1: PACR]
1.0000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE

22

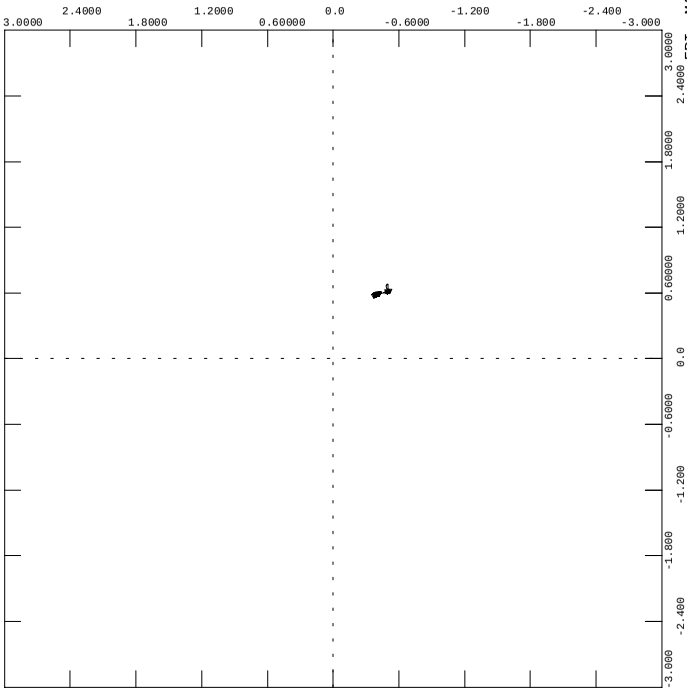
FRI, MAY 21 2004 10:33

POTTER-FINNEY

FILE: WI_FLT51PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25

CHNL# 116: [APPX 50858 TO 50888 CKT 1]



CHNL# 115: [APPR 50858 TO 50888 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE

21

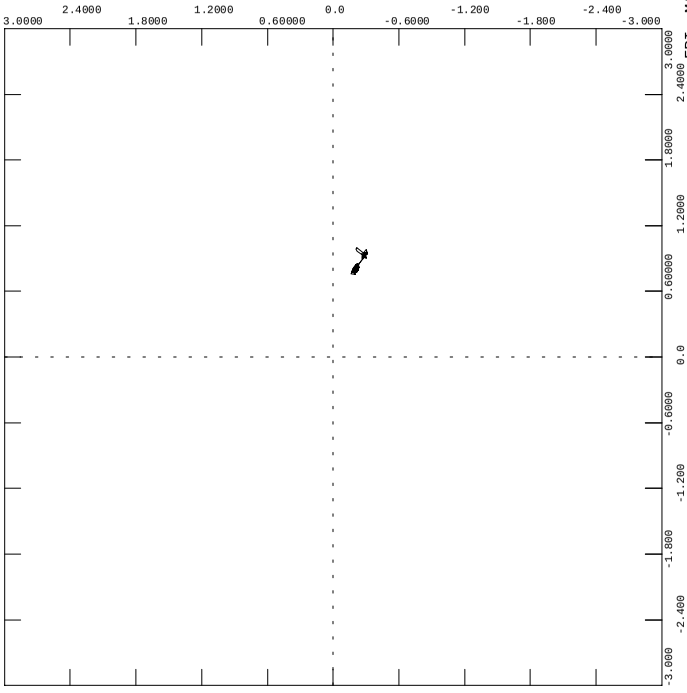
FRI, MAY 21 2004 10:33

FINNEY-HOLCOMB

FILE: WI_FLT51PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25

CHNL# 114: [APPX 56449 TO 50858 CKT 1]



CHNL# 113: [APPR 56449 TO 50858 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH.OUT

23

FRI, MAY 21 2004 10:33

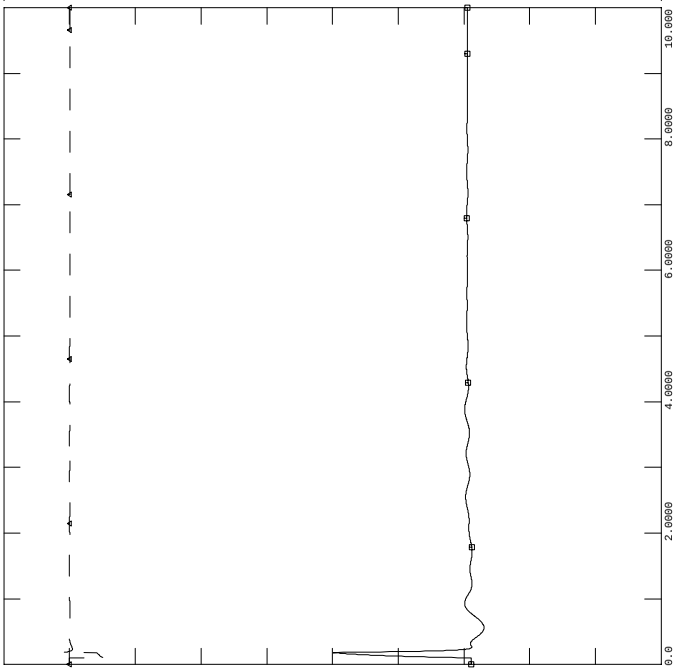
SVC OUTPUT

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]

1.1000 0.10000

CHNL# 117: [BUS 52185 SVC OUTPUT]

2.0000 0.0

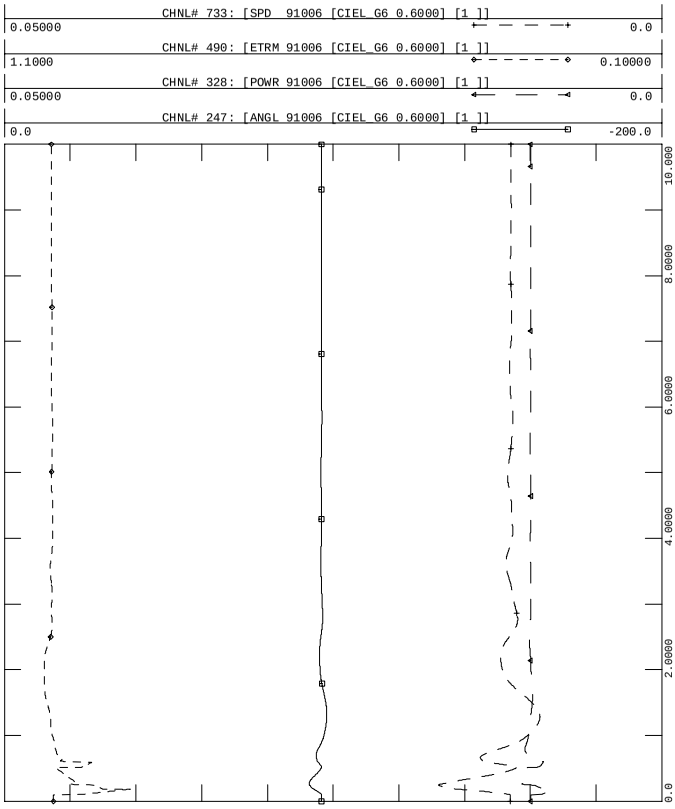


TIME (SECONDS)

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH.OUT

FRI, MAY 21 2004 10:34 2

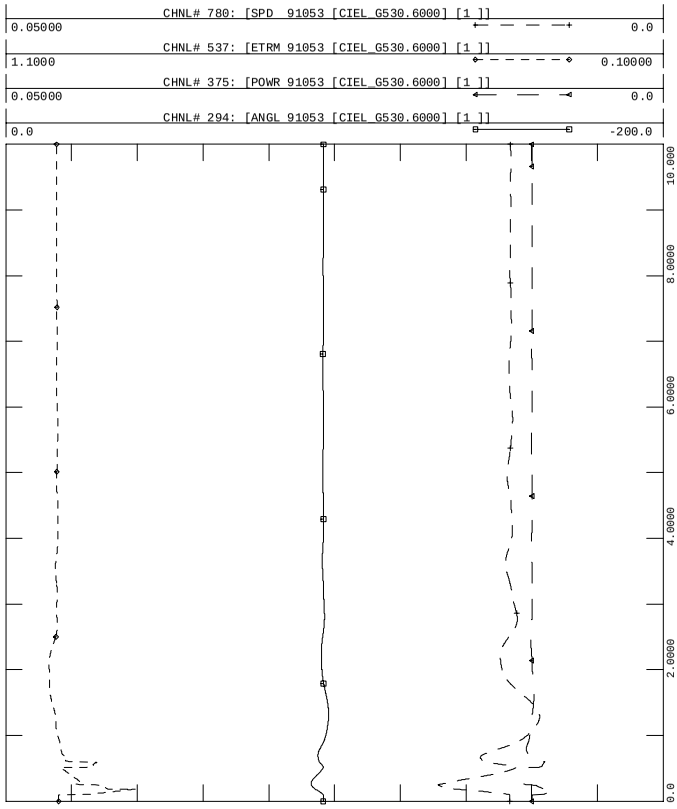
CIELO CABLE1 GEN6



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH.OUT

FRI, MAY 21 2004 10:34 4

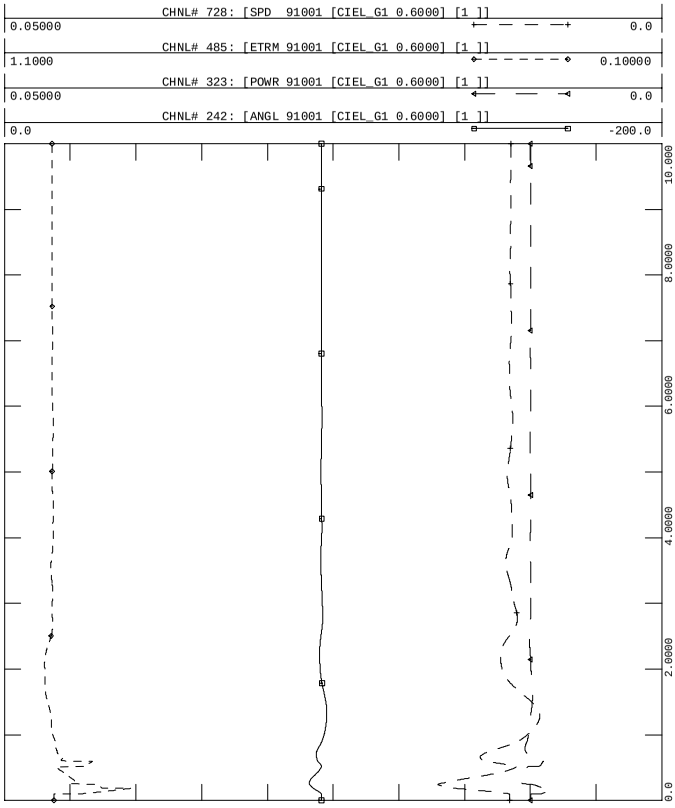
CIELO CABLE2 GEN53



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH.OUT

FRI, MAY 21 2004 10:34 1

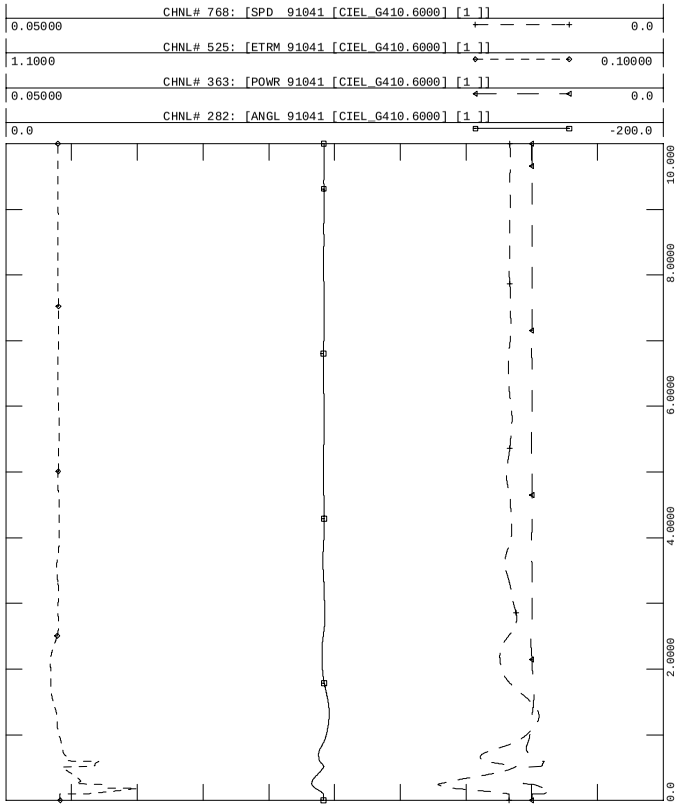
CIELO CABLE1 GEN1



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH.OUT

FRI, MAY 21 2004 10:34 3

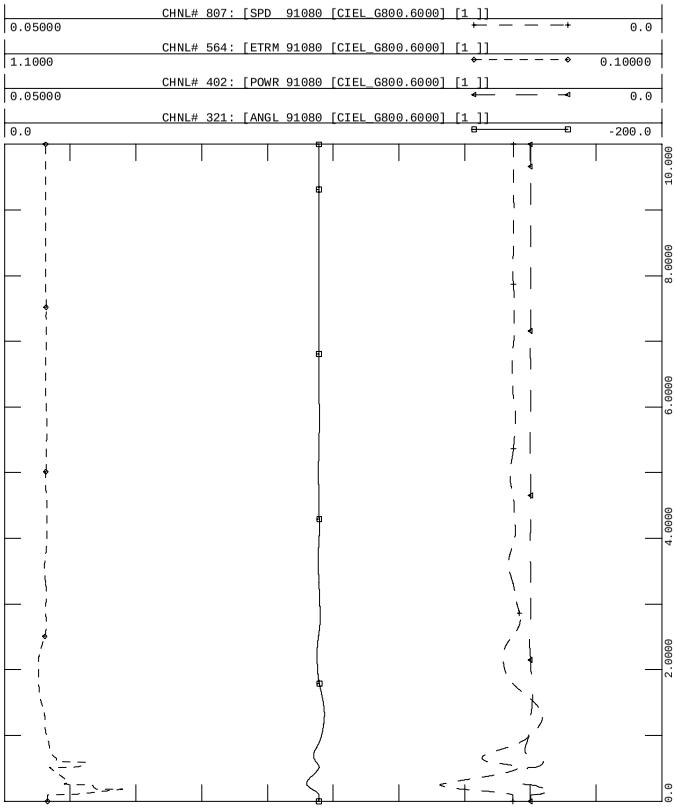
CIELO CABLE2 GEN41



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH.OUT

FRI, MAY 21 2004 10:34 6

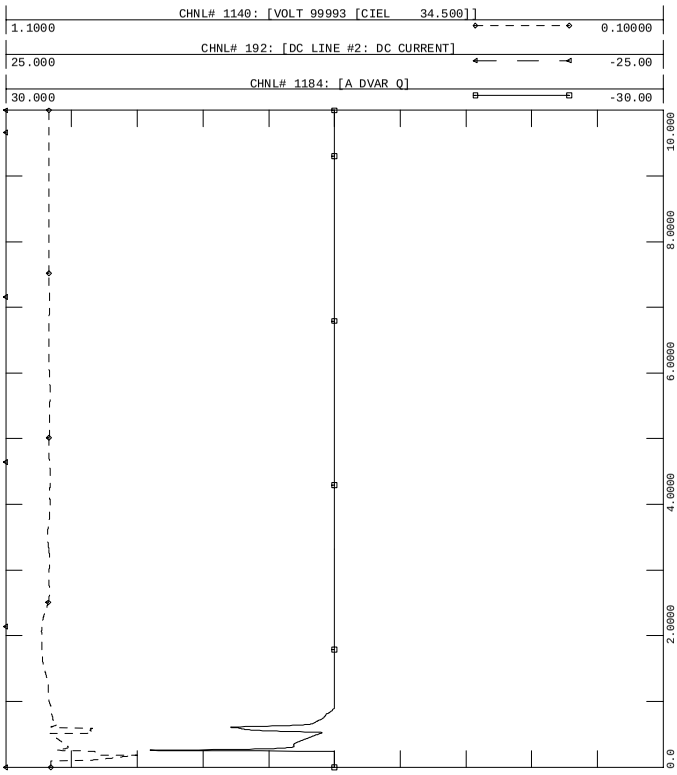
CIELO CABLE3 GEN80



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH.OUT

FRI, MAY 21 2004 10:34 8

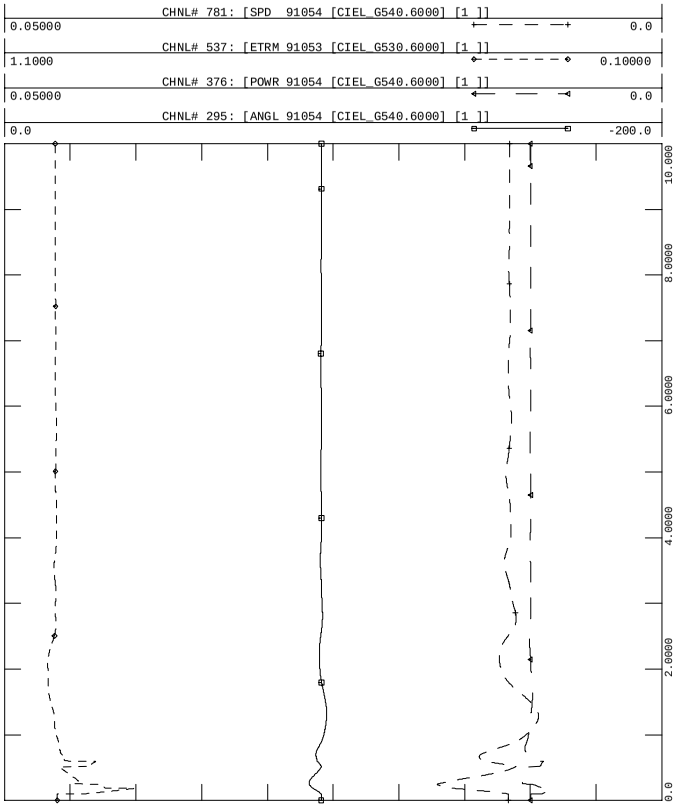
DVAR OUTPUT



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH.OUT

FRI, MAY 21 2004 10:34 5

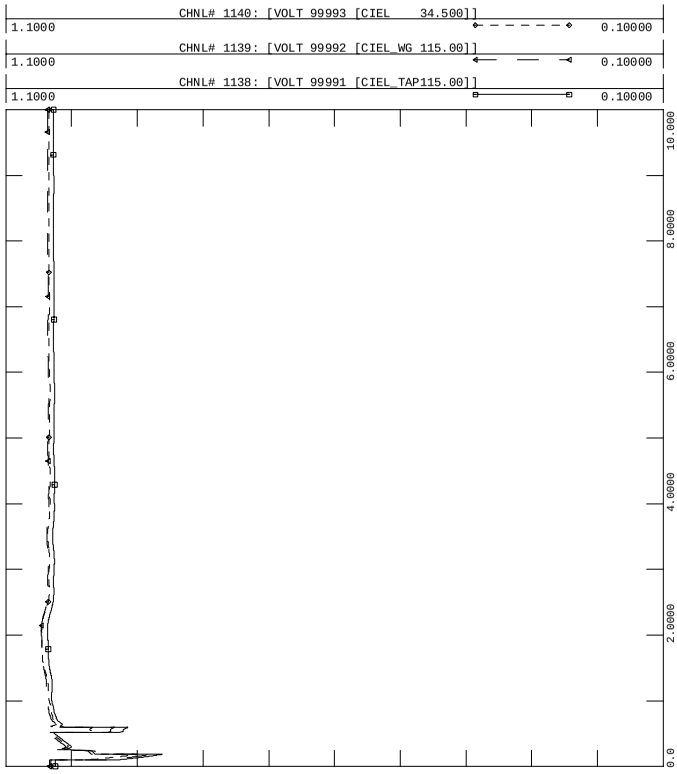
CIELO CABLE3 GEN54



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH.OUT

FRI, MAY 21 2004 10:34 7

CIELO VOLTAGE



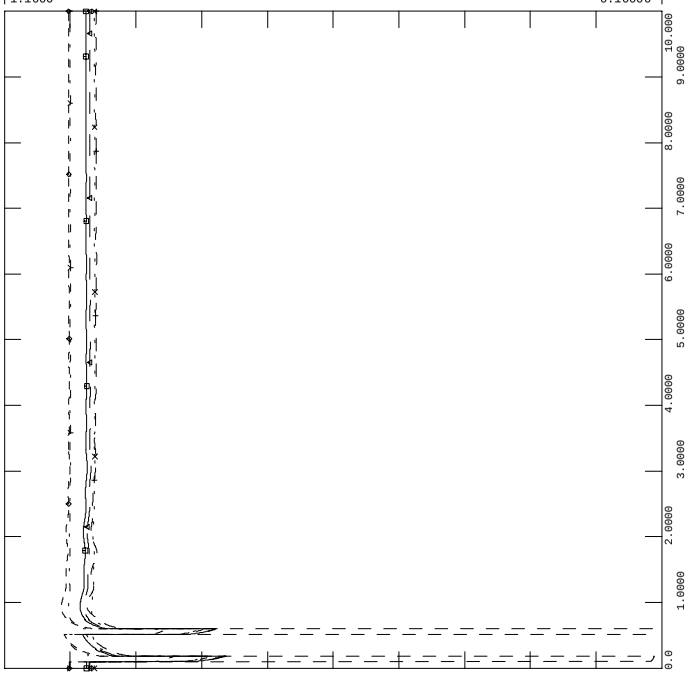
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH.OUT

FRI, MAY 21 2004 10:34

SPP:230 KV BUS VOLTAGE 10

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]
CHNL# 163: [VOLT 52073 [CHAVES6 230.00]]
CHNL# 149: [VOLT 51533 [TUCO6 230.00]]
CHNL# 144: [VOLT 51435 [TOLKE6 230.00]]
CHNL# 109: [VOLT 51195 [OASIS6 230.00]]
CHNL# 107: [VOLT 51205 [CLOVS 6230.00]]

1.1000 0.10000



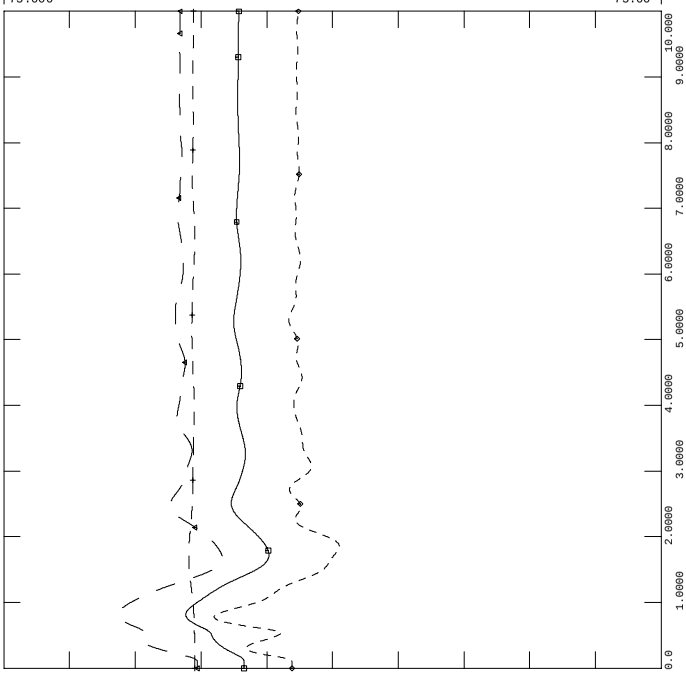
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH.OUT

FRI, MAY 21 2004 10:34

SPP: ROTOR ANGLE 12

CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]]
CHNL# 3: [ANGL 51701 [JONES11 22.000] [1]]
CHNL# 2: [ANGL 51441 [TOLK1 24.000] [1]]
CHNL# 1: [ANGL 50891 [HARRNG1 24.000] [1]]

75.000 -75.00



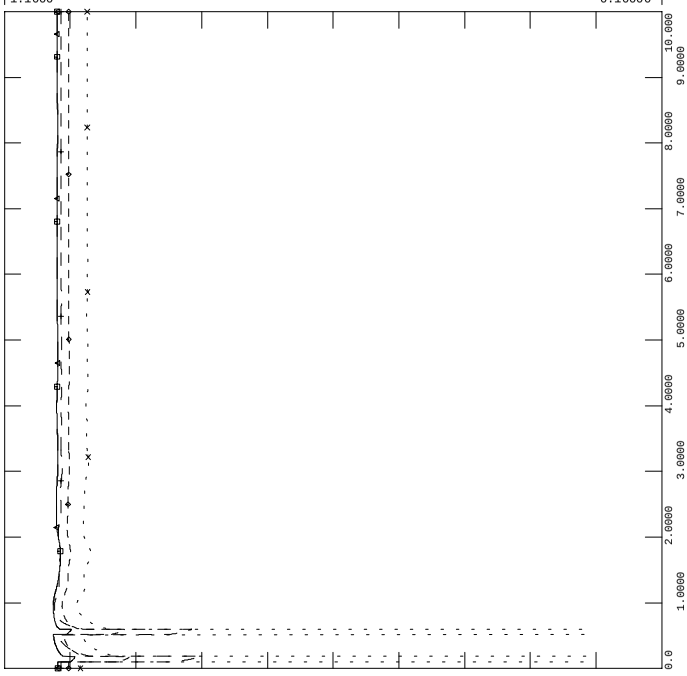
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH.OUT

FRI, MAY 21 2004 10:34

SPP:345 KV BUS VOLTAGE 9

CHNL# 150: [VOLT 51534 [TUCO7 345.00]]
CHNL# 147: [VOLT 51440 [TOLK7 345.00]]
CHNL# 39: [VOLT 50888 [POTTRC7 345.00]]
CHNL# 37: [VOLT 50858 [FINNEY7 345.00]]
CHNL# 35: [VOLT 56449 [HOLCOMB7345.00]]

1.1000 0.10000



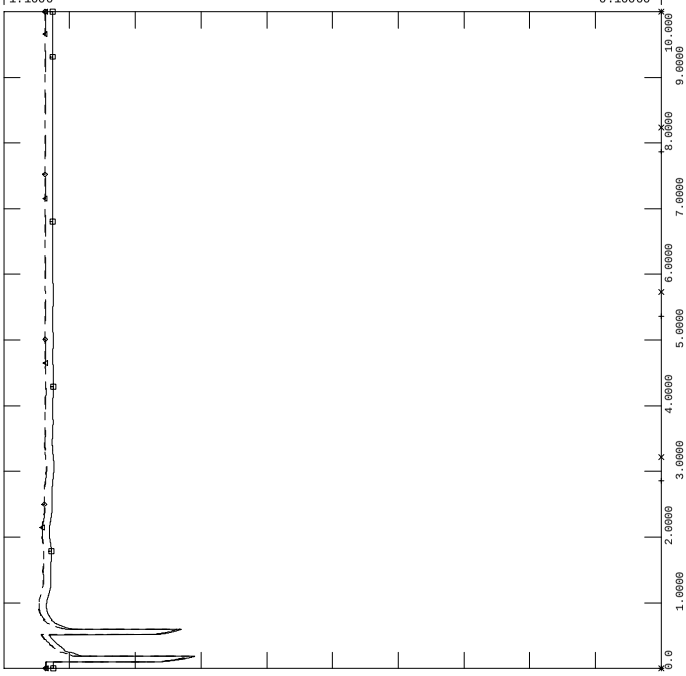
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH.OUT

FRI, MAY 21 2004 10:34

SPP:115 KV BUS VOLTAGE 11

CHNL# 279: [ANGL 91038 [CIEL_G380.6000] [1]]
CHNL# 278: [ANGL 91037 [CIEL_G370.6000] [1]]
CHNL# 141: [VOLT 51206 [CLOVISS 115.00]]
CHNL# 1167: [VOLT 51202 [ROOOSEVL 115.0]]
CHNL# 105: [VOLT 51176 [CURRY3 115.00]]

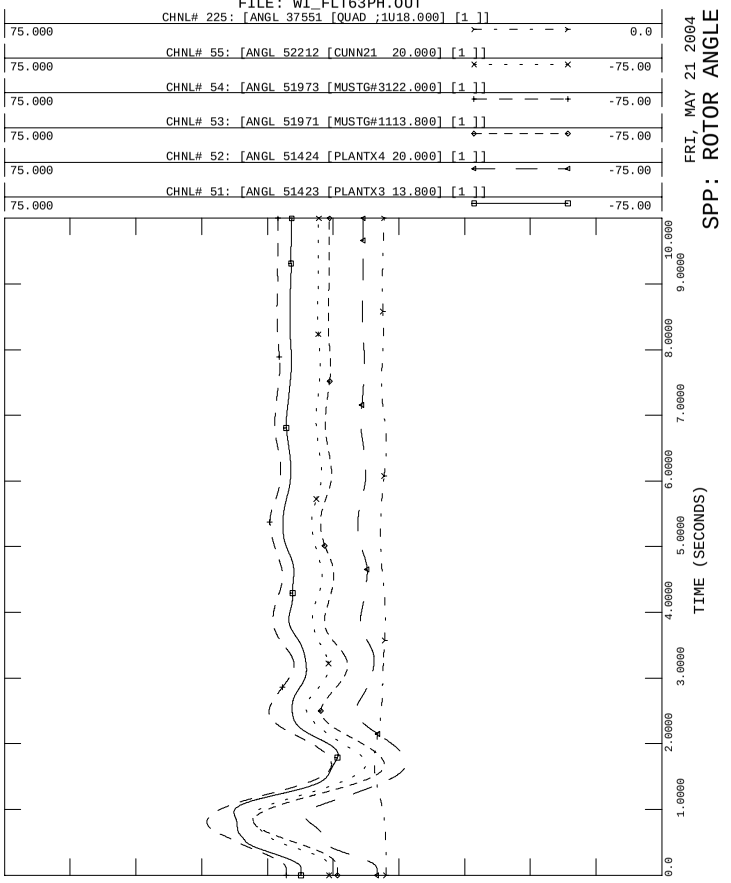
1.1000 0.10000



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH.OUT

FRI, MAY 21 2004 10:34 14

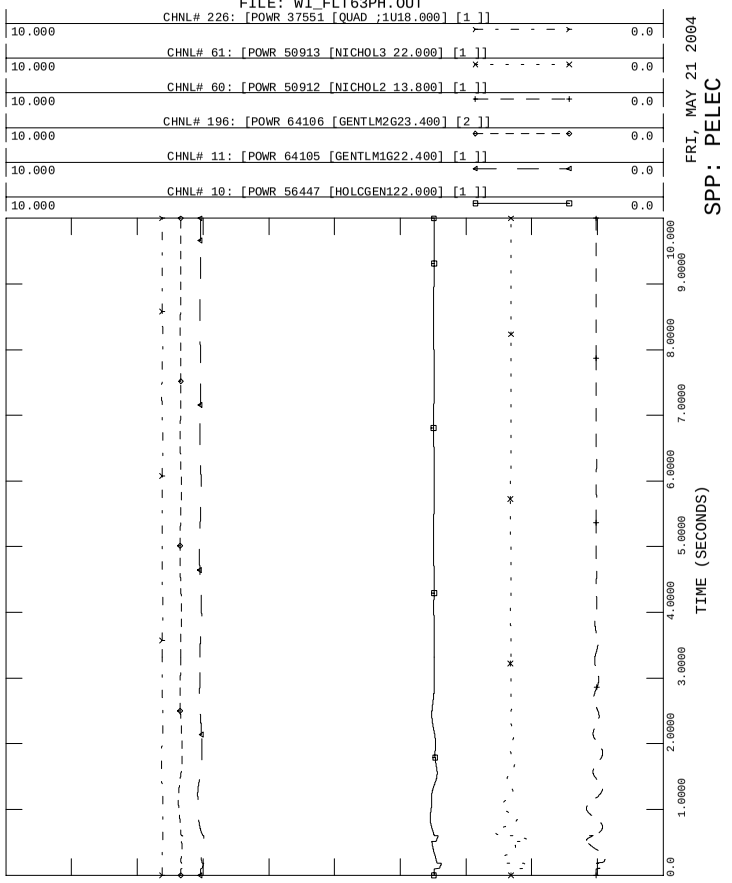
SPP: ROTOR ANGLE



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH.OUT

FRI, MAY 21 2004 10:34 16

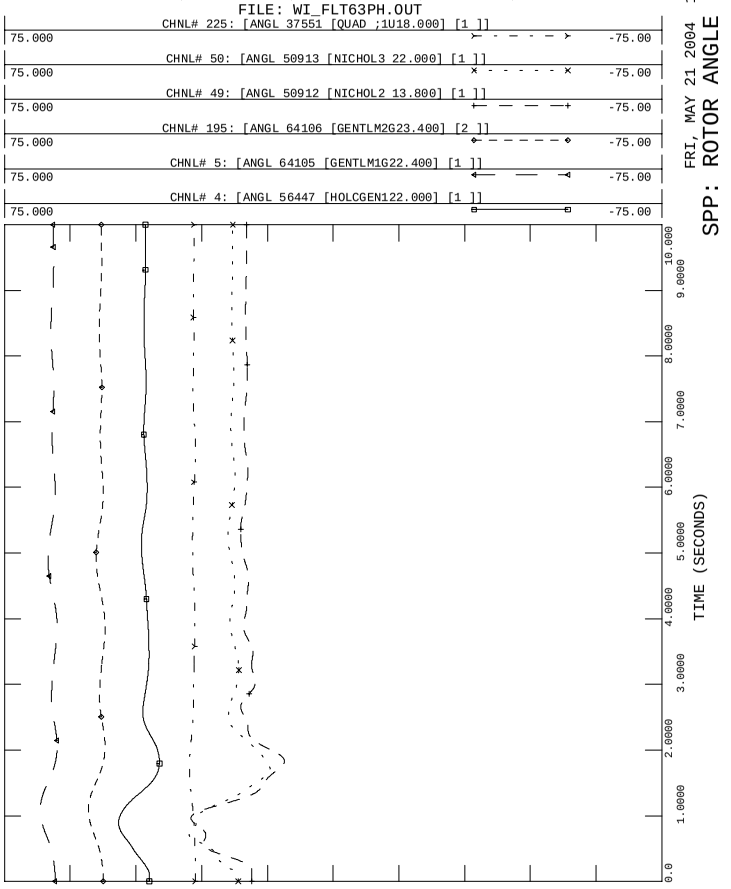
SPP: PELEC



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH.OUT

FRI, MAY 21 2004 10:34 13

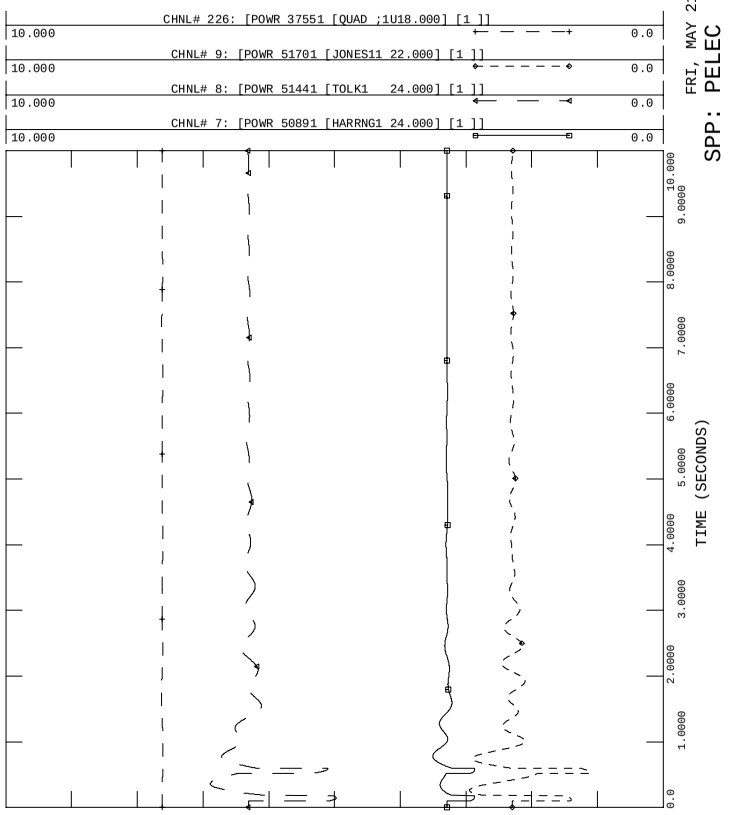
SPP: ROTOR ANGLE



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH.OUT

FRI, MAY 21 2004 10:34 15

SPP: PELEC

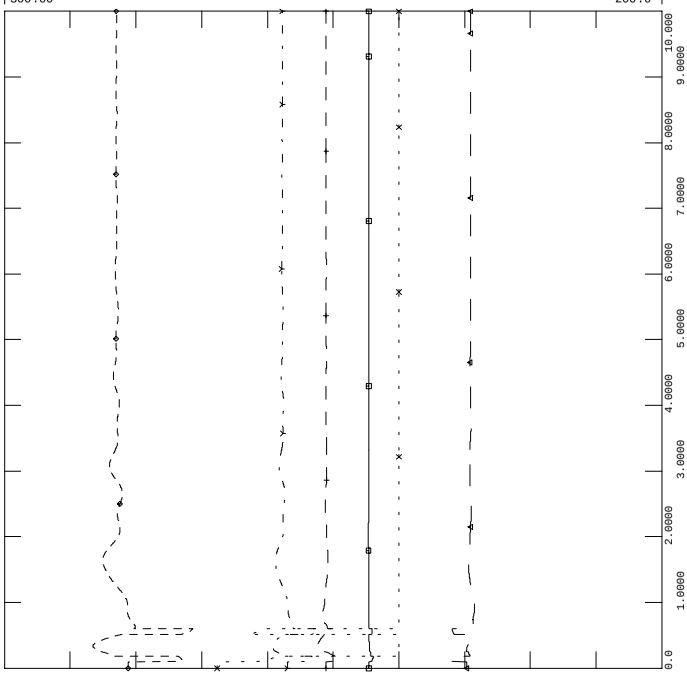


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH.OUT

FRI, MAY 21 2004 10:34 18

BRANCH FLOW

CHNL# 97: [POWR 51195 TO 52073 CKT 1] 300.00 -200.0
CHNL# 1179: [POWR 51435 TO 51533 CKT 1] 300.00 -200.0
CHNL# 1177: [POWR 99991 TO 51176 CKT 1] 300.00 -200.0
CHNL# 1175: [POWR 51440 TO 52186 CKT 1] 300.00 -200.0
CHNL# 1173: [POWR 51176 TO 51206 CKT 2] 300.00 -200.0
CHNL# 1169: [POWR 99991 TO 51076 CKT 1] 300.00 -200.0

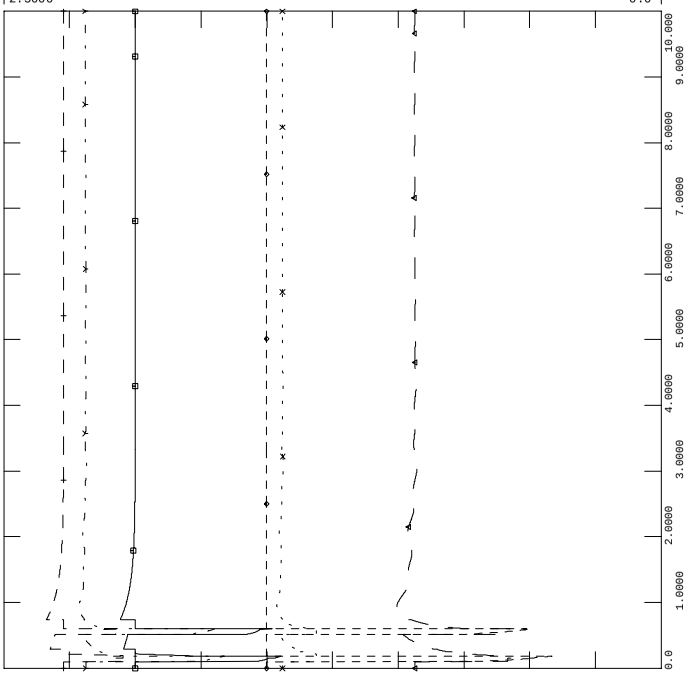


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH.OUT

FRI, MAY 21 2004 10:34 20

DC LINE PNM

CHNL# 207: [VOLT 59995 [BLKWDC 230.00]] 1.1000 0.10000
CHNL# 193: [DC LINE #2: ALPHA] 100.00 -100.0
CHNL# 192: [DC LINE #2: DC CURRENT] 4000.0 0.0
CHNL# 191: [DC LINE #2: VDCR] 65000. 40000.
CHNL# 187: [DC LINE #2: QACR] 2.5000 0.0
CHNL# 186: [DC LINE #2: PACR] 2.5000 0.0

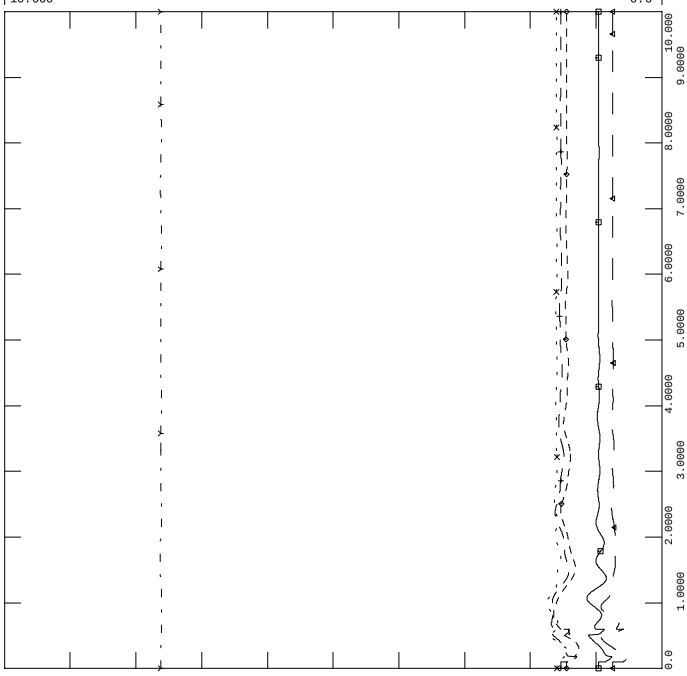


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH.OUT

FRI, MAY 21 2004 10:34 17

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]] 10.000 0.0
CHNL# 66: [POWR 52212 [CUNN21 20.000] [1]] 10.000 0.0
CHNL# 65: [POWR 51973 [MUSTG#3122.000] [1]] 10.000 0.0
CHNL# 64: [POWR 51971 [MUSTG#1113.800] [1]] 10.000 0.0
CHNL# 63: [POWR 51424 [PLANTX4 20.000] [1]] 10.000 0.0
CHNL# 62: [POWR 51423 [PLANTX3 13.800] [1]] 10.000 0.0

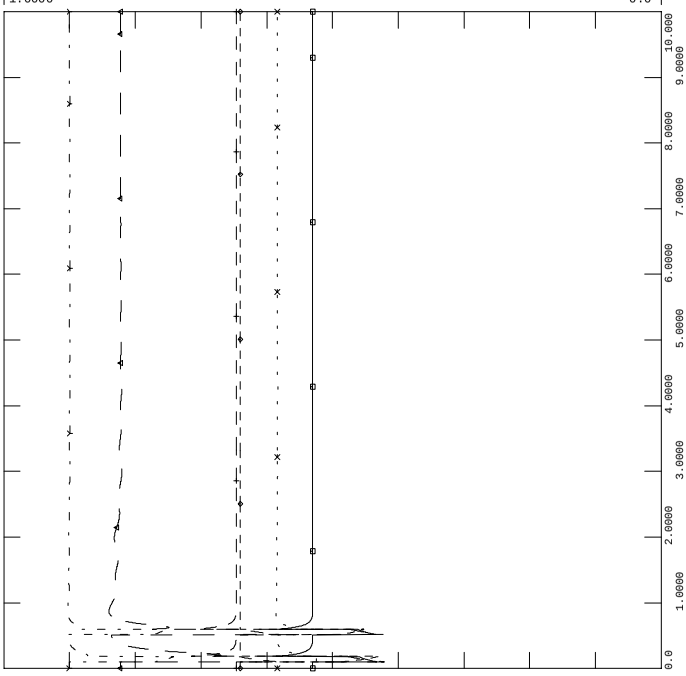


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH.OUT

FRI, MAY 21 2004 10:34 19

DC LINE EPE

CHNL# 208: [VOLT 59996 [EPEDC 230.00]] 1.1000 0.10000
CHNL# 184: [DC LINE #1: ALFA] 100.00 -100.0
CHNL# 183: [DC LINE #1: DC CURRENT] 1000.0 0.0
CHNL# 182: [DC LINE #1: VDCR] 1.0000E5 50000.
CHNL# 178: [DC LINE #1: QACR] 0.25000 0.0
CHNL# 177: [DC LINE #1: PACR] 1.0000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

22

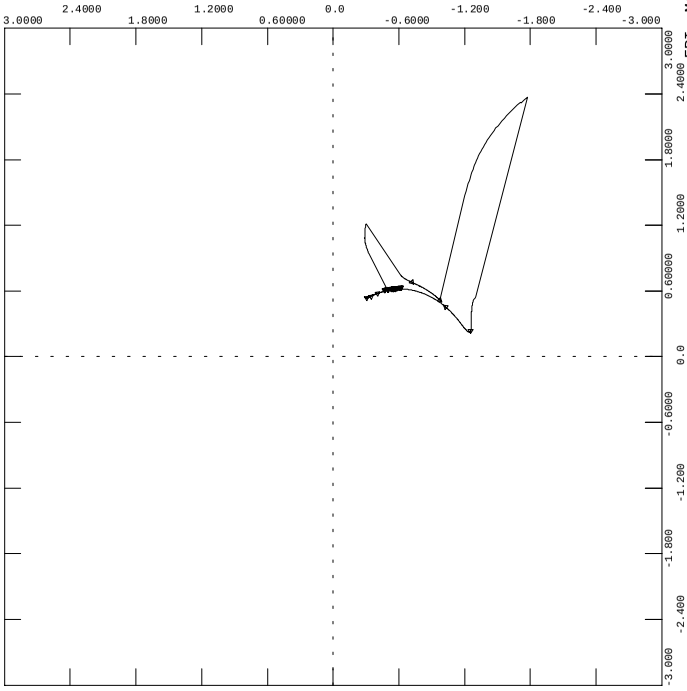
FRI, MAY 21 2004 10:34

POTTER-FINNEY

FILE: WI_FLT63PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25

CHNL# 116: [APPX 50858 TO 50888 CKT 1]



CHNL# 115: [APPR 50858 TO 50888 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

21

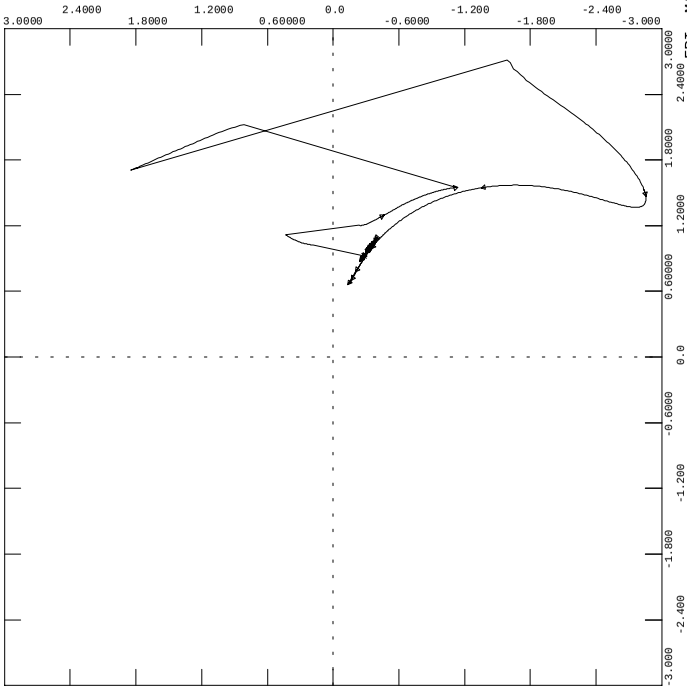
FRI, MAY 21 2004 10:34

FINNEY-HOLCOMB

FILE: WI_FLT63PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25

CHNL# 114: [APPX 56449 TO 50858 CKT 1]



CHNL# 113: [APPR 56449 TO 50858 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH.OUT

23

FRI, MAY 21 2004 10:34

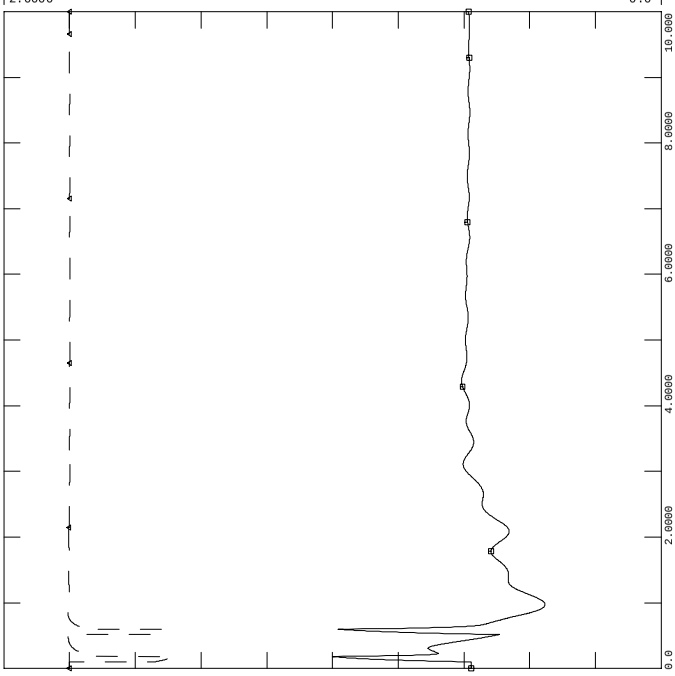
SVC OUTPUT

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]

1.1000 0.10000

CHNL# 117: [BUS 52185 SVC OUTPUT]

2.0000 0.0

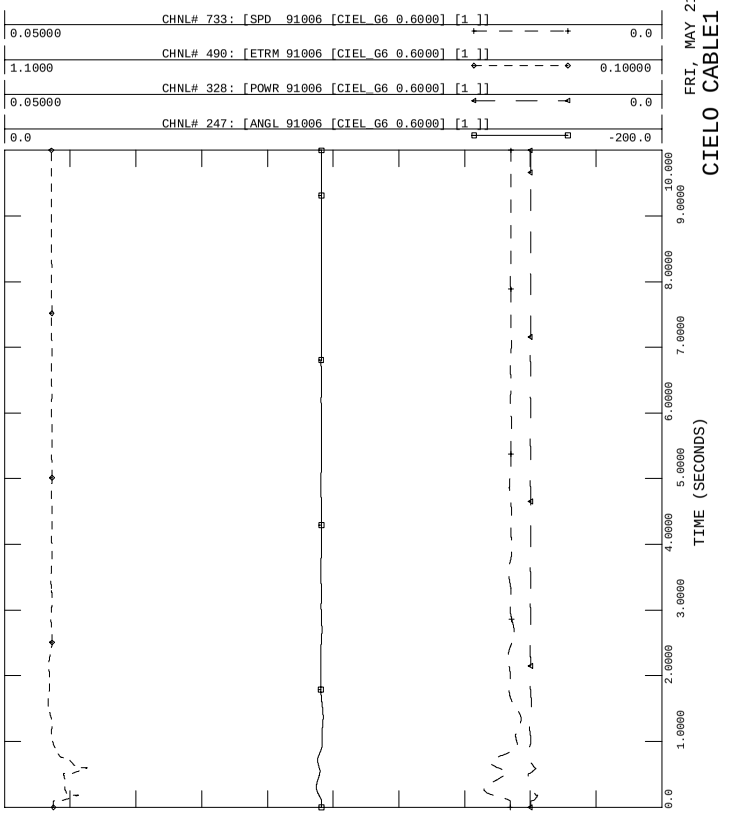


TIME (SECONDS)

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH.OUT

FRI, MAY 21 2004 10:34 2

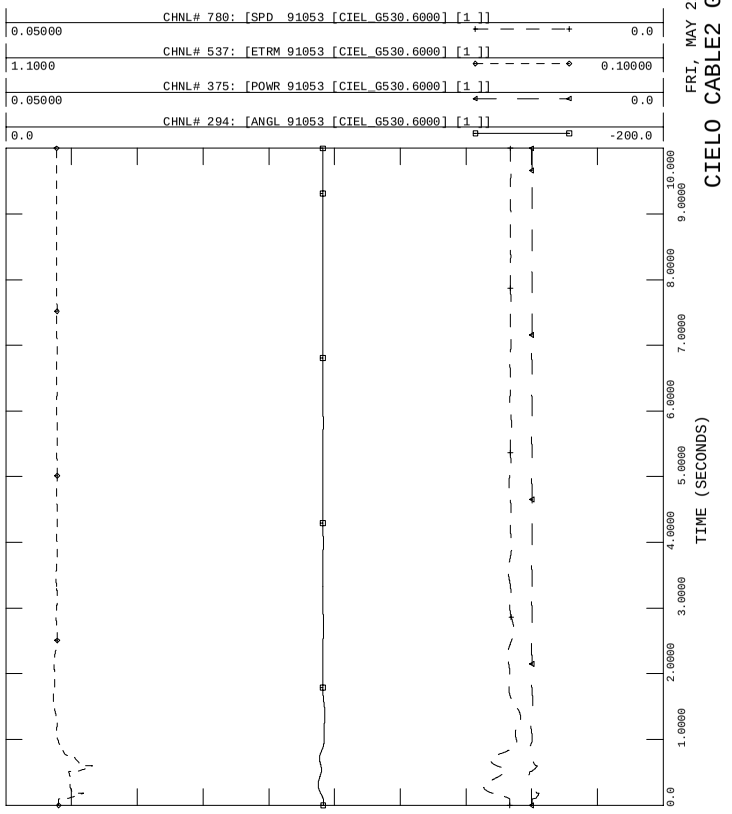
CIELO CABLE1 GEN6



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH.OUT

FRI, MAY 21 2004 10:34 4

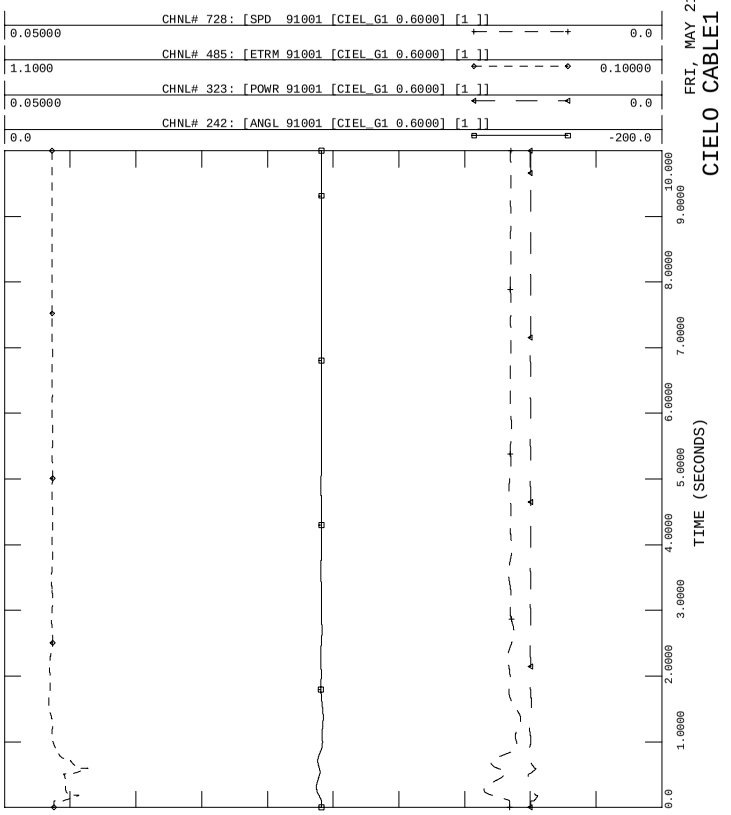
CIELO CABLE2 GEN53



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH.OUT

FRI, MAY 21 2004 10:34 1

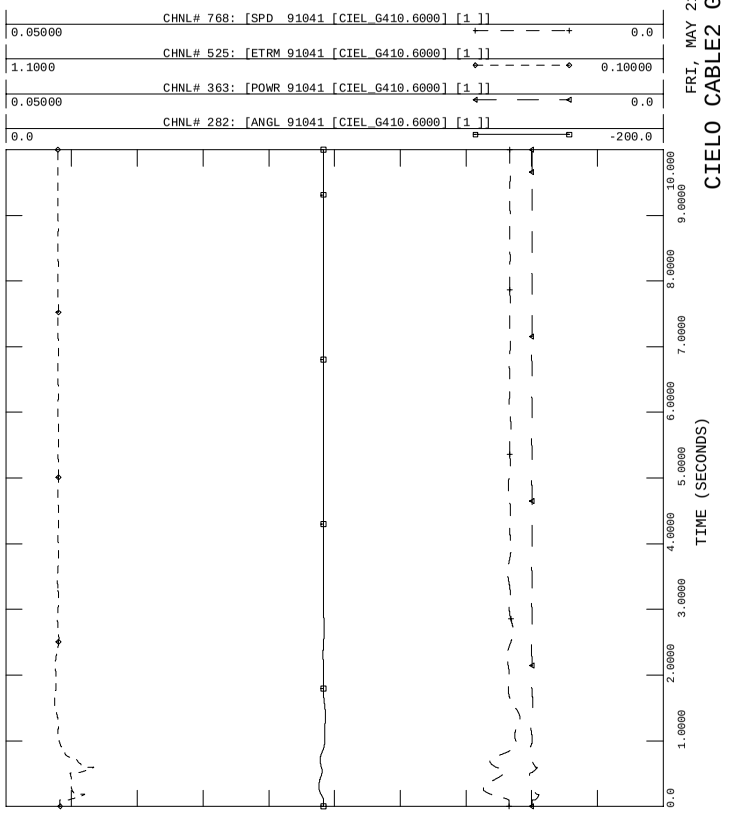
CIELO CABLE1 GEN1



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH.OUT

FRI, MAY 21 2004 10:34 3

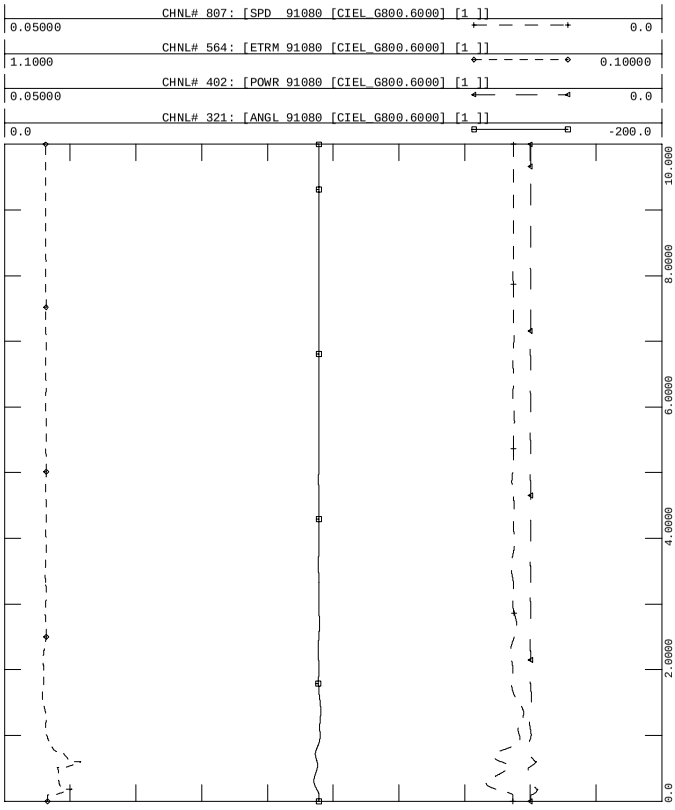
CIELO CABLE2 GEN41



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH.OUT

FRI, MAY 21 2004 10:34 6

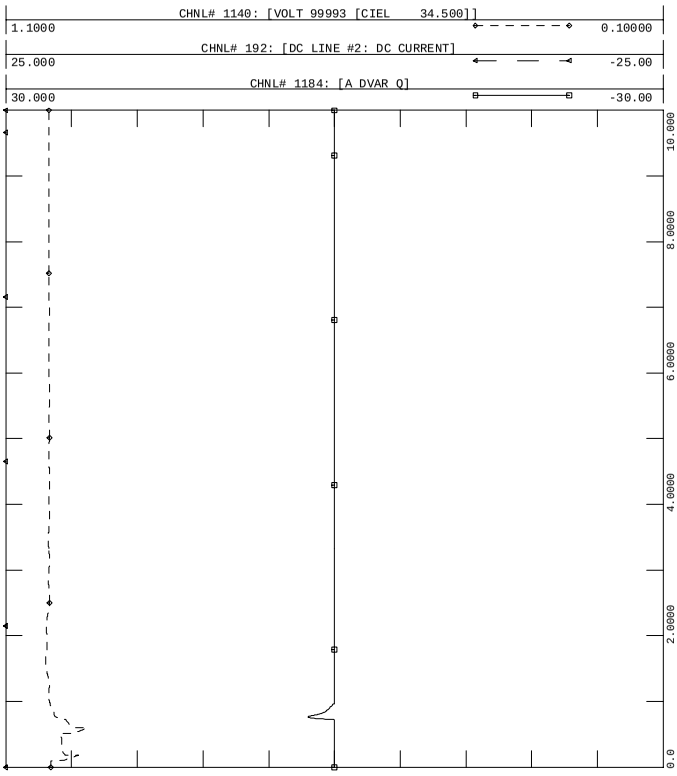
CIELO CABLE3 GEN80



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH.OUT

FRI, MAY 21 2004 10:34 8

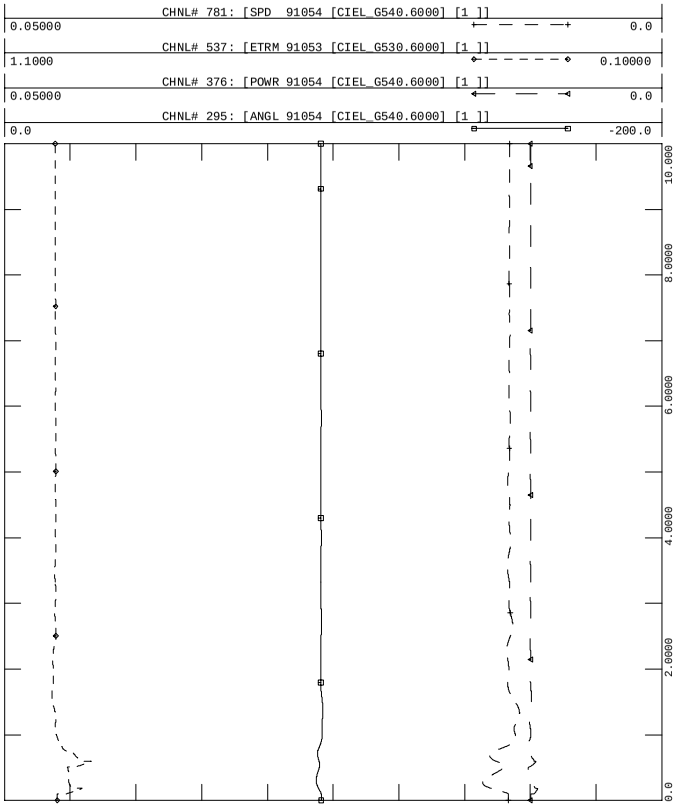
DVAR OUTPUT



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH.OUT

FRI, MAY 21 2004 10:34 5

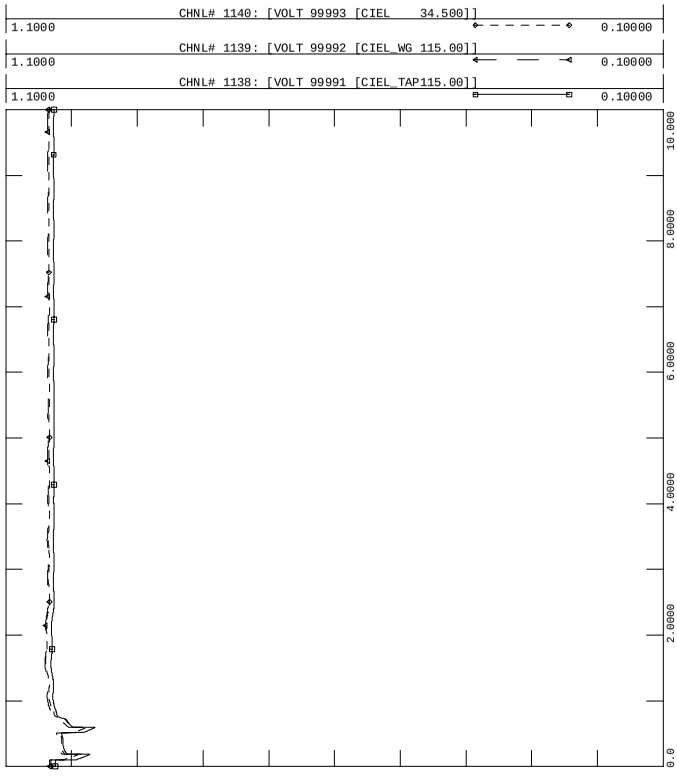
CIELO CABLE3 GEN54



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH.OUT

FRI, MAY 21 2004 10:34 7

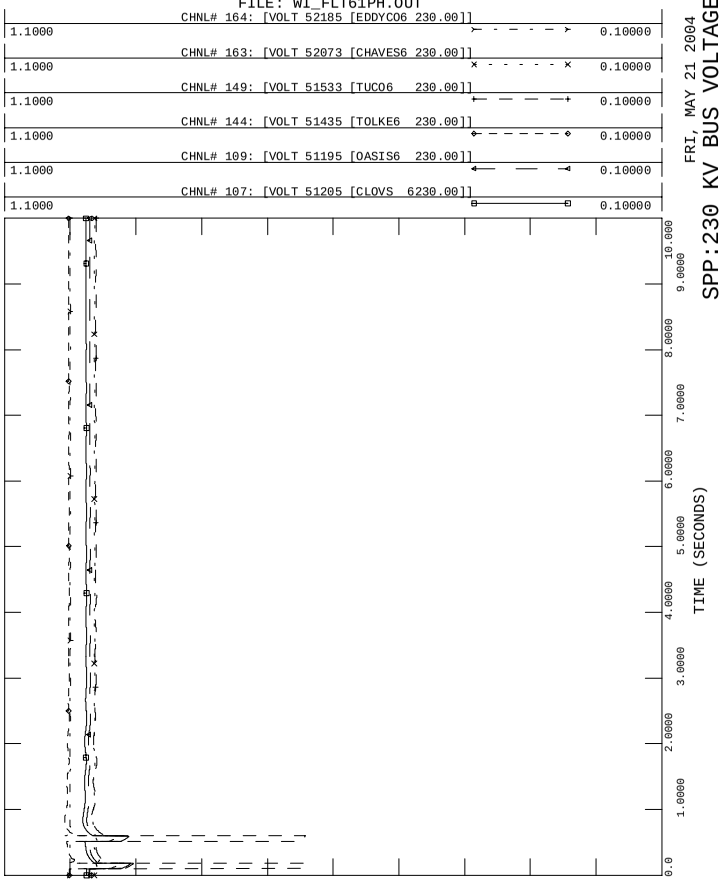
CIELO VOLTAGE



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH.OUT

FRI, MAY 21 2004 10:34

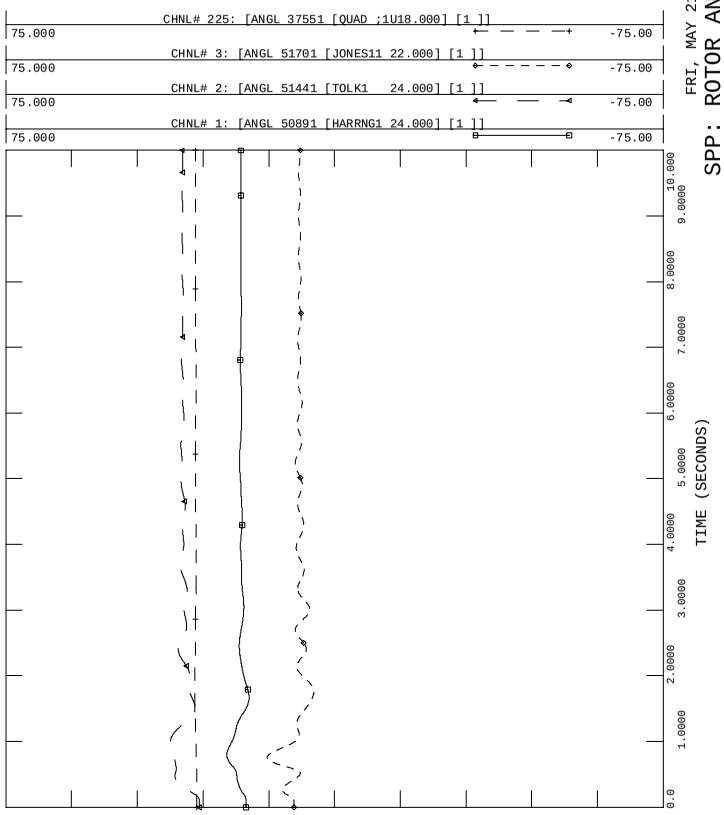
SPP:230 KV BUS VOLTAGE 10



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH.OUT

FRI, MAY 21 2004 10:34

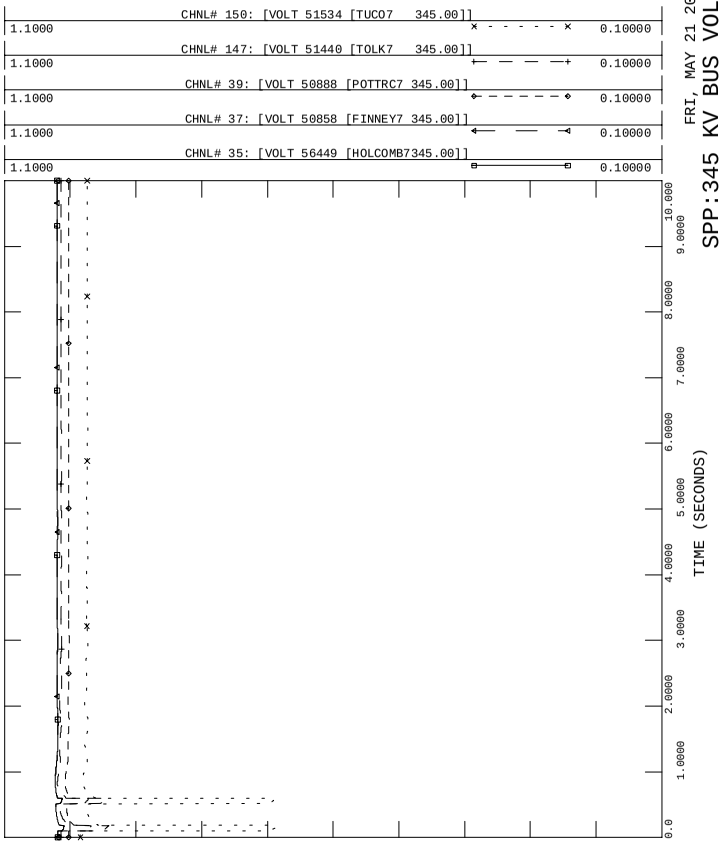
SPP: ROTOR ANGLE 12



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH.OUT

FRI, MAY 21 2004 10:34

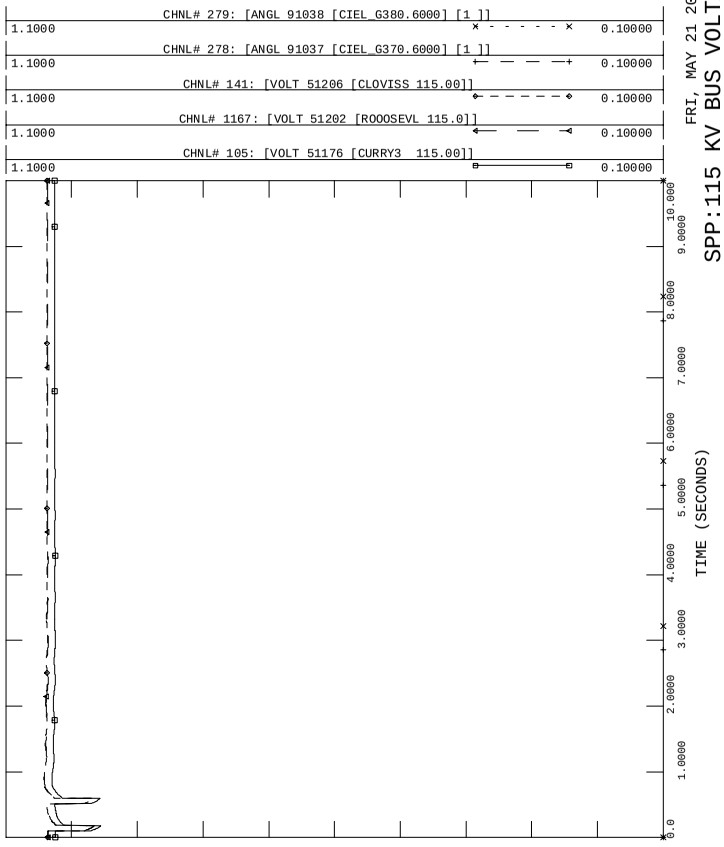
SPP:345 KV BUS VOLTAGE 9



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH.OUT

FRI, MAY 21 2004 10:34

SPP:115 KV BUS VOLTAGE 11

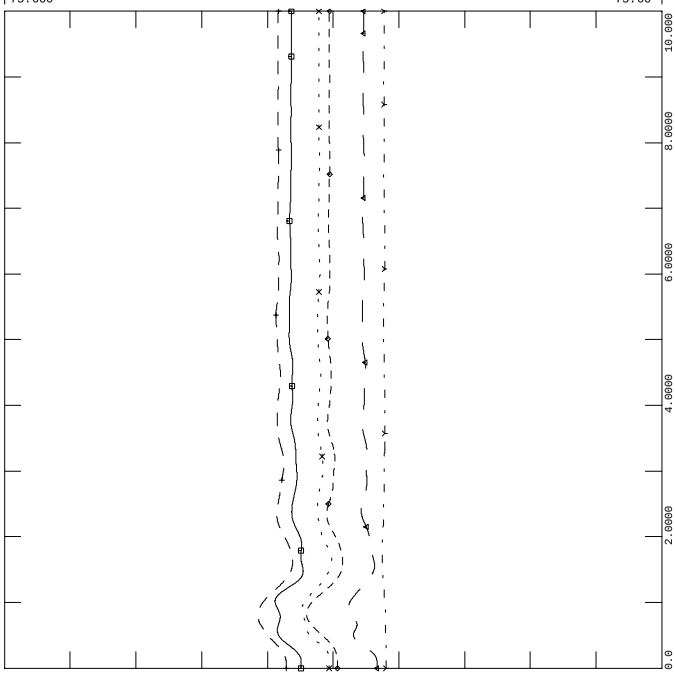


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH.OUT

FRI, MAY 21 2004 10:34 14

SPP: ROTOR ANGLE

CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]]
CHNL# 55: [ANGL 52212 [CUNN21 20.000] [1]]
CHNL# 54: [ANGL 51973 [MUSTG#3122.000] [1]]
CHNL# 53: [ANGL 51971 [MUSTG#1113.800] [1]]
CHNL# 52: [ANGL 51424 [PLANTX4 20.000] [1]]
CHNL# 51: [ANGL 51423 [PLANTX3 13.800] [1]]

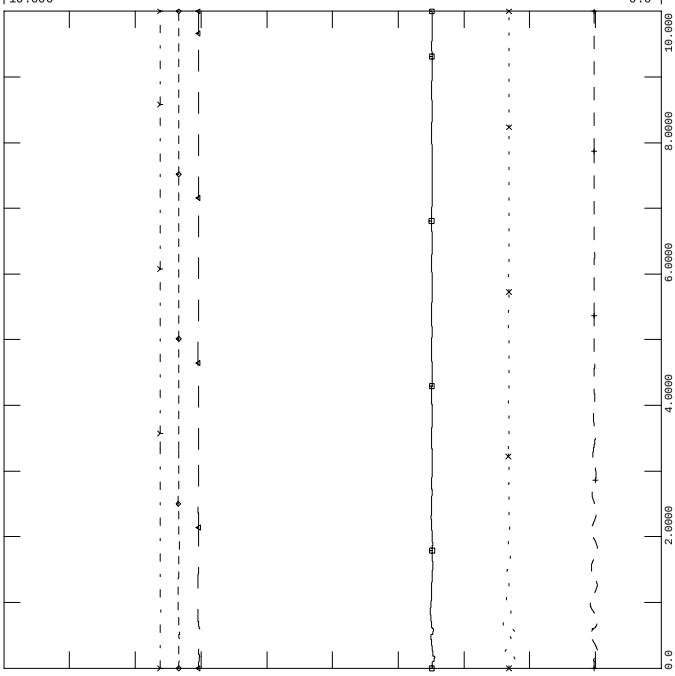


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH.OUT

FRI, MAY 21 2004 10:34 16

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
CHNL# 61: [POWR 50913 [NICHOL3 22.000] [1]]
CHNL# 60: [POWR 50912 [NICHOL2 13.800] [1]]
CHNL# 196: [POWR 64106 [GENTLM2G23.400] [2]]
CHNL# 11: [POWR 64105 [GENTLM1G22.400] [1]]
CHNL# 10: [POWR 56447 [HOLCGEN122.000] [1]]

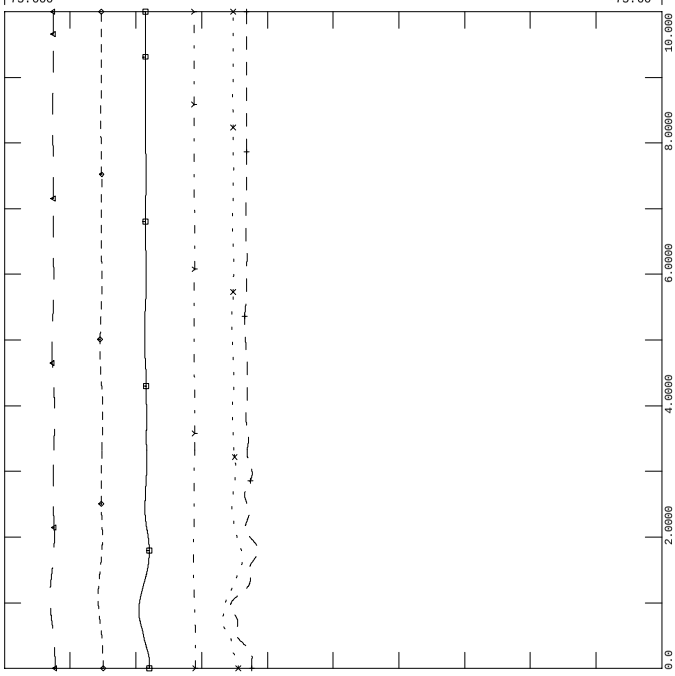


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH.OUT

FRI, MAY 21 2004 10:34 13

SPP: ROTOR ANGLE

CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]]
CHNL# 50: [ANGL 50913 [NICHOL3 22.000] [1]]
CHNL# 49: [ANGL 50912 [NICHOL2 13.800] [1]]
CHNL# 195: [ANGL 64106 [GENTLM2G23.400] [2]]
CHNL# 5: [ANGL 64105 [GENTLM1G22.400] [1]]
CHNL# 4: [ANGL 56447 [HOLCGEN122.000] [1]]

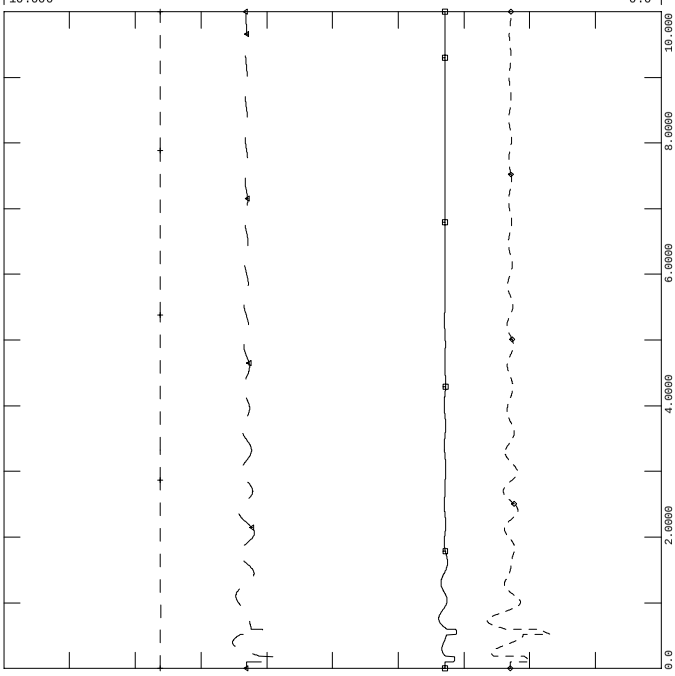


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH.OUT

FRI, MAY 21 2004 10:34 15

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
CHNL# 9: [POWR 51701 [JONES11 22.000] [1]]
CHNL# 8: [POWR 51441 [TOLK1 24.000] [1]]
CHNL# 7: [POWR 50891 [HARRNG1 24.000] [1]]

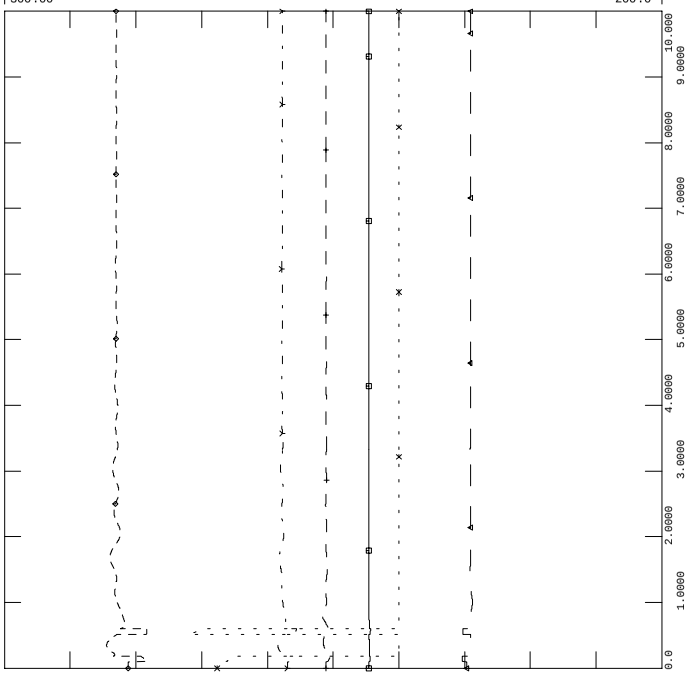


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH.OUT

FRI, MAY 21 2004 10:34 18

BRANCH FLOW

CHNL# 97: [POWR 51195 TO 52073 CKT 1] 300.00 -200.0
CHNL# 1179: [POWR 51435 TO 51533 CKT 1] 300.00 -200.0
CHNL# 1177: [POWR 99991 TO 51176 CKT 1] 300.00 -200.0
CHNL# 1175: [POWR 51440 TO 52186 CKT 1] 300.00 -200.0
CHNL# 1173: [POWR 51176 TO 51206 CKT 2] 300.00 -200.0
CHNL# 1169: [POWR 99991 TO 51076 CKT 1] 300.00 -200.0

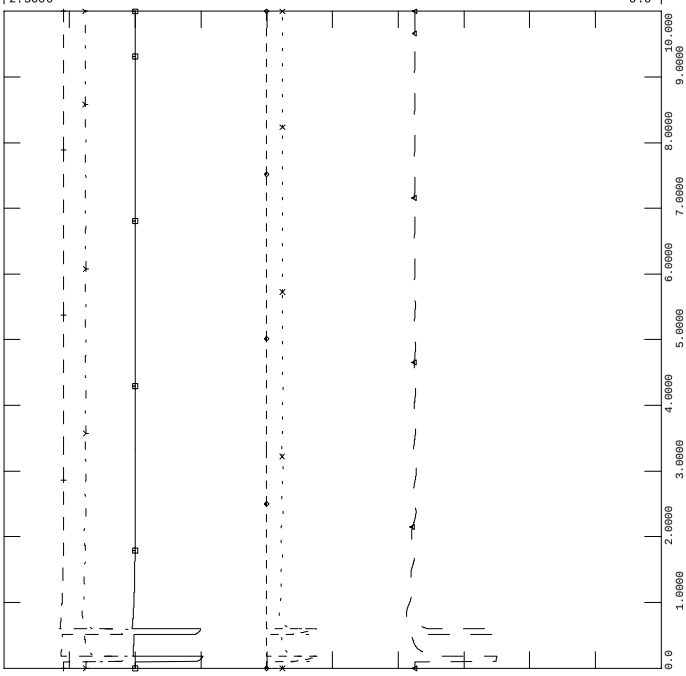


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH.OUT

FRI, MAY 21 2004 10:34 20

DC LINE PNM

CHNL# 207: [VOLT 59995 [BLKWDC 230.00]] 1.1000 0.10000
CHNL# 193: [DC LINE #2: ALPHA] 100.00 -100.0
CHNL# 192: [DC LINE #2: DC CURRENT] 4000.0 0.0
CHNL# 191: [DC LINE #2: VDCR] 65000. 40000.
CHNL# 187: [DC LINE #2: QACR] 2.5000 0.0
CHNL# 186: [DC LINE #2: PACR] 2.5000 0.0

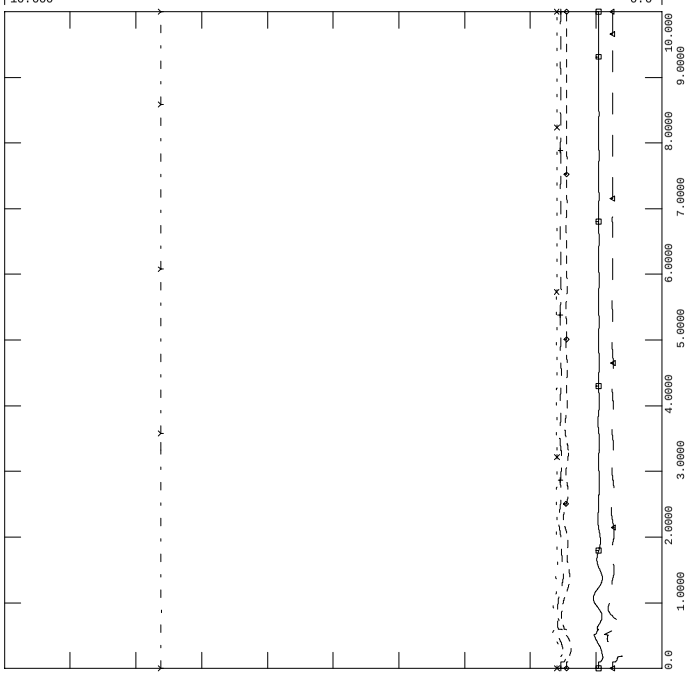


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH.OUT

FRI, MAY 21 2004 10:34 17

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]] 10.000 0.0
CHNL# 66: [POWR 52212 [CUNN21 20.000] [1]] 10.000 0.0
CHNL# 65: [POWR 51973 [MUSTG#3122.000] [1]] 10.000 0.0
CHNL# 64: [POWR 51971 [MUSTG#1113.800] [1]] 10.000 0.0
CHNL# 63: [POWR 51424 [PLANTX4 20.000] [1]] 10.000 0.0
CHNL# 62: [POWR 51423 [PLANTX3 13.800] [1]] 10.000 0.0

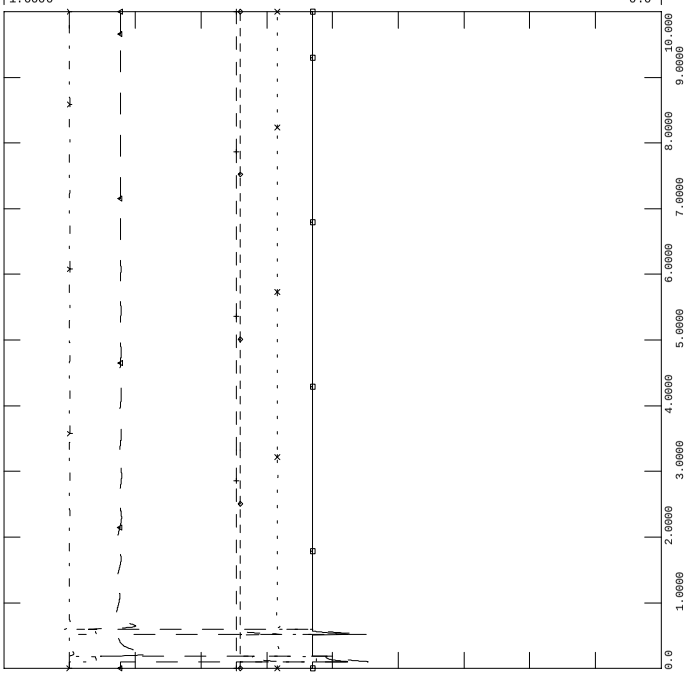


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH.OUT

FRI, MAY 21 2004 10:34 19

DC LINE EPE

CHNL# 208: [VOLT 59996 [EPEDC 230.00]] 1.1000 0.10000
CHNL# 184: [DC LINE #1: ALFA] 100.00 -100.0
CHNL# 183: [DC LINE #1: DC CURRENT] 1000.0 0.0
CHNL# 182: [DC LINE #1: VDCR] 1.0000E5 50000.
CHNL# 178: [DC LINE #1: QACR] 0.25000 0.0
CHNL# 177: [DC LINE #1: PACR] 1.0000 0.0

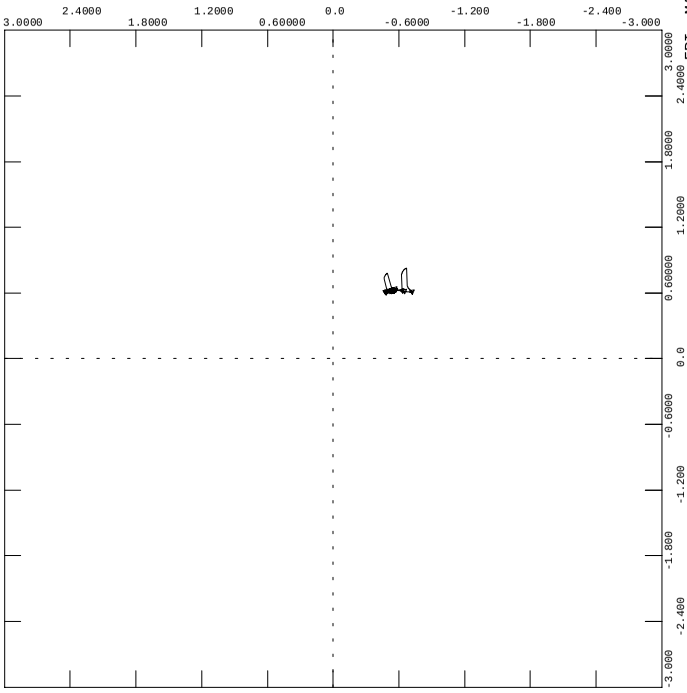


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

22

FILE: WI_FLT61PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 116: [APPX 50858 TO 50888 CKT 1]



CHNL# 115: [APPR 50858 TO 50888 CKT 1]

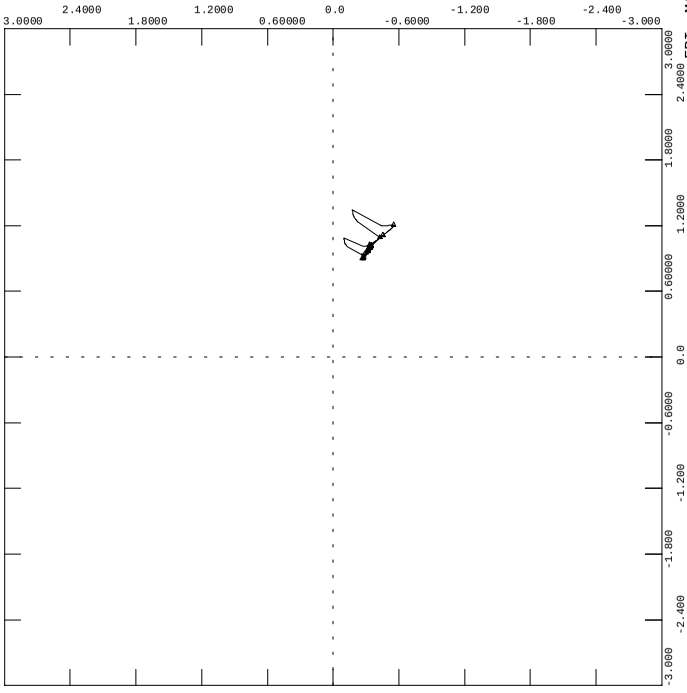
FRI, MAY 21 2004 10:34 POTTER-FINNEY

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

21

FILE: WI_FLT61PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 114: [APPX 56449 TO 50858 CKT 1]



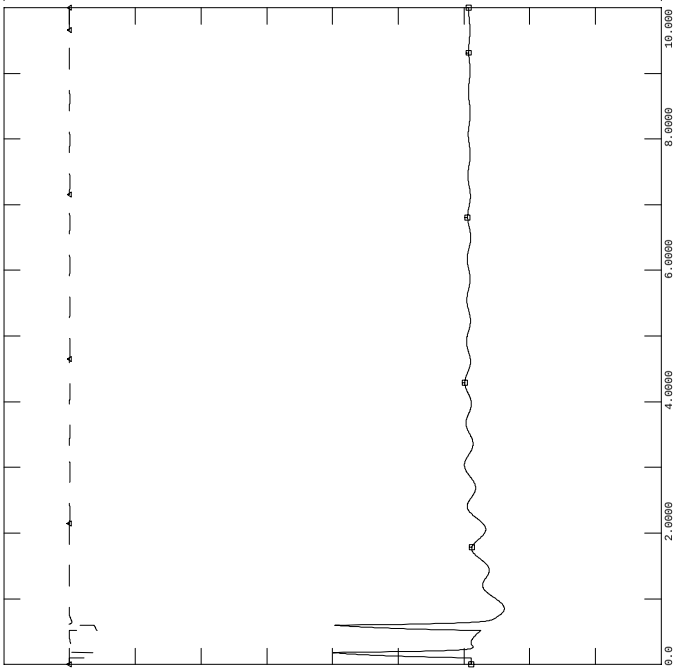
CHNL# 113: [APPR 56449 TO 50858 CKT 1]

FRI, MAY 21 2004 10:34 FINNEY-HOLCOMB

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH.OUT

23

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]
1.1000 0.10000
CHNL# 117: [BUS 52185 SVC OUTPUT]
2.0000 0.0



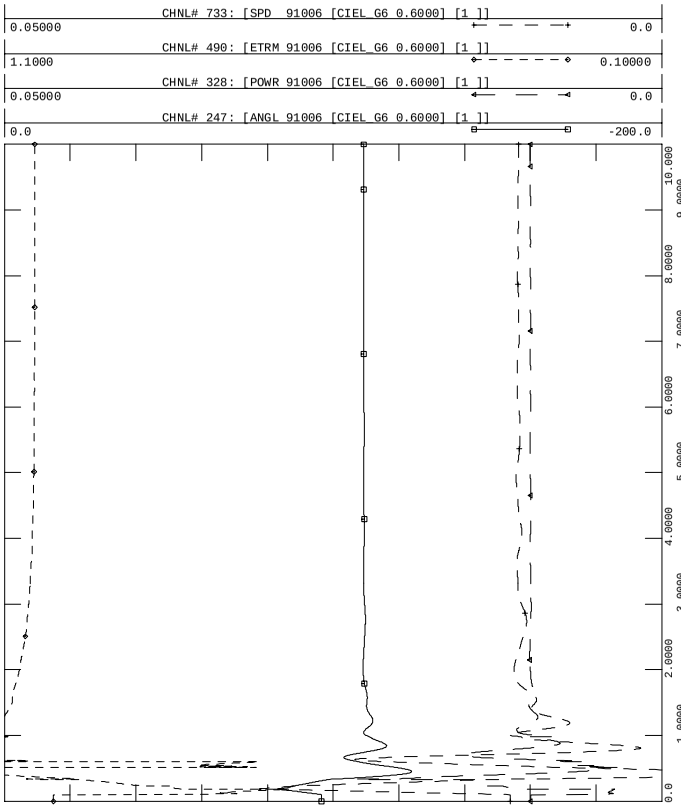
TIME (SECONDS)

FRI, MAY 21 2004 10:34 SVC OUTPUT

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH.OUT

FRI, MAY 21 2004 10:35 2

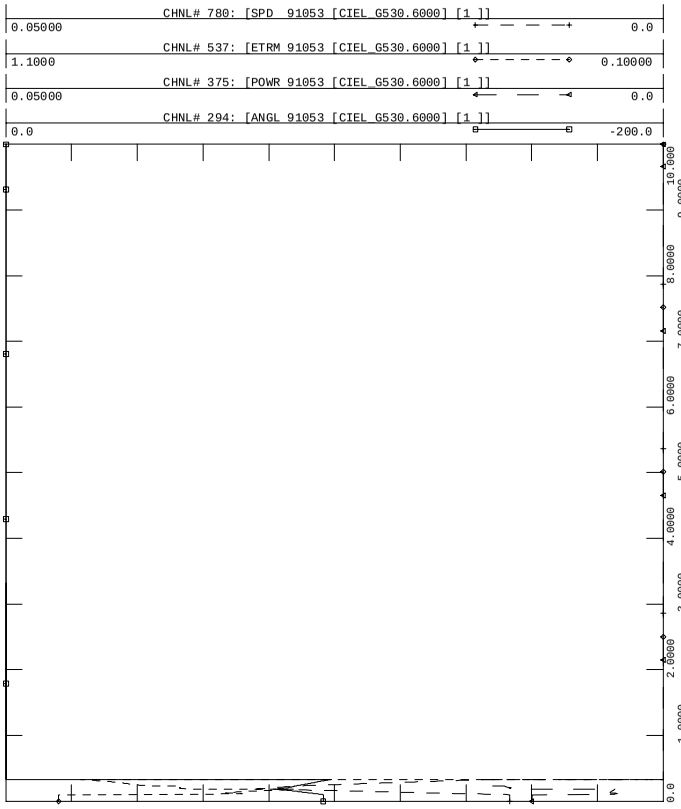
CIELO CABLE1 GEN6



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH.OUT

FRI, MAY 21 2004 10:35 4

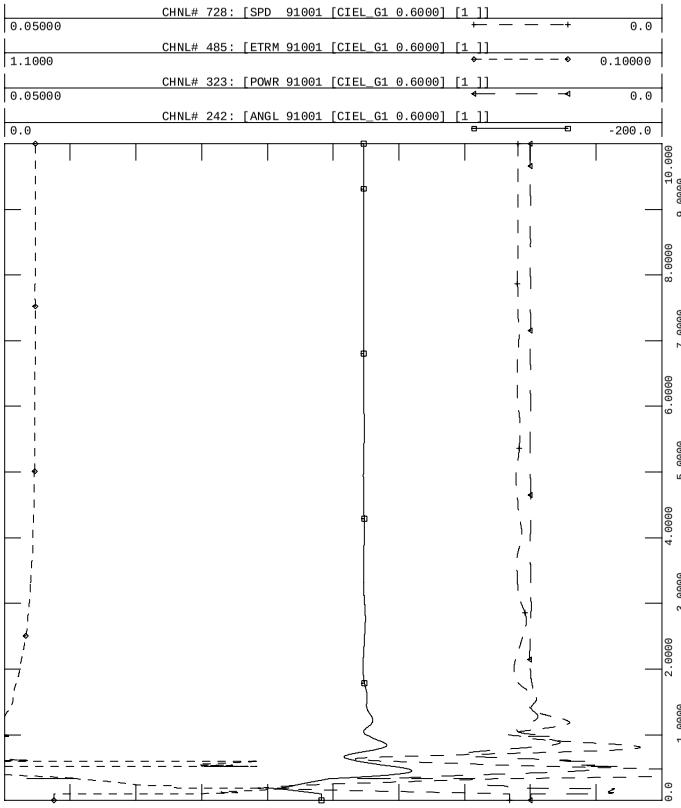
CIELO CABLE2 GEN53



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH.OUT

FRI, MAY 21 2004 10:35 1

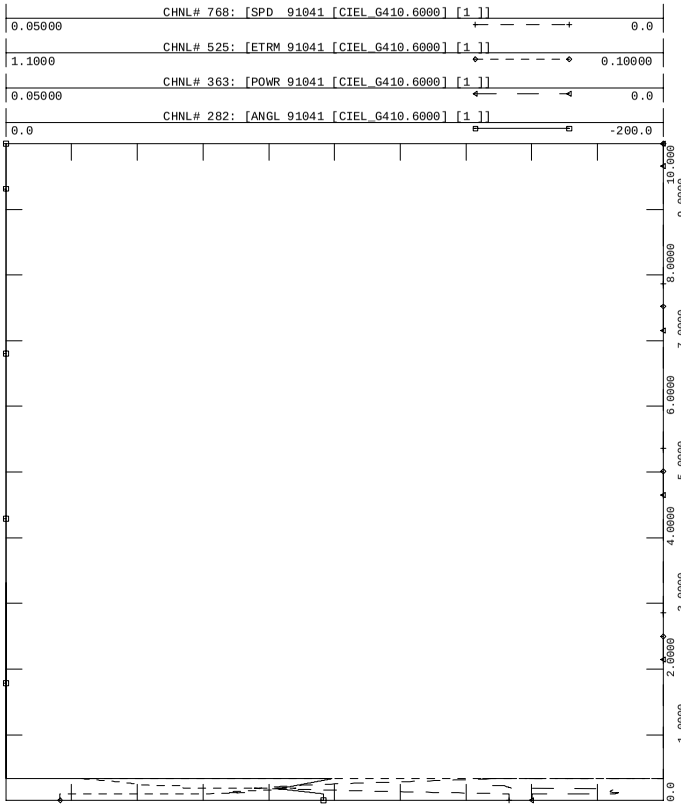
CIELO CABLE1 GEN1



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH.OUT

FRI, MAY 21 2004 10:35 3

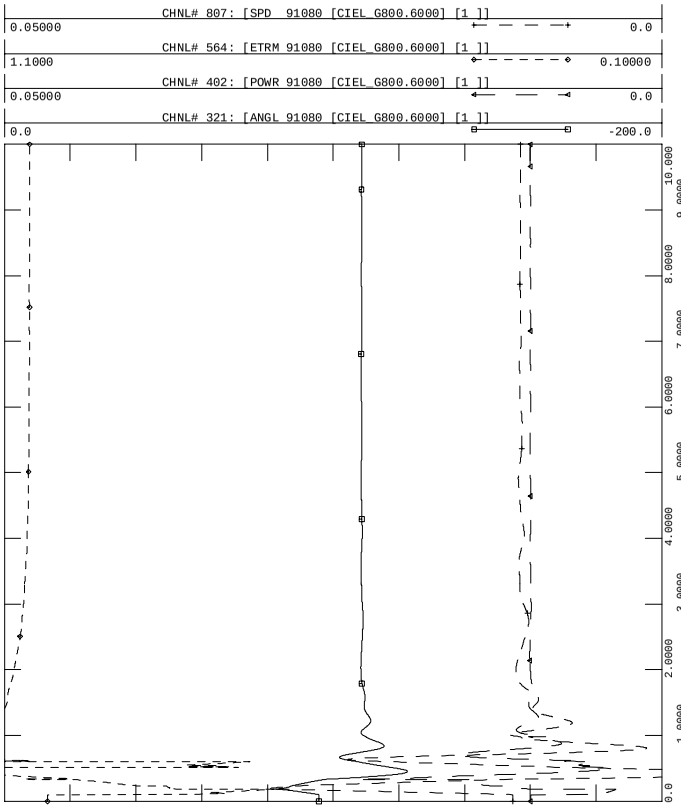
CIELO CABLE2 GEN41



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH.OUT

FRI, MAY 21 2004 10:35 6

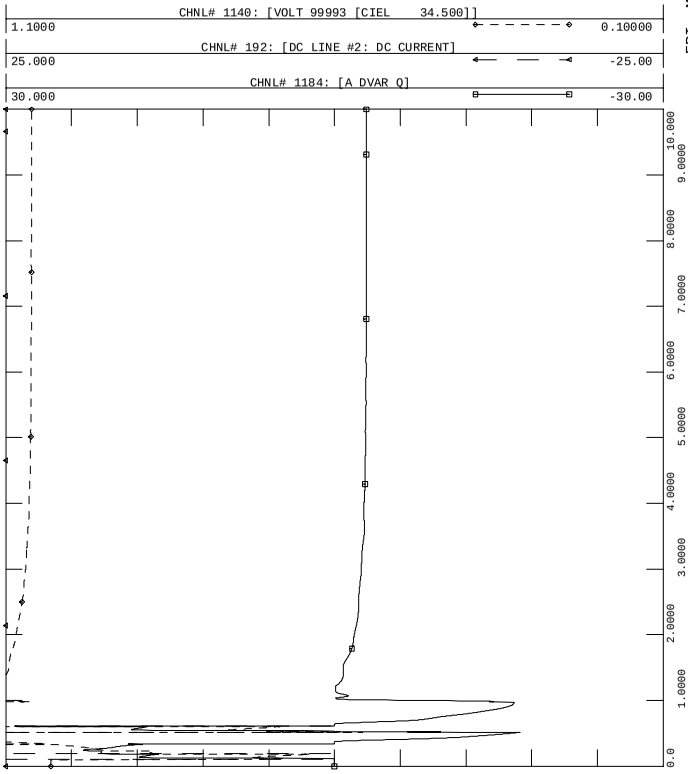
CIELO CABLE3 GEN80



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH.OUT

FRI, MAY 21 2004 10:35 8

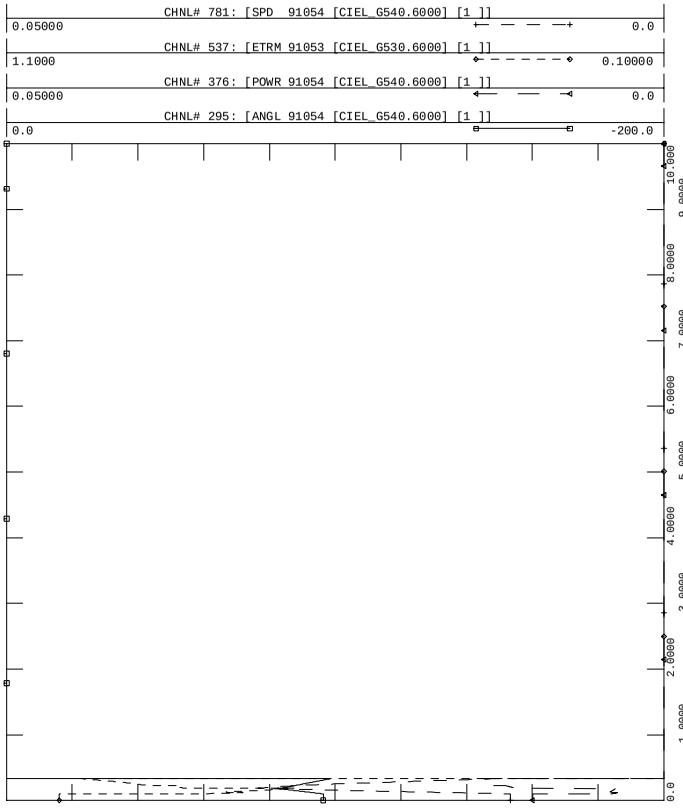
DVAR OUTPUT



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH.OUT

FRI, MAY 21 2004 10:35 5

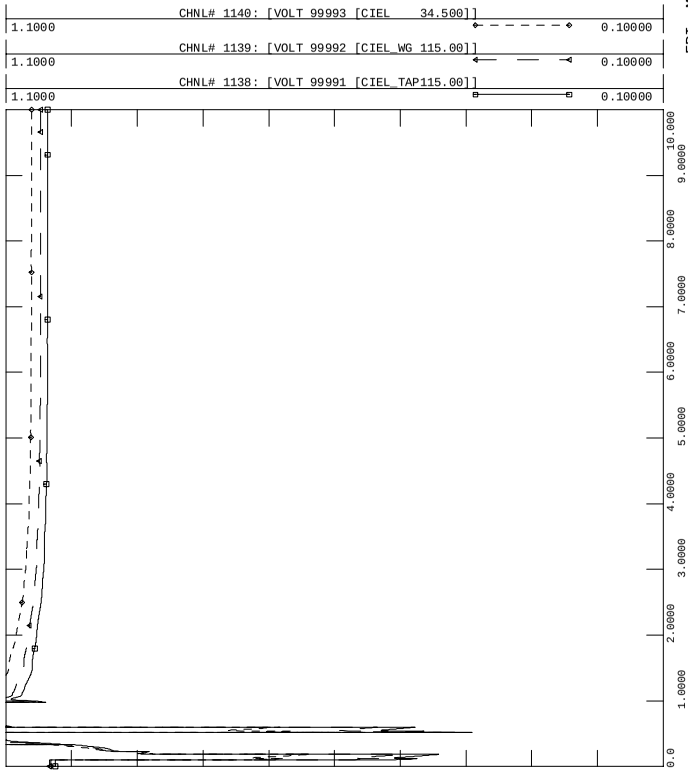
CIELO CABLE3 GEN54



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH.OUT

FRI, MAY 21 2004 10:35 7

CIELO VOLTAGE



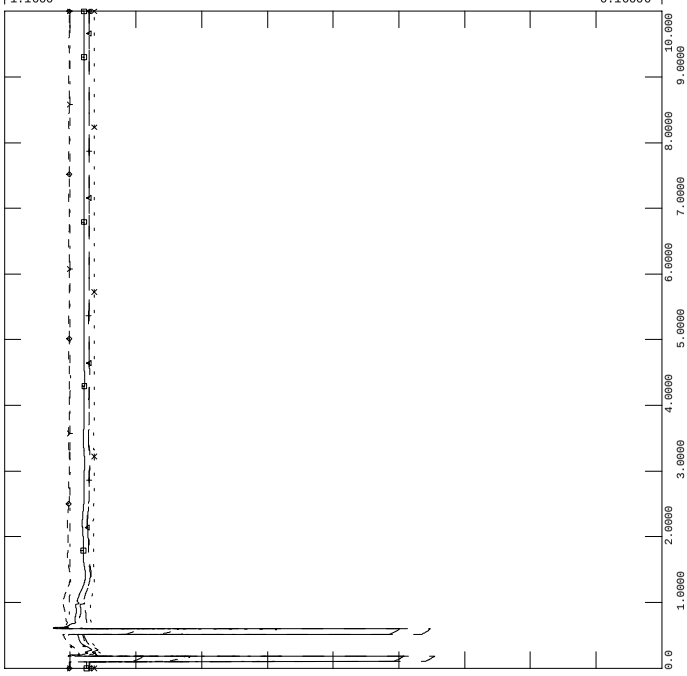
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH.OUT

FRI, MAY 21 2004 10:35

SPP:230 KV BUS VOLTAGE 10

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]
CHNL# 163: [VOLT 52073 [CHAVES6 230.00]]
CHNL# 149: [VOLT 51533 [TUCO6 230.00]]
CHNL# 144: [VOLT 51435 [TOLKE6 230.00]]
CHNL# 109: [VOLT 51195 [OASIS6 230.00]]
CHNL# 107: [VOLT 51205 [CLOVS 6230.00]]

1.1000 0.10000



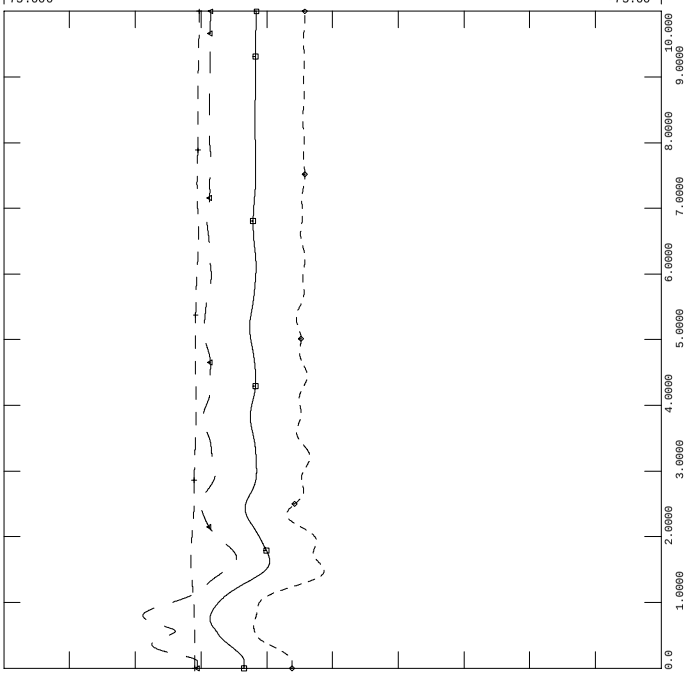
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH.OUT

FRI, MAY 21 2004 10:35

SPP: ROTOR ANGLE 12

CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]]
CHNL# 3: [ANGL 51701 [JONES11 22.000] [1]]
CHNL# 2: [ANGL 51441 [TOLK1 24.000] [1]]
CHNL# 1: [ANGL 50891 [HARRNG1 24.000] [1]]

75.000 -75.00



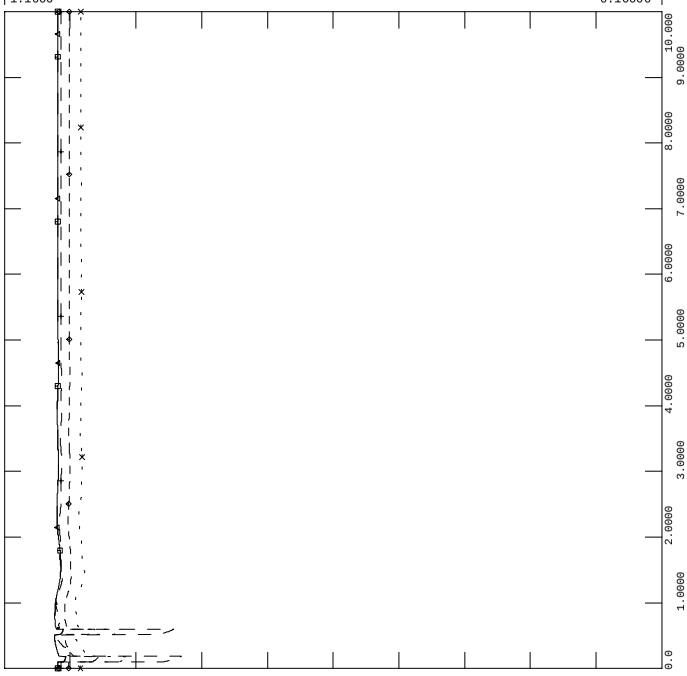
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH.OUT

FRI, MAY 21 2004 10:35

SPP:345 KV BUS VOLTAGE 9

CHNL# 150: [VOLT 51534 [TUCO7 345.00]]
CHNL# 147: [VOLT 51440 [TOLK7 345.00]]
CHNL# 39: [VOLT 50888 [POTTRC7 345.00]]
CHNL# 37: [VOLT 50858 [FINNEY7 345.00]]
CHNL# 35: [VOLT 56449 [HOLCOMB7345.00]]

1.1000 0.10000



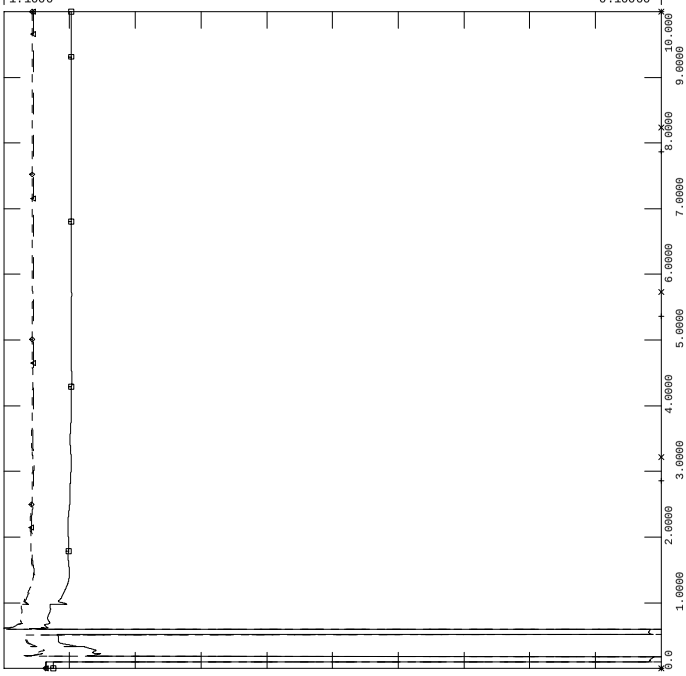
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH.OUT

FRI, MAY 21 2004 10:35

SPP:115 KV BUS VOLTAGE 11

CHNL# 279: [ANGL 91038 [CIEL_G380.6000] [1]]
CHNL# 278: [ANGL 91037 [CIEL_G370.6000] [1]]
CHNL# 141: [VOLT 51206 [CLOVISS 115.00]]
CHNL# 1167: [VOLT 51202 [ROOOSEVL 115.0]]
CHNL# 105: [VOLT 51176 [CURRY3 115.00]]

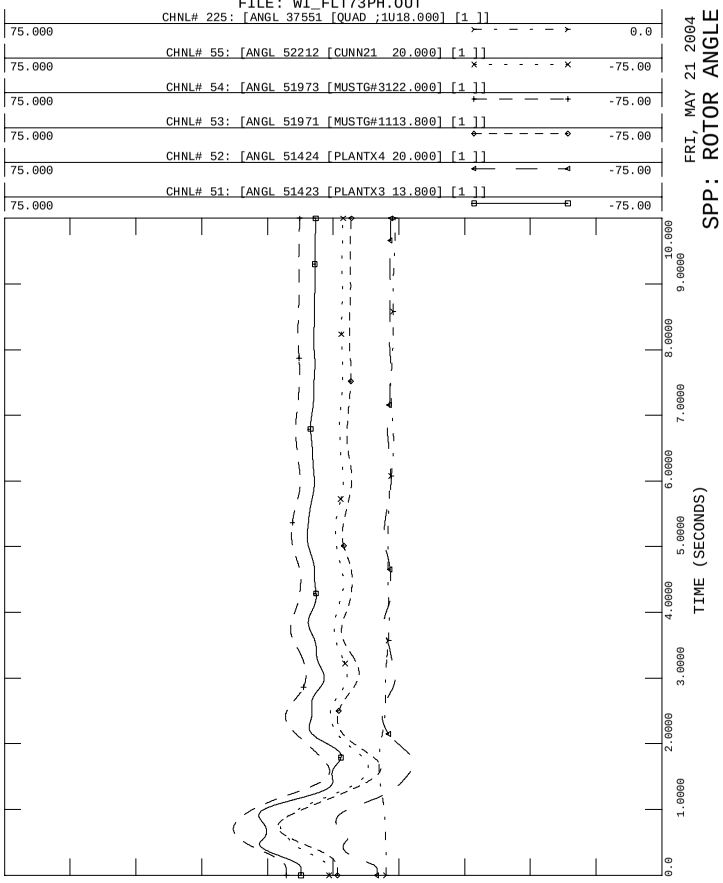
1.1000 0.10000



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH.OUT

FRI, MAY 21 2004 10:35 14

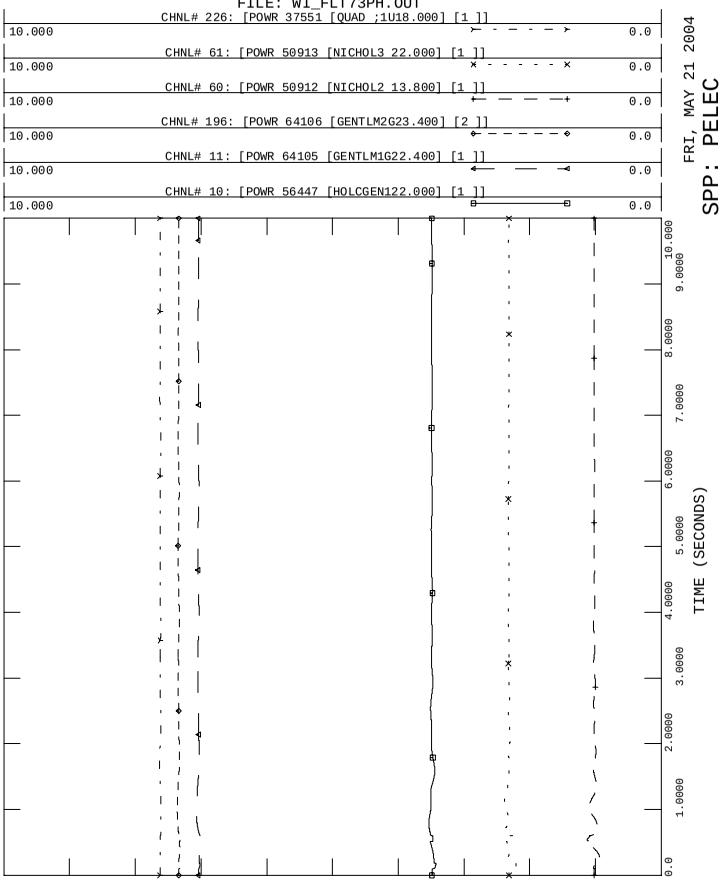
SPP: ROTOR ANGLE



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH.OUT

FRI, MAY 21 2004 10:35 16

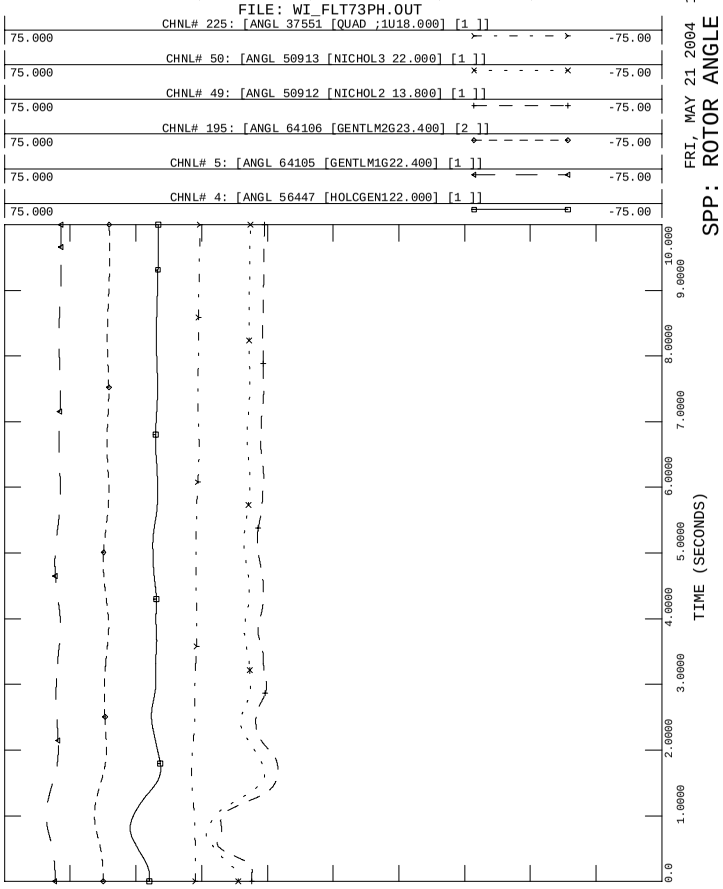
SPP: PELEC



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH.OUT

FRI, MAY 21 2004 10:35 13

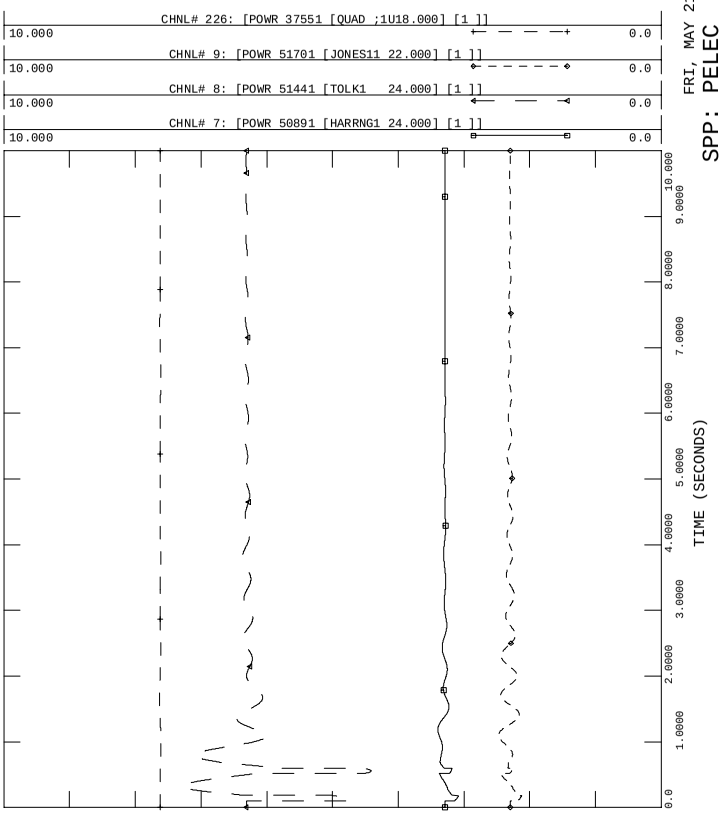
SPP: ROTOR ANGLE



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH.OUT

FRI, MAY 21 2004 10:35 15

SPP: PELEC



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH.OUT

FRI, MAY 21 2004 10:35 18

BRANCH FLOW

CHNL# 97: [POWR 51195 TO 52073 CKT 1]
300.00 -200.0

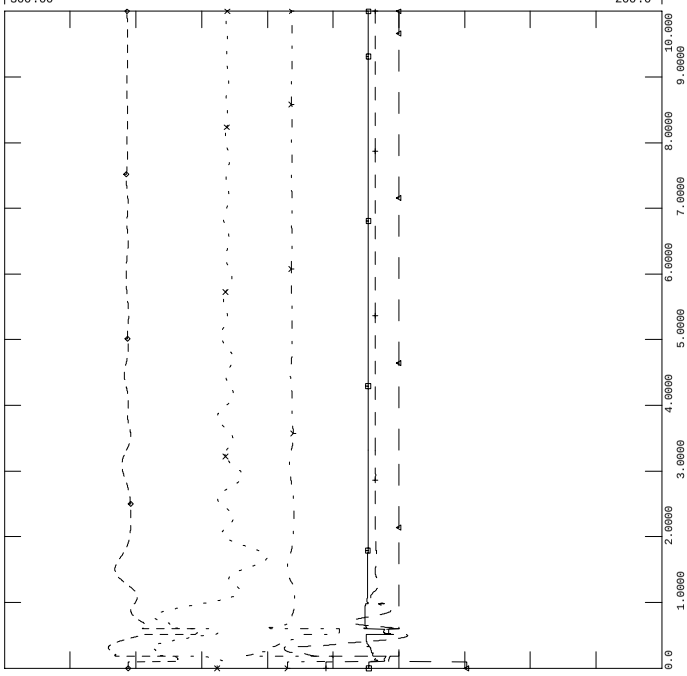
CHNL# 1179: [POWR 51435 TO 51533 CKT 1]
300.00 -200.0

CHNL# 1177: [POWR 99991 TO 51176 CKT 1]
300.00 -200.0

CHNL# 1175: [POWR 51440 TO 52186 CKT 1]
300.00 -200.0

CHNL# 1173: [POWR 51176 TO 51206 CKT 2]
300.00 -200.0

CHNL# 1169: [POWR 99991 TO 51076 CKT 1]
300.00 -200.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH.OUT

FRI, MAY 21 2004 10:35 20

DC LINE PNM

CHNL# 207: [VOLT 59995 [BLKWDC 230.00]]
1.1000 0.10000

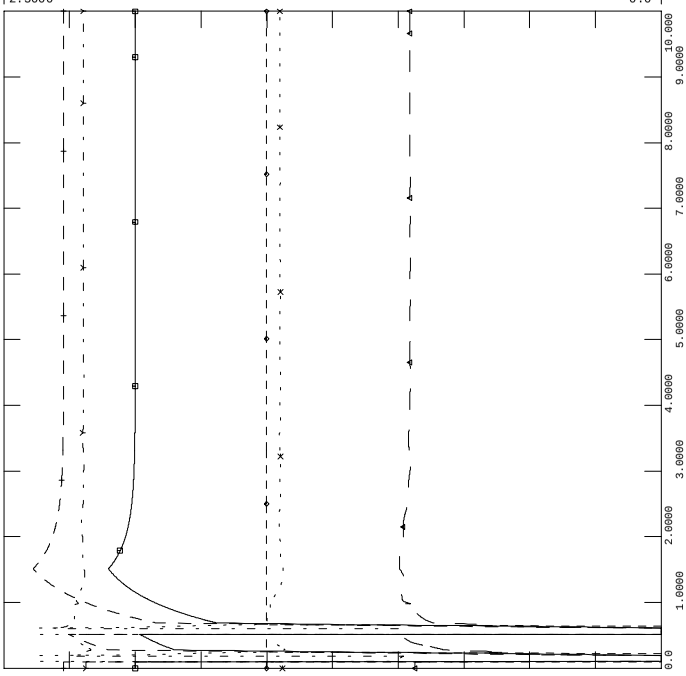
CHNL# 193: [DC LINE #2: ALPHA]
100.00 -100.0

CHNL# 192: [DC LINE #2: DC CURRENT]
4000.0 0.0

CHNL# 191: [DC LINE #2: VDCR]
65000. 40000.

CHNL# 187: [DC LINE #2: QACR]
2.5000 0.0

CHNL# 186: [DC LINE #2: PACR]
2.5000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH.OUT

FRI, MAY 21 2004 10:35 17

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
10.000 0.0

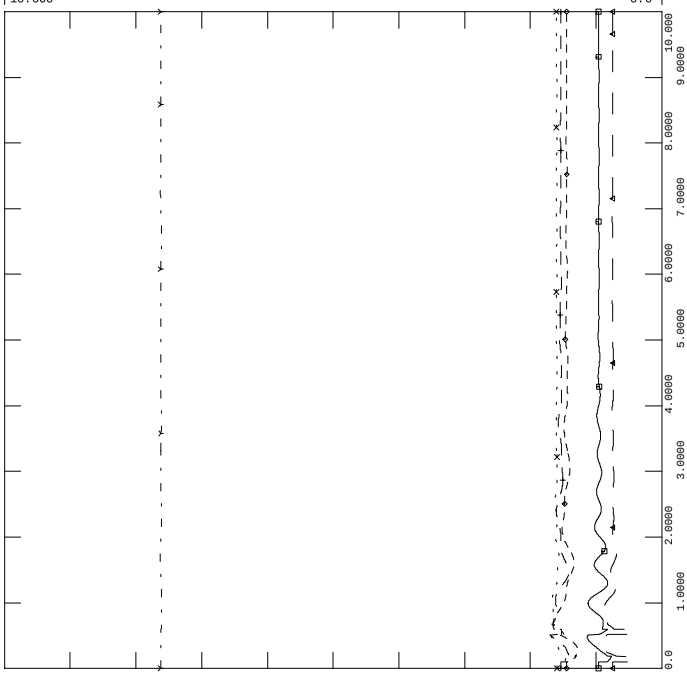
CHNL# 66: [POWR 52212 [CUNN21 20.000] [1]]
10.000 0.0

CHNL# 65: [POWR 51973 [MUSTG#3122.000] [1]]
10.000 0.0

CHNL# 64: [POWR 51971 [MUSTG#1113.800] [1]]
10.000 0.0

CHNL# 63: [POWR 51424 [PLANTX4 20.000] [1]]
10.000 0.0

CHNL# 62: [POWR 51423 [PLANTX3 13.800] [1]]
10.000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH.OUT

FRI, MAY 21 2004 10:35 19

DC LINE EPE

CHNL# 208: [VOLT 59996 [EPEDC 230.00]]
1.1000 0.10000

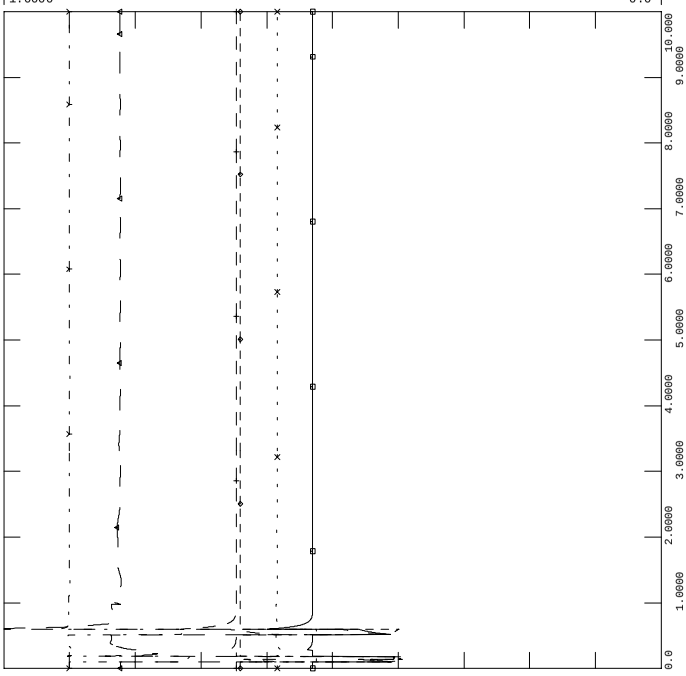
CHNL# 184: [DC LINE #1: ALFA]
100.00 -100.0

CHNL# 183: [DC LINE #1: DC CURRENT]
1000.0 0.0

CHNL# 182: [DC LINE #1: VDCR]
1.0000E5 50000.

CHNL# 178: [DC LINE #1: QACR]
0.25000 0.0

CHNL# 177: [DC LINE #1: PACR]
1.0000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

22

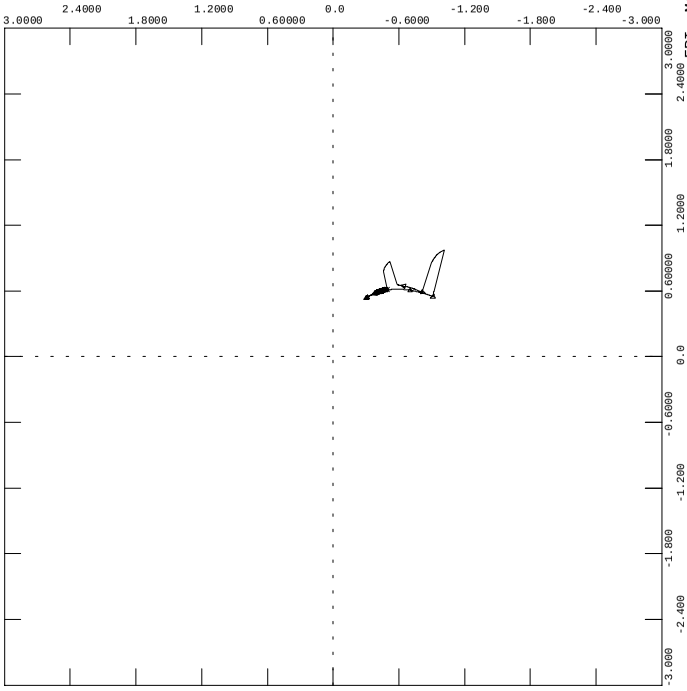
FRI, MAY 21 2004 10:35

POTTER-FINNEY

FILE: WI_FLT73PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25

CHNL# 116: [APPX 50858 TO 50888 CKT 1]



CHNL# 115: [APPR 50858 TO 50888 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

21

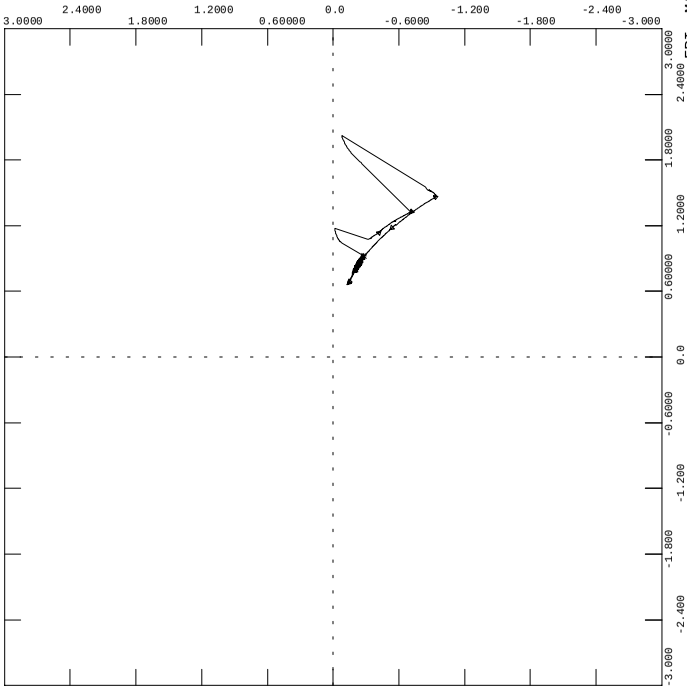
FRI, MAY 21 2004 10:35

FINNEY-HOLCOMB

FILE: WI_FLT73PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25

CHNL# 114: [APPX 56449 TO 50858 CKT 1]



CHNL# 113: [APPR 56449 TO 50858 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH.OUT

23

FRI, MAY 21 2004 10:35

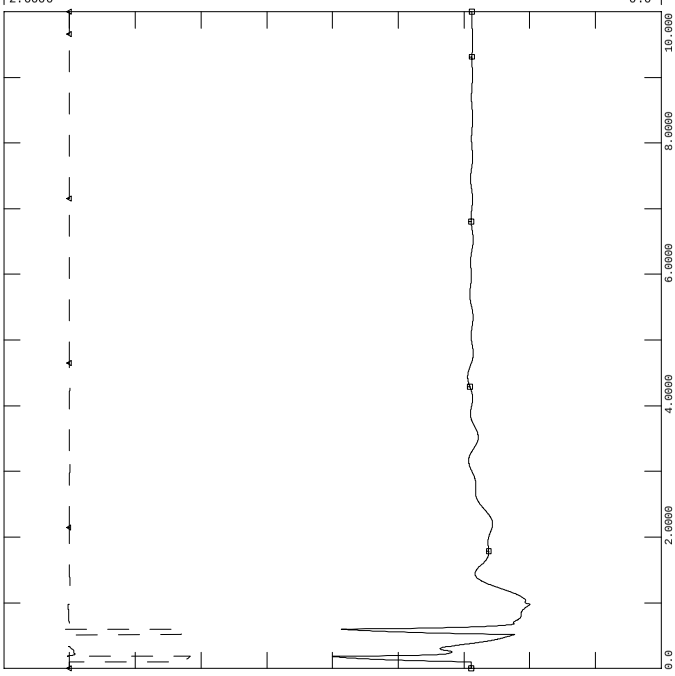
SVC OUTPUT

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]

1.1000 0.10000

CHNL# 117: [BUS 52185 SVC OUTPUT]

2.0000 0.0

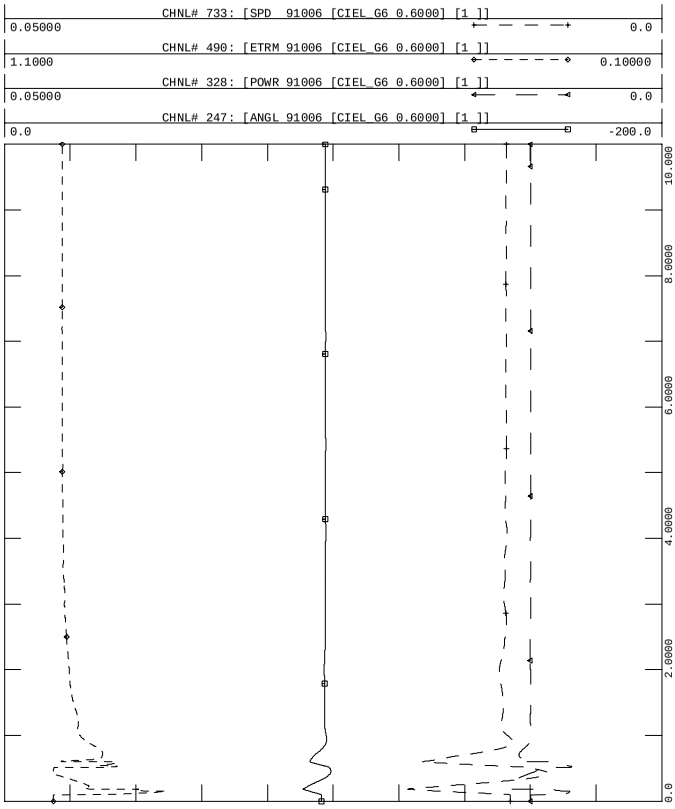


TIME (SECONDS)

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH.OUT

FRI, MAY 21 2004 10:34 2

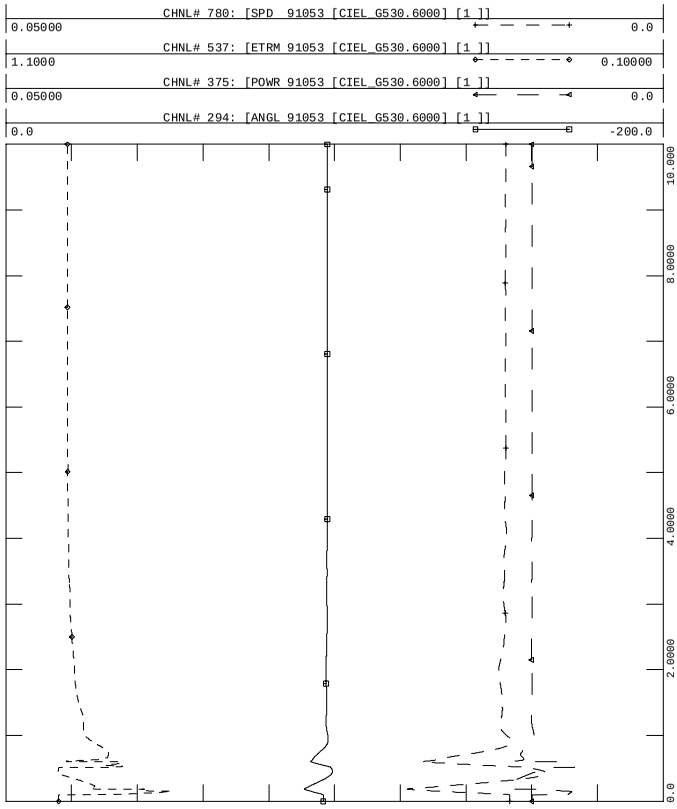
CIELO CABLE1 GEN6



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH.OUT

FRI, MAY 21 2004 10:35 4

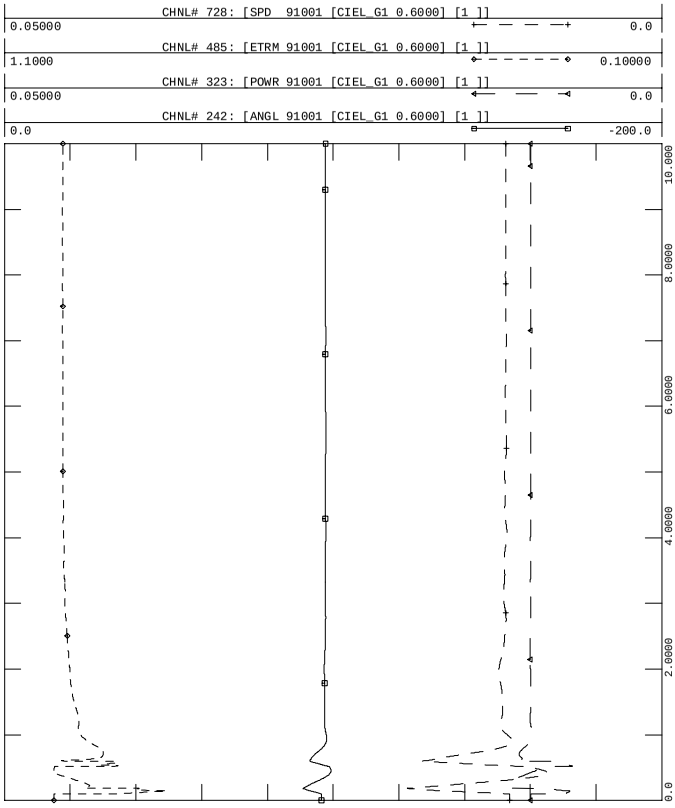
CIELO CABLE2 GEN53



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH.OUT

FRI, MAY 21 2004 10:34 1

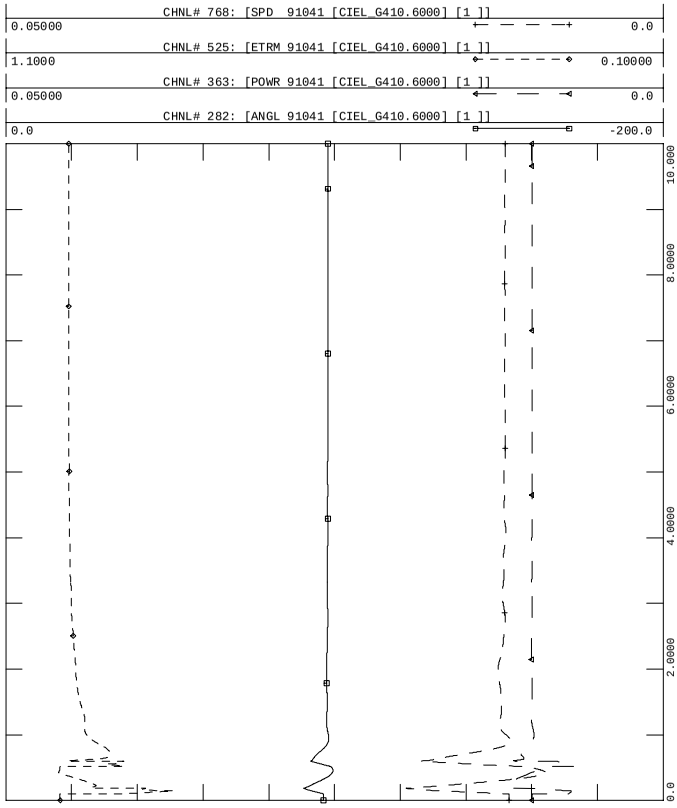
CIELO CABLE1 GEN1



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH.OUT

FRI, MAY 21 2004 10:35 3

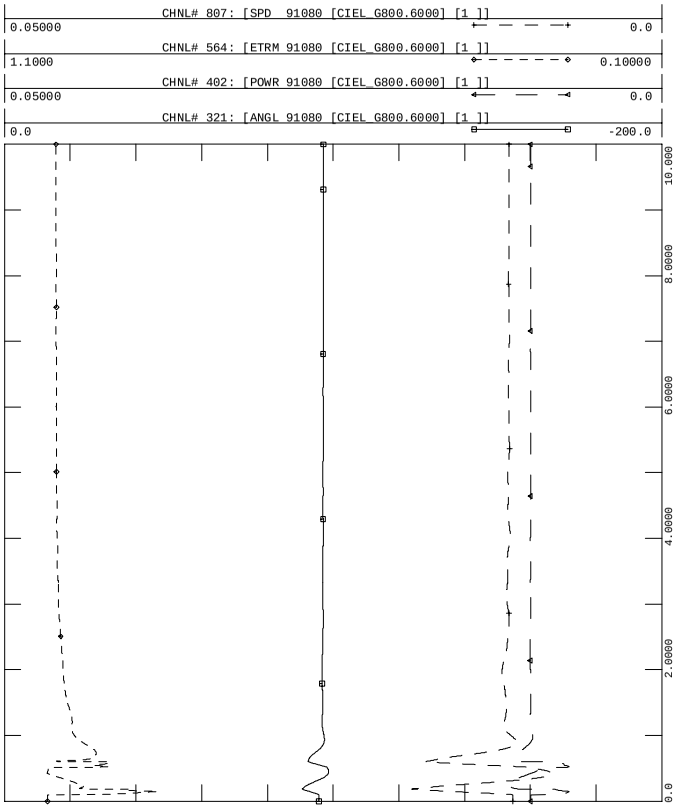
CIELO CABLE2 GEN41



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH.OUT

FRI, MAY 21 2004 10:35 6

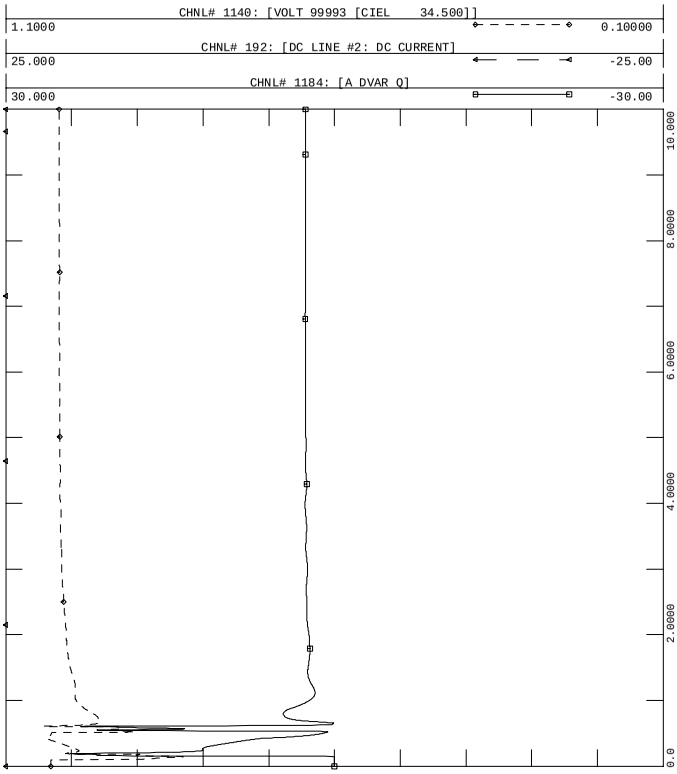
CIELO CABLE3 GEN80



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH.OUT

FRI, MAY 21 2004 10:35 8

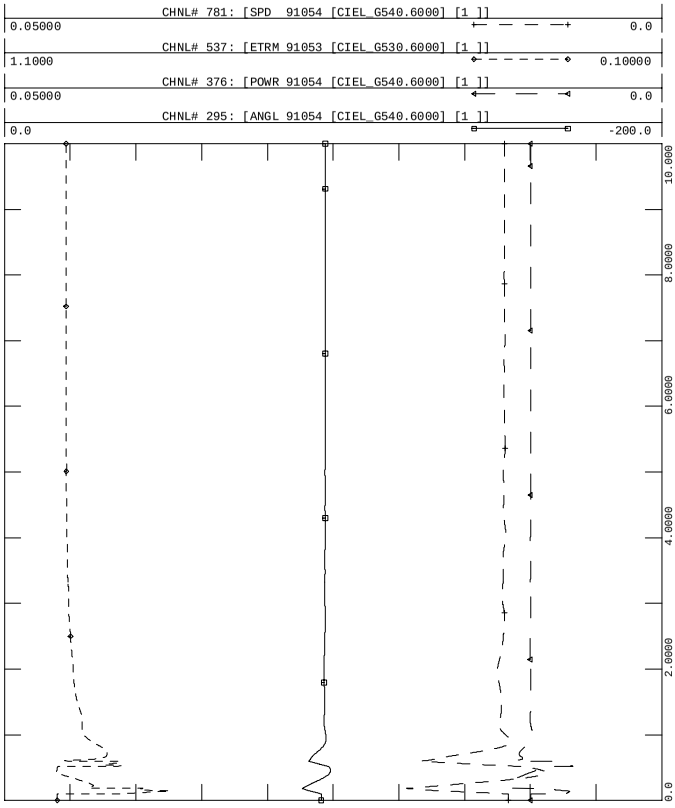
DVAR OUTPUT



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH.OUT

FRI, MAY 21 2004 10:35 5

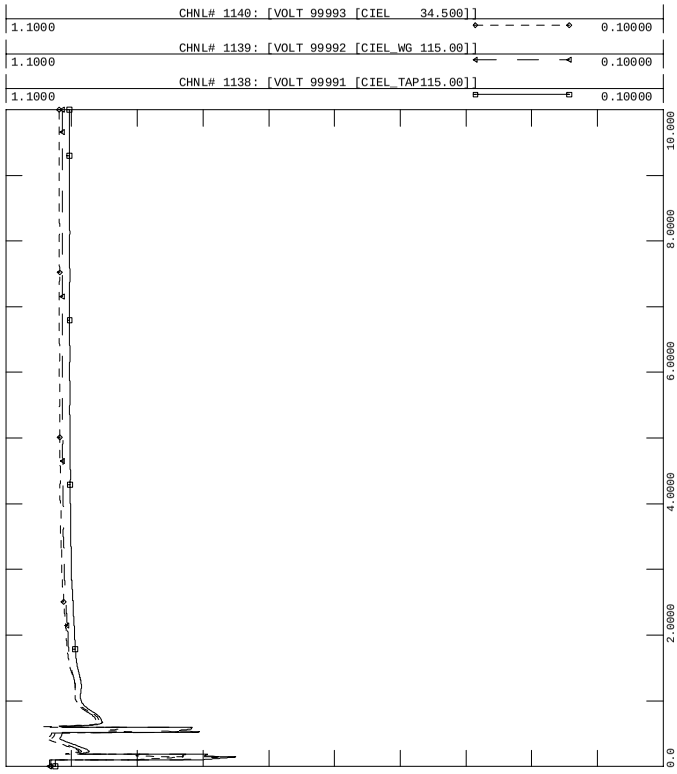
CIELO CABLE3 GEN54



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH.OUT

FRI, MAY 21 2004 10:35 7

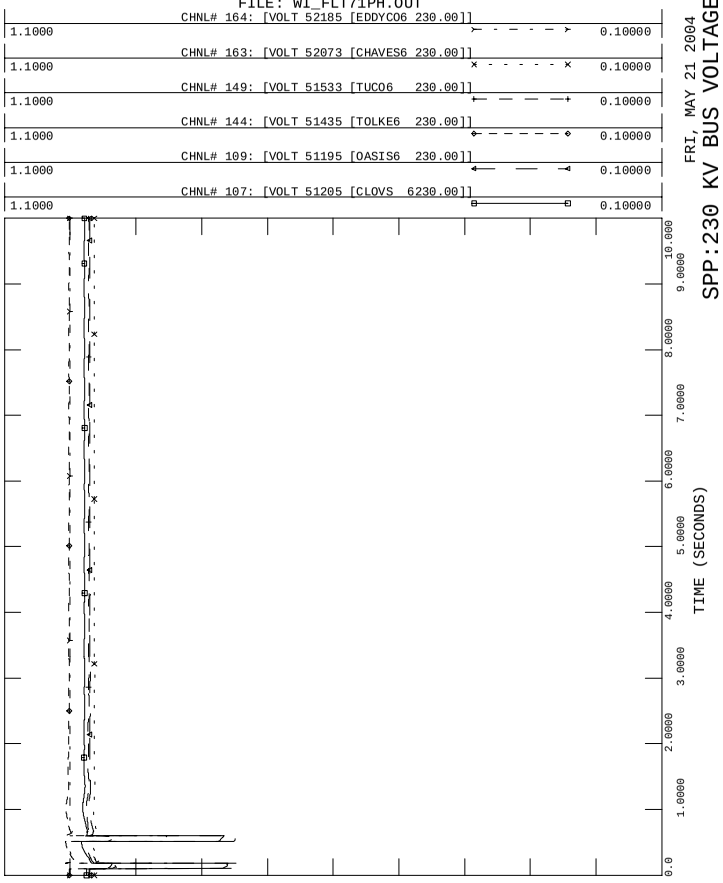
CIELO VOLTAGE



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH.OUT

FRI, MAY 21 2004 10:35

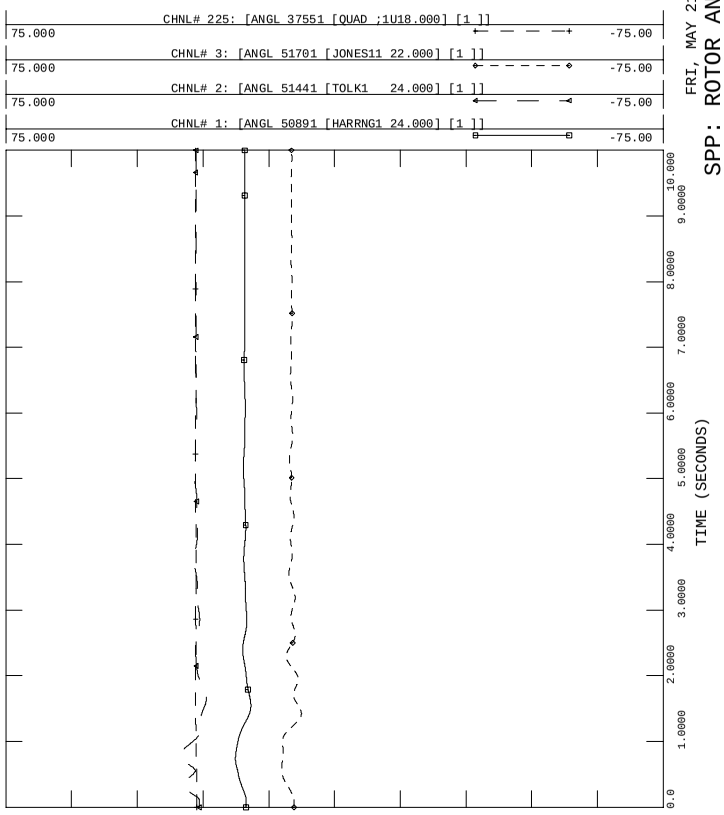
SPP:230 KV BUS VOLTAGE 10



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH.OUT

FRI, MAY 21 2004 10:35

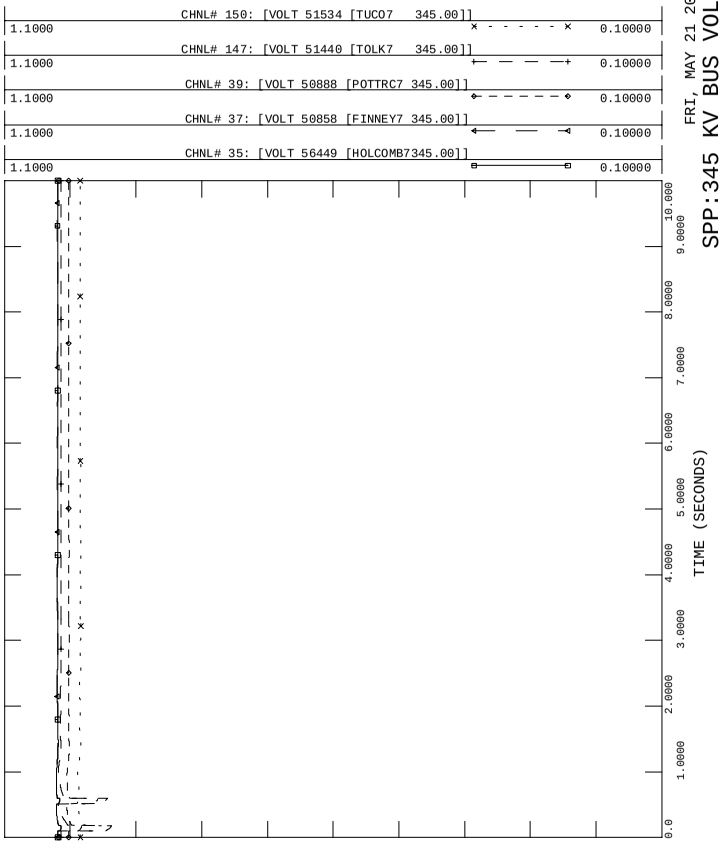
SPP: ROTOR ANGLE 12



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH.OUT

FRI, MAY 21 2004 10:35

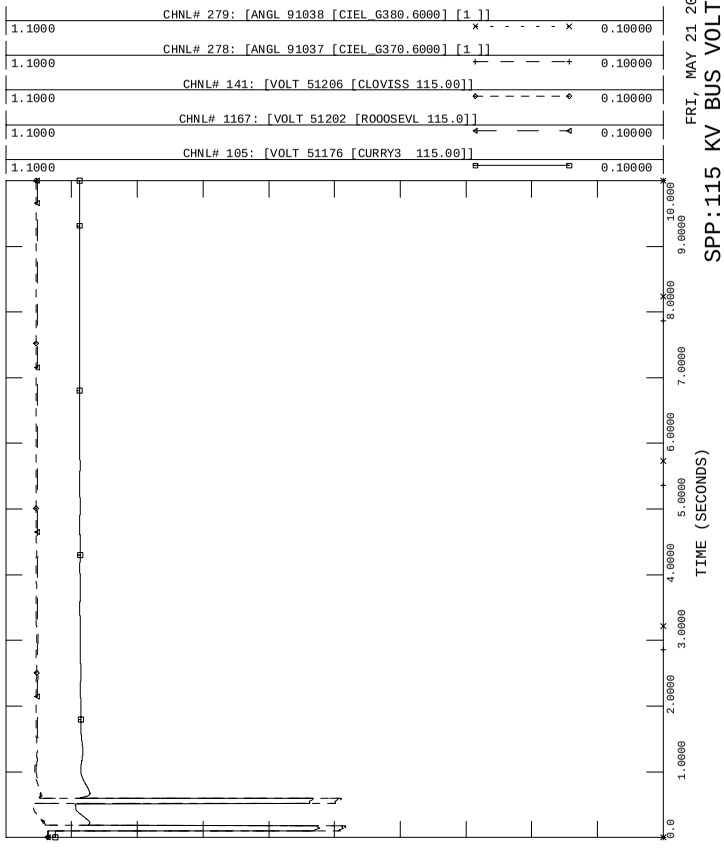
SPP:345 KV BUS VOLTAGE 9



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH.OUT

FRI, MAY 21 2004 10:35

SPP:115 KV BUS VOLTAGE 11

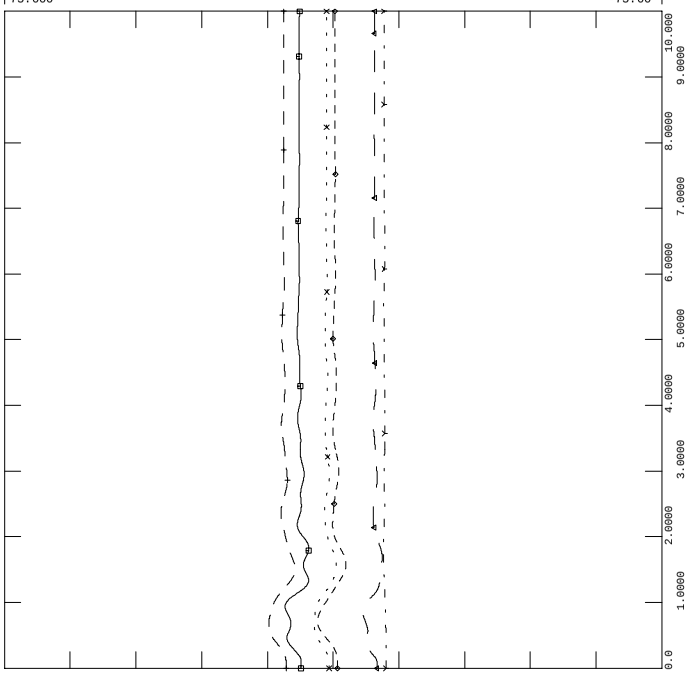


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH.OUT

FRI, MAY 21 2004 10:35 14

SPP: ROTOR ANGLE

CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]]
75.000 0.0
CHNL# 55: [ANGL 52212 [CUNN21 20.000] [1]]
75.000 -75.00
CHNL# 54: [ANGL 51973 [MUSTG#3122.000] [1]]
75.000 -75.00
CHNL# 53: [ANGL 51971 [MUSTG#1113.800] [1]]
75.000 -75.00
CHNL# 52: [ANGL 51424 [PLANTX4 20.000] [1]]
75.000 -75.00
CHNL# 51: [ANGL 51423 [PLANTX3 13.800] [1]]
75.000 -75.00

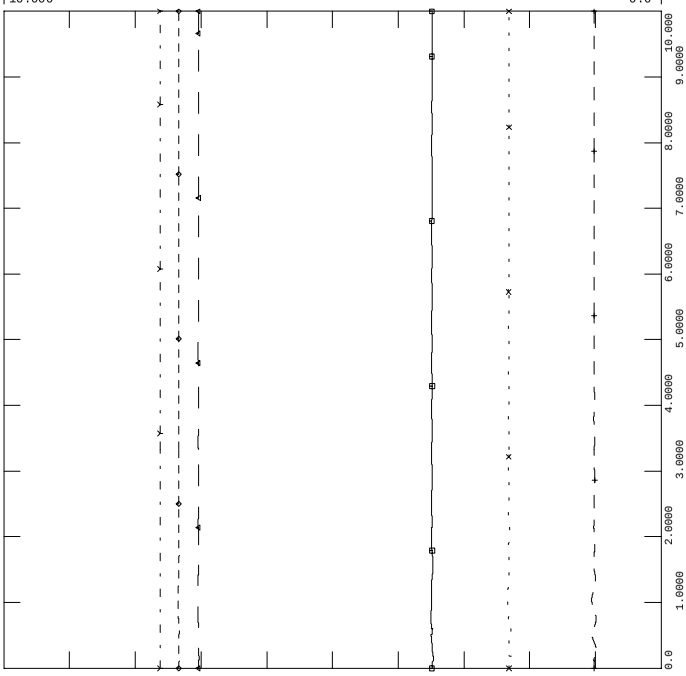


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH.OUT

FRI, MAY 21 2004 10:35 16

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
10.000 0.0
CHNL# 61: [POWR 50913 [NICHOL3 22.000] [1]]
10.000 0.0
CHNL# 60: [POWR 50912 [NICHOL2 13.800] [1]]
10.000 0.0
CHNL# 196: [POWR 64106 [GENTLM2G23.400] [2]]
10.000 0.0
CHNL# 11: [POWR 64105 [GENTLM1G22.400] [1]]
10.000 0.0
CHNL# 10: [POWR 56447 [HOLCGEN122.000] [1]]
10.000 0.0

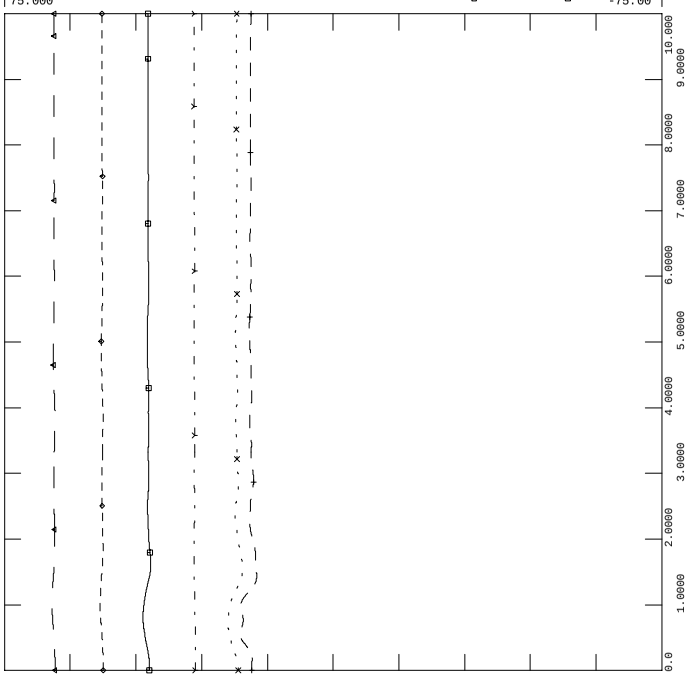


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH.OUT

FRI, MAY 21 2004 10:35 13

SPP: ROTOR ANGLE

CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]]
75.000 -75.00
CHNL# 50: [ANGL 50913 [NICHOL3 22.000] [1]]
75.000 -75.00
CHNL# 49: [ANGL 50912 [NICHOL2 13.800] [1]]
75.000 -75.00
CHNL# 195: [ANGL 64106 [GENTLM2G23.400] [2]]
75.000 -75.00
CHNL# 5: [ANGL 64105 [GENTLM1G22.400] [1]]
75.000 -75.00
CHNL# 4: [ANGL 56447 [HOLCGEN122.000] [1]]
75.000 -75.00

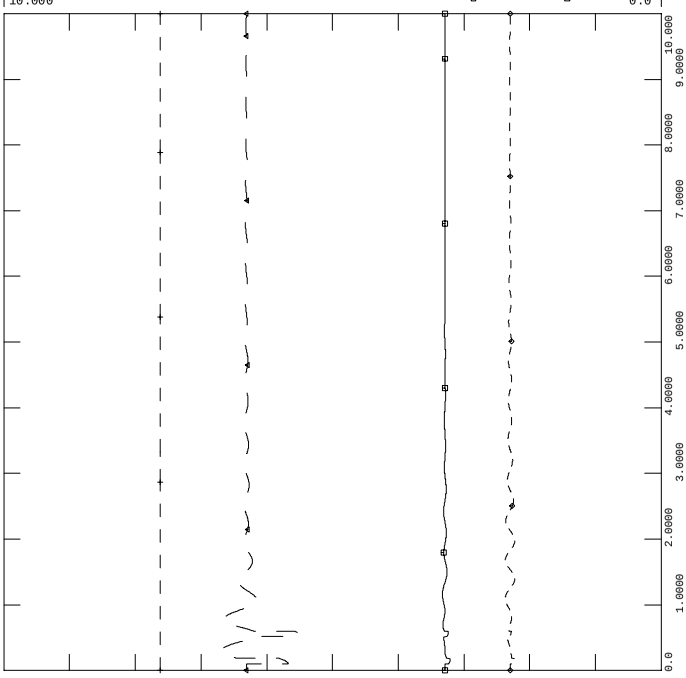


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH.OUT

FRI, MAY 21 2004 10:35 15

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
10.000 0.0
CHNL# 9: [POWR 51701 [JONES11 22.000] [1]]
10.000 0.0
CHNL# 8: [POWR 51441 [TOLK1 24.000] [1]]
10.000 0.0
CHNL# 7: [POWR 50891 [HARRNG1 24.000] [1]]
10.000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH.OUT

FRI, MAY 21 2004 10:35 18

BRANCH FLOW

CHNL# 97: [POWR 51195 TO 52073 CKT 1]
300.00 -200.0

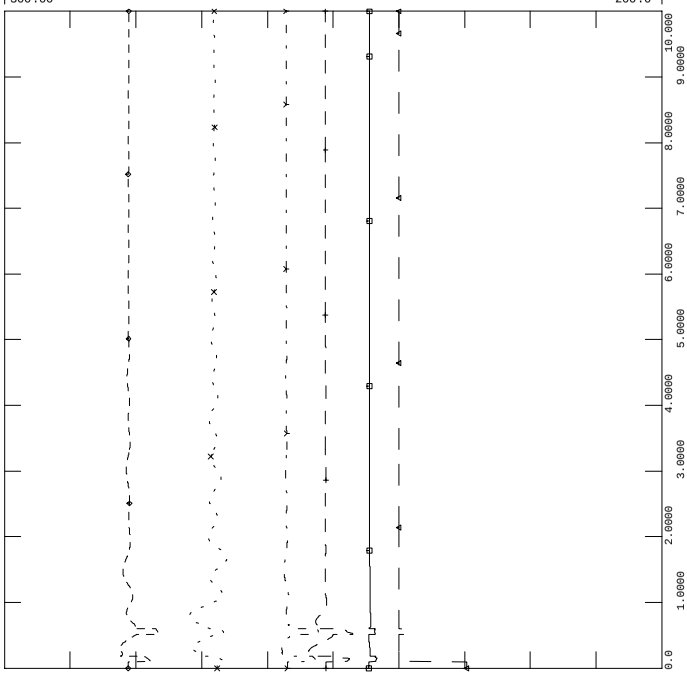
CHNL# 1179: [POWR 51435 TO 51533 CKT 1]
300.00 -200.0

CHNL# 1177: [POWR 99991 TO 51176 CKT 1]
300.00 -200.0

CHNL# 1175: [POWR 51440 TO 52186 CKT 1]
300.00 -200.0

CHNL# 1173: [POWR 51176 TO 51206 CKT 2]
300.00 -200.0

CHNL# 1169: [POWR 99991 TO 51076 CKT 1]
300.00 -200.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH.OUT

FRI, MAY 21 2004 10:35 20

DC LINE PNM

CHNL# 207: [VOLT 59995 [BLKWDC 230.00]]
1.1000 0.10000

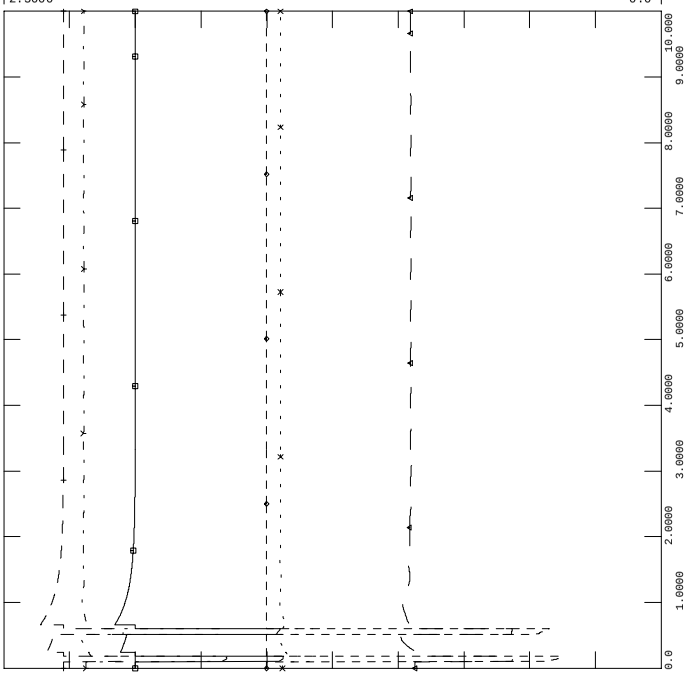
CHNL# 193: [DC LINE #2: ALPHA]
100.00 -100.0

CHNL# 192: [DC LINE #2: DC CURRENT]
4000.0 0.0

CHNL# 191: [DC LINE #2: VDCR]
65000. 40000.

CHNL# 187: [DC LINE #2: QACR]
2.5000 0.0

CHNL# 186: [DC LINE #2: PACR]
2.5000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH.OUT

FRI, MAY 21 2004 10:35 17

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
10.000 0.0

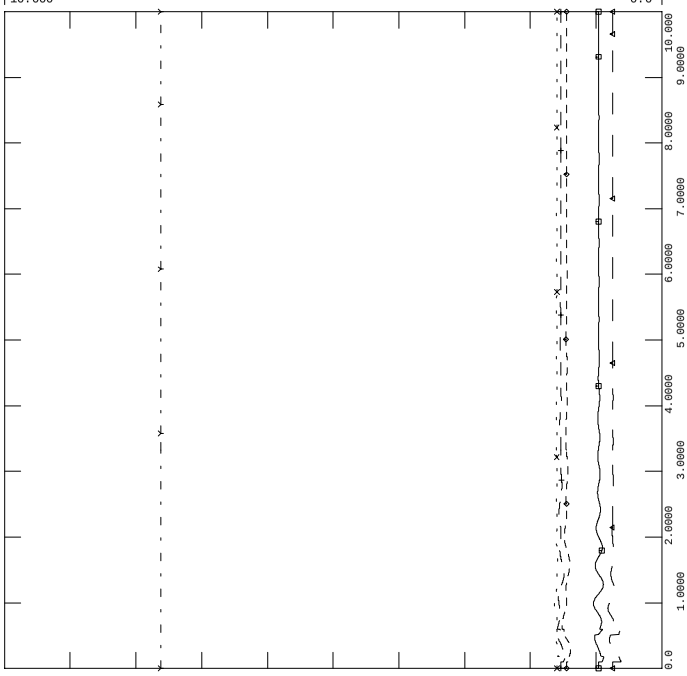
CHNL# 66: [POWR 52212 [CUNN21 20.000] [1]]
10.000 0.0

CHNL# 65: [POWR 51973 [MUSTG#3122.000] [1]]
10.000 0.0

CHNL# 64: [POWR 51971 [MUSTG#1113.800] [1]]
10.000 0.0

CHNL# 63: [POWR 51424 [PLANTX4 20.000] [1]]
10.000 0.0

CHNL# 62: [POWR 51423 [PLANTX3 13.800] [1]]
10.000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH.OUT

FRI, MAY 21 2004 10:35 19

DC LINE EPE

CHNL# 208: [VOLT 59996 [EPEDC 230.00]]
1.1000 0.10000

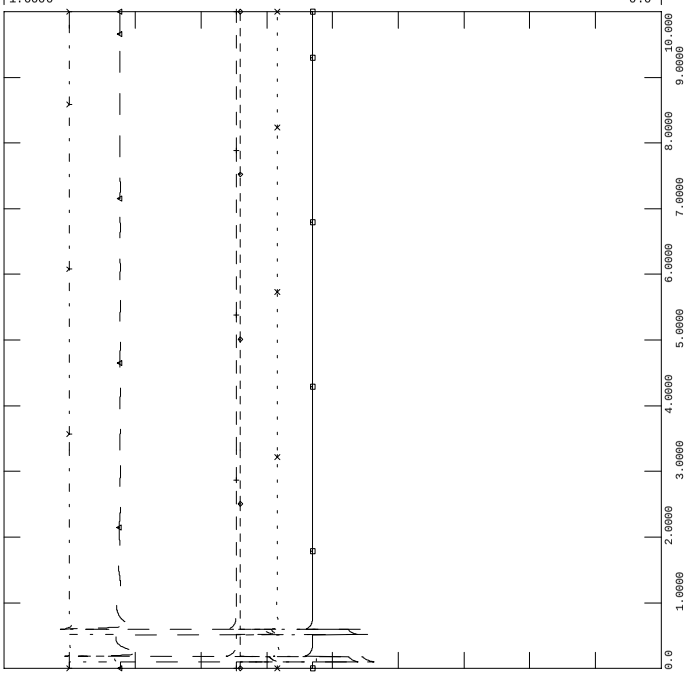
CHNL# 184: [DC LINE #1: ALFA]
100.00 -100.0

CHNL# 183: [DC LINE #1: DC CURRENT]
1000.0 0.0

CHNL# 182: [DC LINE #1: VDCR]
1.0000E5 50000.

CHNL# 178: [DC LINE #1: QACR]
0.25000 0.0

CHNL# 177: [DC LINE #1: PACR]
1.0000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

22

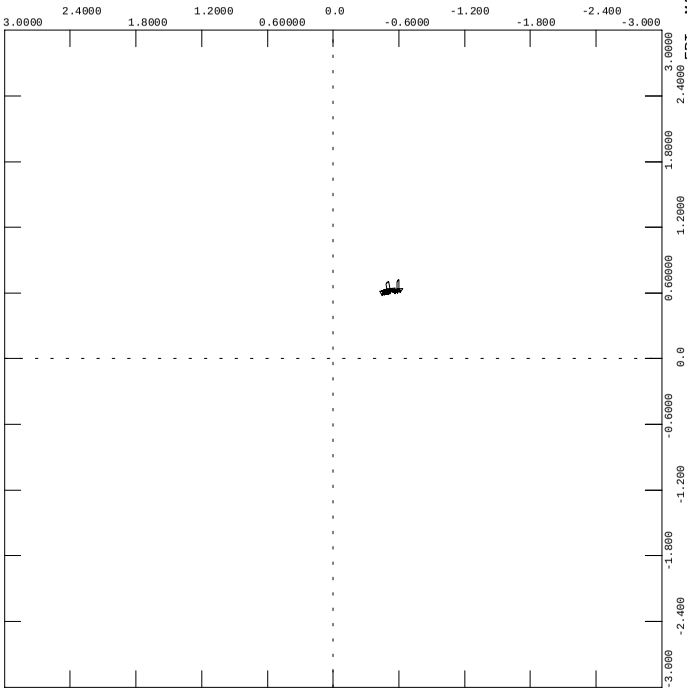
FRI, MAY 21 2004 10:35

POTTER-FINNEY

FILE: WI_FLT71PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25

CHNL# 116: [APPX 50858 TO 50888 CKT 1]



CHNL# 115: [APPR 50858 TO 50888 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

21

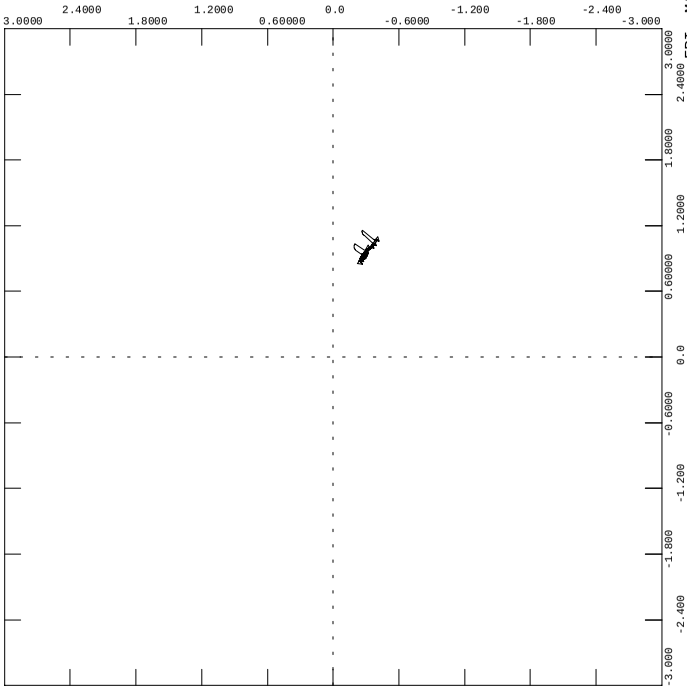
FRI, MAY 21 2004 10:35

FINNEY-HOLCOMB

FILE: WI_FLT71PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25

CHNL# 114: [APPX 56449 TO 50858 CKT 1]



CHNL# 113: [APPR 56449 TO 50858 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH.OUT

23

FRI, MAY 21 2004 10:35

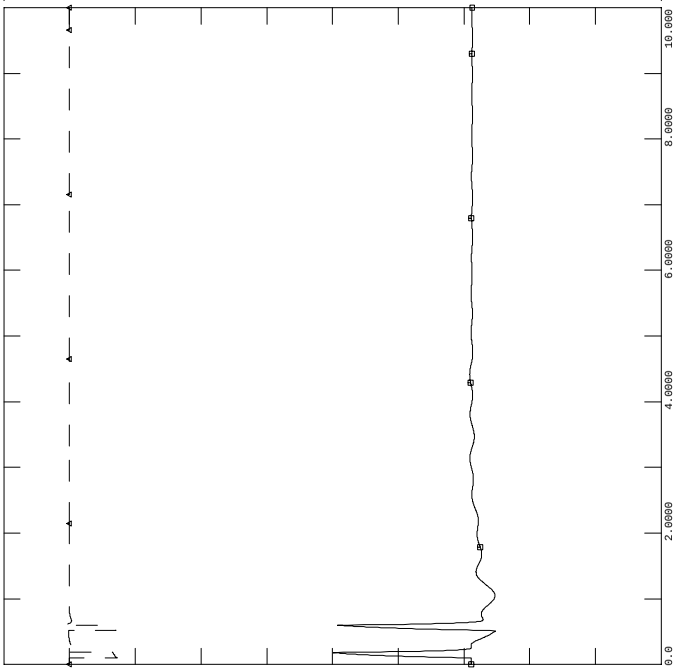
SVC OUTPUT

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]

1.1000 0.10000

CHNL# 117: [BUS 52185 SVC OUTPUT]

2.0000 0.0



TIME (SECONDS)

Appendix

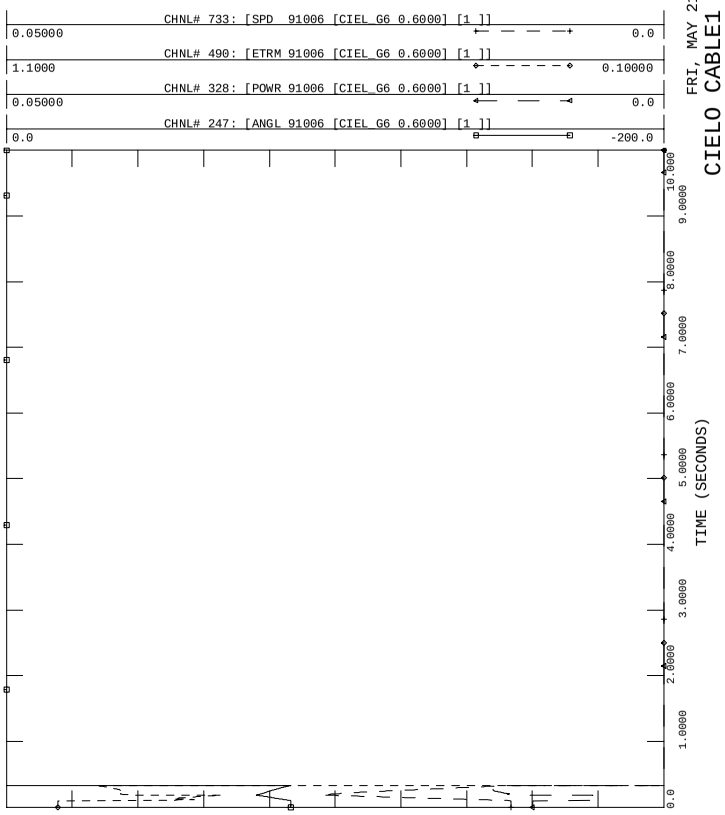
D

Plots of Dynamic Simulation with Cielo Wind Farm on-line during Light Load Conditions

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH_LITE.OUT

FRI, MAY 21 2004 10:01 2

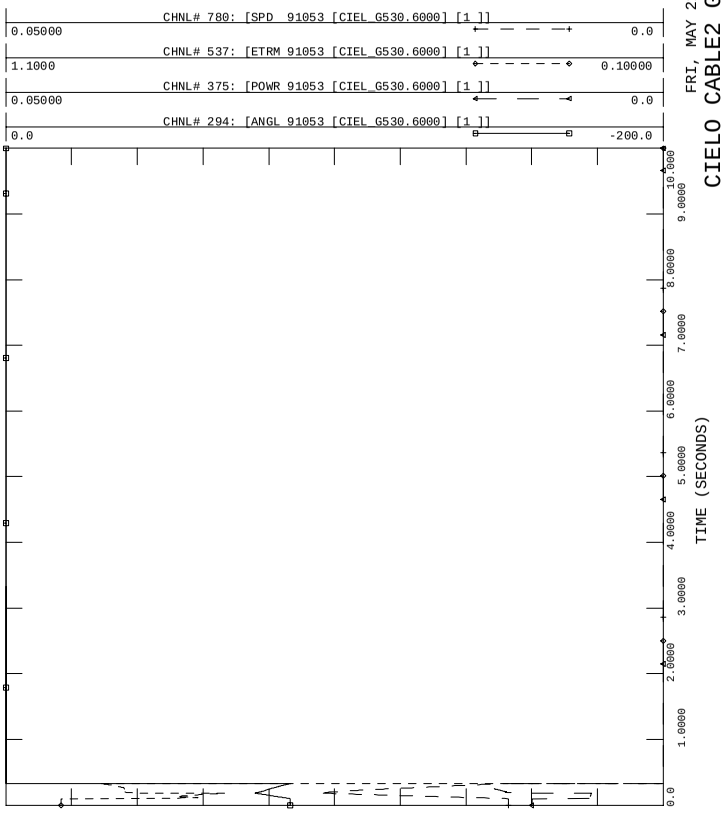
CIELO CABLE1 GEN6



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH_LITE.OUT

FRI, MAY 21 2004 10:01 4

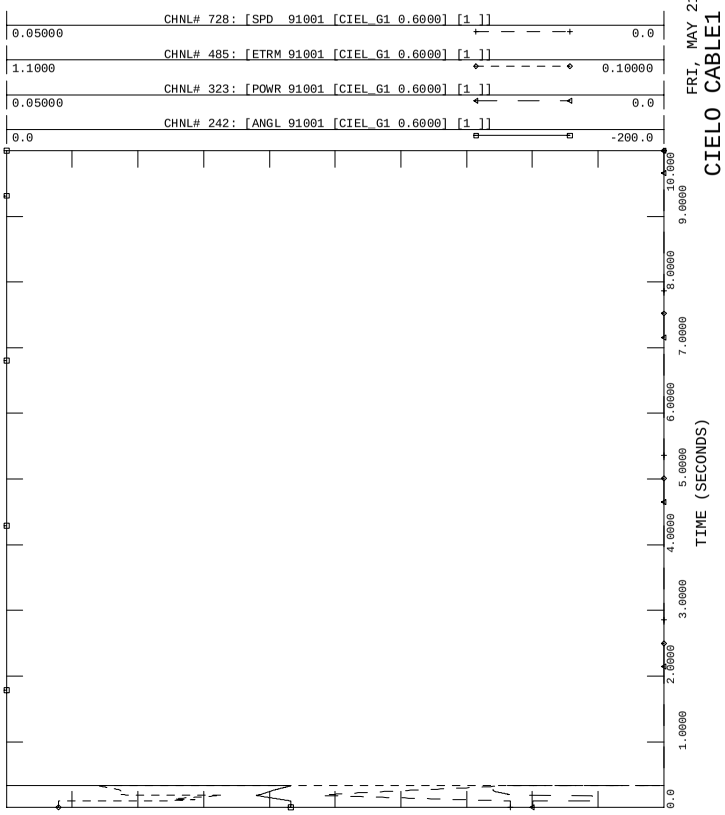
CIELO CABLE2 GEN53



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH_LITE.OUT

FRI, MAY 21 2004 10:01 1

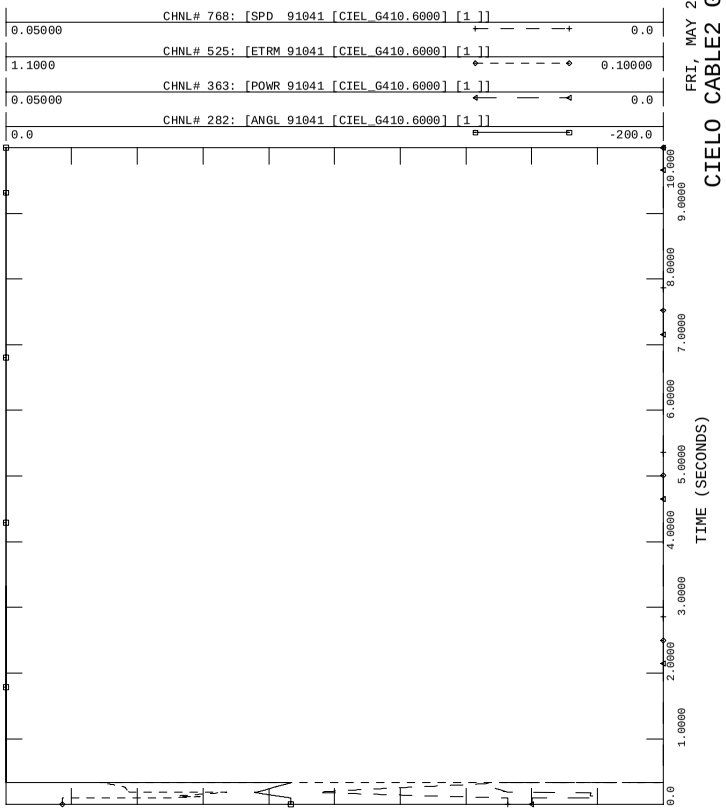
CIELO CABLE1 GEN1



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH_LITE.OUT

FRI, MAY 21 2004 10:01 3

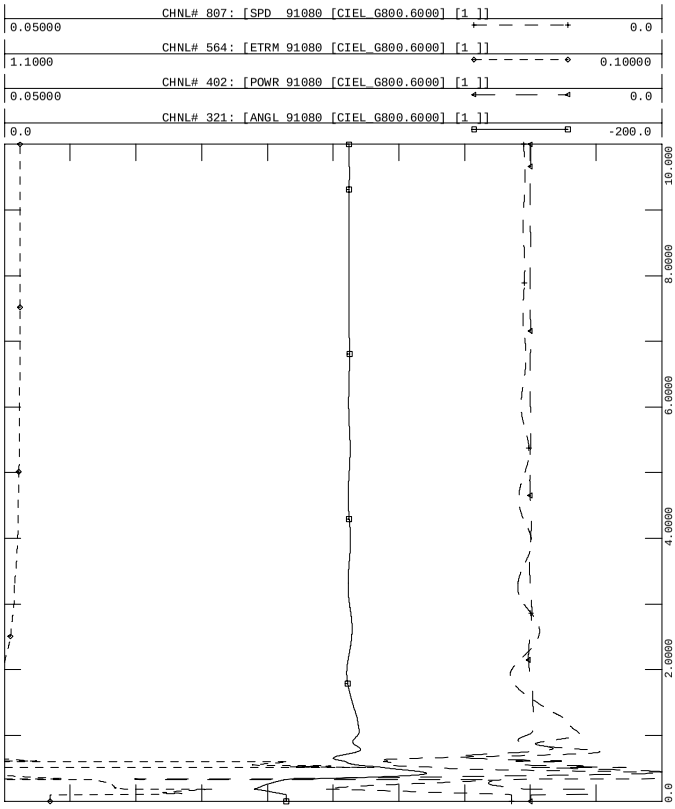
CIELO CABLE2 GEN41



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH_LITE.OUT

FRI, MAY 21 2004 10:01 6

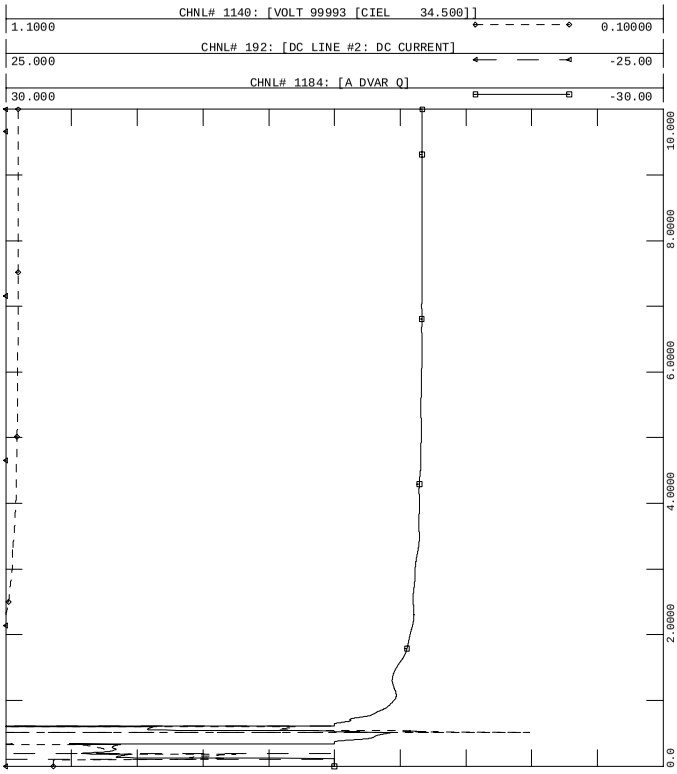
CIELO CABLE3 GEN80



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH_LITE.OUT

FRI, MAY 21 2004 10:01 8

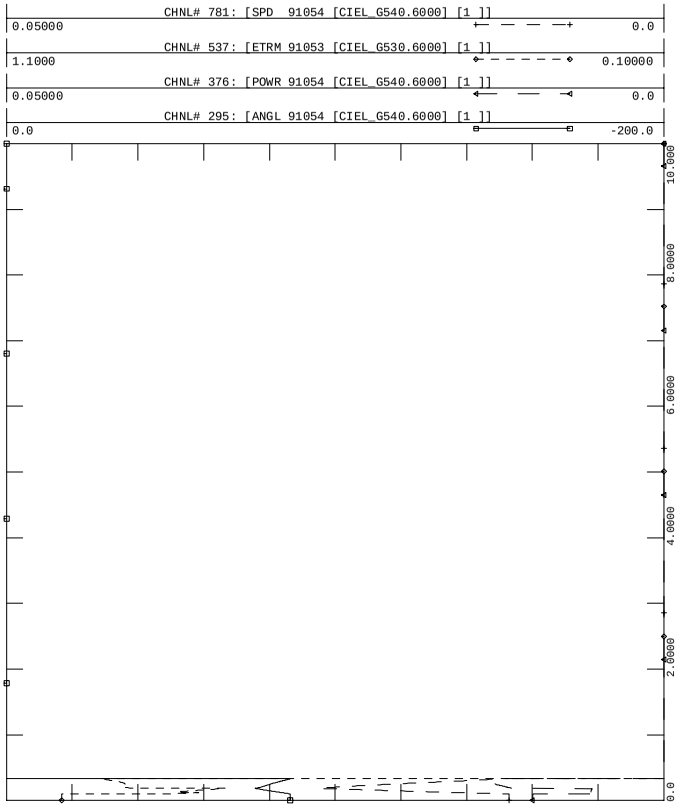
DVAR OUTPUT



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH_LITE.OUT

FRI, MAY 21 2004 10:01 5

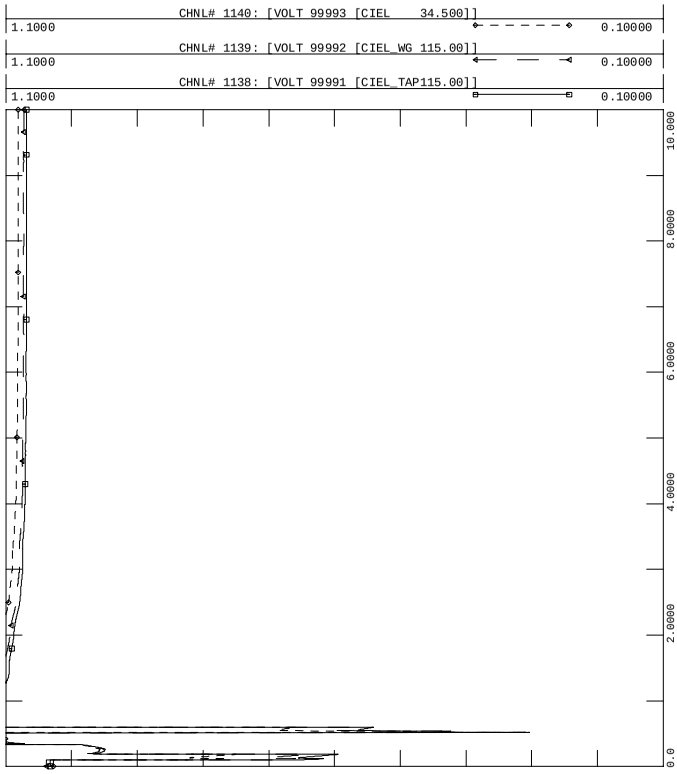
CIELO CABLE3 GEN54



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH_LITE.OUT

FRI, MAY 21 2004 10:01 7

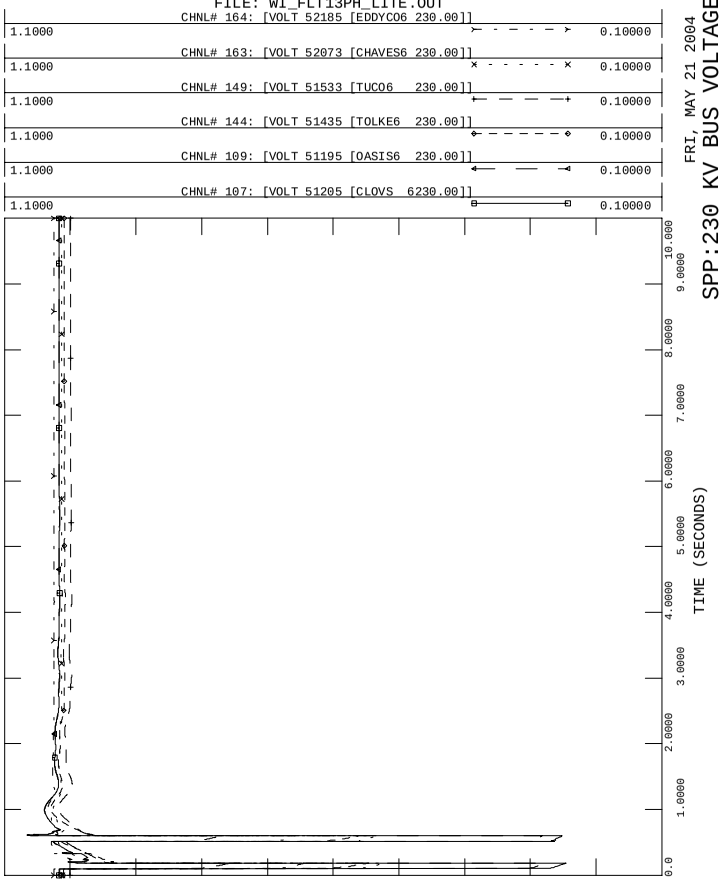
CIELO VOLTAGE



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH_LITE.OUT

FRI, MAY 21 2004 10:01

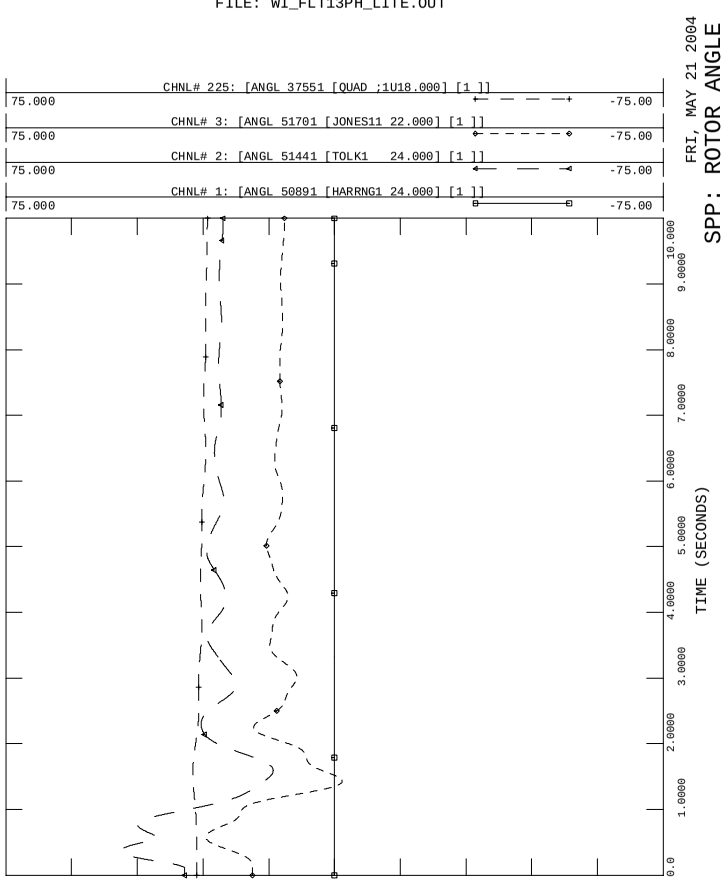
SPP:230 KV BUS VOLTAGE 10



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH_LITE.OUT

FRI, MAY 21 2004 10:01

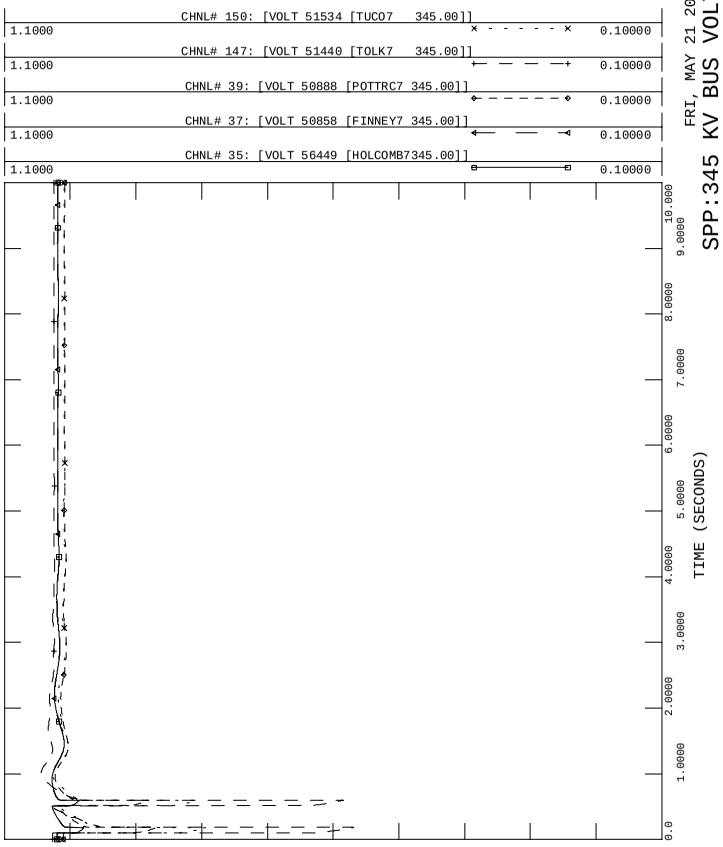
SPP: ROTOR ANGLE 12



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH_LITE.OUT

FRI, MAY 21 2004 10:01

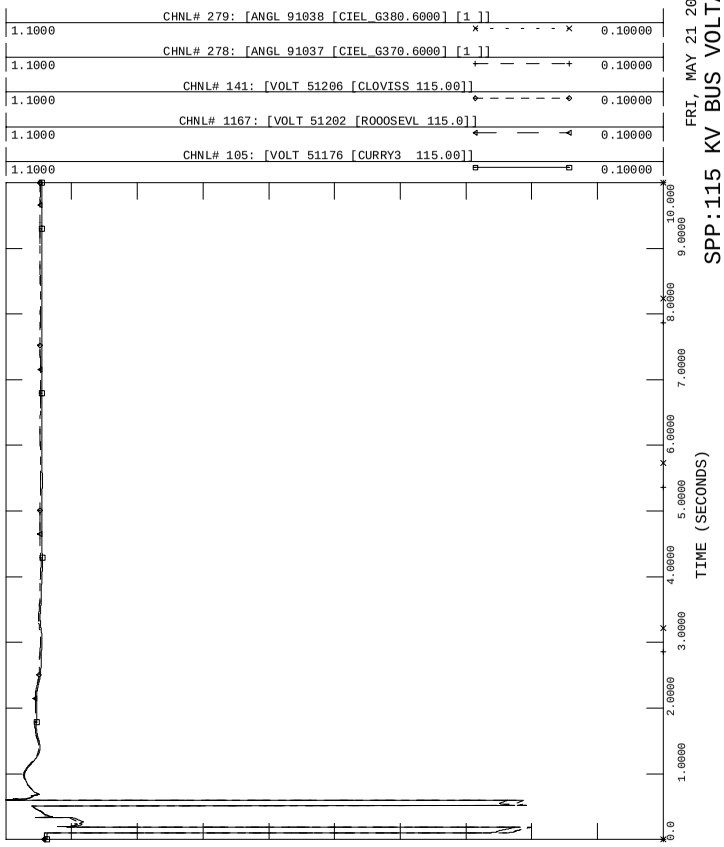
SPP:345 KV BUS VOLTAGE 9



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH_LITE.OUT

FRI, MAY 21 2004 10:01

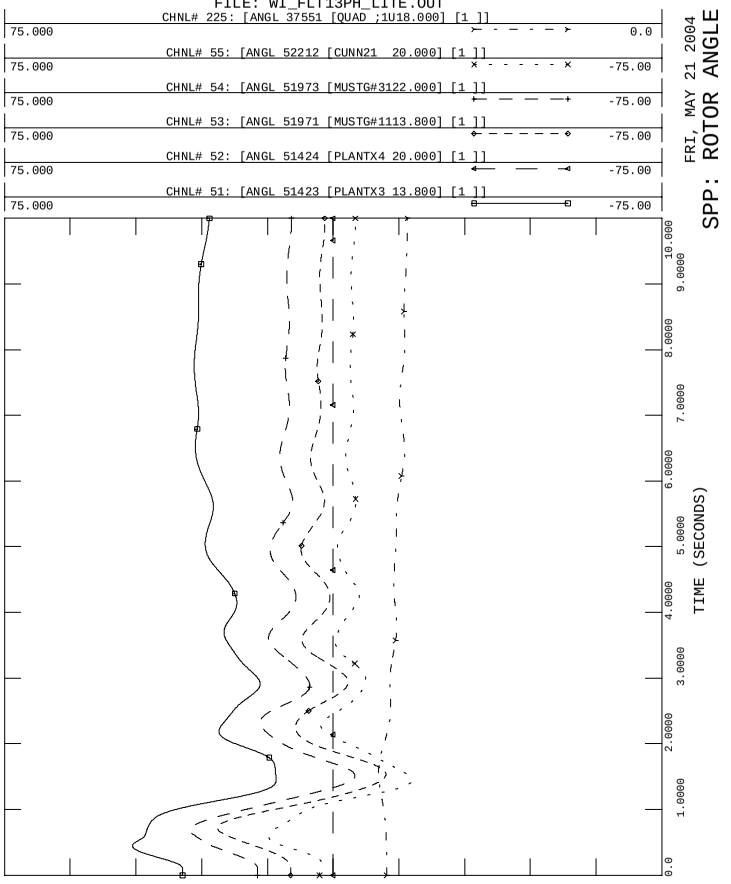
SPP:115 KV BUS VOLTAGE 11



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH_LITE.OUT

FRI, MAY 21 2004 10:01 14

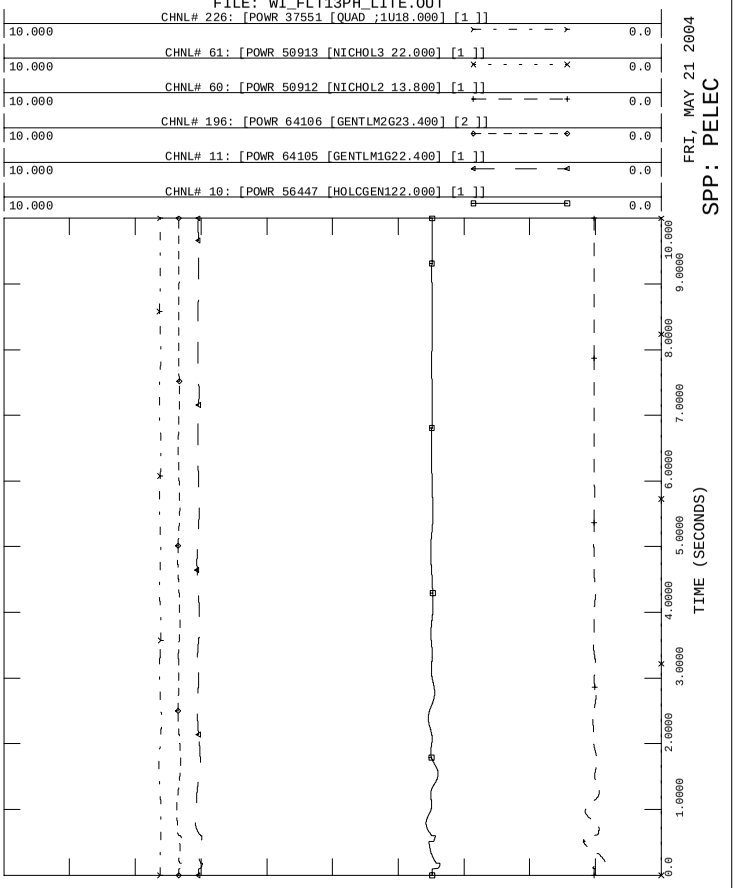
SPP: ROTOR ANGLE



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH_LITE.OUT

FRI, MAY 21 2004 10:01 16

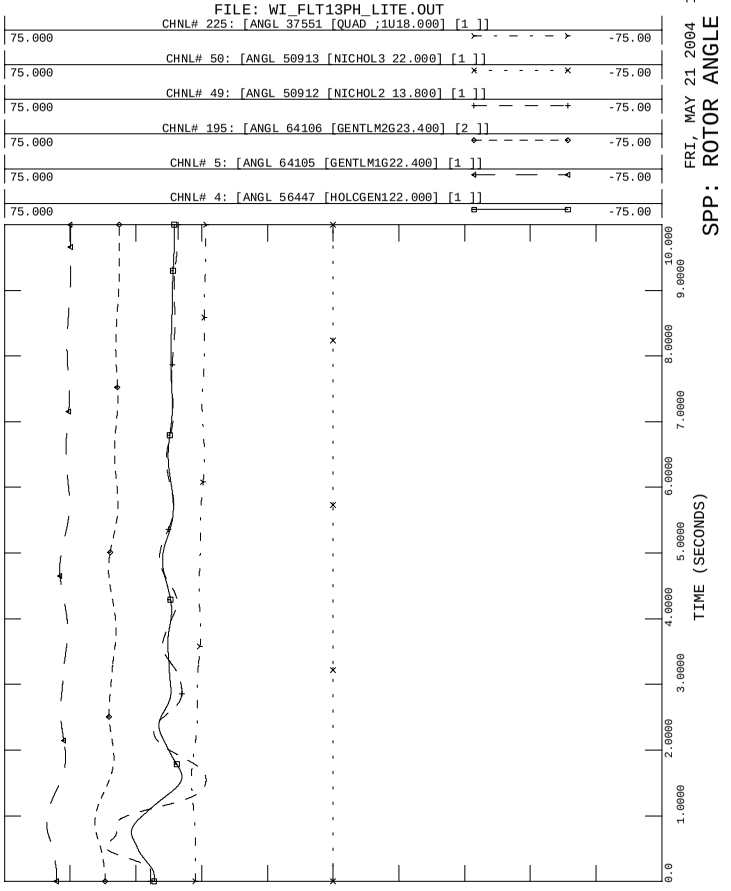
SPP: PELEC



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH_LITE.OUT

FRI, MAY 21 2004 10:01 13

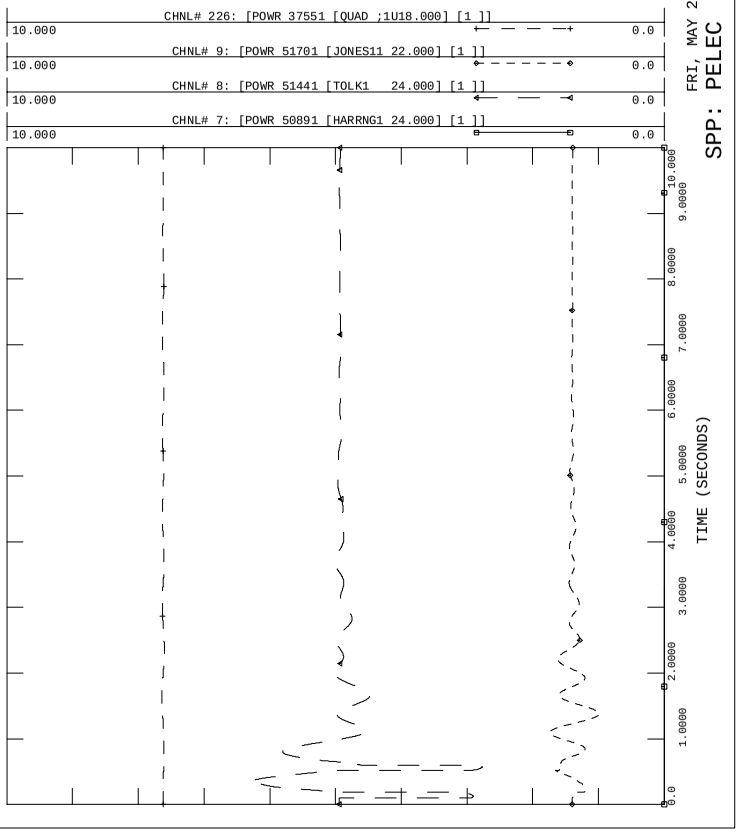
SPP: ROTOR ANGLE



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH_LITE.OUT

FRI, MAY 21 2004 10:01 15

SPP: PELEC



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH_LITE.OUT

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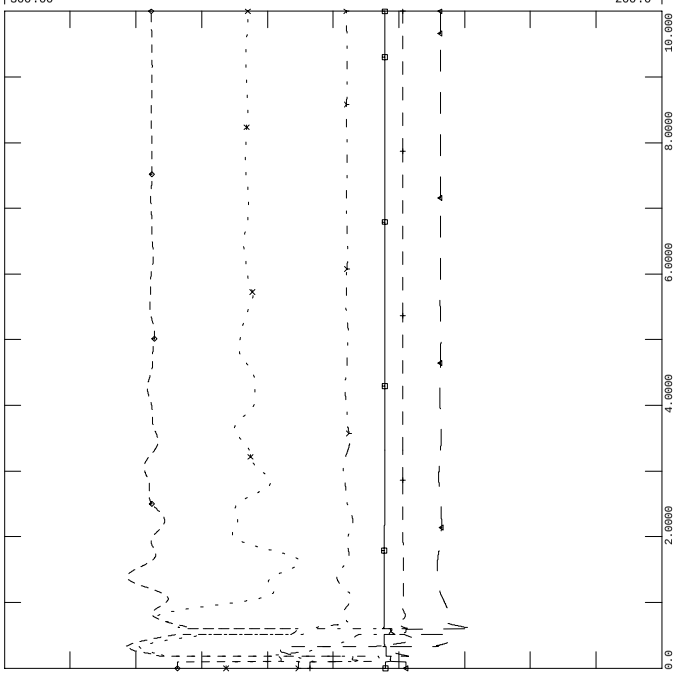
BRANCH FLOW

CHNL# 97: [POWR 51195 TO 52073 CKT 1] 300.00 -200.0
CHNL# 1179: [POWR 51435 TO 51533 CKT 1] 300.00 -200.0
CHNL# 1177: [POWR 99991 TO 51176 CKT 1] 300.00 -200.0
CHNL# 1175: [POWR 51440 TO 52186 CKT 1] 300.00 -200.0
CHNL# 1173: [POWR 51176 TO 51206 CKT 2] 300.00 -200.0
CHNL# 1169: [POWR 99991 TO 51076 CKT 1] 300.00 -200.0

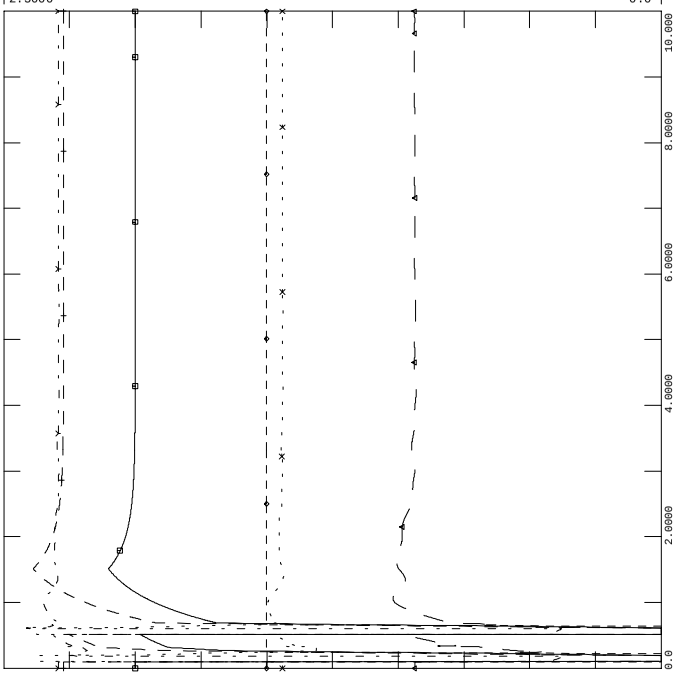


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH_LITE.OUT

FRI, MAY 21 2004 10:01 20

DC LINE PNM

CHNL# 207: [VOLT 59995 [BLKWDC 230.00]] 1.1000 0.10000
CHNL# 193: [DC LINE #2: ALPHA] 100.00 -100.0
CHNL# 192: [DC LINE #2: DC CURRENT] 4000.0 0.0
CHNL# 191: [DC LINE #2: VDCR] 65000. 40000.
CHNL# 187: [DC LINE #2: QACR] 2.5000 0.0
CHNL# 186: [DC LINE #2: PACR] 2.5000 0.0

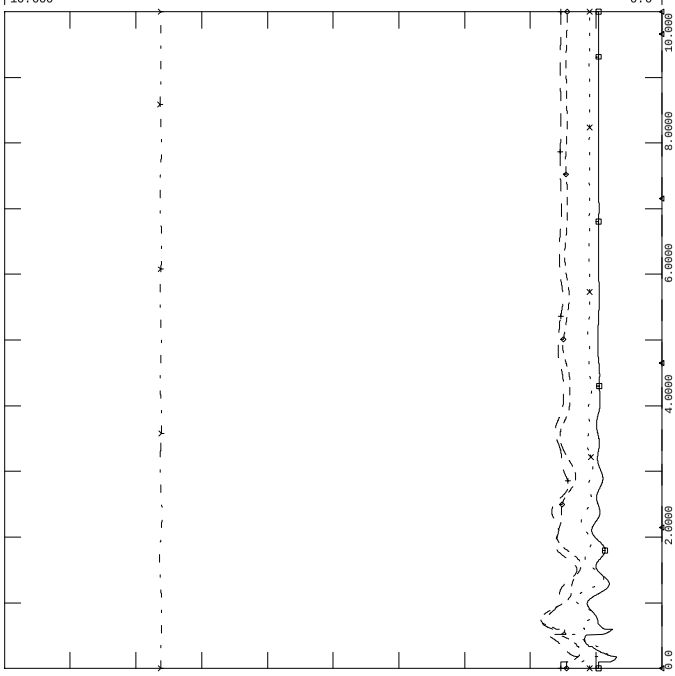


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH_LITE.OUT

FRI, MAY 21 2004 10:01 17

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]] 10.000 0.0
CHNL# 66: [POWR 52212 [CUNN21 20.000] [1]] 10.000 0.0
CHNL# 65: [POWR 51973 [MUSTG#3122.000] [1]] 10.000 0.0
CHNL# 64: [POWR 51971 [MUSTG#1113.800] [1]] 10.000 0.0
CHNL# 63: [POWR 51424 [PLANTX4 20.000] [1]] 10.000 0.0
CHNL# 62: [POWR 51423 [PLANTX3 13.800] [1]] 10.000 0.0

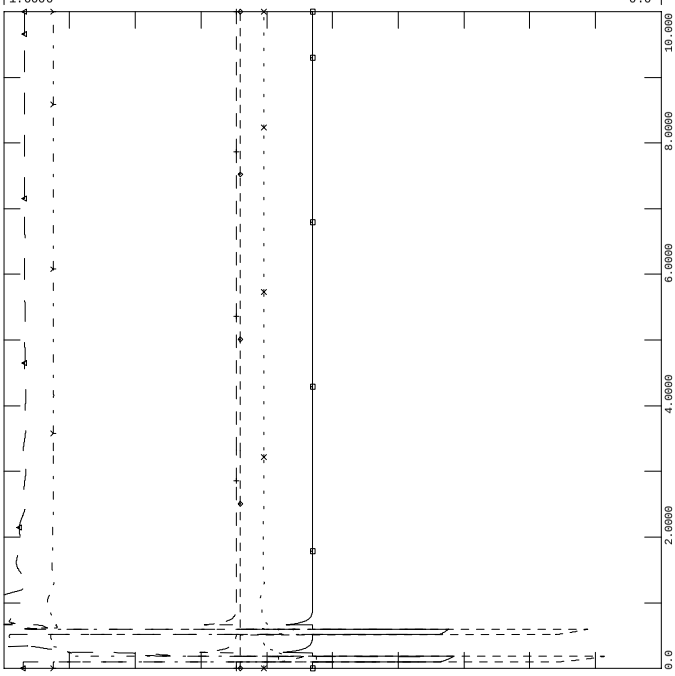


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH_LITE.OUT

FRI, MAY 21 2004 10:01 19

DC LINE EPE

CHNL# 208: [VOLT 59996 [EPEDC 230.00]] 1.1000 0.10000
CHNL# 184: [DC LINE #1: ALFA] 100.00 -100.0
CHNL# 183: [DC LINE #1: DC CURRENT] 1000.0 0.0
CHNL# 182: [DC LINE #1: VDCR] 1.0000E5 50000.
CHNL# 178: [DC LINE #1: QACR] 0.25000 0.0
CHNL# 177: [DC LINE #1: PACR] 1.0000 0.0



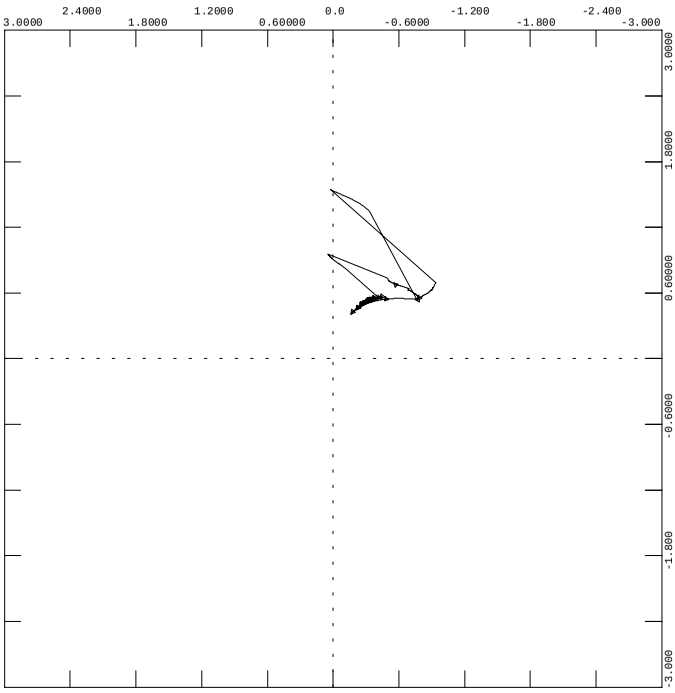
SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

22

FILE: WI_FLT13PH_LITE.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25

CHNL# 116: [APPX 50858 TO 50888 CKT 1]



FRI, MAY 21 2004 10:01

POTTER-FINNEY

CHNL# 115: [APPR 50858 TO 50888 CKT 1]

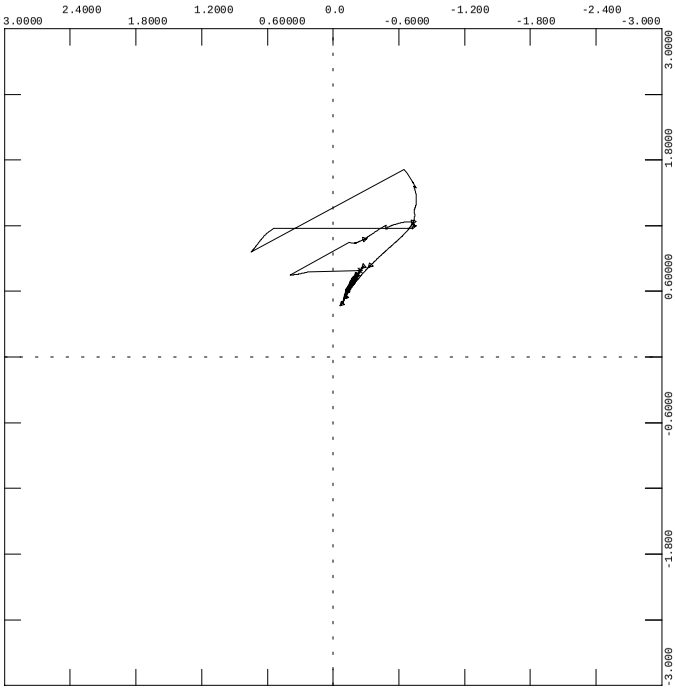
SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

21

FILE: WI_FLT13PH_LITE.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25

CHNL# 114: [APPX 56449 TO 50858 CKT 1]



FRI, MAY 21 2004 10:01

FINNEY-HOLCOMB

CHNL# 113: [APPR 56449 TO 50858 CKT 1]

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT13PH_LITE.OUT

23

FRI, MAY 21 2004 10:01

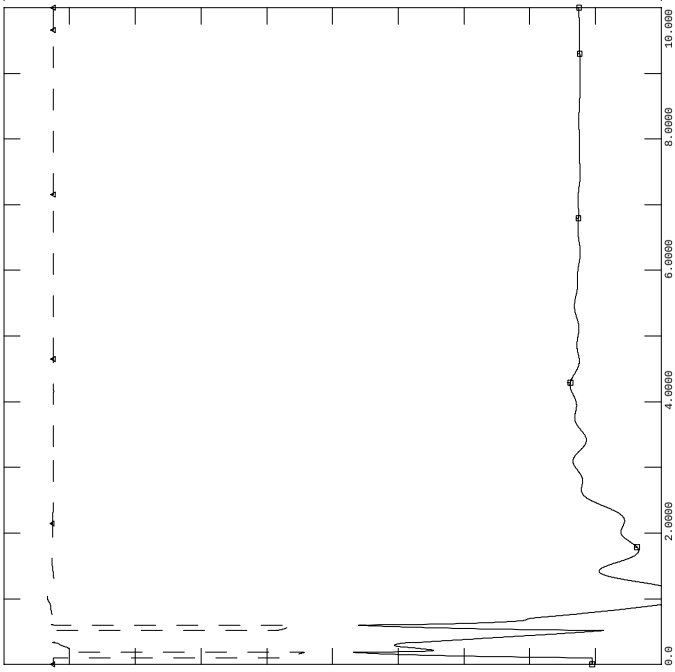
SVC OUTPUT

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]

1.1000 0.10000

CHNL# 117: [BUS 52185 SVC OUTPUT]

2.0000 0.0

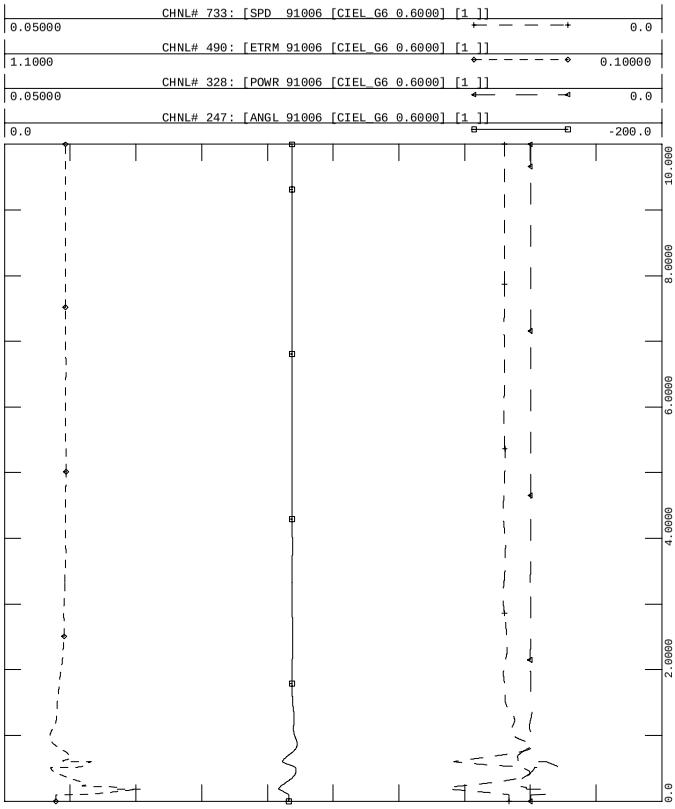


TIME (SECONDS)

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH_LITE.OUT

FRI, MAY 21 2004 10:00 2

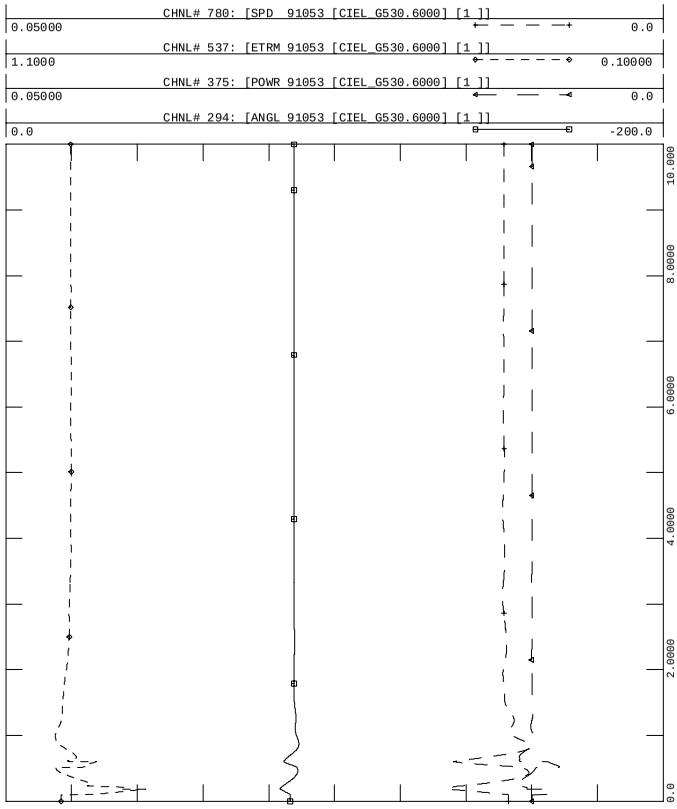
CIELO CABLE1 GEN6



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH_LITE.OUT

FRI, MAY 21 2004 10:01 4

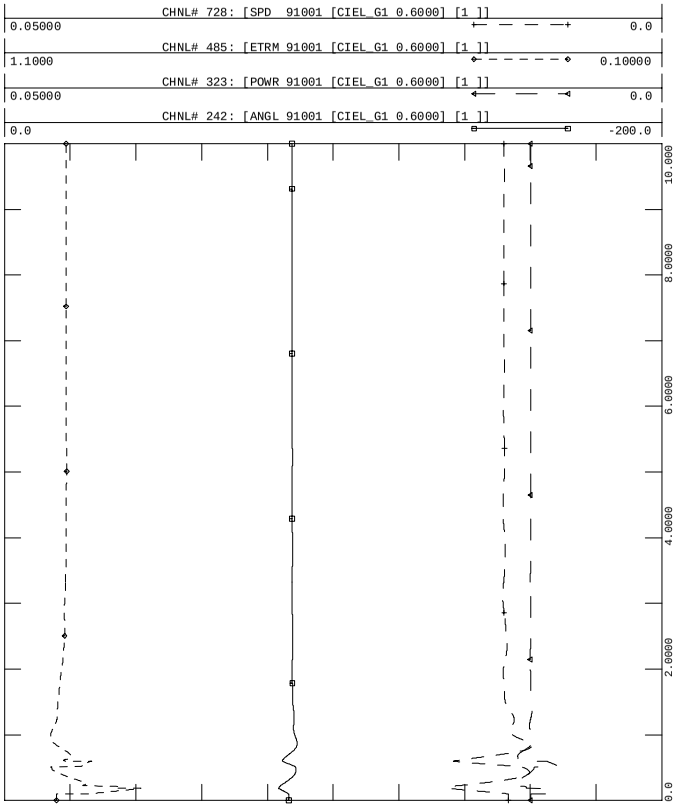
CIELO CABLE2 GEN53



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH_LITE.OUT

FRI, MAY 21 2004 10:00 1

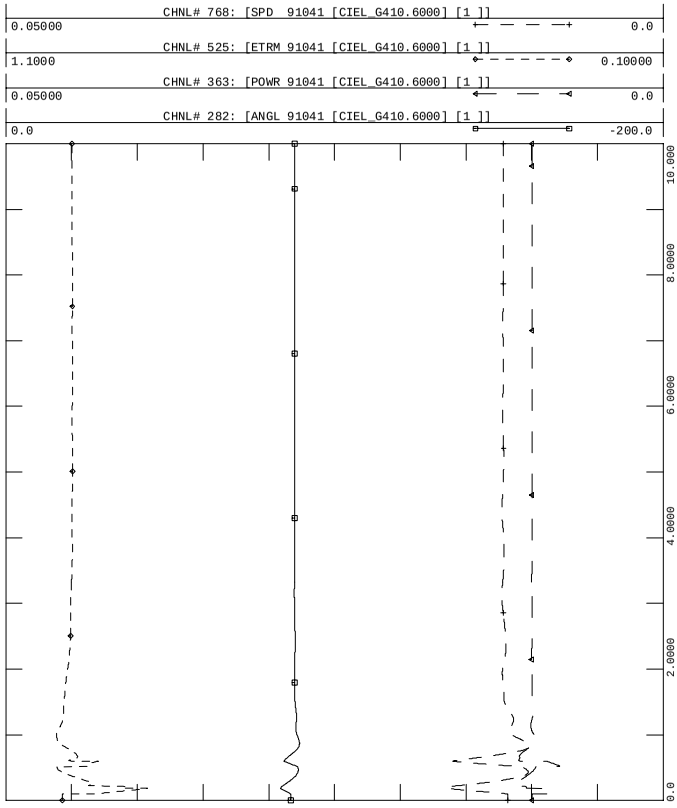
CIELO CABLE1 GEN1



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH_LITE.OUT

FRI, MAY 21 2004 10:00 3

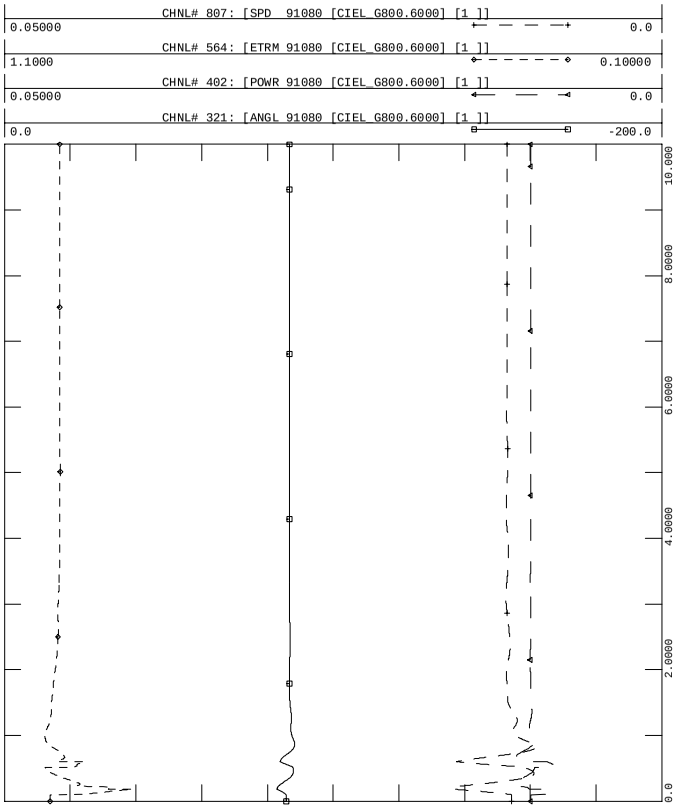
CIELO CABLE2 GEN41



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH_LITE.OUT

FRI, MAY 21 2004 10:01 6

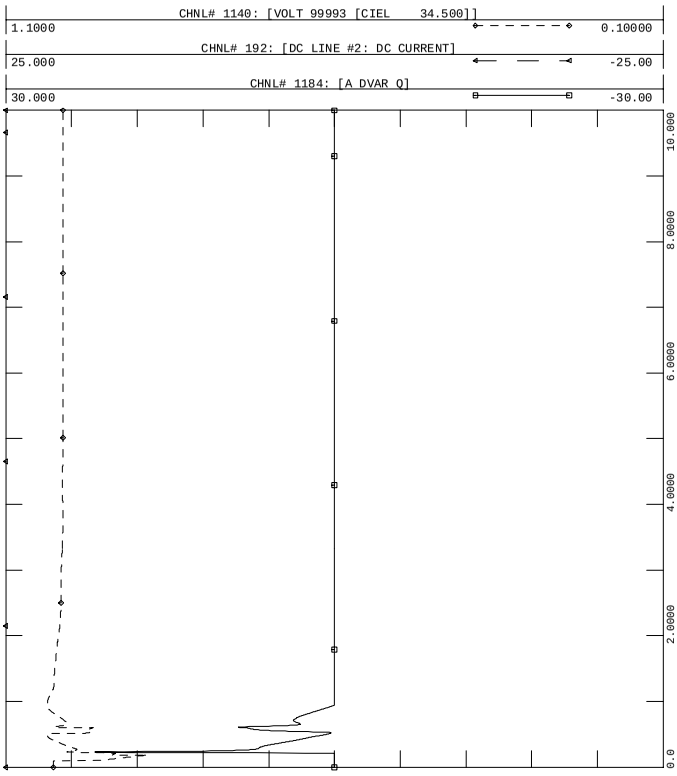
CIELO CABLE3 GEN80



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH_LITE.OUT

FRI, MAY 21 2004 10:01 8

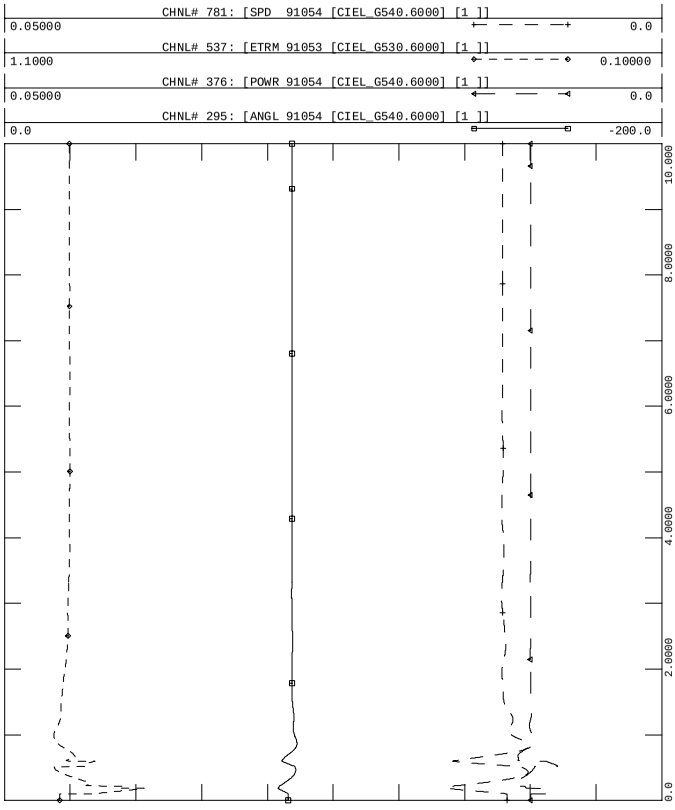
DVAR OUTPUT



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH_LITE.OUT

FRI, MAY 21 2004 10:01 5

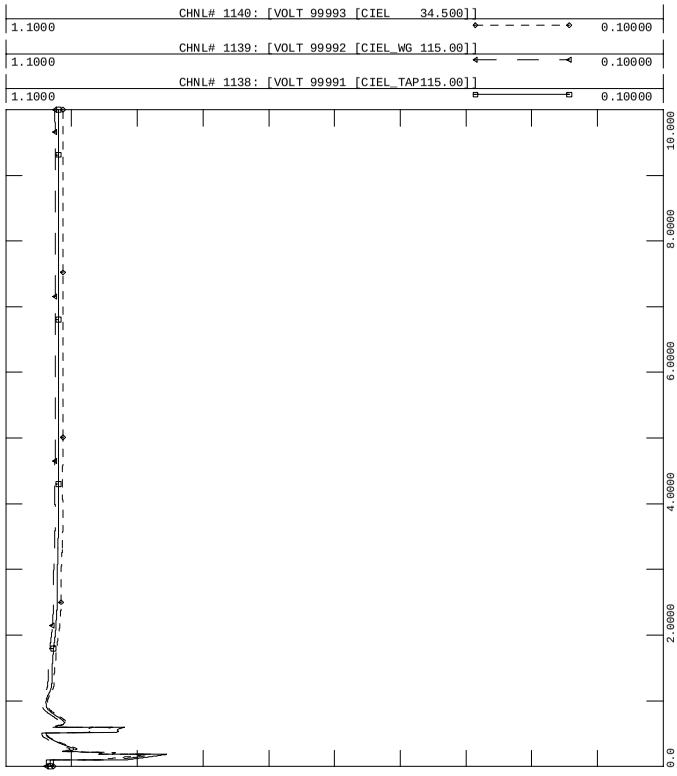
CIELO CABLE3 GEN54



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH_LITE.OUT

FRI, MAY 21 2004 10:01 7

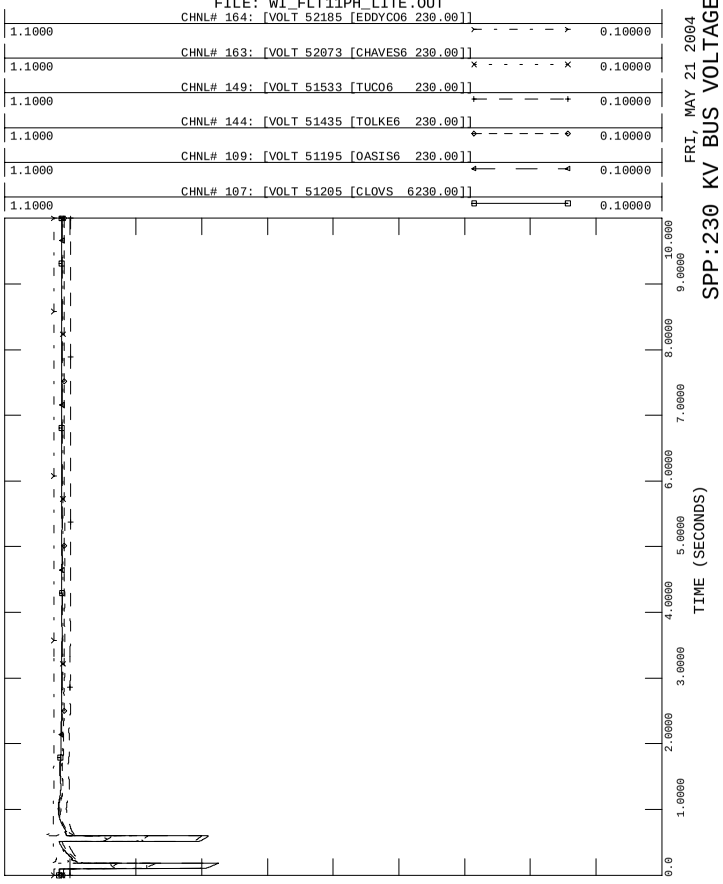
CIELO VOLTAGE



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH_LITE.OUT

FRI, MAY 21 2004 10:01

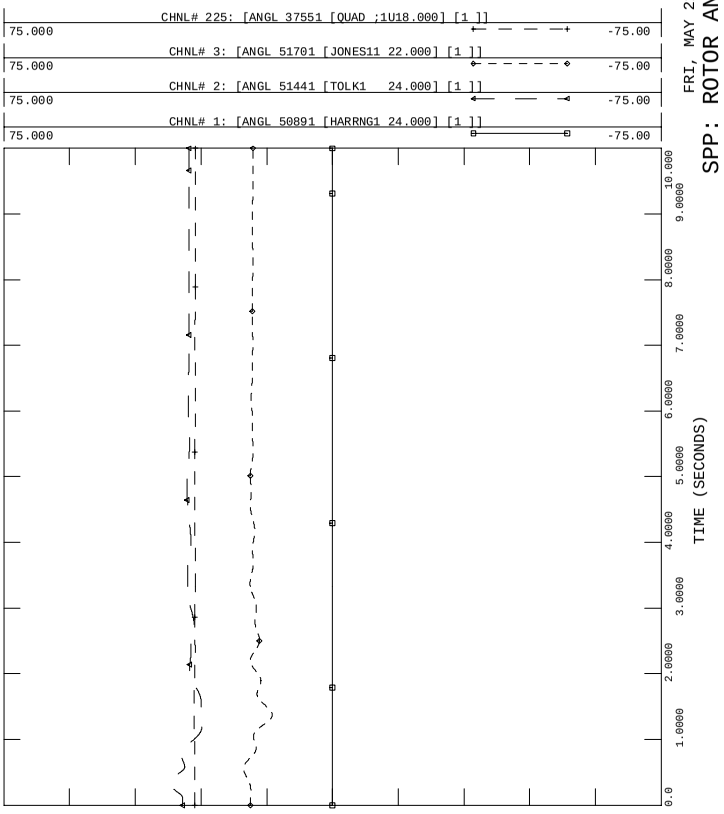
SPP:230 KV BUS VOLTAGE 10



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH_LITE.OUT

FRI, MAY 21 2004 10:01

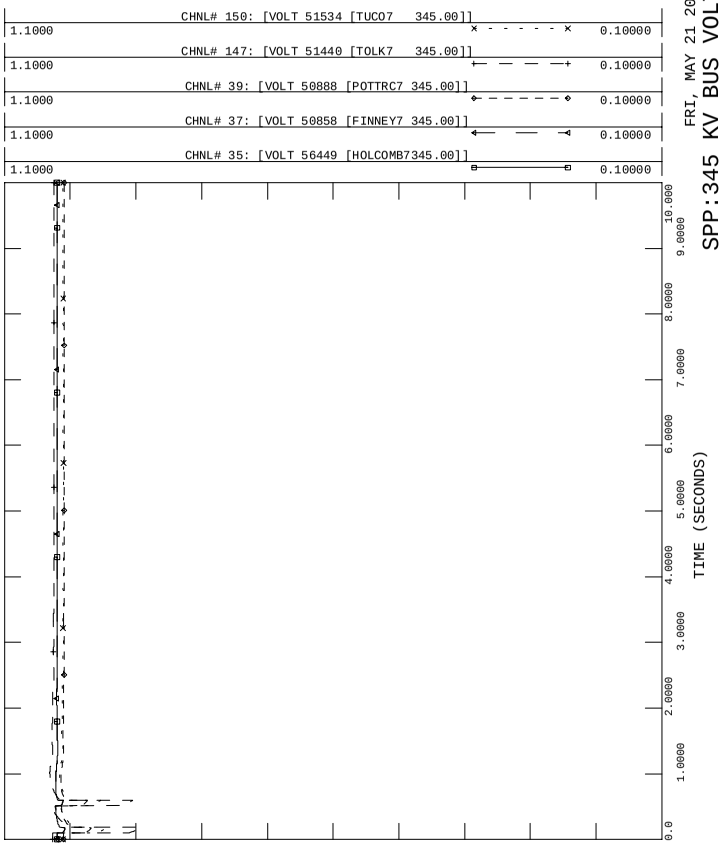
SPP: ROTOR ANGLE 12



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH_LITE.OUT

FRI, MAY 21 2004 10:01

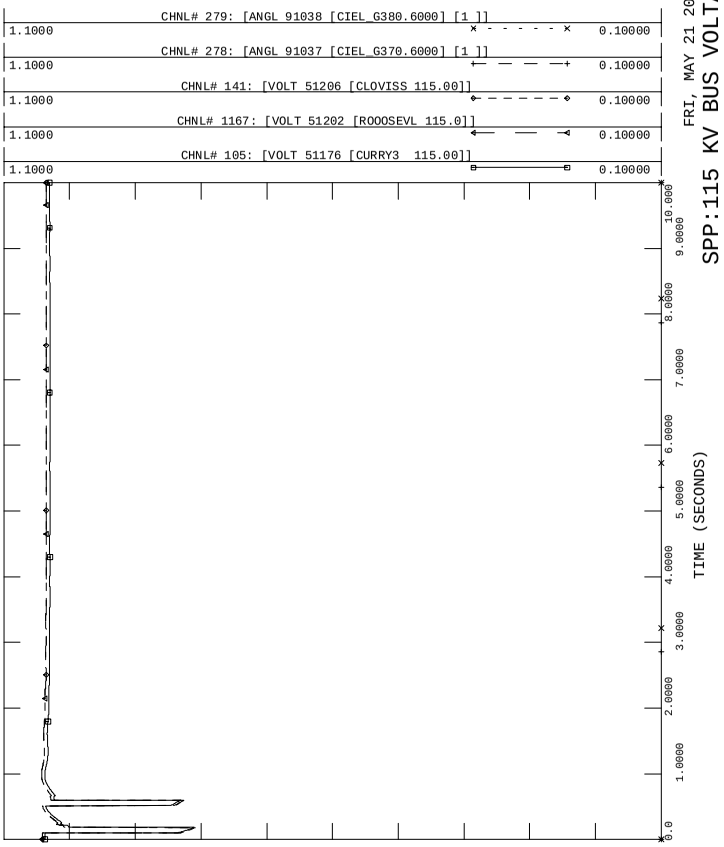
SPP:345 KV BUS VOLTAGE 9



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH_LITE.OUT

FRI, MAY 21 2004 10:01

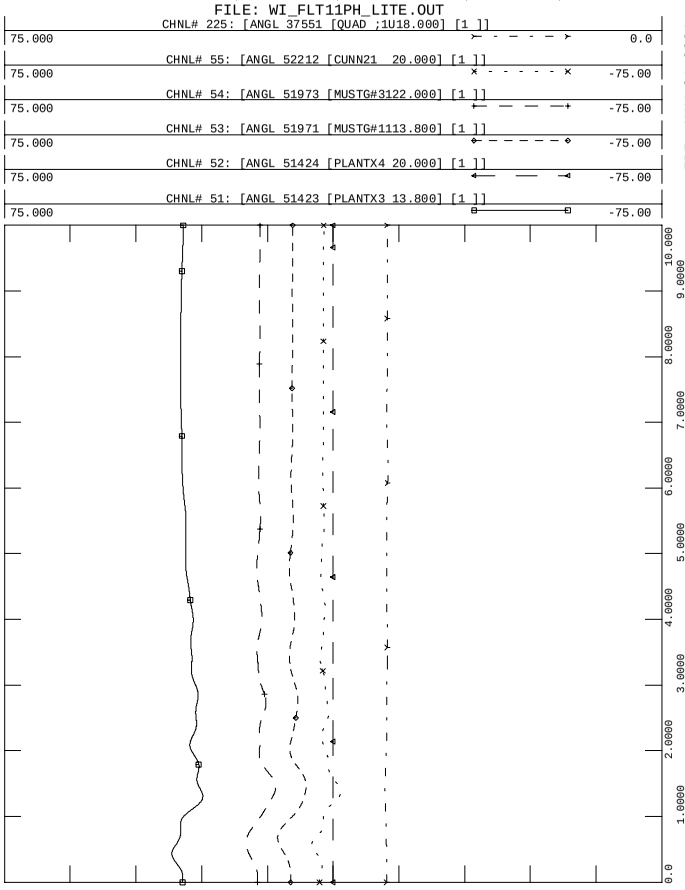
SPP:115 KV BUS VOLTAGE 11



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH_LITE.OUT

FRI, MAY 21 2004 10:01 14

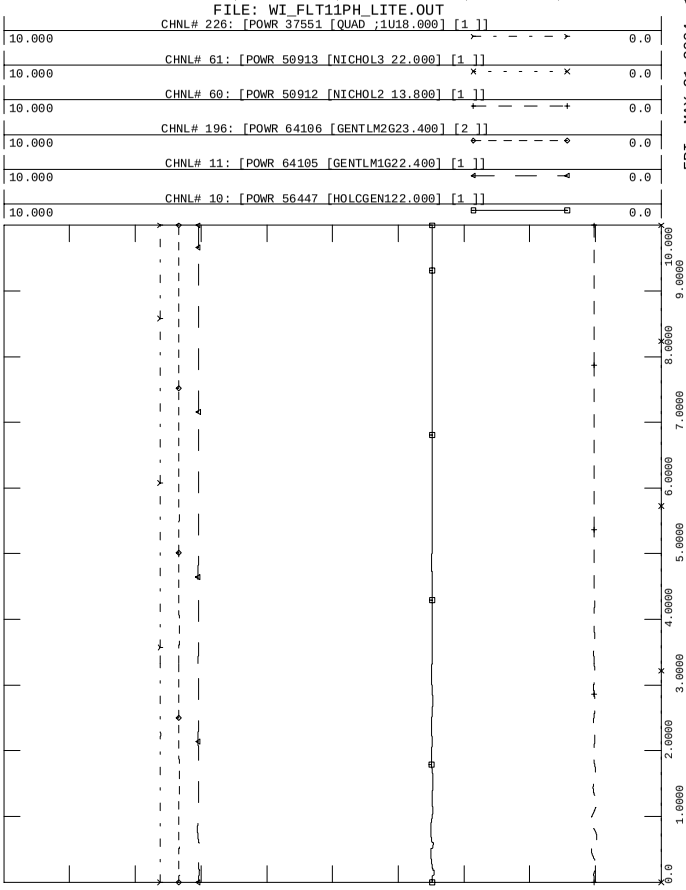
SPP: ROTOR ANGLE



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH_LITE.OUT

FRI, MAY 21 2004 10:01 16

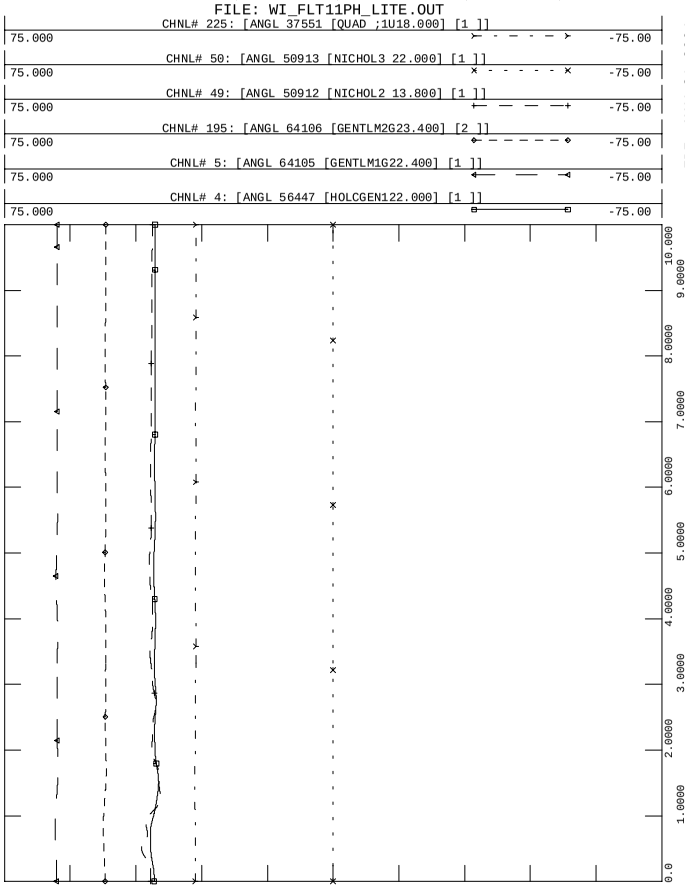
SPP: PELEC



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH_LITE.OUT

FRI, MAY 21 2004 10:01 13

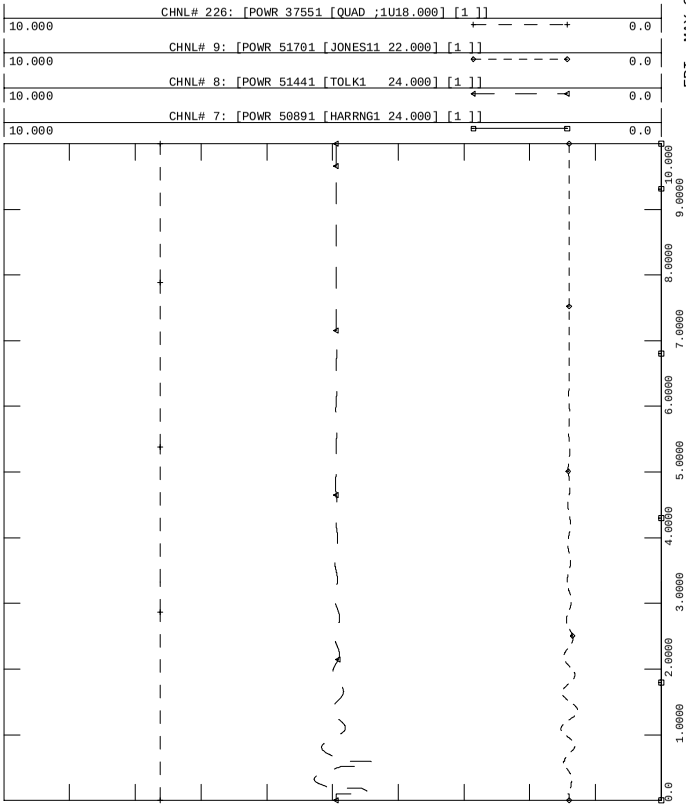
SPP: ROTOR ANGLE



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH_LITE.OUT

FRI, MAY 21 2004 10:01 15

SPP: PELEC



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH_LITE.OUT

FRI, MAY 21 2004 10:01 18

BRANCH FLOW

CHNL# 97: [POWR 51195 TO 52073 CKT 1]
300.00 -200.0

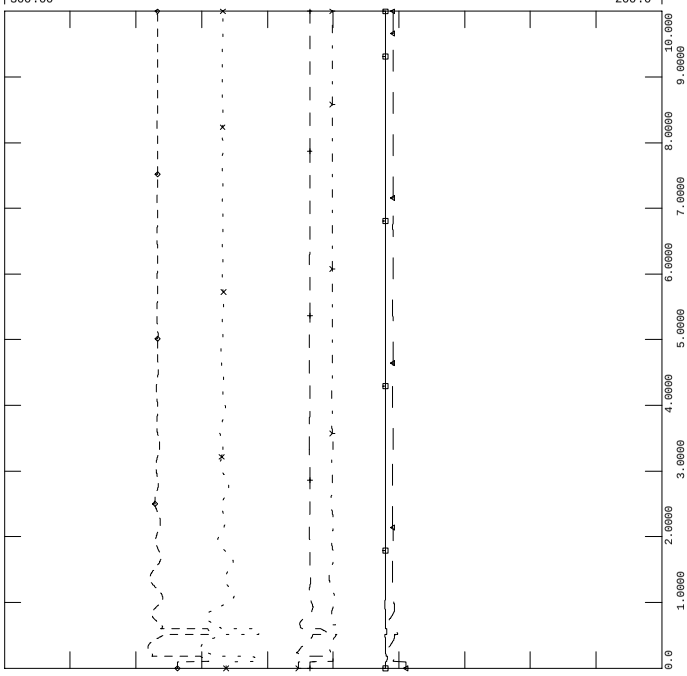
CHNL# 1179: [POWR 51435 TO 51533 CKT 1]
300.00 -200.0

CHNL# 1177: [POWR 99991 TO 51176 CKT 1]
300.00 -200.0

CHNL# 1175: [POWR 51440 TO 52186 CKT 1]
300.00 -200.0

CHNL# 1173: [POWR 51176 TO 51206 CKT 2]
300.00 -200.0

CHNL# 1169: [POWR 99991 TO 51076 CKT 1]
300.00 -200.0



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH_LITE.OUT

FRI, MAY 21 2004 10:01 20

DC LINE PNM

CHNL# 207: [VOLT 59995 [BLKWDC 230.00]]
1.1000 0.10000

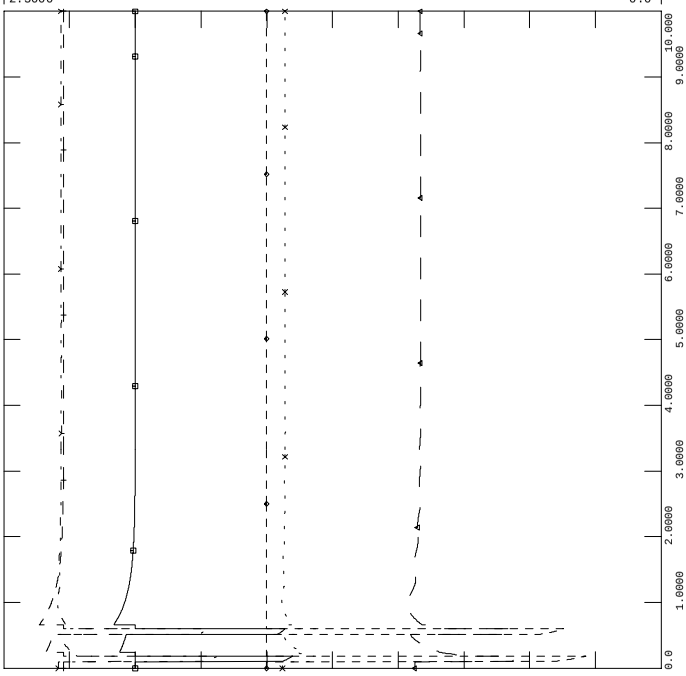
CHNL# 193: [DC LINE #2: ALPHA]
100.00 -100.0

CHNL# 192: [DC LINE #2: DC CURRENT]
4000.0 0.0

CHNL# 191: [DC LINE #2: VDCR]
65000. 40000.

CHNL# 187: [DC LINE #2: QACR]
2.5000 0.0

CHNL# 186: [DC LINE #2: PACR]
2.5000 0.0



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH_LITE.OUT

FRI, MAY 21 2004 10:01 17

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
10.000 0.0

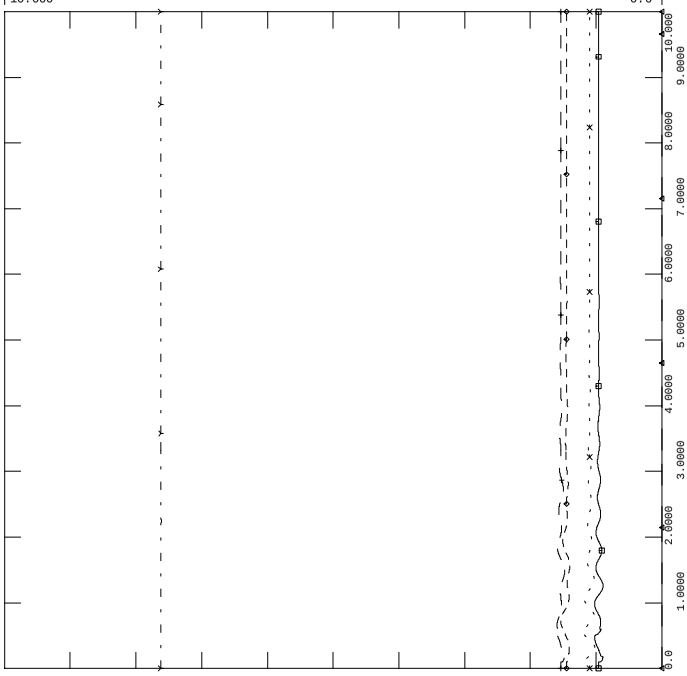
CHNL# 66: [POWR 52212 [CUNN21 20.000] [1]]
10.000 0.0

CHNL# 65: [POWR 51973 [MUSTG#3122.000] [1]]
10.000 0.0

CHNL# 64: [POWR 51971 [MUSTG#1113.800] [1]]
10.000 0.0

CHNL# 63: [POWR 51424 [PLANTX4 20.000] [1]]
10.000 0.0

CHNL# 62: [POWR 51423 [PLANTX3 13.800] [1]]
10.000 0.0



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT11PH_LITE.OUT

FRI, MAY 21 2004 10:01 19

DC LINE EPE

CHNL# 208: [VOLT 59996 [EPEDC 230.00]]
1.1000 0.10000

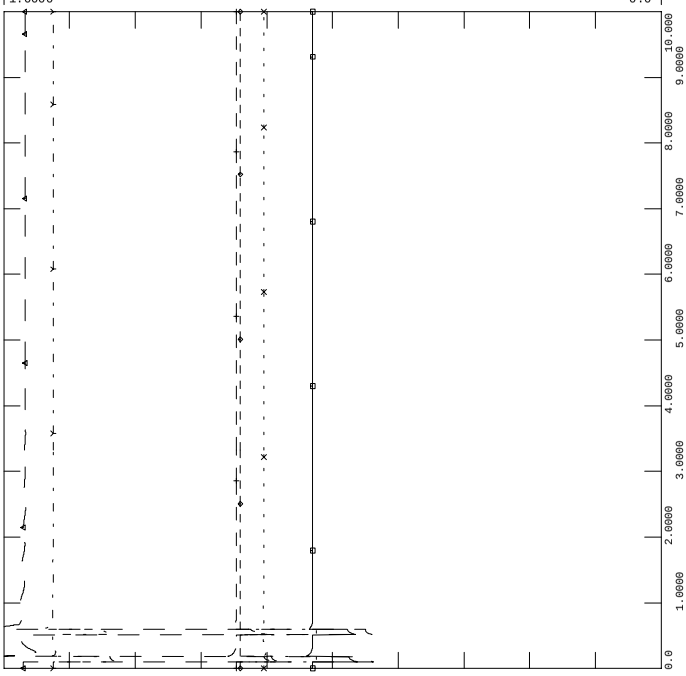
CHNL# 184: [DC LINE #1: ALFA]
100.00 -100.0

CHNL# 183: [DC LINE #1: DC CURRENT]
1000.0 0.0

CHNL# 182: [DC LINE #1: VDCR]
1.0000E5 50000.

CHNL# 178: [DC LINE #1: QACR]
0.25000 0.0

CHNL# 177: [DC LINE #1: PACR]
1.0000 0.0



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR

22

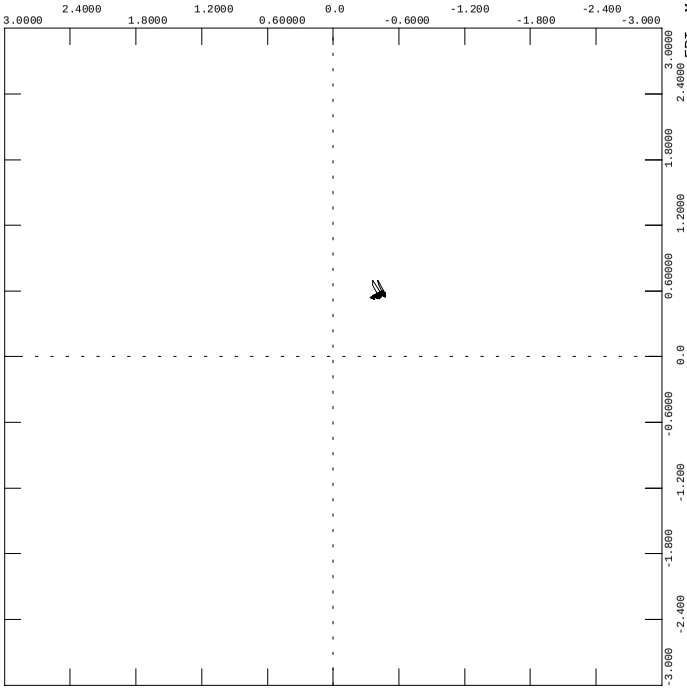
FRI, MAY 21 2004 10:01

POTTER-FINNEY

FILE: WI_FLT11PH_LITE.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25

CHNL# 116: [APPX 50858 TO 50888 CKT 1]



CHNL# 115: [APPR 50858 TO 50888 CKT 1]

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR

21

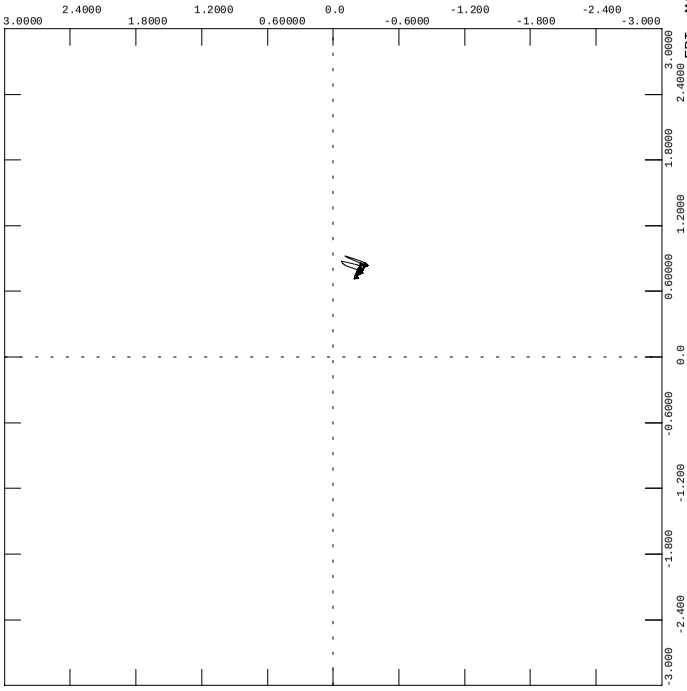
FRI, MAY 21 2004 10:01

FINNEY-HOLCOMB

FILE: WI_FLT11PH_LITE.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25

CHNL# 114: [APPX 56449 TO 50858 CKT 1]



CHNL# 113: [APPR 56449 TO 50858 CKT 1]

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR

FILE: WI_FLT11PH_LITE.OUT

23

FRI, MAY 21 2004 10:01

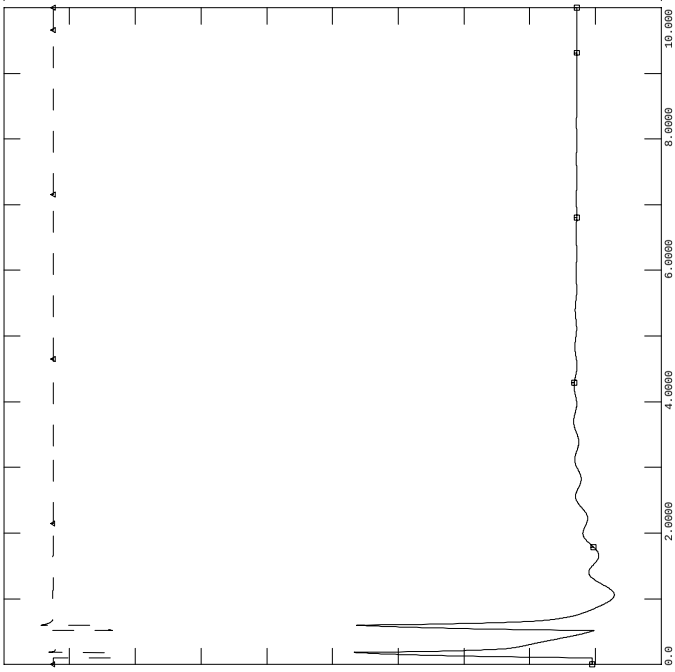
SVC OUTPUT

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]

1.1000 0.10000

CHNL# 117: [BUS 52185 SVC OUTPUT]

2.0000 0.0

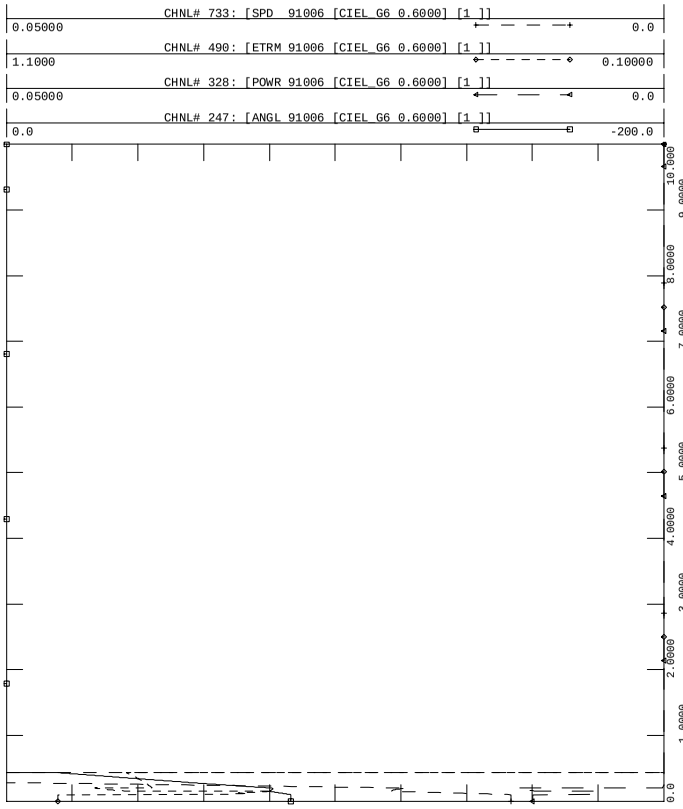


TIME (SECONDS)

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH_LITE.OUT

FRI, MAY 21 2004 10:01 2

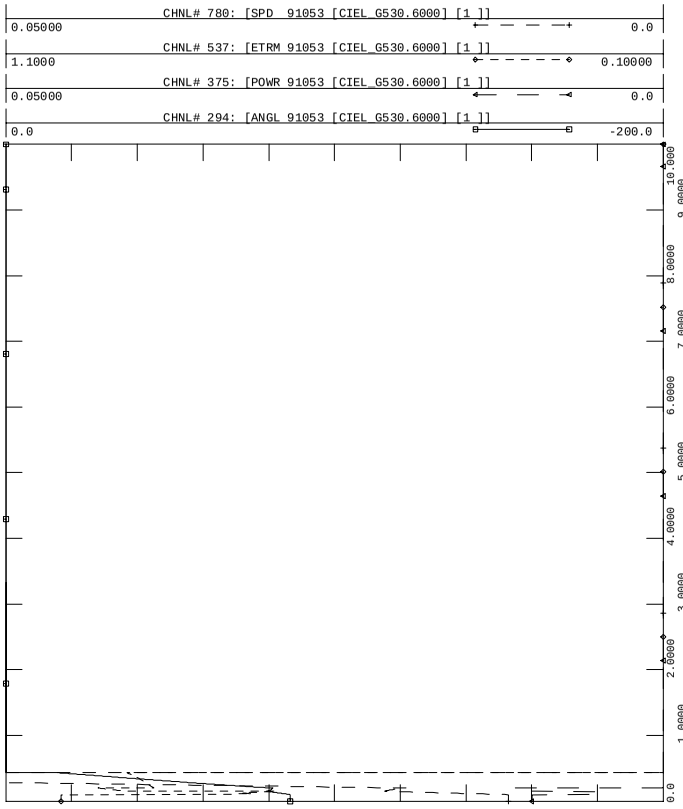
CIELO CABLE1 GEN6



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH_LITE.OUT

FRI, MAY 21 2004 10:02 4

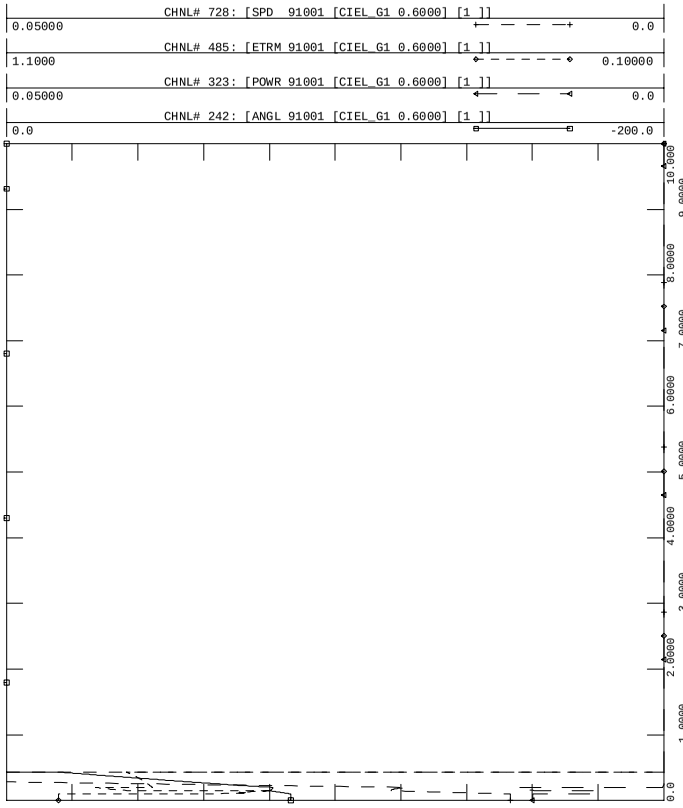
CIELO CABLE2 GEN53



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH_LITE.OUT

FRI, MAY 21 2004 10:01 1

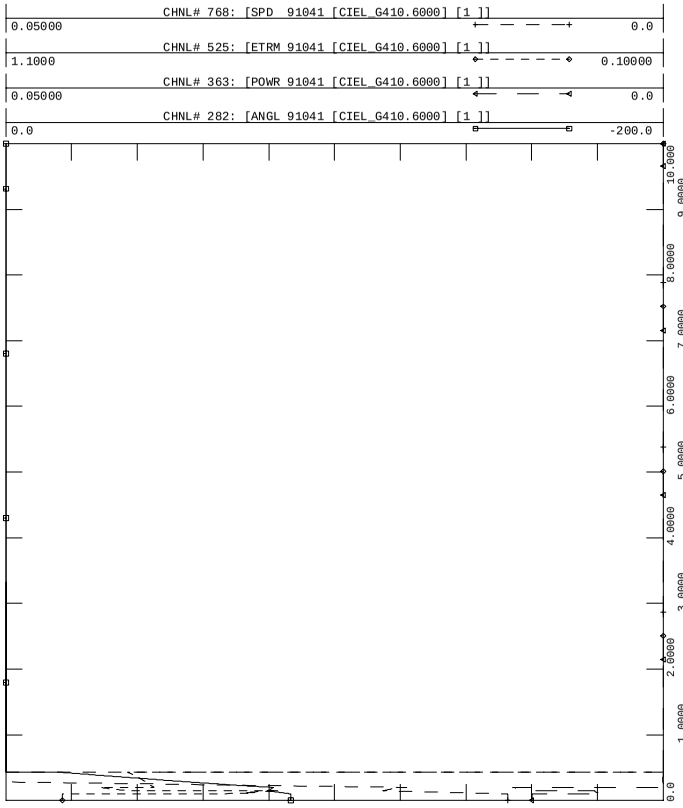
CIELO CABLE1 GEN1



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH_LITE.OUT

FRI, MAY 21 2004 10:01 3

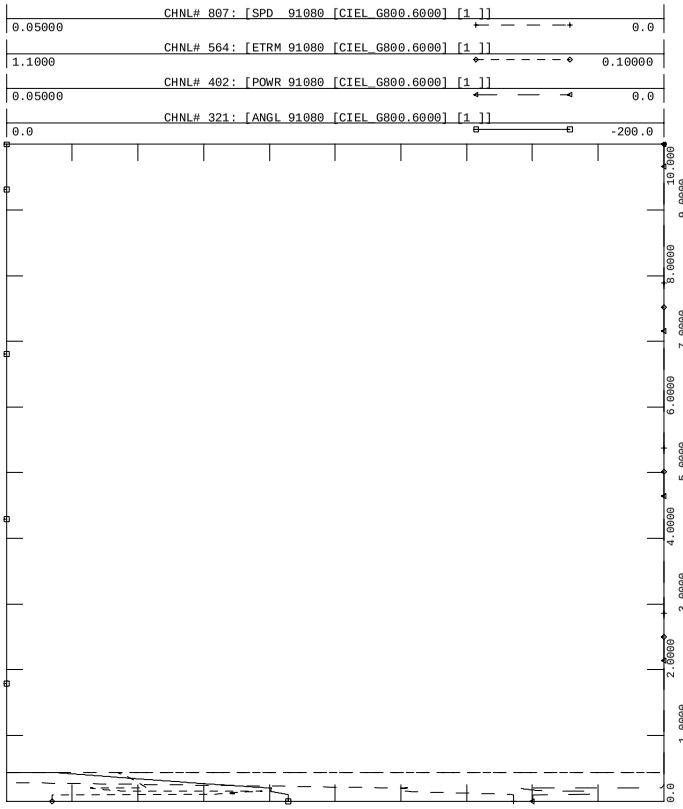
CIELO CABLE2 GEN41



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH_LITE.OUT

FRI, MAY 21 2004 10:02 6

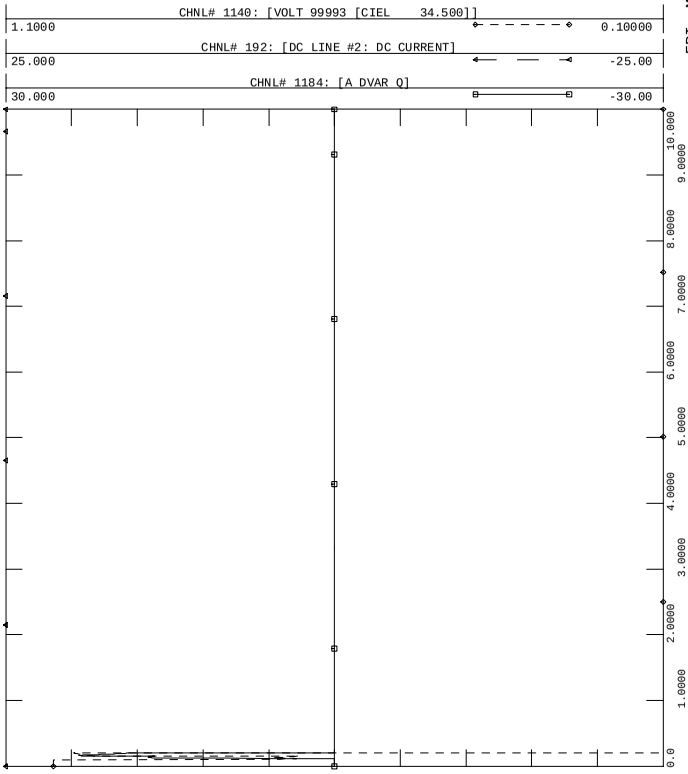
CIELO CABLE3 GEN80



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH_LITE.OUT

FRI, MAY 21 2004 10:02 8

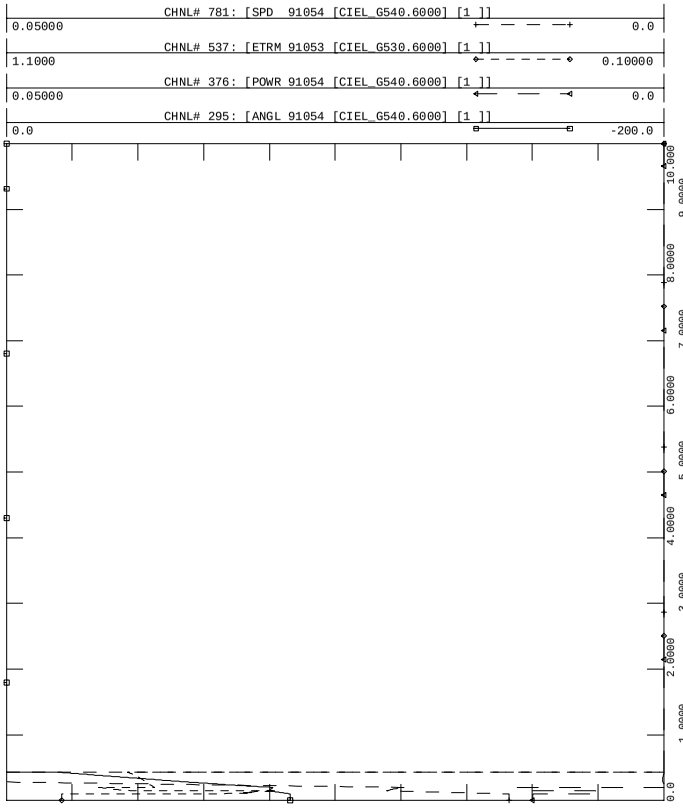
DVAR OUTPUT



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH_LITE.OUT

FRI, MAY 21 2004 10:02 5

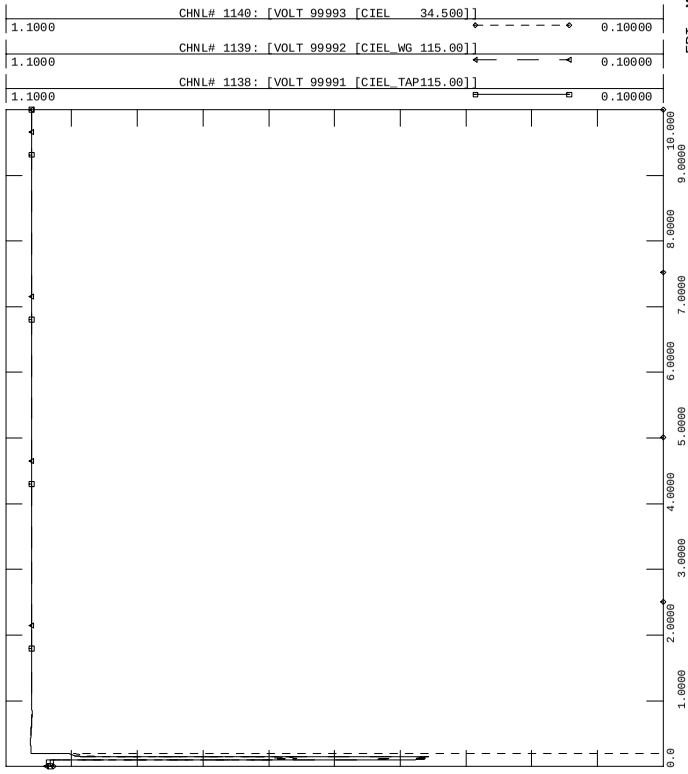
CIELO CABLE3 GEN54



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH_LITE.OUT

FRI, MAY 21 2004 10:02 7

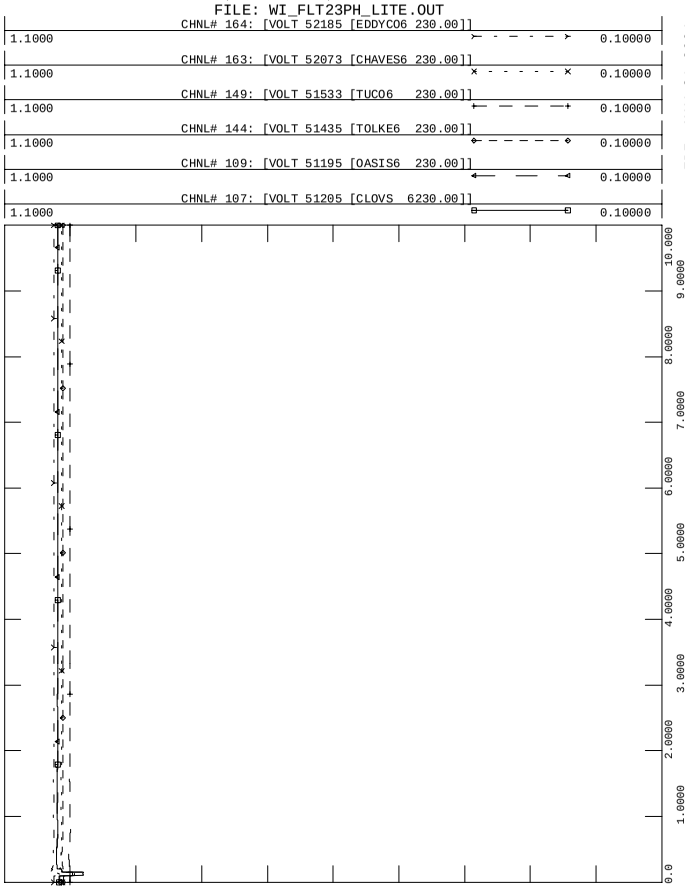
CIELO VOLTAGE



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH_LITE.OUT

FRI, MAY 21 2004 10:02

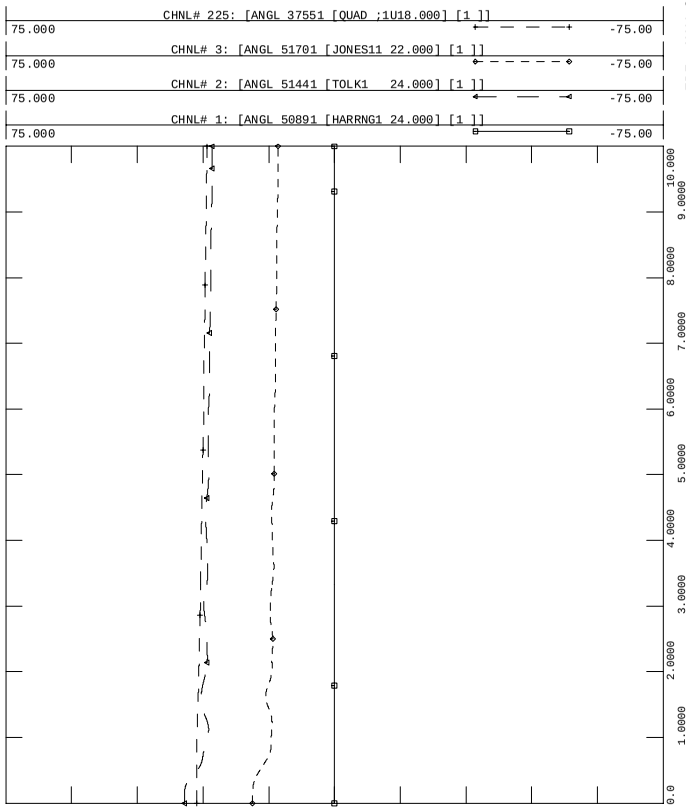
SPP:230 KV BUS VOLTAGE 10



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH_LITE.OUT

FRI, MAY 21 2004 10:02

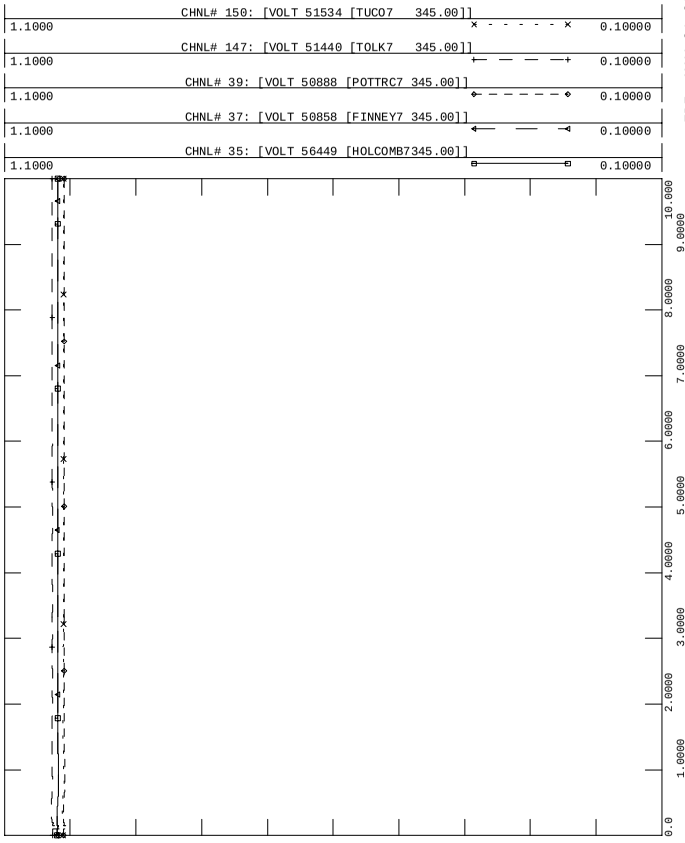
SPP: ROTOR ANGLE 12



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH_LITE.OUT

FRI, MAY 21 2004 10:02

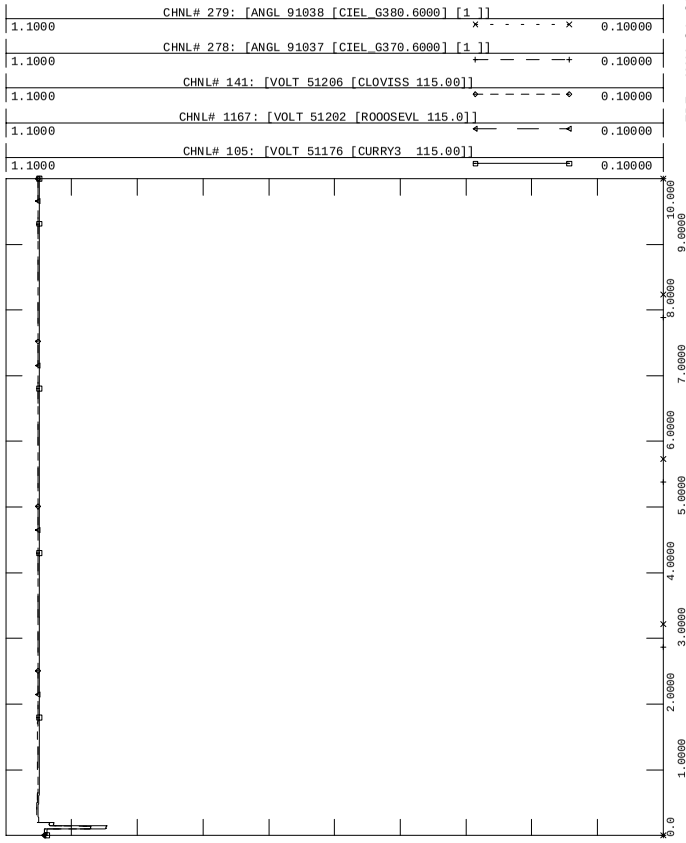
SPP:345 KV BUS VOLTAGE 9



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH_LITE.OUT

FRI, MAY 21 2004 10:02

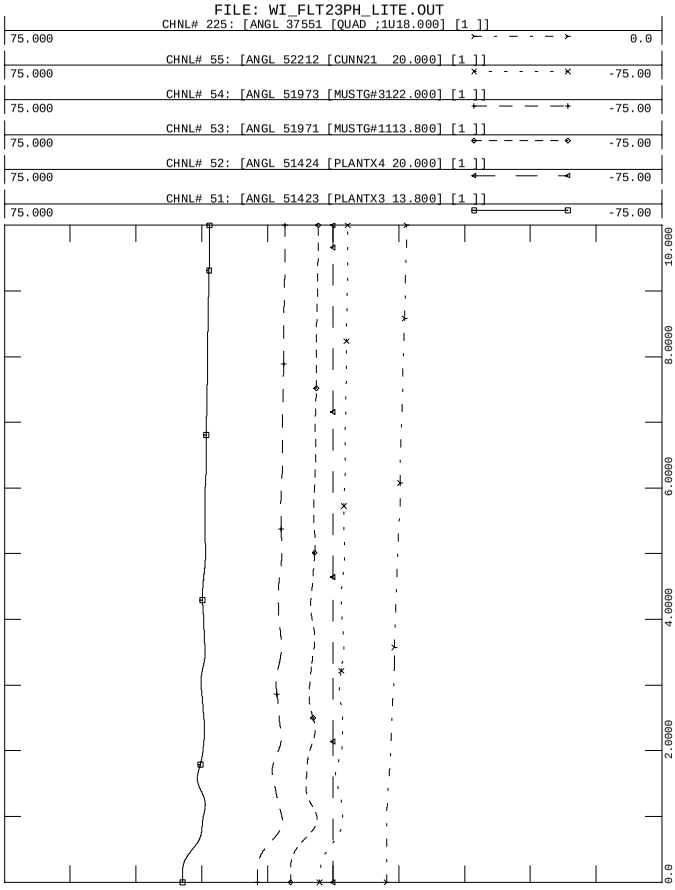
SPP:115 KV BUS VOLTAGE 11



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH_LITE.OUT

FRI, MAY 21 2004 10:02

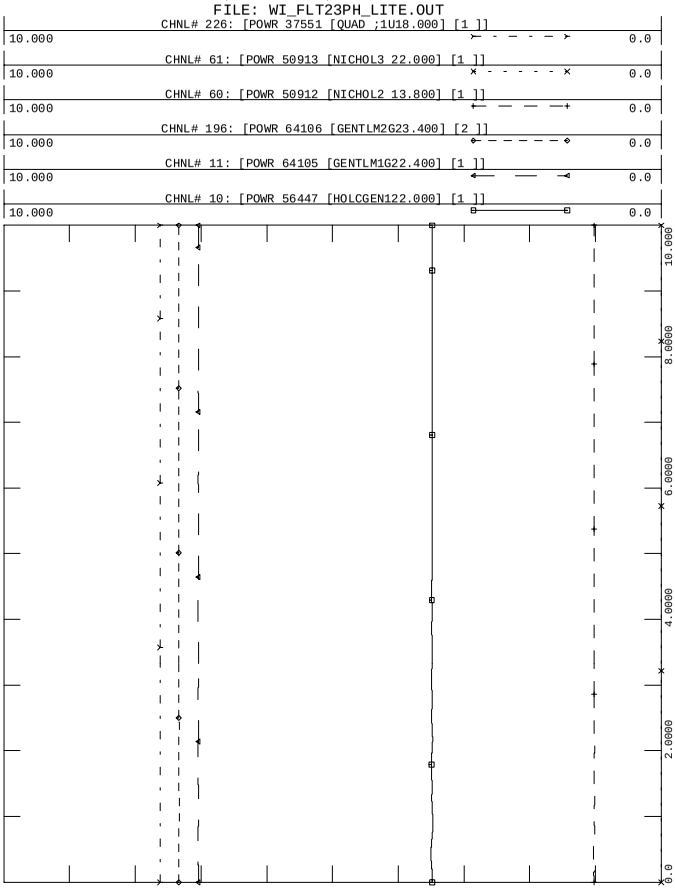
SPP: ROTOR ANGLE 14



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH_LITE.OUT

FRI, MAY 21 2004 10:02

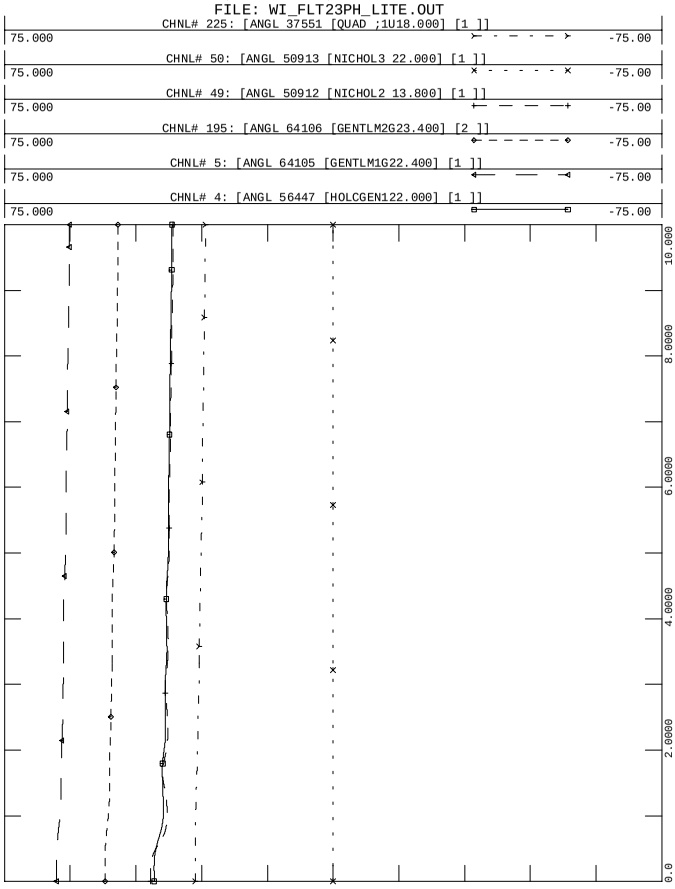
SPP: PELEC 16



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH_LITE.OUT

FRI, MAY 21 2004 10:02

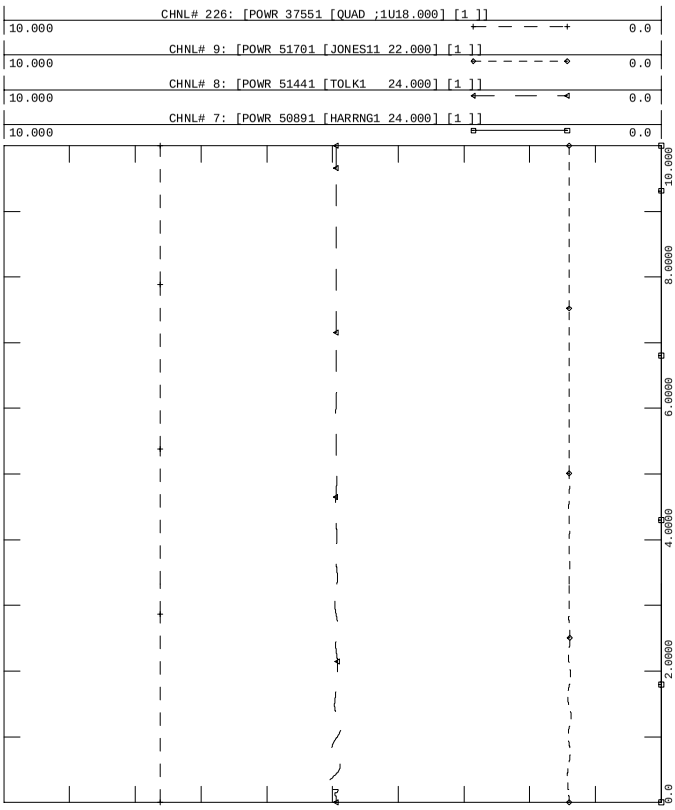
SPP: ROTOR ANGLE 13



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH_LITE.OUT

FRI, MAY 21 2004 10:02

SPP: PELEC 15

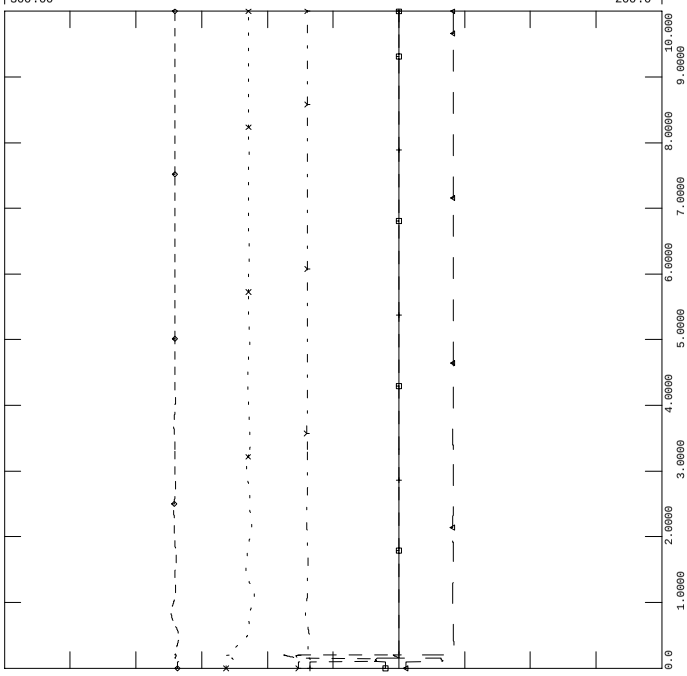


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH_LITE.OUT

FRI, MAY 21 2004 10:02 18

BRANCH FLOW

CHNL# 97: [POWR 51195 TO 52073 CKT 1] 300.00 -200.0
CHNL# 1179: [POWR 51435 TO 51533 CKT 1] 300.00 -200.0
CHNL# 1177: [POWR 99991 TO 51176 CKT 1] 300.00 -200.0
CHNL# 1175: [POWR 51440 TO 52186 CKT 1] 300.00 -200.0
CHNL# 1173: [POWR 51176 TO 51206 CKT 2] 300.00 -200.0
CHNL# 1169: [POWR 99991 TO 51076 CKT 1] 300.00 -200.0

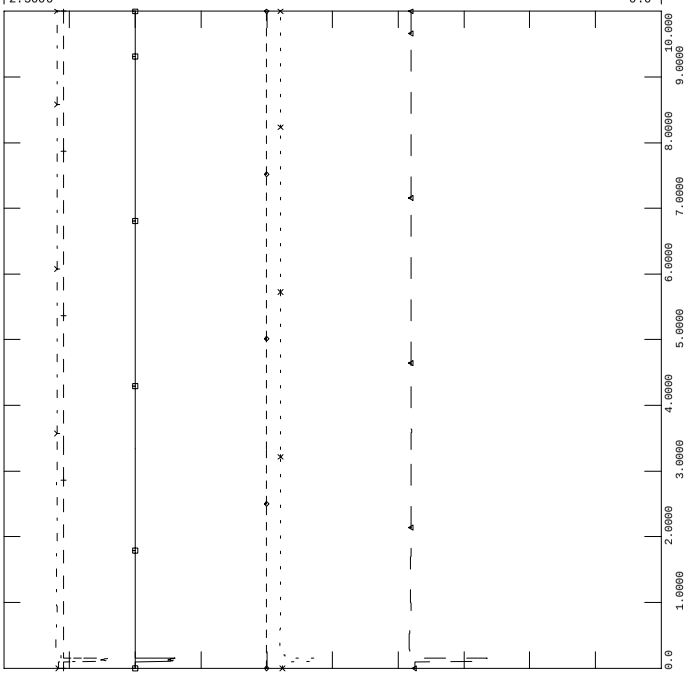


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH_LITE.OUT

FRI, MAY 21 2004 10:02 20

DC LINE PNM

CHNL# 207: [VOLT 59995 [BLKWDC 230.00]] 1.1000 0.10000
CHNL# 193: [DC LINE #2: ALPHA] 100.00 -100.0
CHNL# 192: [DC LINE #2: DC CURRENT] 4000.0 0.0
CHNL# 191: [DC LINE #2: VDCR] 65000. 40000.
CHNL# 187: [DC LINE #2: QACR] 2.5000 0.0
CHNL# 186: [DC LINE #2: PACR] 2.5000 0.0

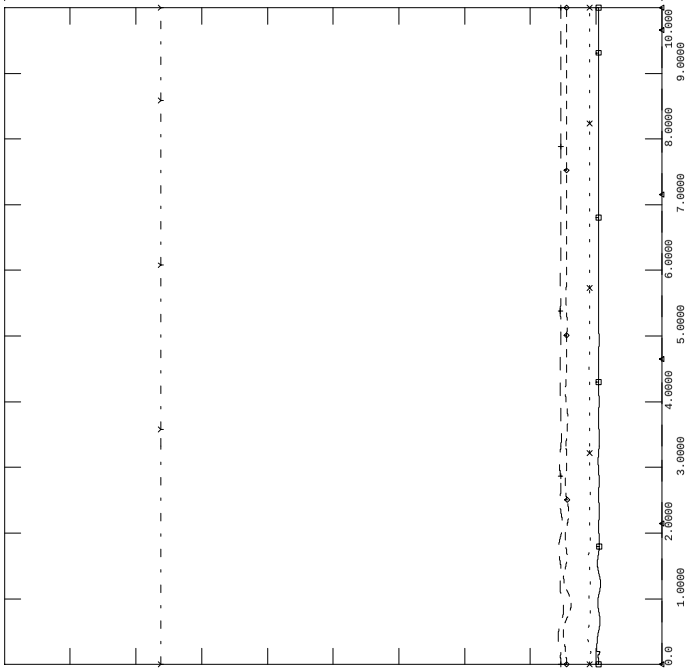


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH_LITE.OUT

FRI, MAY 21 2004 10:02 17

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]] 10.000 0.0
CHNL# 66: [POWR 52212 [CUNN21 20.000] [1]] 10.000 0.0
CHNL# 65: [POWR 51973 [MUSTG#3122.000] [1]] 10.000 0.0
CHNL# 64: [POWR 51971 [MUSTG#1113.800] [1]] 10.000 0.0
CHNL# 63: [POWR 51424 [PLANTX4 20.000] [1]] 10.000 0.0
CHNL# 62: [POWR 51423 [PLANTX3 13.800] [1]] 10.000 0.0

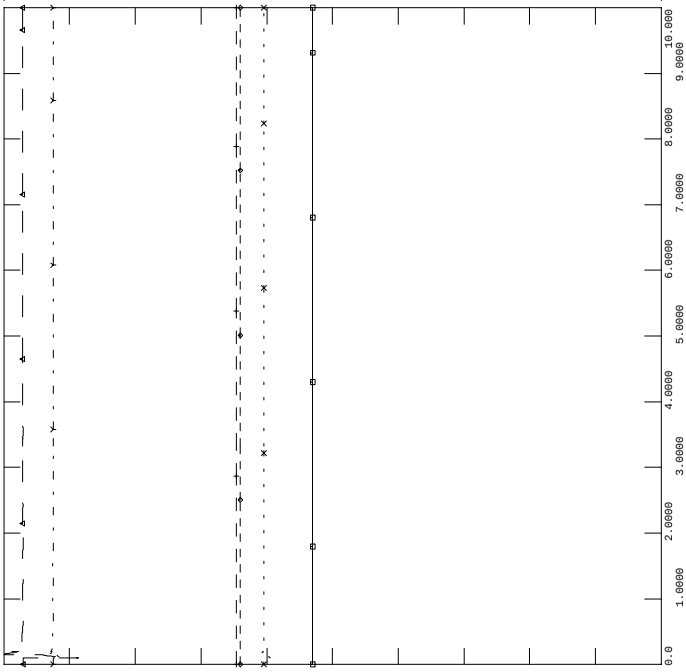


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH_LITE.OUT

FRI, MAY 21 2004 10:02 19

DC LINE EPE

CHNL# 208: [VOLT 59996 [EPEDC 230.00]] 1.1000 0.10000
CHNL# 184: [DC LINE #1: ALFA] 100.00 -100.0
CHNL# 183: [DC LINE #1: DC CURRENT] 1000.0 0.0
CHNL# 182: [DC LINE #1: VDCR] 1.0000E5 50000.
CHNL# 178: [DC LINE #1: QACR] 0.25000 0.0
CHNL# 177: [DC LINE #1: PACR] 1.0000 0.0

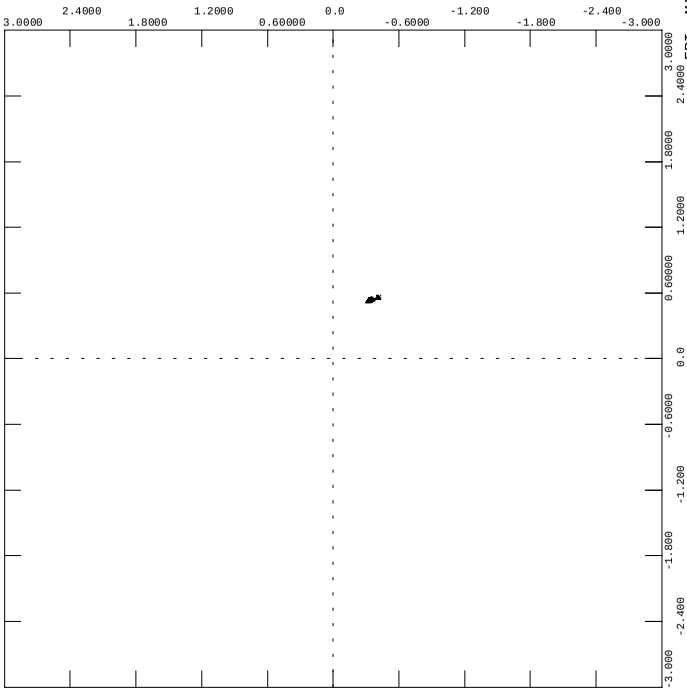


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE

22

FILE: WI_FLT23PH_LITE.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 116: [APPX 50858 TO 50888 CKT 1]

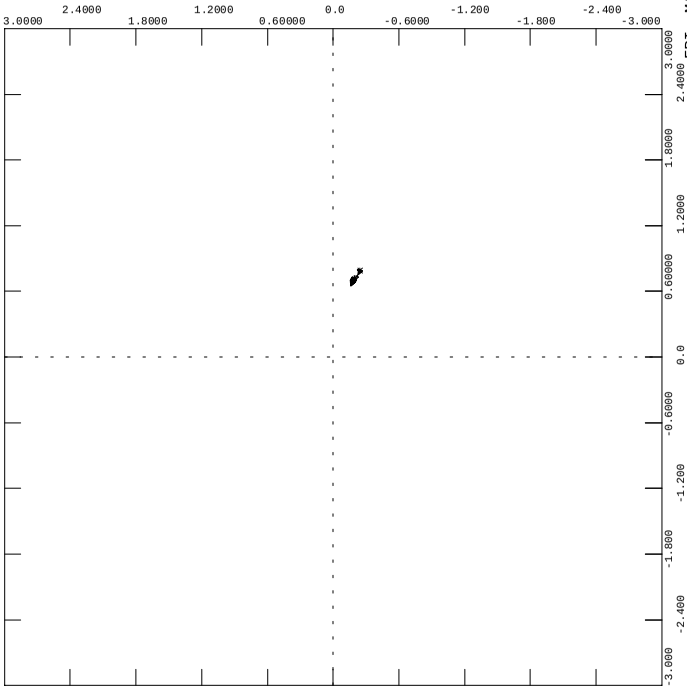


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE

21

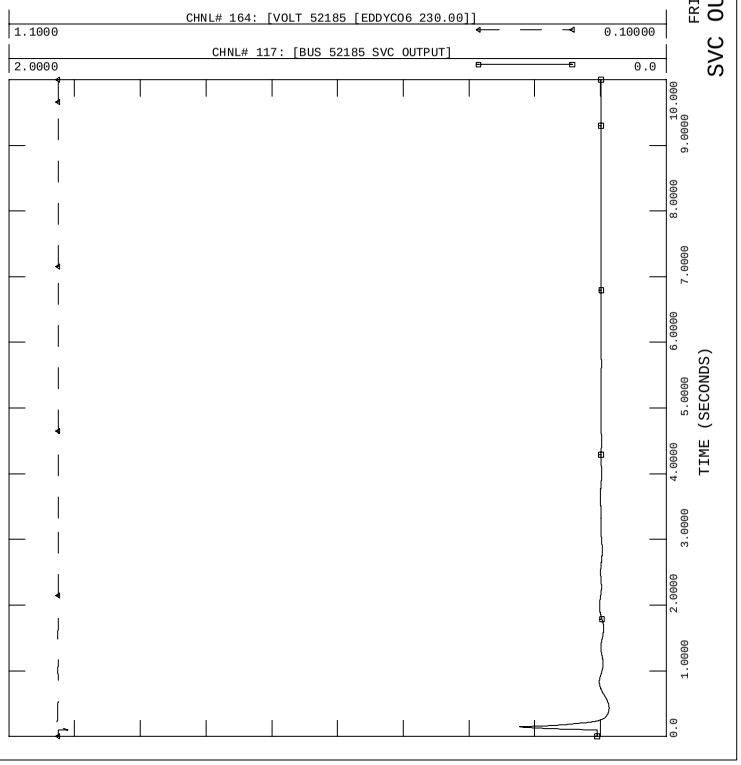
FILE: WI_FLT23PH_LITE.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 114: [APPX 56449 TO 50858 CKT 1]



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WI_FLT23PH_LITE.OUT

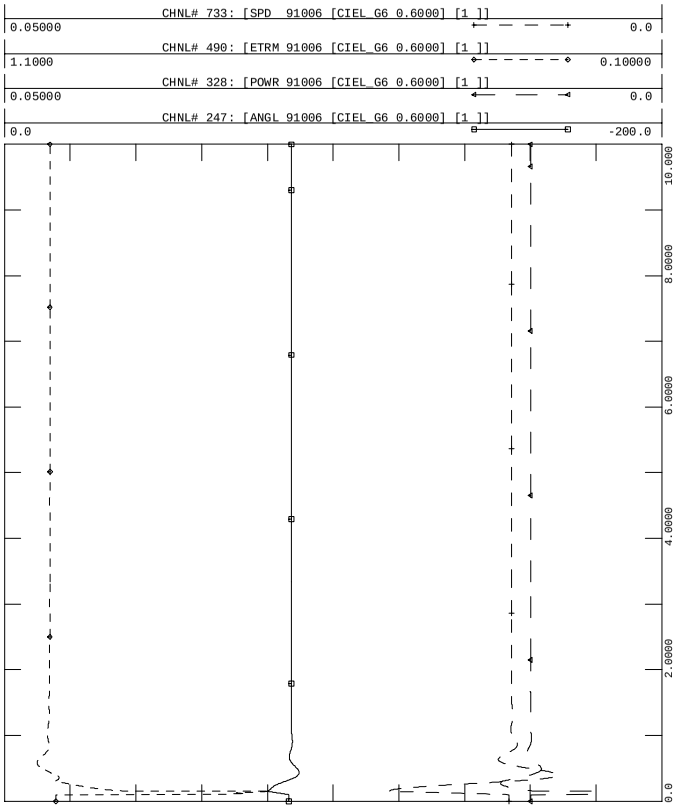
23



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH_LITE.OUT

FRI, MAY 21 2004 10:01 2

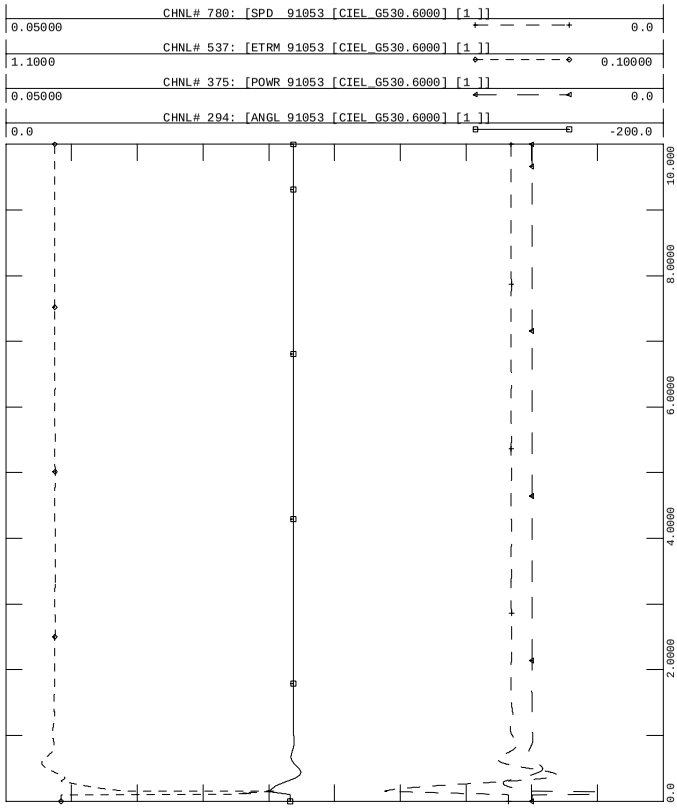
CIELO CABLE1 GEN6



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH_LITE.OUT

FRI, MAY 21 2004 10:01 4

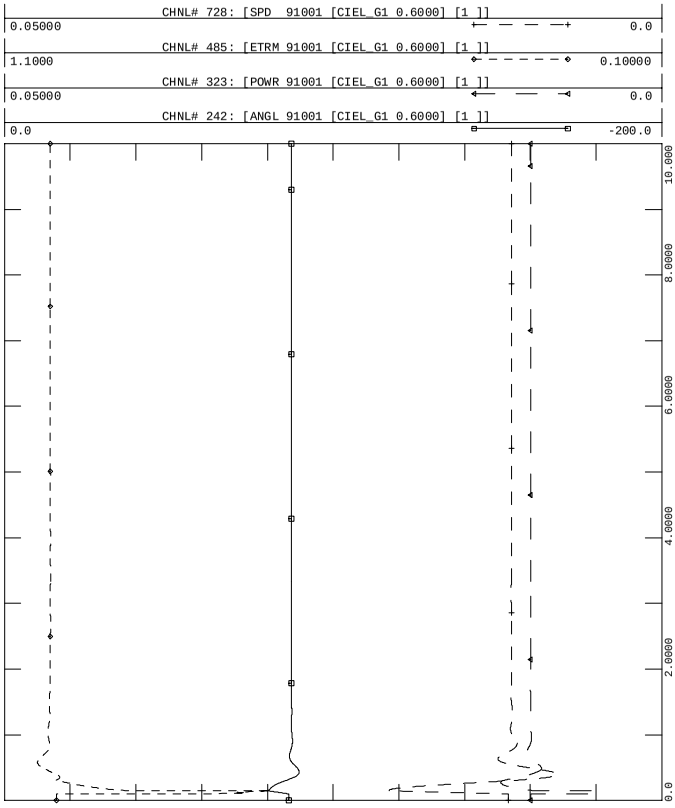
CIELO CABLE2 GEN53



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH_LITE.OUT

FRI, MAY 21 2004 10:01 1

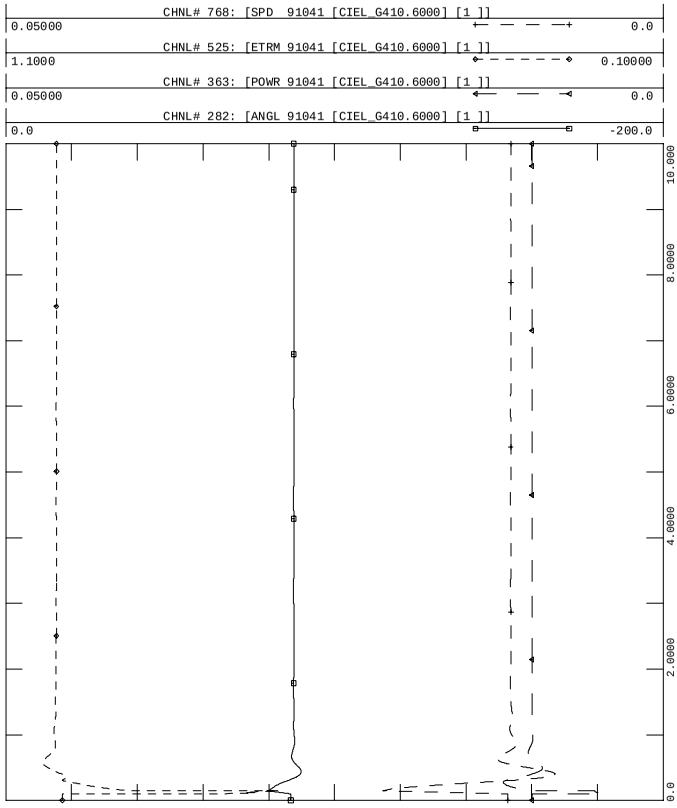
CIELO CABLE1 GEN1



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH_LITE.OUT

FRI, MAY 21 2004 10:01 3

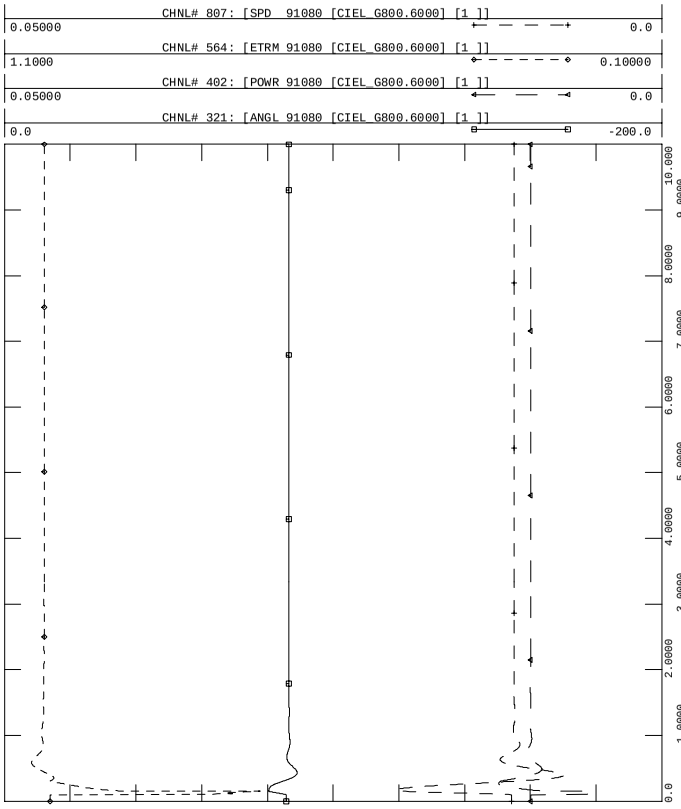
CIELO CABLE2 GEN41



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH_LITE.OUT

FRI, MAY 21 2004 10:01 6

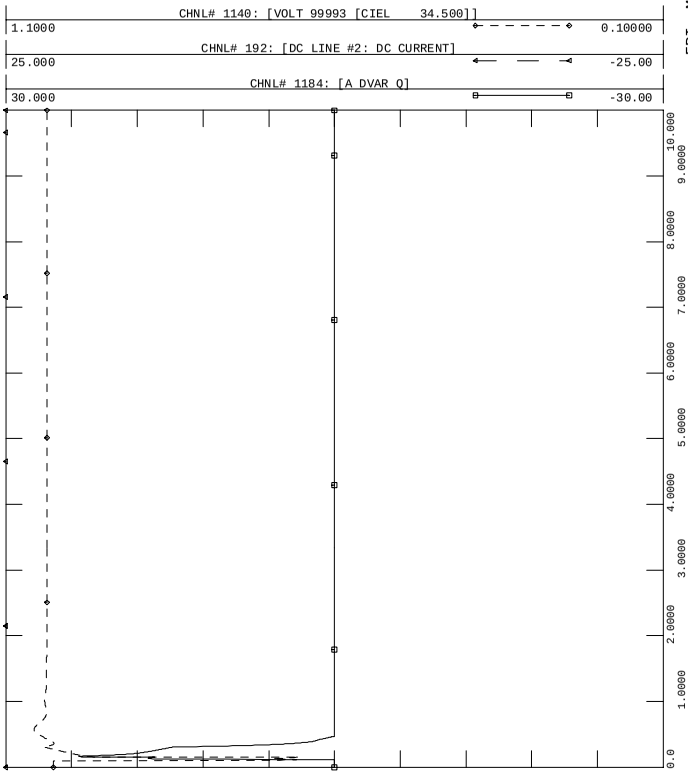
CIELO CABLE3 GEN80



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH_LITE.OUT

FRI, MAY 21 2004 10:01 8

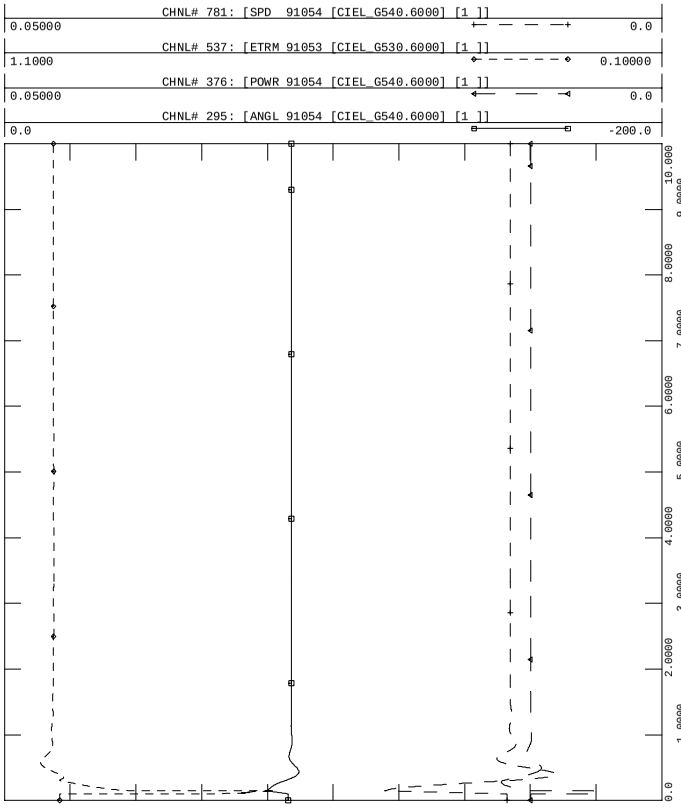
DVAR OUTPUT



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH_LITE.OUT

FRI, MAY 21 2004 10:01 5

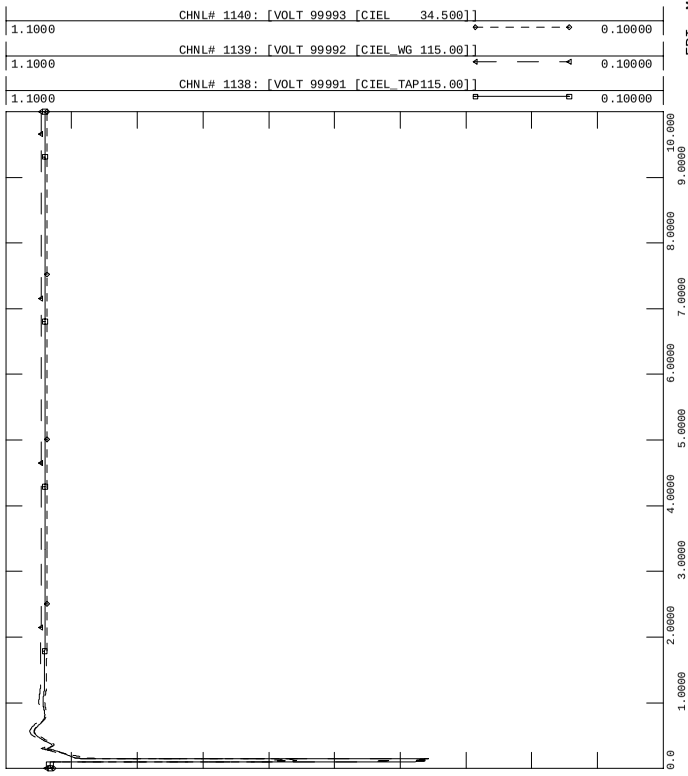
CIELO CABLE3 GEN54



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH_LITE.OUT

FRI, MAY 21 2004 10:01 7

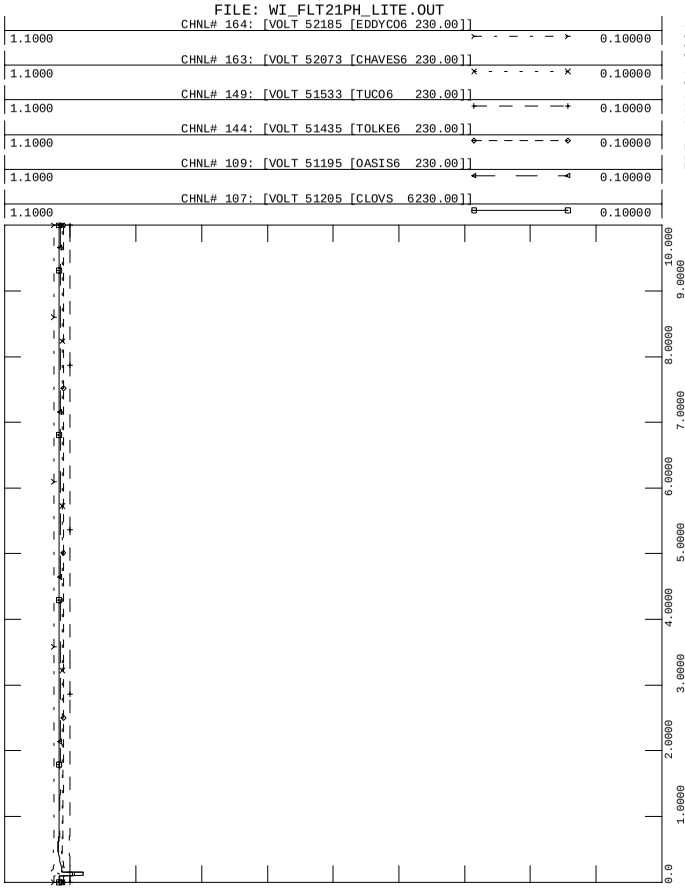
CIELO VOLTAGE



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH_LITE.OUT

FRI, MAY 21 2004 10:01

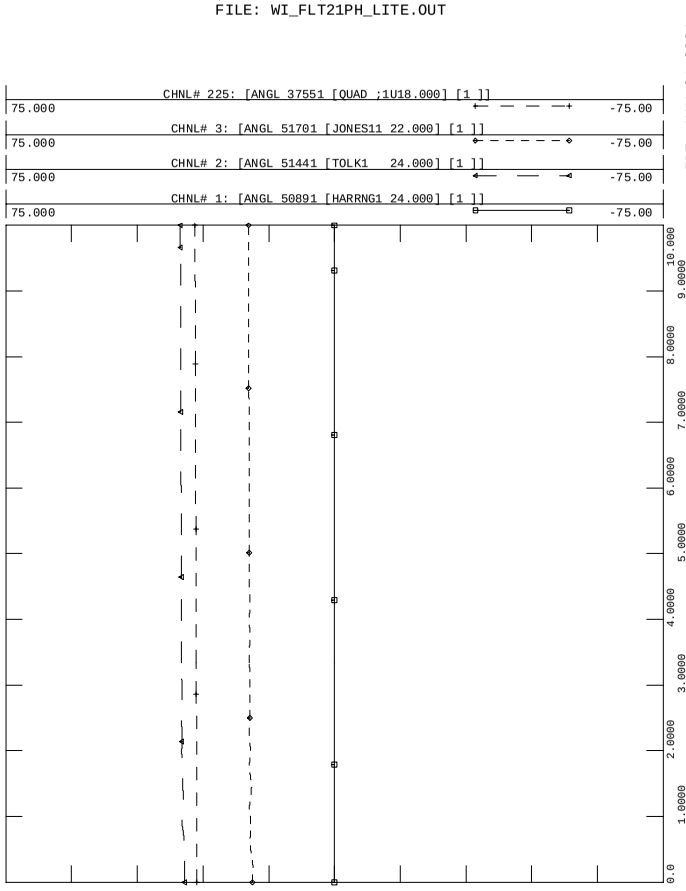
SPP:230 KV BUS VOLTAGE 10



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH_LITE.OUT

FRI, MAY 21 2004 10:01

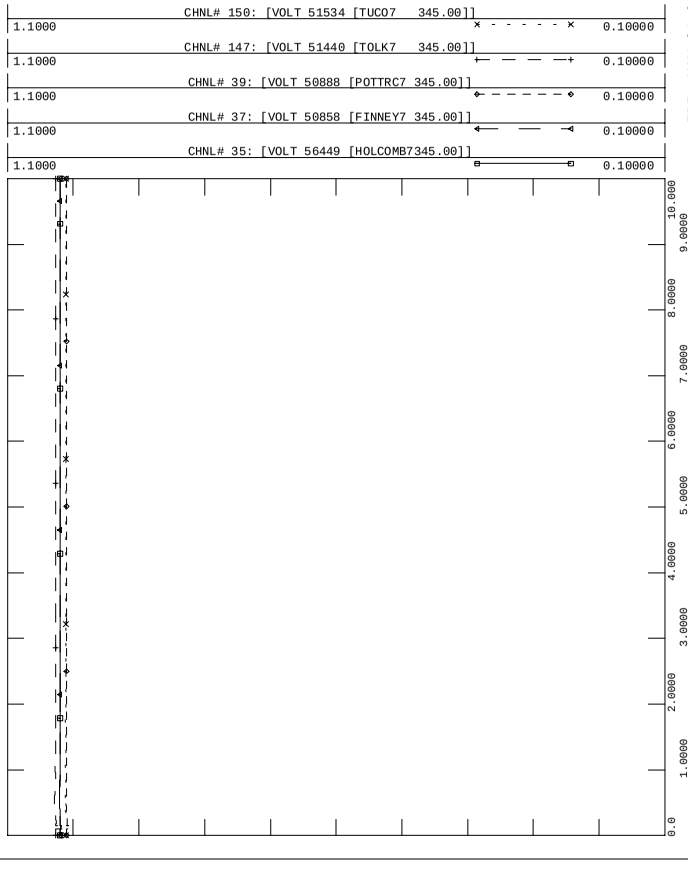
SPP: ROTOR ANGLE 12



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH_LITE.OUT

FRI, MAY 21 2004 10:01

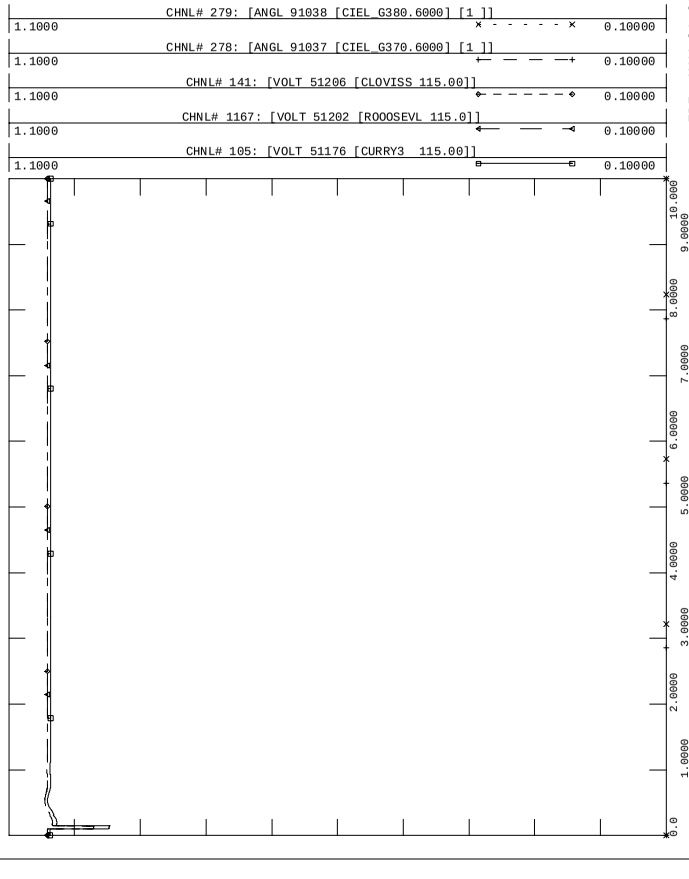
SPP:345 KV BUS VOLTAGE 9



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH_LITE.OUT

FRI, MAY 21 2004 10:01

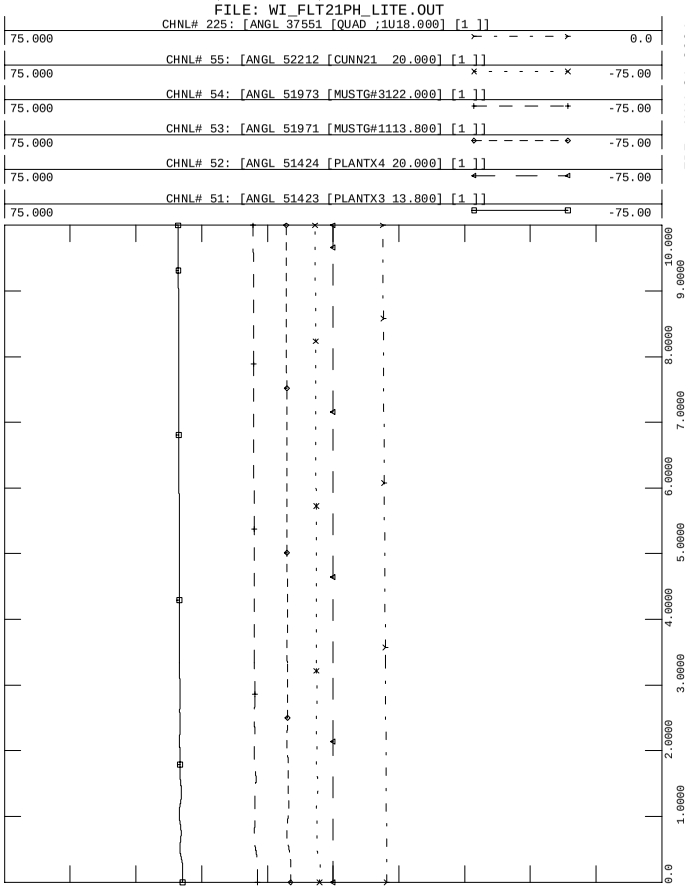
SPP:115 KV BUS VOLTAGE 11



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH_LITE.OUT

FRI, MAY 21 2004 10:01 14

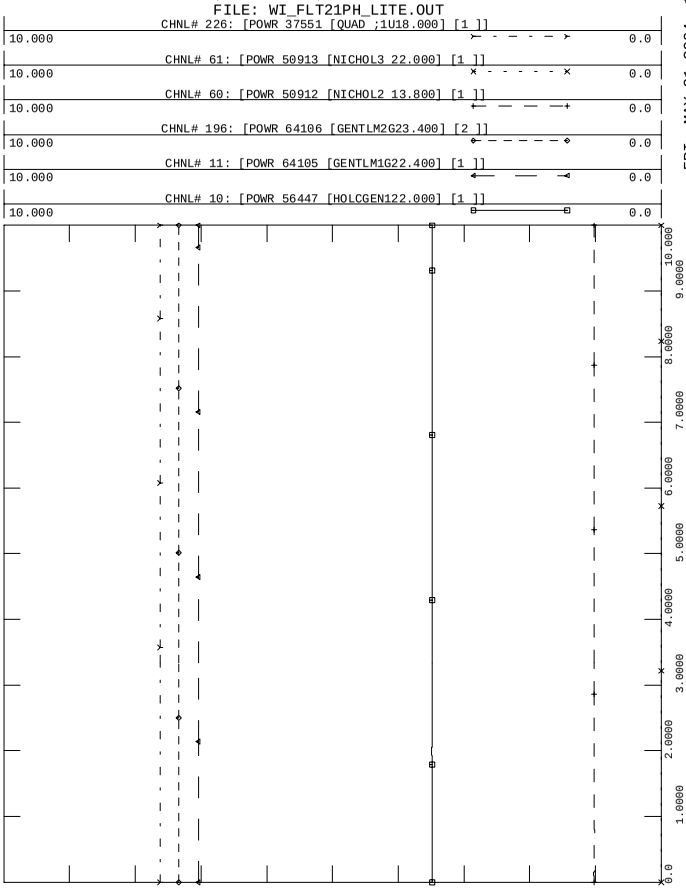
SPP: ROTOR ANGLE



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH_LITE.OUT

FRI, MAY 21 2004 10:01 16

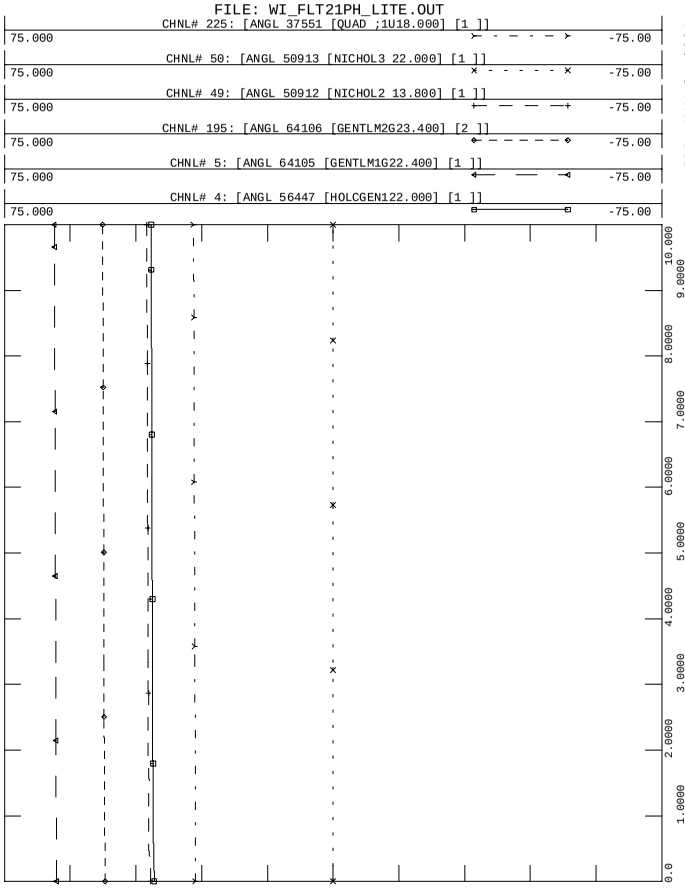
SPP: PELEC



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH_LITE.OUT

FRI, MAY 21 2004 10:01 13

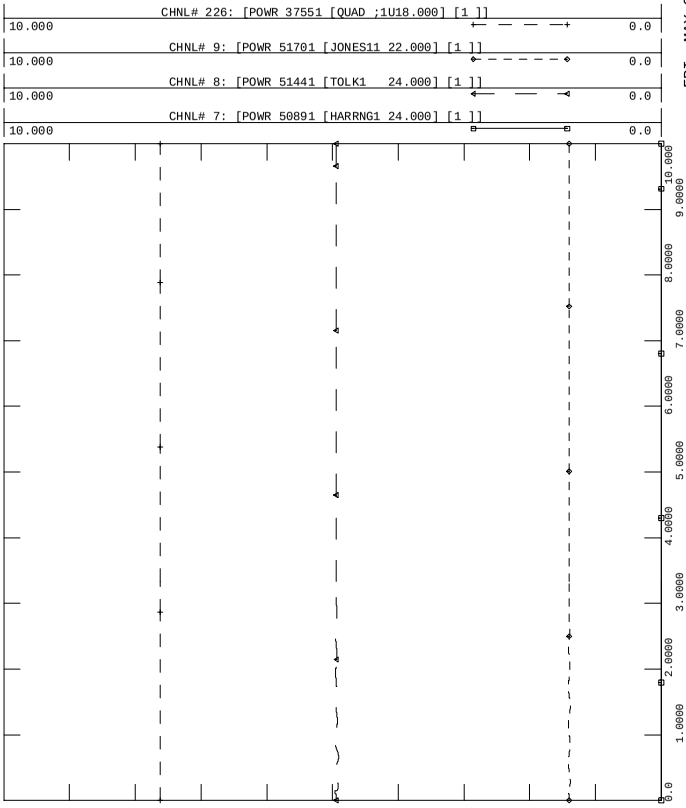
SPP: ROTOR ANGLE



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH_LITE.OUT

FRI, MAY 21 2004 10:01 15

SPP: PELEC

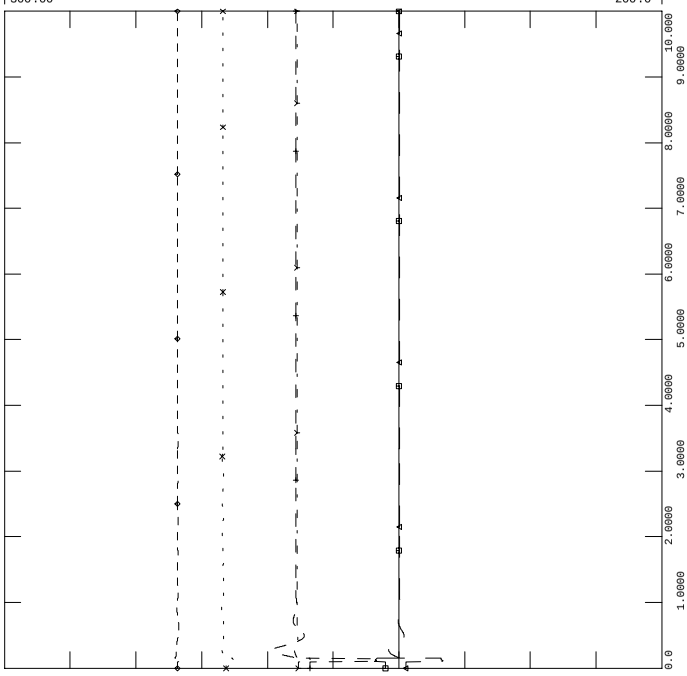


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH_LITE.OUT

FRI, MAY 21 2004 10:01 18

BRANCH FLOW

CHNL# 97: [POWR 51195 TO 52073 CKT 1]
300.00 -200.0
CHNL# 1179: [POWR 51435 TO 51533 CKT 1]
300.00 -200.0
CHNL# 1177: [POWR 99991 TO 51176 CKT 1]
300.00 -200.0
CHNL# 1175: [POWR 51440 TO 52186 CKT 1]
300.00 -200.0
CHNL# 1173: [POWR 51176 TO 51206 CKT 2]
300.00 -200.0
CHNL# 1169: [POWR 99991 TO 51076 CKT 1]
300.00 -200.0

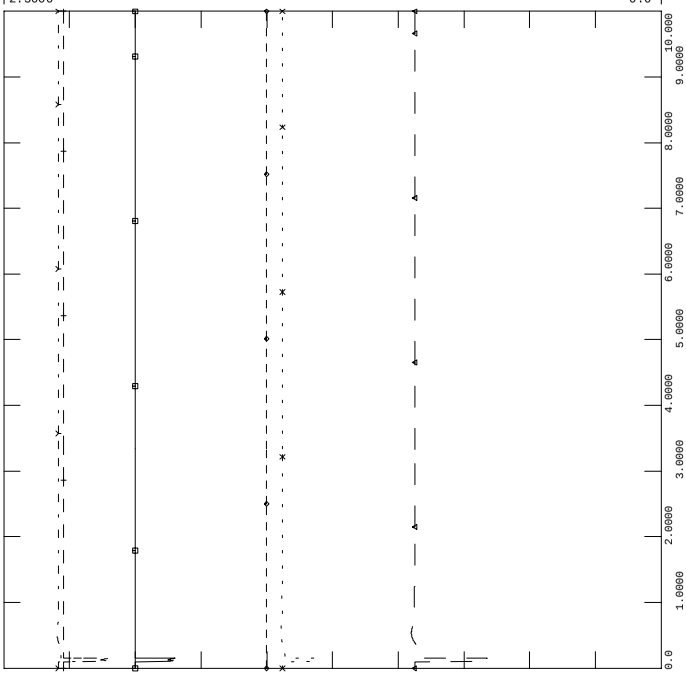


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH_LITE.OUT

FRI, MAY 21 2004 10:01 20

DC LINE PNM

CHNL# 207: [VOLT 59995 [BLKWDC 230.00]]
1.1000 0.10000
CHNL# 193: [DC LINE #2: ALPHA]
100.00 -100.0
CHNL# 192: [DC LINE #2: DC CURRENT]
4000.0 0.0
CHNL# 191: [DC LINE #2: VDCR]
65000. 40000.
CHNL# 187: [DC LINE #2: QACR]
2.5000 0.0
CHNL# 186: [DC LINE #2: PACR]
2.5000 0.0

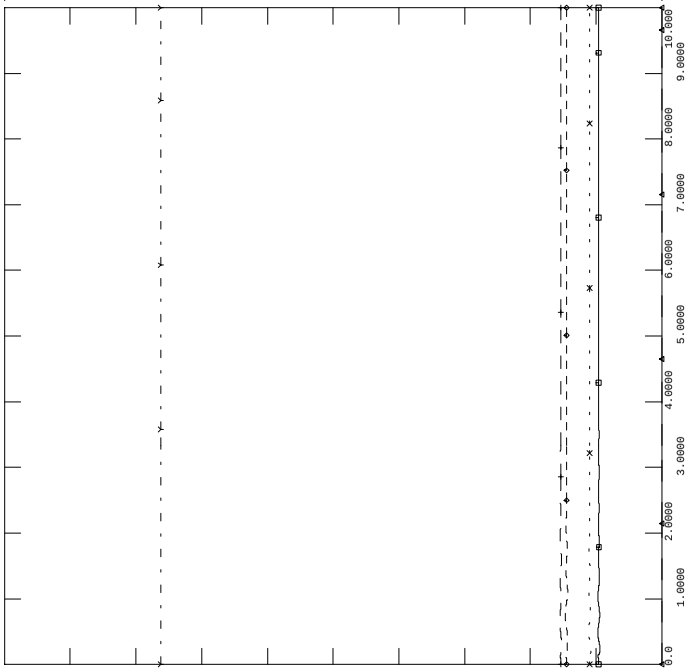


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH_LITE.OUT

FRI, MAY 21 2004 10:01 17

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
10.000 0.0
CHNL# 66: [POWR 52212 [CUNN21 20.000] [1]]
10.000 0.0
CHNL# 65: [POWR 51973 [MUSTG#3122.000] [1]]
10.000 0.0
CHNL# 64: [POWR 51971 [MUSTG#1113.800] [1]]
10.000 0.0
CHNL# 63: [POWR 51424 [PLANTX4 20.000] [1]]
10.000 0.0
CHNL# 62: [POWR 51423 [PLANTX3 13.800] [1]]
10.000 0.0

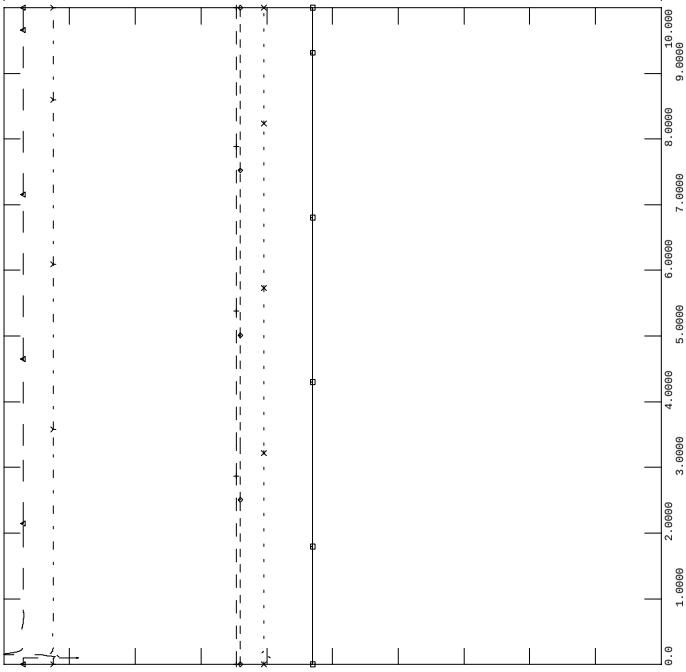


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH_LITE.OUT

FRI, MAY 21 2004 10:01 19

DC LINE EPE

CHNL# 208: [VOLT 59996 [EPEDC 230.00]]
1.1000 0.10000
CHNL# 184: [DC LINE #1: ALFA]
100.00 -100.0
CHNL# 183: [DC LINE #1: DC CURRENT]
1000.0 0.0
CHNL# 182: [DC LINE #1: VDCR]
1.0000E5 50000.
CHNL# 178: [DC LINE #1: QACR]
0.25000 0.0
CHNL# 177: [DC LINE #1: PACR]
1.0000 0.0



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE

22

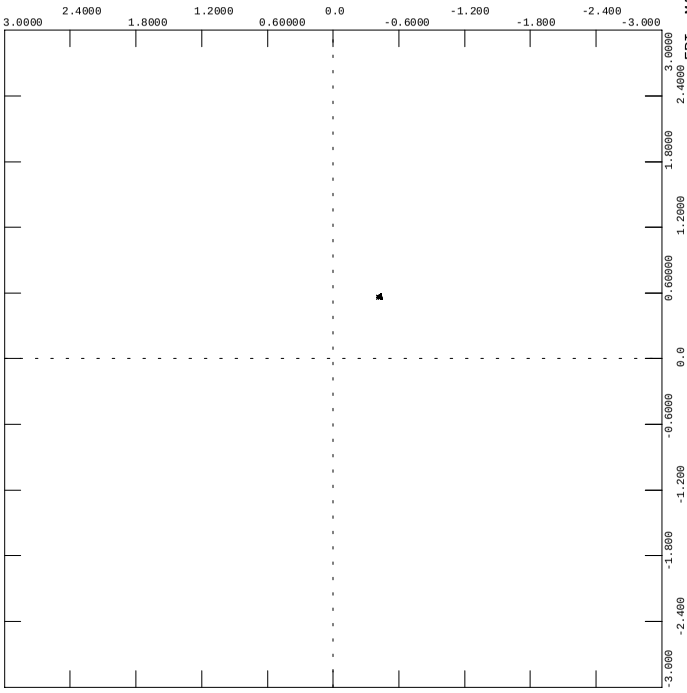
FRI, MAY 21 2004 10:01

POTTER-FINNEY

FILE: WI_FLT21PH_LITE.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25

CHNL# 116: [APPX 50858 TO 50888 CKT 1]



CHNL# 115: [APPR 50858 TO 50888 CKT 1]

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE

21

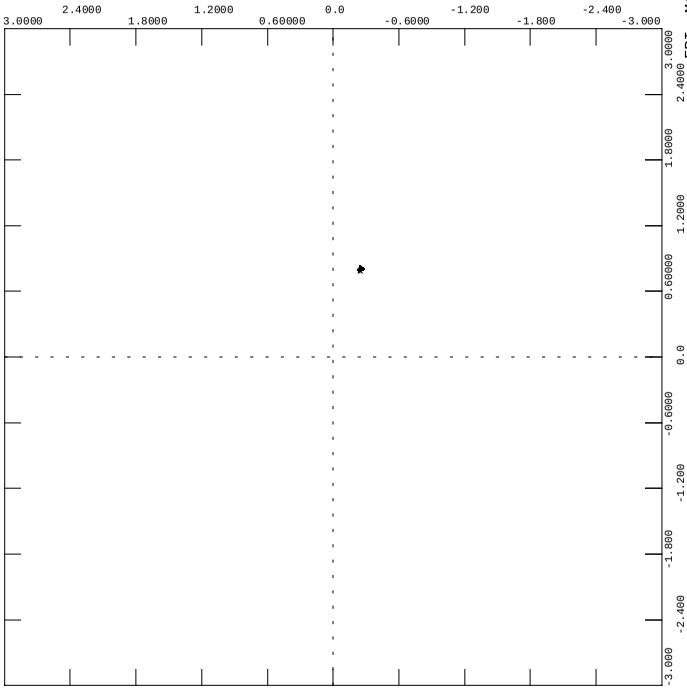
FRI, MAY 21 2004 10:01

FINNEY-HOLCOMB

FILE: WI_FLT21PH_LITE.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25

CHNL# 114: [APPX 56449 TO 50858 CKT 1]



CHNL# 113: [APPR 56449 TO 50858 CKT 1]

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WI_FLT21PH_LITE.OUT

23

FRI, MAY 21 2004 10:01

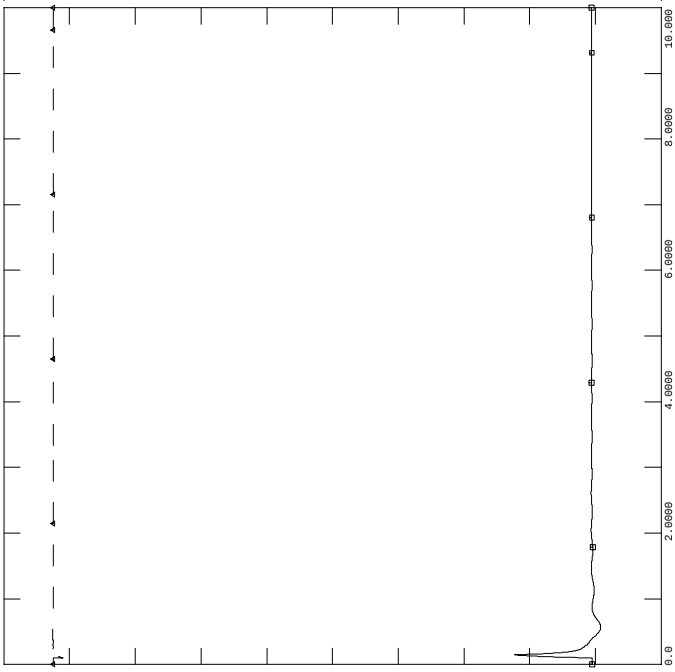
SVC OUTPUT

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]

1.1000 0.10000

CHNL# 117: [BUS 52185 SVC OUTPUT]

2.0000 0.0

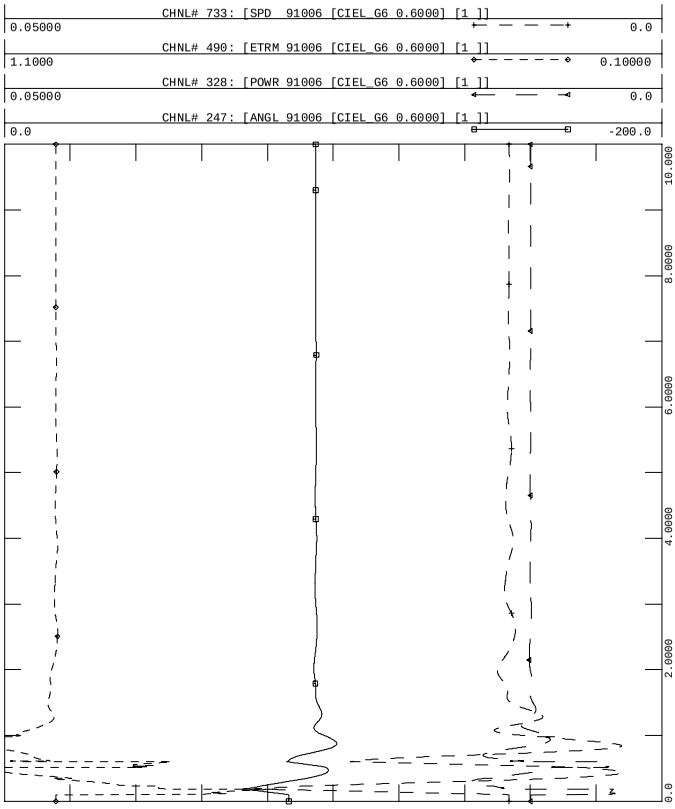


TIME (SECONDS)

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH_LITE.OUT

FRI, MAY 21 2004 10:02 2

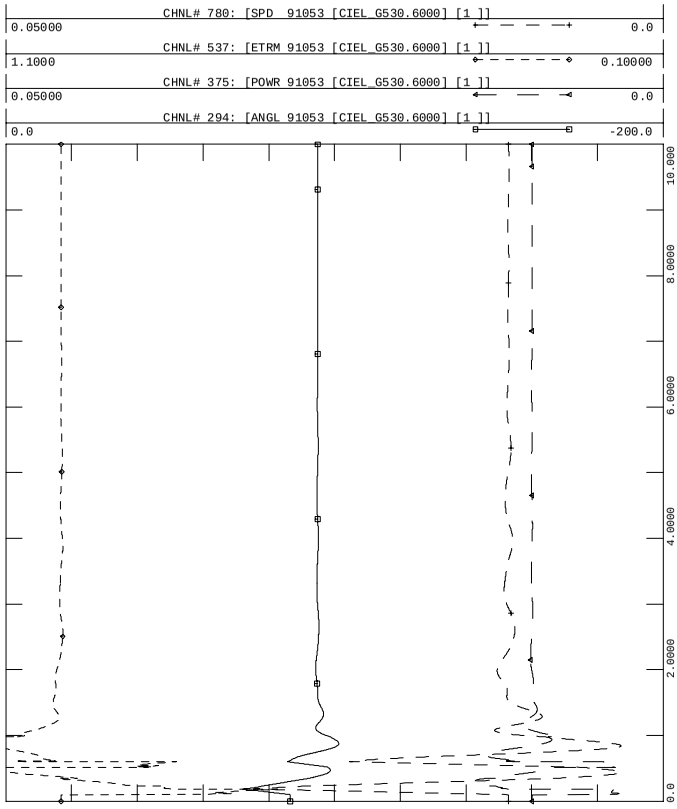
CIELO CABLE1 GEN6



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH_LITE.OUT

FRI, MAY 21 2004 10:02 4

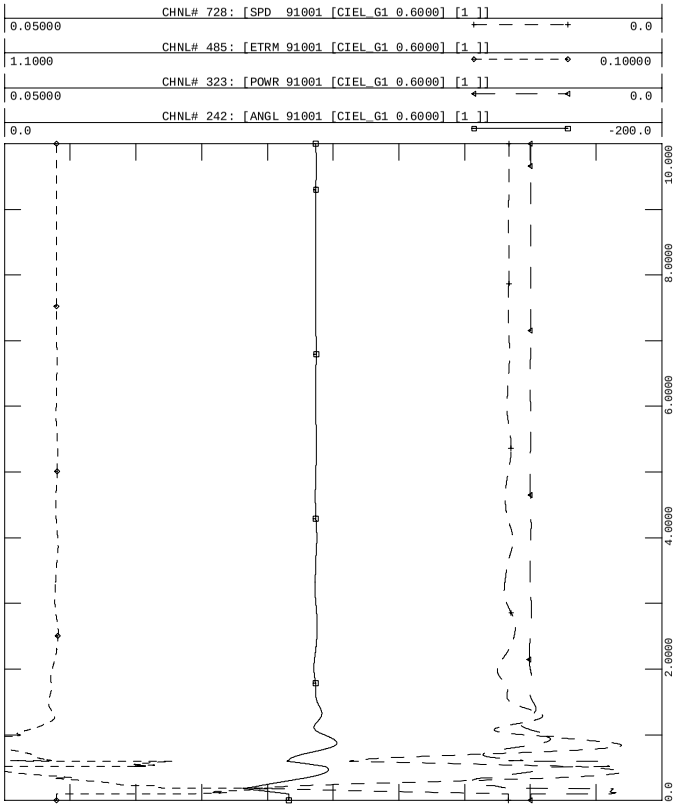
CIELO CABLE2 GEN53



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH_LITE.OUT

FRI, MAY 21 2004 10:02 1

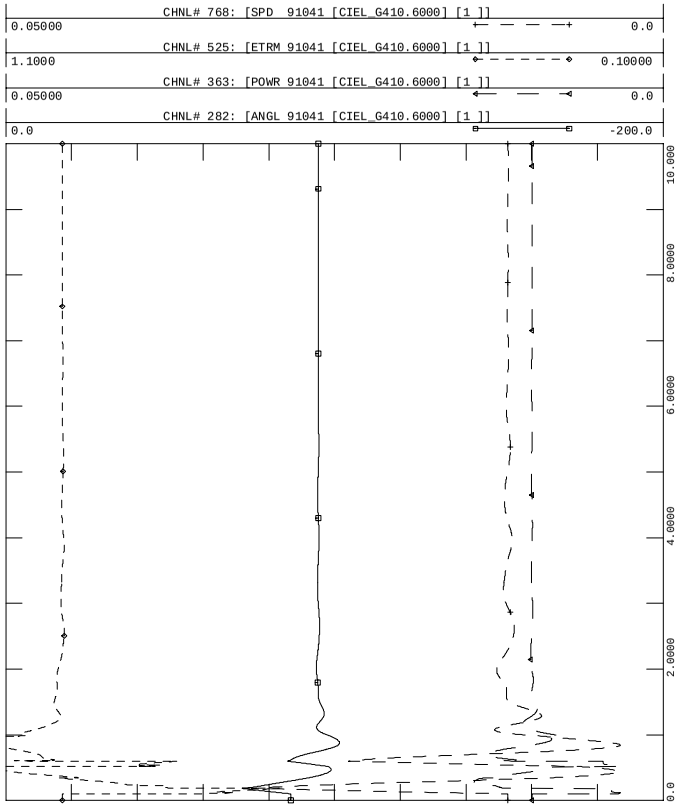
CIELO CABLE1 GEN1



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH_LITE.OUT

FRI, MAY 21 2004 10:02 3

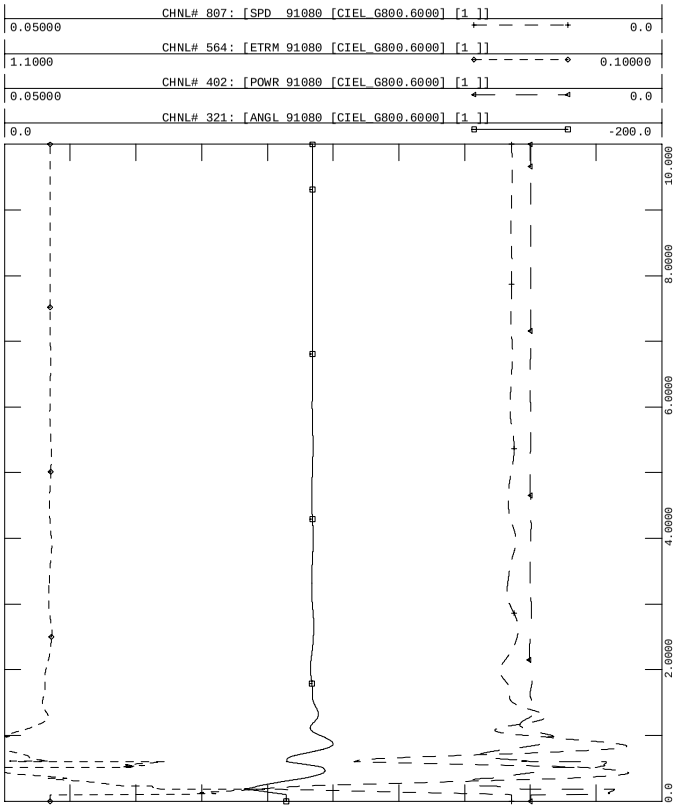
CIELO CABLE2 GEN41



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH_LITE.OUT

FRI, MAY 21 2004 10:02 6

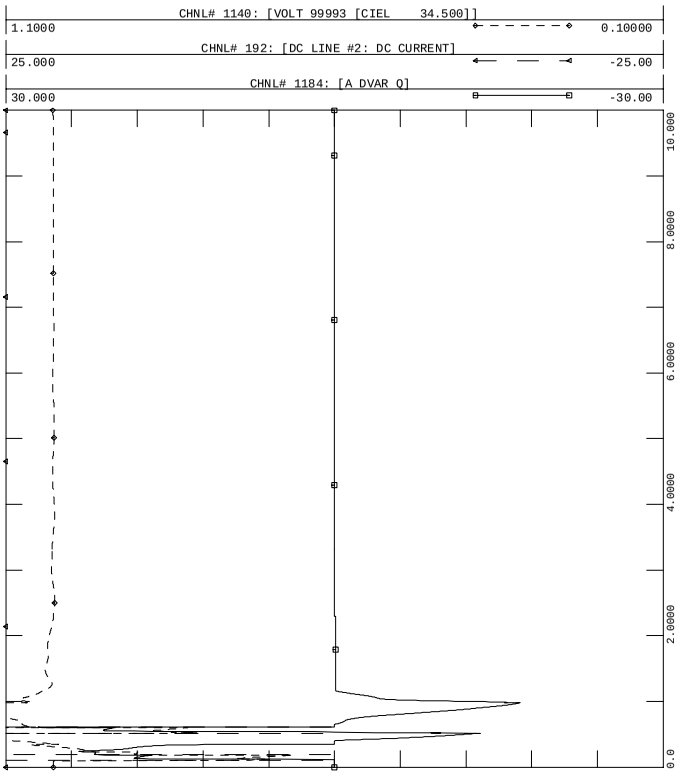
CIELO CABLE3 GEN80



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH_LITE.OUT

FRI, MAY 21 2004 10:02 8

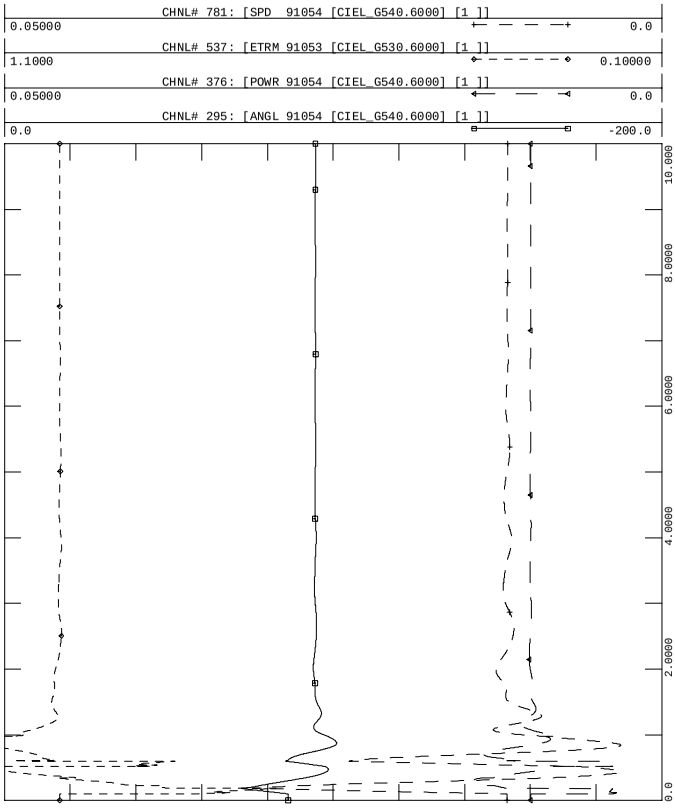
DVAR OUTPUT



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH_LITE.OUT

FRI, MAY 21 2004 10:02 5

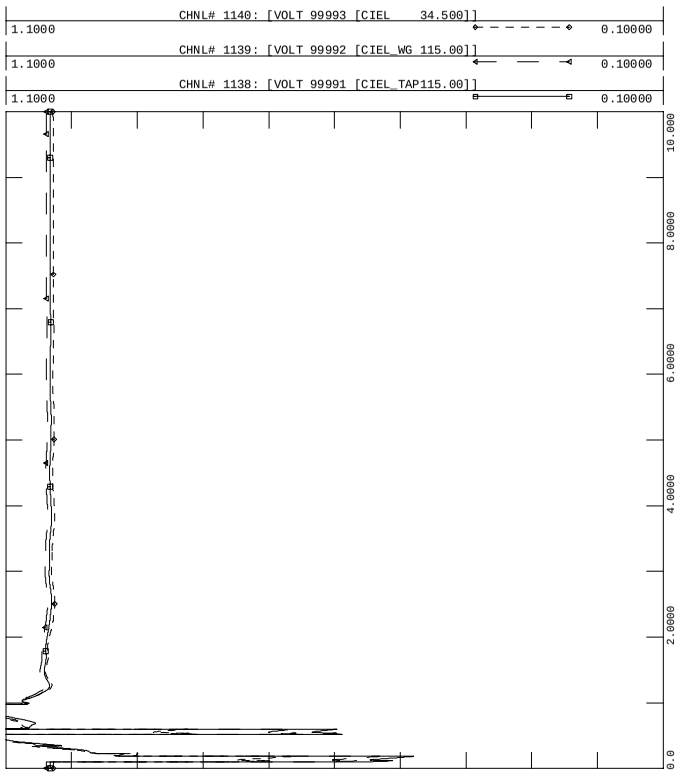
CIELO CABLE3 GEN54



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH_LITE.OUT

FRI, MAY 21 2004 10:02 7

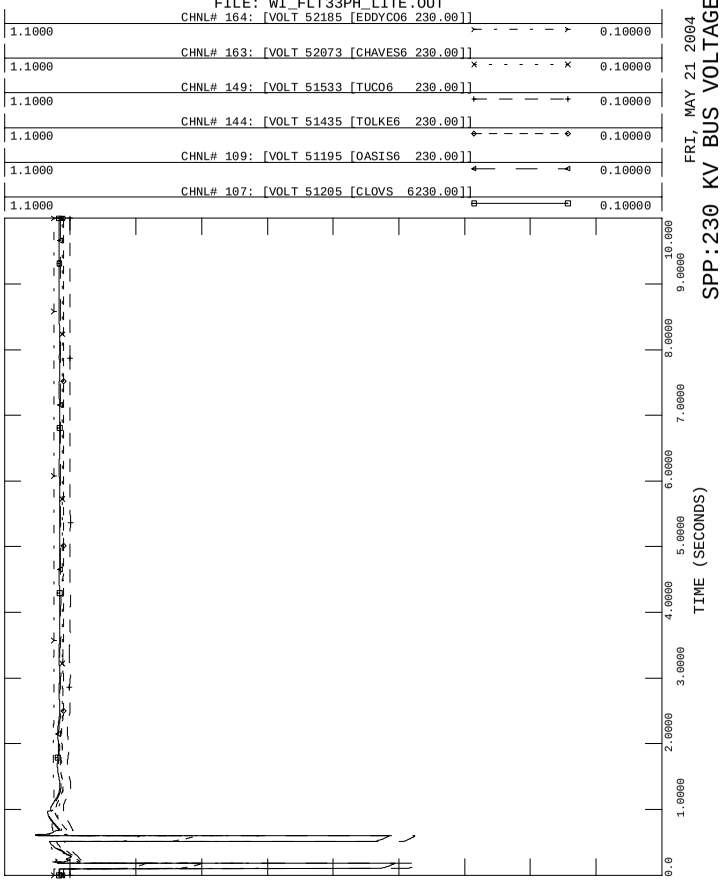
CIELO VOLTAGE



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH_LITE.OUT

FRI, MAY 21 2004 10:02

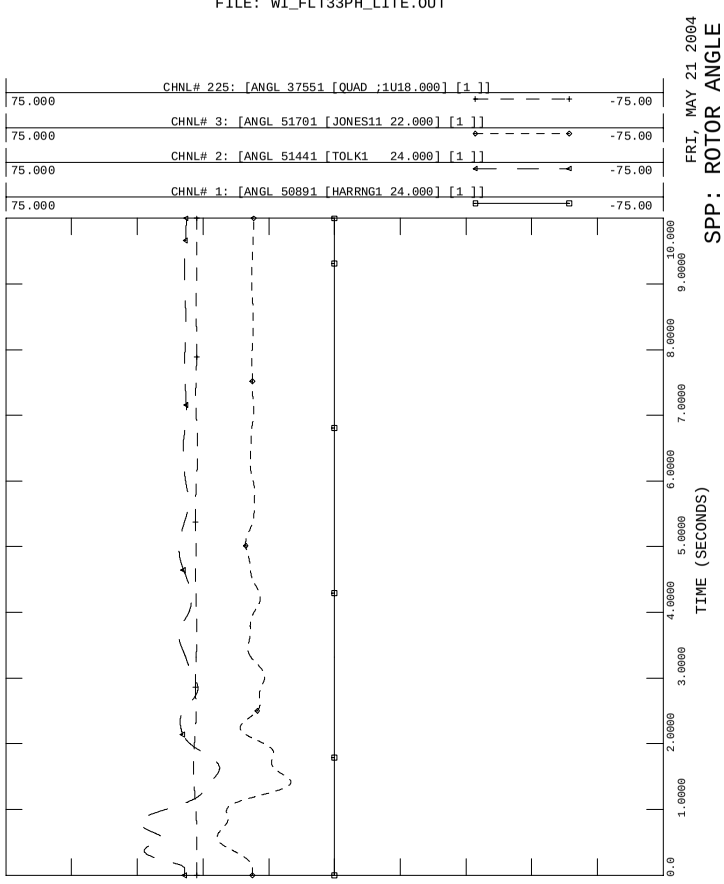
SPP:230 KV BUS VOLTAGE 10



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH_LITE.OUT

FRI, MAY 21 2004 10:02

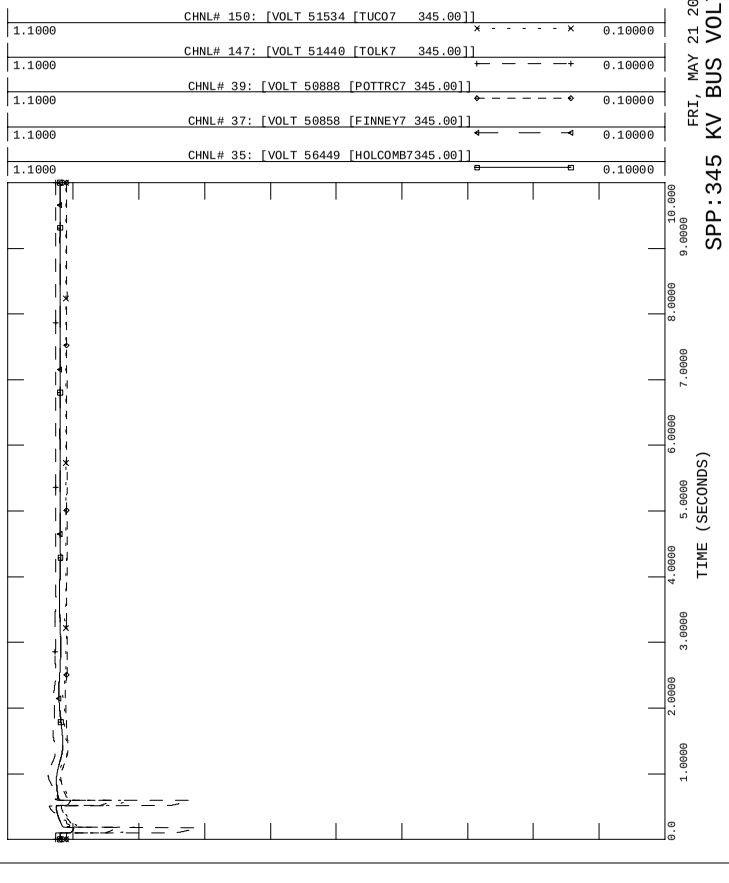
SPP: ROTOR ANGLE 12



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH_LITE.OUT

FRI, MAY 21 2004 10:02

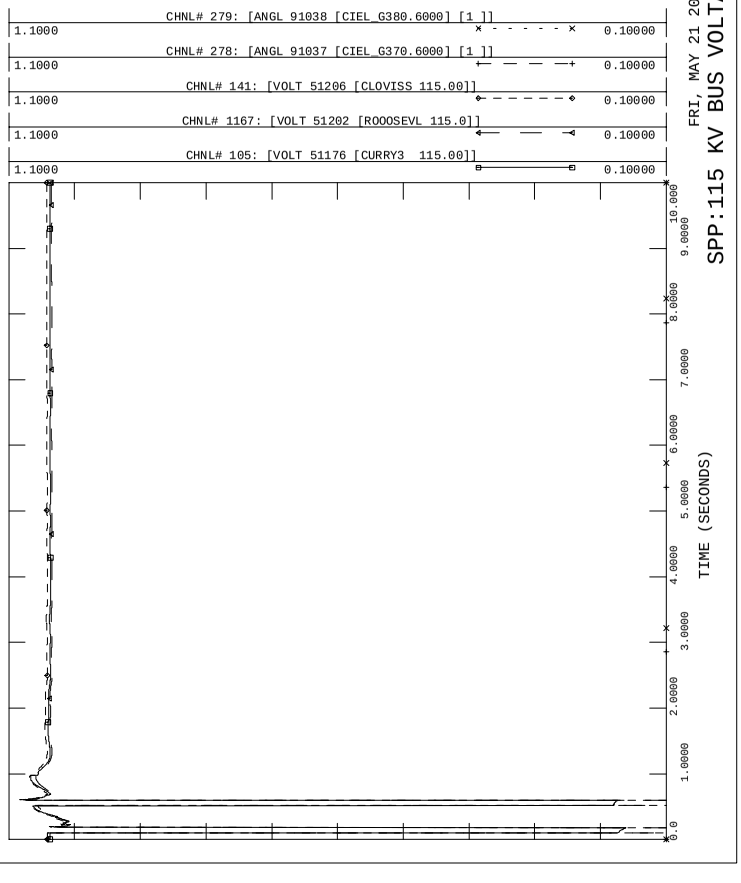
SPP:345 KV BUS VOLTAGE 9



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH_LITE.OUT

FRI, MAY 21 2004 10:02

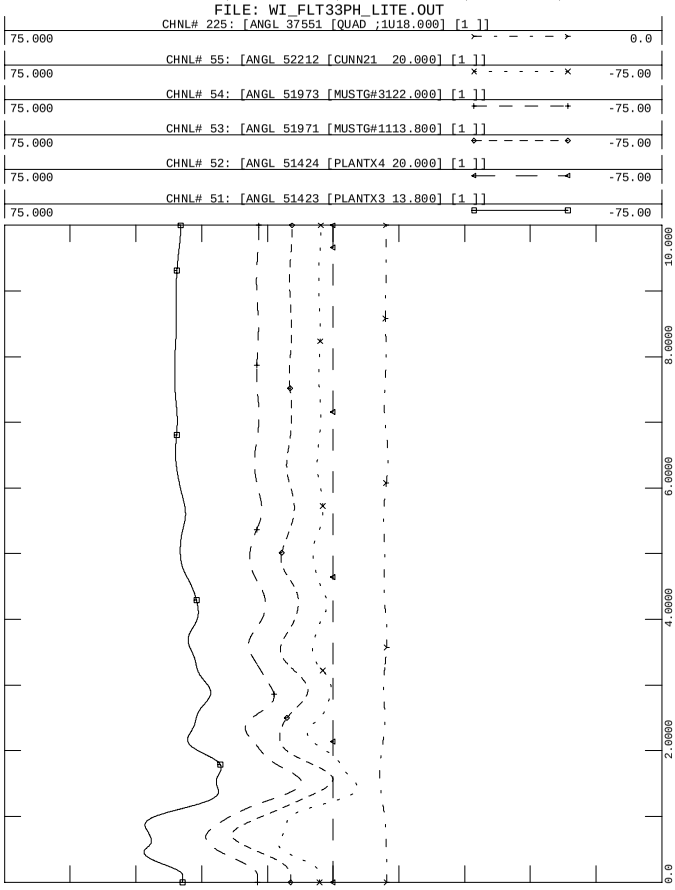
SPP:115 KV BUS VOLTAGE 11



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH_LITE.OUT

FRI, MAY 21 2004 10:02 14

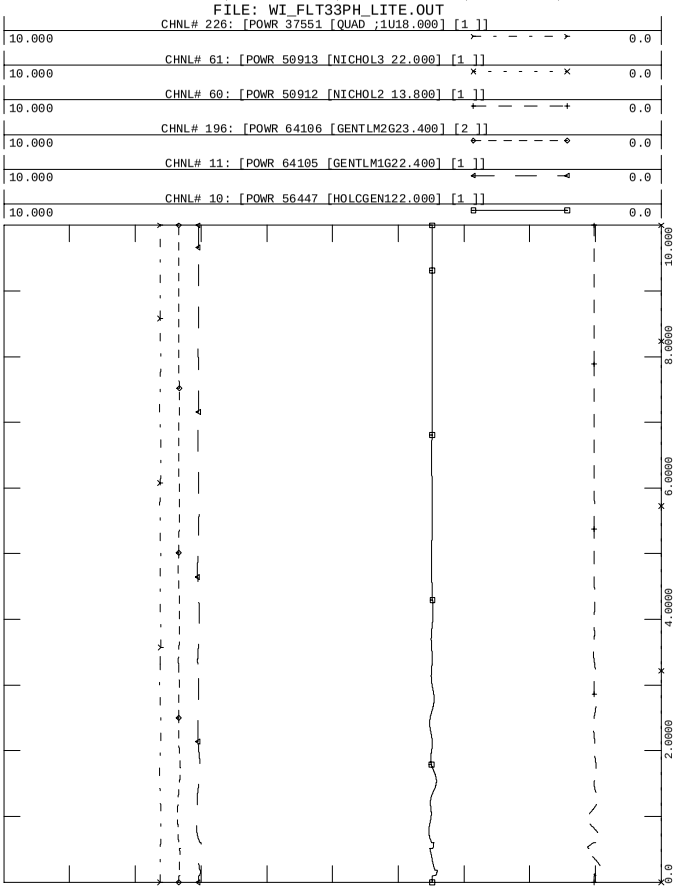
SPP: ROTOR ANGLE



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH_LITE.OUT

FRI, MAY 21 2004 10:02 16

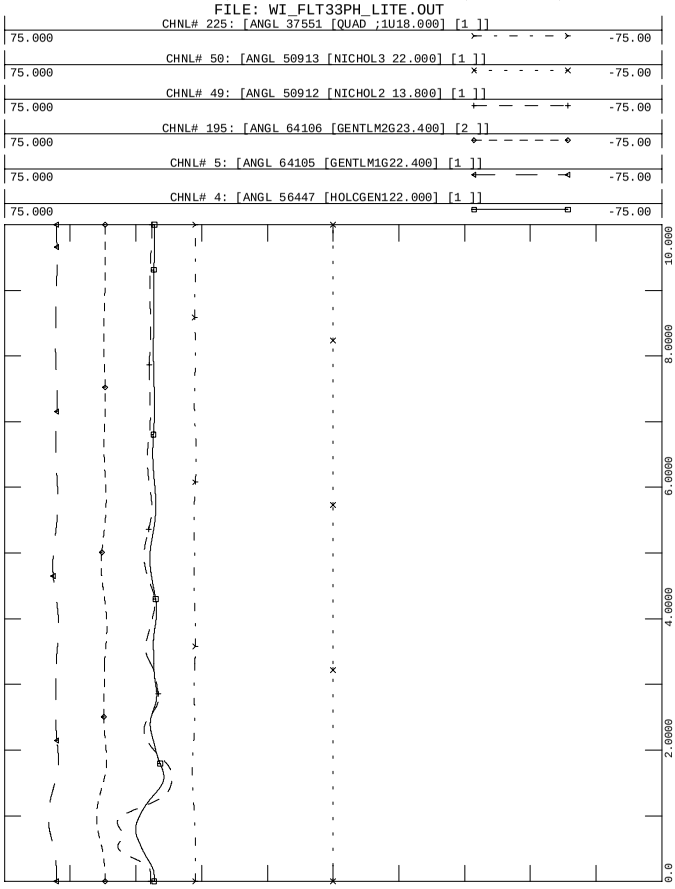
SPP: PELEC



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH_LITE.OUT

FRI, MAY 21 2004 10:02 13

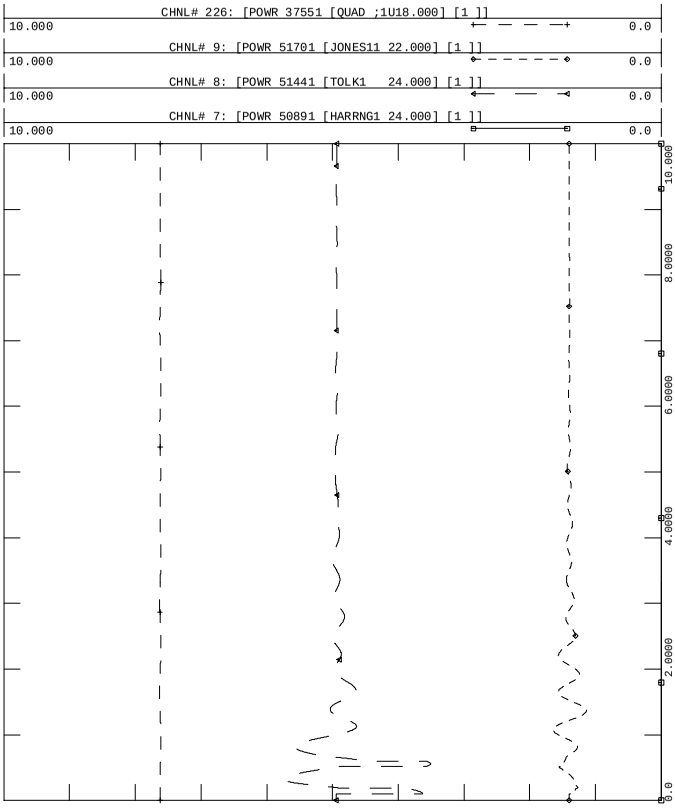
SPP: ROTOR ANGLE



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH_LITE.OUT

FRI, MAY 21 2004 10:02 15

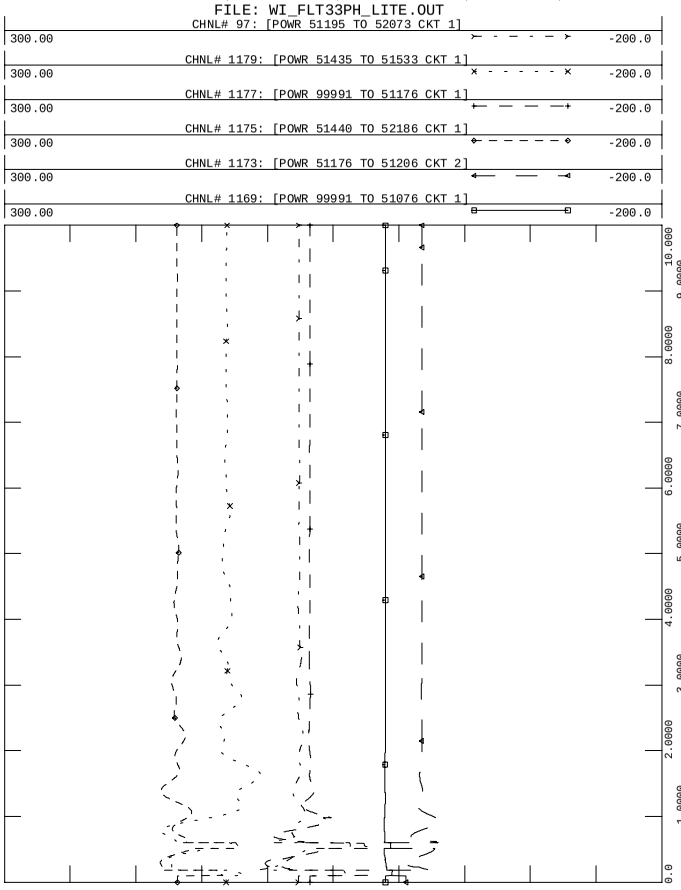
SPP: PELEC



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH_LITE.OUT

FRI, MAY 21 2004 10:02 18

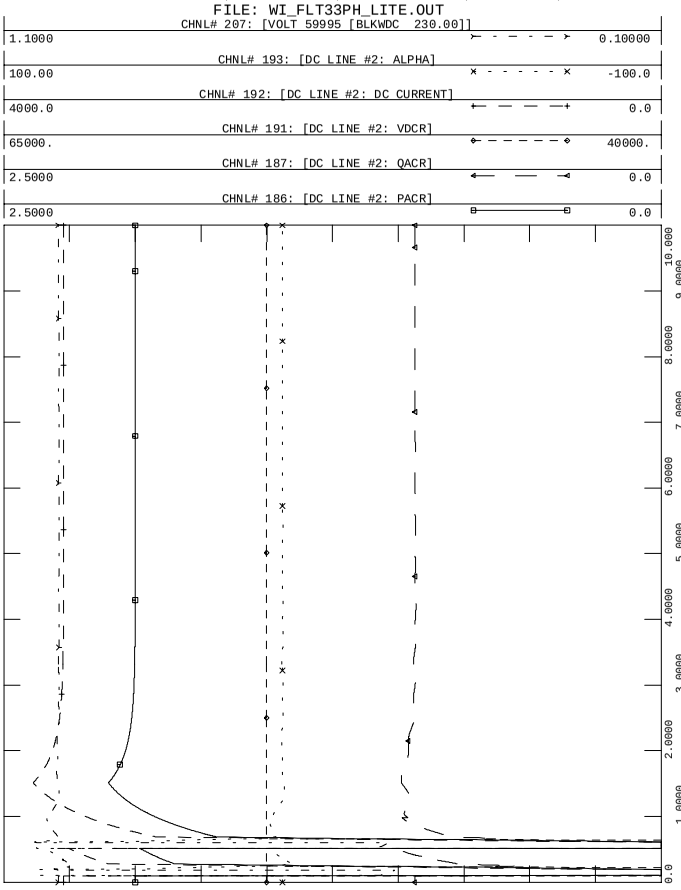
BRANCH FLOW



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH_LITE.OUT

FRI, MAY 21 2004 10:02 20

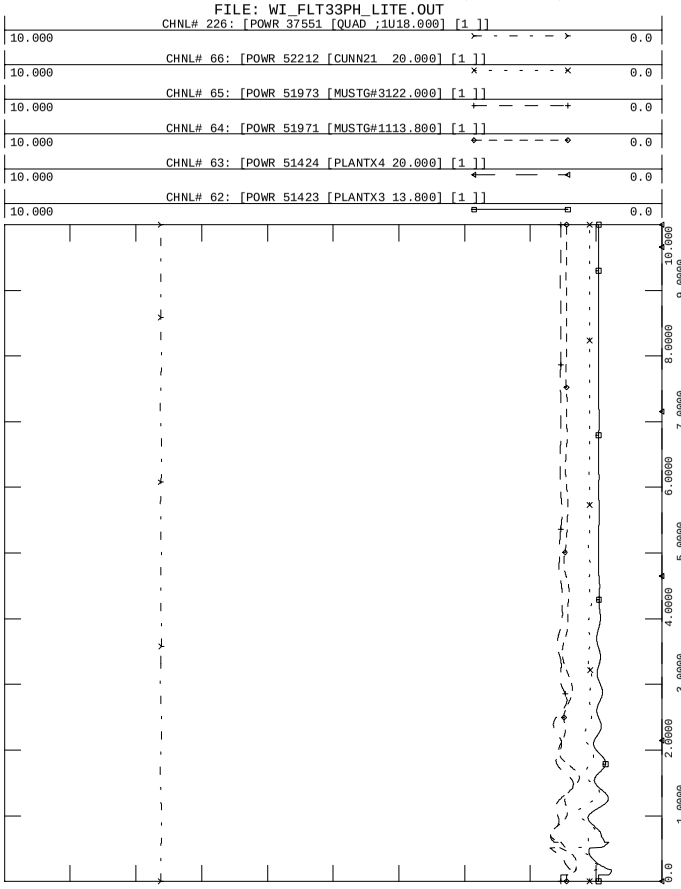
DC LINE PNM



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH_LITE.OUT

FRI, MAY 21 2004 10:02 17

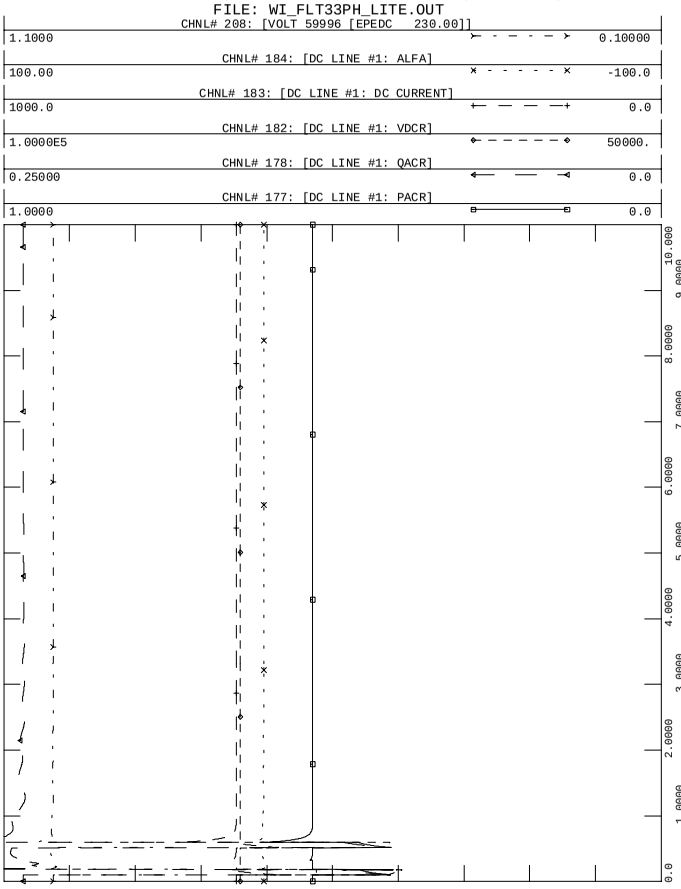
SPP: PELEC



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH_LITE.OUT

FRI, MAY 21 2004 10:02 19

DC LINE EPE

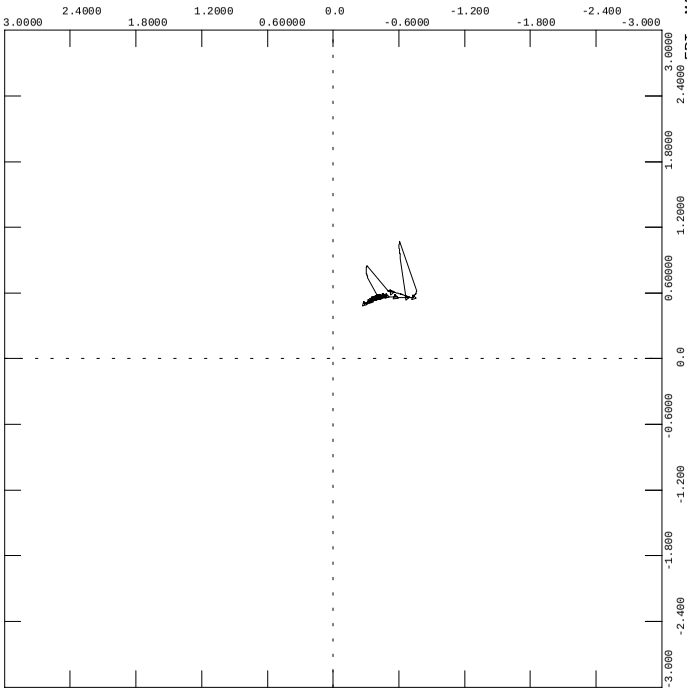


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

22

FILE: WI_FLT33PH_LITE.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 116: [APPX 50858 TO 50888 CKT 1]



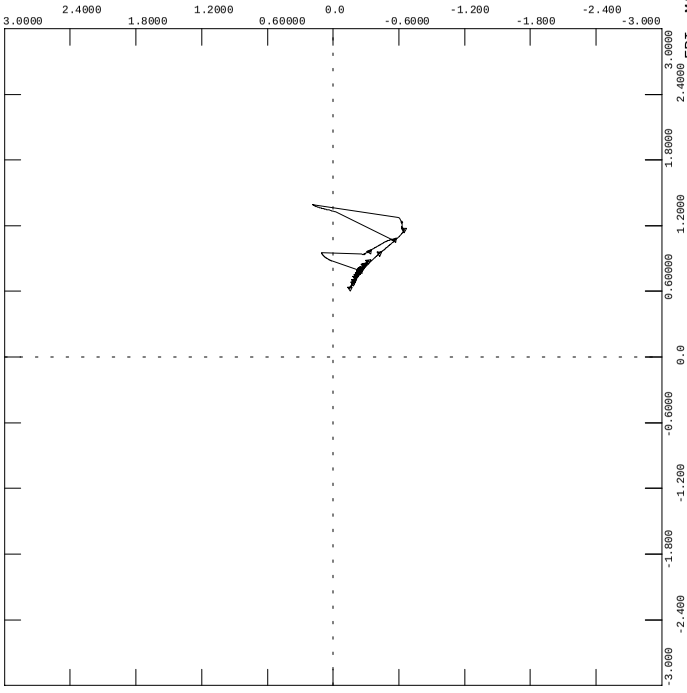
FRI, MAY 21 2004 10:02
POTTER-FINNEY
CHNL# 115: [APPR 50858 TO 50888 CKT 1]

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

21

FILE: WI_FLT33PH_LITE.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 114: [APPX 56449 TO 50858 CKT 1]

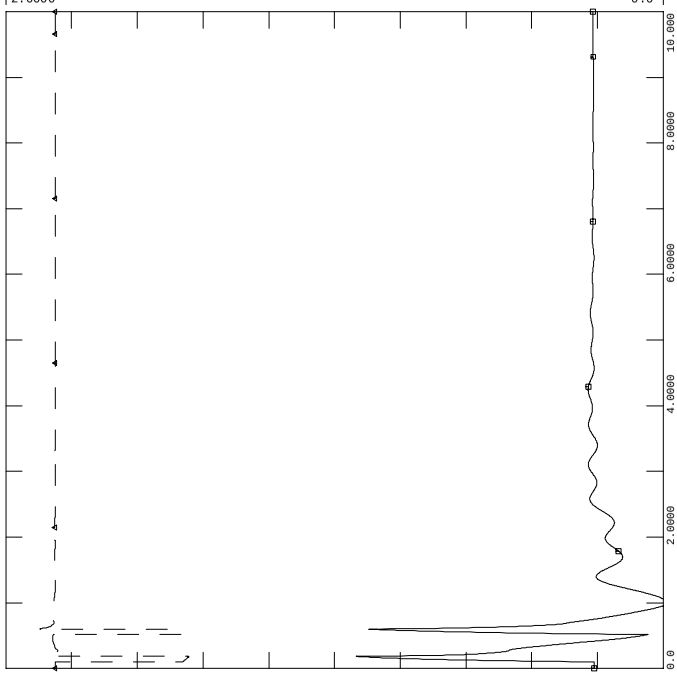


FRI, MAY 21 2004 10:02
FINNEY-HOLCOMB
CHNL# 113: [APPR 56449 TO 50858 CKT 1]

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT33PH_LITE.OUT

23

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]
1.1000 0.10000
CHNL# 117: [BUS 52185 SVC OUTPUT]
2.0000 0.0

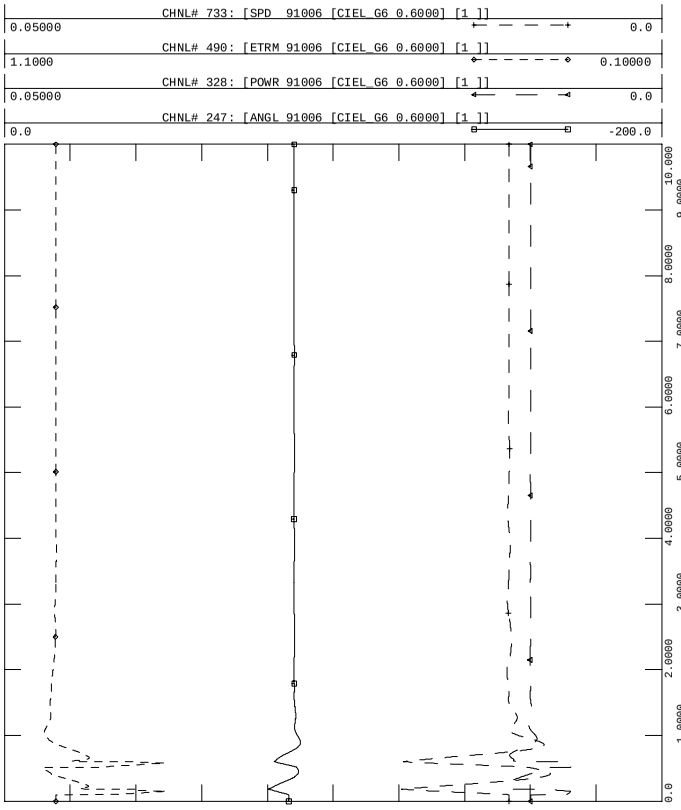


FRI, MAY 21 2004 10:02
SVC OUTPUT
TIME (SECONDS)

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH_LITE.OUT

FRI, MAY 21 2004 10:02 2

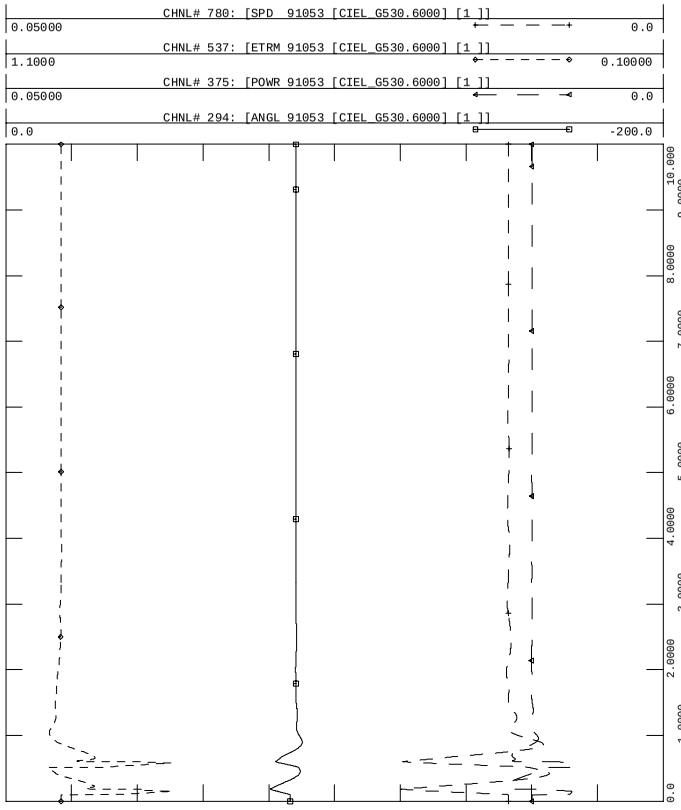
CIELO CABLE1 GEN6



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH_LITE.OUT

FRI, MAY 21 2004 10:02 4

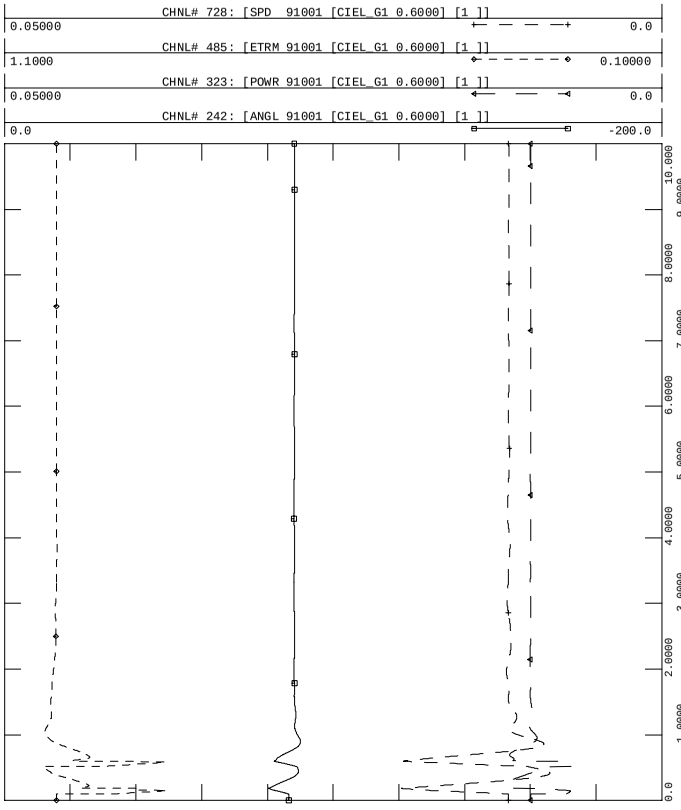
CIELO CABLE2 GEN53



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH_LITE.OUT

FRI, MAY 21 2004 10:02 1

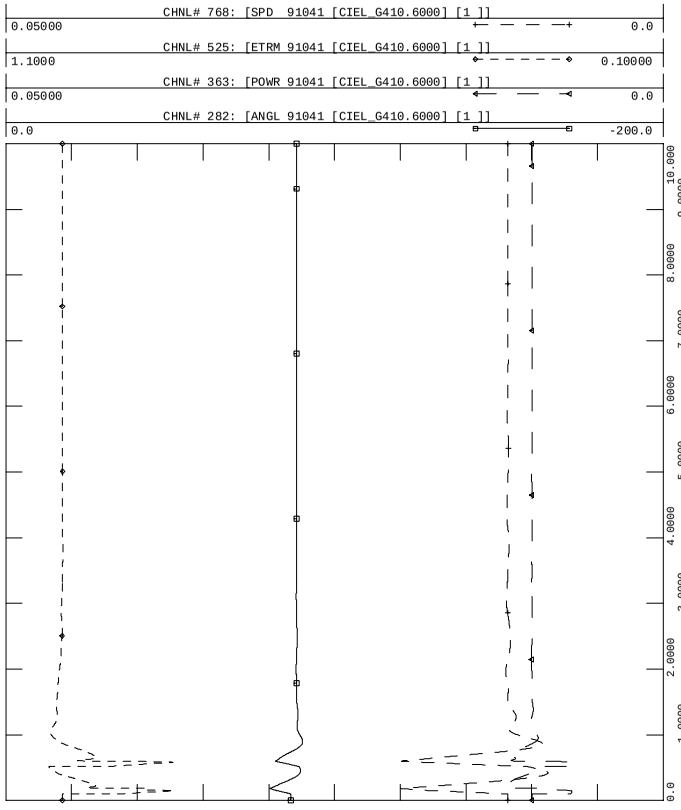
CIELO CABLE1 GEN1



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH_LITE.OUT

FRI, MAY 21 2004 10:02 3

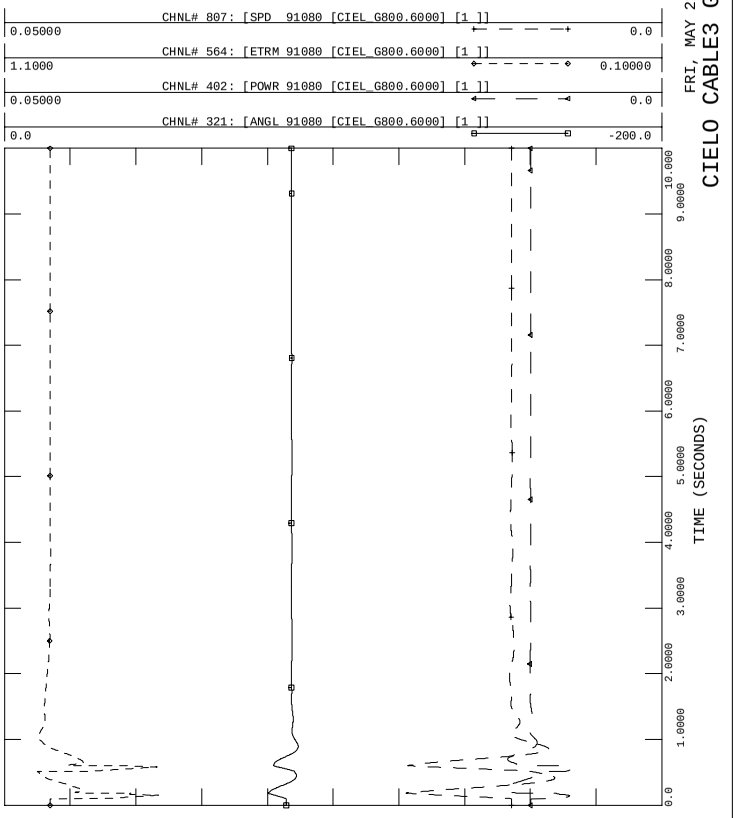
CIELO CABLE2 GEN41



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH_LITE.OUT

FRI, MAY 21 2004 10:02 6

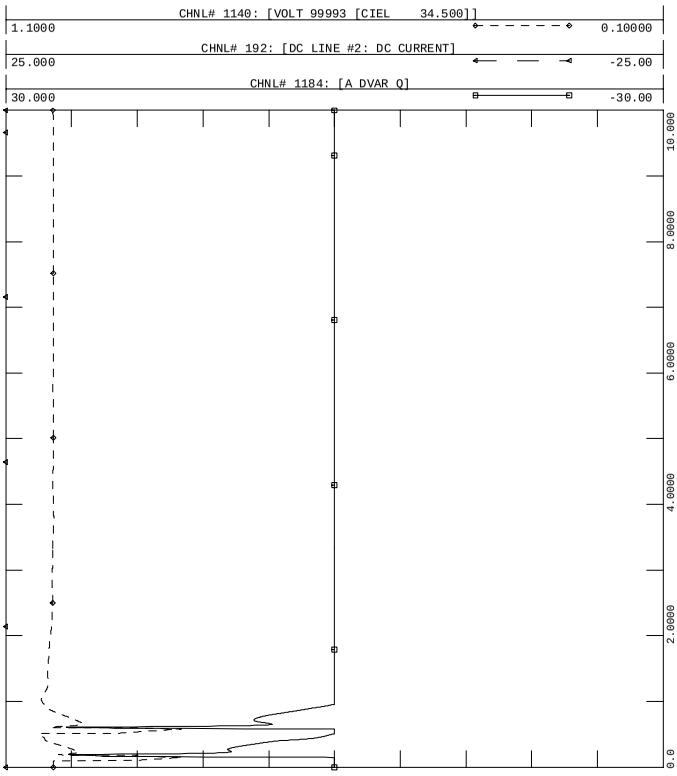
CIELO CABLE3 GEN80



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH_LITE.OUT

FRI, MAY 21 2004 10:02 8

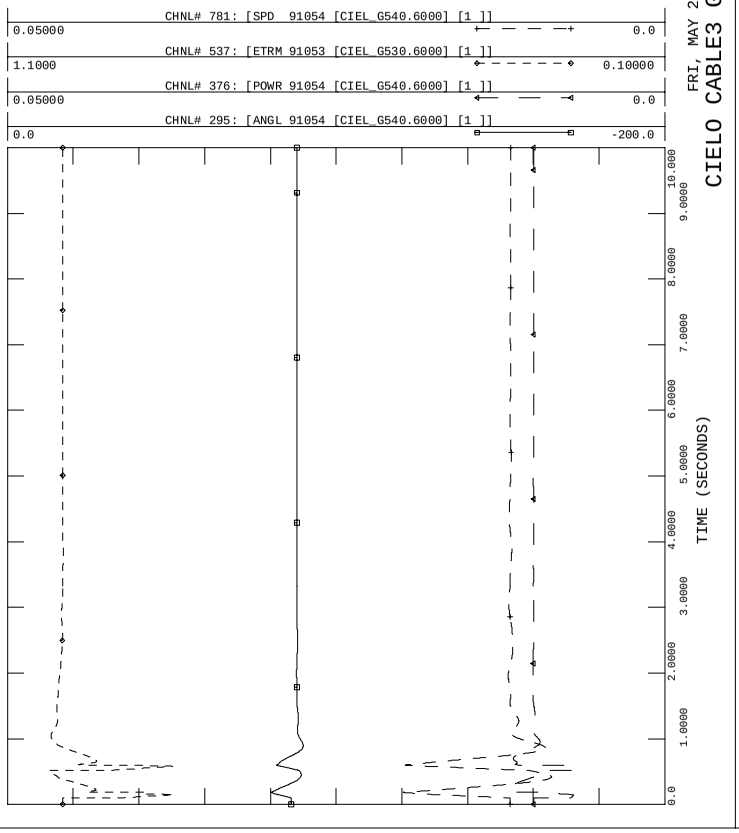
DVAR OUTPUT



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH_LITE.OUT

FRI, MAY 21 2004 10:02 5

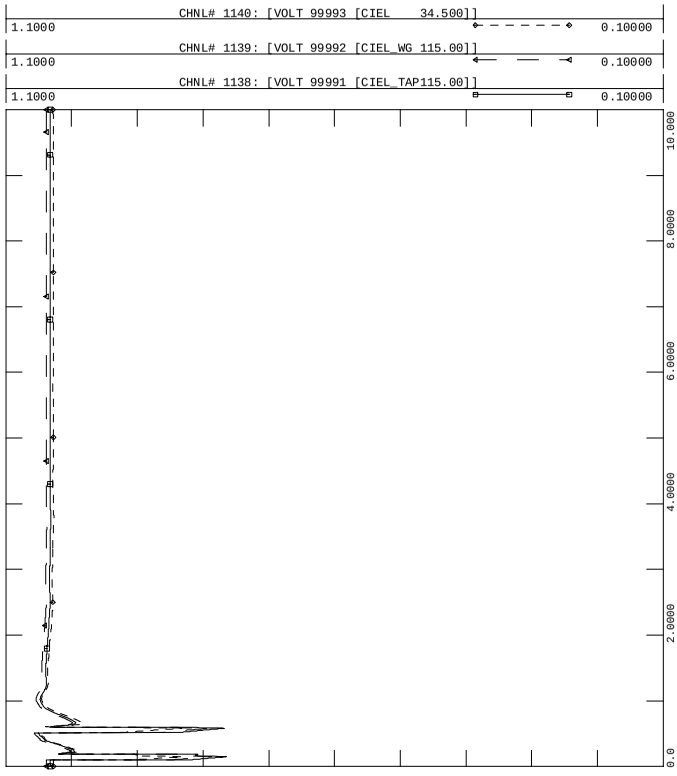
CIELO CABLE3 GEN54



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH_LITE.OUT

FRI, MAY 21 2004 10:02 7

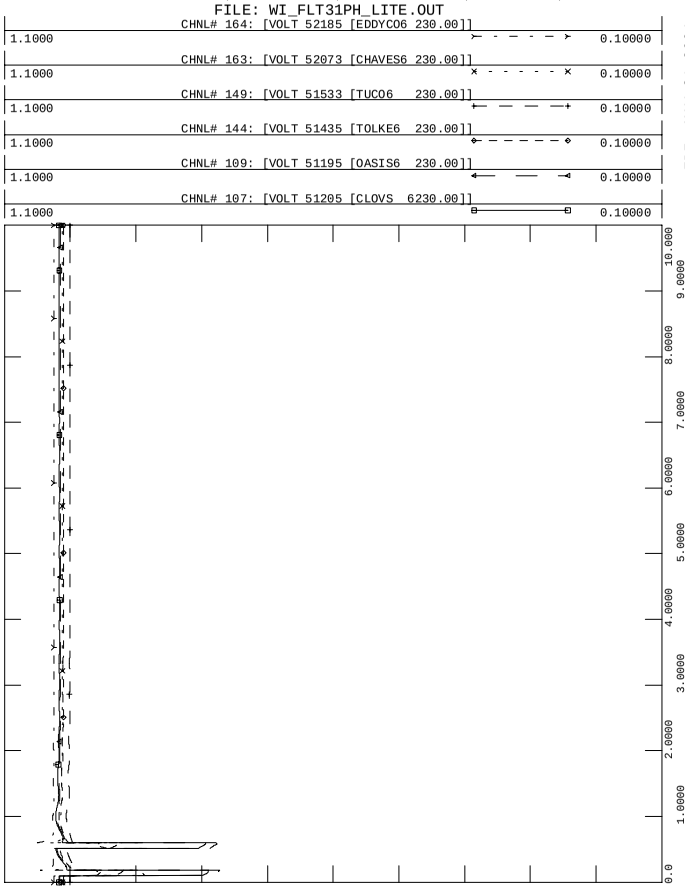
CIELO VOLTAGE



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH_LITE.OUT

FRI, MAY 21 2004 10:02

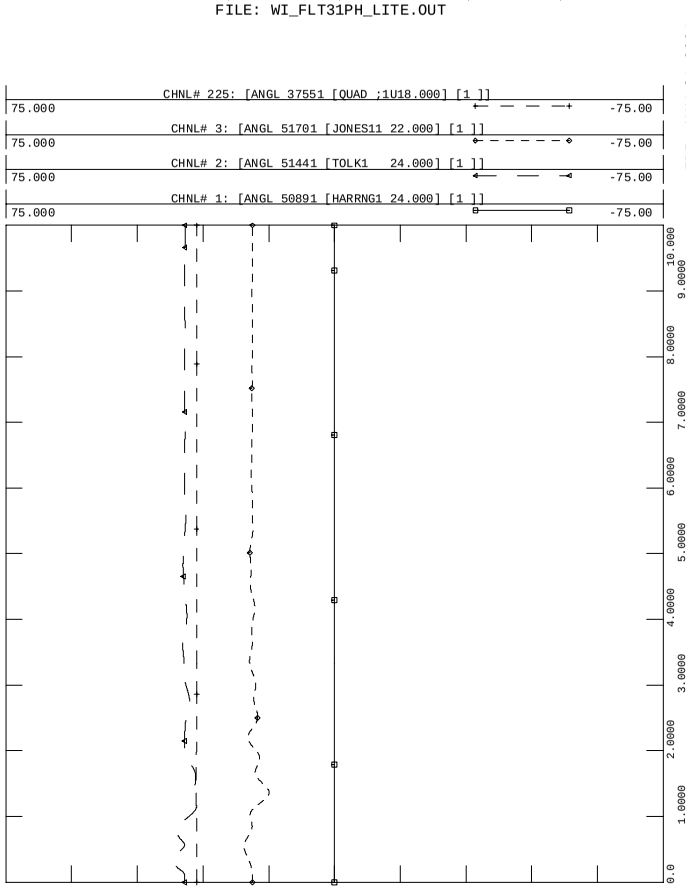
SPP:230 KV BUS VOLTAGE 10



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH_LITE.OUT

FRI, MAY 21 2004 10:02

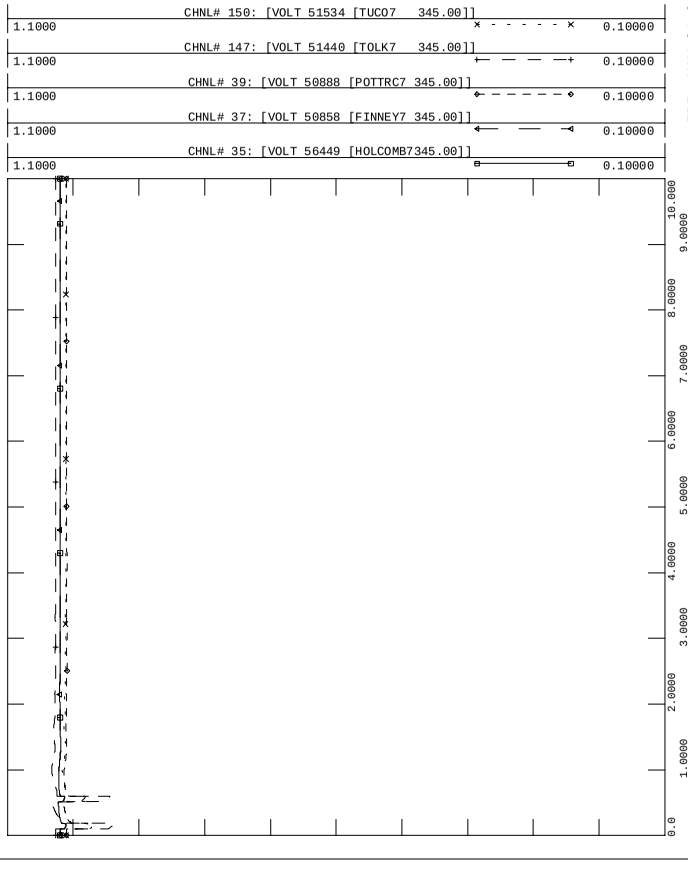
SPP: ROTOR ANGLE 12



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH_LITE.OUT

FRI, MAY 21 2004 10:02

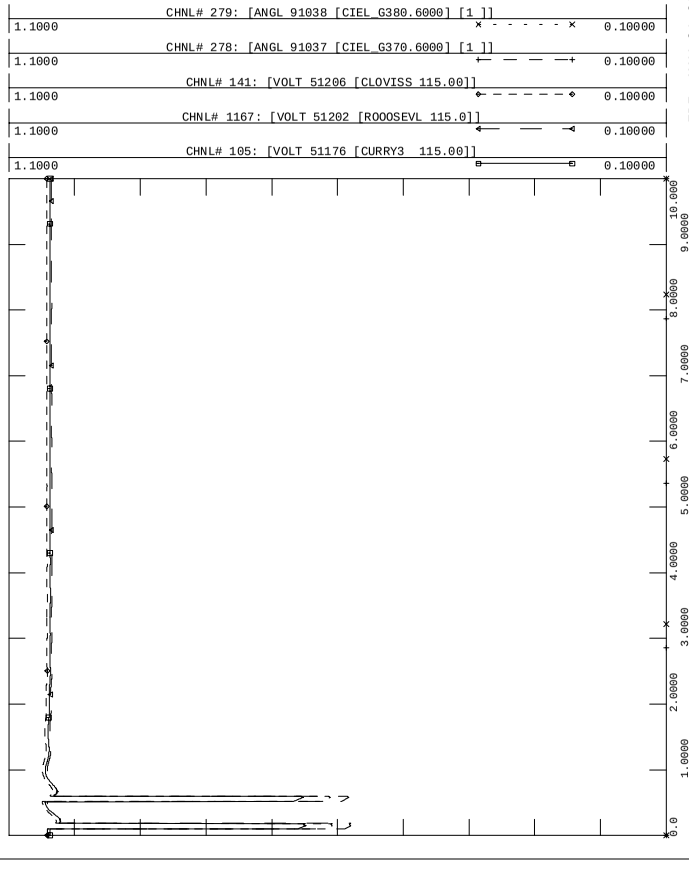
SPP:345 KV BUS VOLTAGE 9



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH_LITE.OUT

FRI, MAY 21 2004 10:02

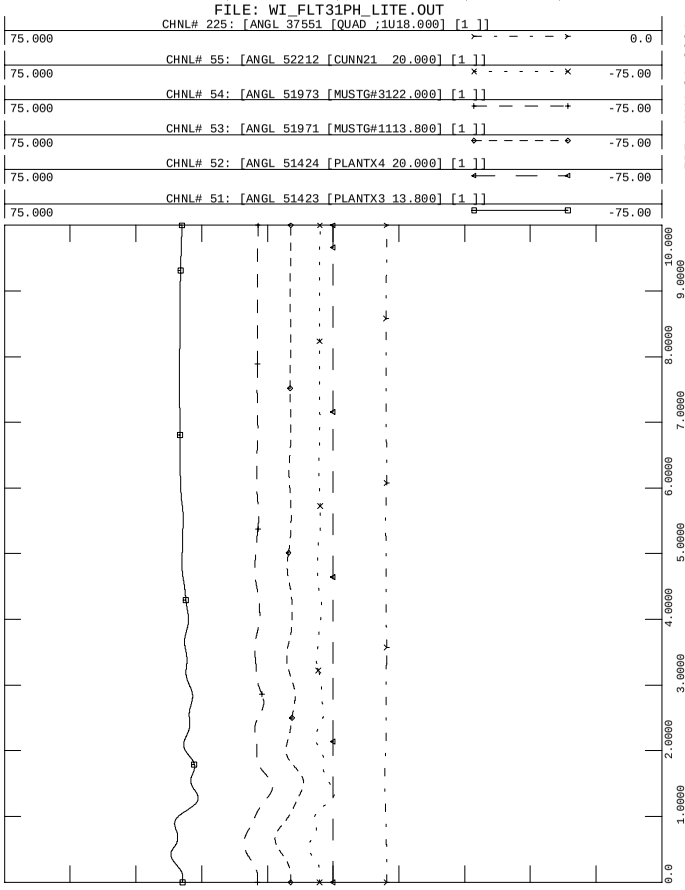
SPP:115 KV BUS VOLTAGE 11



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH_LITE.OUT

FRI, MAY 21 2004 10:02 14

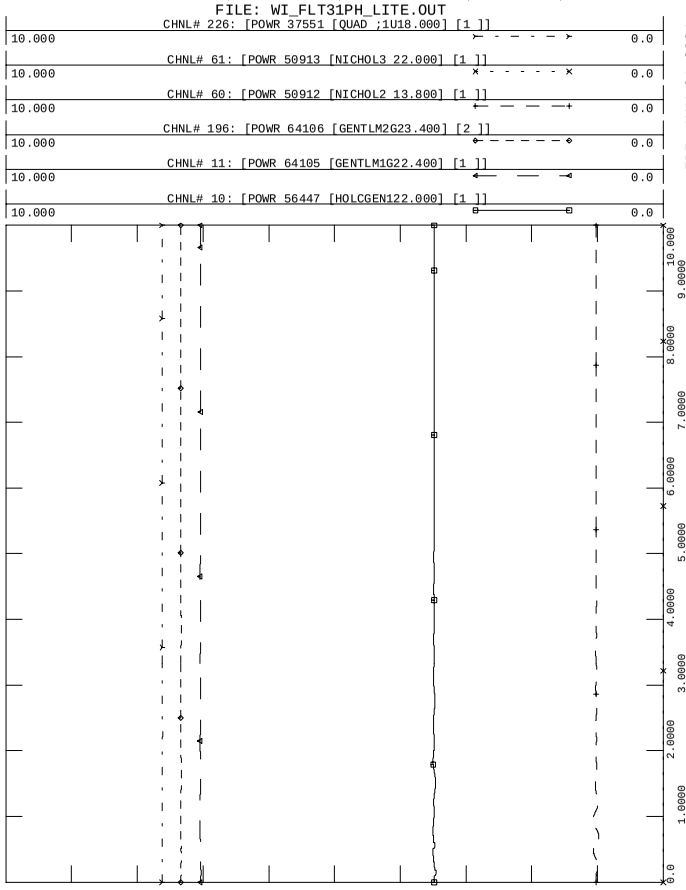
SPP: ROTOR ANGLE



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH_LITE.OUT

FRI, MAY 21 2004 10:02 16

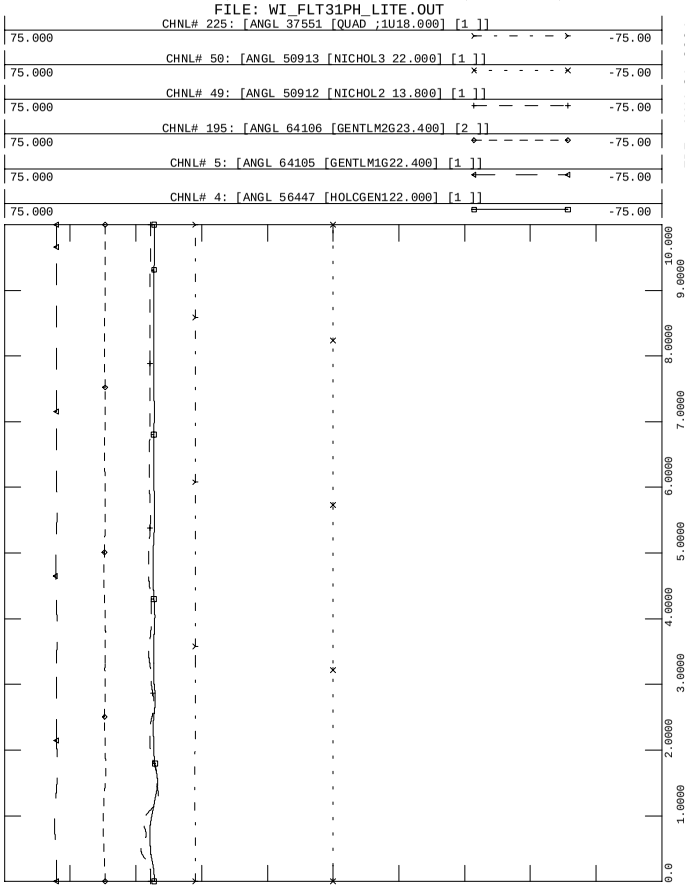
SPP: PELEC



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH_LITE.OUT

FRI, MAY 21 2004 10:02 13

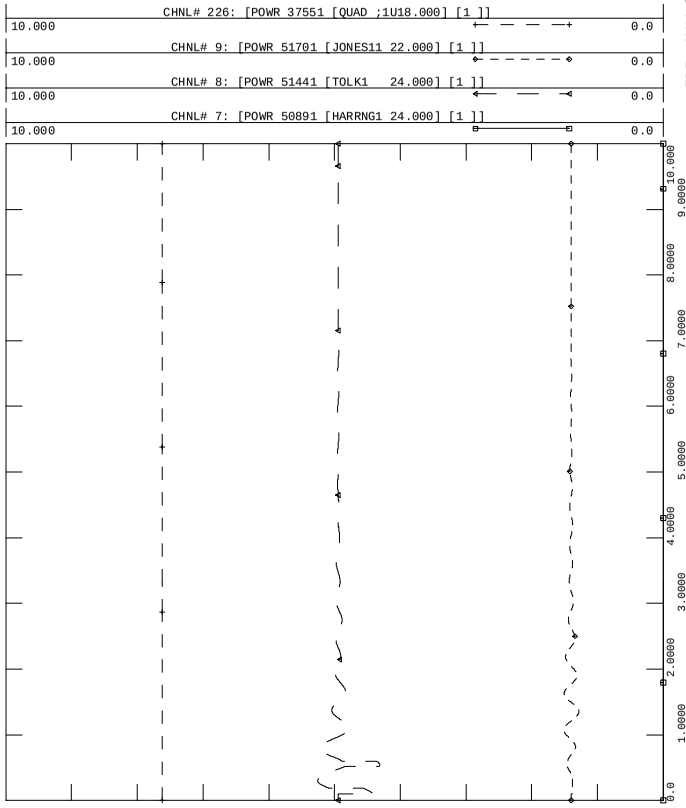
SPP: ROTOR ANGLE



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH_LITE.OUT

FRI, MAY 21 2004 10:02 15

SPP: PELEC

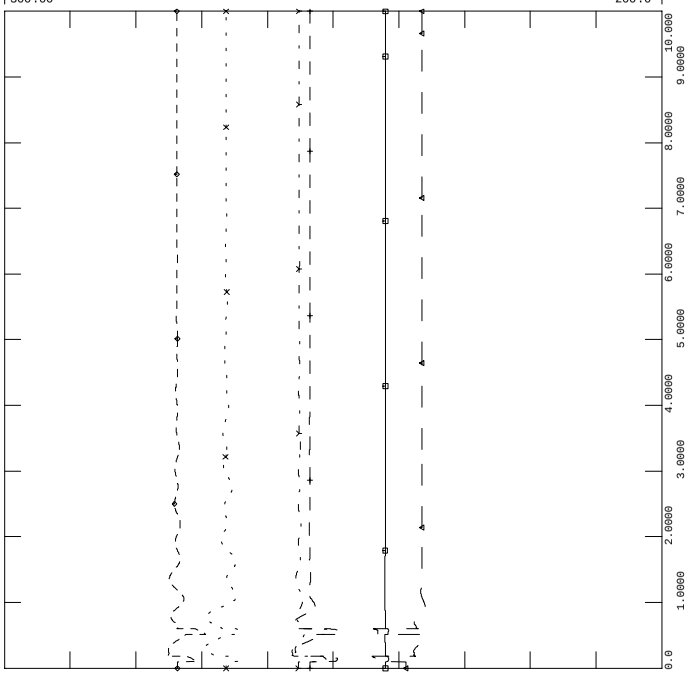


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH_LITE.OUT

FRI, MAY 21 2004 10:02 18

BRANCH FLOW

CHNL# 97: [POWR 51195 TO 52073 CKT 1] 300.00 -200.0
CHNL# 1179: [POWR 51435 TO 51533 CKT 1] 300.00 -200.0
CHNL# 1177: [POWR 99991 TO 51176 CKT 1] 300.00 -200.0
CHNL# 1175: [POWR 51440 TO 52186 CKT 1] 300.00 -200.0
CHNL# 1173: [POWR 51176 TO 51206 CKT 2] 300.00 -200.0
CHNL# 1169: [POWR 99991 TO 51076 CKT 1] 300.00 -200.0

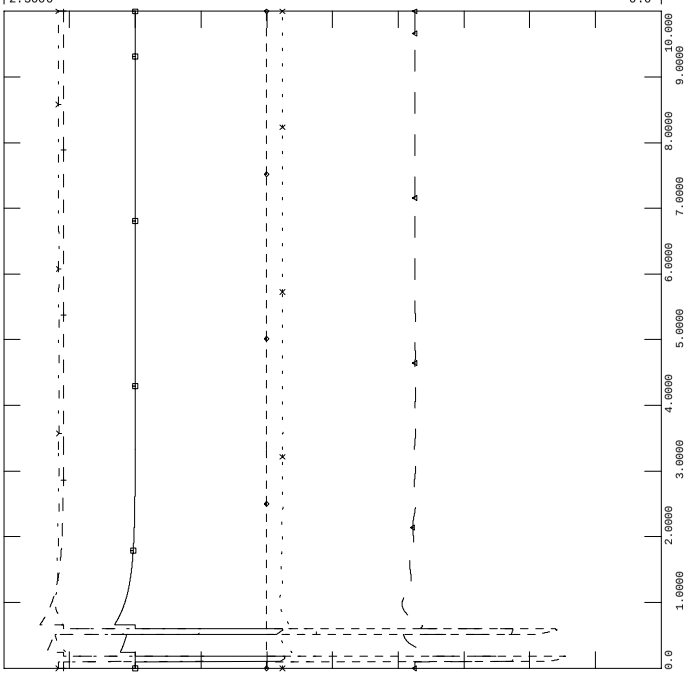


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH_LITE.OUT

FRI, MAY 21 2004 10:02 20

DC LINE PNM

CHNL# 207: [VOLT 59995 [BLKWDC 230.00]] 1.1000 0.10000
CHNL# 193: [DC LINE #2: ALPHA] 100.00 -100.0
CHNL# 192: [DC LINE #2: DC CURRENT] 4000.0 0.0
CHNL# 191: [DC LINE #2: VDCR] 65000. 40000.
CHNL# 187: [DC LINE #2: QACR] 2.5000 0.0
CHNL# 186: [DC LINE #2: PACR] 2.5000 0.0

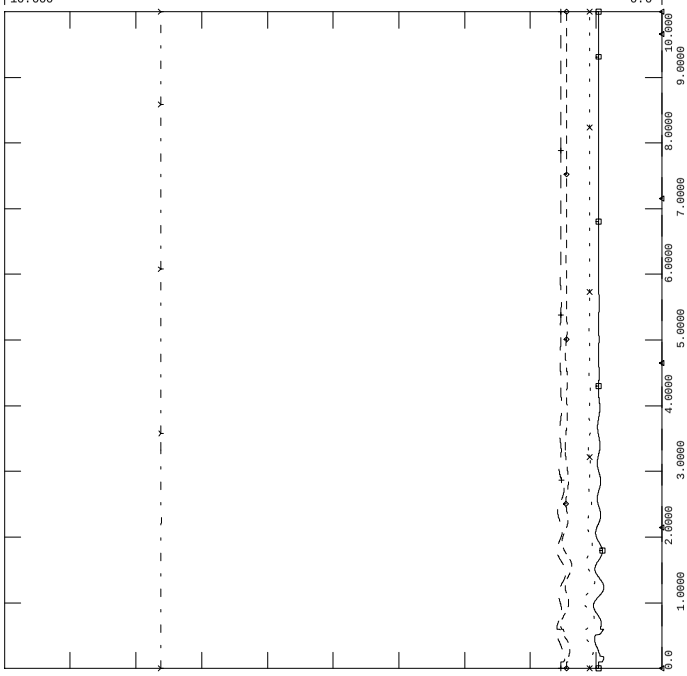


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH_LITE.OUT

FRI, MAY 21 2004 10:02 17

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]] 10.000 0.0
CHNL# 66: [POWR 52212 [CUNN21 20.000] [1]] 10.000 0.0
CHNL# 65: [POWR 51973 [MUSTG#3122.000] [1]] 10.000 0.0
CHNL# 64: [POWR 51971 [MUSTG#1113.800] [1]] 10.000 0.0
CHNL# 63: [POWR 51424 [PLANTX4 20.000] [1]] 10.000 0.0
CHNL# 62: [POWR 51423 [PLANTX3 13.800] [1]] 10.000 0.0

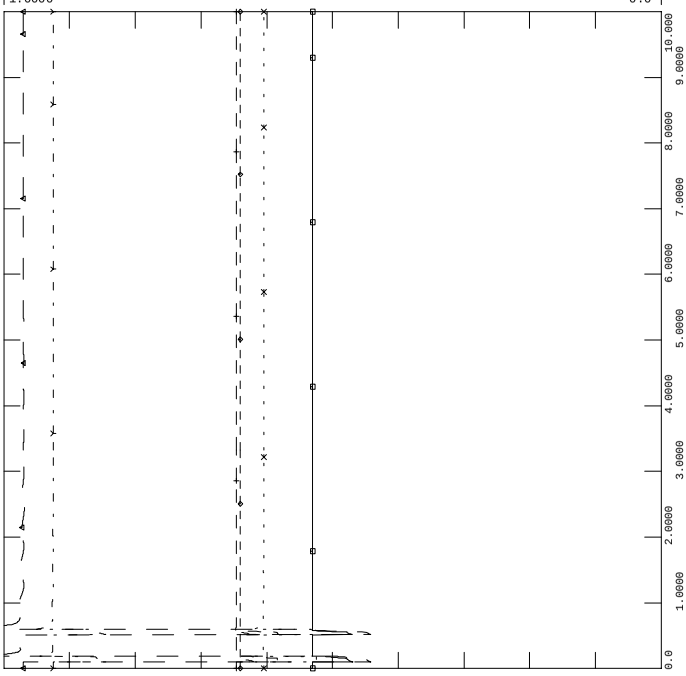


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH_LITE.OUT

FRI, MAY 21 2004 10:02 19

DC LINE EPE

CHNL# 208: [VOLT 59996 [EPEDC 230.00]] 1.1000 0.10000
CHNL# 184: [DC LINE #1: ALFA] 100.00 -100.0
CHNL# 183: [DC LINE #1: DC CURRENT] 1000.0 0.0
CHNL# 182: [DC LINE #1: VDCR] 1.0000E5 50000.
CHNL# 178: [DC LINE #1: QACR] 0.25000 0.0
CHNL# 177: [DC LINE #1: PACR] 1.0000 0.0

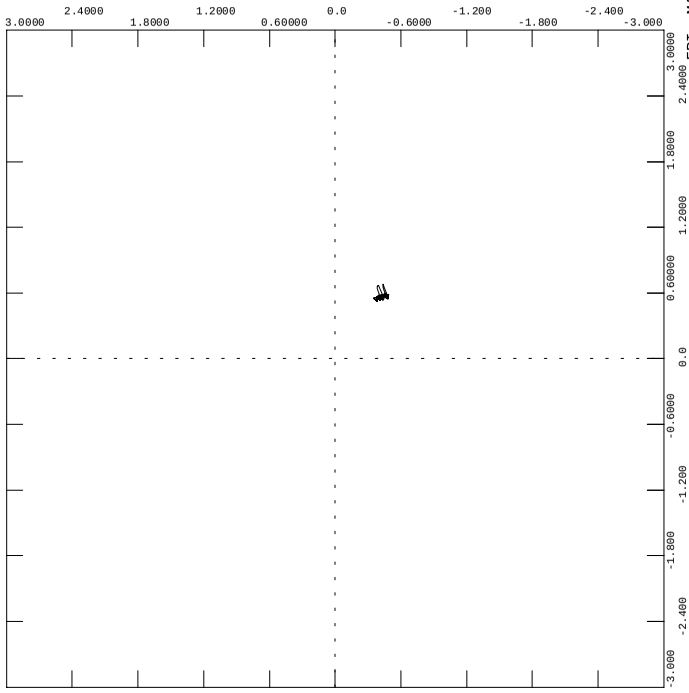


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

22

FILE: WI_FLT31PH_LITE.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 116: [APPX 50858 TO 50888 CKT 1]



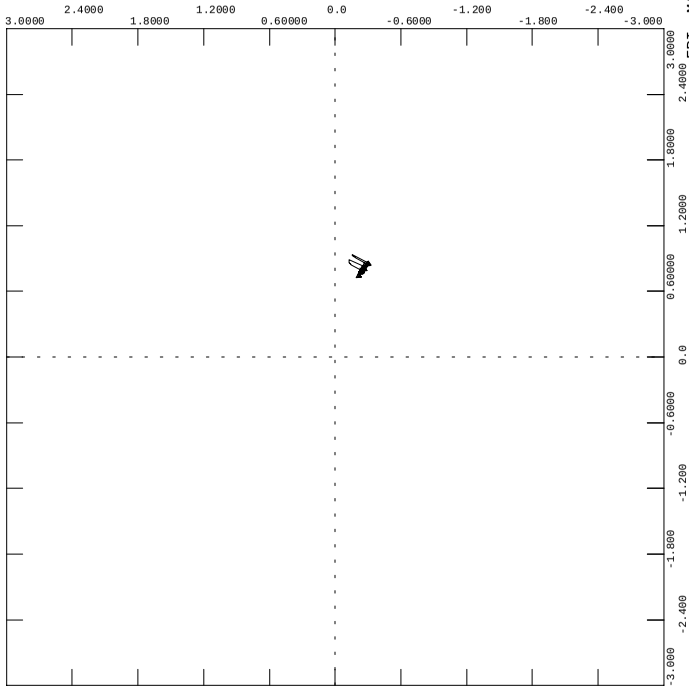
FRI, MAY 21 2004 10:02
POTTER-FINNEY
CHNL# 115: [APPR 50858 TO 50888 CKT 1]

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

21

FILE: WI_FLT31PH_LITE.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 114: [APPX 56449 TO 50858 CKT 1]



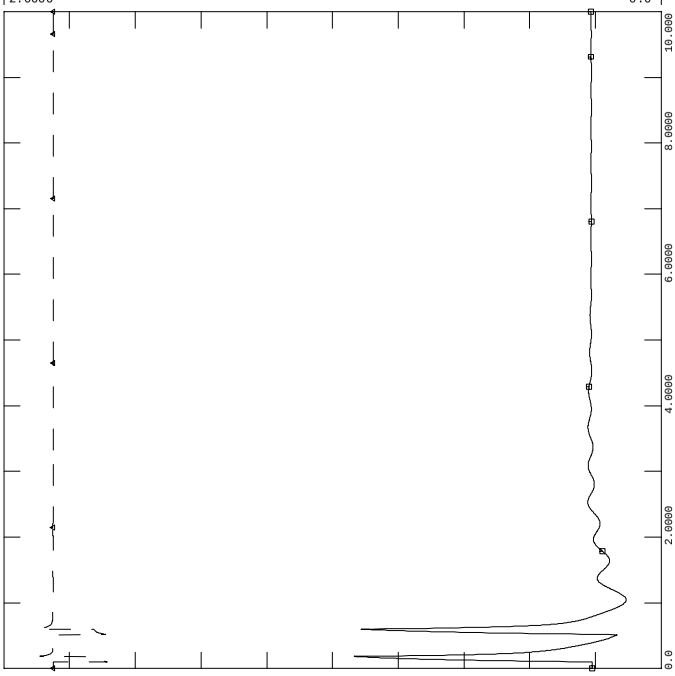
FRI, MAY 21 2004 10:02
FINNEY-HOLCOMB
CHNL# 113: [APPR 56449 TO 50858 CKT 1]

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT31PH_LITE.OUT

23

FRI, MAY 21 2004 10:02
SVC OUTPUT

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]
1.1000 0.10000
CHNL# 117: [BUS 52185 SVC OUTPUT]
2.0000 0.0

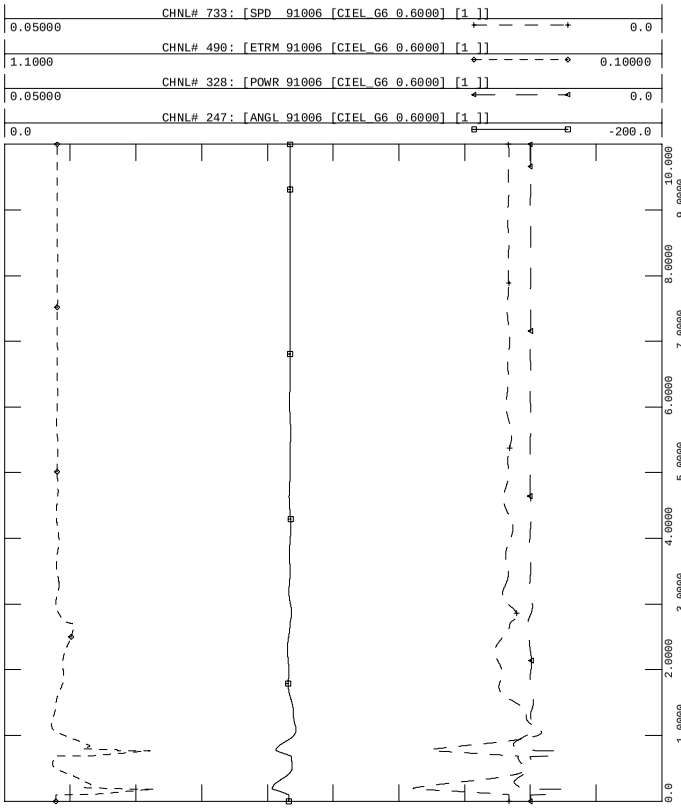


TIME (SECONDS)

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH_LITE.OUT

FRI, MAY 21 2004 10:03 2

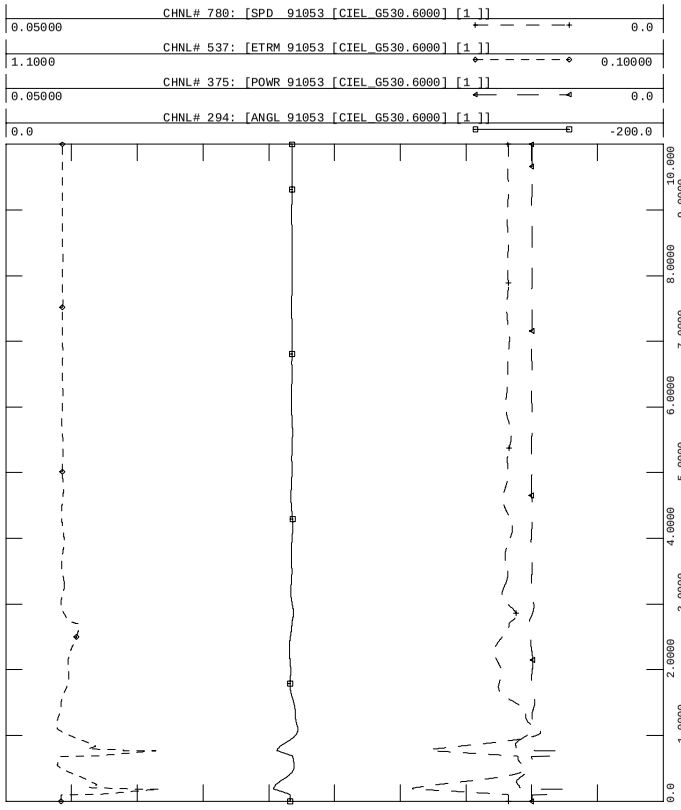
CIELO CABLE1 GEN6



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH_LITE.OUT

FRI, MAY 21 2004 10:03 4

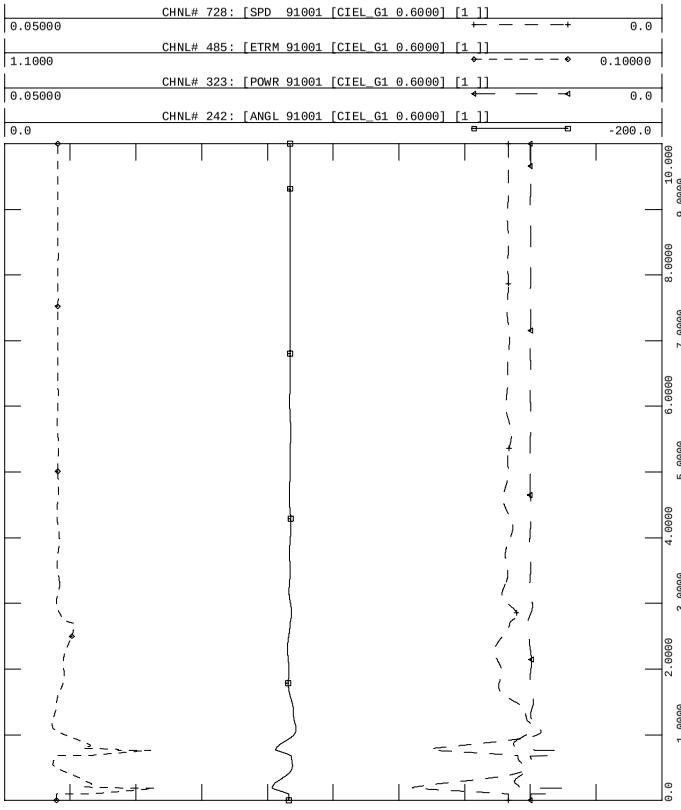
CIELO CABLE2 GEN53



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH_LITE.OUT

FRI, MAY 21 2004 10:03 1

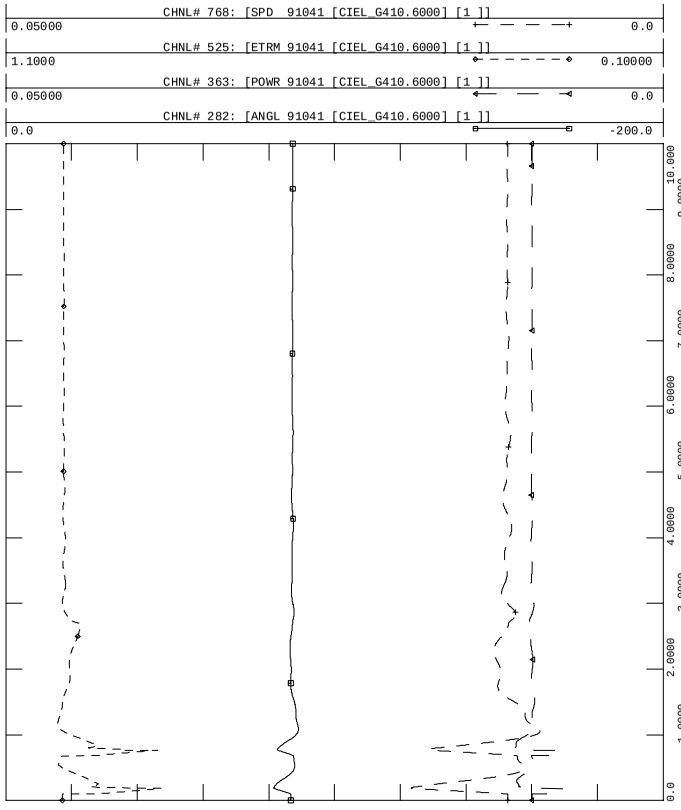
CIELO CABLE1 GEN1



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH_LITE.OUT

FRI, MAY 21 2004 10:03 3

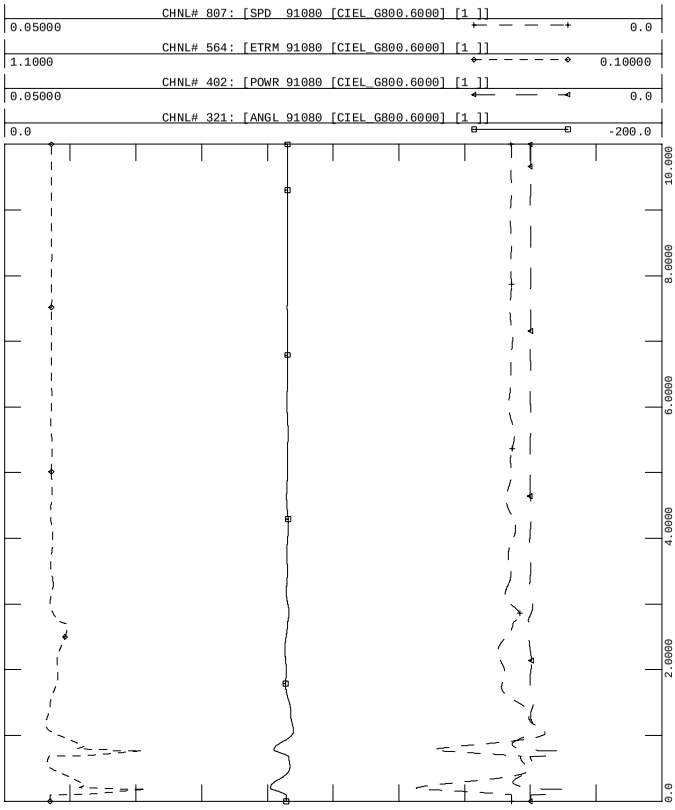
CIELO CABLE2 GEN41



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH_LITE.OUT

FRI, MAY 21 2004 10:03 6

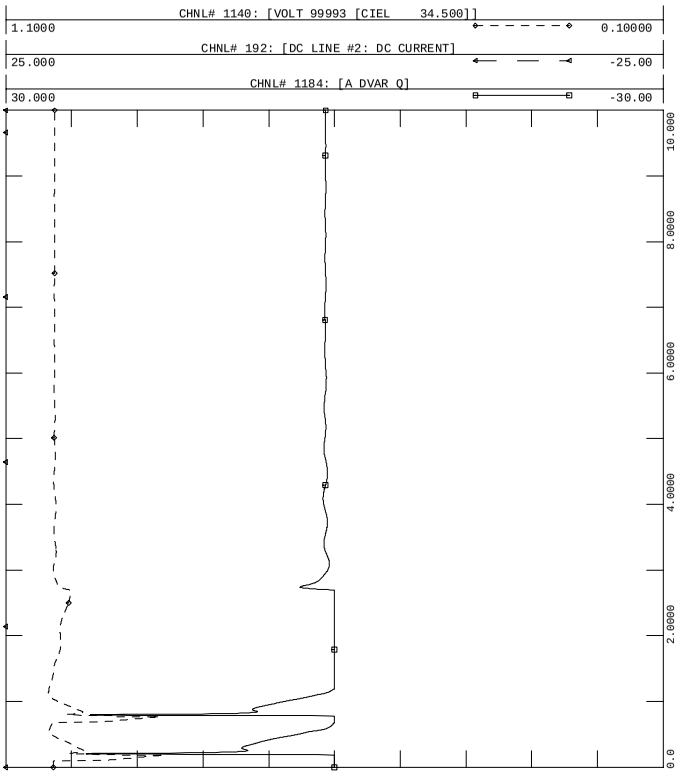
CIELO CABLE3 GEN80



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH_LITE.OUT

FRI, MAY 21 2004 10:03 8

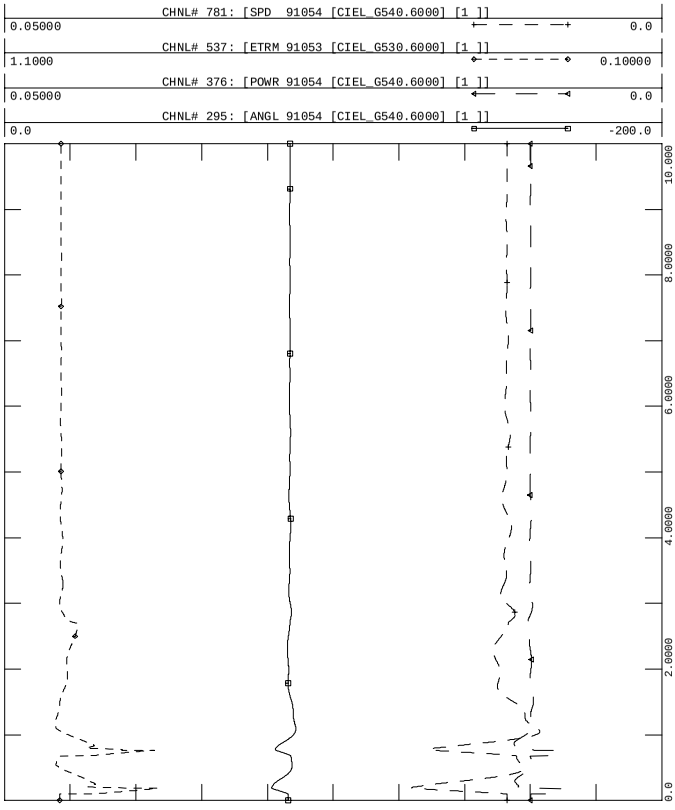
DVAR OUTPUT



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH_LITE.OUT

FRI, MAY 21 2004 10:03 5

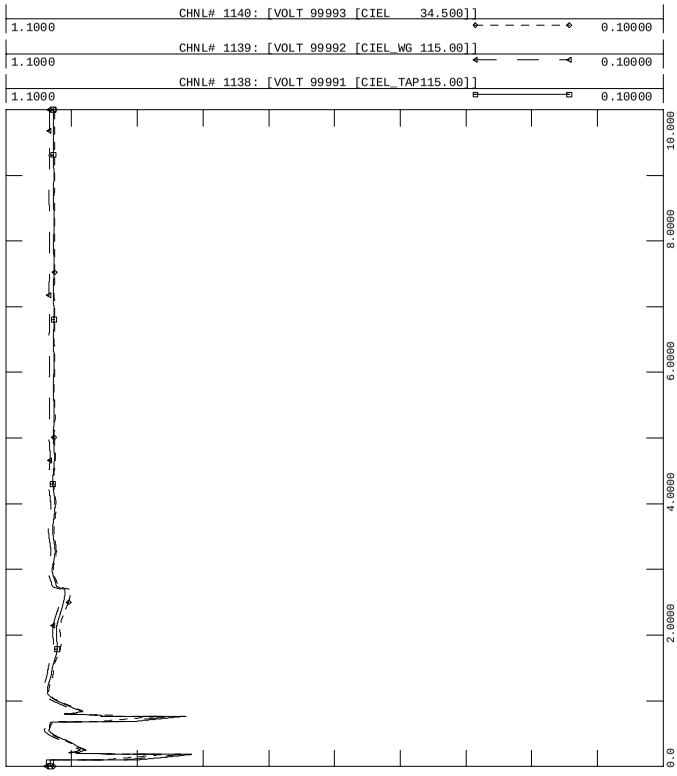
CIELO CABLE3 GEN54



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH_LITE.OUT

FRI, MAY 21 2004 10:03 7

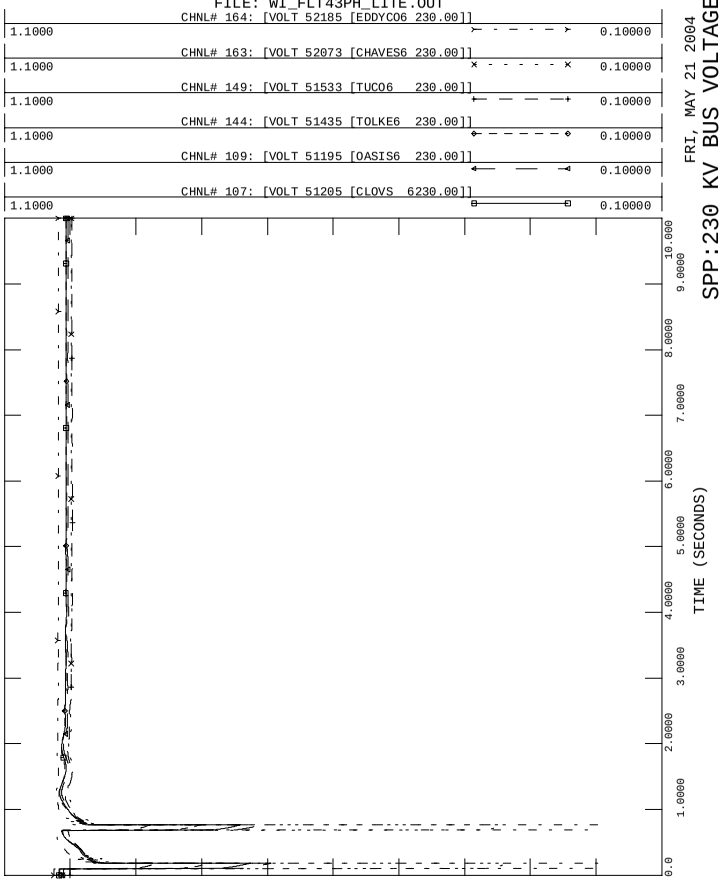
CIELO VOLTAGE



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH_LITE.OUT

FRI, MAY 21 2004 10:03

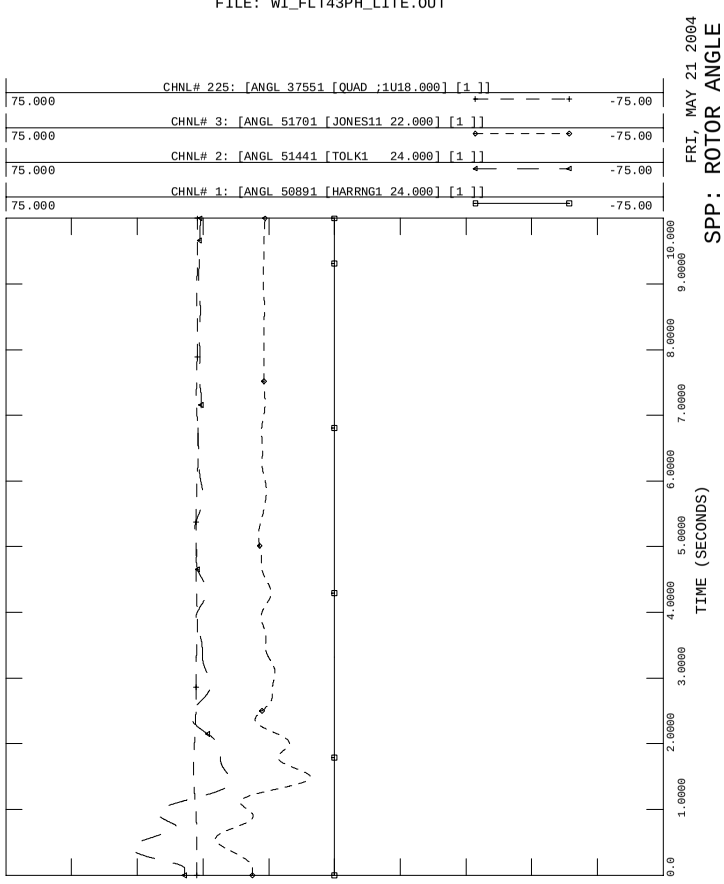
SPP:230 KV BUS VOLTAGE 10



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH_LITE.OUT

FRI, MAY 21 2004 10:03

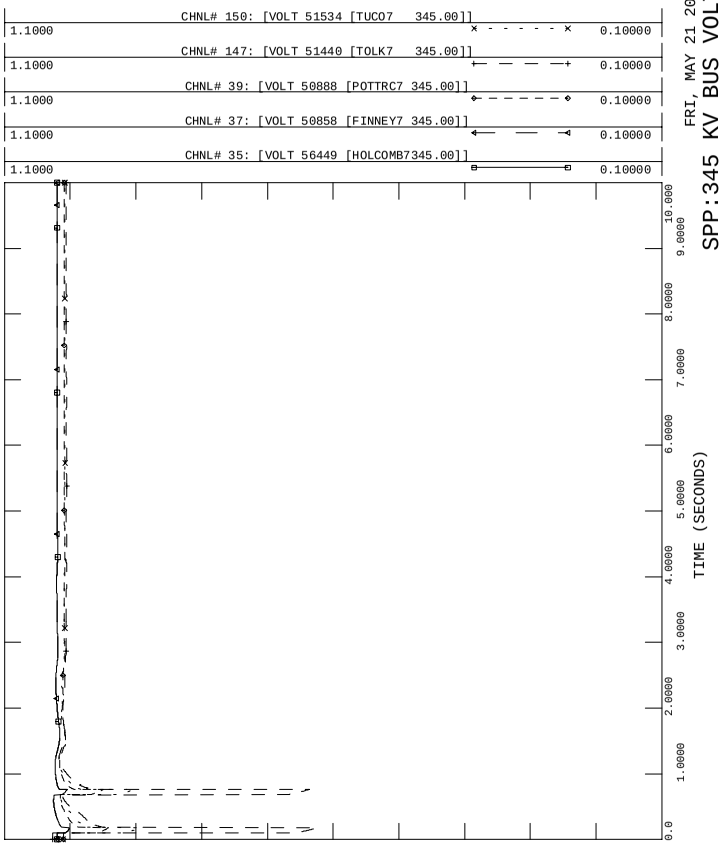
SPP: ROTOR ANGLE 12



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH_LITE.OUT

FRI, MAY 21 2004 10:03

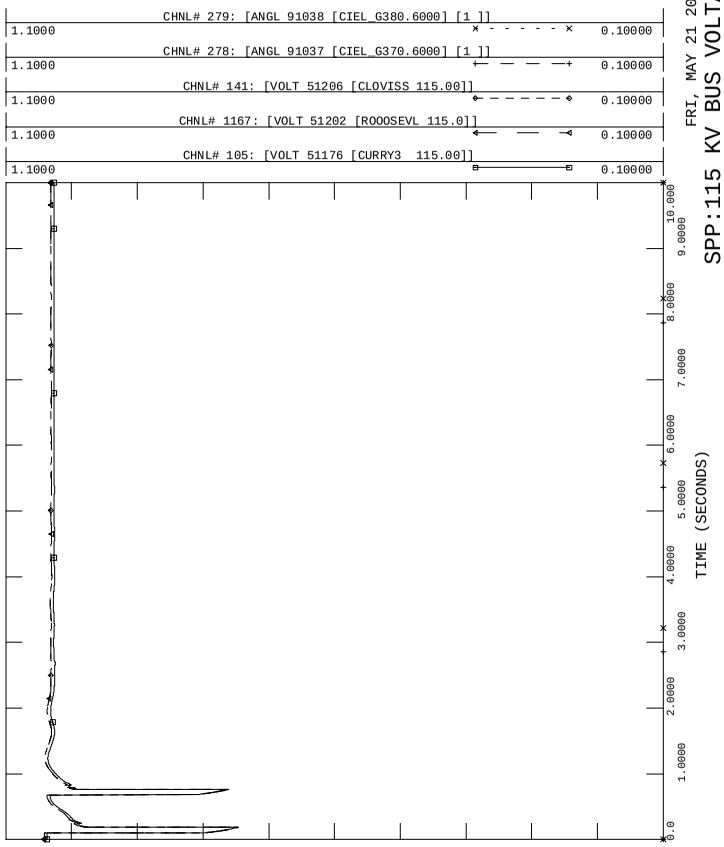
SPP:345 KV BUS VOLTAGE 9



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH_LITE.OUT

FRI, MAY 21 2004 10:03

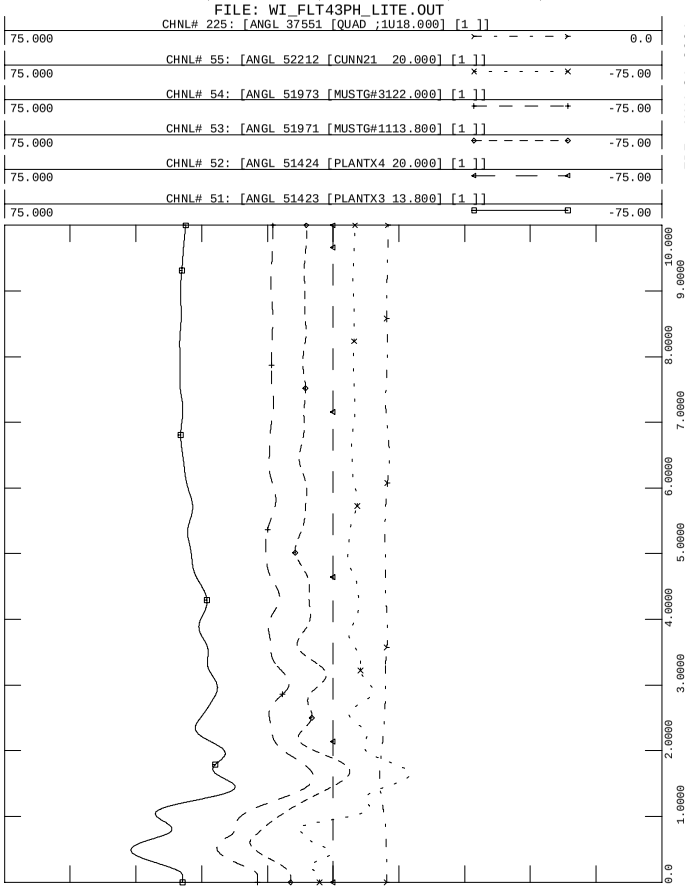
SPP:115 KV BUS VOLTAGE 11



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH_LITE.OUT

FRI, MAY 21 2004 10:03 14

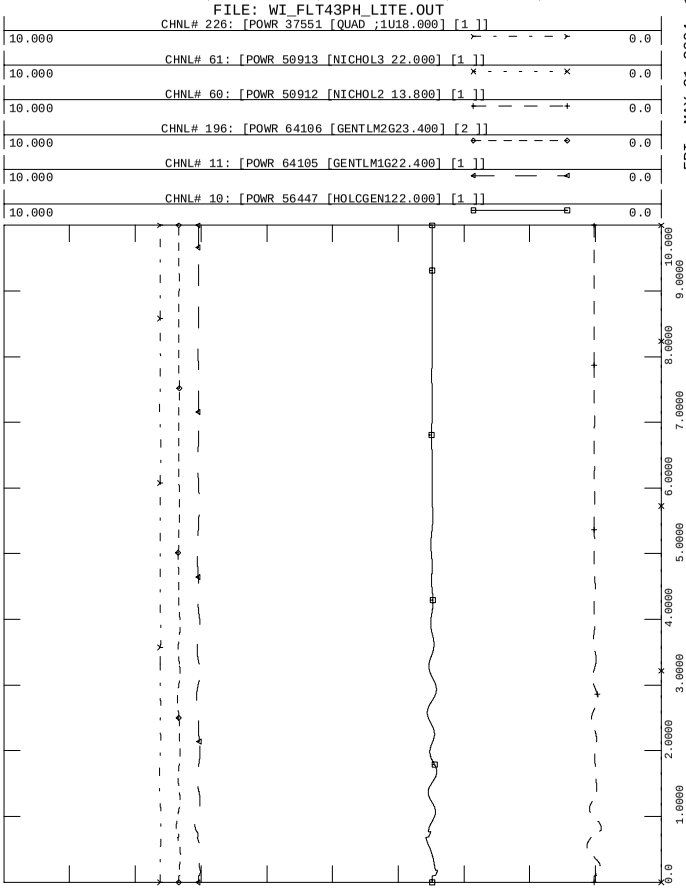
SPP: ROTOR ANGLE



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH_LITE.OUT

FRI, MAY 21 2004 10:03 16

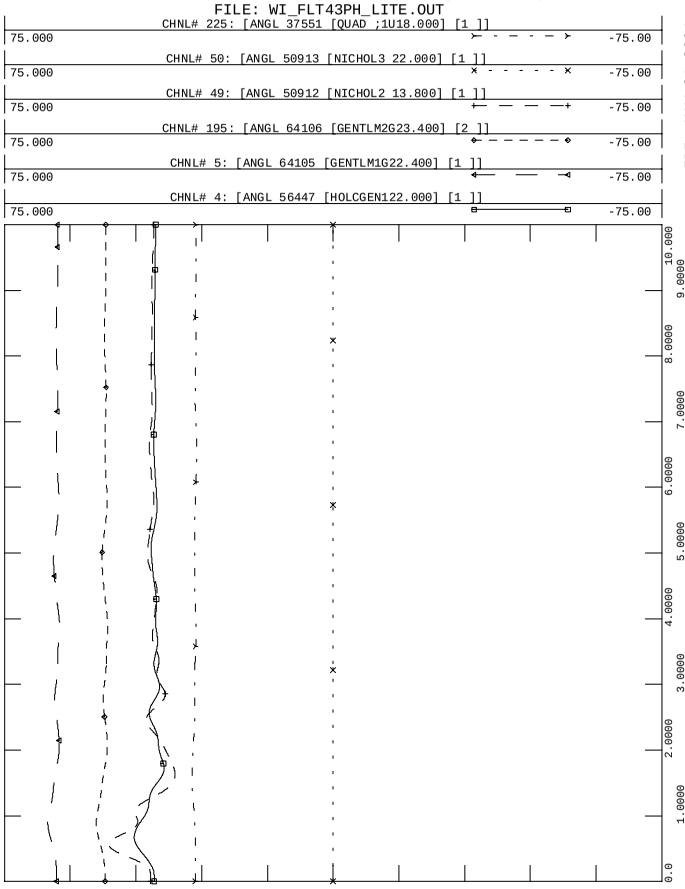
SPP: PELEC



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH_LITE.OUT

FRI, MAY 21 2004 10:03 13

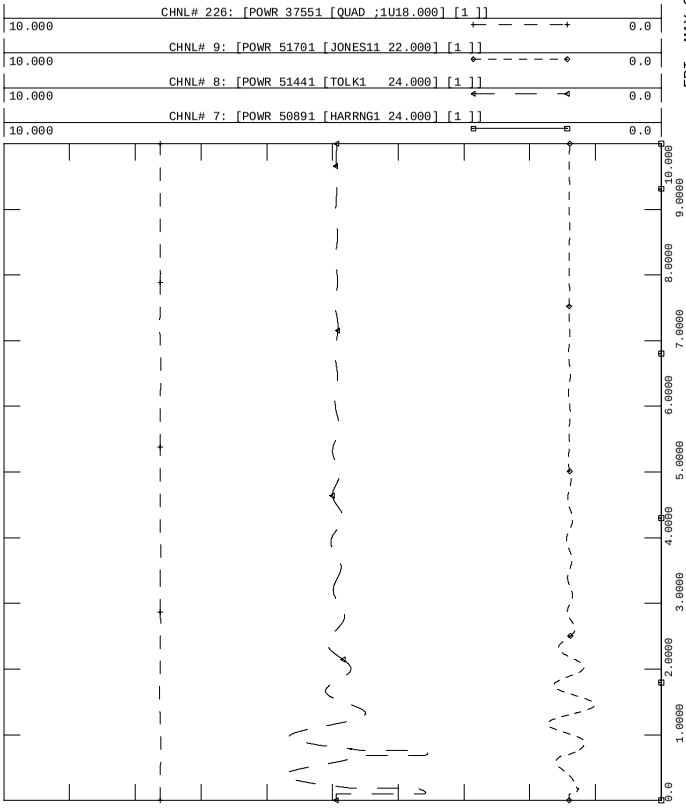
SPP: ROTOR ANGLE



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH_LITE.OUT

FRI, MAY 21 2004 10:03 15

SPP: PELEC

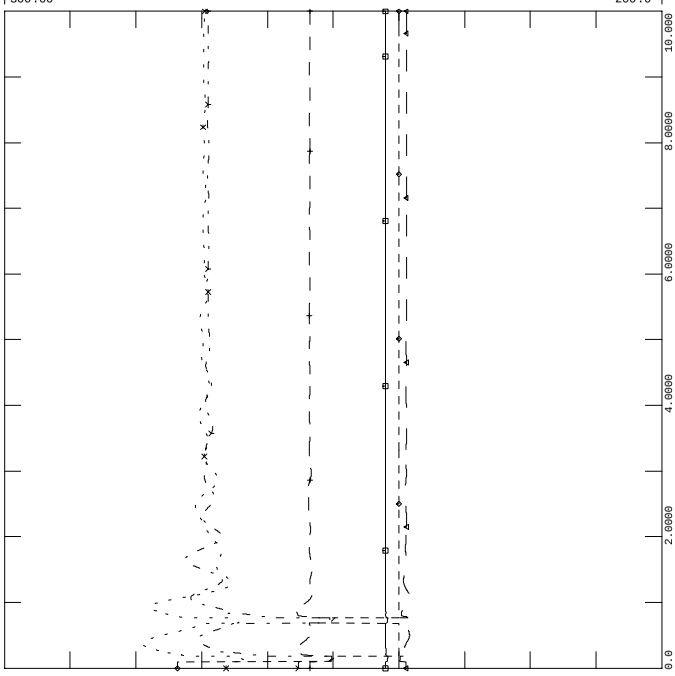


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH_LITE.OUT

FRI, MAY 21 2004 10:03 18

BRANCH FLOW

CHNL# 97: [POWR 51195 TO 52073 CKT 1] 300.00 -200.0
CHNL# 1179: [POWR 51435 TO 51533 CKT 1] 300.00 -200.0
CHNL# 1177: [POWR 99991 TO 51176 CKT 1] 300.00 -200.0
CHNL# 1175: [POWR 51440 TO 52186 CKT 1] 300.00 -200.0
CHNL# 1173: [POWR 51176 TO 51206 CKT 2] 300.00 -200.0
CHNL# 1169: [POWR 99991 TO 51076 CKT 1] 300.00 -200.0

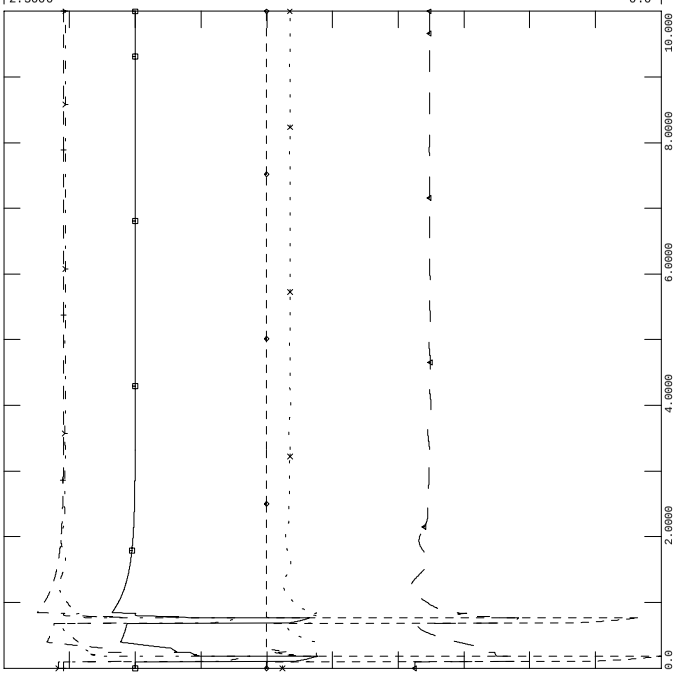


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH_LITE.OUT

FRI, MAY 21 2004 10:03 20

DC LINE PNM

CHNL# 207: [VOLT 59995 [BLKWDC 230.00]] 1.1000 0.10000
CHNL# 193: [DC LINE #2: ALPHA] 100.00 -100.0
CHNL# 192: [DC LINE #2: DC CURRENT] 4000.0 0.0
CHNL# 191: [DC LINE #2: VDCR] 65000. 40000.
CHNL# 187: [DC LINE #2: QACR] 2.5000 0.0
CHNL# 186: [DC LINE #2: PACR] 2.5000 0.0

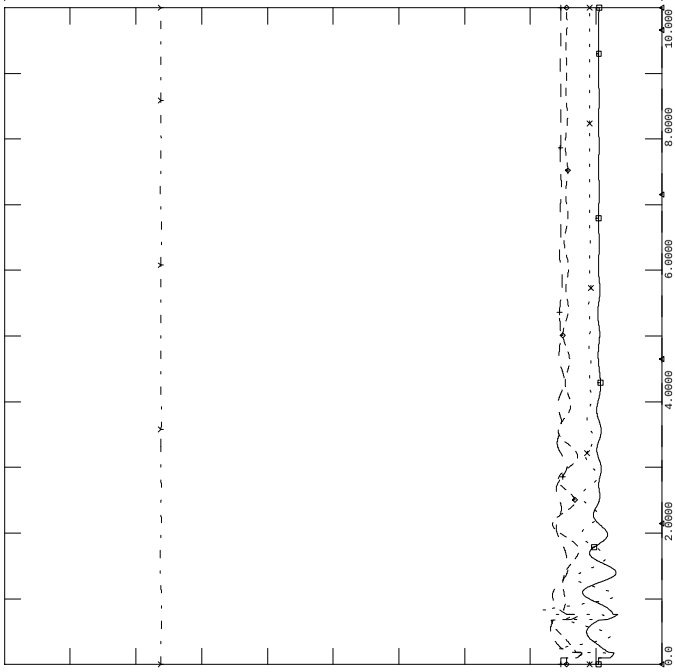


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH_LITE.OUT

FRI, MAY 21 2004 10:03 17

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]] 10.000 0.0
CHNL# 66: [POWR 52212 [CUNN21 20.000] [1]] 10.000 0.0
CHNL# 65: [POWR 51973 [MUSTG#3122.000] [1]] 10.000 0.0
CHNL# 64: [POWR 51971 [MUSTG#1113.800] [1]] 10.000 0.0
CHNL# 63: [POWR 51424 [PLANTX4 20.000] [1]] 10.000 0.0
CHNL# 62: [POWR 51423 [PLANTX3 13.800] [1]] 10.000 0.0

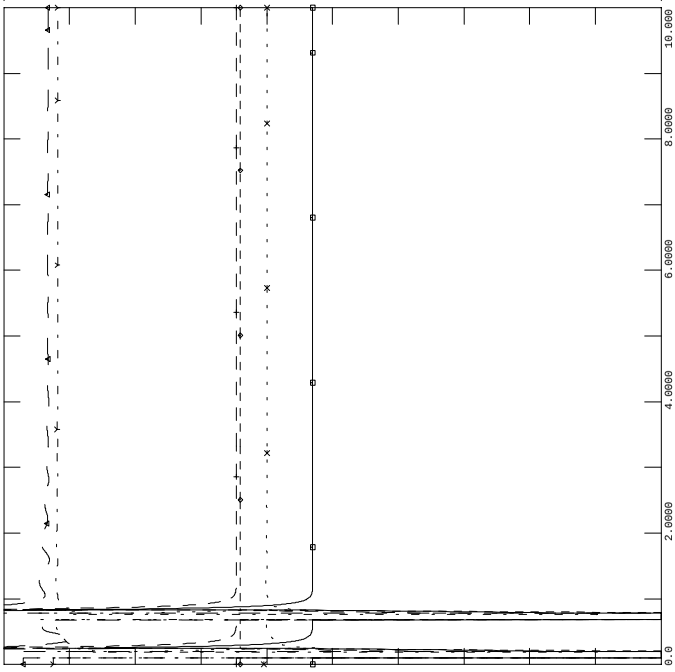


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH_LITE.OUT

FRI, MAY 21 2004 10:03 19

DC LINE EPE

CHNL# 208: [VOLT 59996 [EPEDC 230.00]] 1.1000 0.10000
CHNL# 184: [DC LINE #1: ALFA] 100.00 -100.0
CHNL# 183: [DC LINE #1: DC CURRENT] 1000.0 0.0
CHNL# 182: [DC LINE #1: VDCR] 1.0000E5 50000.
CHNL# 178: [DC LINE #1: QACR] 0.25000 0.0
CHNL# 177: [DC LINE #1: PACR] 1.0000 0.0

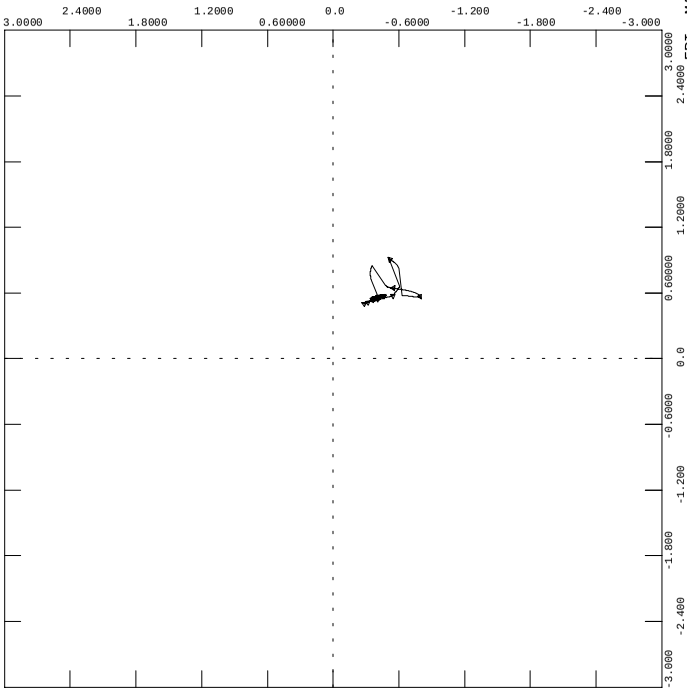


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR

22

FILE: WI_FLT43PH_LITE.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 116: [APPX 50858 TO 50888 CKT 1]



CHNL# 115: [APPR 50858 TO 50888 CKT 1]

FRI, MAY 21 2004 10:03

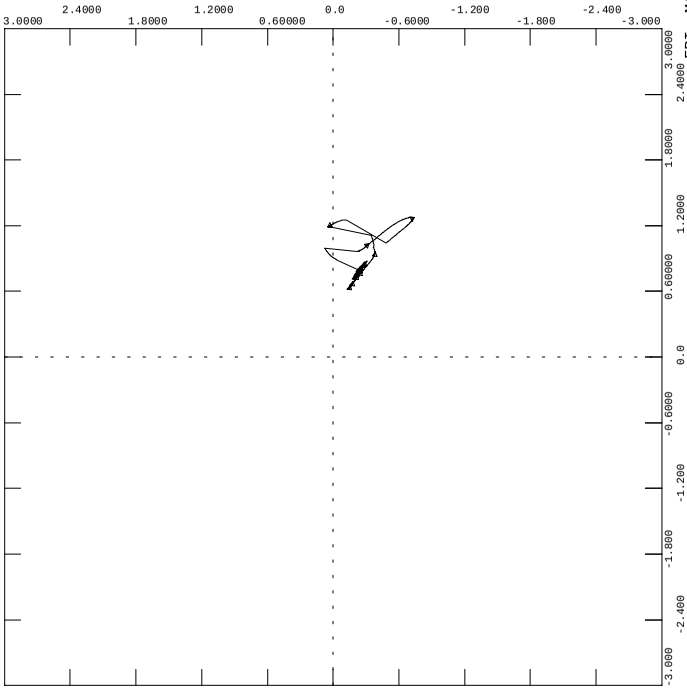
POTTER-FINNEY

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR

21

FILE: WI_FLT43PH_LITE.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 114: [APPX 56449 TO 50858 CKT 1]



CHNL# 113: [APPR 56449 TO 50858 CKT 1]

FRI, MAY 21 2004 10:03

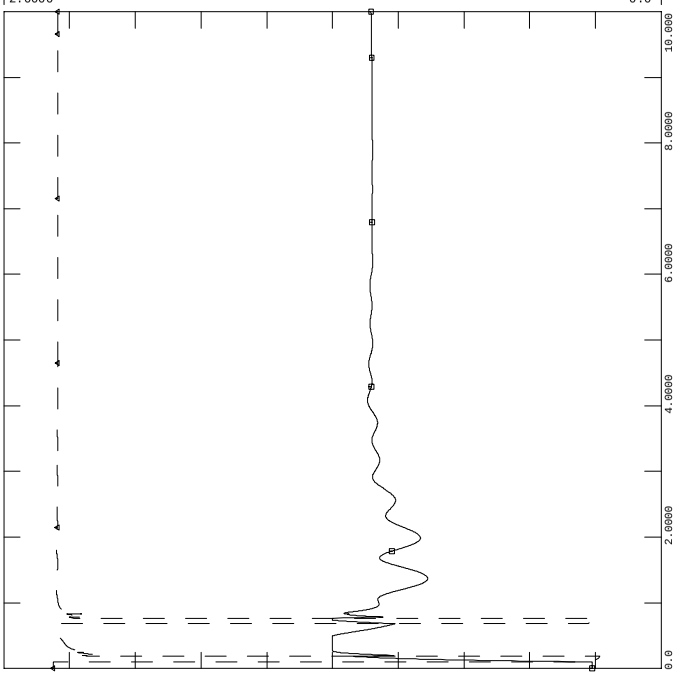
FINNEY-HOLCOMB

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT43PH_LITE.OUT

23

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]
1.1000 0.10000

CHNL# 117: [BUS 52185 SVC OUTPUT]
2.0000 0.0



TIME (SECONDS)

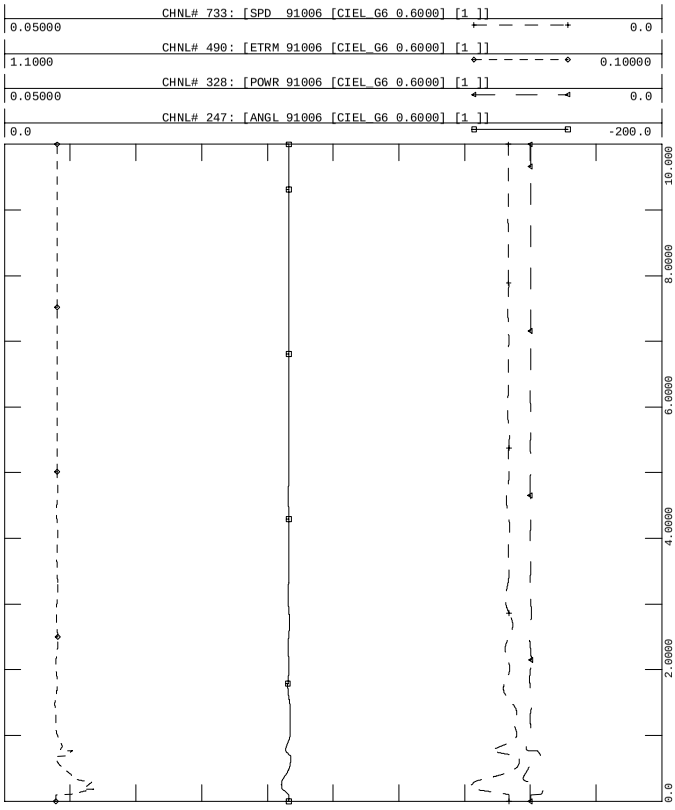
FRI, MAY 21 2004 10:03

SVC OUTPUT

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH_LITE.OUT

FRI, MAY 21 2004 10:02 2

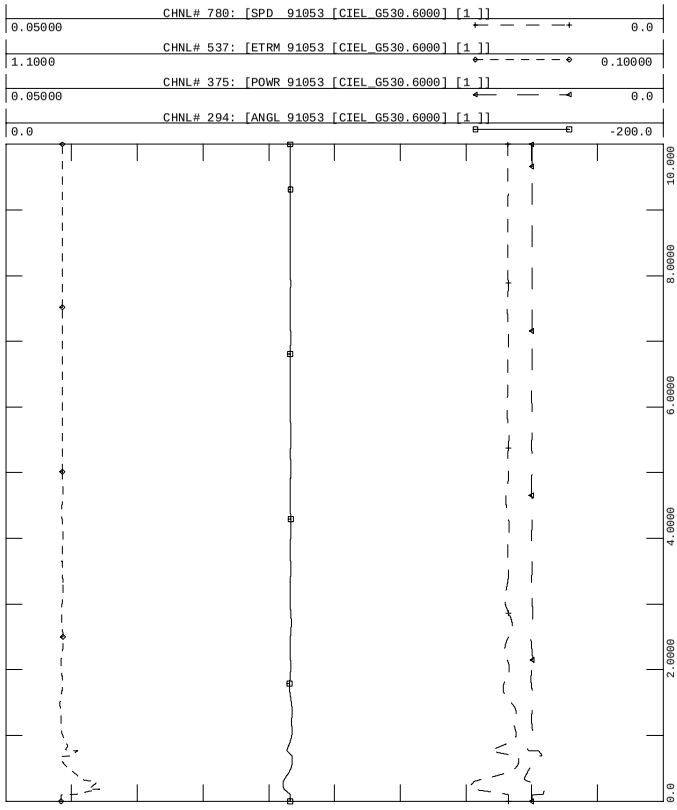
CIELO CABLE1 GEN6



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH_LITE.OUT

FRI, MAY 21 2004 10:03 4

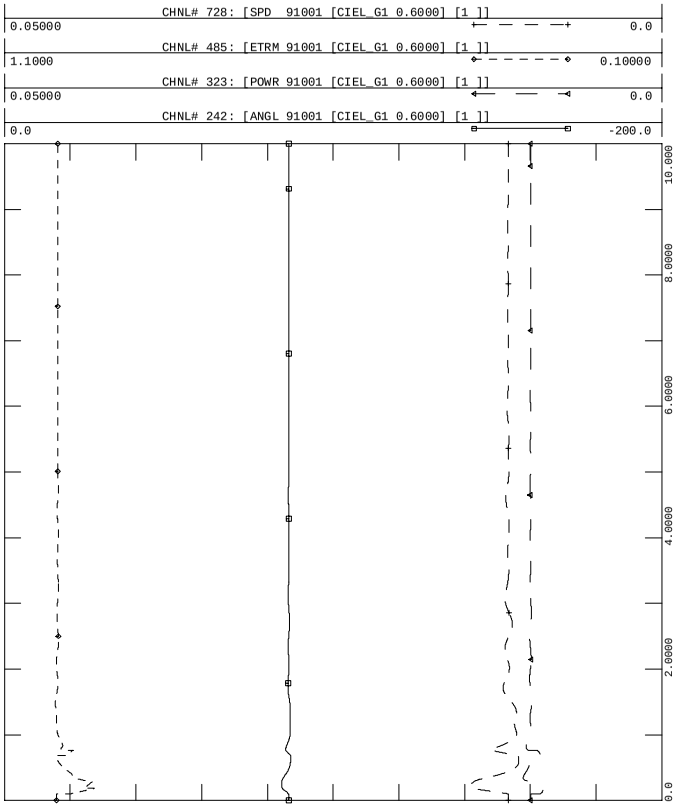
CIELO CABLE2 GEN53



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH_LITE.OUT

FRI, MAY 21 2004 10:02 1

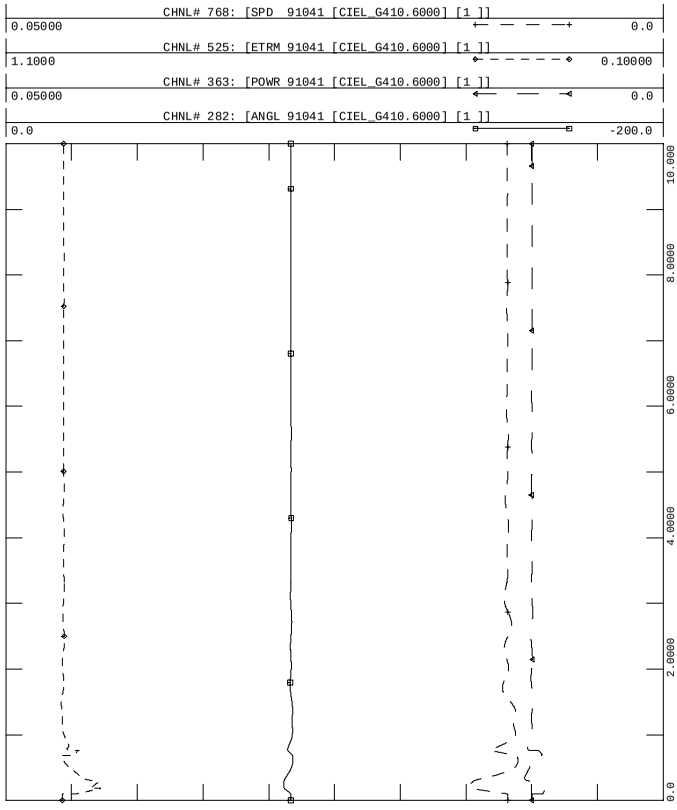
CIELO CABLE1 GEN1



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH_LITE.OUT

FRI, MAY 21 2004 10:03 3

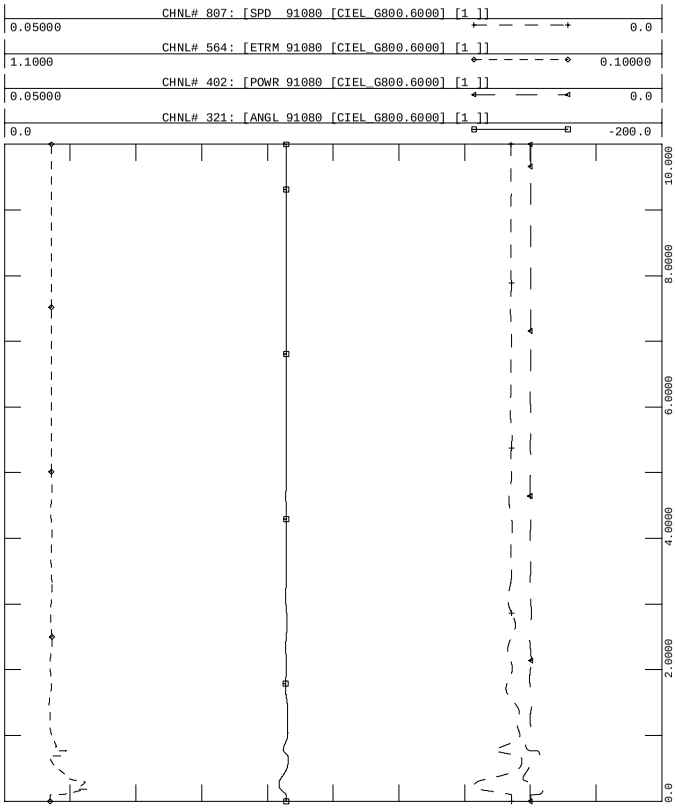
CIELO CABLE2 GEN41



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH_LITE.OUT

FRI, MAY 21 2004 10:03 6

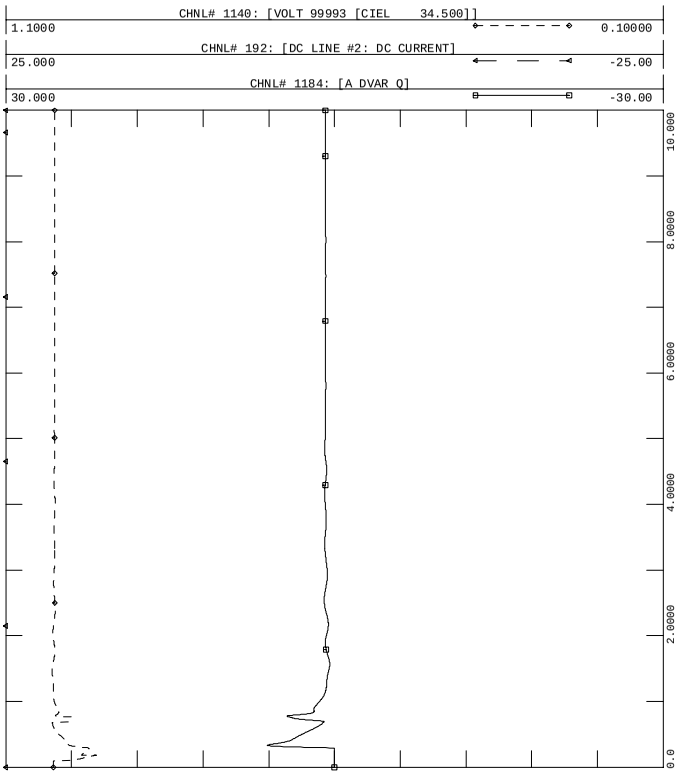
CIELO CABLE3 GEN80



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH_LITE.OUT

FRI, MAY 21 2004 10:03 8

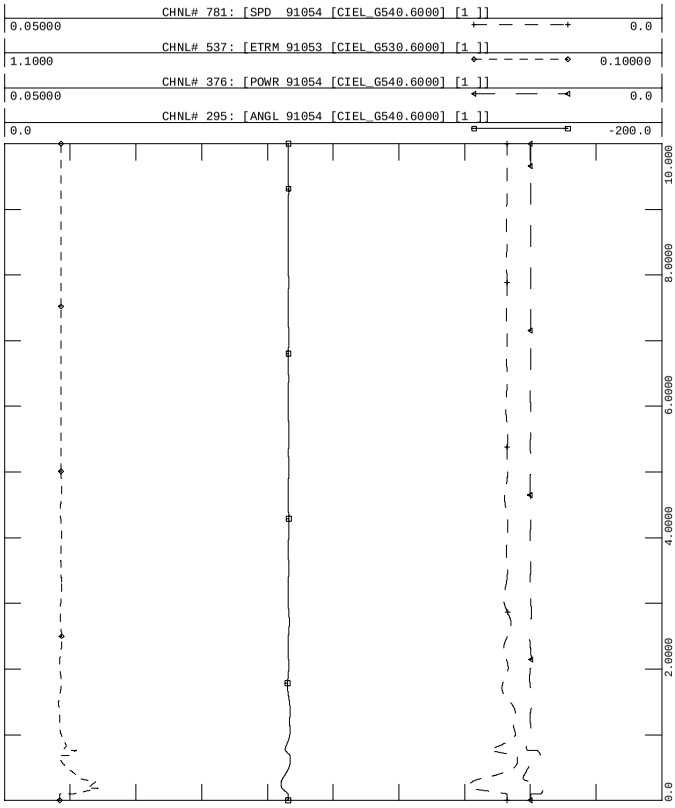
DVAR OUTPUT



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH_LITE.OUT

FRI, MAY 21 2004 10:03 5

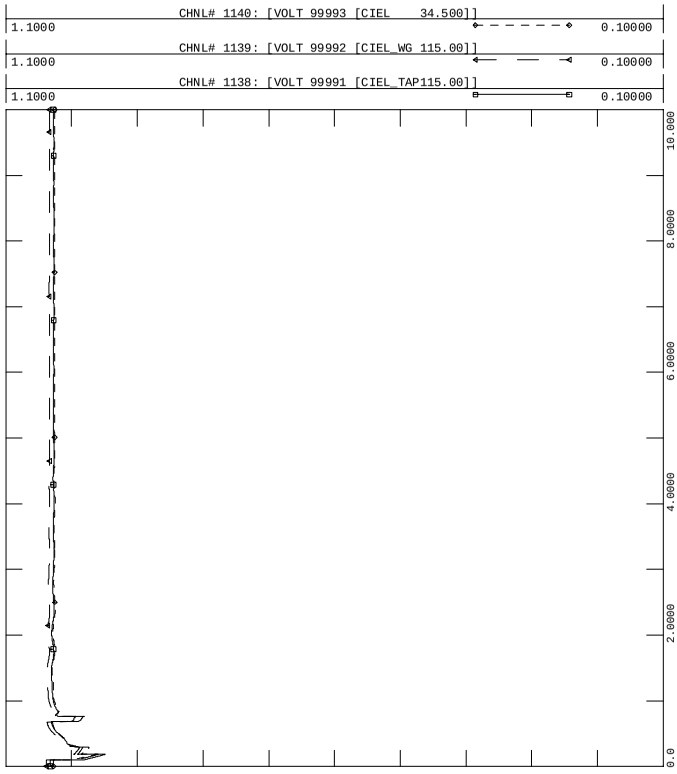
CIELO CABLE3 GEN54



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH_LITE.OUT

FRI, MAY 21 2004 10:03 7

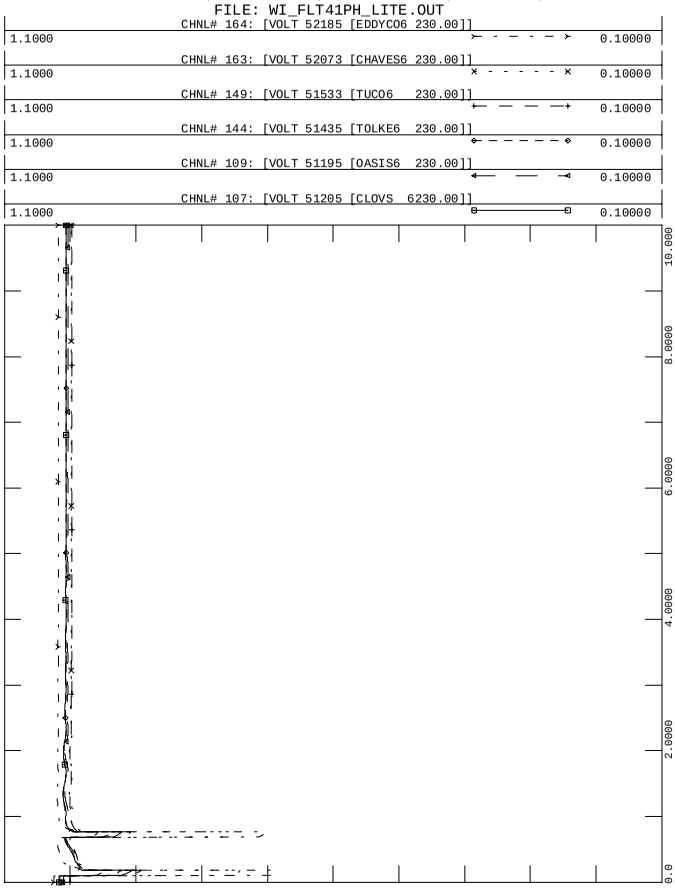
CIELO VOLTAGE



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH_LITE.OUT

FRI, MAY 21 2004 10:03

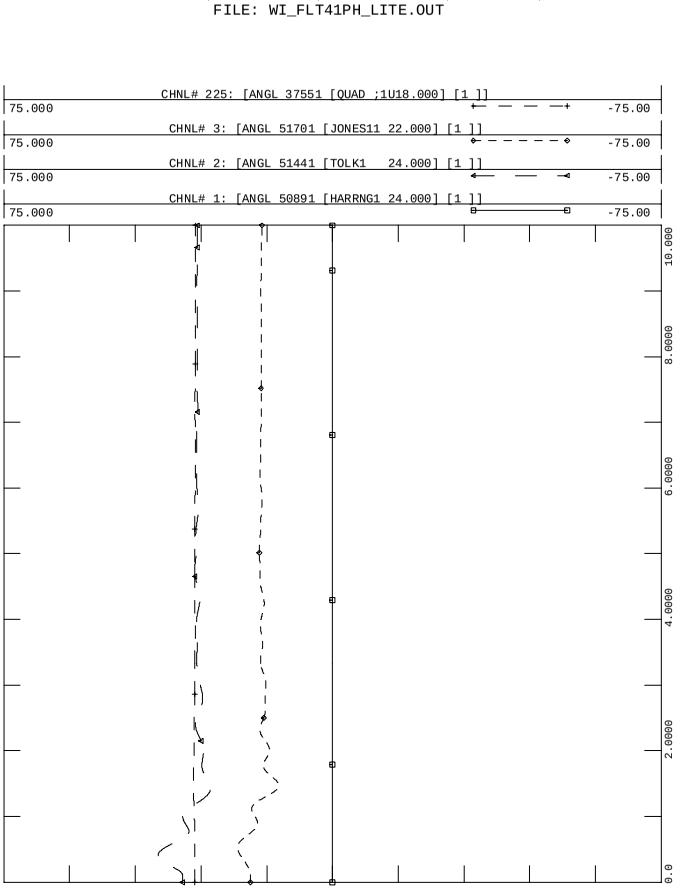
SPP:230 KV BUS VOLTAGE 10



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH_LITE.OUT

FRI, MAY 21 2004 10:03

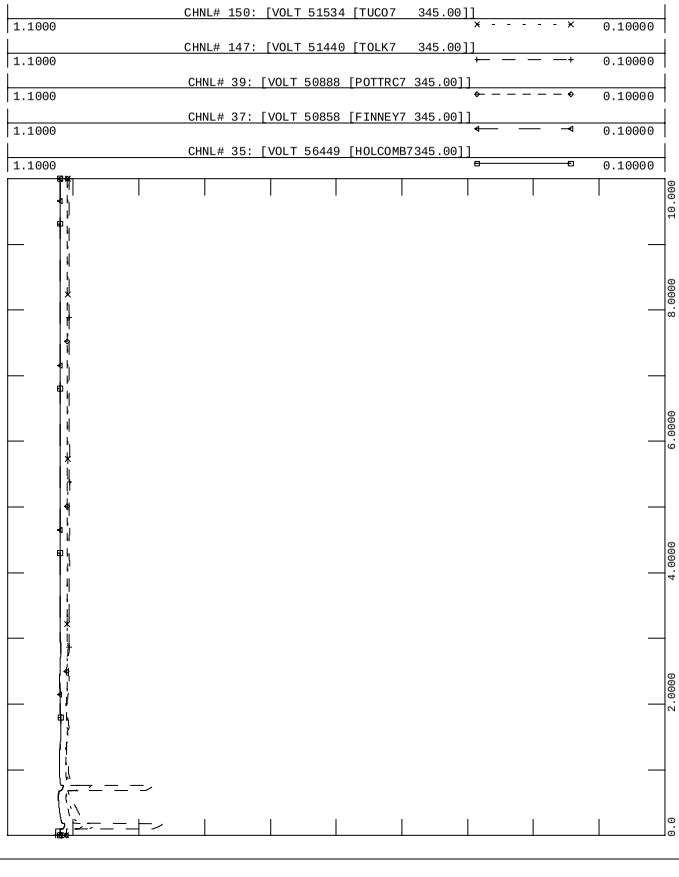
SPP: ROTOR ANGLE 12



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH_LITE.OUT

FRI, MAY 21 2004 10:03

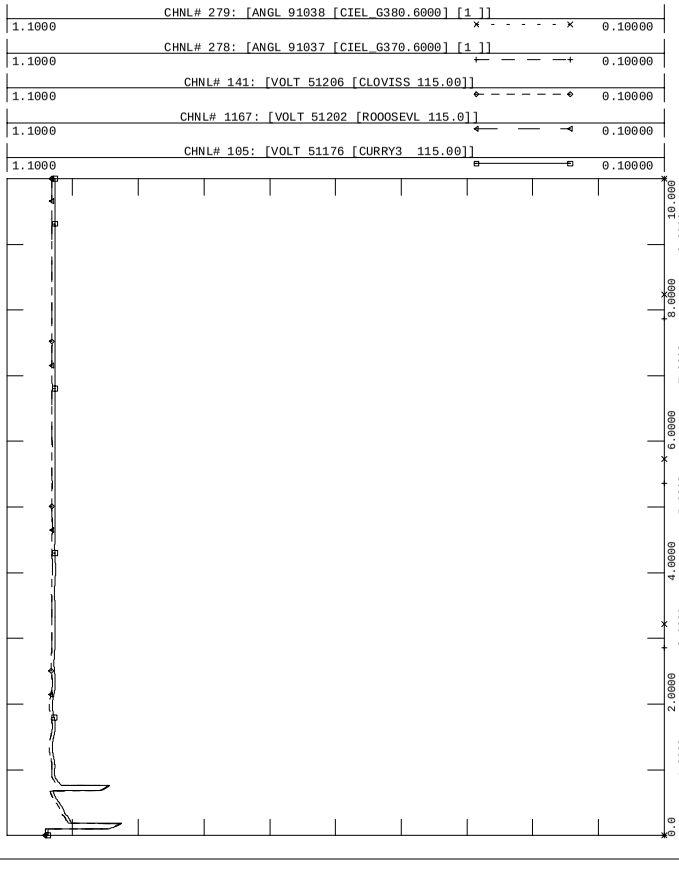
SPP:345 KV BUS VOLTAGE 9



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH_LITE.OUT

FRI, MAY 21 2004 10:03

SPP:115 KV BUS VOLTAGE 11

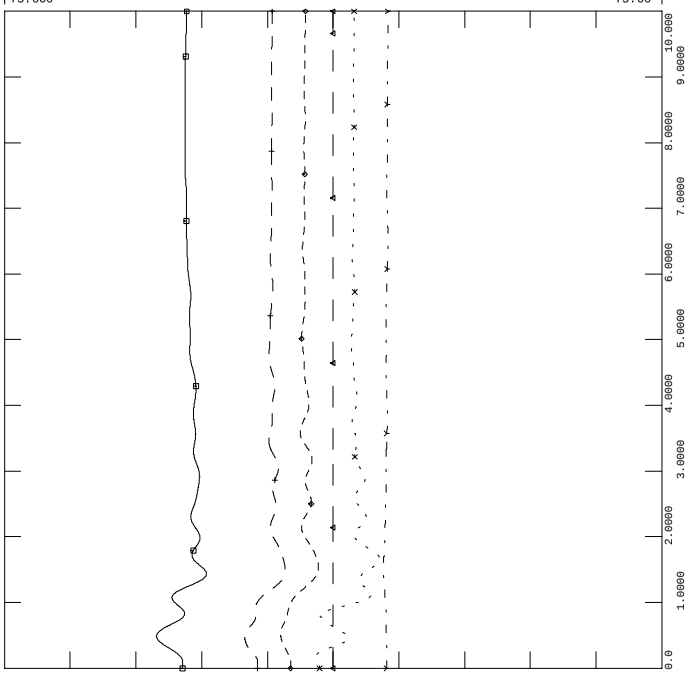


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH_LITE.OUT

FRI, MAY 21 2004 10:03 14

SPP: ROTOR ANGLE

CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]]
CHNL# 55: [ANGL 52212 [CUNN21 20.000] [1]]
CHNL# 54: [ANGL 51973 [MUSTG#3122.000] [1]]
CHNL# 53: [ANGL 51971 [MUSTG#1113.800] [1]]
CHNL# 52: [ANGL 51424 [PLANTX4 20.000] [1]]
CHNL# 51: [ANGL 51423 [PLANTX3 13.800] [1]]

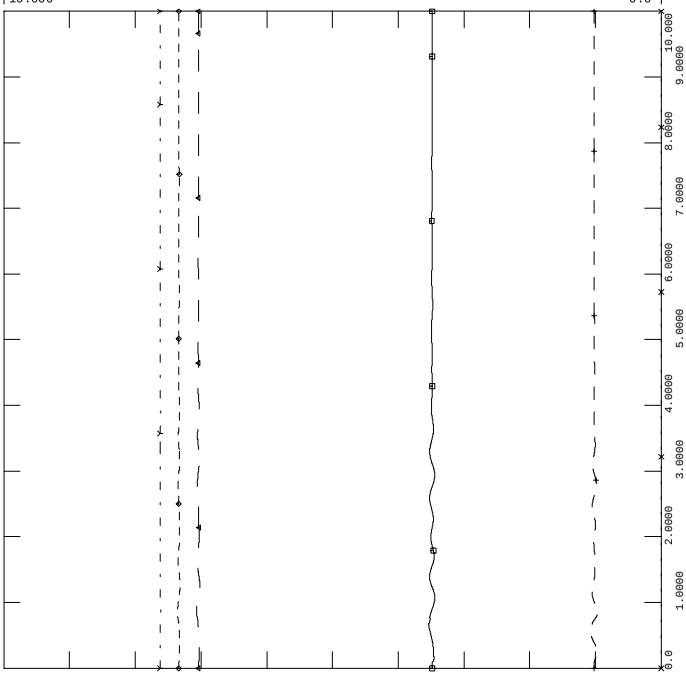


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH_LITE.OUT

FRI, MAY 21 2004 10:03 16

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
CHNL# 61: [POWR 50913 [NICHOL3 22.000] [1]]
CHNL# 60: [POWR 50912 [NICHOL2 13.800] [1]]
CHNL# 196: [POWR 64106 [GENTLM2G23.400] [2]]
CHNL# 11: [POWR 64105 [GENTLM1G22.400] [1]]
CHNL# 10: [POWR 56447 [HOLCGEN122.000] [1]]

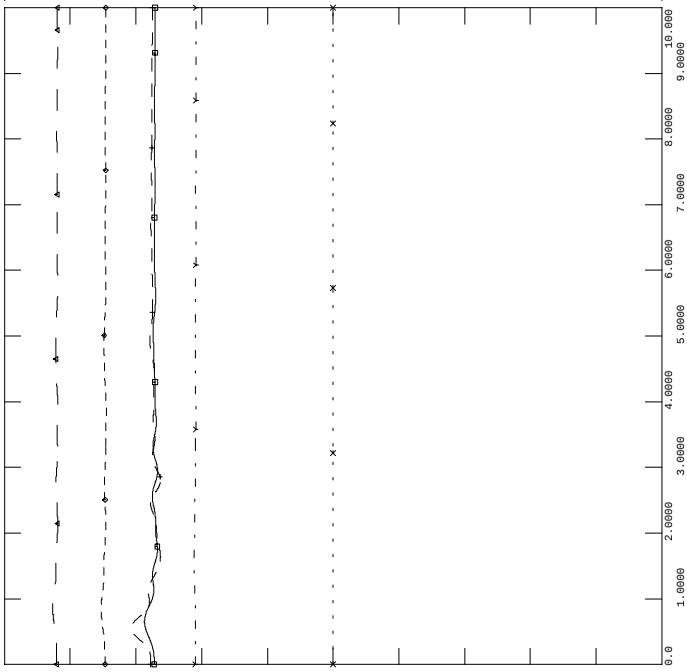


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH_LITE.OUT

FRI, MAY 21 2004 10:03 13

SPP: ROTOR ANGLE

CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]]
CHNL# 50: [ANGL 50913 [NICHOL3 22.000] [1]]
CHNL# 49: [ANGL 50912 [NICHOL2 13.800] [1]]
CHNL# 195: [ANGL 64106 [GENTLM2G23.400] [2]]
CHNL# 5: [ANGL 64105 [GENTLM1G22.400] [1]]
CHNL# 4: [ANGL 56447 [HOLCGEN122.000] [1]]

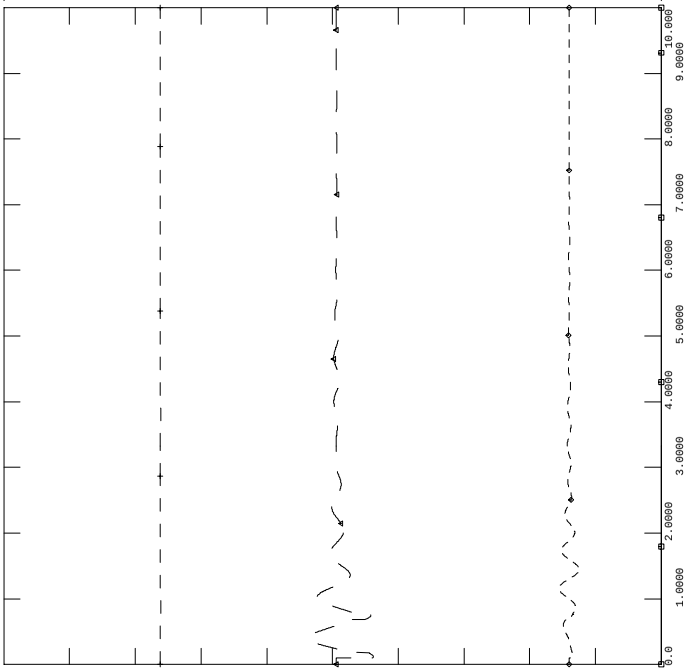


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH_LITE.OUT

FRI, MAY 21 2004 10:03 15

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
CHNL# 9: [POWR 51701 [JONES11 22.000] [1]]
CHNL# 8: [POWR 51441 [TOLK1 24.000] [1]]
CHNL# 7: [POWR 50891 [HARRNG1 24.000] [1]]

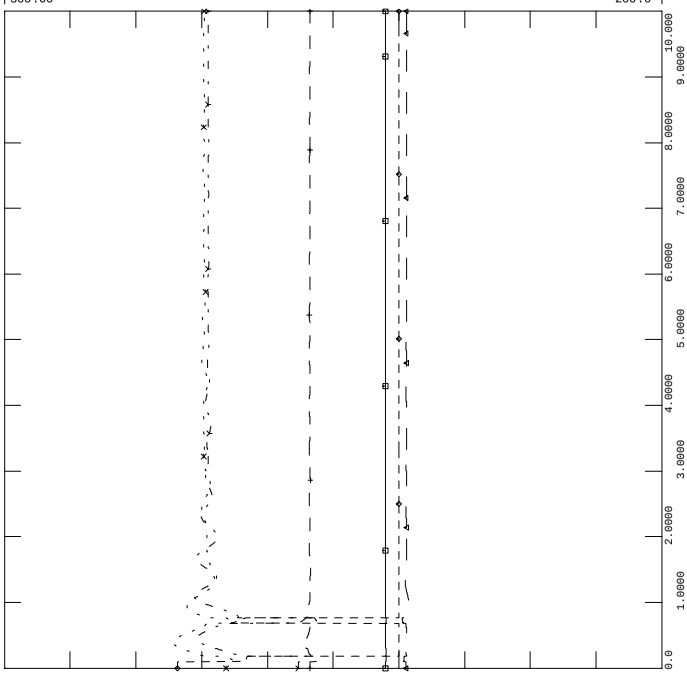


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH_LITE.OUT

FRI, MAY 21 2004 10:03 18

BRANCH FLOW

CHNL# 97: [POWR 51195 TO 52073 CKT 1] 300.00 -200.0
CHNL# 1179: [POWR 51435 TO 51533 CKT 1] 300.00 -200.0
CHNL# 1177: [POWR 99991 TO 51176 CKT 1] 300.00 -200.0
CHNL# 1175: [POWR 51440 TO 52186 CKT 1] 300.00 -200.0
CHNL# 1173: [POWR 51176 TO 51206 CKT 2] 300.00 -200.0
CHNL# 1169: [POWR 99991 TO 51076 CKT 1] 300.00 -200.0

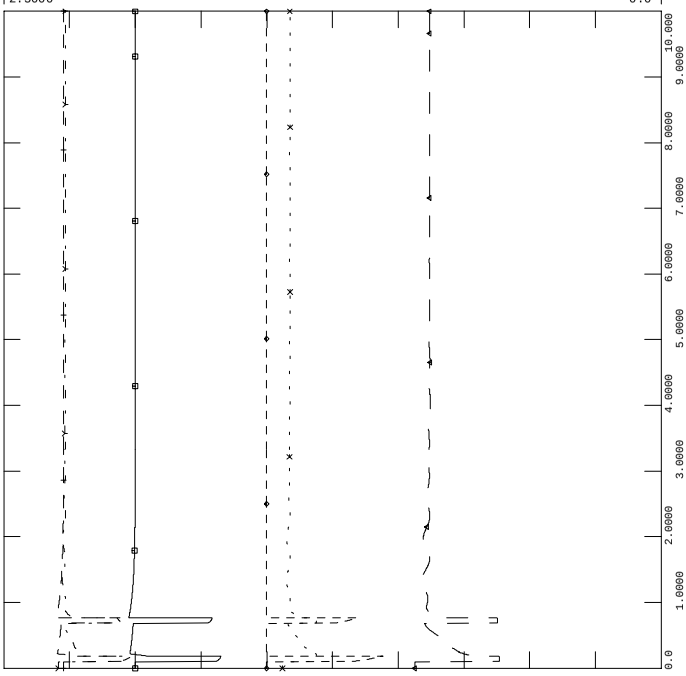


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH_LITE.OUT

FRI, MAY 21 2004 10:03 20

DC LINE PNM

CHNL# 207: [VOLT 59995 [BLKWDC 230.00]] 1.1000 0.10000
CHNL# 193: [DC LINE #2: ALPHA] 100.00 -100.0
CHNL# 192: [DC LINE #2: DC CURRENT] 4000.0 0.0
CHNL# 191: [DC LINE #2: VDCR] 65000. 40000.
CHNL# 187: [DC LINE #2: QACR] 2.5000 0.0
CHNL# 186: [DC LINE #2: PACR] 2.5000 0.0

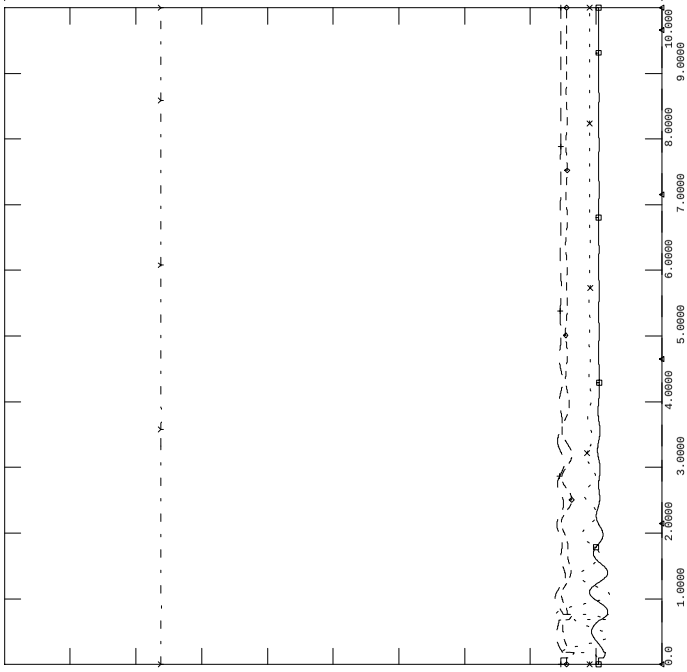


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH_LITE.OUT

FRI, MAY 21 2004 10:03 17

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]] 10.000 0.0
CHNL# 66: [POWR 52212 [CUNN21 20.000] [1]] 10.000 0.0
CHNL# 65: [POWR 51973 [MUSTG#3122.000] [1]] 10.000 0.0
CHNL# 64: [POWR 51971 [MUSTG#1113.800] [1]] 10.000 0.0
CHNL# 63: [POWR 51424 [PLANTX4 20.000] [1]] 10.000 0.0
CHNL# 62: [POWR 51423 [PLANTX3 13.800] [1]] 10.000 0.0

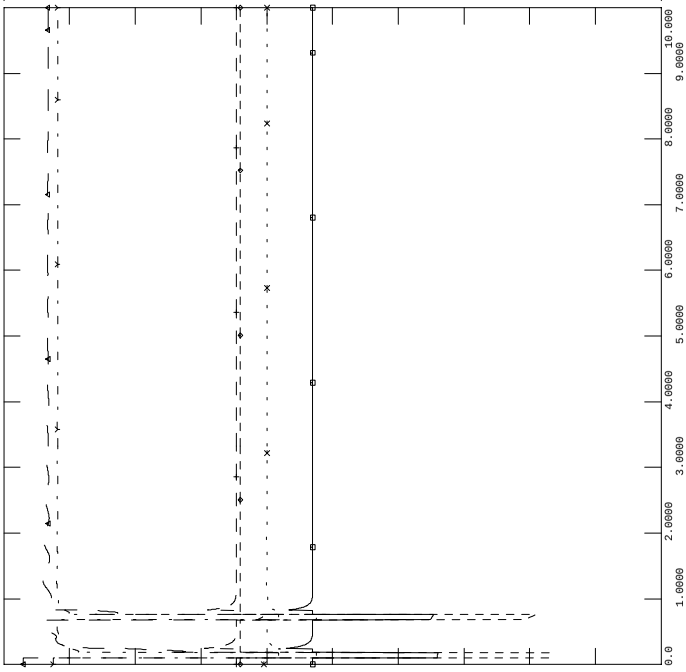


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH_LITE.OUT

FRI, MAY 21 2004 10:03 19

DC LINE EPE

CHNL# 208: [VOLT 59996 [EPEDC 230.00]] 1.1000 0.10000
CHNL# 184: [DC LINE #1: ALFA] 100.00 -100.0
CHNL# 183: [DC LINE #1: DC CURRENT] 1000.0 0.0
CHNL# 182: [DC LINE #1: VDCR] 1.0000E5 50000.
CHNL# 178: [DC LINE #1: QACR] 0.25000 0.0
CHNL# 177: [DC LINE #1: PACR] 1.0000 0.0

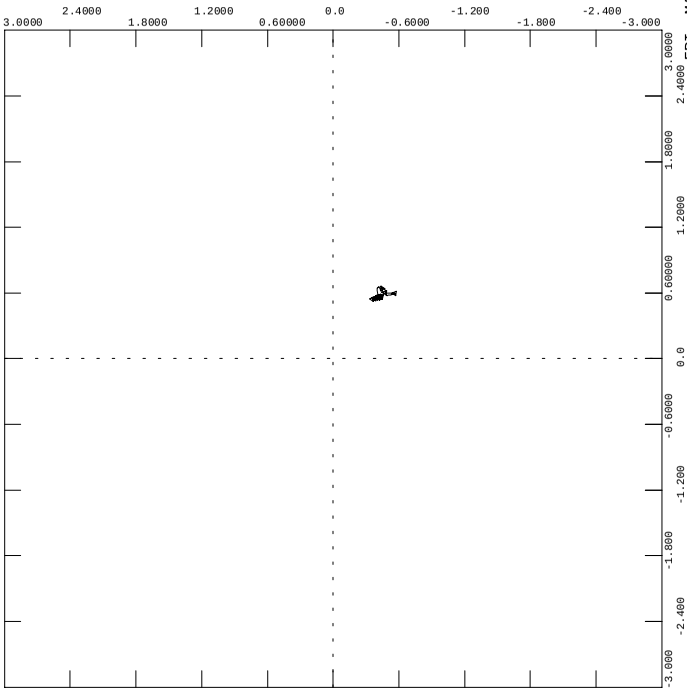


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR

22

FILE: WI_FLT41PH_LITE.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 116: [APPX 50858 TO 50888 CKT 1]



CHNL# 115: [APPR 50858 TO 50888 CKT 1]

FRI, MAY 21 2004 10:03

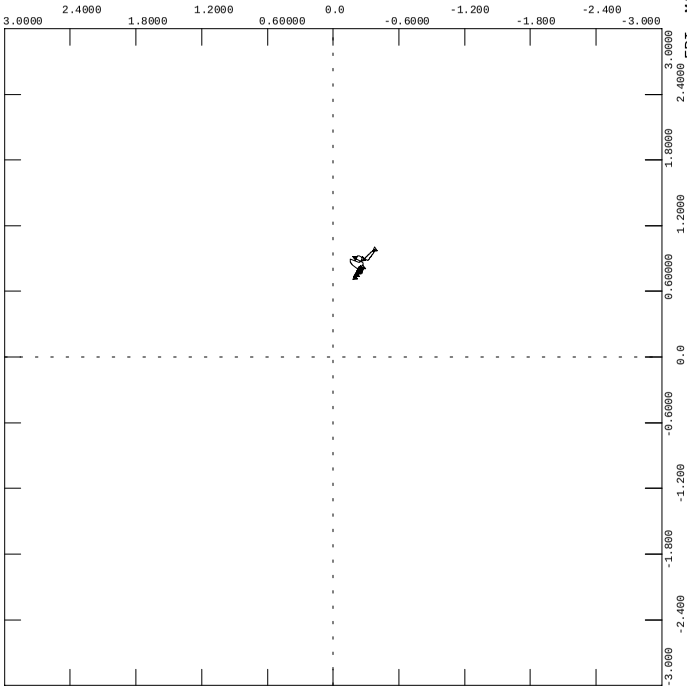
POTTER-FINNEY

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR

21

FILE: WI_FLT41PH_LITE.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 114: [APPX 56449 TO 50858 CKT 1]



CHNL# 113: [APPR 56449 TO 50858 CKT 1]

FRI, MAY 21 2004 10:03

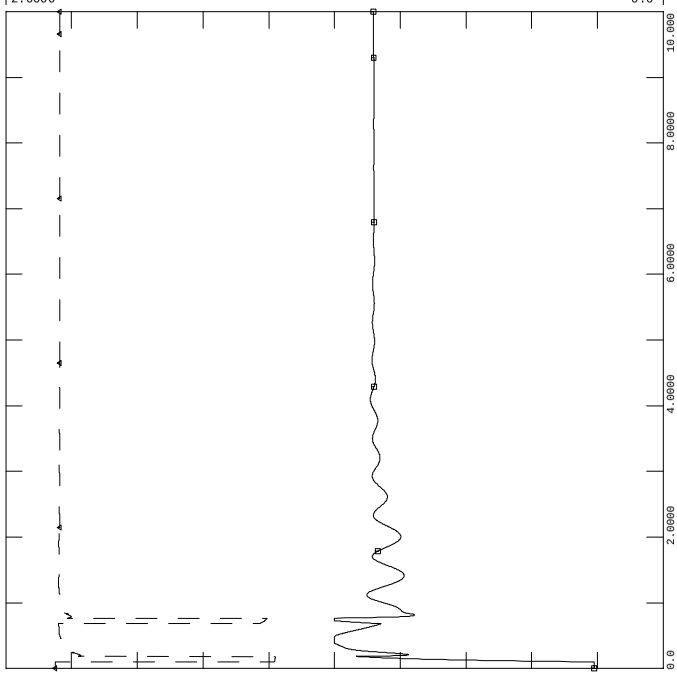
FINNEY-HOLCOMB

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WI_FLT41PH_LITE.OUT

23

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]
1.1000 0.10000

CHNL# 117: [BUS 52185 SVC OUTPUT]
2.0000 0.0



TIME (SECONDS)

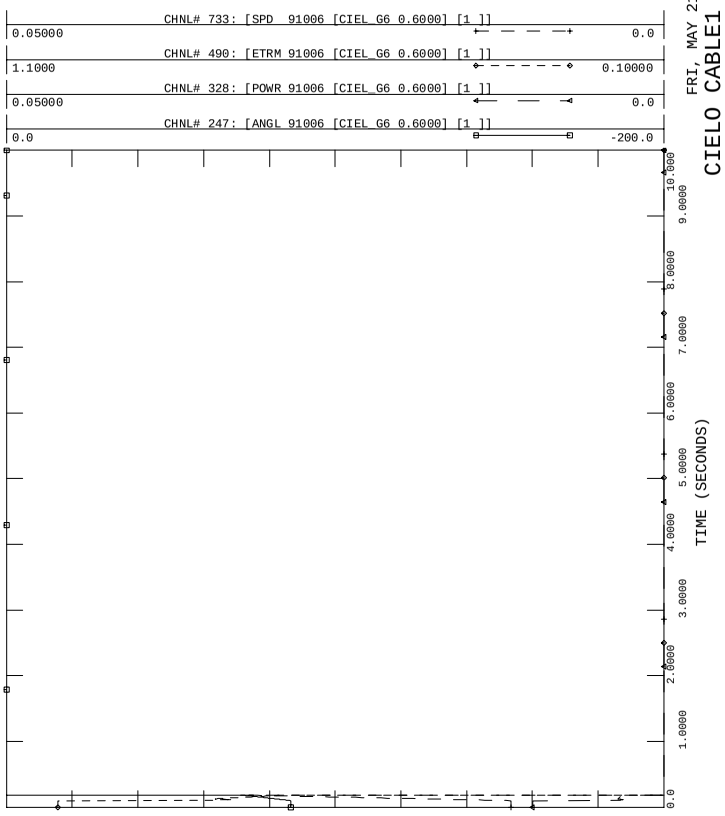
FRI, MAY 21 2004 10:03

SVC OUTPUT

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH_LITE.OUT

FRI, MAY 21 2004 10:03 2

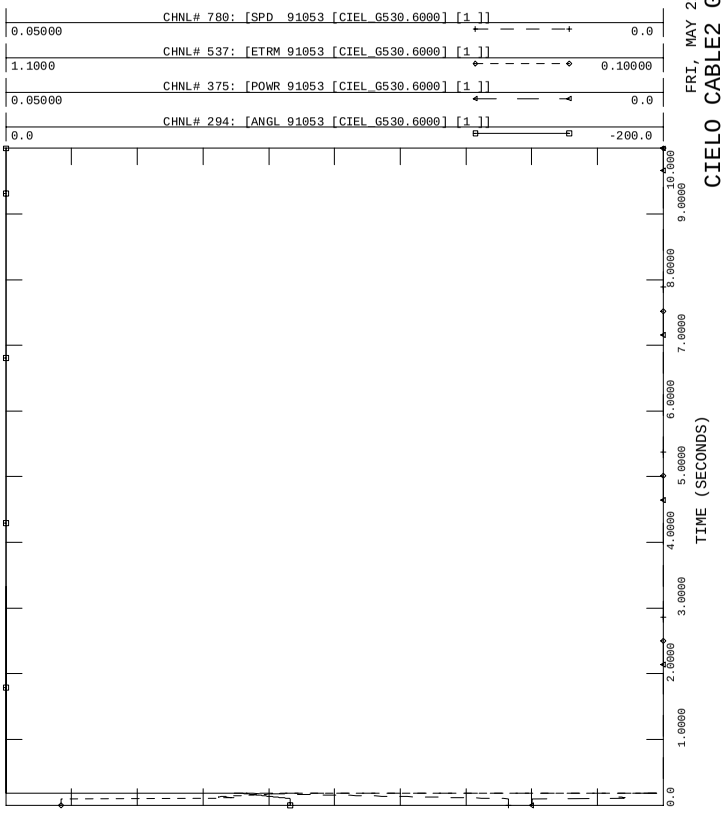
CIELO CABLE1 GEN6



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH_LITE.OUT

FRI, MAY 21 2004 10:03 4

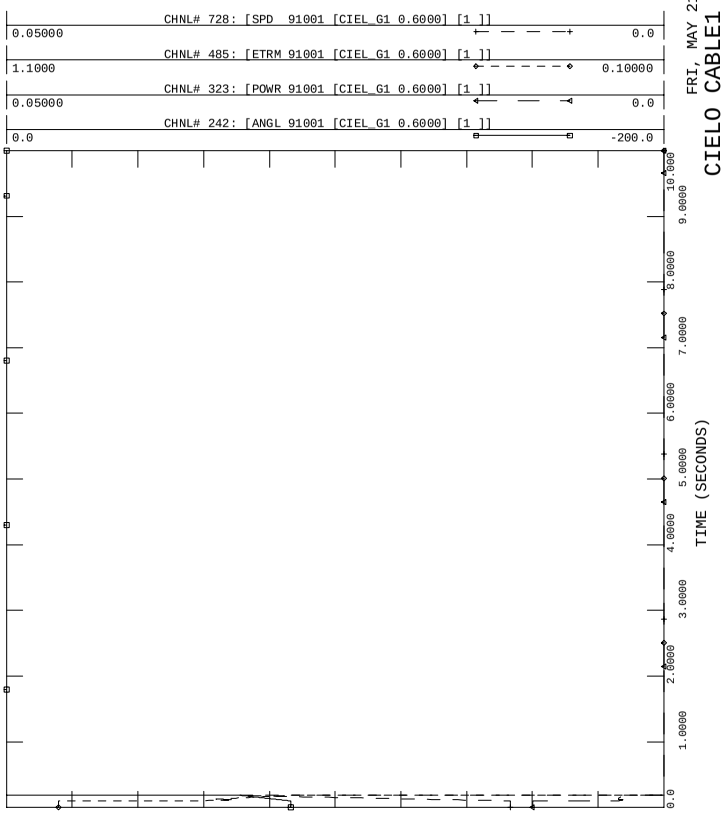
CIELO CABLE2 GEN53



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH_LITE.OUT

FRI, MAY 21 2004 10:03 1

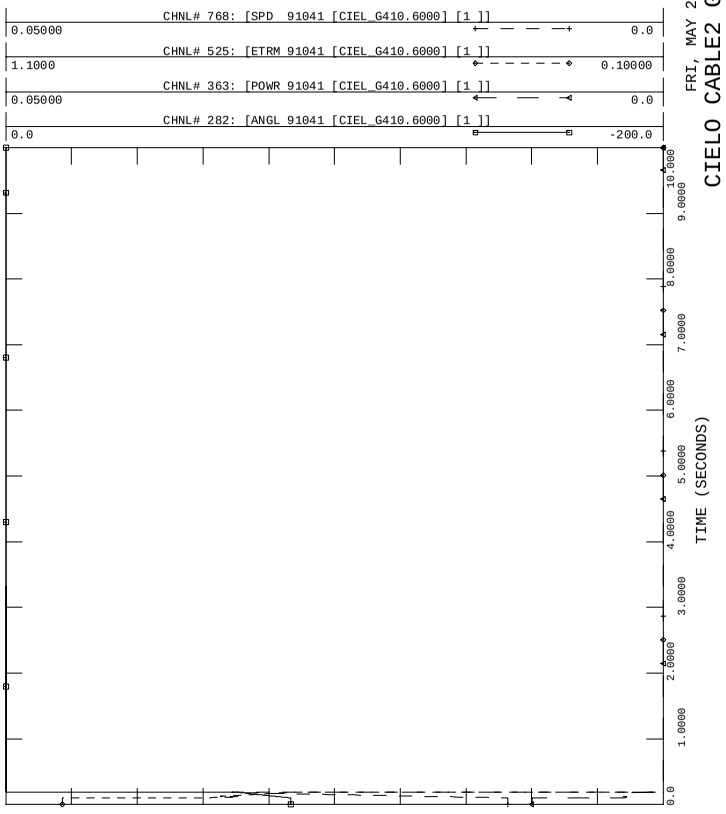
CIELO CABLE1 GEN1



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH_LITE.OUT

FRI, MAY 21 2004 10:03 3

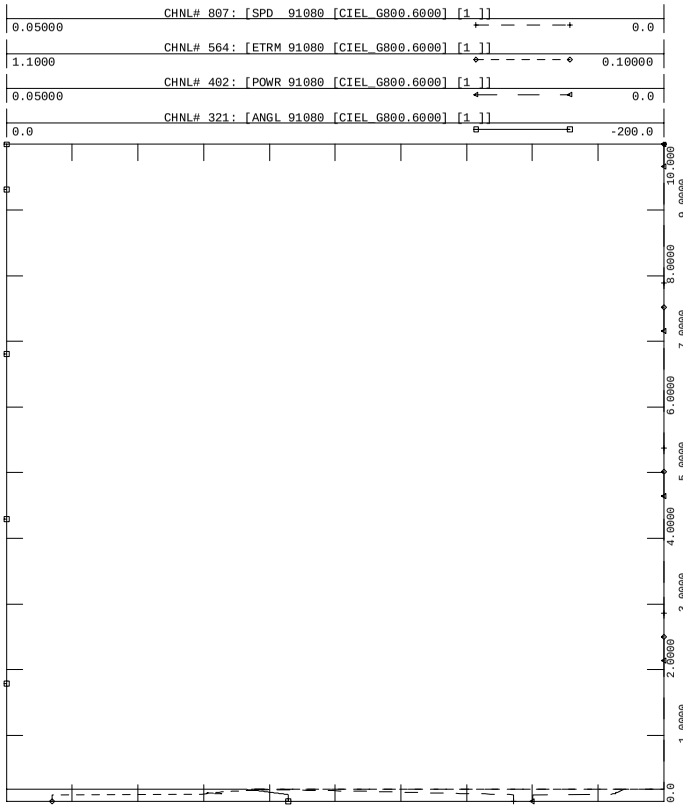
CIELO CABLE2 GEN41



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH_LITE.OUT

FRI, MAY 21 2004 10:04 6

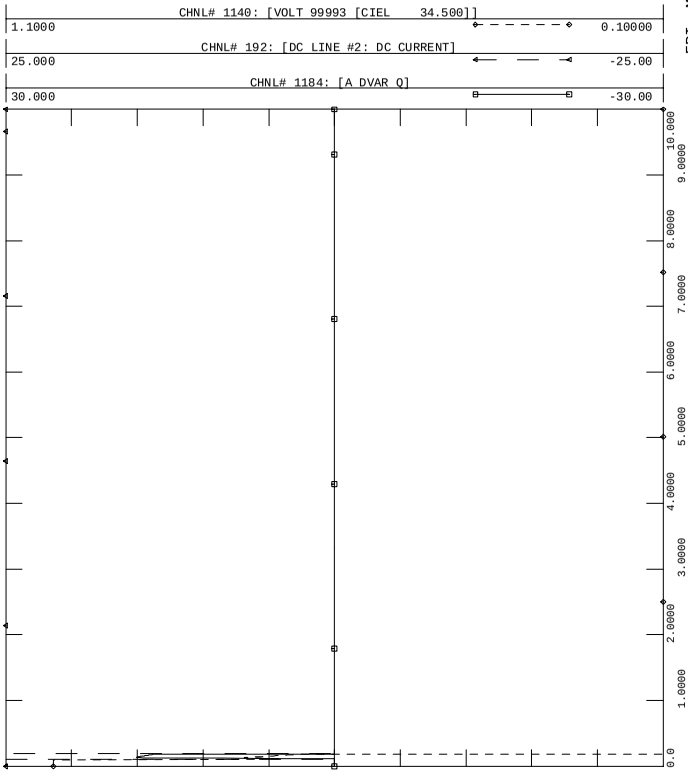
CIELO CABLE3 GEN80



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH_LITE.OUT

FRI, MAY 21 2004 10:04 8

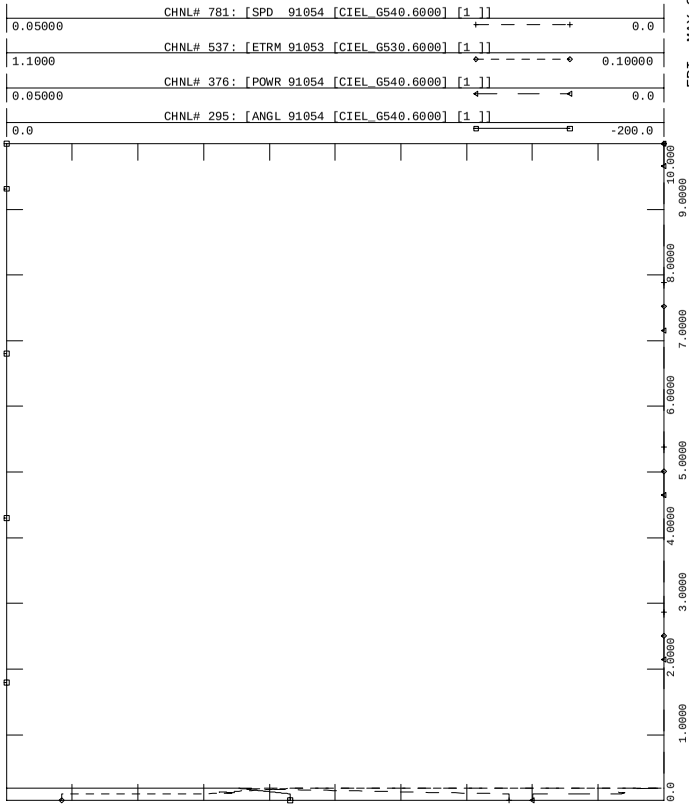
DVAR OUTPUT



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH_LITE.OUT

FRI, MAY 21 2004 10:03 5

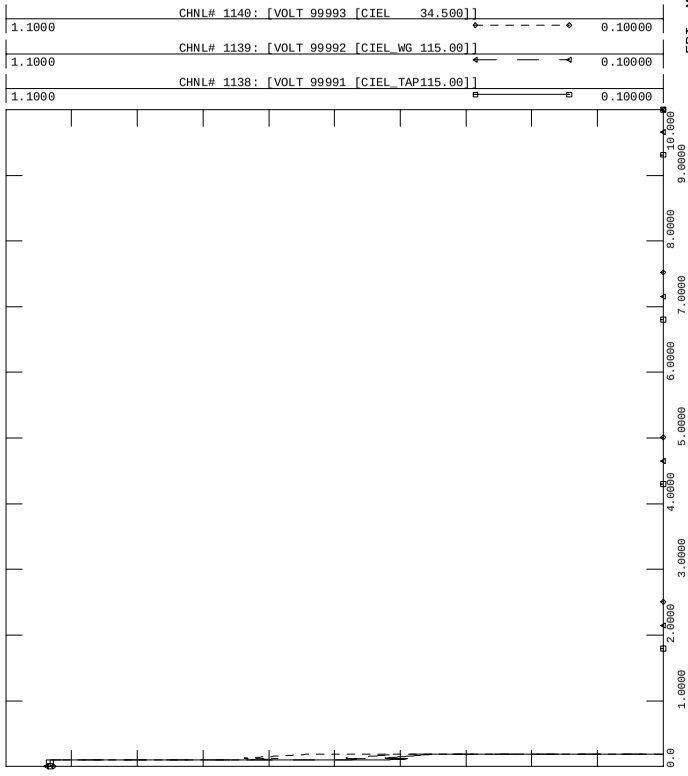
CIELO CABLE3 GEN54



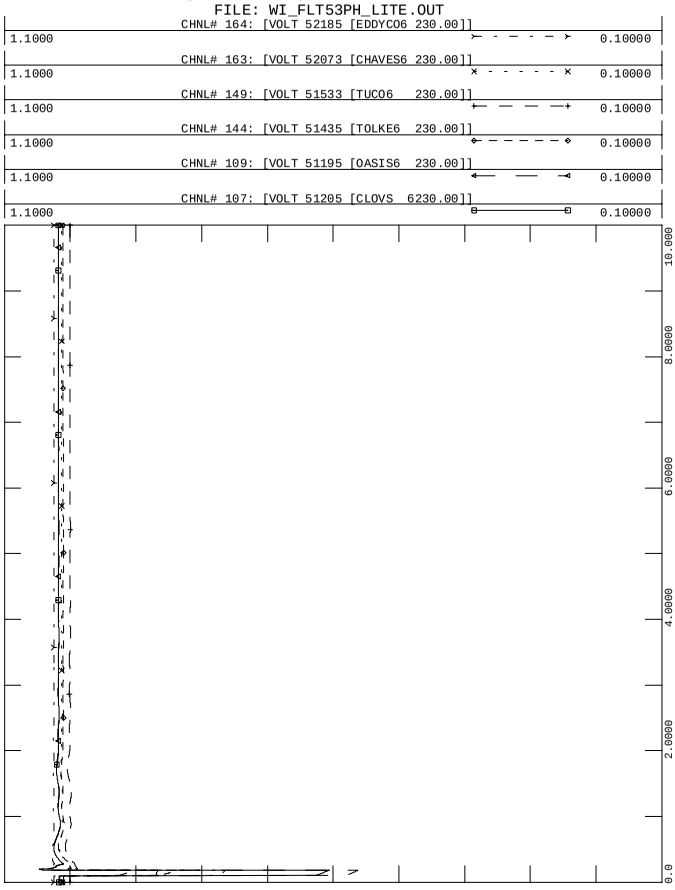
SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH_LITE.OUT

FRI, MAY 21 2004 10:04 7

CIELO VOLTAGE



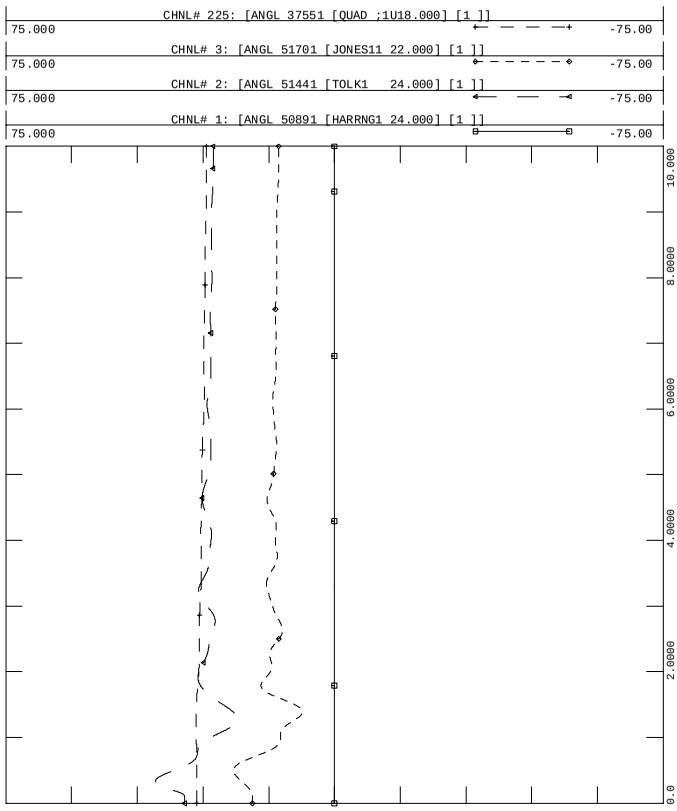
SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH_LITE.OUT



FRI, MAY 21 2004 10:04

SPP:230 KV BUS VOLTAGE 10

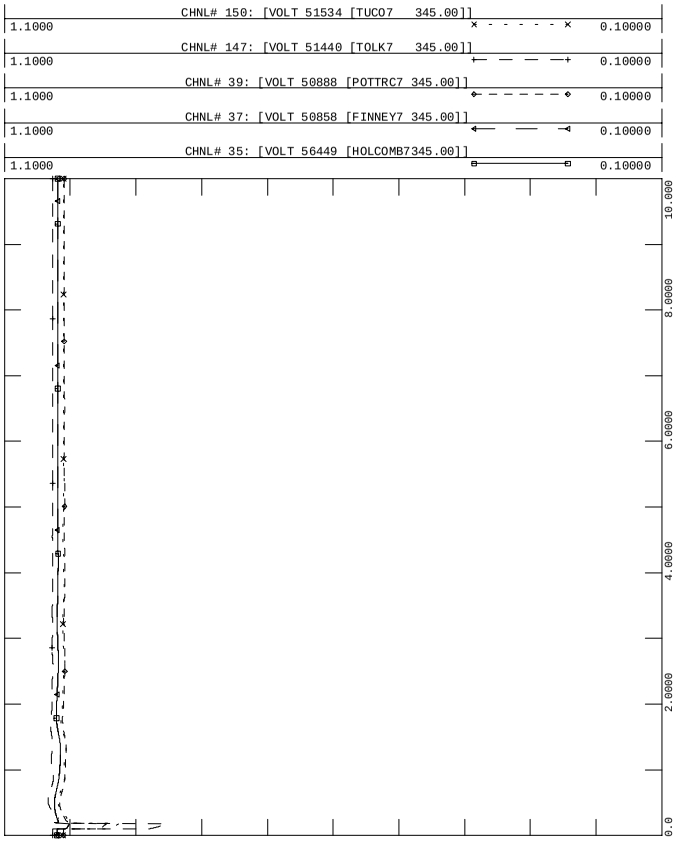
SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH_LITE.OUT



FRI, MAY 21 2004 10:04

SPP: ROTOR ANGLE 12

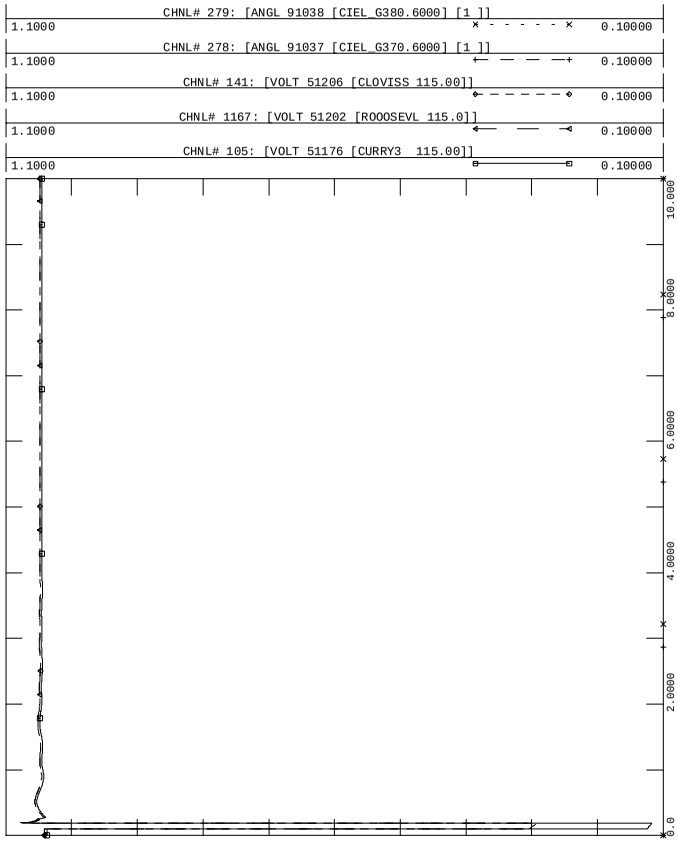
SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH_LITE.OUT



FRI, MAY 21 2004 10:04

SPP:345 KV BUS VOLTAGE 9

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH_LITE.OUT



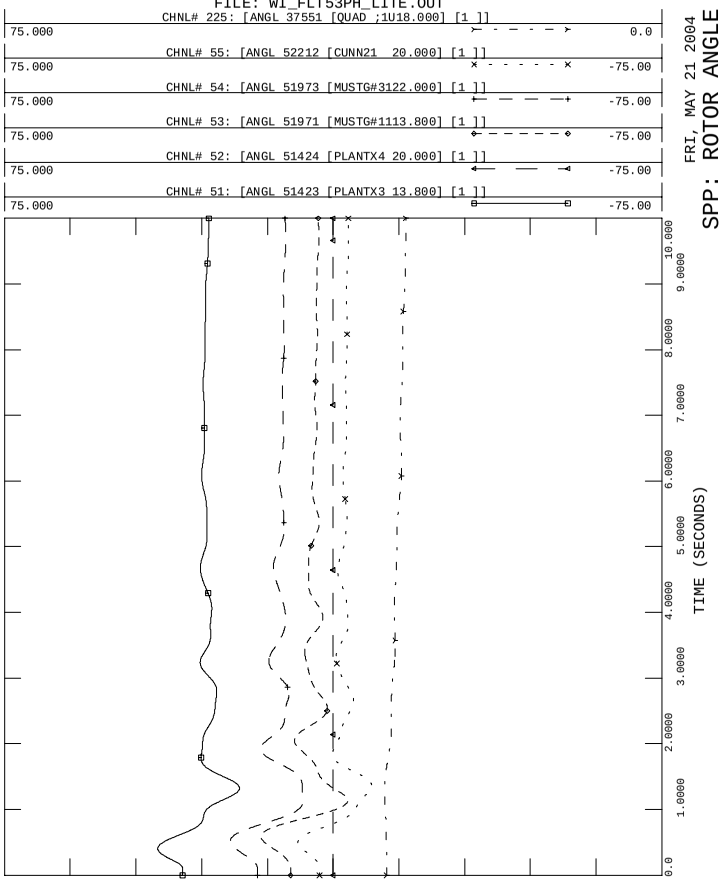
FRI, MAY 21 2004 10:04

SPP:115 KV BUS VOLTAGE 11

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH_LITE.OUT

FRI, MAY 21 2004 10:04 14

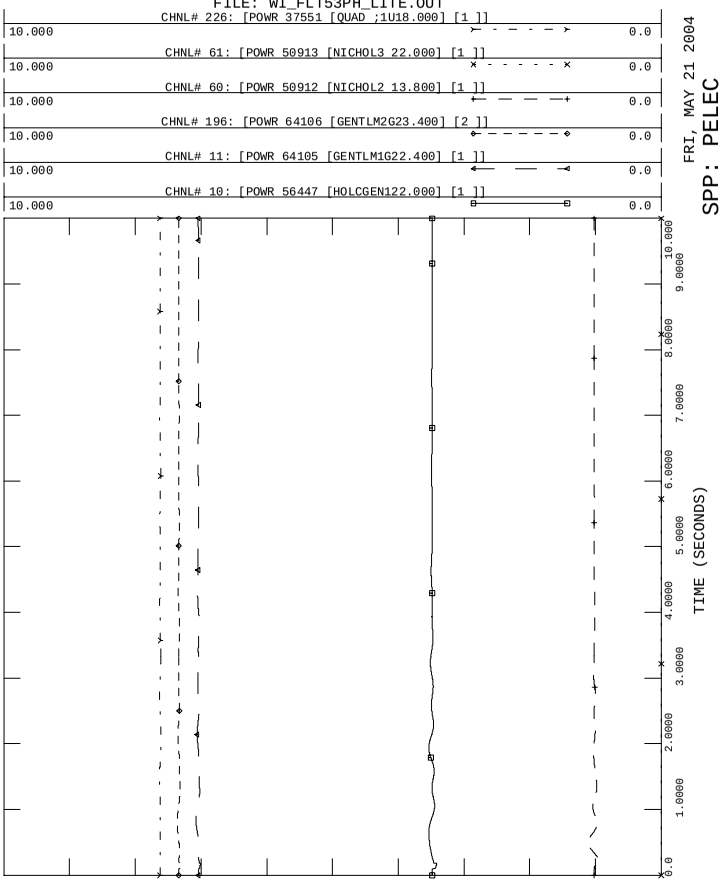
SPP: ROTOR ANGLE



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH_LITE.OUT

FRI, MAY 21 2004 10:04 16

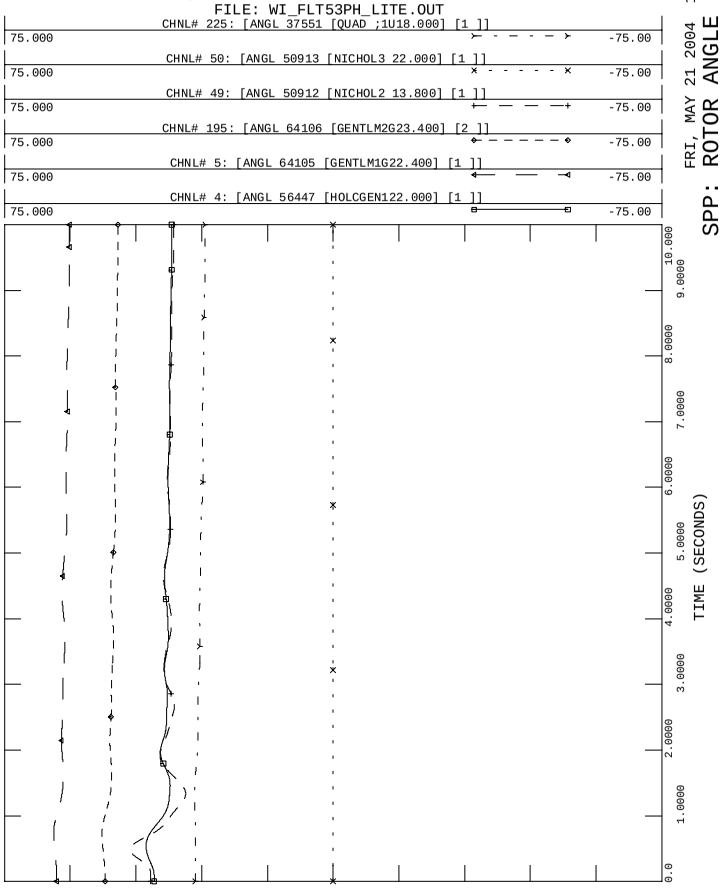
SPP: PELEC



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH_LITE.OUT

FRI, MAY 21 2004 10:04 13

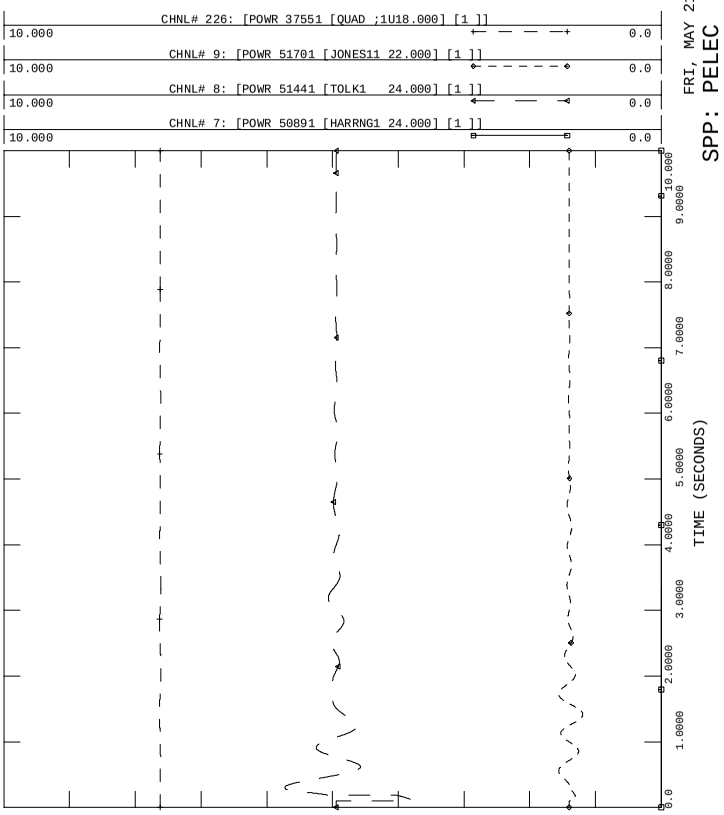
SPP: ROTOR ANGLE



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH_LITE.OUT

FRI, MAY 21 2004 10:04 15

SPP: PELEC

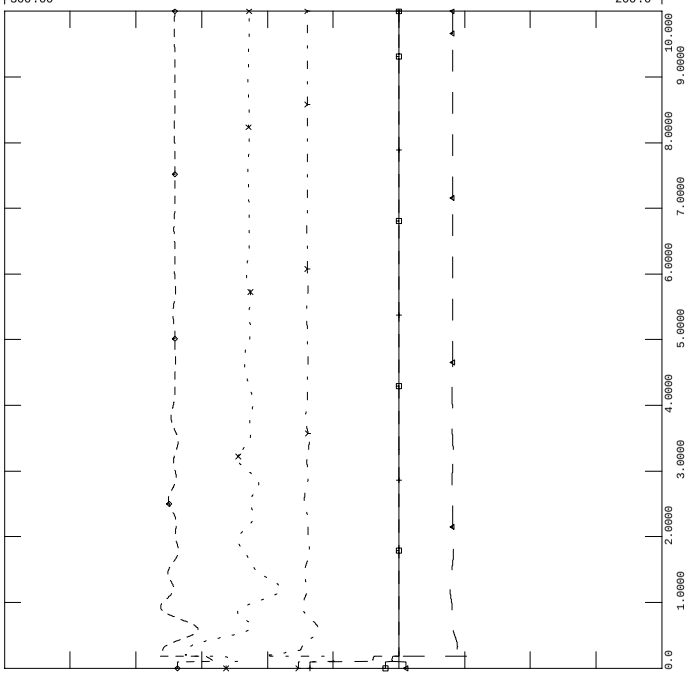


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH_LITE.OUT

FRI, MAY 21 2004 10:04 18

BRANCH FLOW

CHNL# 97: [POWR 51195 TO 52073 CKT 1]
300.00 -200.0
CHNL# 1179: [POWR 51435 TO 51533 CKT 1]
300.00 -200.0
CHNL# 1177: [POWR 99991 TO 51176 CKT 1]
300.00 -200.0
CHNL# 1175: [POWR 51440 TO 52186 CKT 1]
300.00 -200.0
CHNL# 1173: [POWR 51176 TO 51206 CKT 2]
300.00 -200.0
CHNL# 1169: [POWR 99991 TO 51076 CKT 1]
300.00 -200.0

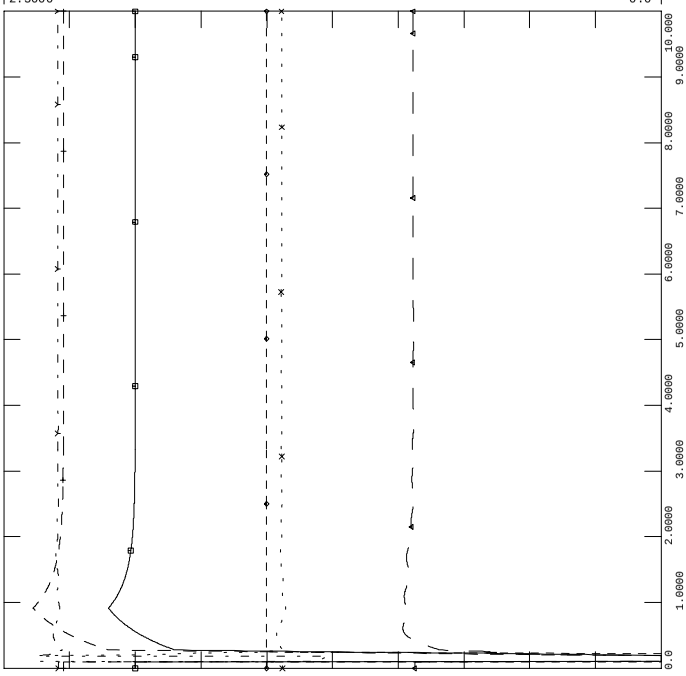


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH_LITE.OUT

FRI, MAY 21 2004 10:04 20

DC LINE PNM

CHNL# 207: [VOLT 59995 [BLKWDC 230.00]]
1.1000 0.10000
CHNL# 193: [DC LINE #2: ALPHA]
100.00 -100.0
CHNL# 192: [DC LINE #2: DC CURRENT]
4000.0 0.0
CHNL# 191: [DC LINE #2: VDCR]
65000. 40000.
CHNL# 187: [DC LINE #2: QACR]
2.5000 0.0
CHNL# 186: [DC LINE #2: PACR]
2.5000 0.0

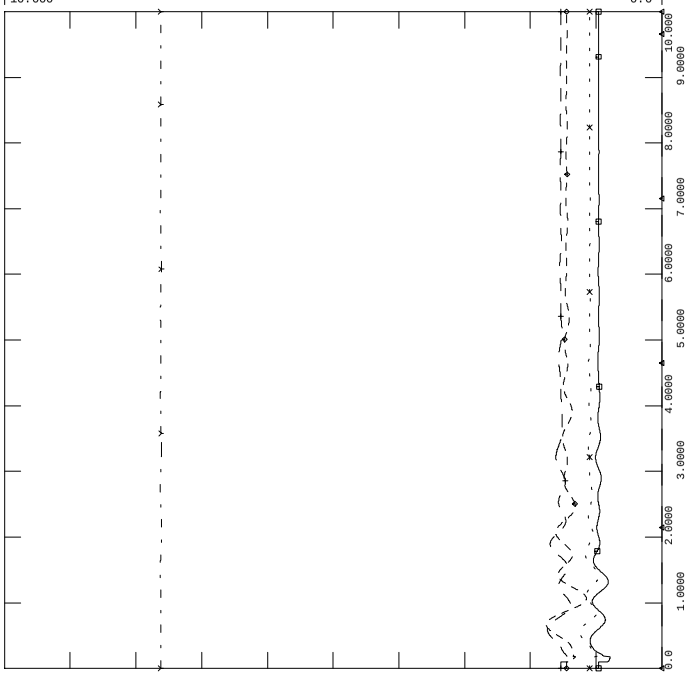


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH_LITE.OUT

FRI, MAY 21 2004 10:04 17

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
10.000 0.0
CHNL# 66: [POWR 52212 [CUNN21 20.000] [1]]
10.000 0.0
CHNL# 65: [POWR 51973 [MUSTG#3122.000] [1]]
10.000 0.0
CHNL# 64: [POWR 51971 [MUSTG#1113.800] [1]]
10.000 0.0
CHNL# 63: [POWR 51424 [PLANTX4 20.000] [1]]
10.000 0.0
CHNL# 62: [POWR 51423 [PLANTX3 13.800] [1]]
10.000 0.0

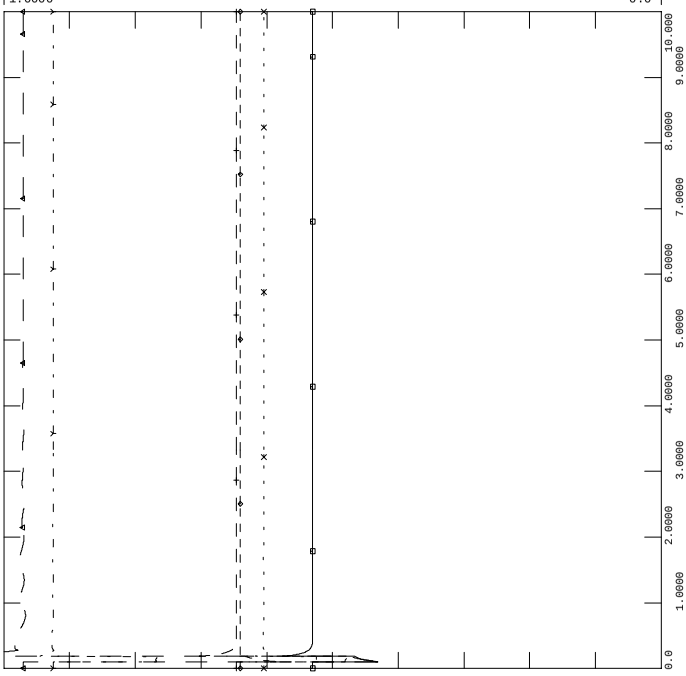


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH_LITE.OUT

FRI, MAY 21 2004 10:04 19

DC LINE EPE

CHNL# 208: [VOLT 59996 [EPEDC 230.00]]
1.1000 0.10000
CHNL# 184: [DC LINE #1: ALFA]
100.00 -100.0
CHNL# 183: [DC LINE #1: DC CURRENT]
1000.0 0.0
CHNL# 182: [DC LINE #1: VDCR]
1.0000E5 50000.
CHNL# 178: [DC LINE #1: QACR]
0.25000 0.0
CHNL# 177: [DC LINE #1: PACR]
1.0000 0.0



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE

22

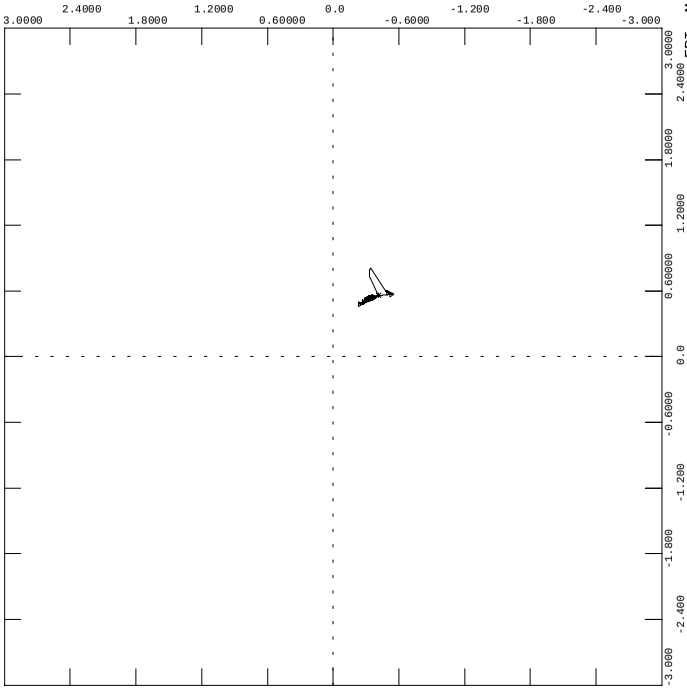
FRI, MAY 21 2004 10:04

POTTER-FINNEY

FILE: WI_FLT53PH_LITE.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25

CHNL# 116: [APPX 50858 TO 50888 CKT 1]



CHNL# 115: [APPR 50858 TO 50888 CKT 1]

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE

21

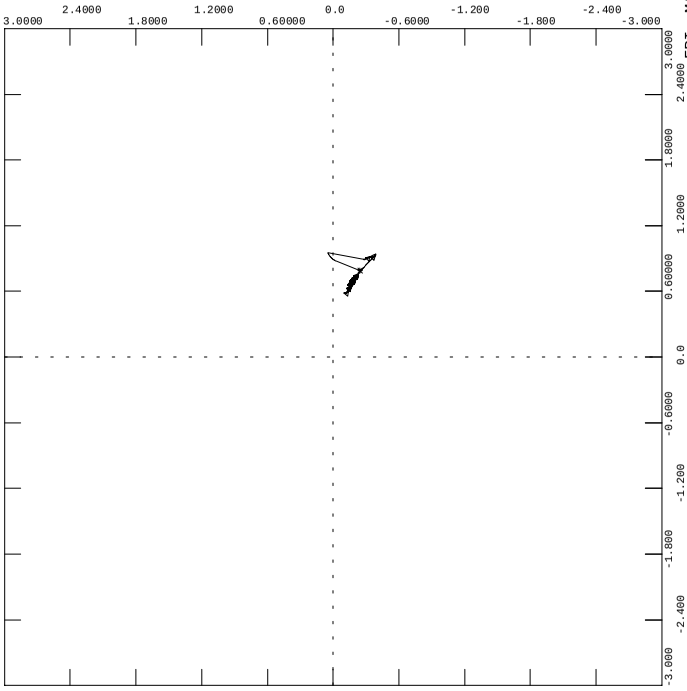
FRI, MAY 21 2004 10:04

FINNEY-HOLCOMB

FILE: WI_FLT53PH_LITE.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25

CHNL# 114: [APPX 56449 TO 50858 CKT 1]



CHNL# 113: [APPR 56449 TO 50858 CKT 1]

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT53PH_LITE.OUT

23

FRI, MAY 21 2004 10:04

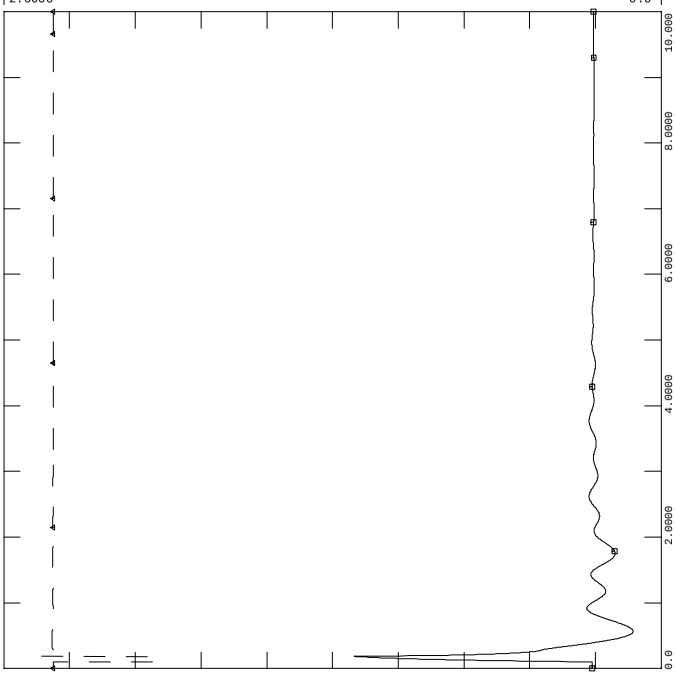
SVC OUTPUT

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]

1.1000 0.10000

CHNL# 117: [BUS 52185 SVC OUTPUT]

2.0000 0.0

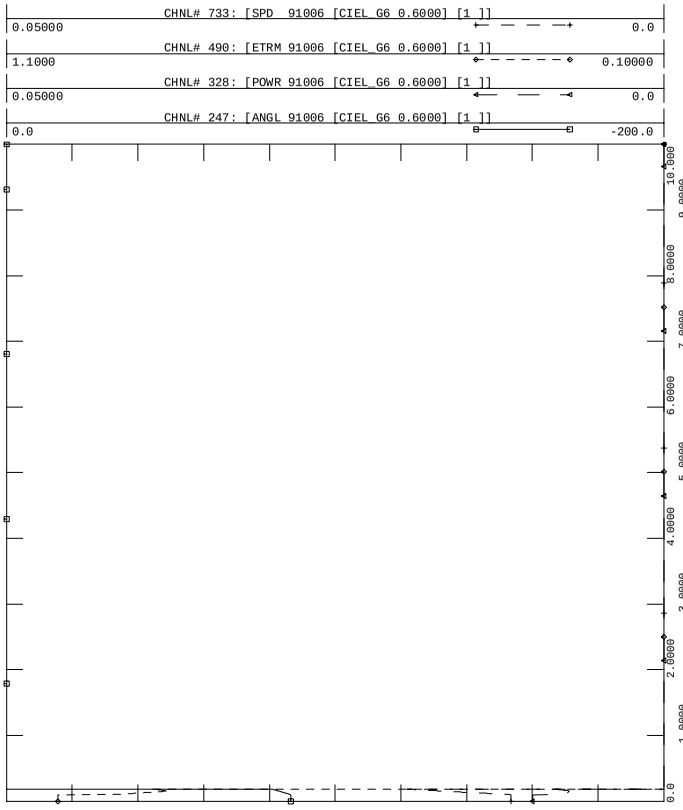


TIME (SECONDS)

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH_LITE.OUT

FRI, MAY 21 2004 10:03 2

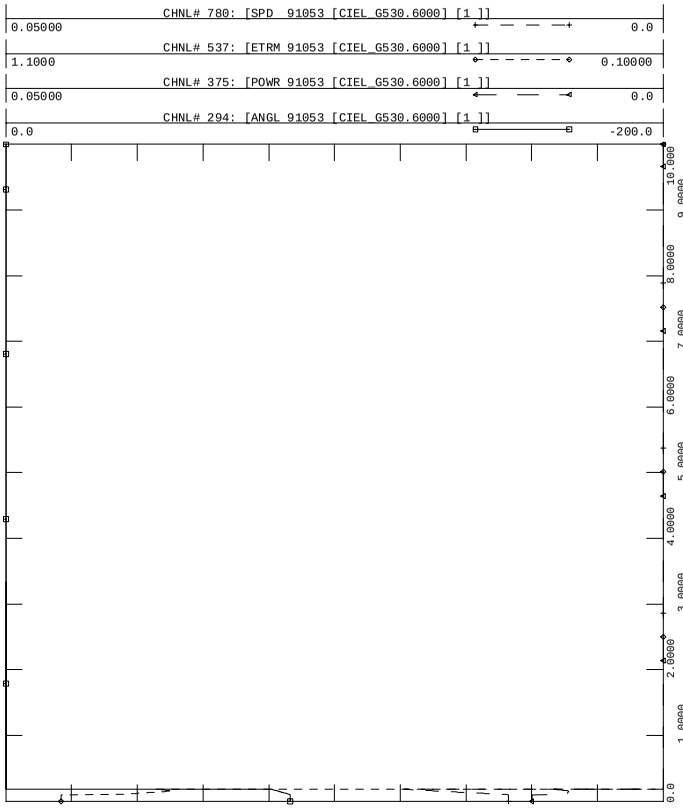
CIELO CABLE1 GEN6



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH_LITE.OUT

FRI, MAY 21 2004 10:03 4

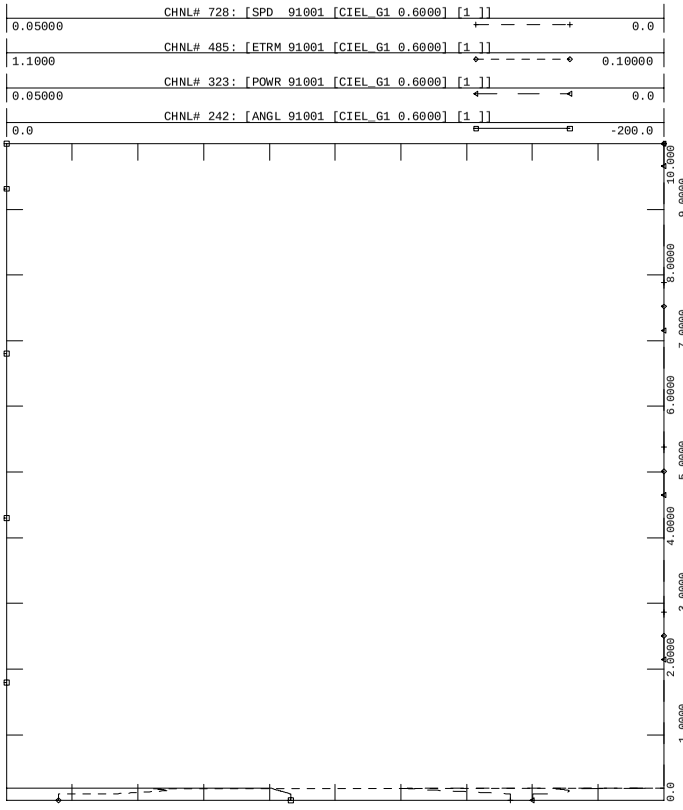
CIELO CABLE2 GEN53



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH_LITE.OUT

FRI, MAY 21 2004 10:03 1

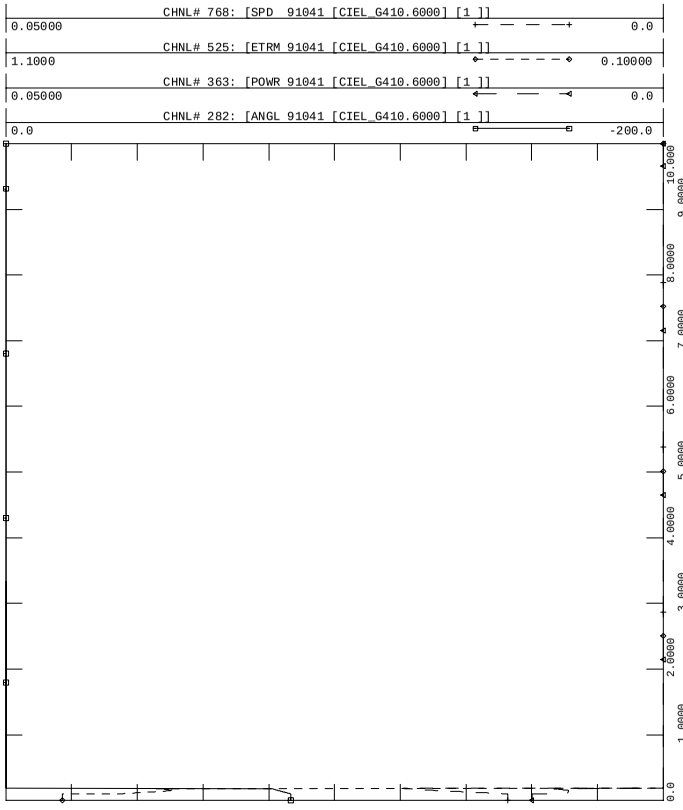
CIELO CABLE1 GEN1



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH_LITE.OUT

FRI, MAY 21 2004 10:03 3

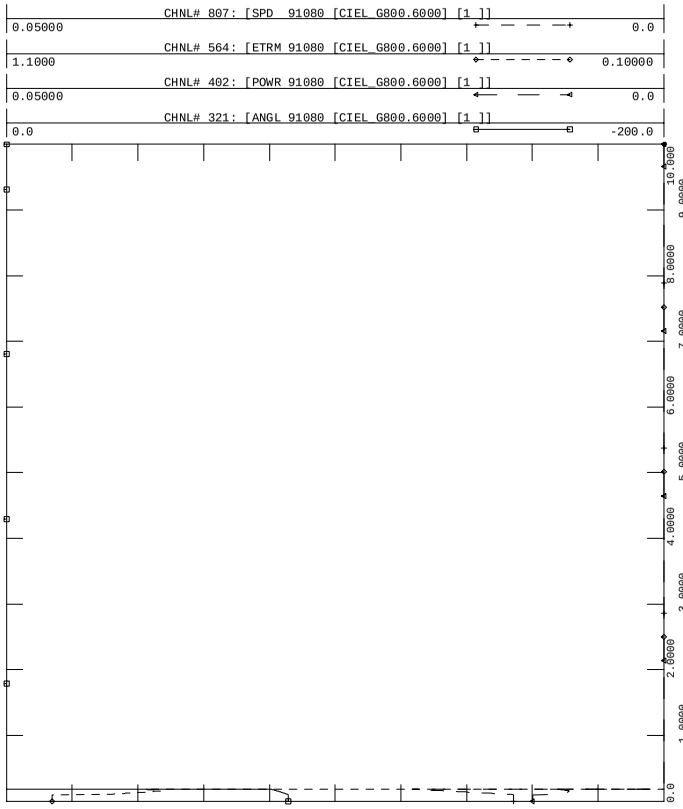
CIELO CABLE2 GEN41



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH_LITE.OUT

FRI, MAY 21 2004 10:03 6

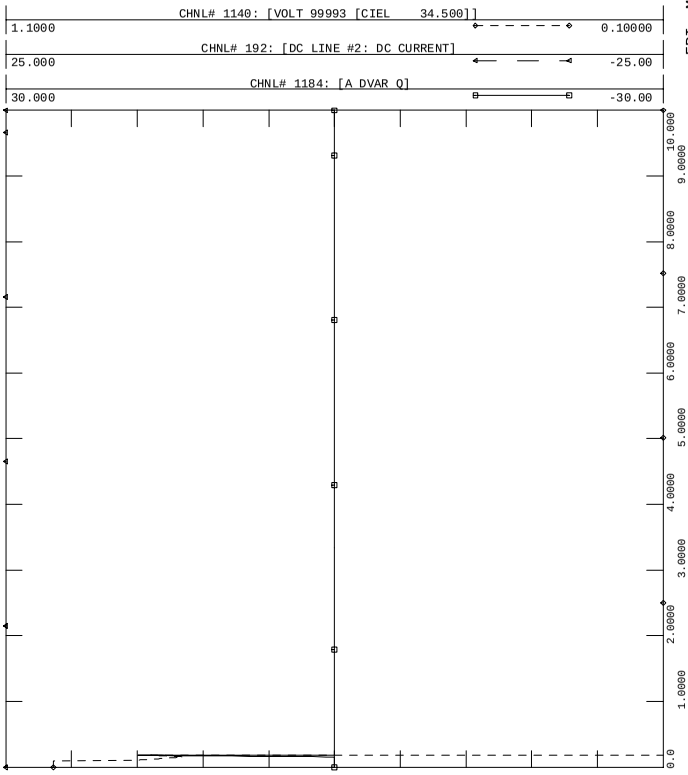
CIELO CABLE3 GEN80



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH_LITE.OUT

FRI, MAY 21 2004 10:03 8

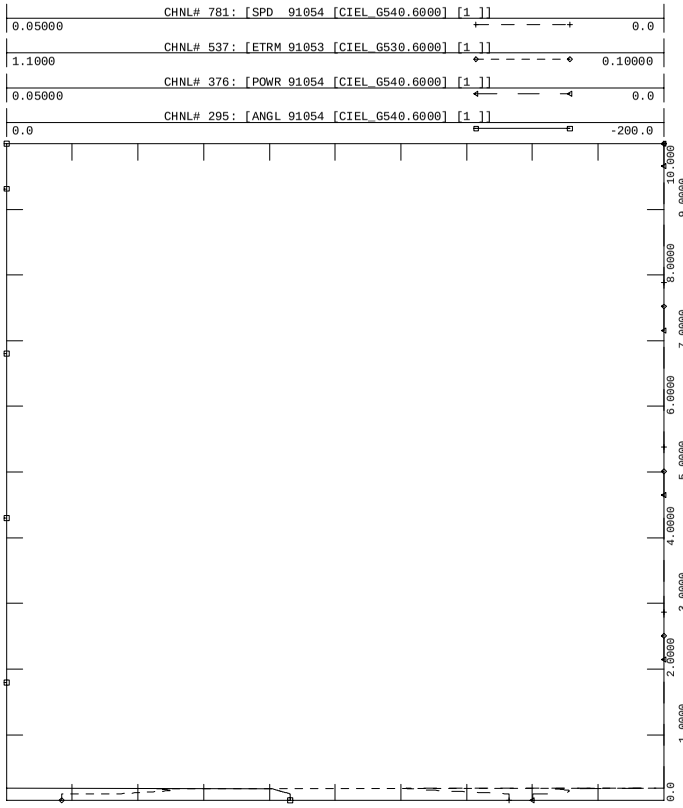
DVAR OUTPUT



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH_LITE.OUT

FRI, MAY 21 2004 10:03 5

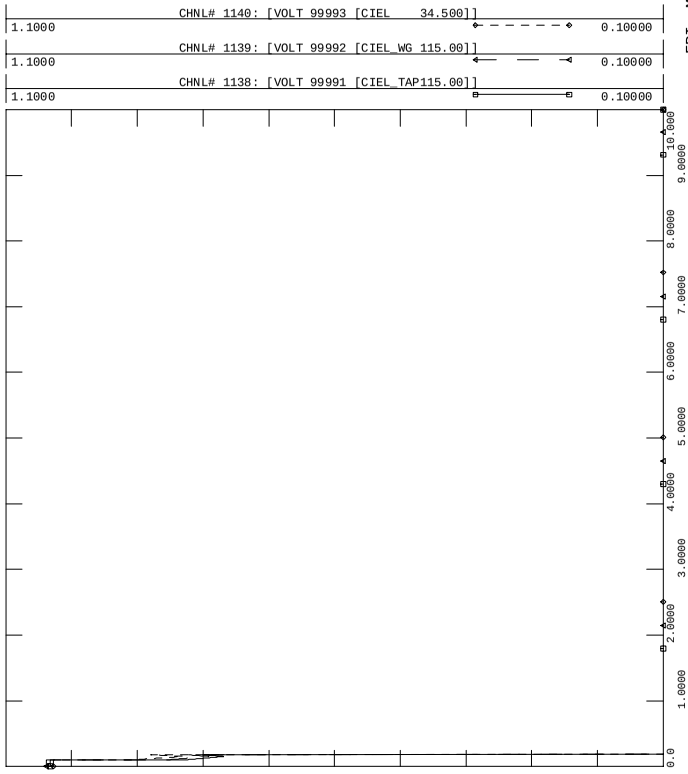
CIELO CABLE3 GEN54



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH_LITE.OUT

FRI, MAY 21 2004 10:03 7

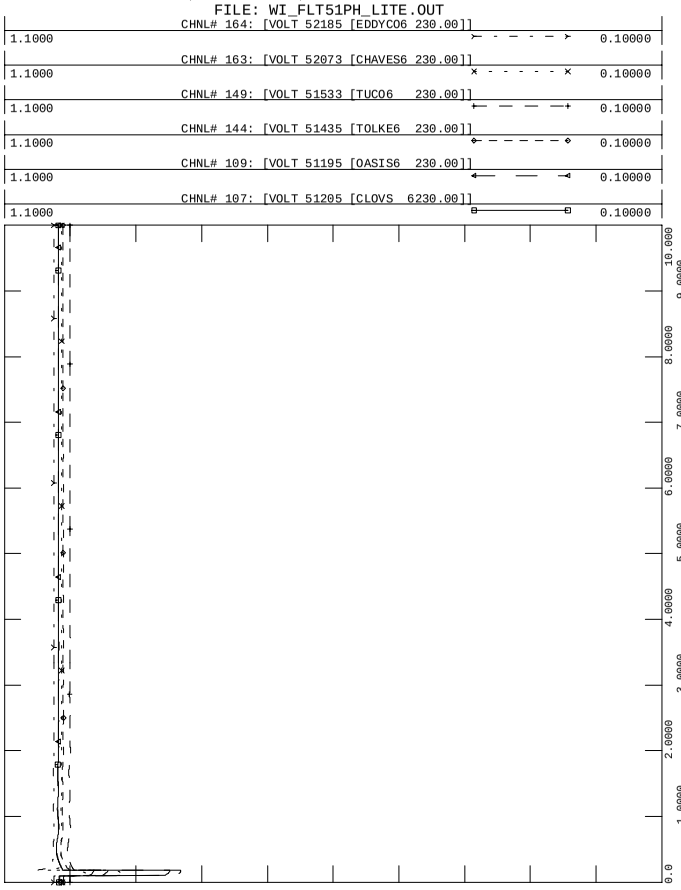
CIELO VOLTAGE



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH_LITE.OUT

FRI, MAY 21 2004 10:03

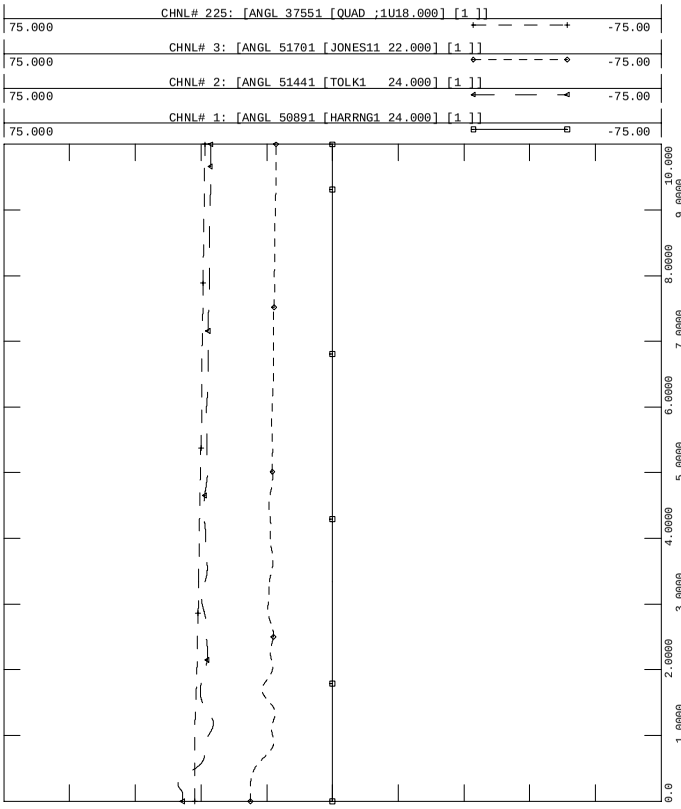
SPP:230 KV BUS VOLTAGE 10



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH_LITE.OUT

FRI, MAY 21 2004 10:03

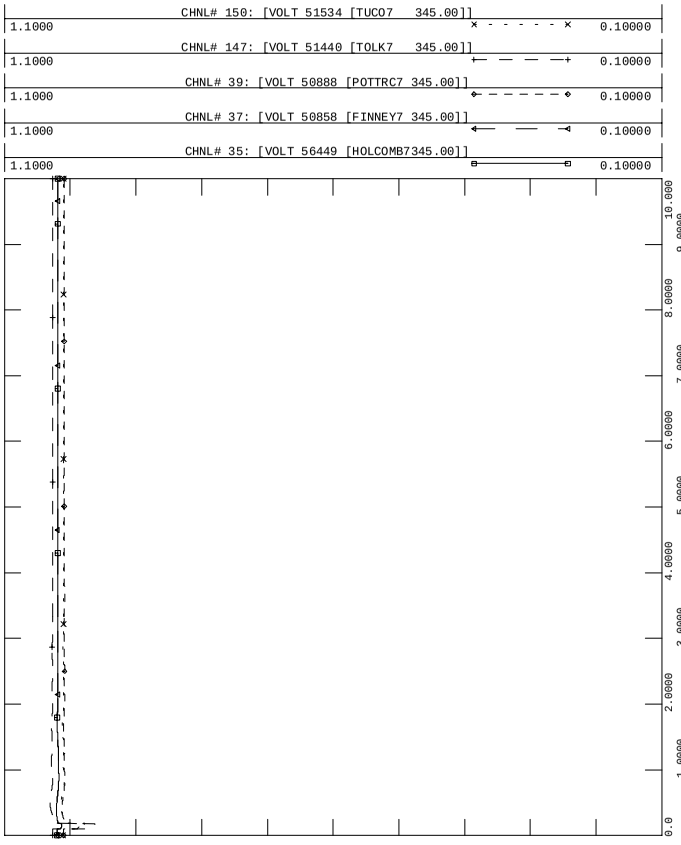
SPP: ROTOR ANGLE 12



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH_LITE.OUT

FRI, MAY 21 2004 10:03

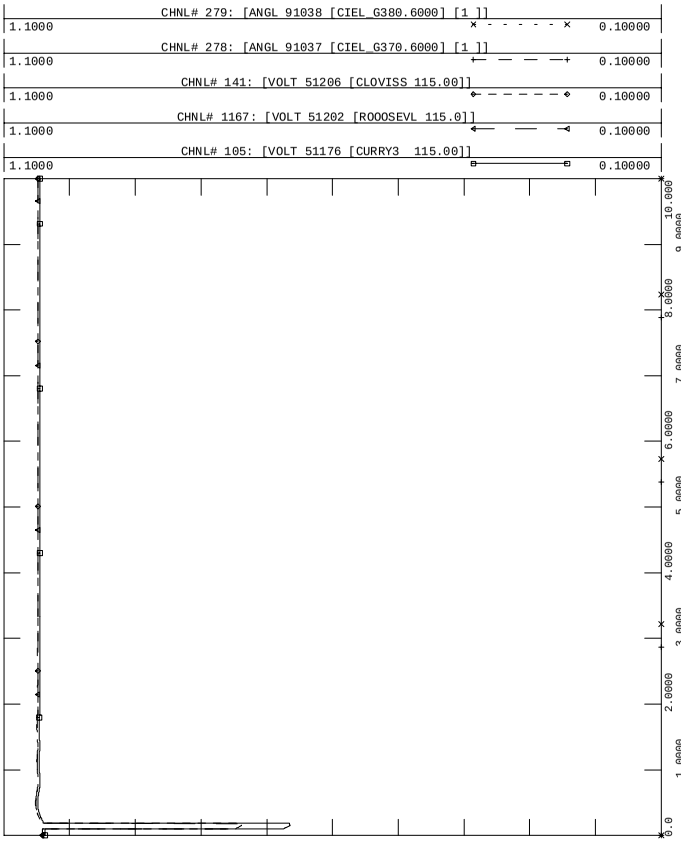
SPP:345 KV BUS VOLTAGE 9



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH_LITE.OUT

FRI, MAY 21 2004 10:03

SPP:115 KV BUS VOLTAGE 11

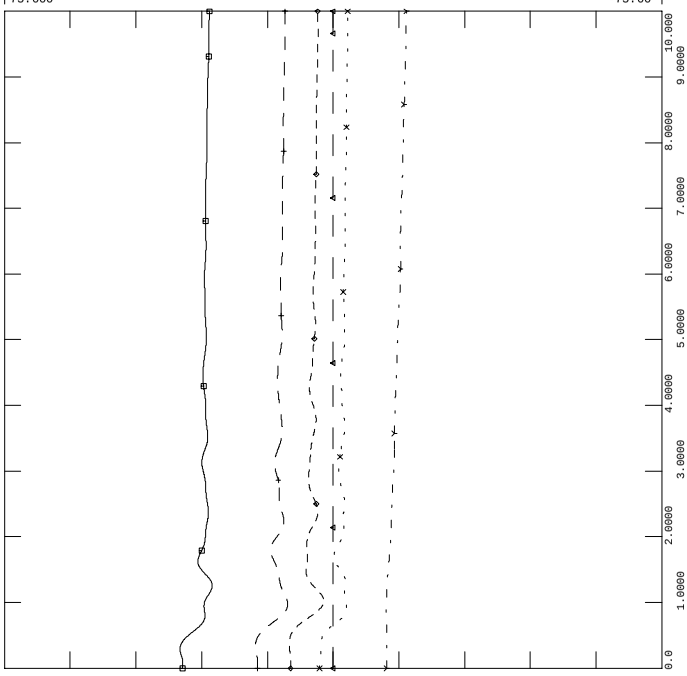


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH_LITE.OUT

FRI, MAY 21 2004 10:03 14

SPP: ROTOR ANGLE

CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]]
75.000 0.0
CHNL# 55: [ANGL 52212 [CUNN21 20.000] [1]]
75.000 -75.00
CHNL# 54: [ANGL 51973 [MUSTG#3122.000] [1]]
75.000 -75.00
CHNL# 53: [ANGL 51971 [MUSTG#1113.800] [1]]
75.000 -75.00
CHNL# 52: [ANGL 51424 [PLANTX4 20.000] [1]]
75.000 -75.00
CHNL# 51: [ANGL 51423 [PLANTX3 13.800] [1]]
75.000 -75.00

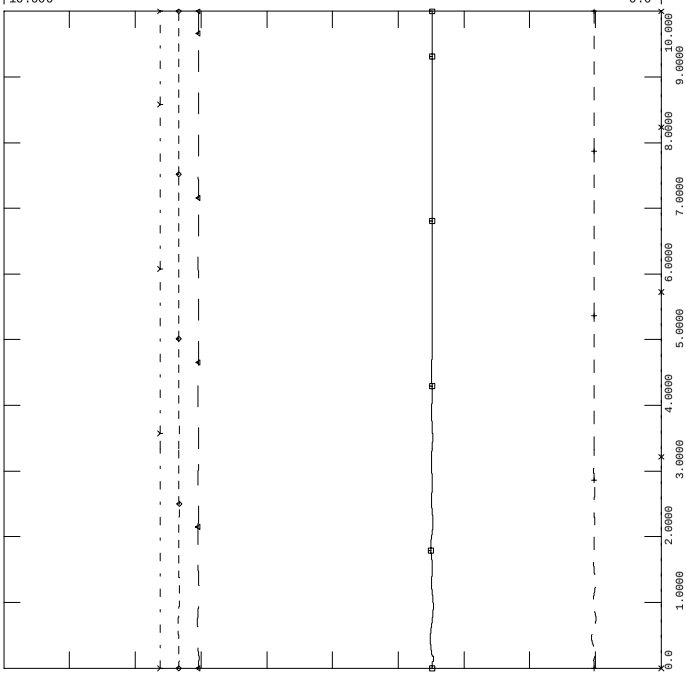


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH_LITE.OUT

FRI, MAY 21 2004 10:03 16

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
10.000 0.0
CHNL# 61: [POWR 50913 [NICHOL3 22.000] [1]]
10.000 0.0
CHNL# 60: [POWR 50912 [NICHOL2 13.800] [1]]
10.000 0.0
CHNL# 196: [POWR 64106 [GENTLM2G23.400] [2]]
10.000 0.0
CHNL# 11: [POWR 64105 [GENTLM1G22.400] [1]]
10.000 0.0
CHNL# 10: [POWR 56447 [HOLCGEN122.000] [1]]
10.000 0.0

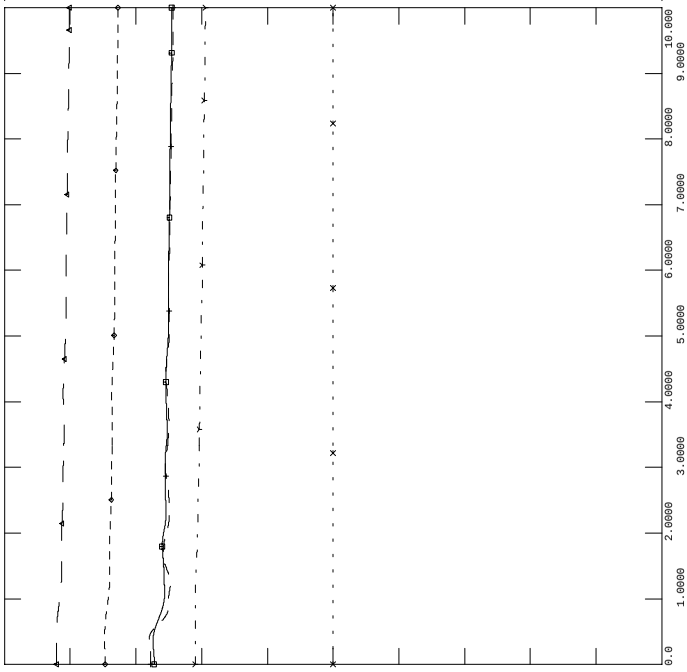


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH_LITE.OUT

FRI, MAY 21 2004 10:03 13

SPP: ROTOR ANGLE

CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]]
75.000 -75.00
CHNL# 50: [ANGL 50913 [NICHOL3 22.000] [1]]
75.000 -75.00
CHNL# 49: [ANGL 50912 [NICHOL2 13.800] [1]]
75.000 -75.00
CHNL# 195: [ANGL 64106 [GENTLM2G23.400] [2]]
75.000 -75.00
CHNL# 5: [ANGL 64105 [GENTLM1G22.400] [1]]
75.000 -75.00
CHNL# 4: [ANGL 56447 [HOLCGEN122.000] [1]]
75.000 -75.00

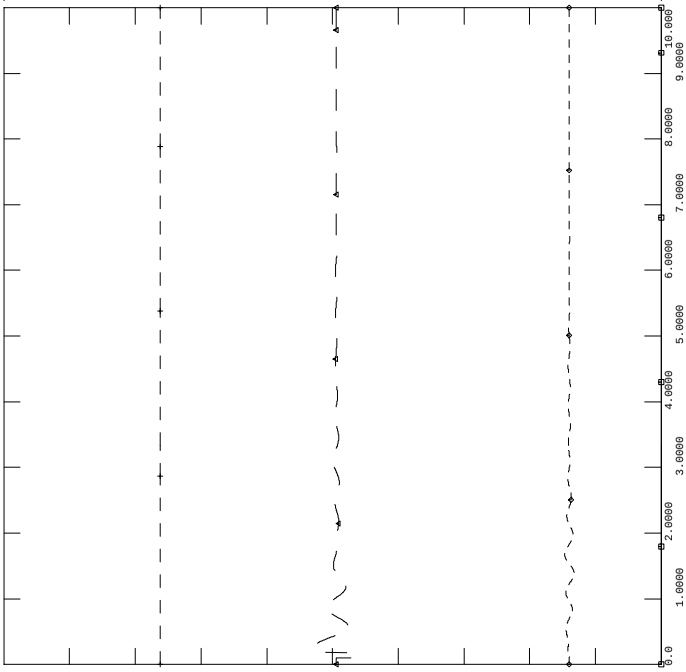


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH_LITE.OUT

FRI, MAY 21 2004 10:03 15

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
10.000 0.0
CHNL# 9: [POWR 51701 [JONES11 22.000] [1]]
10.000 0.0
CHNL# 8: [POWR 51441 [TOLK1 24.000] [1]]
10.000 0.0
CHNL# 7: [POWR 50891 [HARRNG1 24.000] [1]]
10.000 0.0

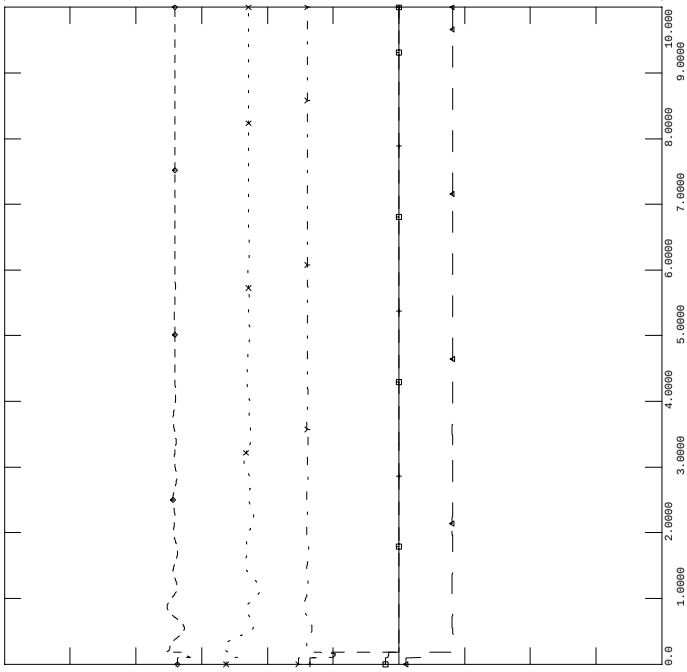


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH_LITE.OUT

FRI, MAY 21 2004 10:03 18

BRANCH FLOW

CHNL# 97: [POWR 51195 TO 52073 CKT 1]
300.00 -200.0
CHNL# 1179: [POWR 51435 TO 51533 CKT 1]
300.00 -200.0
CHNL# 1177: [POWR 99991 TO 51176 CKT 1]
300.00 -200.0
CHNL# 1175: [POWR 51440 TO 52186 CKT 1]
300.00 -200.0
CHNL# 1173: [POWR 51176 TO 51206 CKT 2]
300.00 -200.0
CHNL# 1169: [POWR 99991 TO 51076 CKT 1]
300.00 -200.0

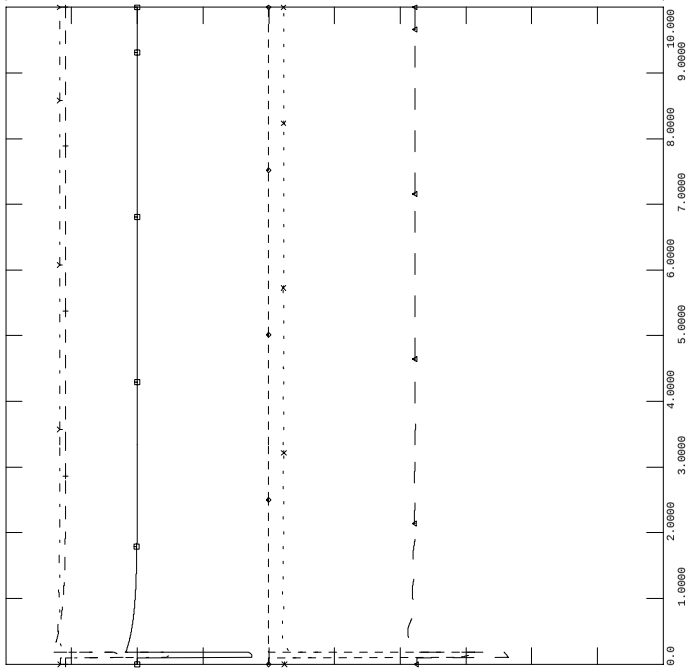


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH_LITE.OUT

FRI, MAY 21 2004 10:03 20

DC LINE PNM

CHNL# 207: [VOLT 59995 [BLKWDC 230.00]]
1.1000 0.10000
CHNL# 193: [DC LINE #2: ALPHA]
100.00 -100.0
CHNL# 192: [DC LINE #2: DC CURRENT]
4000.0 0.0
CHNL# 191: [DC LINE #2: VDCR]
65000. 40000.
CHNL# 187: [DC LINE #2: QACR]
2.5000 0.0
CHNL# 186: [DC LINE #2: PACR]
2.5000 0.0

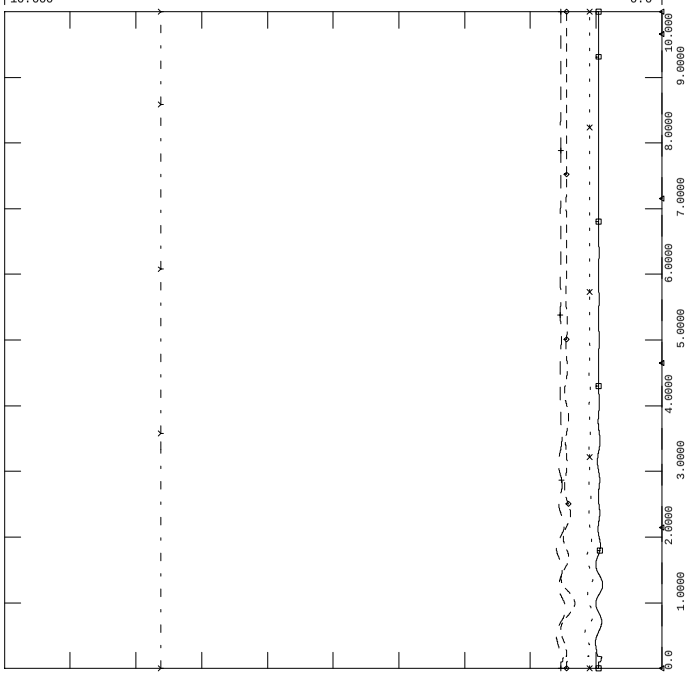


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH_LITE.OUT

FRI, MAY 21 2004 10:03 17

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
10.000 0.0
CHNL# 66: [POWR 52212 [CUNN21 20.000] [1]]
10.000 0.0
CHNL# 65: [POWR 51973 [MUSTG#3122.000] [1]]
10.000 0.0
CHNL# 64: [POWR 51971 [MUSTG#1113.800] [1]]
10.000 0.0
CHNL# 63: [POWR 51424 [PLANTX4 20.000] [1]]
10.000 0.0
CHNL# 62: [POWR 51423 [PLANTX3 13.800] [1]]
10.000 0.0

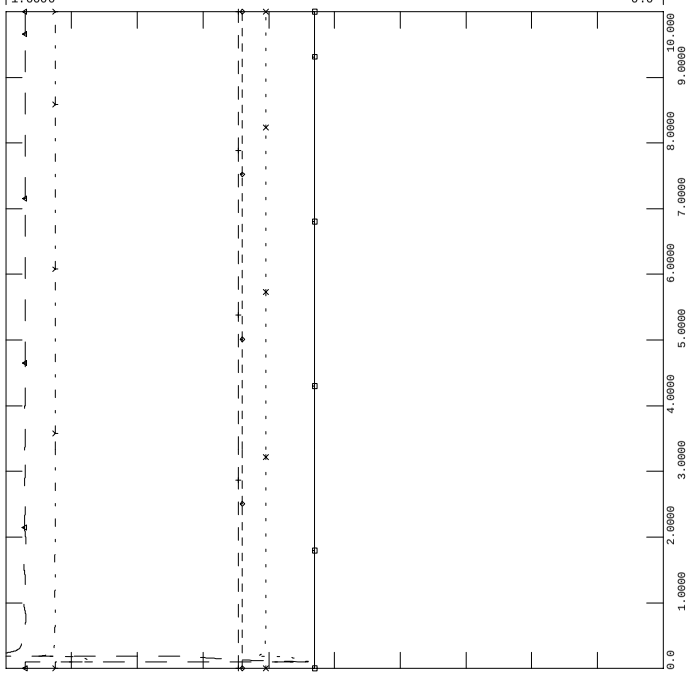


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH_LITE.OUT

FRI, MAY 21 2004 10:03 19

DC LINE EPE

CHNL# 208: [VOLT 59996 [EPEDC 230.00]]
1.1000 0.10000
CHNL# 184: [DC LINE #1: ALFA]
100.00 -100.0
CHNL# 183: [DC LINE #1: DC CURRENT]
1000.0 0.0
CHNL# 182: [DC LINE #1: VDCR]
1.0000E5 50000.
CHNL# 178: [DC LINE #1: QACR]
0.25000 0.0
CHNL# 177: [DC LINE #1: PACR]
1.0000 0.0

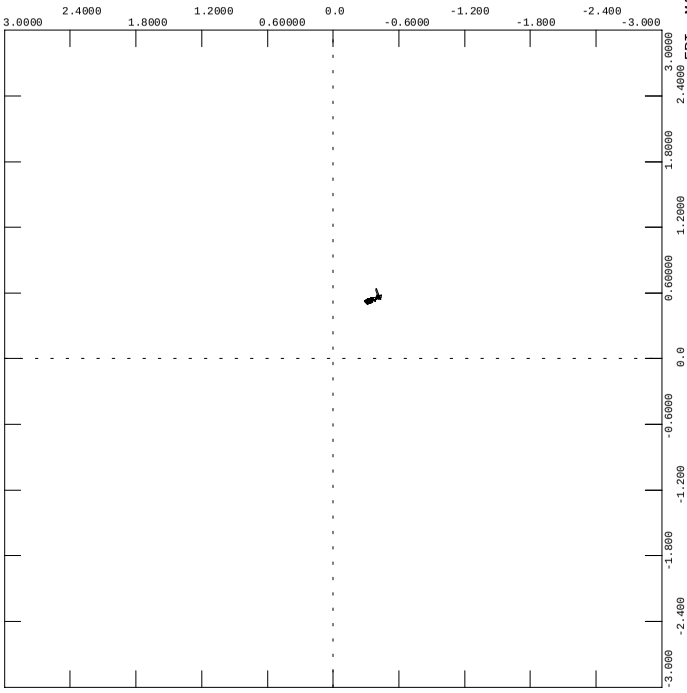


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE

22

FILE: WI_FLT51PH_LITE.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 116: [APPX 50858 TO 50888 CKT 1]



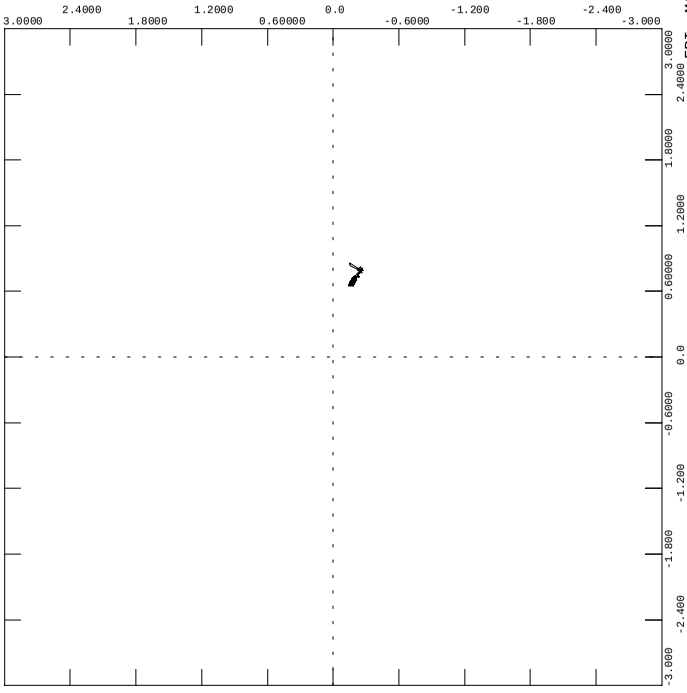
FRI, MAY 21 2004 10:03
POTTER-FINNEY

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE

21

FILE: WI_FLT51PH_LITE.OUT

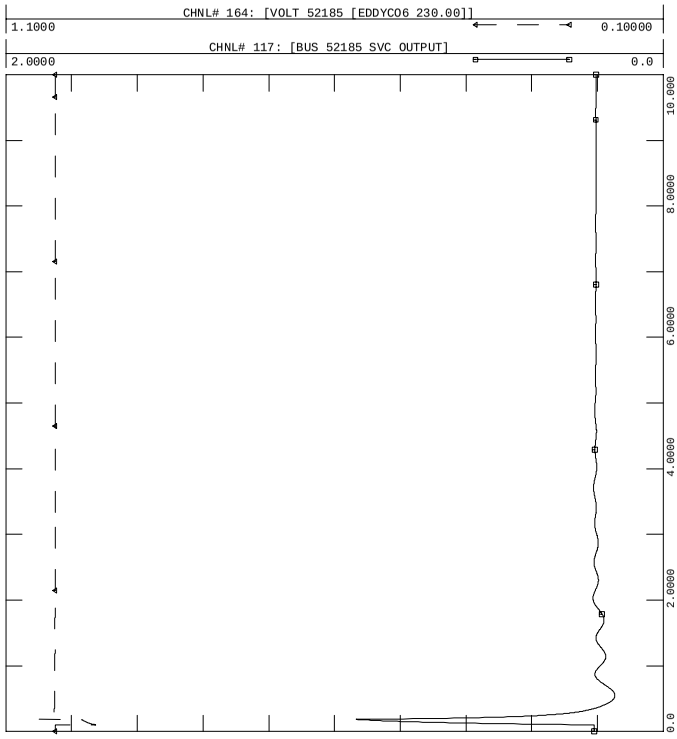
TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 114: [APPX 56449 TO 50858 CKT 1]



FRI, MAY 21 2004 10:03
FINNEY-HOLCOMB

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WI_FLT51PH_LITE.OUT

23

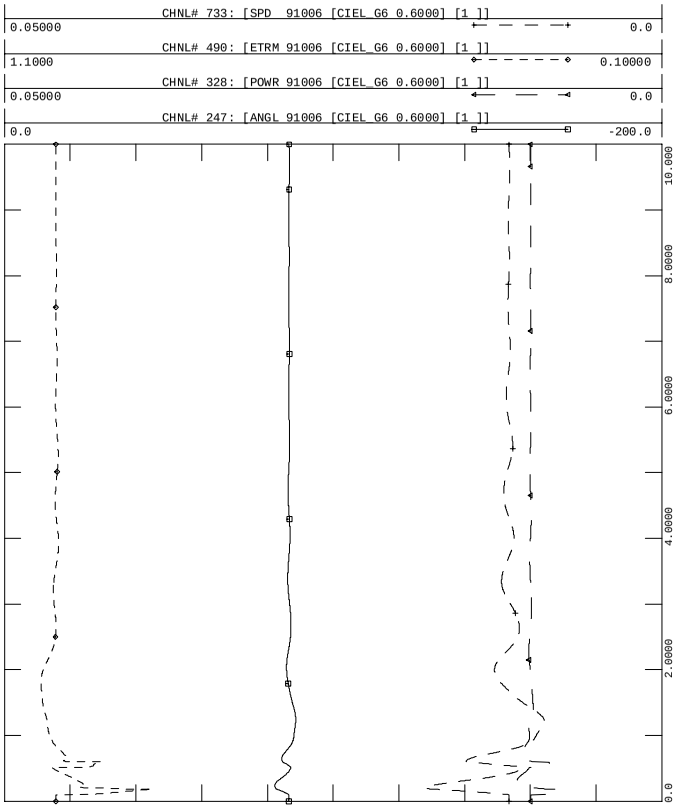


FRI, MAY 21 2004 10:03
SVC OUTPUT

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH_LITE.OUT

FRI, MAY 21 2004 10:04 2

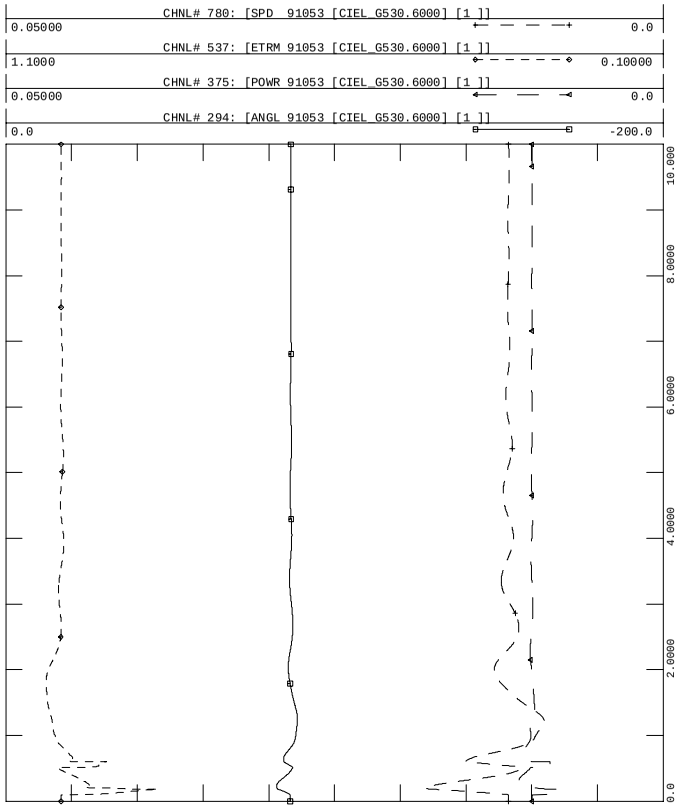
CIELO CABLE1 GEN6



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH_LITE.OUT

FRI, MAY 21 2004 10:04 4

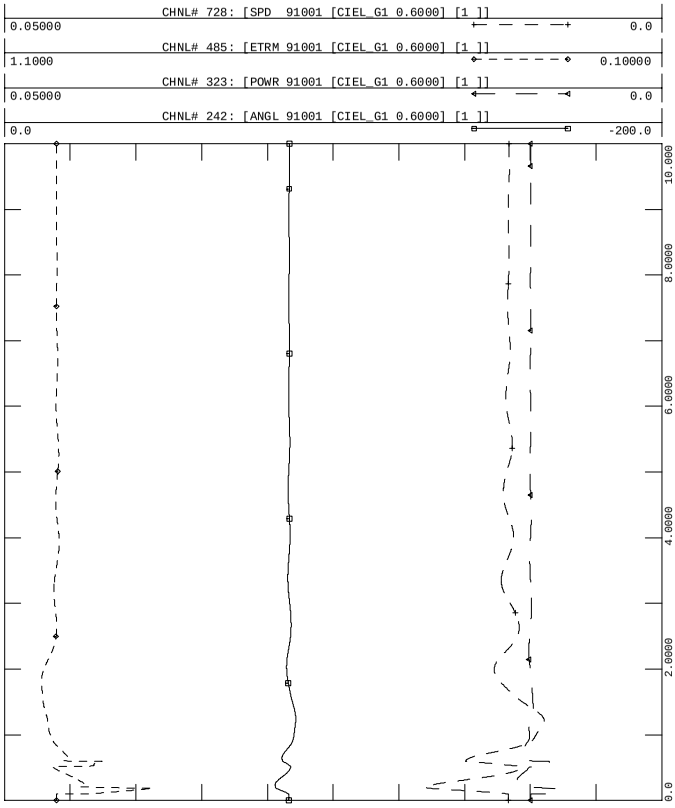
CIELO CABLE2 GEN53



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH_LITE.OUT

FRI, MAY 21 2004 10:04 1

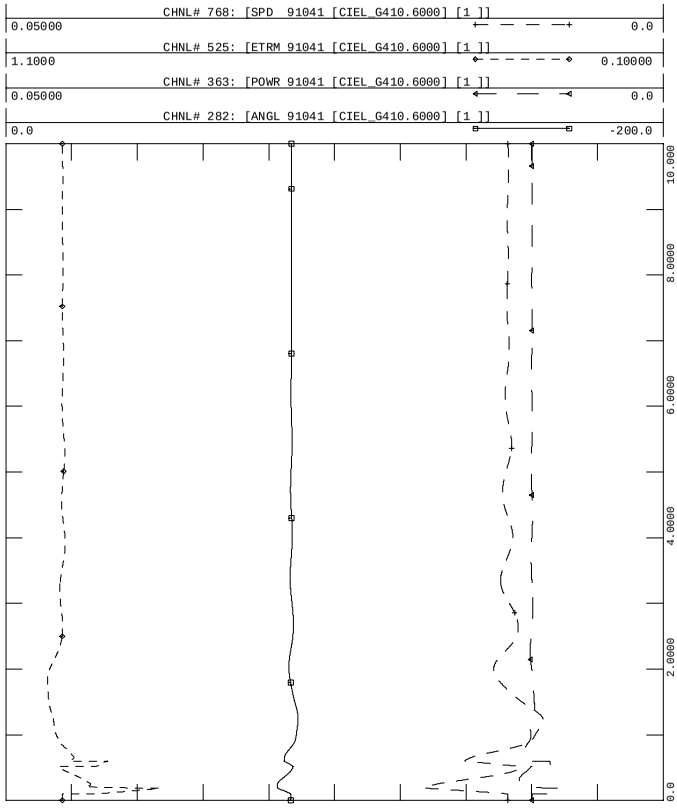
CIELO CABLE1 GEN1



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH_LITE.OUT

FRI, MAY 21 2004 10:04 3

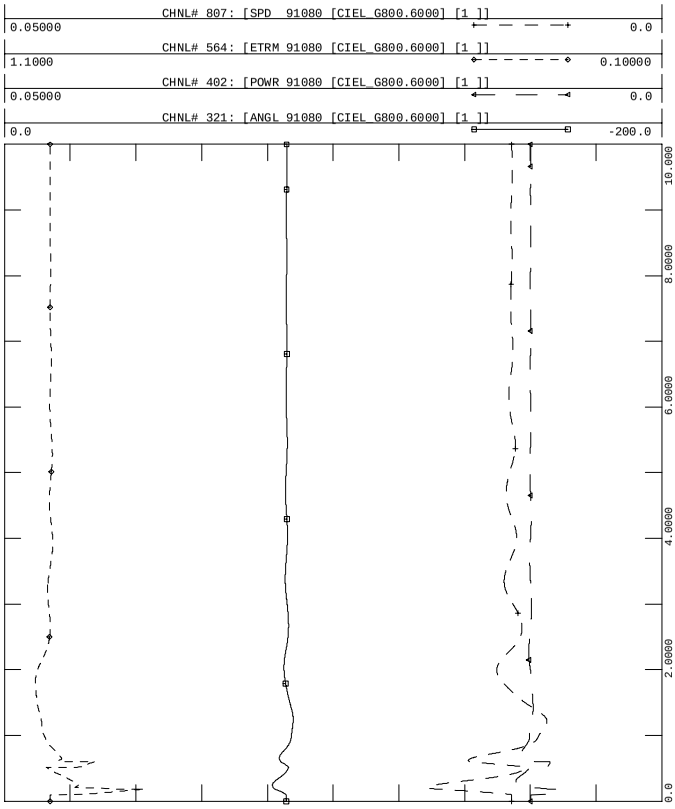
CIELO CABLE2 GEN41



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH_LITE.OUT

FRI, MAY 21 2004 10:04 6

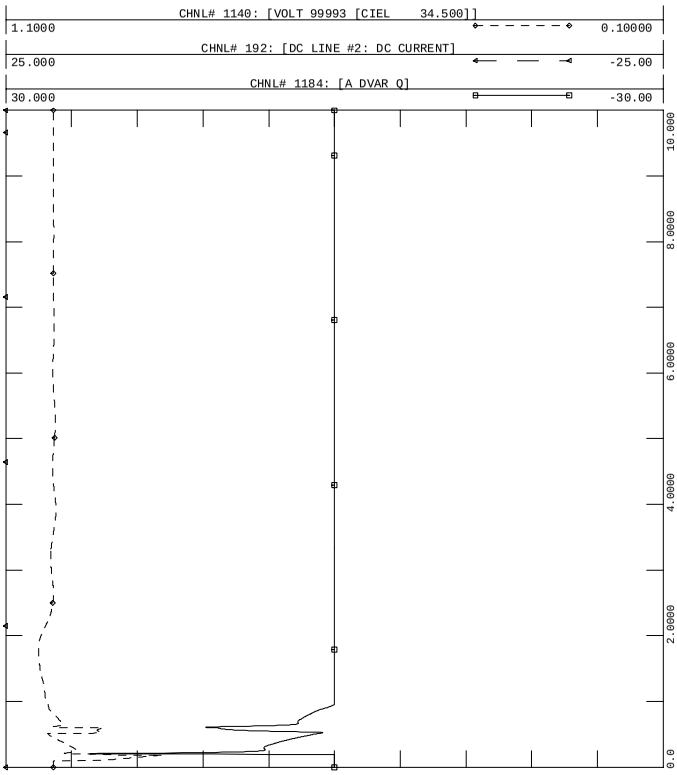
CIELO CABLE3 GEN80



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH_LITE.OUT

FRI, MAY 21 2004 10:04 8

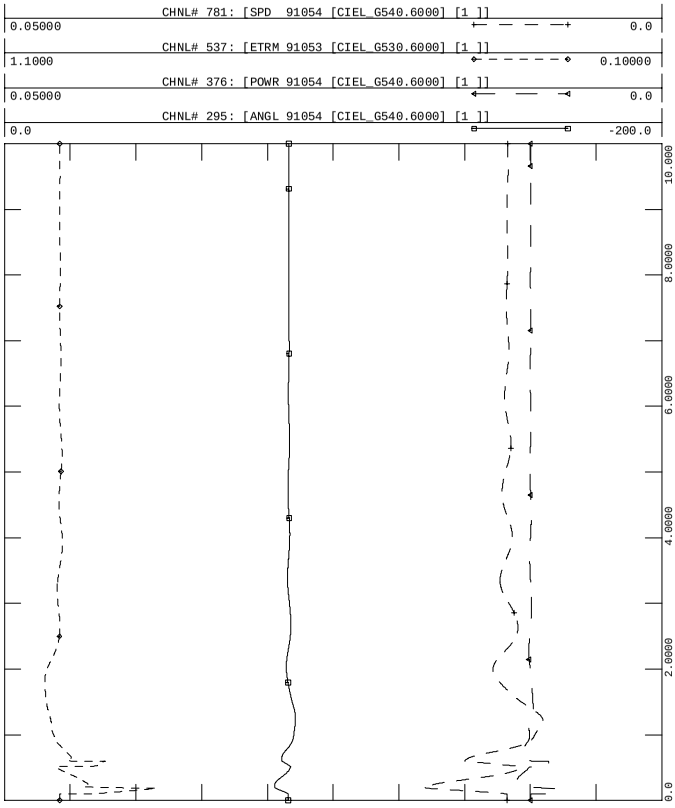
DVAR OUTPUT



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH_LITE.OUT

FRI, MAY 21 2004 10:04 5

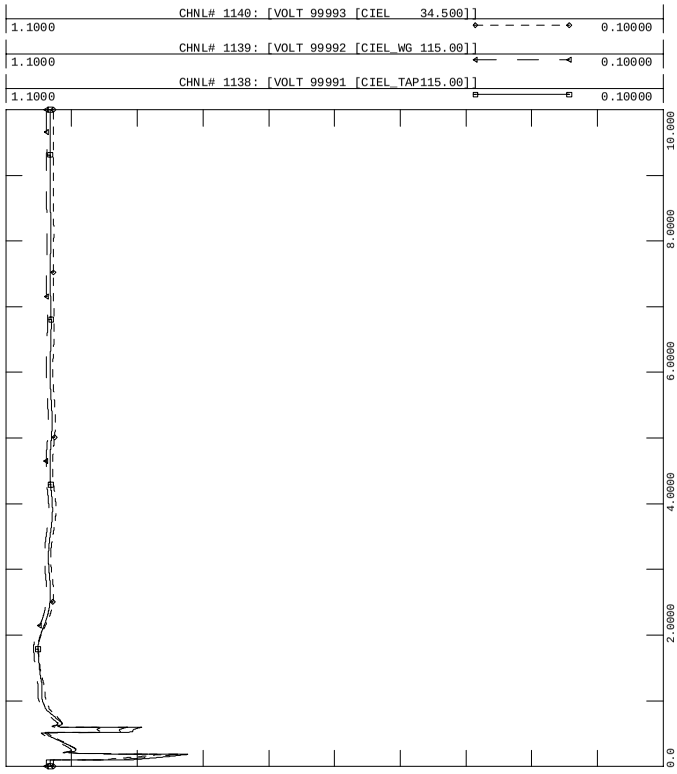
CIELO CABLE3 GEN54



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH_LITE.OUT

FRI, MAY 21 2004 10:04 7

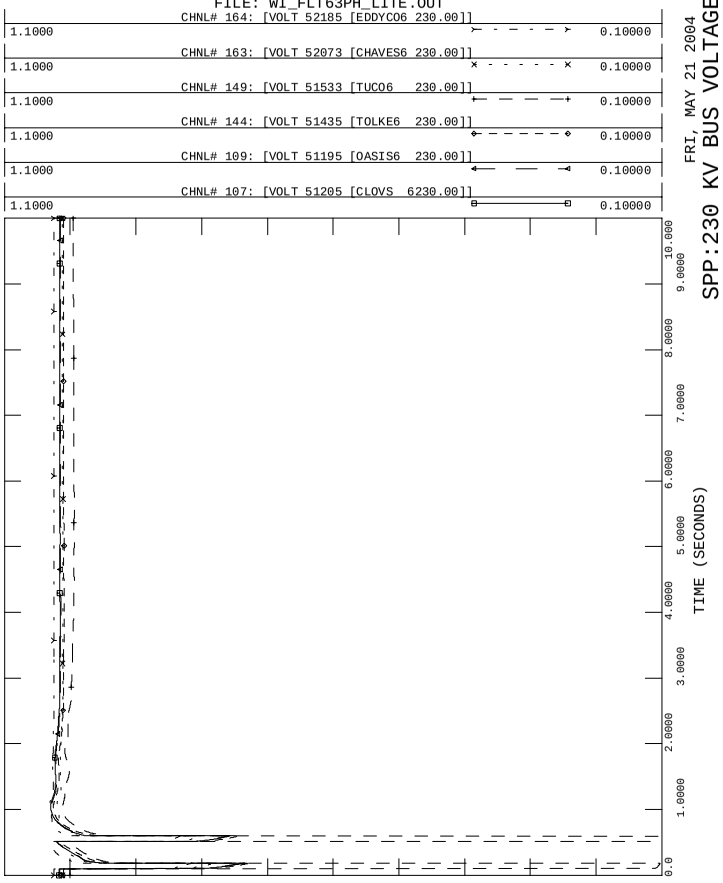
CIELO VOLTAGE



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH_LITE.OUT

FRI, MAY 21 2004 10:04

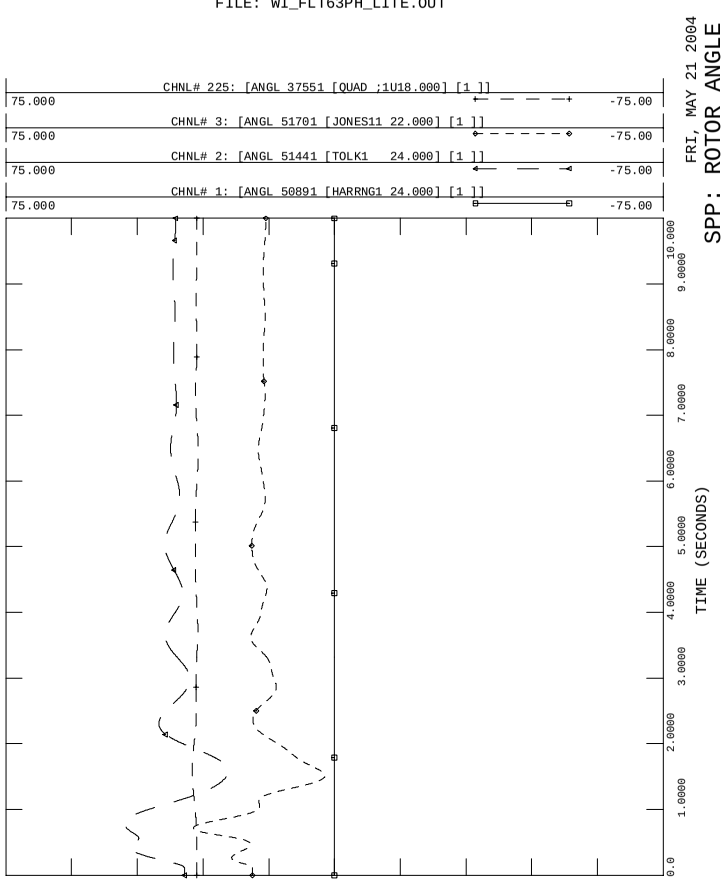
SPP:230 KV BUS VOLTAGE 10



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH_LITE.OUT

FRI, MAY 21 2004 10:04

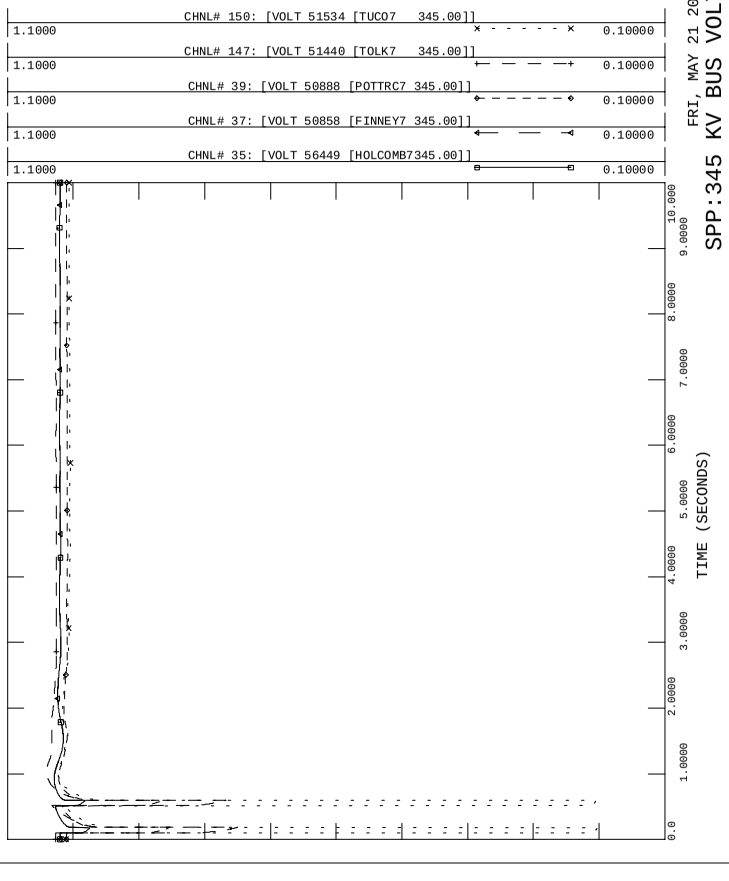
SPP: ROTOR ANGLE 12



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH_LITE.OUT

FRI, MAY 21 2004 10:04

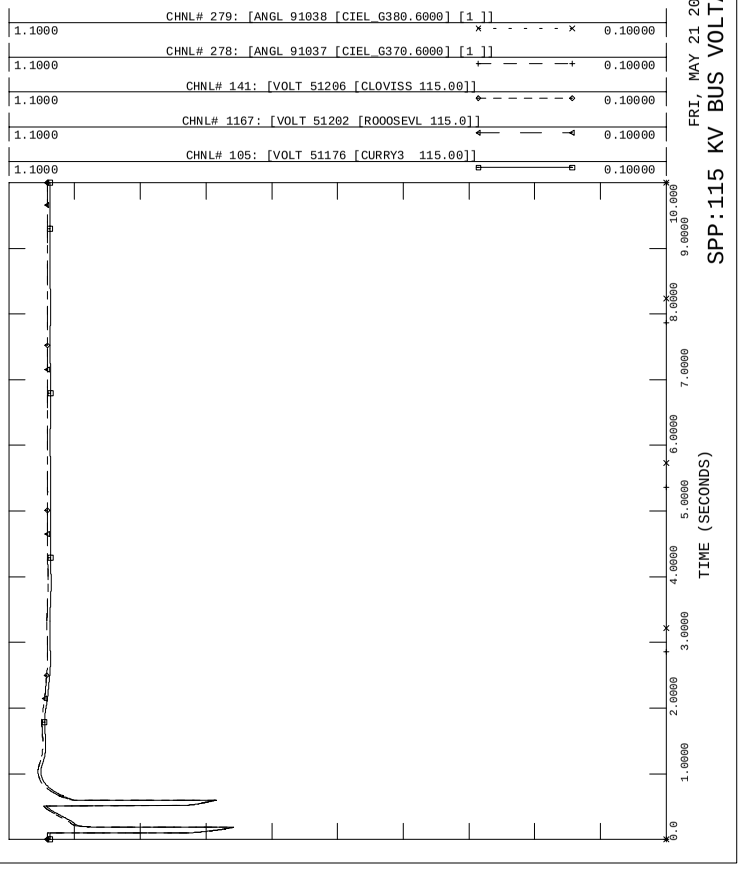
SPP:345 KV BUS VOLTAGE 9



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH_LITE.OUT

FRI, MAY 21 2004 10:04

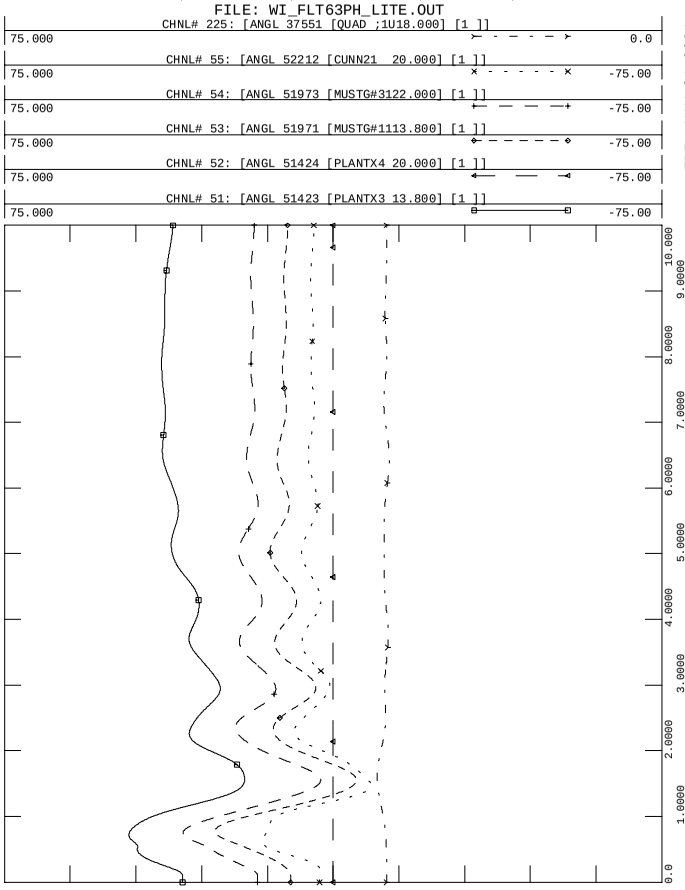
SPP:115 KV BUS VOLTAGE 11



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH_LITE.OUT

FRI, MAY 21 2004 10:04 14

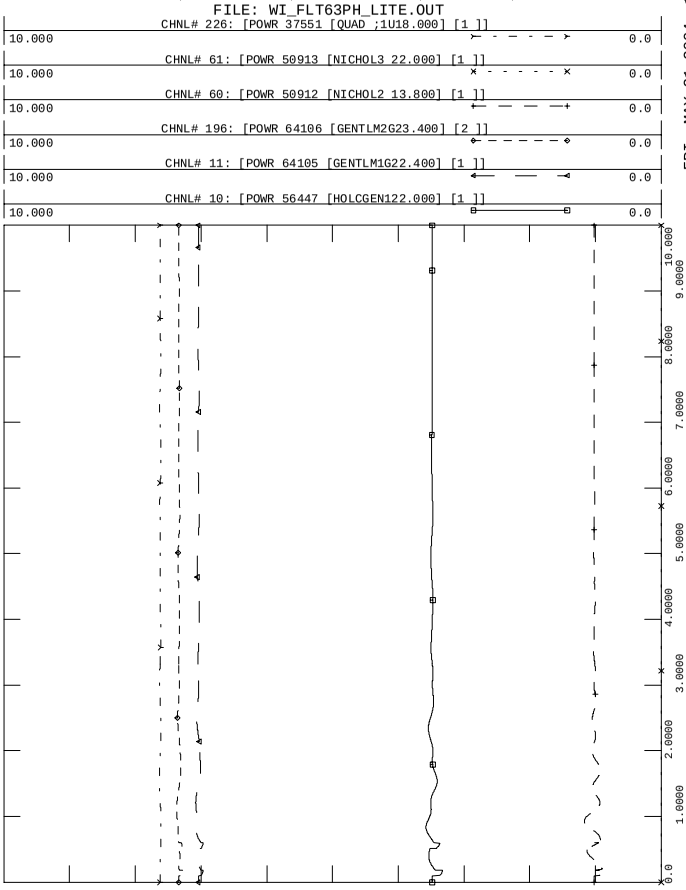
SPP: ROTOR ANGLE



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH_LITE.OUT

FRI, MAY 21 2004 10:04 16

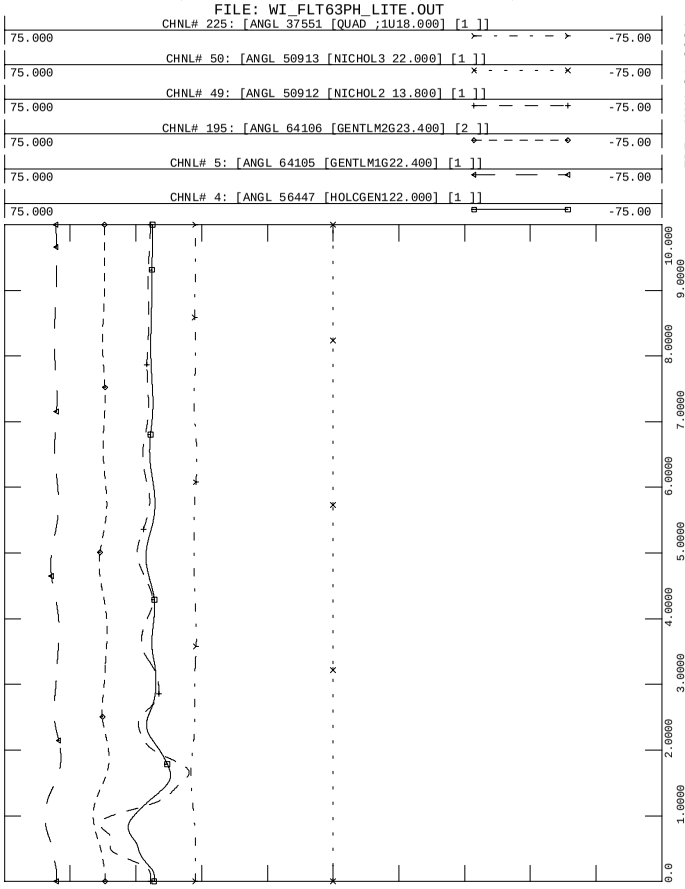
SPP: PELEC



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH_LITE.OUT

FRI, MAY 21 2004 10:04 13

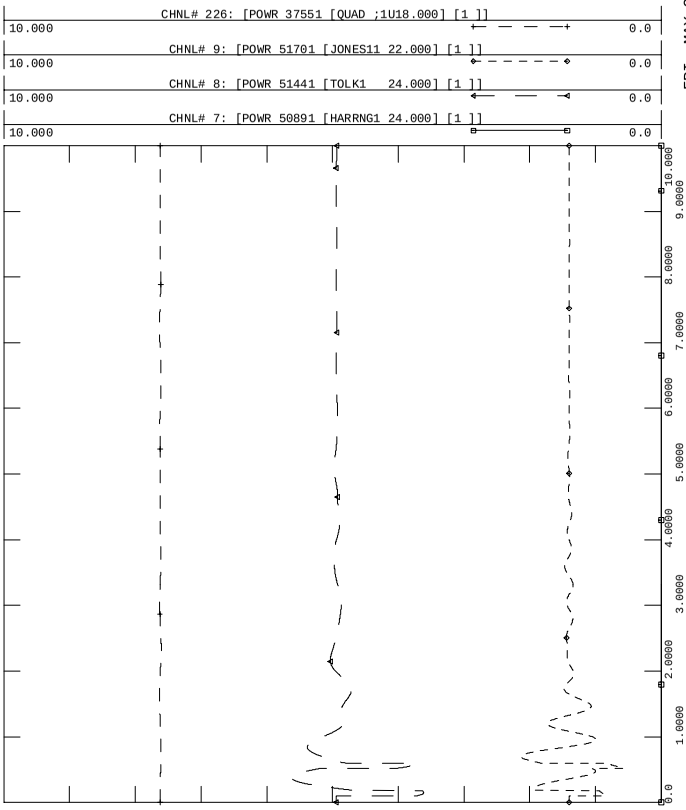
SPP: ROTOR ANGLE



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH_LITE.OUT

FRI, MAY 21 2004 10:04 15

SPP: PELEC

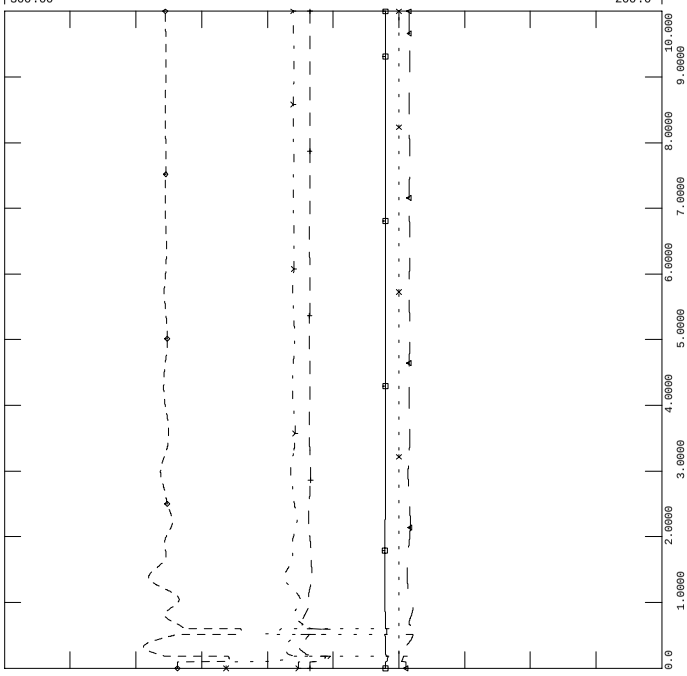


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH_LITE.OUT

FRI, MAY 21 2004 10:04 18

BRANCH FLOW

CHNL# 97: [POWR 51195 TO 52073 CKT 1] 300.00 -200.0
CHNL# 1179: [POWR 51435 TO 51533 CKT 1] 300.00 -200.0
CHNL# 1177: [POWR 99991 TO 51176 CKT 1] 300.00 -200.0
CHNL# 1175: [POWR 51440 TO 52186 CKT 1] 300.00 -200.0
CHNL# 1173: [POWR 51176 TO 51206 CKT 2] 300.00 -200.0
CHNL# 1169: [POWR 99991 TO 51076 CKT 1] 300.00 -200.0

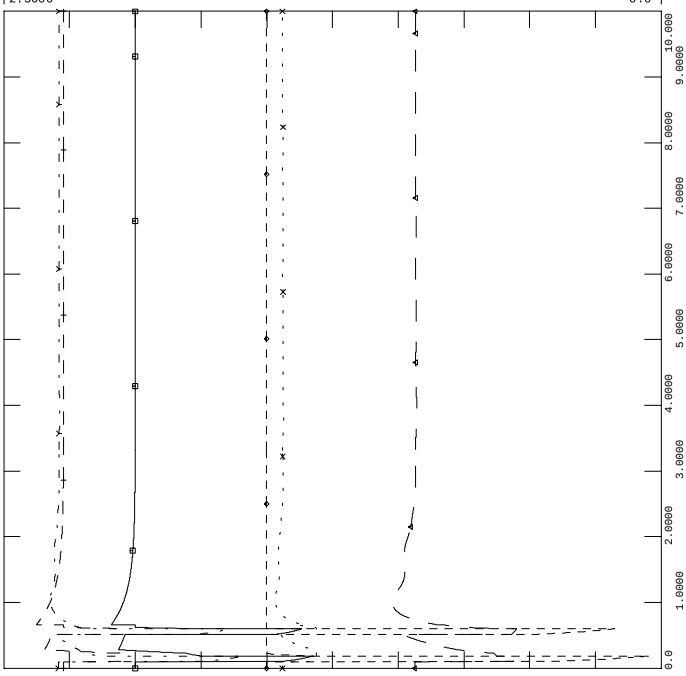


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH_LITE.OUT

FRI, MAY 21 2004 10:04 20

DC LINE PNM

CHNL# 207: [VOLT 59995 [BLKWDC 230.00]] 1.1000 0.10000
CHNL# 193: [DC LINE #2: ALPHA] 100.00 -100.0
CHNL# 192: [DC LINE #2: DC CURRENT] 4000.0 0.0
CHNL# 191: [DC LINE #2: VDCR] 65000. 40000.
CHNL# 187: [DC LINE #2: QACR] 2.5000 0.0
CHNL# 186: [DC LINE #2: PACR] 2.5000 0.0

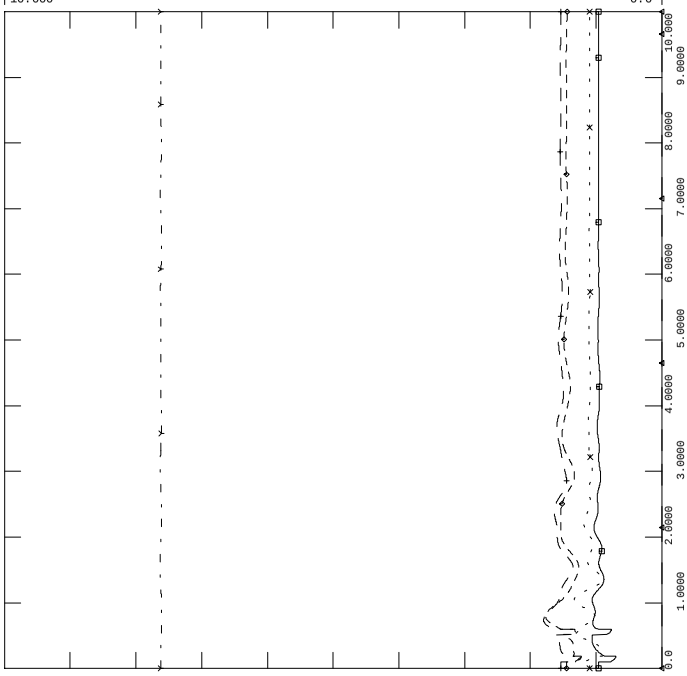


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH_LITE.OUT

FRI, MAY 21 2004 10:04 17

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]] 10.000 0.0
CHNL# 66: [POWR 52212 [CUNN21 20.000] [1]] 10.000 0.0
CHNL# 65: [POWR 51973 [MUSTG#3122.000] [1]] 10.000 0.0
CHNL# 64: [POWR 51971 [MUSTG#1113.800] [1]] 10.000 0.0
CHNL# 63: [POWR 51424 [PLANTX4 20.000] [1]] 10.000 0.0
CHNL# 62: [POWR 51423 [PLANTX3 13.800] [1]] 10.000 0.0

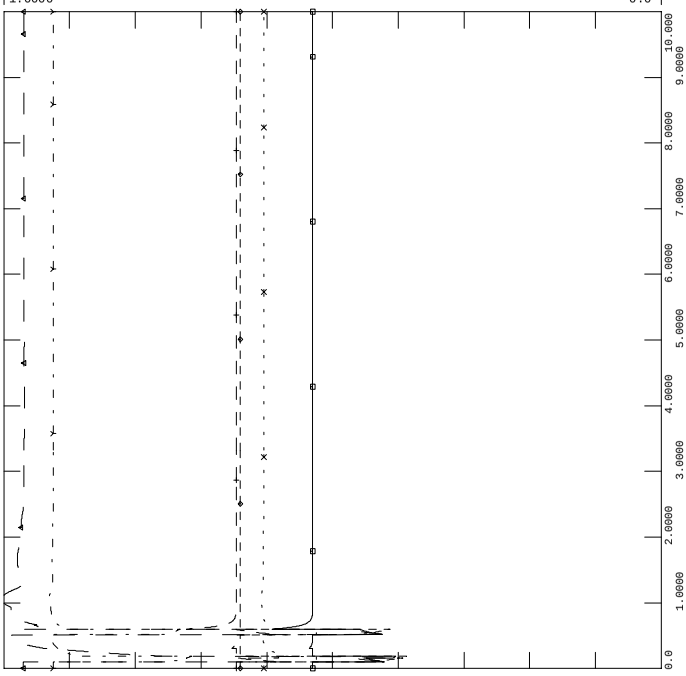


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH_LITE.OUT

FRI, MAY 21 2004 10:04 19

DC LINE EPE

CHNL# 208: [VOLT 59996 [EPEDC 230.00]] 1.1000 0.10000
CHNL# 184: [DC LINE #1: ALFA] 100.00 -100.0
CHNL# 183: [DC LINE #1: DC CURRENT] 1000.0 0.0
CHNL# 182: [DC LINE #1: VDCR] 1.0000E5 50000.
CHNL# 178: [DC LINE #1: QACR] 0.25000 0.0
CHNL# 177: [DC LINE #1: PACR] 1.0000 0.0



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

22

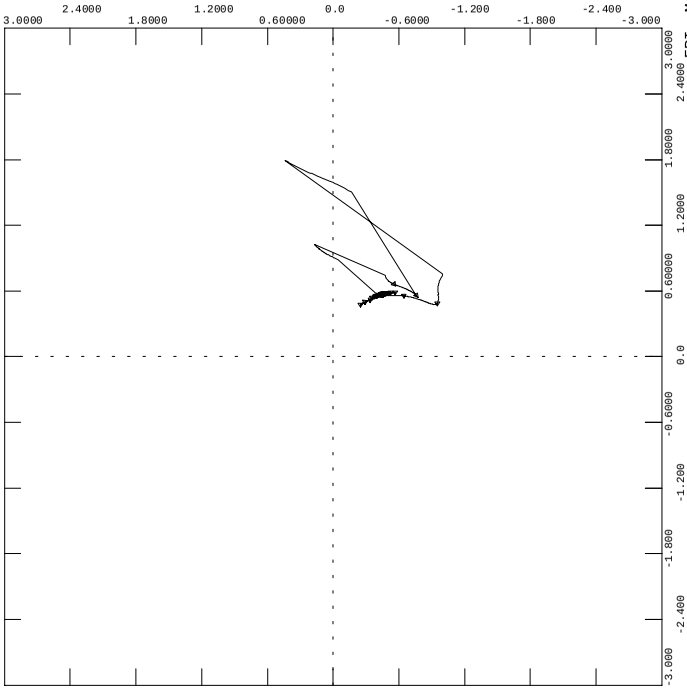
FRI, MAY 21 2004 10:04

POTTER-FINNEY

FILE: WI_FLT63PH_LITE.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25

CHNL# 116: [APPX 50858 TO 50888 CKT 1]



CHNL# 115: [APPR 50858 TO 50888 CKT 1]

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

21

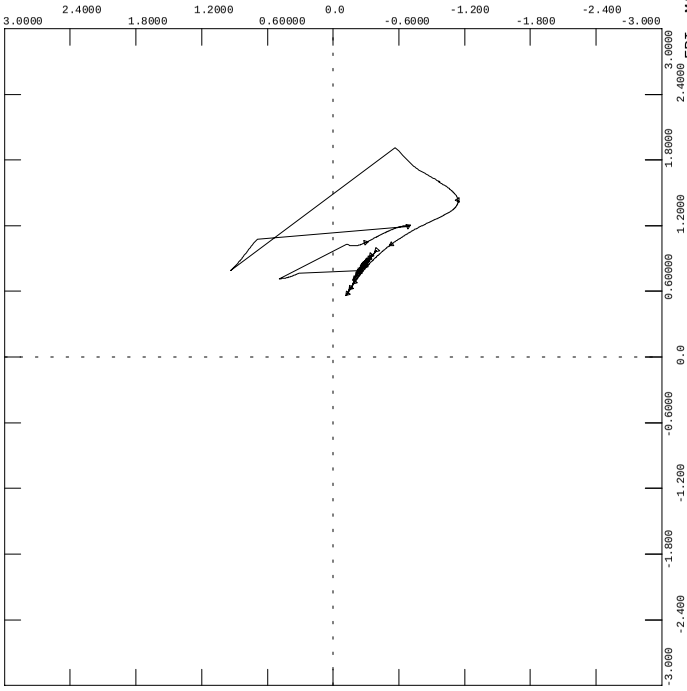
FRI, MAY 21 2004 10:04

FINNEY-HOLCOMB

FILE: WI_FLT63PH_LITE.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25

CHNL# 114: [APPX 56449 TO 50858 CKT 1]



CHNL# 113: [APPR 56449 TO 50858 CKT 1]

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT63PH_LITE.OUT

23

FRI, MAY 21 2004 10:04

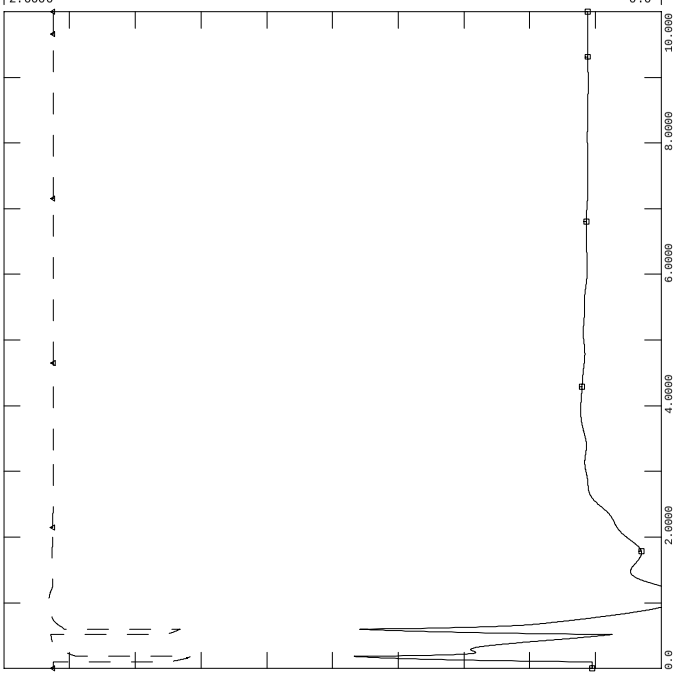
SVC OUTPUT

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]

1.1000 0.10000

CHNL# 117: [BUS 52185 SVC OUTPUT]

2.0000 0.0

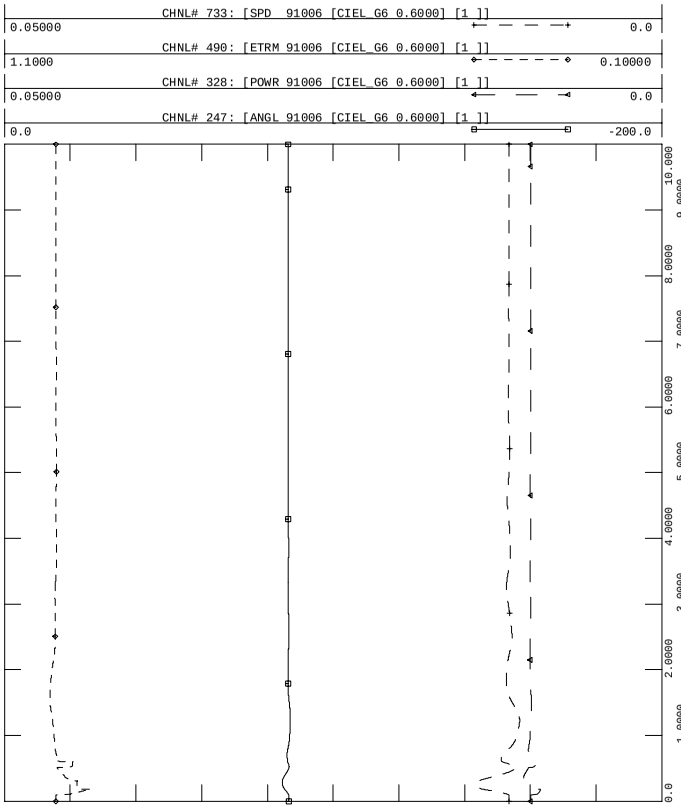


TIME (SECONDS)

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH_LITE.OUT

FRI, MAY 21 2004 10:04 2

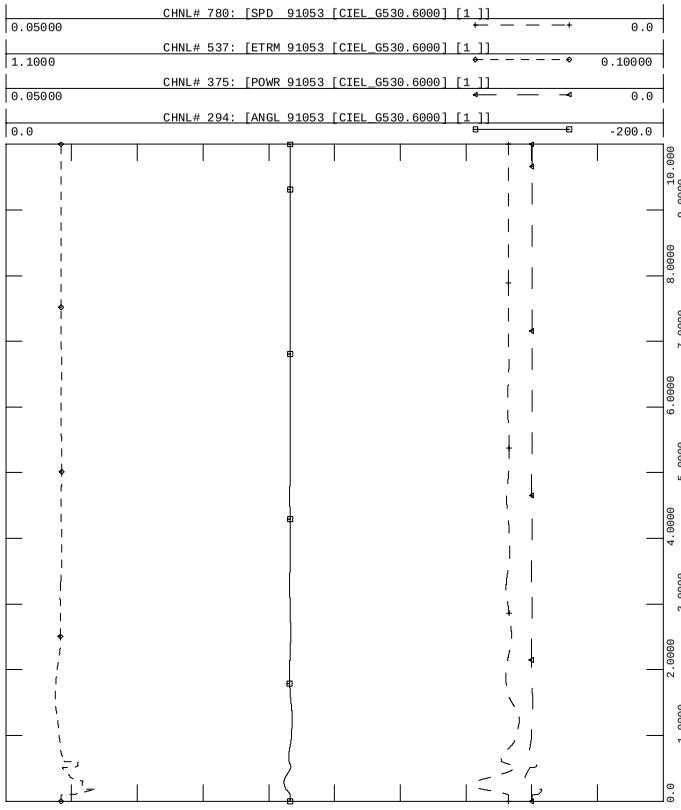
CIELO CABLE1 GEN6



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH_LITE.OUT

FRI, MAY 21 2004 10:04 4

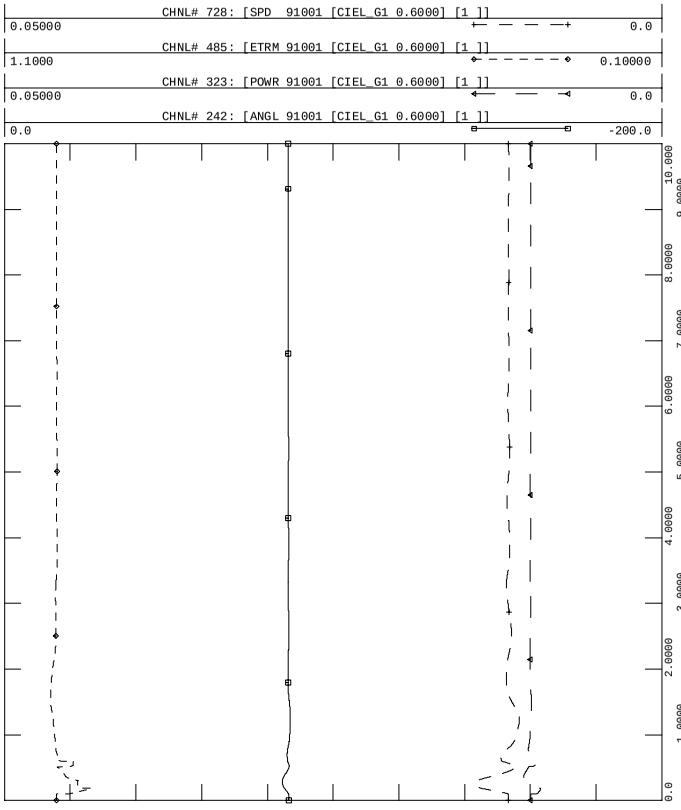
CIELO CABLE2 GEN53



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH_LITE.OUT

FRI, MAY 21 2004 10:04 1

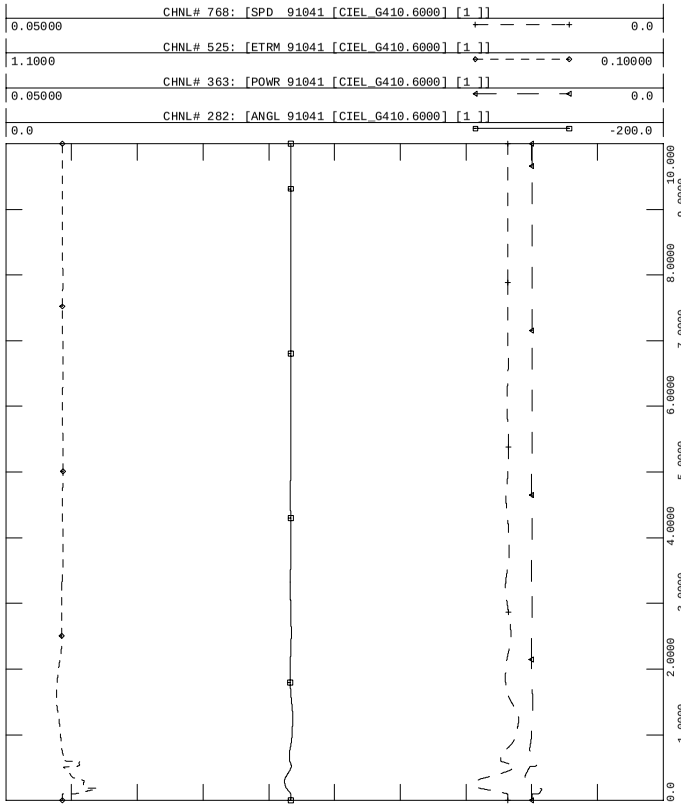
CIELO CABLE1 GEN1



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH_LITE.OUT

FRI, MAY 21 2004 10:04 3

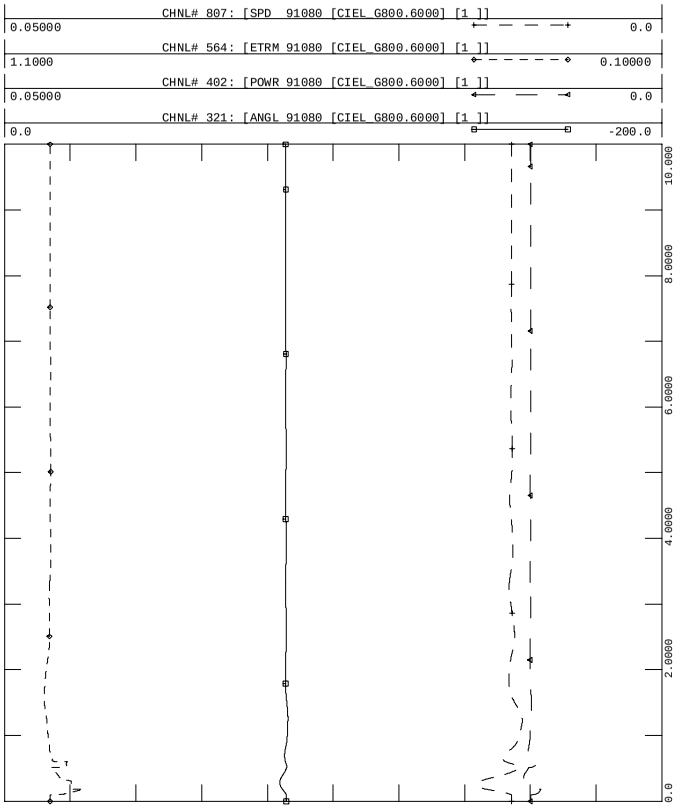
CIELO CABLE2 GEN41



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH_LITE.OUT

FRI, MAY 21 2004 10:04 6

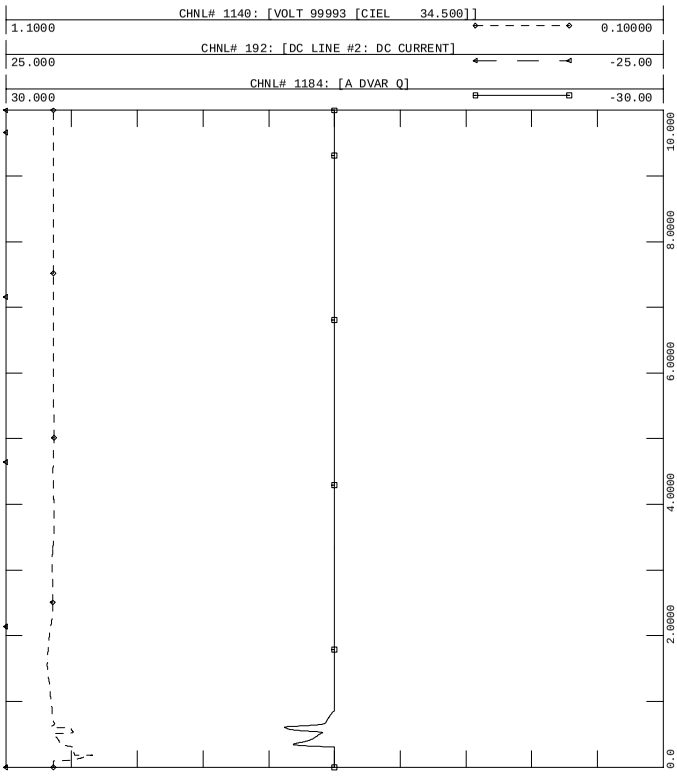
CIELO CABLE3 GEN80



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH_LITE.OUT

FRI, MAY 21 2004 10:04 8

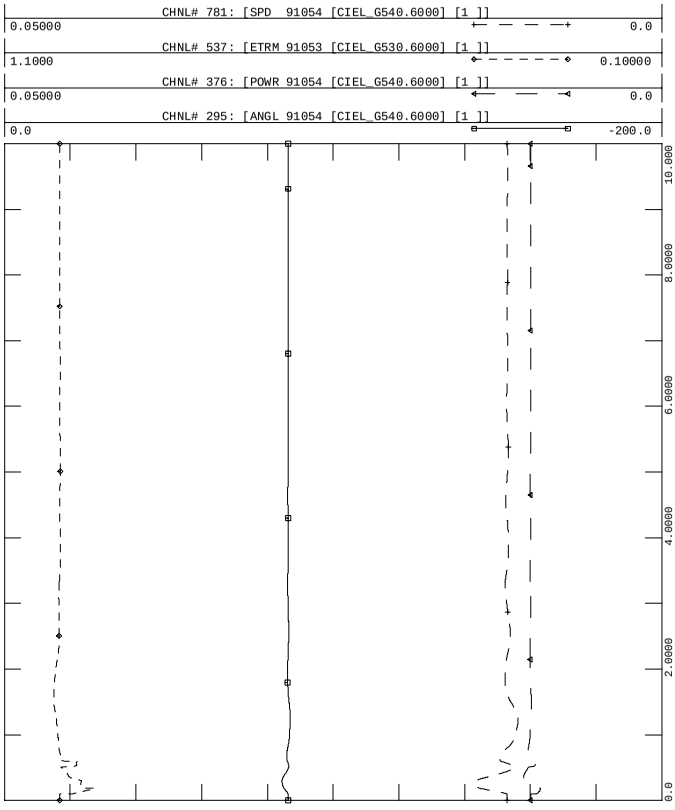
DVAR OUTPUT



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH_LITE.OUT

FRI, MAY 21 2004 10:04 5

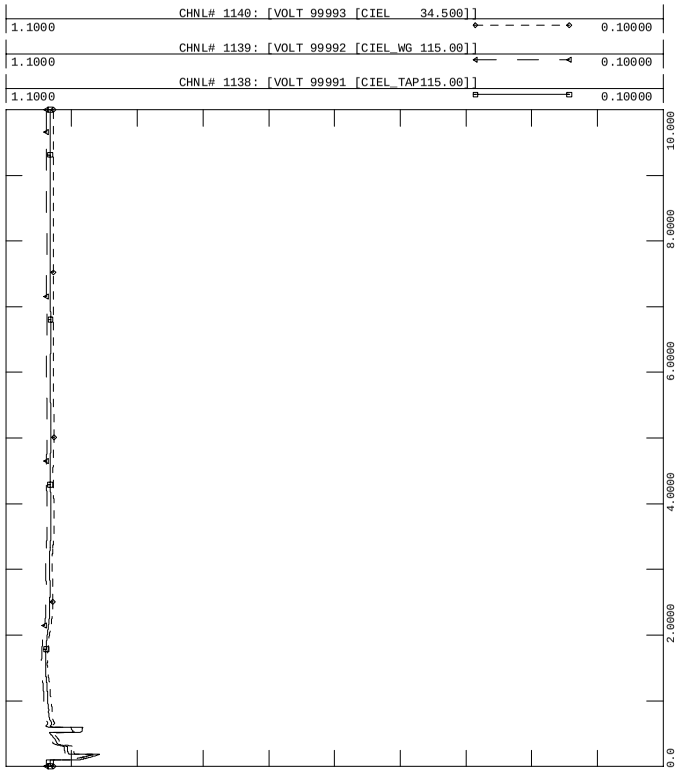
CIELO CABLE3 GEN54



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH_LITE.OUT

FRI, MAY 21 2004 10:04 7

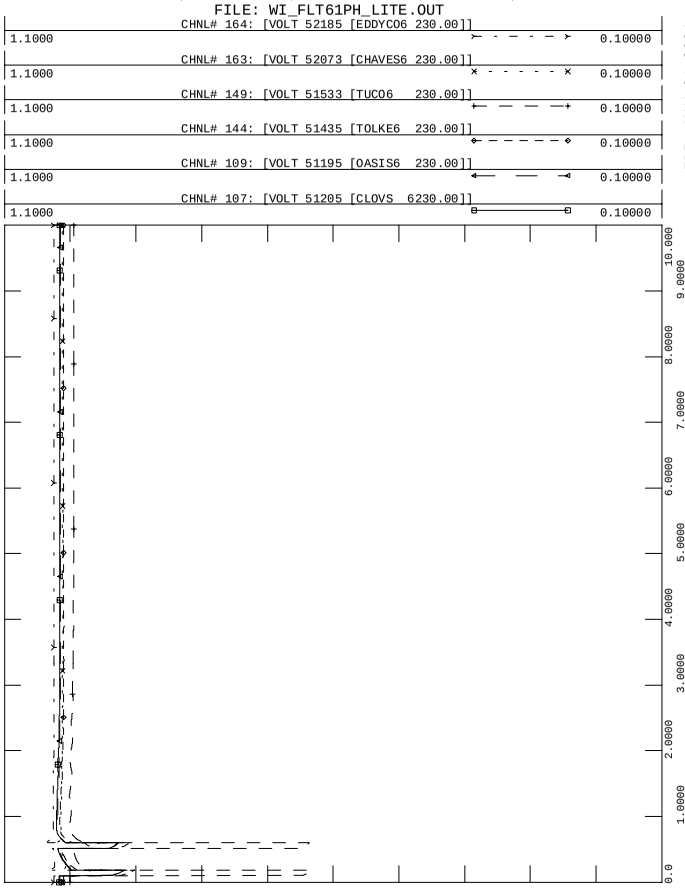
CIELO VOLTAGE



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH_LITE.OUT

FRI, MAY 21 2004 10:04

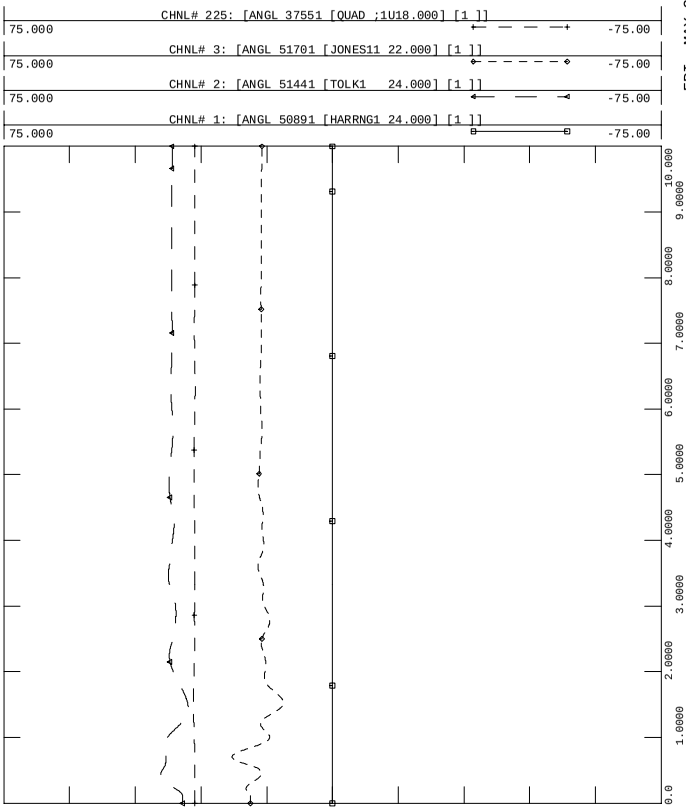
SPP:230 KV BUS VOLTAGE 10



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH_LITE.OUT

FRI, MAY 21 2004 10:04

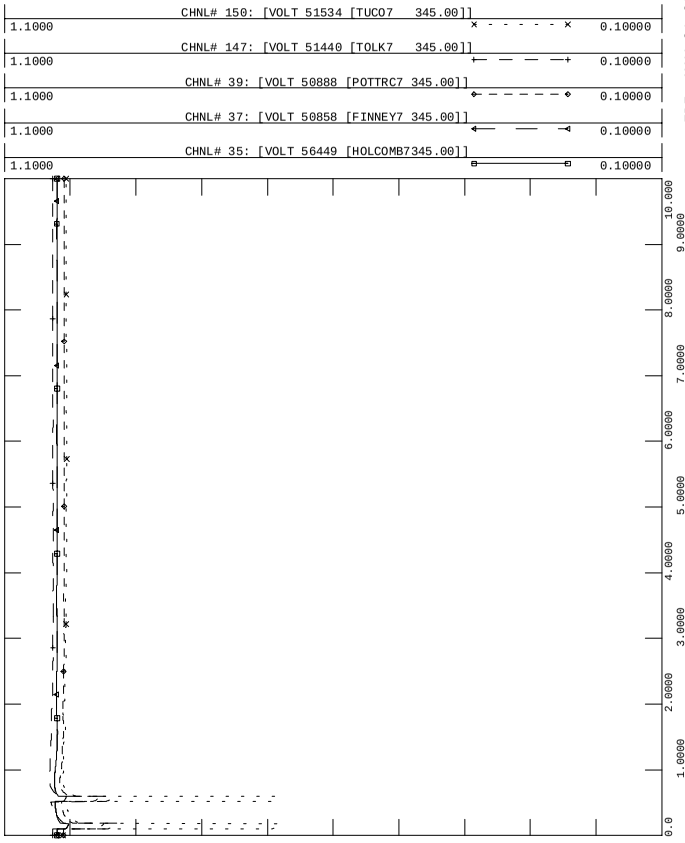
SPP: ROTOR ANGLE 12



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH_LITE.OUT

FRI, MAY 21 2004 10:04

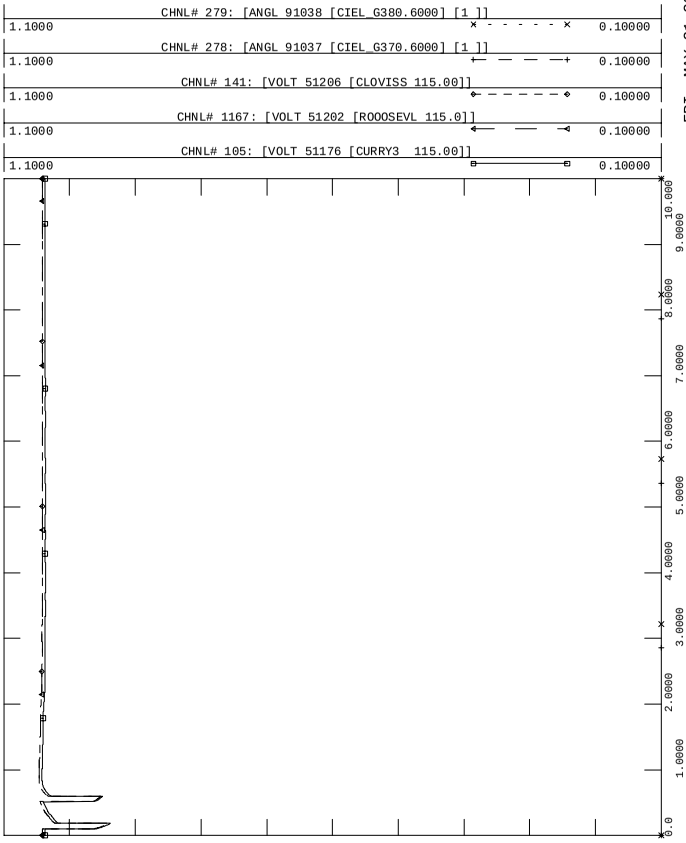
SPP:345 KV BUS VOLTAGE 9



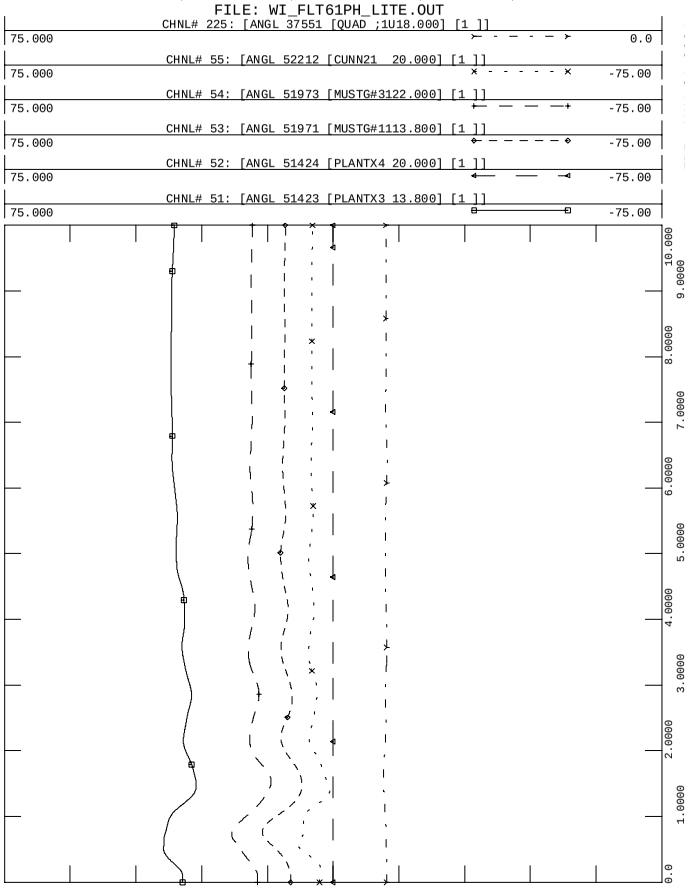
SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH_LITE.OUT

FRI, MAY 21 2004 10:04

SPP:115 KV BUS VOLTAGE 11

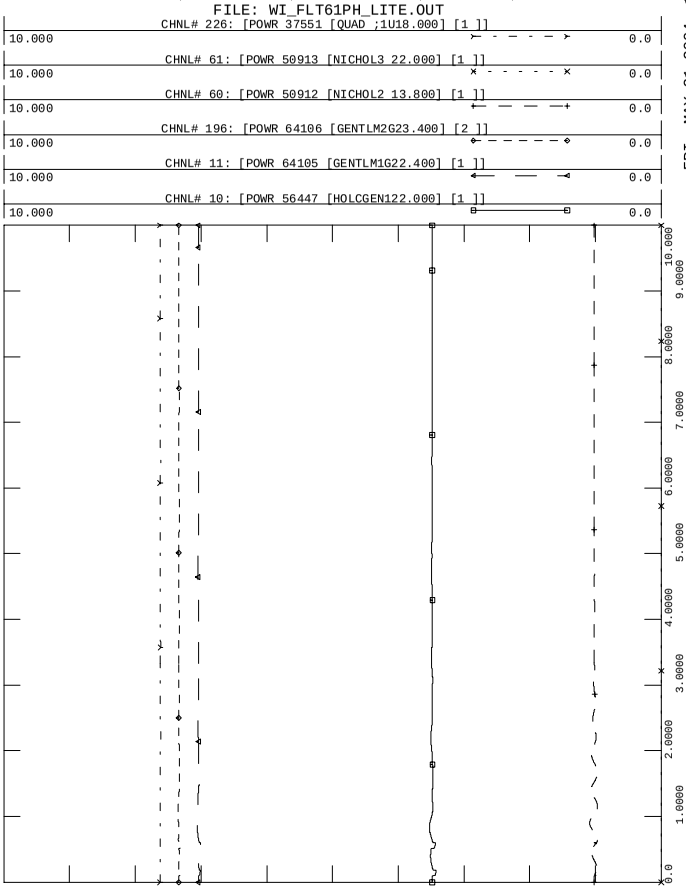


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH_LITE.OUT



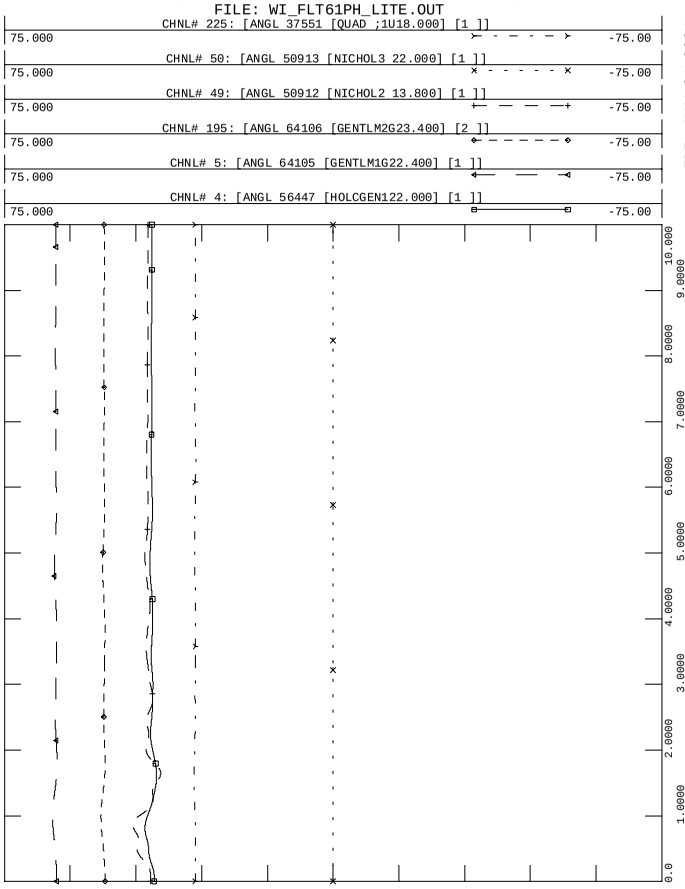
FRI, MAY 21 2004 10:04
SPP: ROTOR ANGLE 14

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH_LITE.OUT



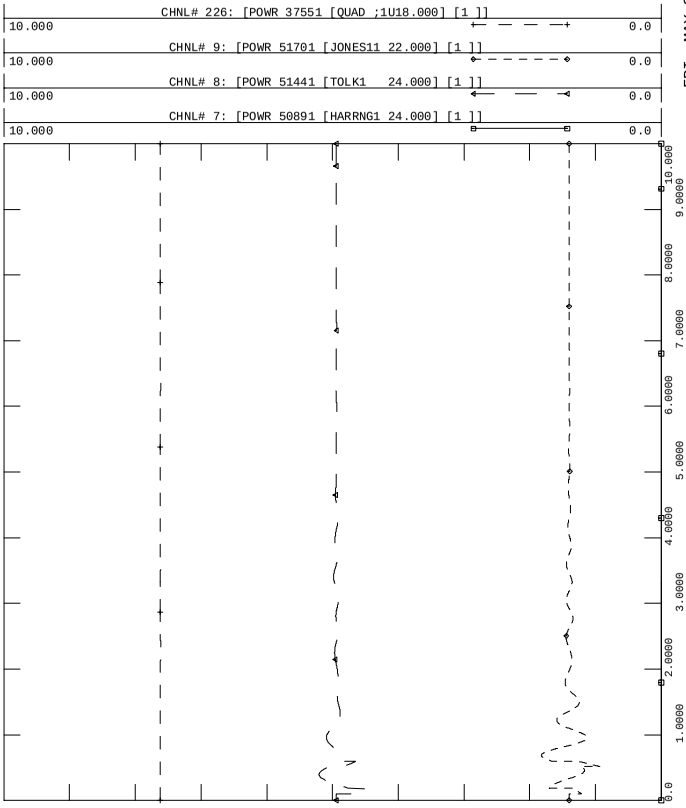
FRI, MAY 21 2004 10:04
SPP: PELEC 16

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH_LITE.OUT



FRI, MAY 21 2004 10:04
SPP: ROTOR ANGLE 13

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH_LITE.OUT



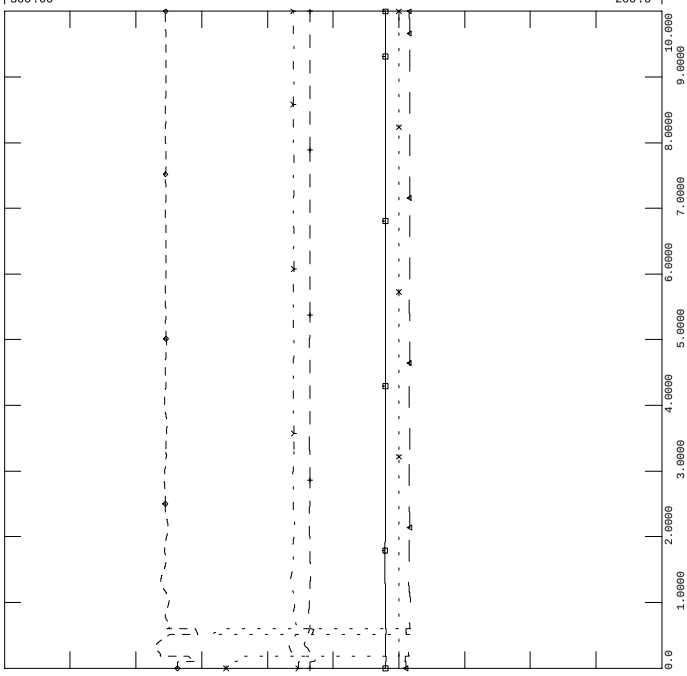
FRI, MAY 21 2004 10:04
SPP: PELEC 15

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH_LITE.OUT

FRI, MAY 21 2004 10:04 18

BRANCH FLOW

CHNL# 97: [POWR 51195 TO 52073 CKT 1] 300.00 -200.0
CHNL# 1179: [POWR 51435 TO 51533 CKT 1] 300.00 -200.0
CHNL# 1177: [POWR 99991 TO 51176 CKT 1] 300.00 -200.0
CHNL# 1175: [POWR 51440 TO 52186 CKT 1] 300.00 -200.0
CHNL# 1173: [POWR 51176 TO 51206 CKT 2] 300.00 -200.0
CHNL# 1169: [POWR 99991 TO 51076 CKT 1] 300.00 -200.0

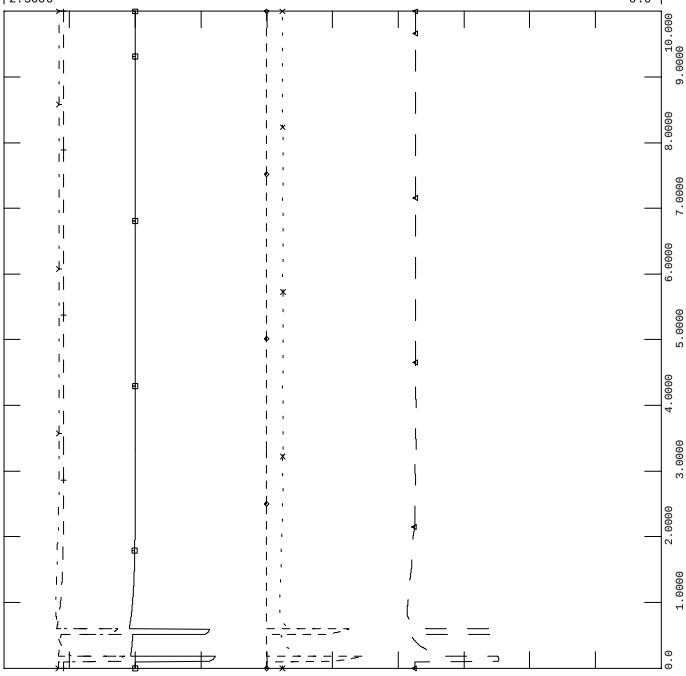


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH_LITE.OUT

FRI, MAY 21 2004 10:04 20

DC LINE PNM

CHNL# 207: [VOLT 59995 [BLKWDC 230.00]] 1.1000 0.10000
CHNL# 193: [DC LINE #2: ALPHA] 100.00 -100.0
CHNL# 192: [DC LINE #2: DC CURRENT] 4000.0 0.0
CHNL# 191: [DC LINE #2: VDCR] 65000. 40000.
CHNL# 187: [DC LINE #2: QACR] 2.5000 0.0
CHNL# 186: [DC LINE #2: PACR] 2.5000 0.0

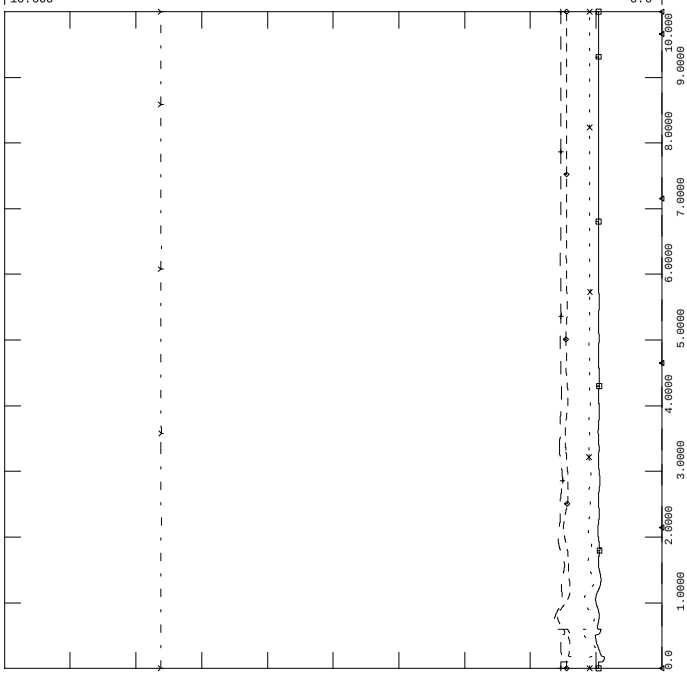


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH_LITE.OUT

FRI, MAY 21 2004 10:04 17

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]] 10.000 0.0
CHNL# 66: [POWR 52212 [CUNN21 20.000] [1]] 10.000 0.0
CHNL# 65: [POWR 51973 [MUSTG#3122.000] [1]] 10.000 0.0
CHNL# 64: [POWR 51971 [MUSTG#1113.800] [1]] 10.000 0.0
CHNL# 63: [POWR 51424 [PLANTX4 20.000] [1]] 10.000 0.0
CHNL# 62: [POWR 51423 [PLANTX3 13.800] [1]] 10.000 0.0

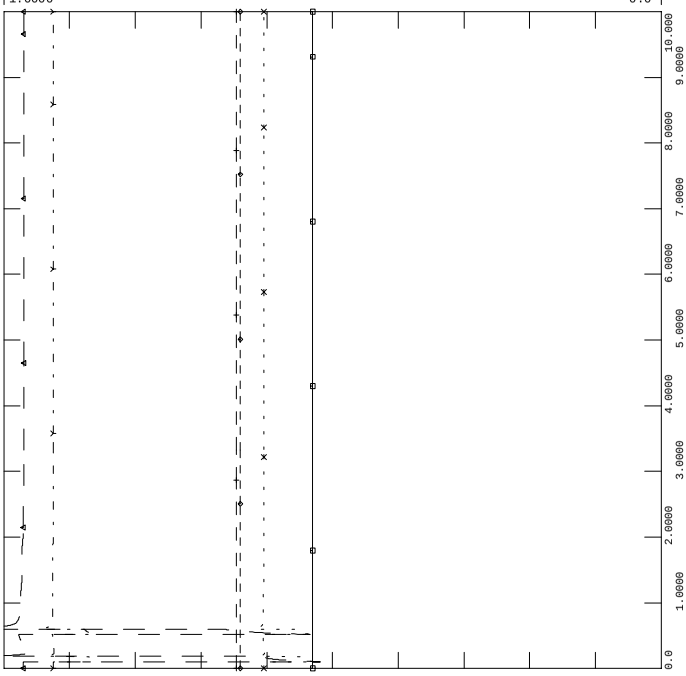


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH_LITE.OUT

FRI, MAY 21 2004 10:04 19

DC LINE EPE

CHNL# 208: [VOLT 59996 [EPEDC 230.00]] 1.1000 0.10000
CHNL# 184: [DC LINE #1: ALFA] 100.00 -100.0
CHNL# 183: [DC LINE #1: DC CURRENT] 1000.0 0.0
CHNL# 182: [DC LINE #1: VDCR] 1.0000E5 50000.
CHNL# 178: [DC LINE #1: QACR] 0.25000 0.0
CHNL# 177: [DC LINE #1: PACR] 1.0000 0.0

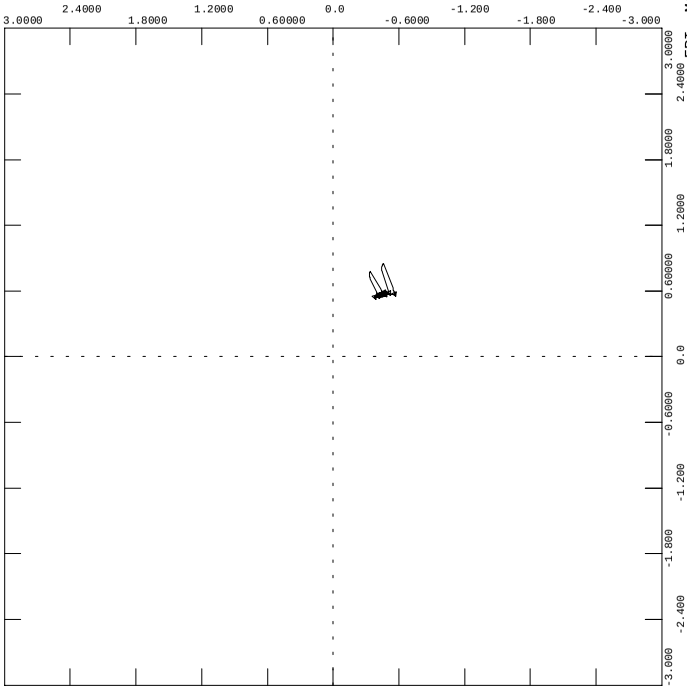


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

22

FILE: WI_FLT61PH_LITE.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 116: [APPX 50858 TO 50888 CKT 1]



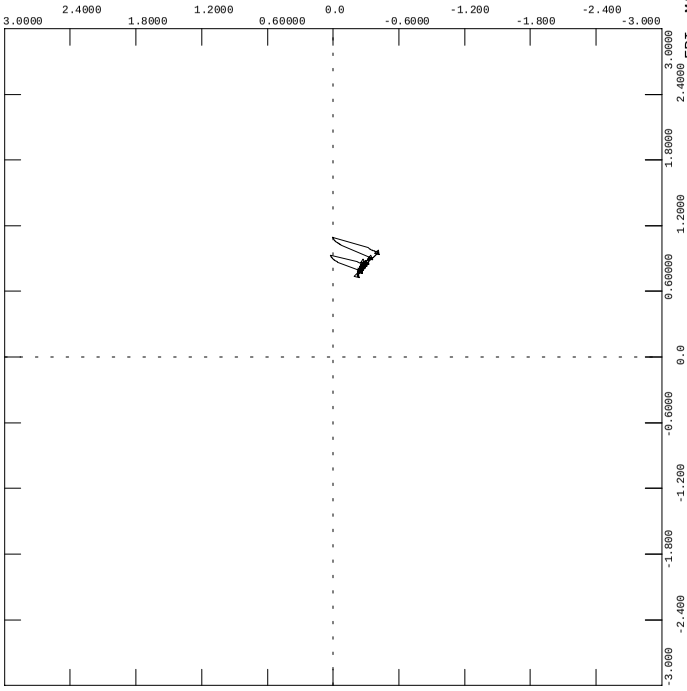
FRI, MAY 21 2004 10:04
POTTER-FINNEY
CHNL# 115: [APPR 50858 TO 50888 CKT 1]

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

21

FILE: WI_FLT61PH_LITE.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 114: [APPX 56449 TO 50858 CKT 1]

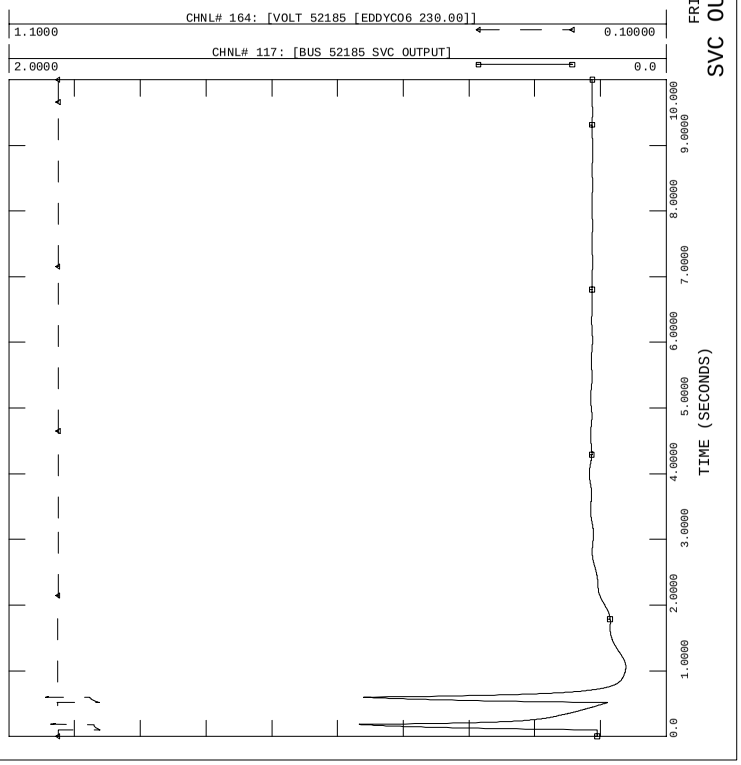


FRI, MAY 21 2004 10:04
FINNEY-HOLCOMB
CHNL# 113: [APPR 56449 TO 50858 CKT 1]

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT61PH_LITE.OUT

23

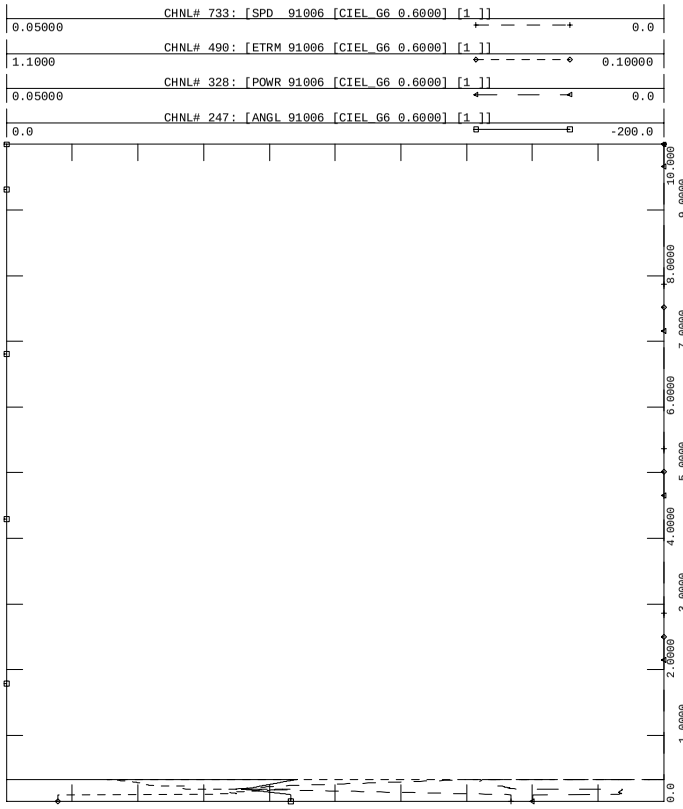
FRI, MAY 21 2004 10:04
SVC OUTPUT



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH_LITE.OUT

FRI, MAY 21 2004 10:05 2

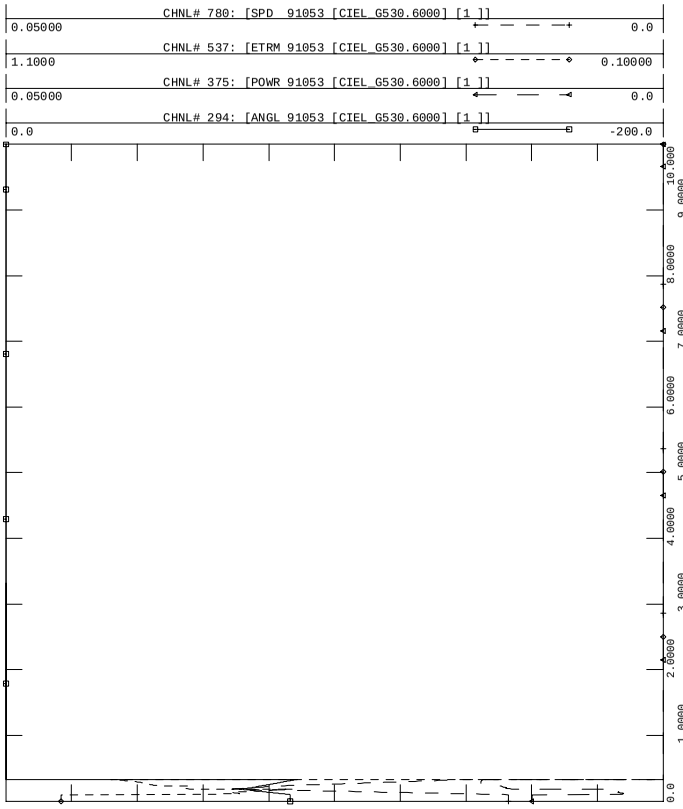
CIELO CABLE1 GEN6



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH_LITE.OUT

FRI, MAY 21 2004 10:05 4

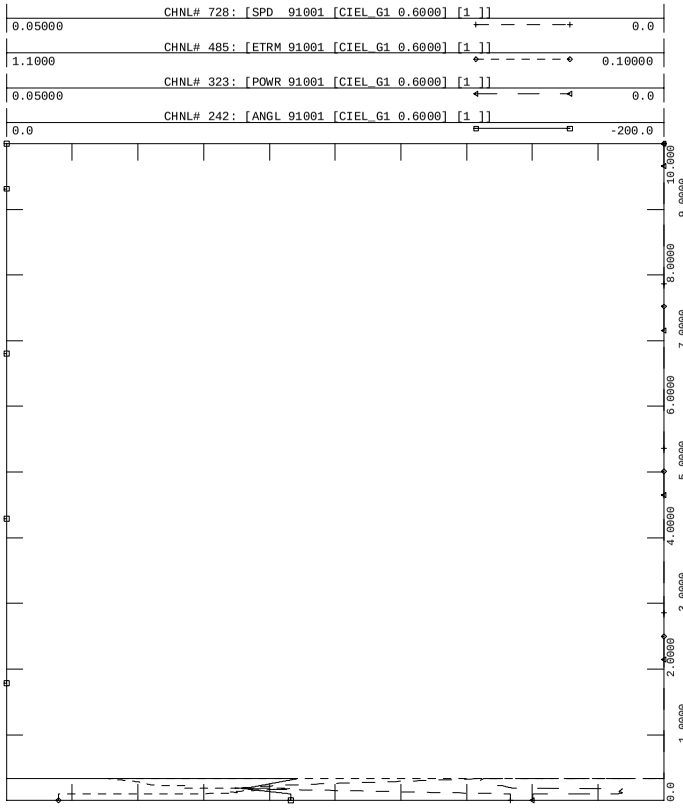
CIELO CABLE2 GEN53



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH_LITE.OUT

FRI, MAY 21 2004 10:05 1

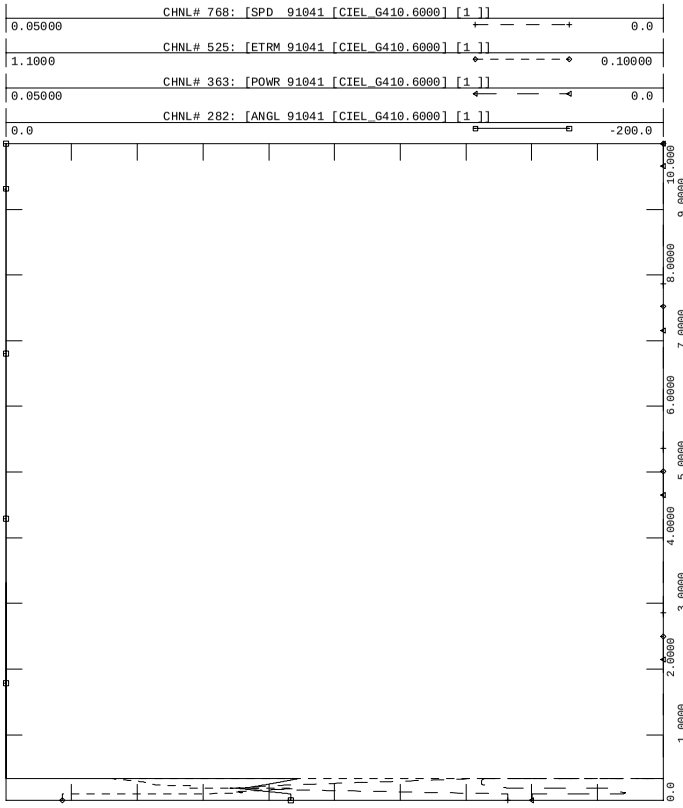
CIELO CABLE1 GEN1



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH_LITE.OUT

FRI, MAY 21 2004 10:05 3

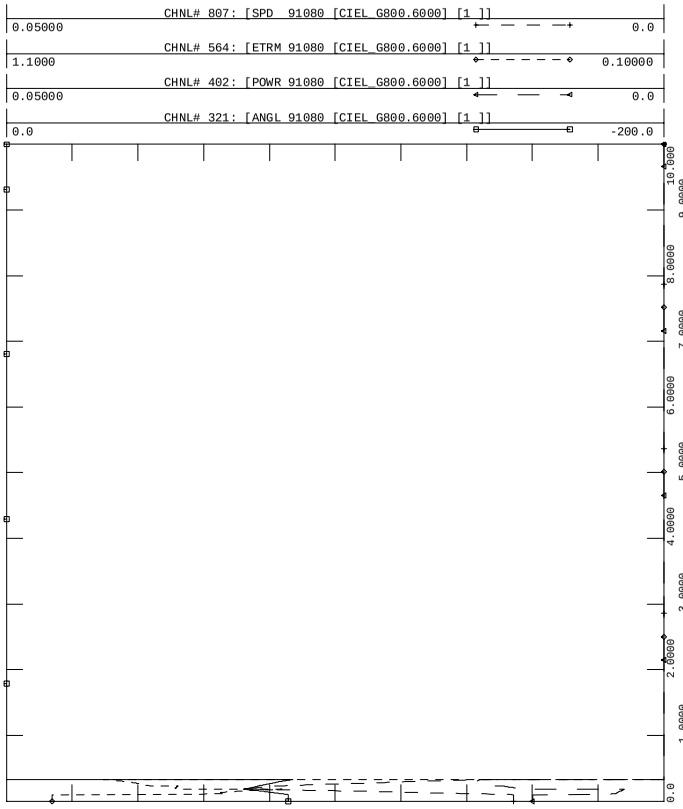
CIELO CABLE2 GEN41



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH_LITE.OUT

FRI, MAY 21 2004 10:05 6

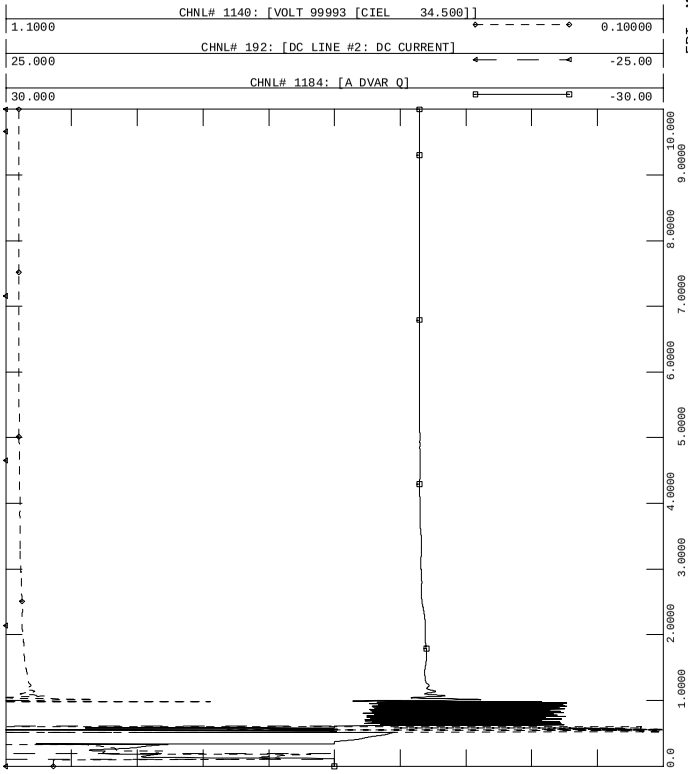
CIELO CABLE3 GEN80



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH_LITE.OUT

FRI, MAY 21 2004 10:05 8

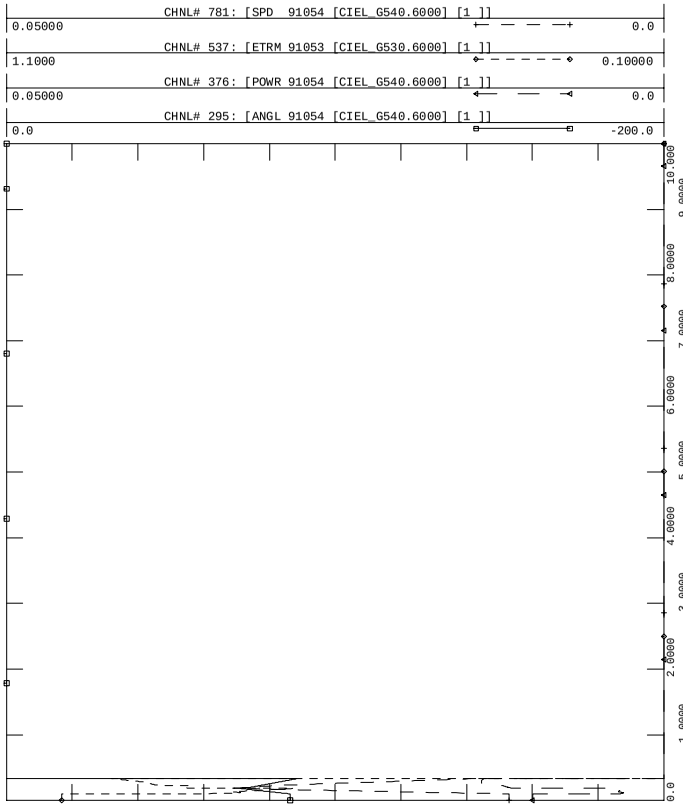
DVAR OUTPUT



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH_LITE.OUT

FRI, MAY 21 2004 10:05 5

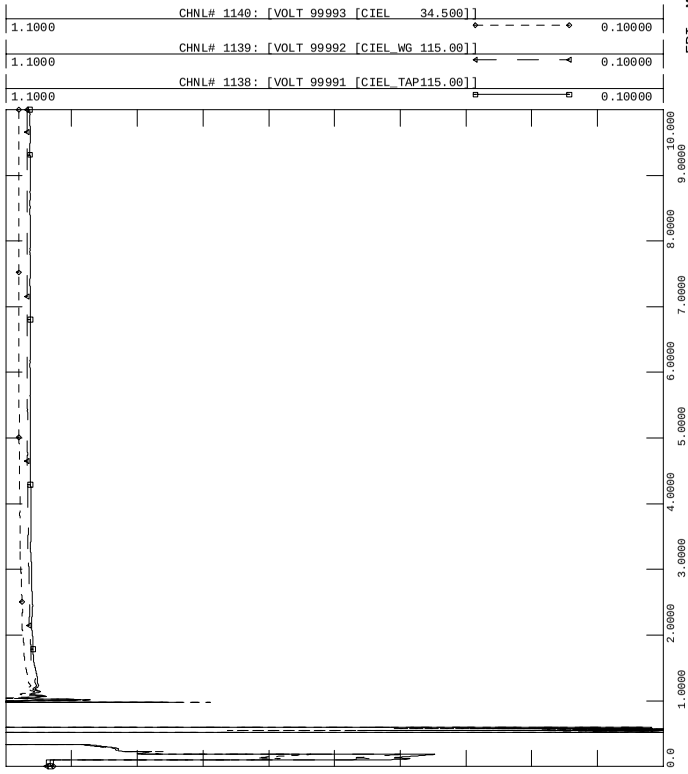
CIELO CABLE3 GEN54



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH_LITE.OUT

FRI, MAY 21 2004 10:05 7

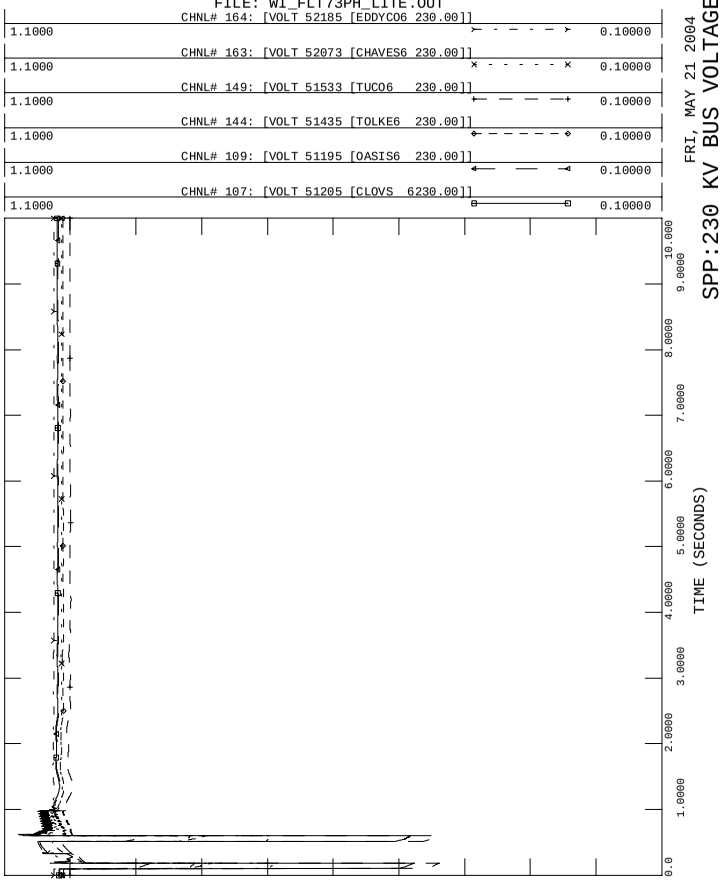
CIELO VOLTAGE



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH_LITE.OUT

FRI, MAY 21 2004 10:05

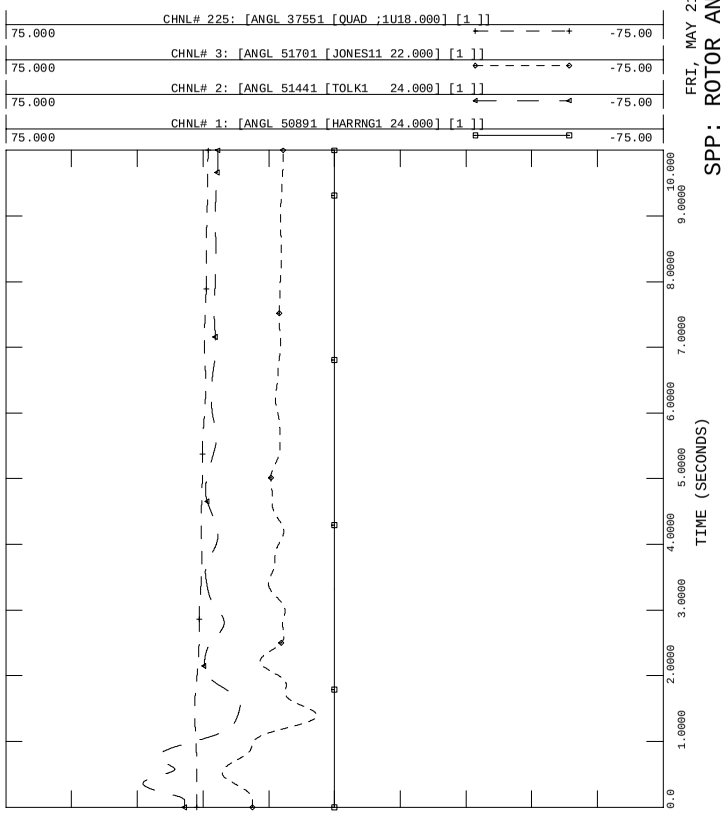
SPP:230 KV BUS VOLTAGE 10



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH_LITE.OUT

FRI, MAY 21 2004 10:05

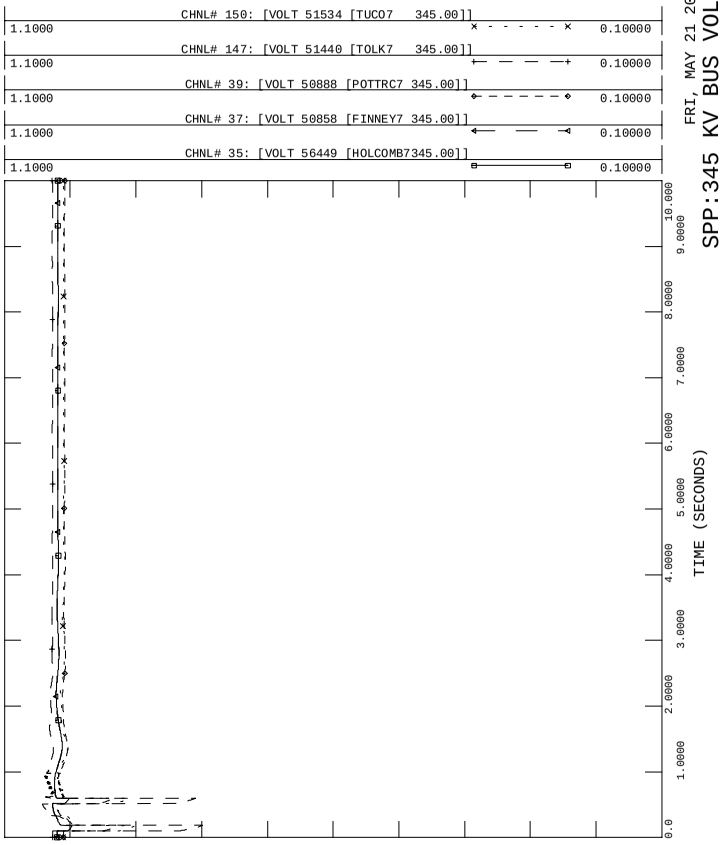
SPP: ROTOR ANGLE 12



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH_LITE.OUT

FRI, MAY 21 2004 10:05

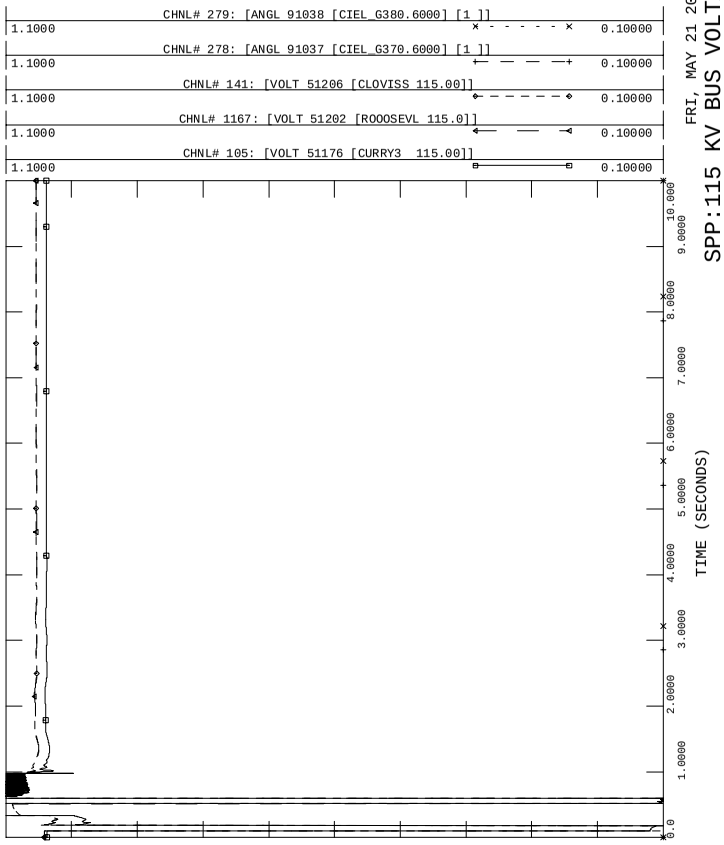
SPP:345 KV BUS VOLTAGE 9

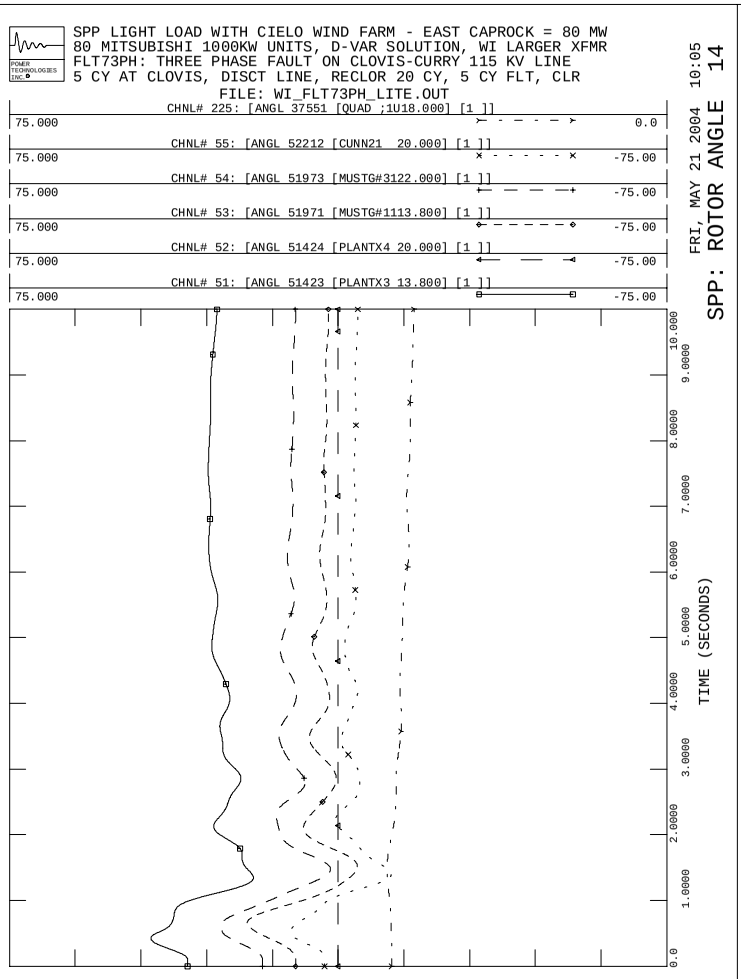


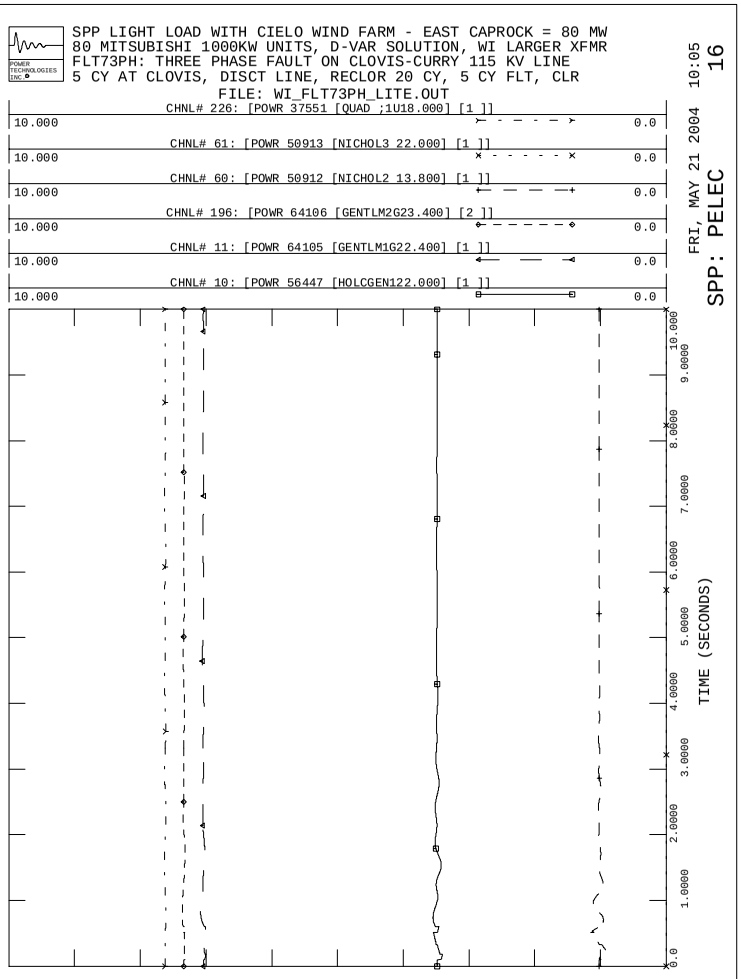
SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH_LITE.OUT

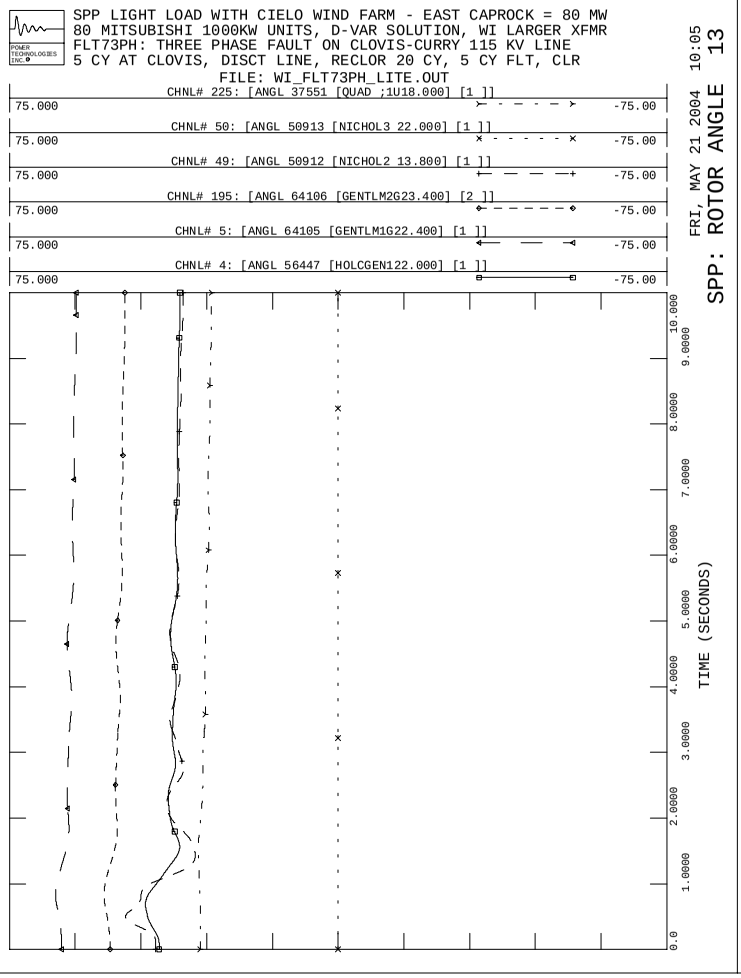
FRI, MAY 21 2004 10:05

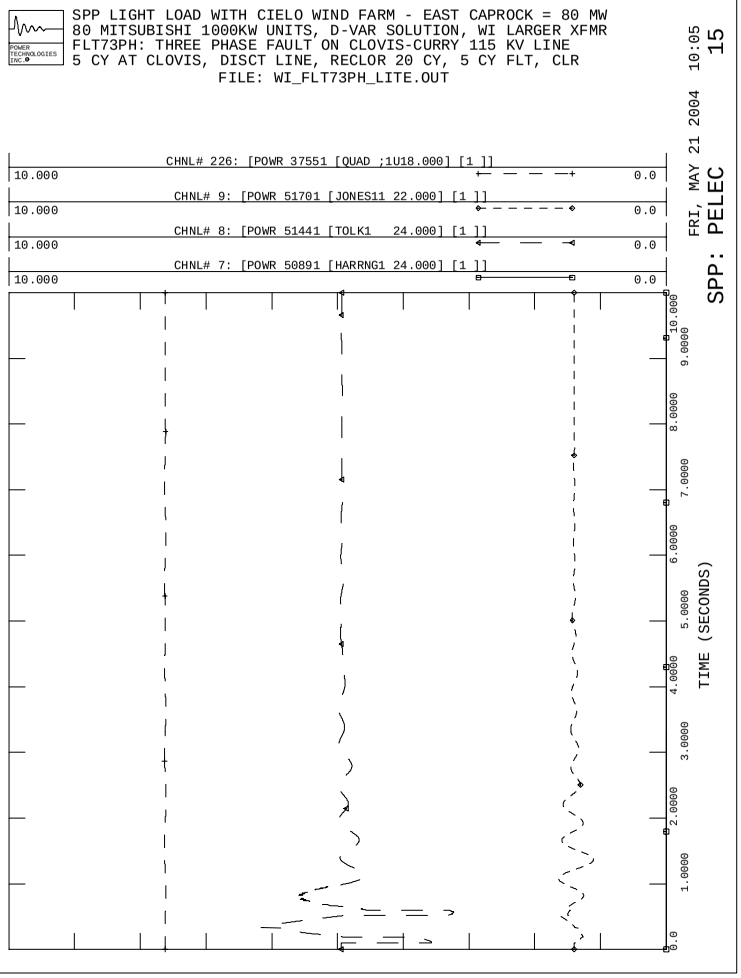
SPP:115 KV BUS VOLTAGE 11




SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH_LITE.OUT
FRI, MAY 21 2004 10:05
14
SPP: ROTOR ANGLE
CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]]
CHNL# 55: [ANGL 52212 [CUNN21 20.000] [1]]
CHNL# 54: [ANGL 51973 [MUSTG#3122.000] [1]]
CHNL# 53: [ANGL 51971 [MUSTG#1113.800] [1]]
CHNL# 52: [ANGL 51424 [PLANTX4 20.000] [1]]
CHNL# 51: [ANGL 51423 [PLANTX3 13.800] [1]]
75.000
0.0
-75.00
TIME (SECONDS)
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH_LITE.OUT
FRI, MAY 21 2004 10:05
16
SPP: PELEC
CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
CHNL# 61: [POWR 50913 [NICHOL3 22.000] [1]]
CHNL# 60: [POWR 50912 [NICHOL2 13.800] [1]]
CHNL# 196: [POWR 64106 [GENTLM2G23.400] [2]]
CHNL# 11: [POWR 64105 [GENTLM1G22.400] [1]]
CHNL# 10: [POWR 56447 [HOLCGEN122.000] [1]]
10.000
0.0
TIME (SECONDS)
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000

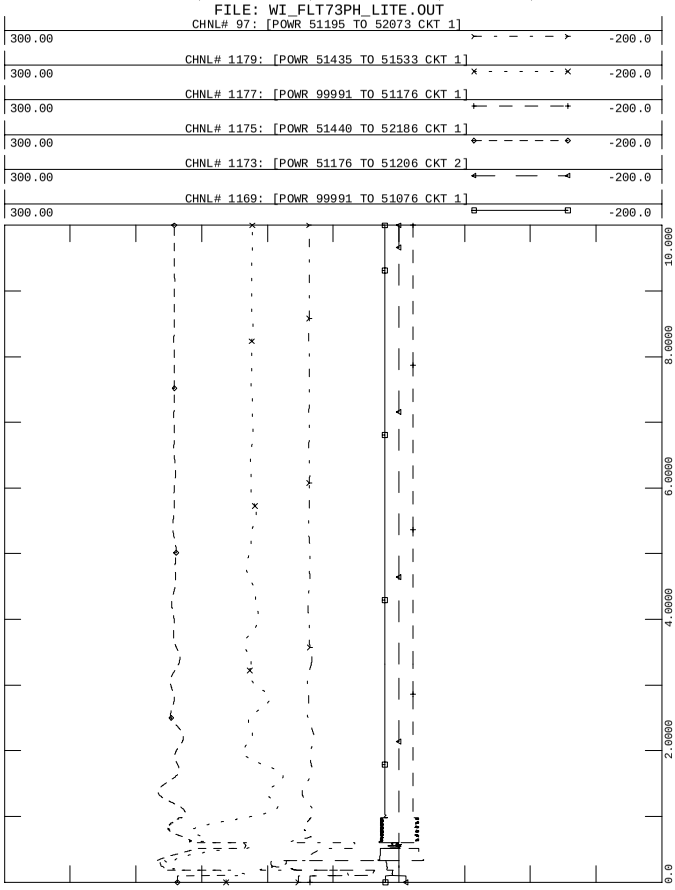

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH_LITE.OUT
FRI, MAY 21 2004 10:05
13
SPP: ROTOR ANGLE
CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]]
CHNL# 50: [ANGL 50913 [NICHOL3 22.000] [1]]
CHNL# 49: [ANGL 50912 [NICHOL2 13.800] [1]]
CHNL# 195: [ANGL 64106 [GENTLM2G23.400] [2]]
CHNL# 5: [ANGL 64105 [GENTLM1G22.400] [1]]
CHNL# 4: [ANGL 56447 [HOLCGEN122.000] [1]]
75.000
-75.00
TIME (SECONDS)
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH_LITE.OUT
FRI, MAY 21 2004 10:05
15
SPP: PELEC
CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
CHNL# 9: [POWR 51701 [JONES11 22.000] [1]]
CHNL# 8: [POWR 51441 [TOLK1 24.000] [1]]
CHNL# 7: [POWR 50891 [HARRNG1 24.000] [1]]
10.000
0.0
TIME (SECONDS)
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH_LITE.OUT

FRI, MAY 21 2004 10:05 18

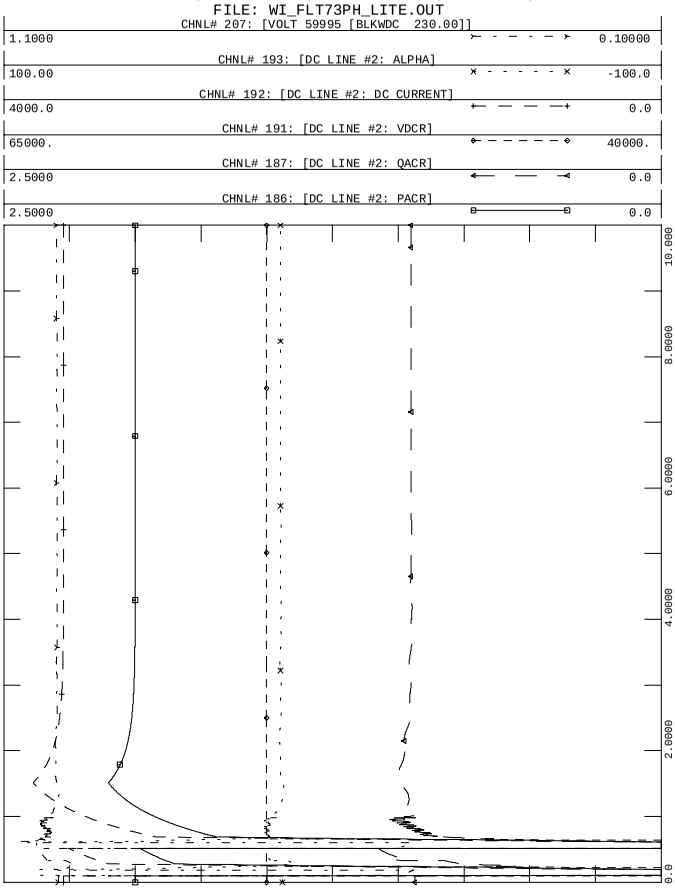
BRANCH FLOW



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH_LITE.OUT

FRI, MAY 21 2004 10:05 20

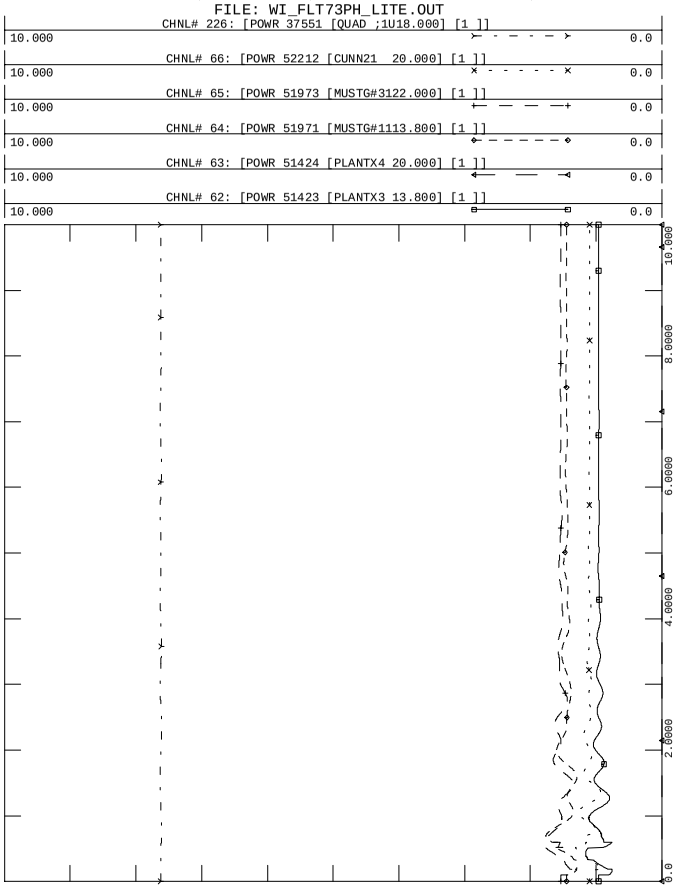
DC LINE PNM



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH_LITE.OUT

FRI, MAY 21 2004 10:05 17

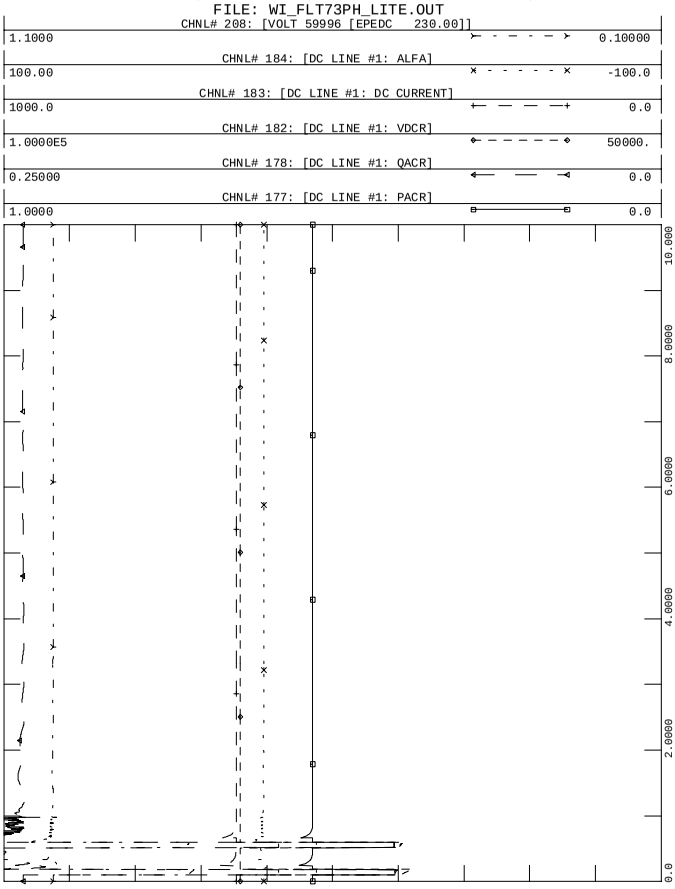
SPP: PELEC



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH_LITE.OUT

FRI, MAY 21 2004 10:05 19

DC LINE EPE

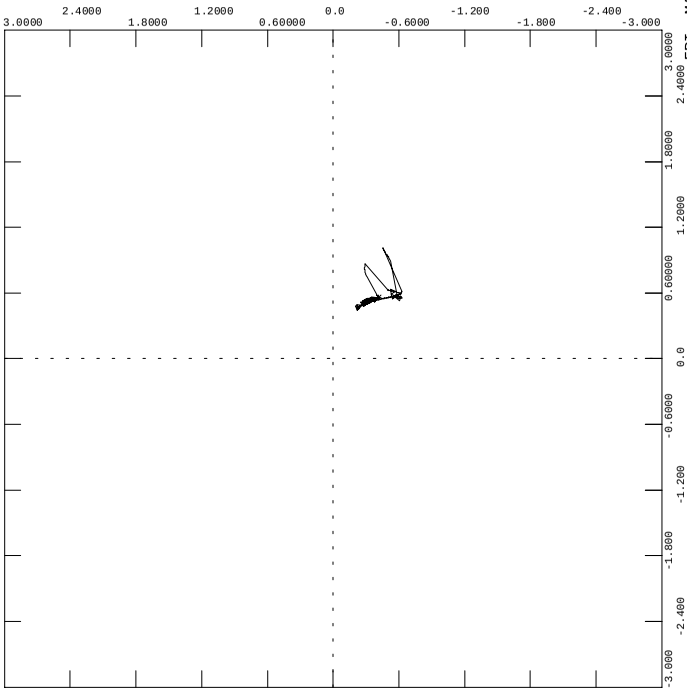


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

22

FILE: WI_FLT73PH_LITE.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 116: [APPX 50858 TO 50888 CKT 1]



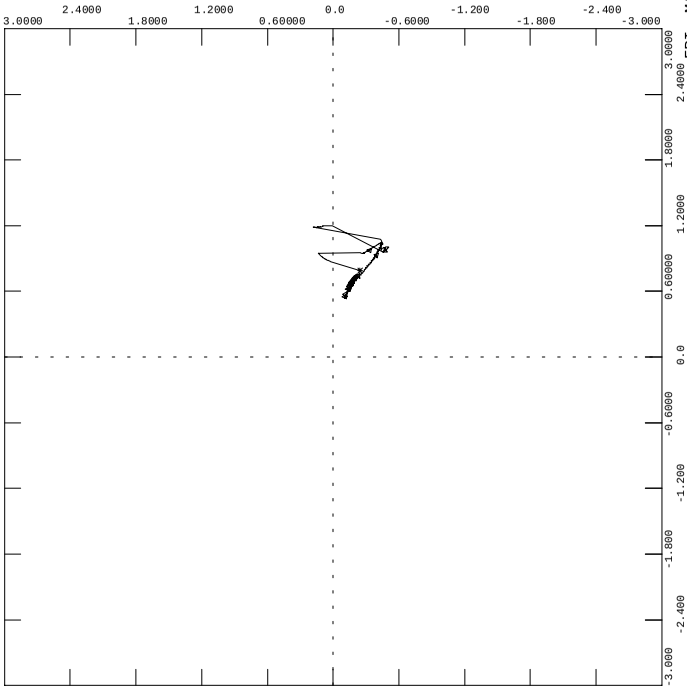
FRI, MAY 21 2004 10:05
POTTER-FINNEY
CHNL# 115: [APPR 50858 TO 50888 CKT 1]

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

21

FILE: WI_FLT73PH_LITE.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 114: [APPX 56449 TO 50858 CKT 1]

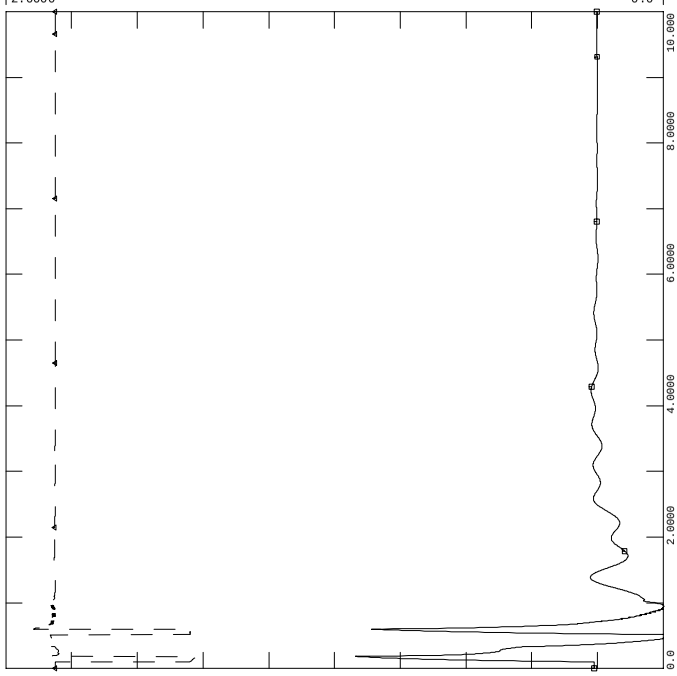


FRI, MAY 21 2004 10:05
FINNEY-HOLCOMB
CHNL# 113: [APPR 56449 TO 50858 CKT 1]

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT73PH_LITE.OUT

23

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]
1.1000 0.10000
CHNL# 117: [BUS 52185 SVC OUTPUT]
2.0000 0.0

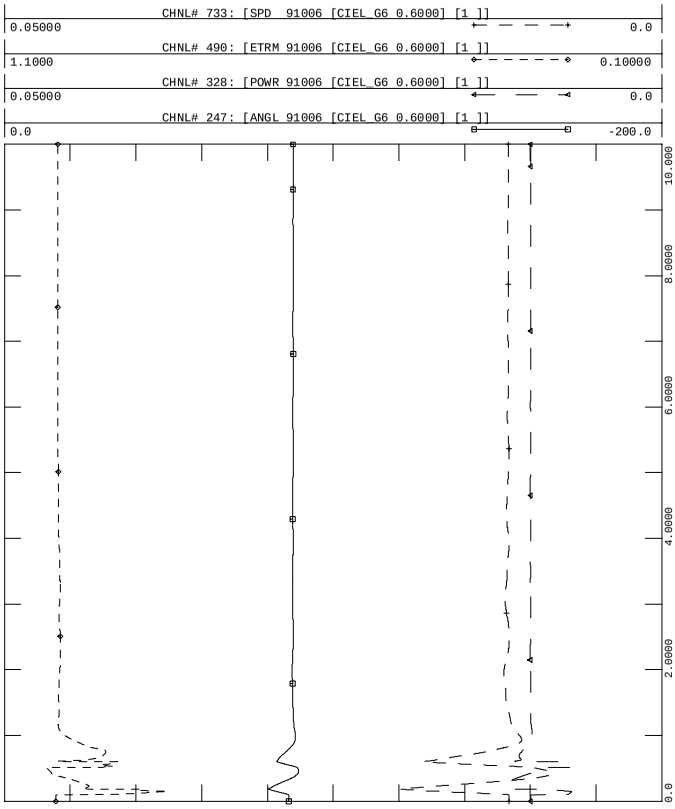


FRI, MAY 21 2004 10:05
SVC OUTPUT
TIME (SECONDS)

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH_LITE.OUT

FRI, MAY 21 2004 10:04 2

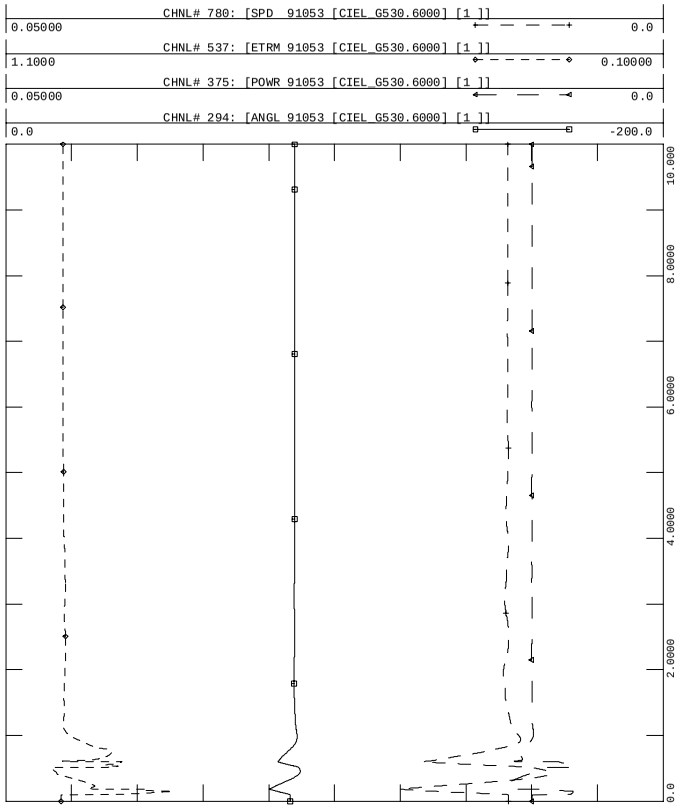
CIELO CABLE1 GEN6



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH_LITE.OUT

FRI, MAY 21 2004 10:04 4

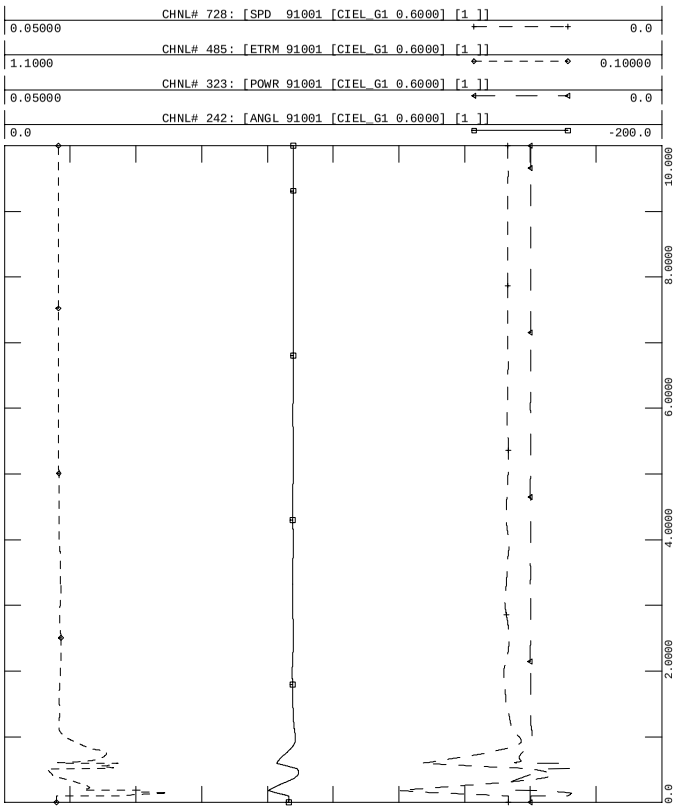
CIELO CABLE2 GEN53



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH_LITE.OUT

FRI, MAY 21 2004 10:04 1

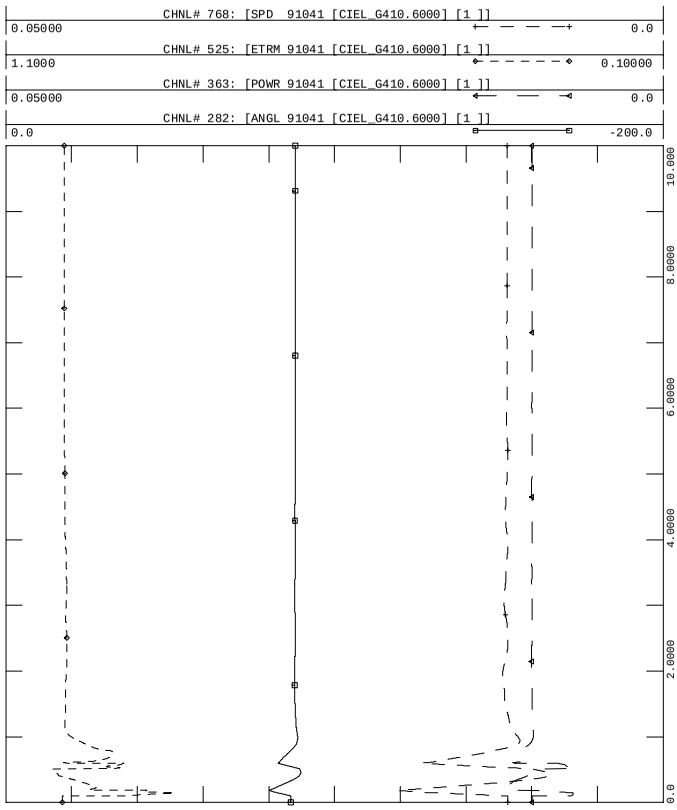
CIELO CABLE1 GEN1



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH_LITE.OUT

FRI, MAY 21 2004 10:04 3

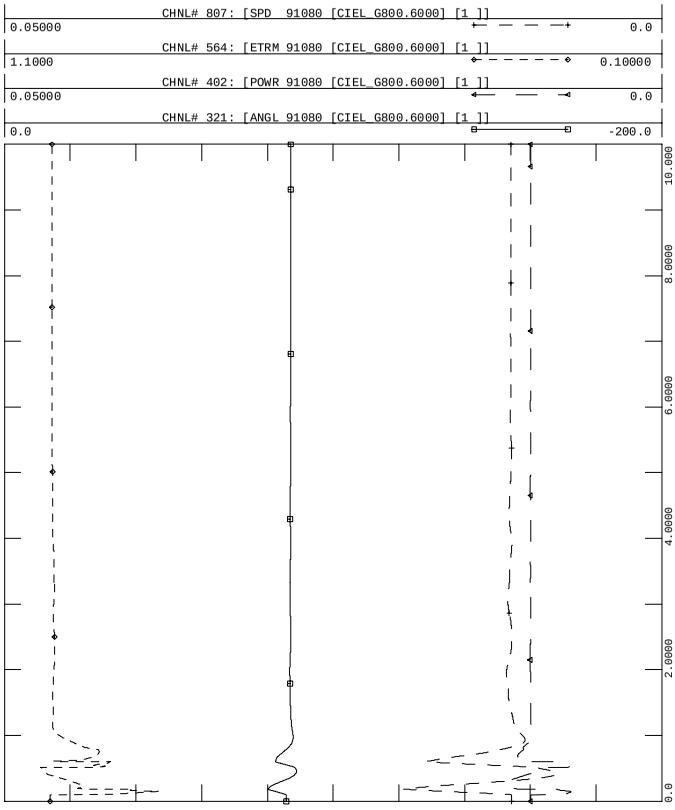
CIELO CABLE2 GEN41



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH_LITE.OUT

FRI, MAY 21 2004 10:05 6

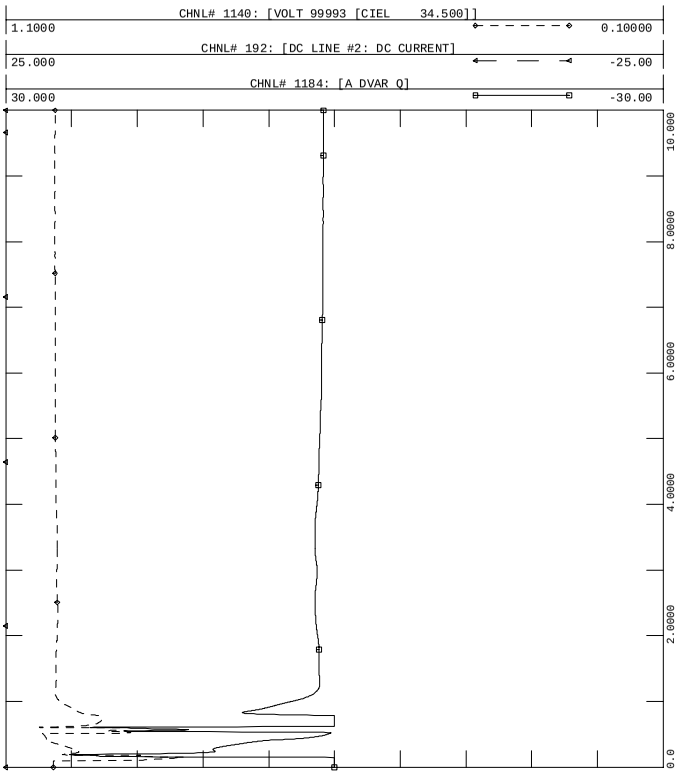
CIELO CABLE3 GEN80



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH_LITE.OUT

FRI, MAY 21 2004 10:05 8

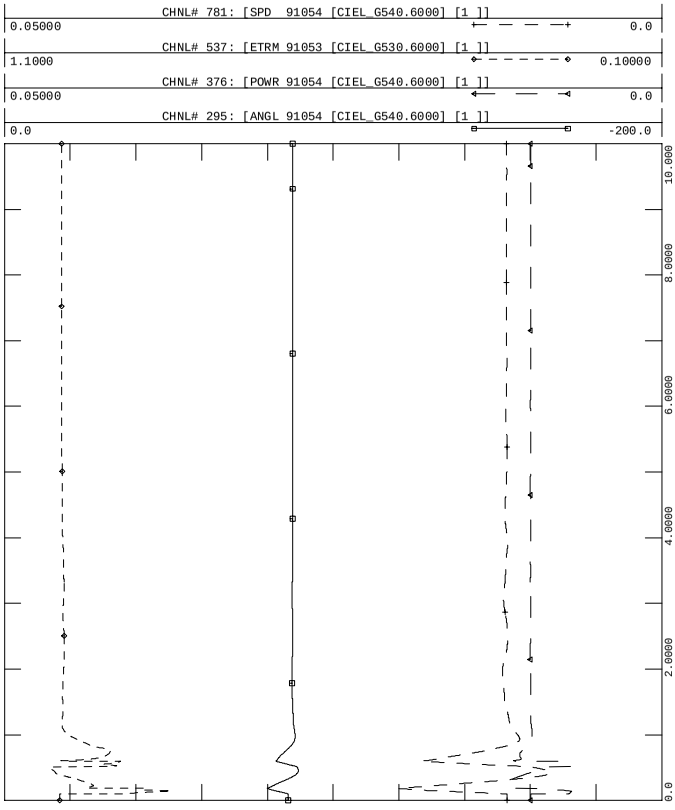
DVAR OUTPUT



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH_LITE.OUT

FRI, MAY 21 2004 10:04 5

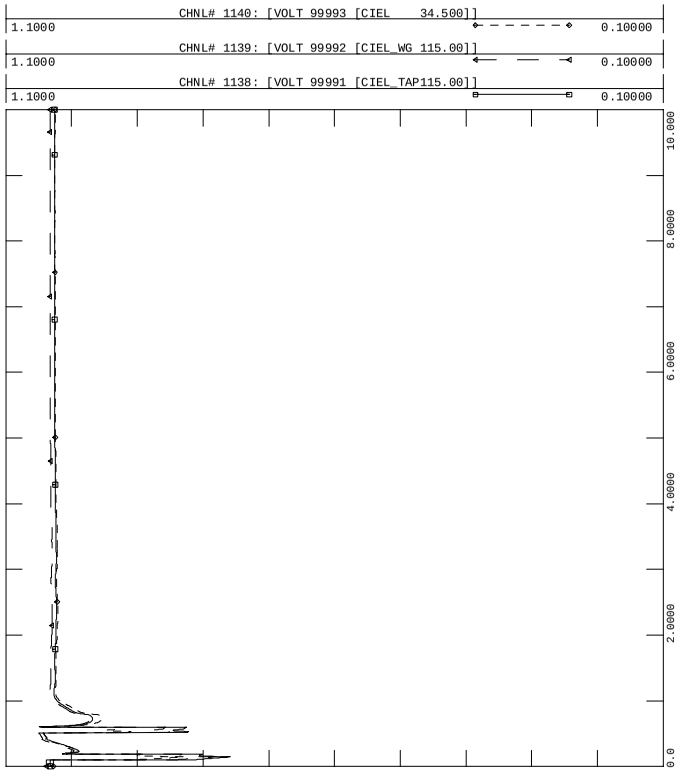
CIELO CABLE3 GEN54



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH_LITE.OUT

FRI, MAY 21 2004 10:05 7

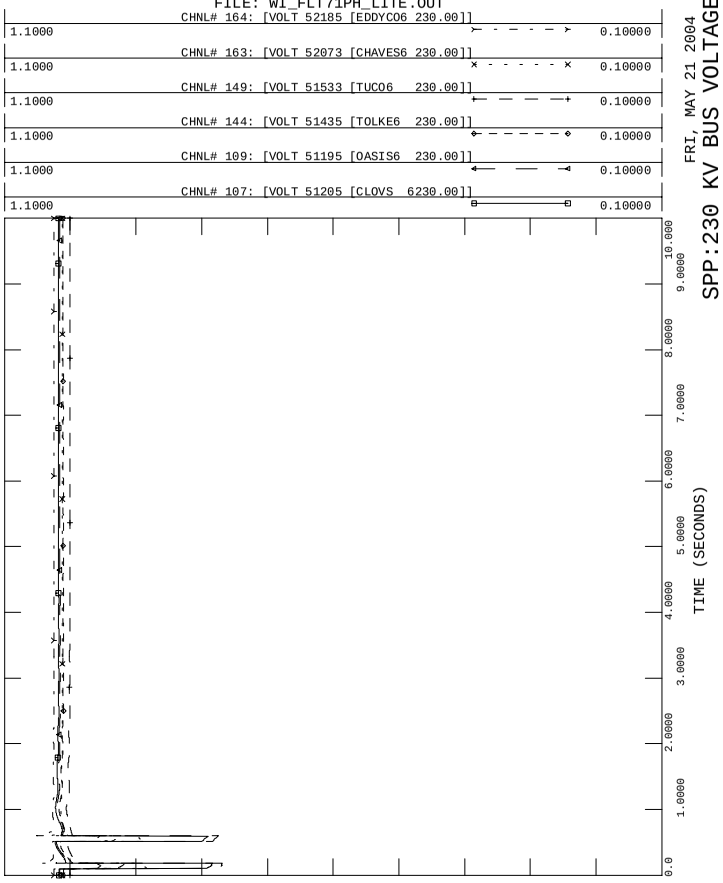
CIELO VOLTAGE



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH_LITE.OUT

FRI, MAY 21 2004 10:05

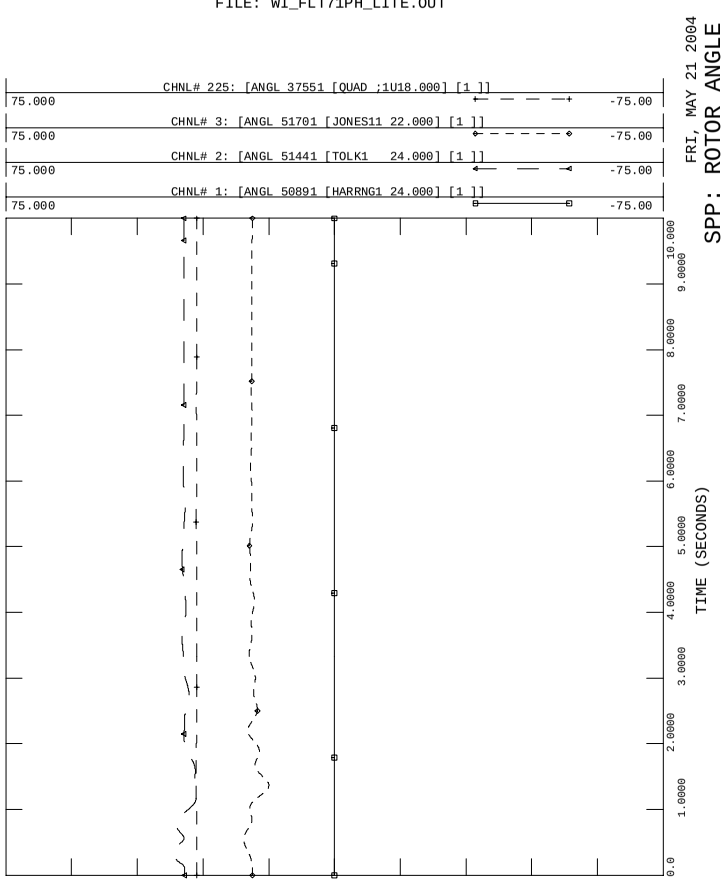
SPP:230 KV BUS VOLTAGE 10



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH_LITE.OUT

FRI, MAY 21 2004 10:05

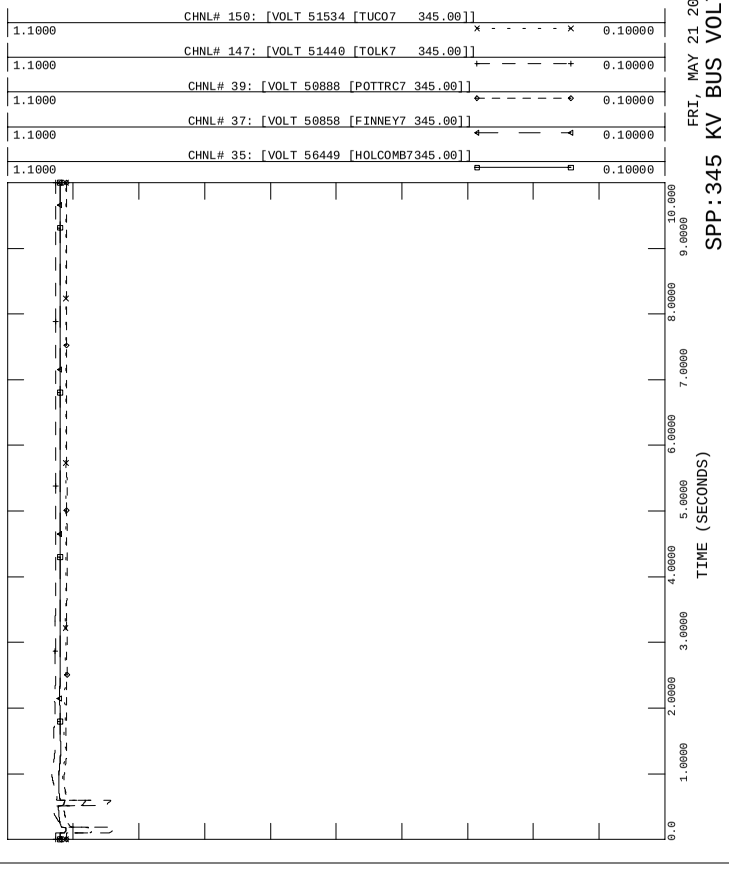
SPP: ROTOR ANGLE 12



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH_LITE.OUT

FRI, MAY 21 2004 10:05

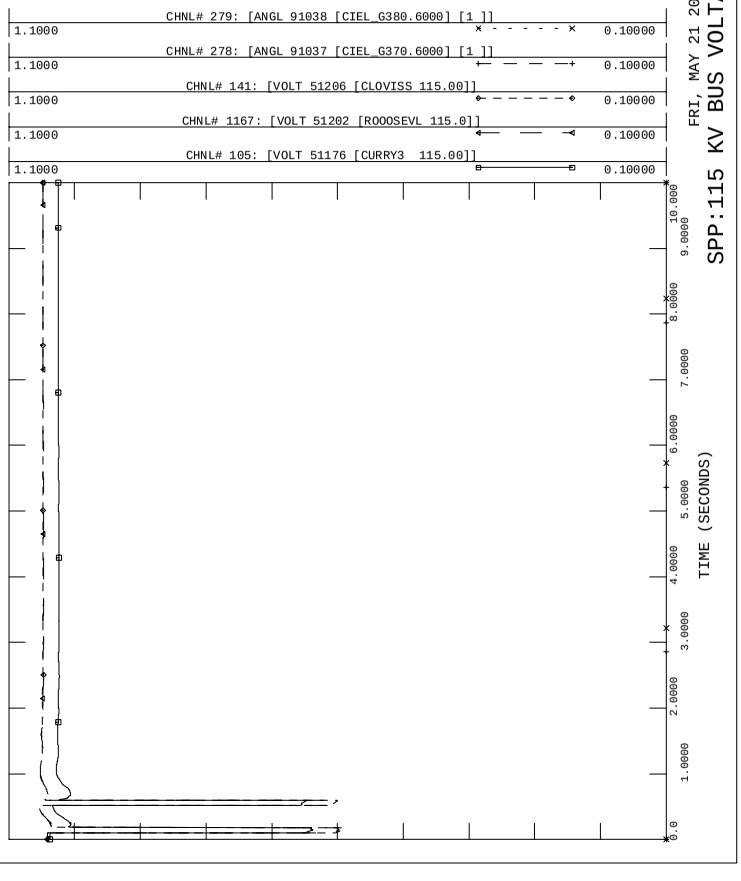
SPP:345 KV BUS VOLTAGE 9



SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH_LITE.OUT

FRI, MAY 21 2004 10:05

SPP:115 KV BUS VOLTAGE 11

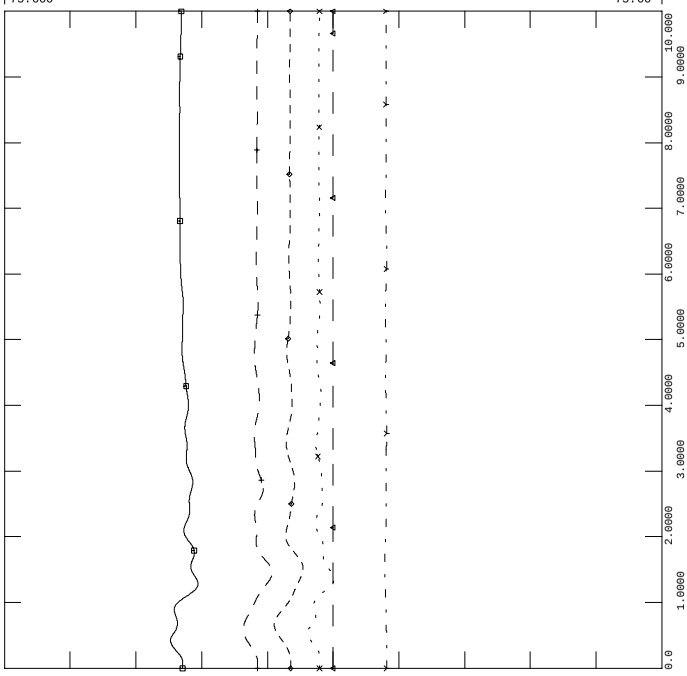


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH_LITE.OUT

FRI, MAY 21 2004 10:05 14

SPP: ROTOR ANGLE

CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]]
CHNL# 55: [ANGL 52212 [CUNN21 20.000] [1]]
CHNL# 54: [ANGL 51973 [MUSTG#3122.000] [1]]
CHNL# 53: [ANGL 51971 [MUSTG#1113.800] [1]]
CHNL# 52: [ANGL 51424 [PLANTX4 20.000] [1]]
CHNL# 51: [ANGL 51423 [PLANTX3 13.800] [1]]

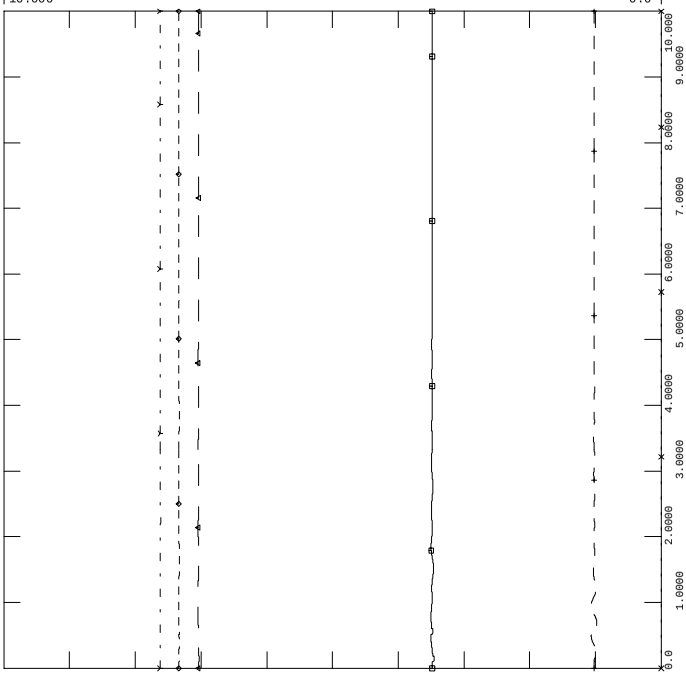


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH_LITE.OUT

FRI, MAY 21 2004 10:05 16

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
CHNL# 61: [POWR 50913 [NICHOL3 22.000] [1]]
CHNL# 60: [POWR 50912 [NICHOL2 13.800] [1]]
CHNL# 196: [POWR 64106 [GENTLM2G23.400] [2]]
CHNL# 11: [POWR 64105 [GENTLM1G22.400] [1]]
CHNL# 10: [POWR 56447 [HOLCGEN122.000] [1]]

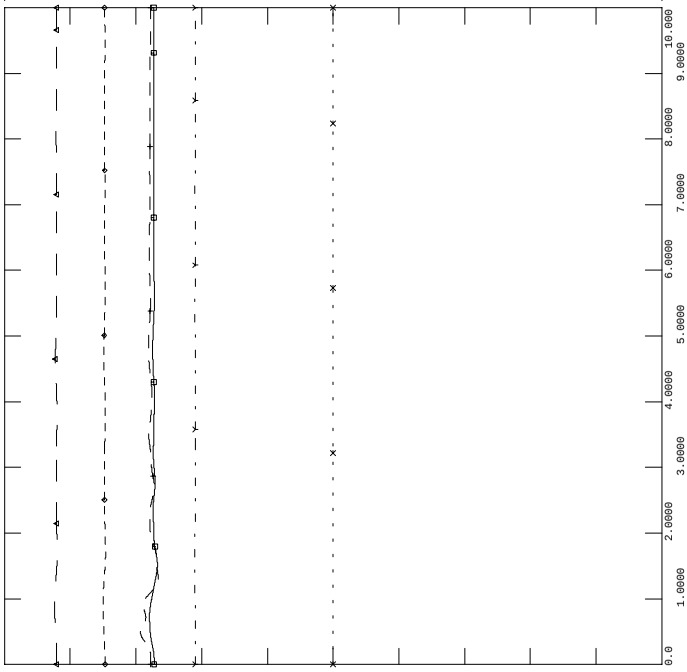


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH_LITE.OUT

FRI, MAY 21 2004 10:05 13

SPP: ROTOR ANGLE

CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]]
CHNL# 50: [ANGL 50913 [NICHOL3 22.000] [1]]
CHNL# 49: [ANGL 50912 [NICHOL2 13.800] [1]]
CHNL# 195: [ANGL 64106 [GENTLM2G23.400] [2]]
CHNL# 5: [ANGL 64105 [GENTLM1G22.400] [1]]
CHNL# 4: [ANGL 56447 [HOLCGEN122.000] [1]]

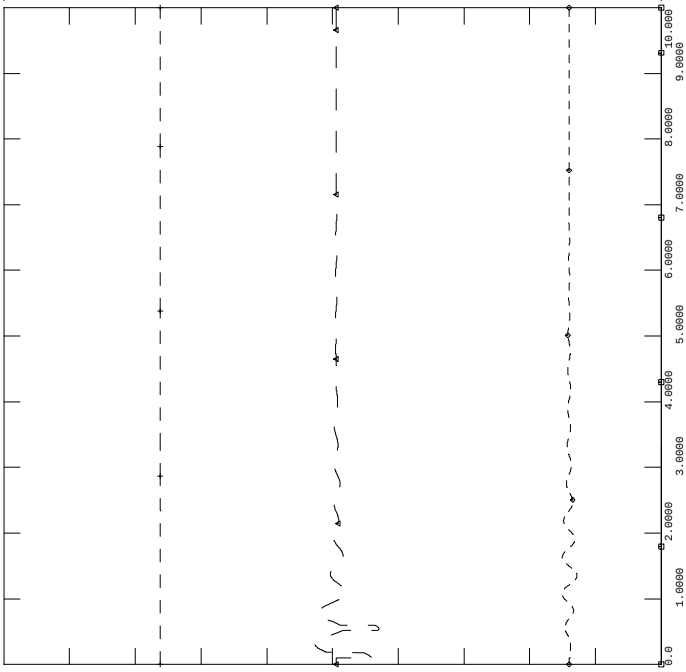


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH_LITE.OUT

FRI, MAY 21 2004 10:05 15

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
CHNL# 9: [POWR 51701 [JONES11 22.000] [1]]
CHNL# 8: [POWR 51441 [TOLK1 24.000] [1]]
CHNL# 7: [POWR 50891 [HARRNG1 24.000] [1]]

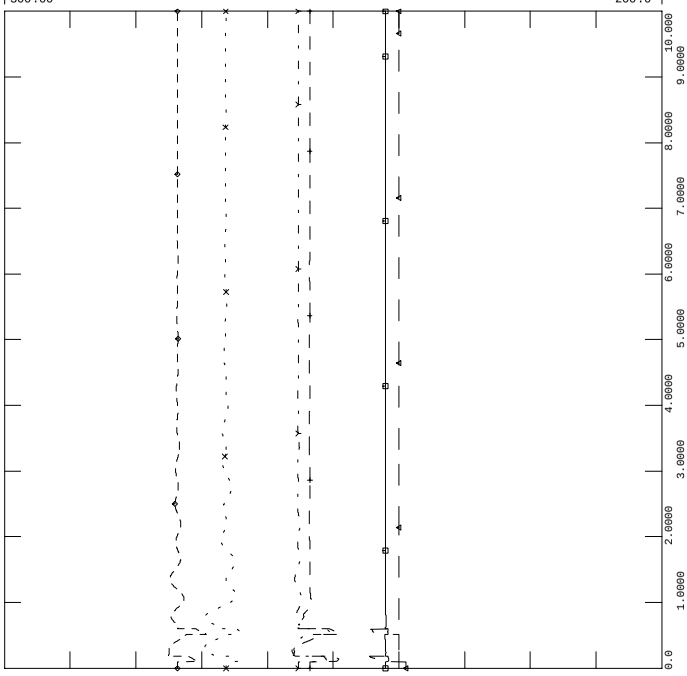


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH_LITE.OUT

FRI, MAY 21 2004 10:05 18

BRANCH FLOW

CHNL# 97: [POWR 51195 TO 52073 CKT 1]
300.00 -200.0
CHNL# 1179: [POWR 51435 TO 51533 CKT 1]
300.00 -200.0
CHNL# 1177: [POWR 99991 TO 51176 CKT 1]
300.00 -200.0
CHNL# 1175: [POWR 51440 TO 52186 CKT 1]
300.00 -200.0
CHNL# 1173: [POWR 51176 TO 51206 CKT 2]
300.00 -200.0
CHNL# 1169: [POWR 99991 TO 51076 CKT 1]
300.00 -200.0

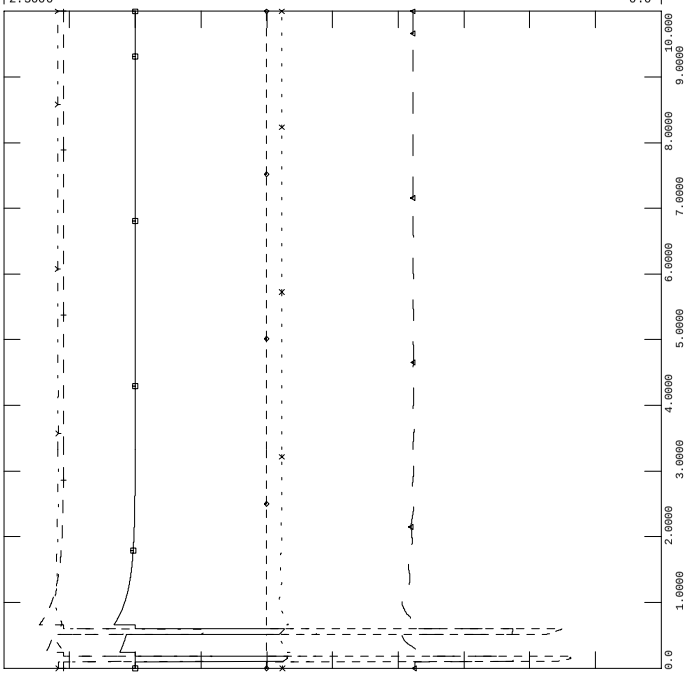


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH_LITE.OUT

FRI, MAY 21 2004 10:05 20

DC LINE PNM

CHNL# 207: [VOLT 59995 [BLKWDC 230.00]]
1.1000 0.10000
CHNL# 193: [DC LINE #2: ALPHA]
100.00 -100.0
CHNL# 192: [DC LINE #2: DC CURRENT]
4000.0 0.0
CHNL# 191: [DC LINE #2: VDCR]
65000. 40000.
CHNL# 187: [DC LINE #2: QACR]
2.5000 0.0
CHNL# 186: [DC LINE #2: PACR]
2.5000 0.0

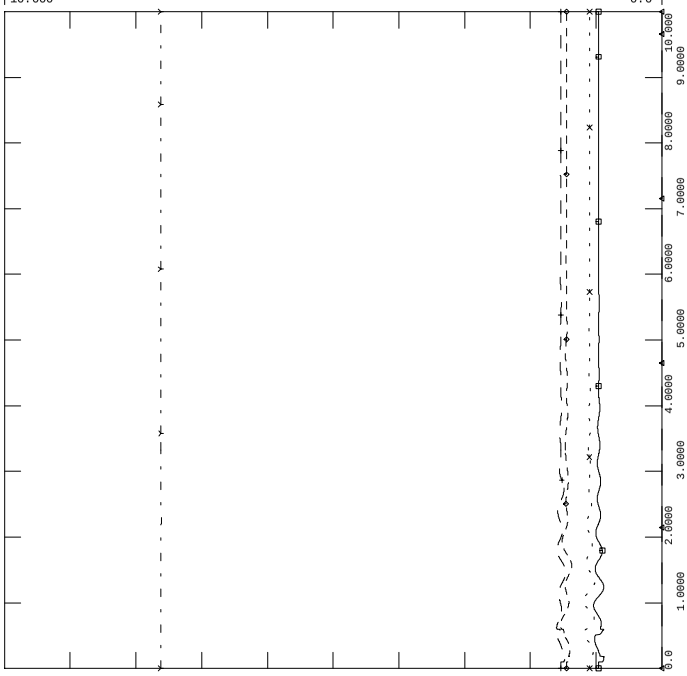


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH_LITE.OUT

FRI, MAY 21 2004 10:05 17

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
10.000 0.0
CHNL# 66: [POWR 52212 [CUNN21 20.000] [1]]
10.000 0.0
CHNL# 65: [POWR 51973 [MUSTG#3122.000] [1]]
10.000 0.0
CHNL# 64: [POWR 51971 [MUSTG#1113.800] [1]]
10.000 0.0
CHNL# 63: [POWR 51424 [PLANTX4 20.000] [1]]
10.000 0.0
CHNL# 62: [POWR 51423 [PLANTX3 13.800] [1]]
10.000 0.0

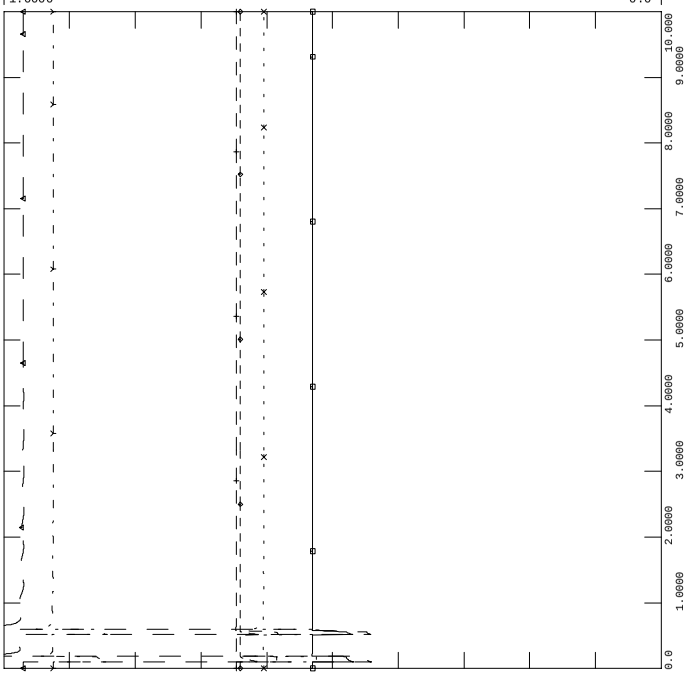


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH_LITE.OUT

FRI, MAY 21 2004 10:05 19

DC LINE EPE

CHNL# 208: [VOLT 59996 [EPEDC 230.00]]
1.1000 0.10000
CHNL# 184: [DC LINE #1: ALFA]
100.00 -100.0
CHNL# 183: [DC LINE #1: DC CURRENT]
1000.0 0.0
CHNL# 182: [DC LINE #1: VDCR]
1.0000E5 50000.
CHNL# 178: [DC LINE #1: QACR]
0.25000 0.0
CHNL# 177: [DC LINE #1: PACR]
1.0000 0.0

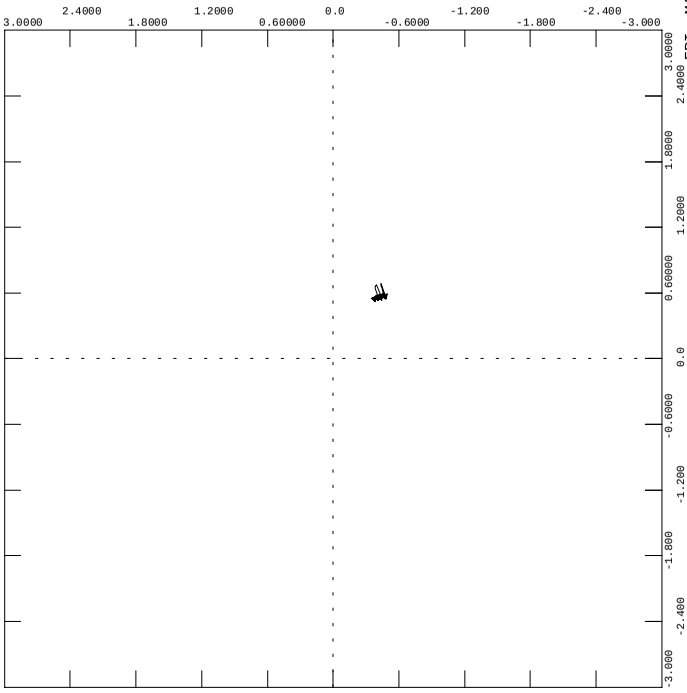


SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

22

FILE: WI_FLT71PH_LITE.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 116: [APPX 50858 TO 50888 CKT 1]



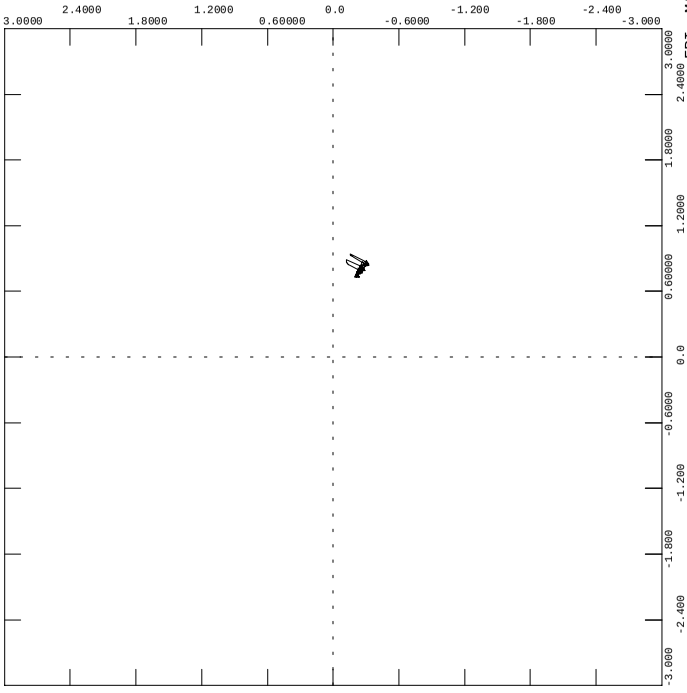
FRI, MAY 21 2004 10:05
POTTER-FINNEY
CHNL# 115: [APPR 50858 TO 50888 CKT 1]

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

21

FILE: WI_FLT71PH_LITE.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 114: [APPX 56449 TO 50858 CKT 1]

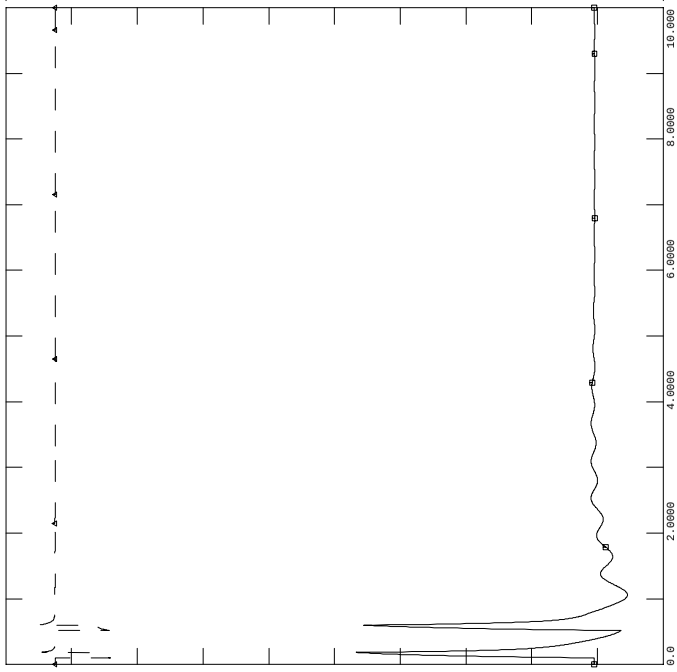


FRI, MAY 21 2004 10:05
FINNEY-HOLCOMB
CHNL# 113: [APPR 56449 TO 50858 CKT 1]

SPP LIGHT LOAD WITH CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS, D-VAR SOLUTION, WI LARGER XFMR
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WI_FLT71PH_LITE.OUT

23

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]
1.1000 0.10000
CHNL# 117: [BUS 52185 SVC OUTPUT]
2.0000 0.0



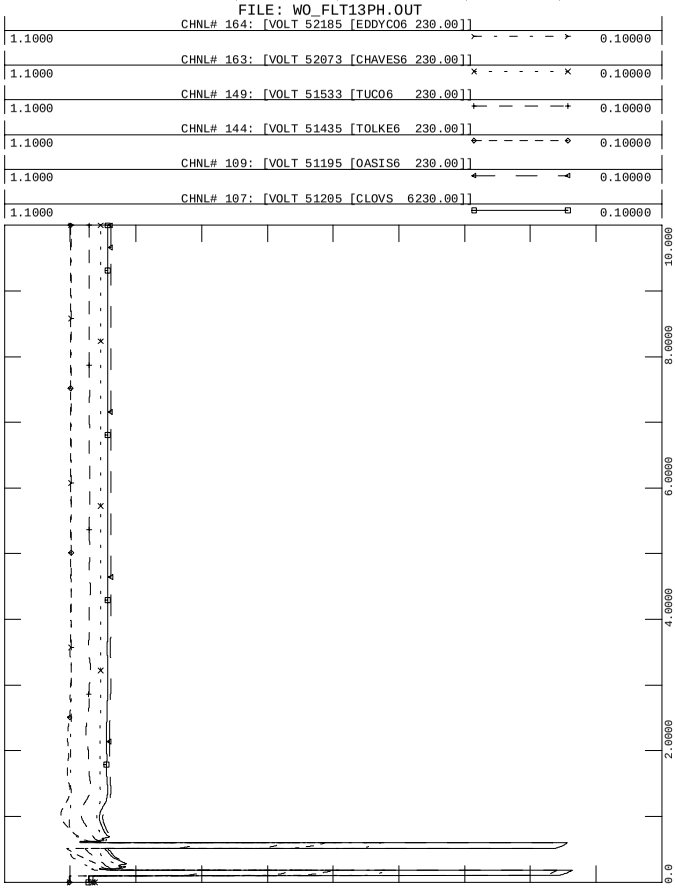
FRI, MAY 21 2004 10:05
SVC OUTPUT
TIME (SECONDS)

Appendix

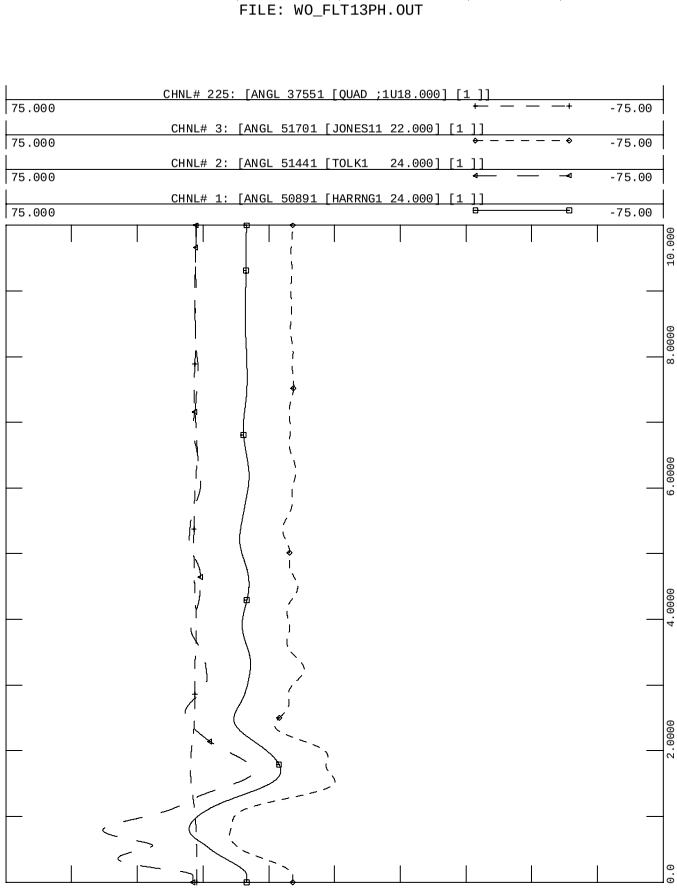
E

Plots of Dynamic Simulation with Cielo Wind Farm off-line during Peak Load Conditions

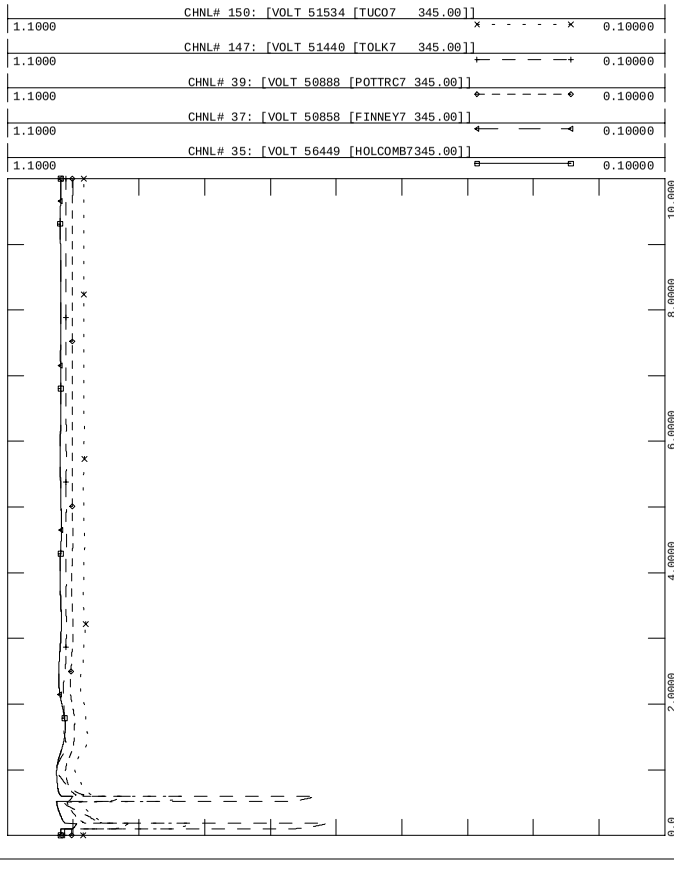
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT13PH.OUT



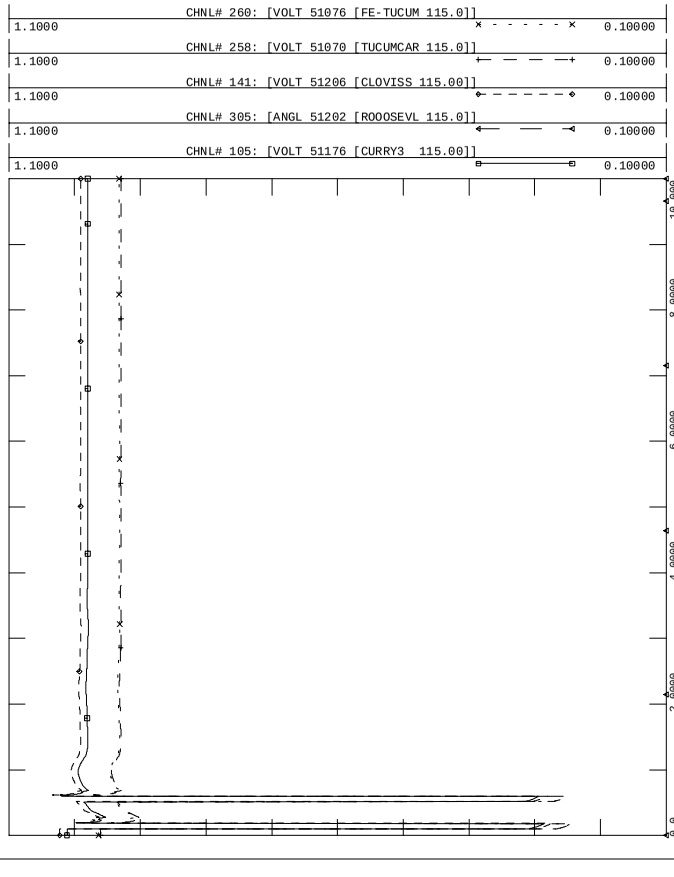
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT13PH.OUT



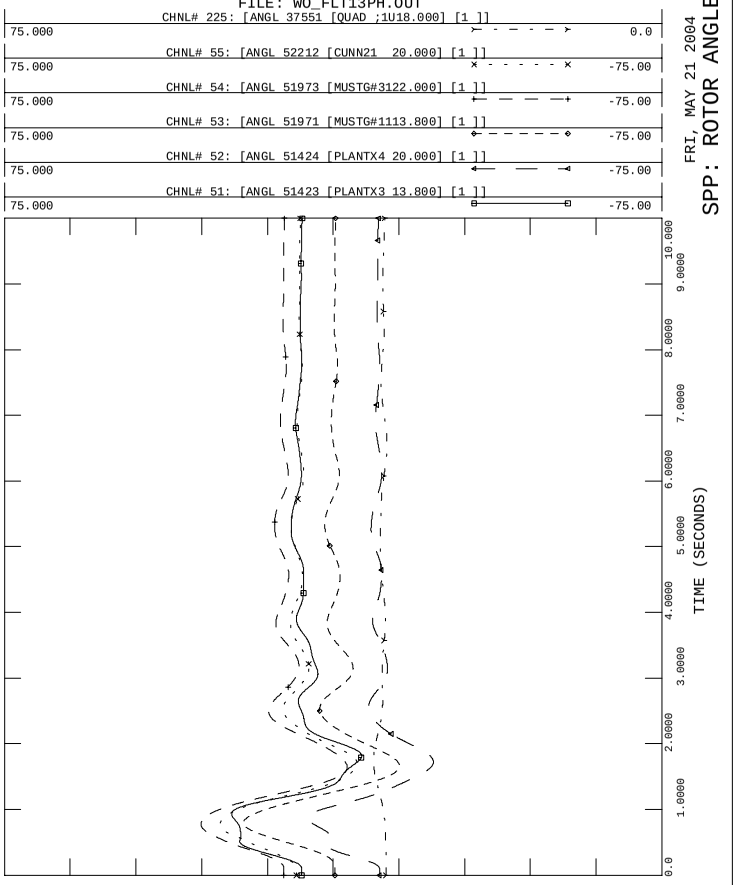
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT13PH.OUT



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT13PH.OUT

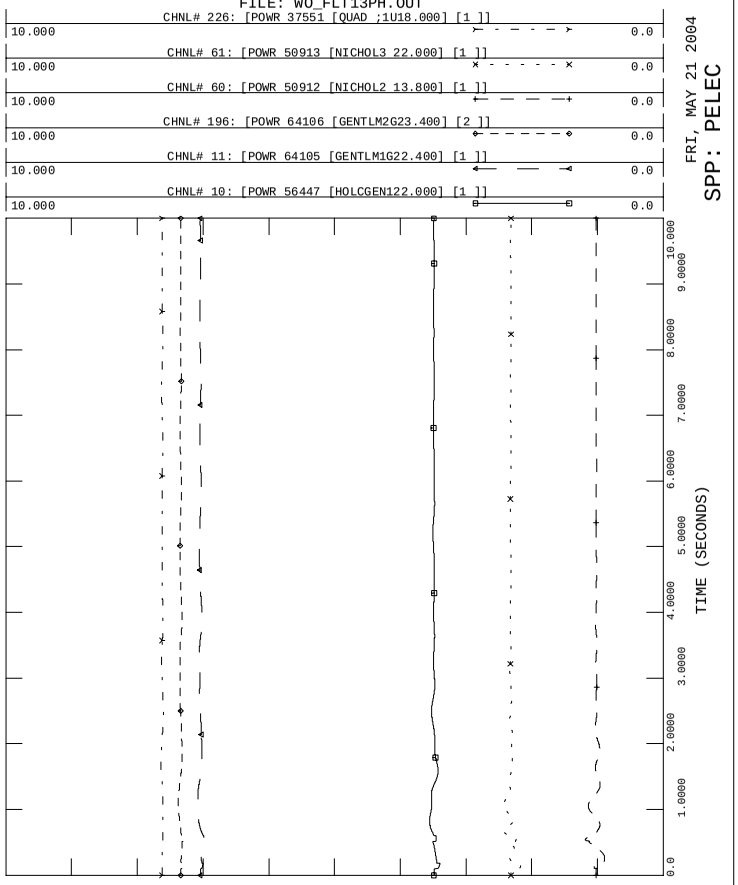


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT13PH.OUT



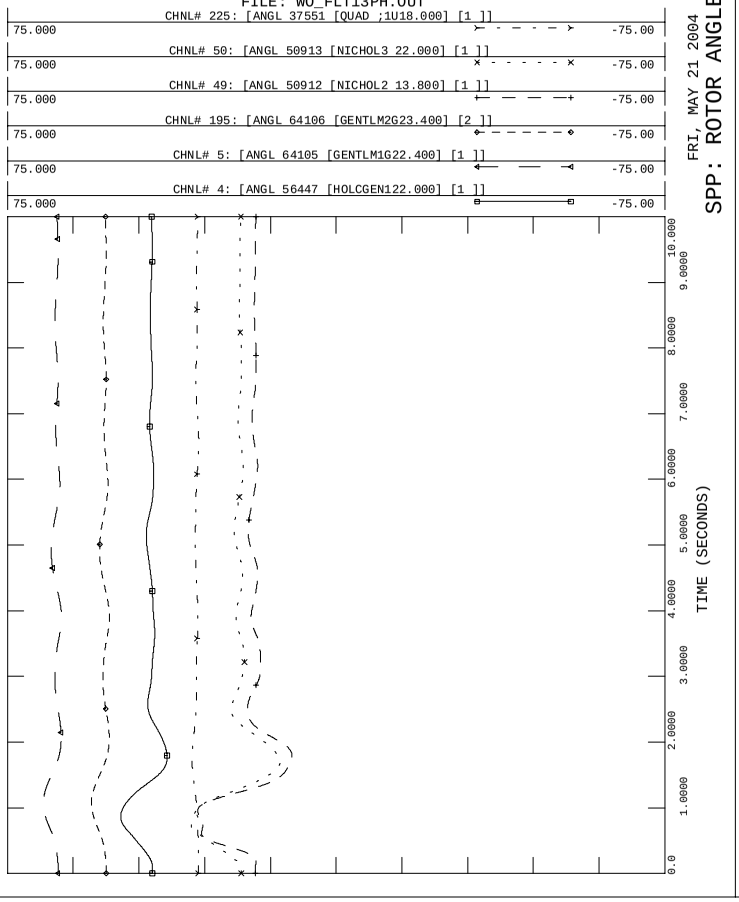
FRI, MAY 21 2004 9:47 7
SPP: ROTOR ANGLE

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT13PH.OUT



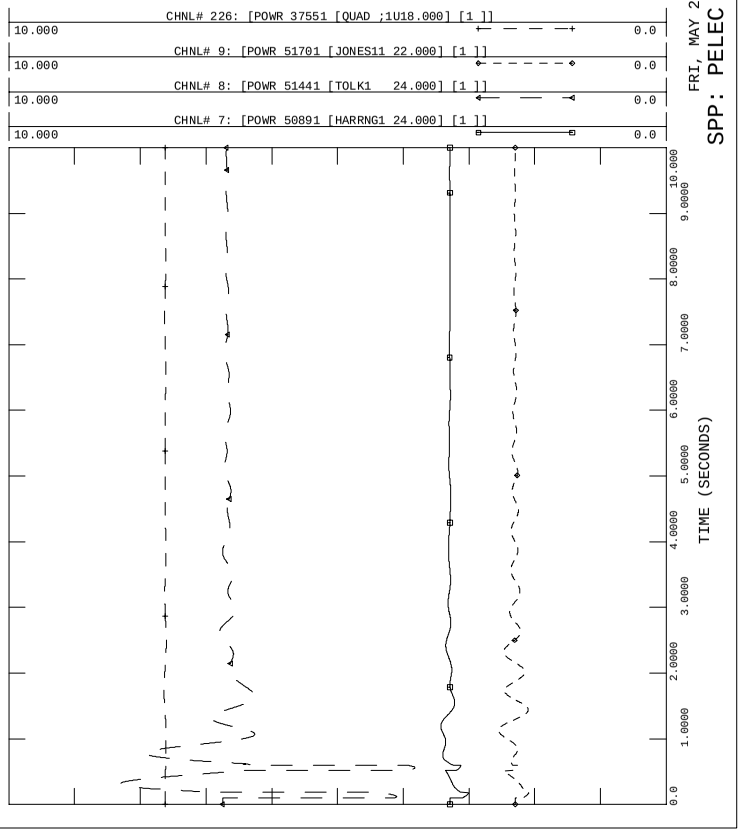
FRI, MAY 21 2004 9:47 9
SPP: PELEC

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT13PH.OUT



FRI, MAY 21 2004 9:47 5
SPP: ROTOR ANGLE

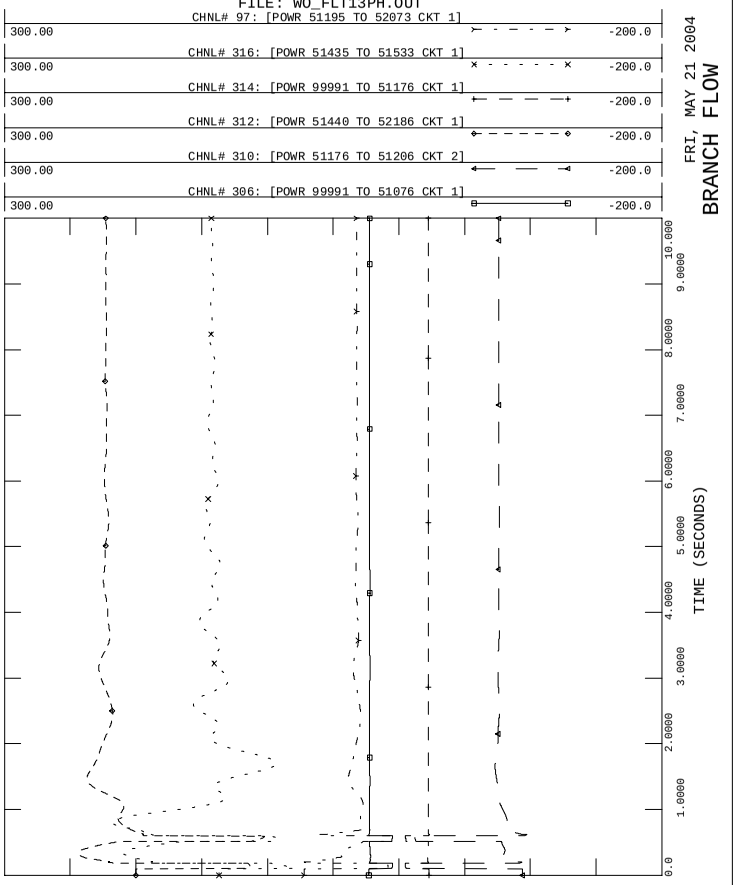
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT13PH.OUT



FRI, MAY 21 2004 9:47 8
SPP: PELEC

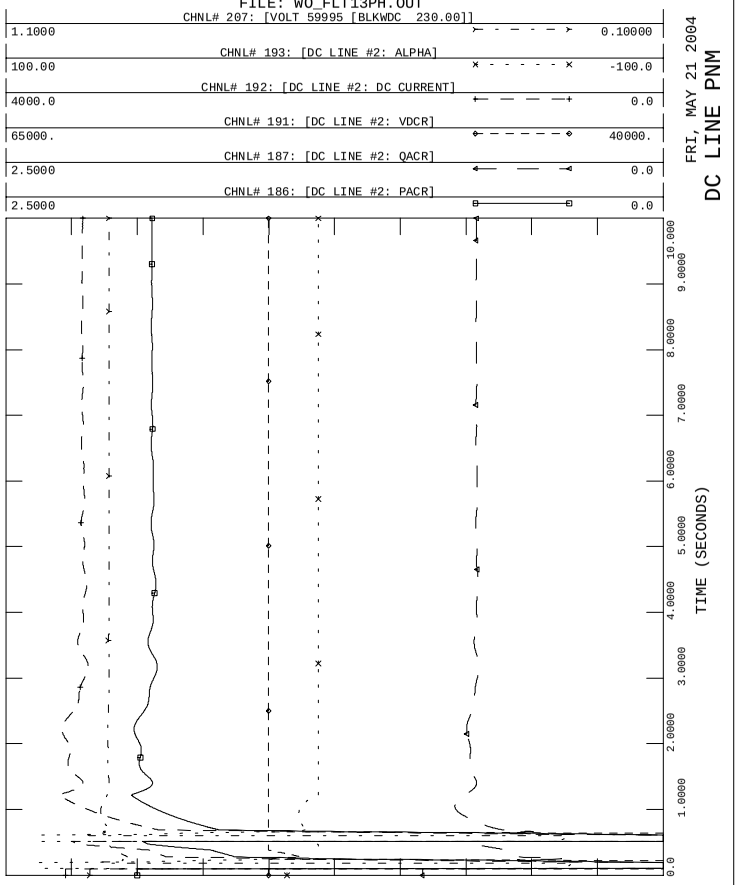
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT13PH.OUT

9:47 11
FRI, MAY 21 2004
BRANCH FLOW



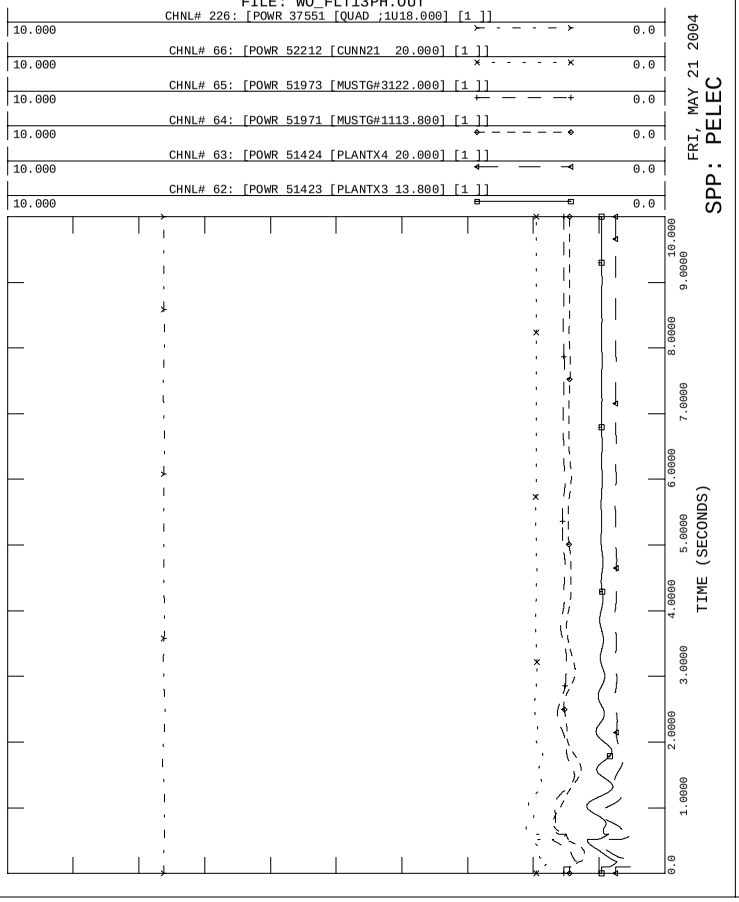
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT13PH.OUT

9:47 13
FRI, MAY 21 2004
DC LINE PNM



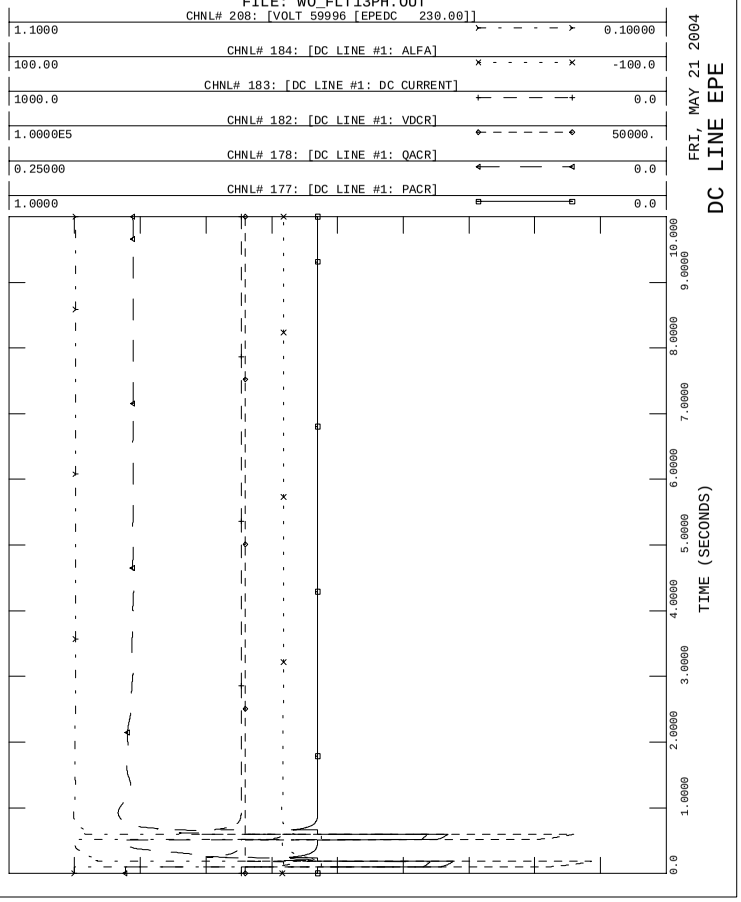
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT13PH.OUT

9:47 10
FRI, MAY 21 2004
SPP: PELEC



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT13PH.OUT

9:47 12
FRI, MAY 21 2004
DC LINE EPE

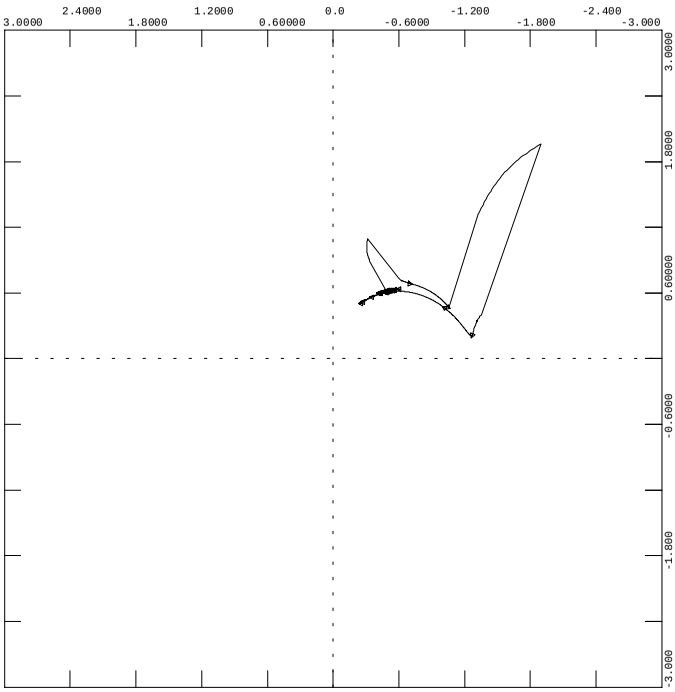


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

15

FILE: WO_FLT13PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 116: [APPX 50858 TO 50888 CKT 1]



FRI, MAY 21 2004 9:47 POTTER-FINNEY

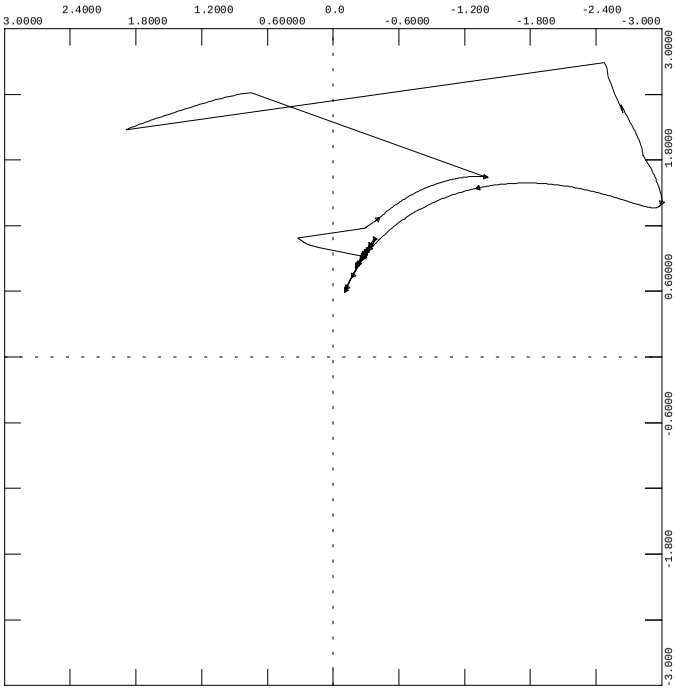
CHNL# 115: [APPR 50858 TO 50888 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

14

FILE: WO_FLT13PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 114: [APPX 56449 TO 50858 CKT 1]



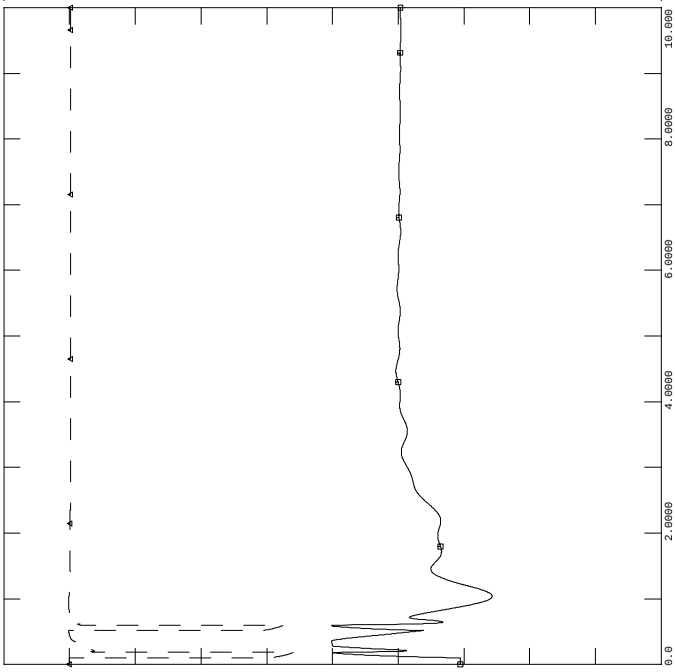
FRI, MAY 21 2004 9:47 FINNEY-HOLCOMB

CHNL# 113: [APPR 56449 TO 50858 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT13PH: THREE PHASE FAULT ON ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT13PH.OUT

16

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]
1.1000 0.10000
CHNL# 117: [BUS 52185 SVC OUTPUT]
2.0000 0.0



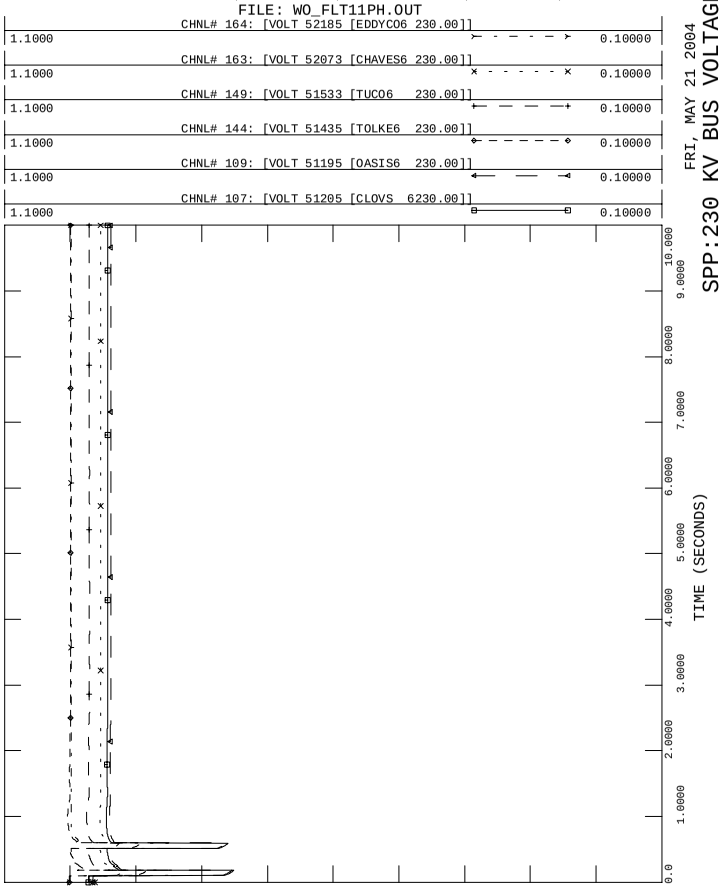
FRI, MAY 21 2004 9:47 SVC OUTPUT

TIME (SECONDS)

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT11PH.OUT

FRI, MAY 21 2004 9:47

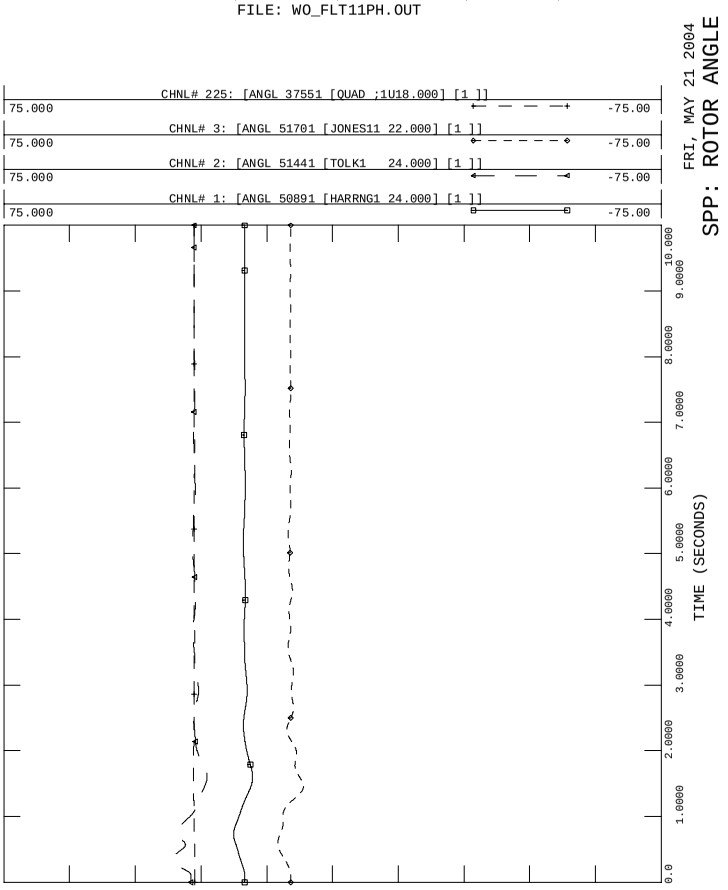
SPP:230 KV BUS VOLTAGE 2



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT11PH.OUT

FRI, MAY 21 2004 9:47

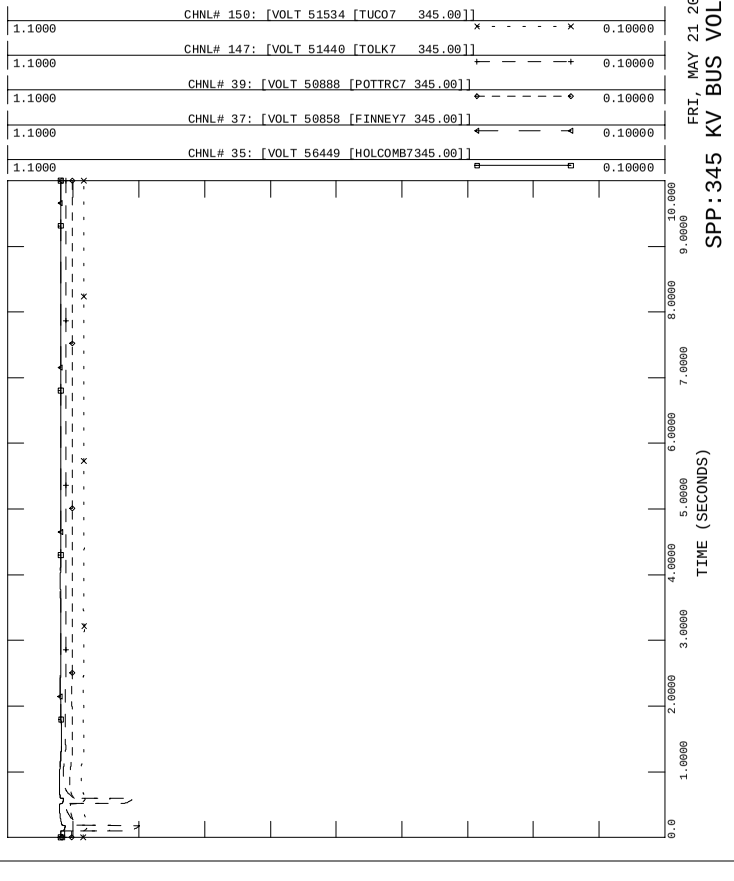
SPP: ROTOR ANGLE 4



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT11PH.OUT

FRI, MAY 21 2004 9:47

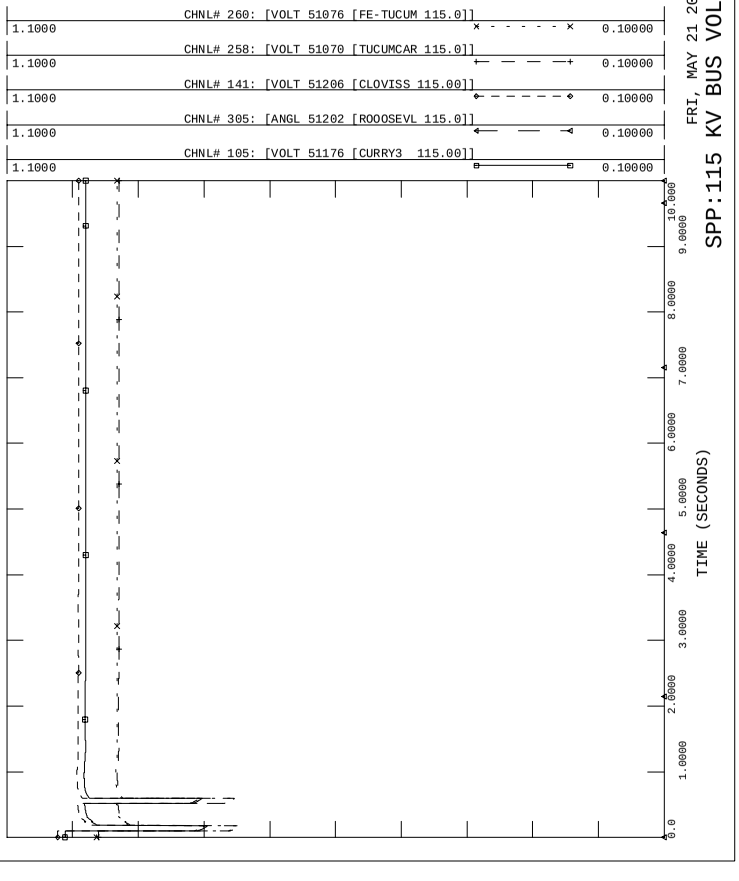
SPP:345 KV BUS VOLTAGE 1



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT11PH.OUT

FRI, MAY 21 2004 9:47

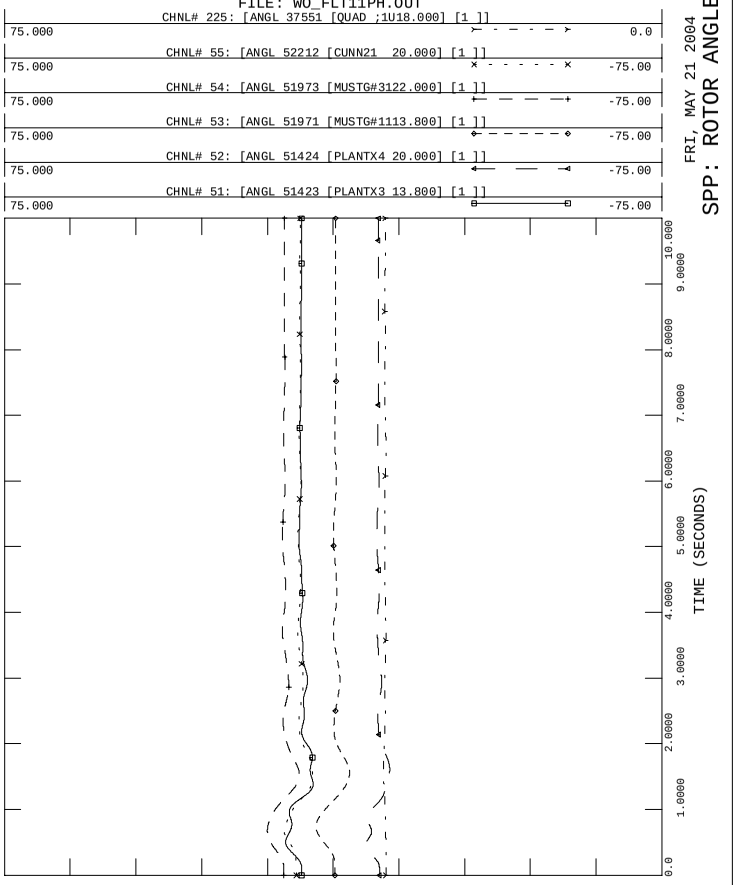
SPP:115 KV BUS VOLTAGE 3



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT11PH.OUT

FRI, MAY 21 2004 9:47 7

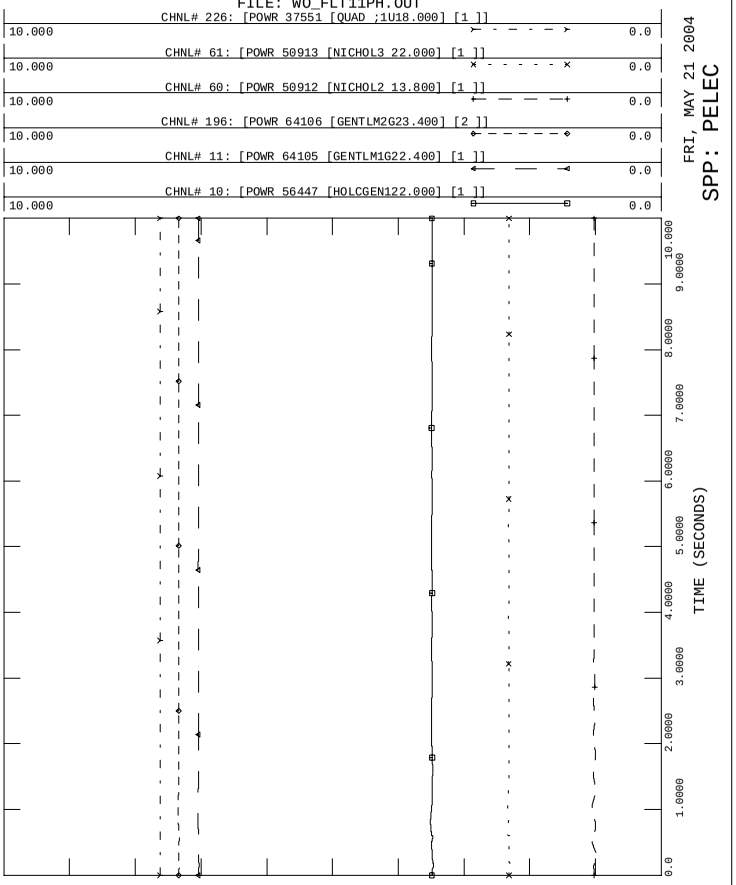
SPP: ROTOR ANGLE



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT11PH.OUT

FRI, MAY 21 2004 9:47 9

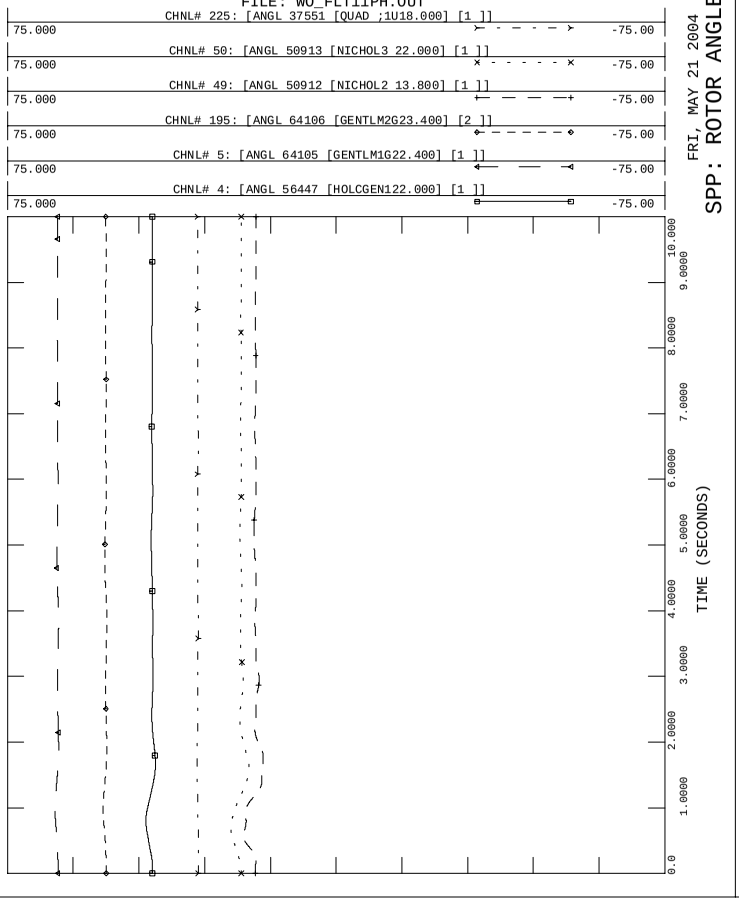
SPP: PELEC



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT11PH.OUT

FRI, MAY 21 2004 9:47 5

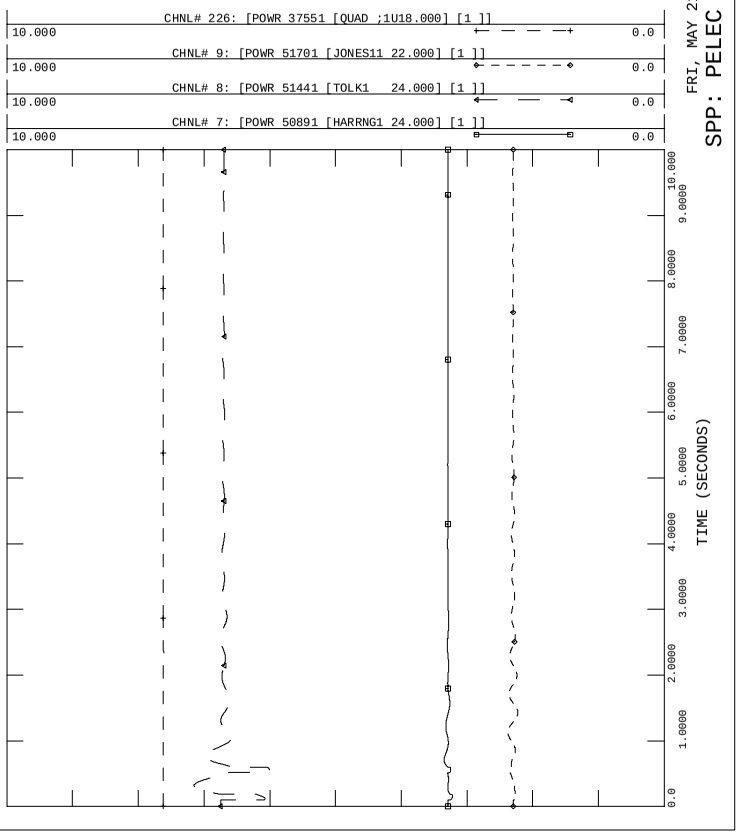
SPP: ROTOR ANGLE



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT11PH.OUT

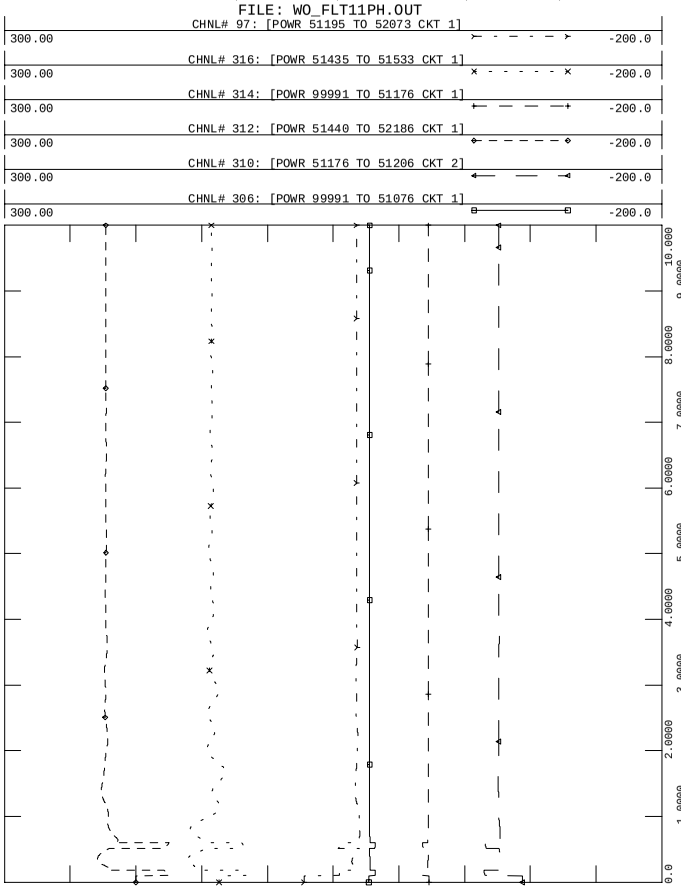
FRI, MAY 21 2004 9:47 8

SPP: PELEC



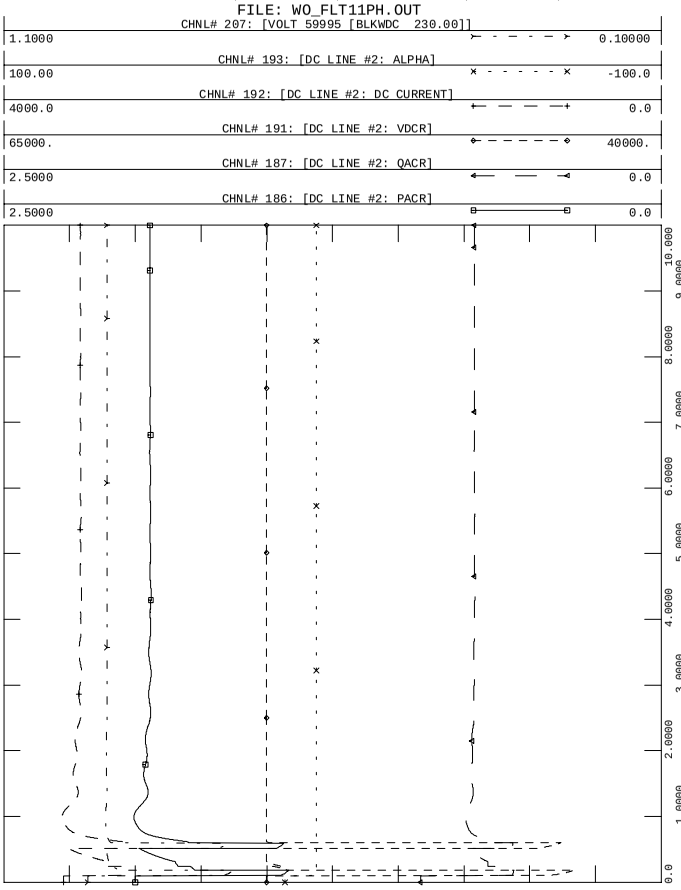
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT11PH.OUT

9:47 11
FRI, MAY 21 2004
BRANCH FLOW



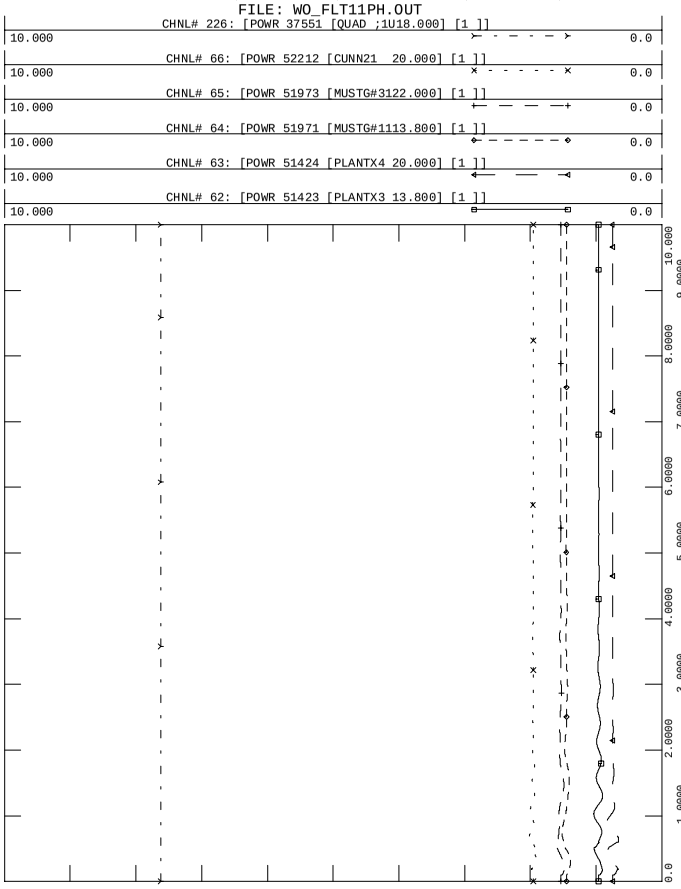
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT11PH.OUT

9:47 13
FRI, MAY 21 2004
DC LINE PNM



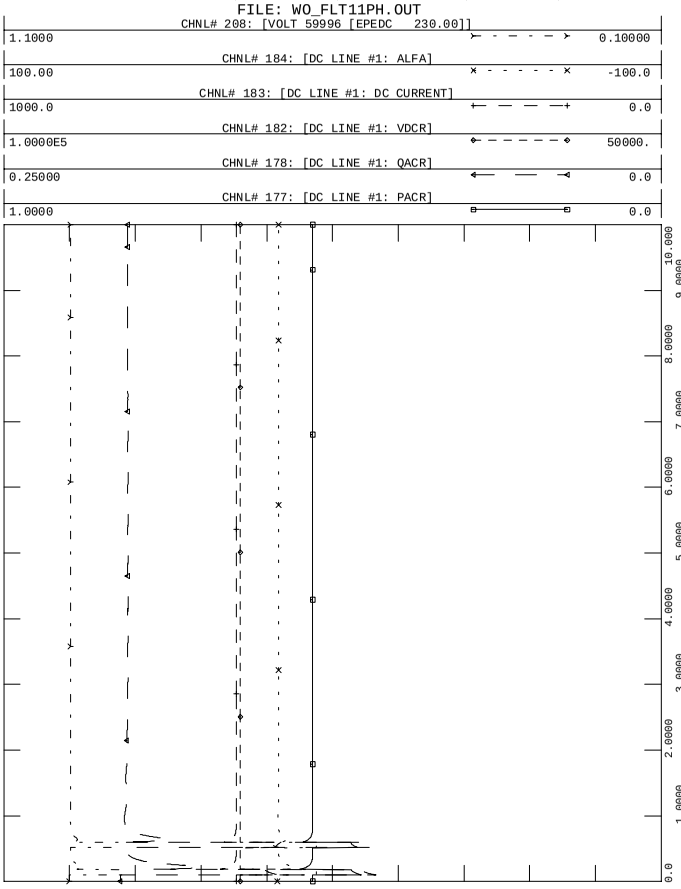
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT11PH.OUT

9:47 10
FRI, MAY 21 2004
SPP: PELEC



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT11PH.OUT

9:47 12
FRI, MAY 21 2004
DC LINE EPE

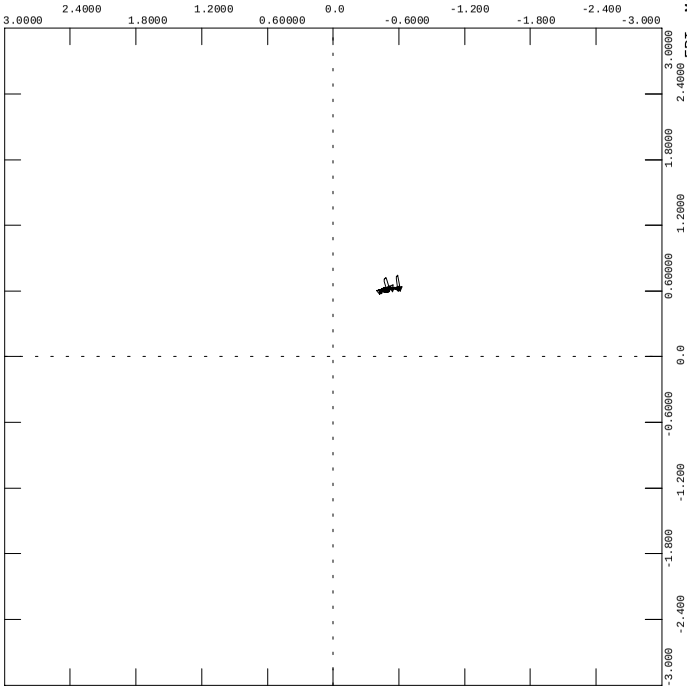


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR

15

FILE: WO_FLT11PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 116: [APPX 50858 TO 50888 CKT 1]



FRI, MAY 21 2004 9:47 POTTER-FINNEY

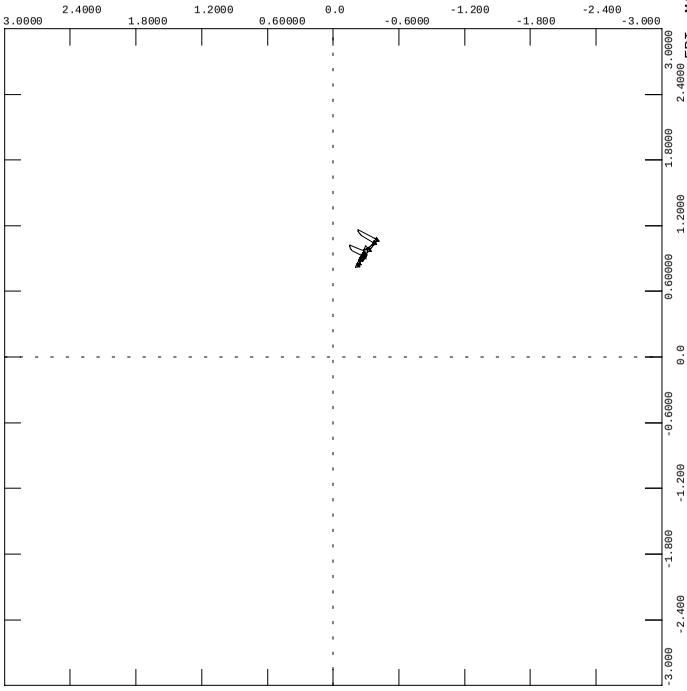
CHNL# 115: [APPR 50858 TO 50888 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR

14

FILE: WO_FLT11PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 114: [APPX 56449 TO 50858 CKT 1]



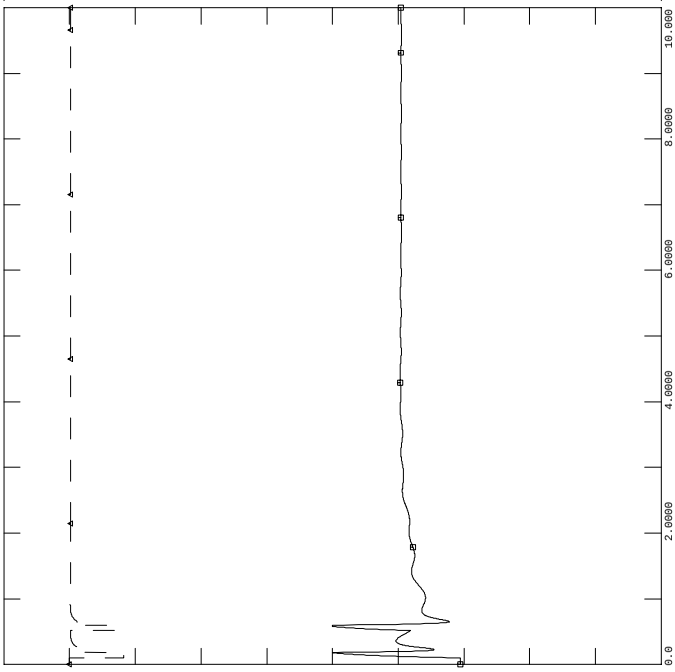
FRI, MAY 21 2004 9:47 FINNEY-HOLCOMB

CHNL# 113: [APPR 56449 TO 50858 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT11PH: SLG FAULT ON TOLK-CLOVIS 230 KV LINE
5 CY IN THE MIDDLE,DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT11PH.OUT

16

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]
1.1000 0.10000
CHNL# 117: [BUS 52185 SVC OUTPUT]
2.0000 0.0



FRI, MAY 21 2004 9:47 SVC OUTPUT

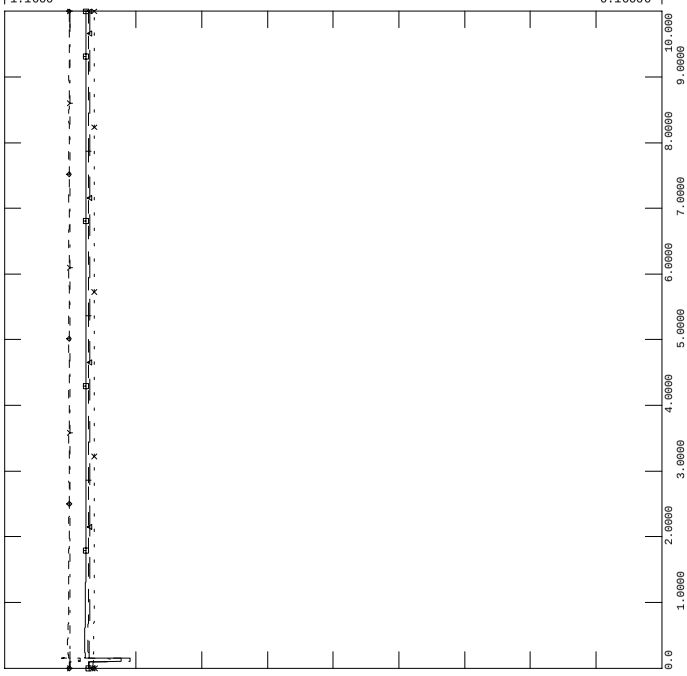
TIME (SECONDS)

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WO_FLT23PH.OUT

FRI, MAY 21 2004 9:48

SPP:230 KV BUS VOLTAGE 2

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]
CHNL# 163: [VOLT 52073 [CHAVES6 230.00]]
CHNL# 149: [VOLT 51533 [TUCO6 230.00]]
CHNL# 144: [VOLT 51435 [TOLKE6 230.00]]
CHNL# 109: [VOLT 51195 [OASIS6 230.00]]
CHNL# 107: [VOLT 51205 [CLOVS 6230.00]]

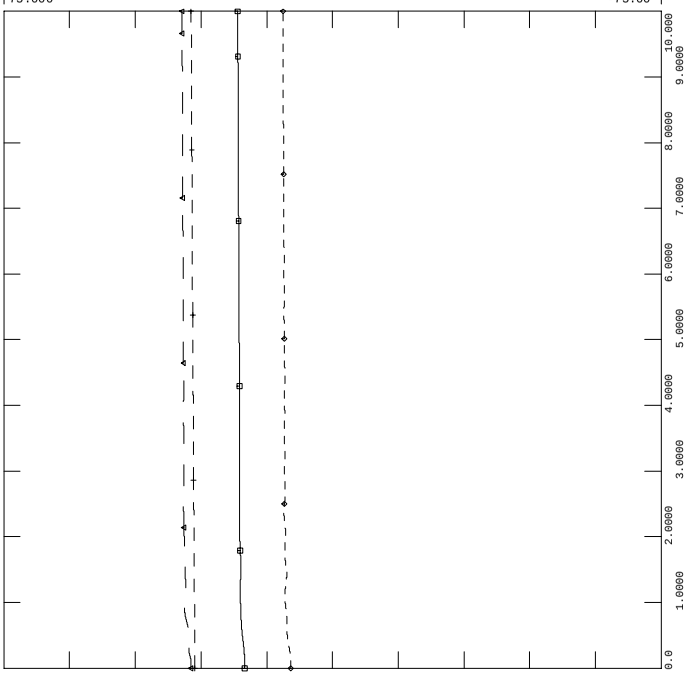


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WO_FLT23PH.OUT

FRI, MAY 21 2004 9:48

SPP: ROTOR ANGLE 4

CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]]
CHNL# 3: [ANGL 51701 [JONES11 22.000] [1]]
CHNL# 2: [ANGL 51441 [TOLK1 24.000] [1]]
CHNL# 1: [ANGL 50891 [HARRNG1 24.000] [1]]

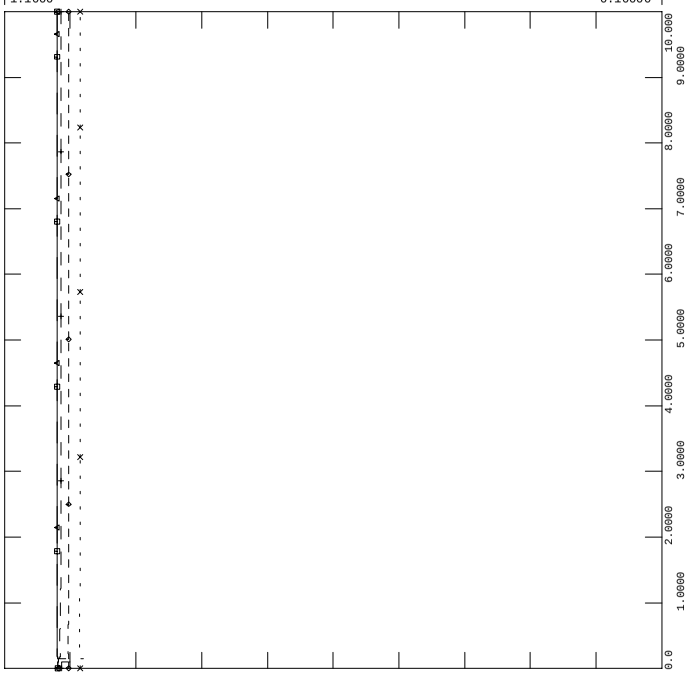


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WO_FLT23PH.OUT

FRI, MAY 21 2004 9:48

SPP:345 KV BUS VOLTAGE 1

CHNL# 150: [VOLT 51534 [TUCO7 345.00]]
CHNL# 147: [VOLT 51440 [TOLK7 345.00]]
CHNL# 39: [VOLT 50888 [POTTRC7 345.00]]
CHNL# 37: [VOLT 50858 [FINNEY7 345.00]]
CHNL# 35: [VOLT 56449 [HOLCOMB7345.00]]

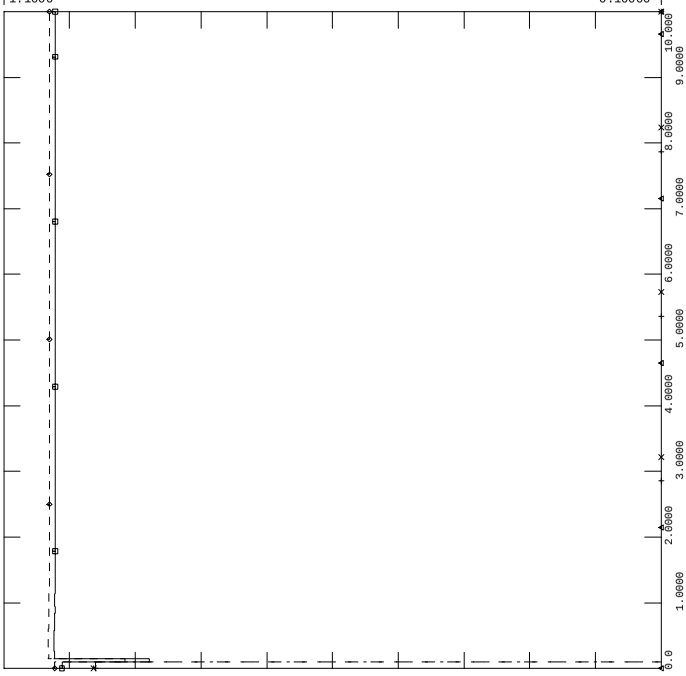


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WO_FLT23PH.OUT

FRI, MAY 21 2004 9:48

SPP:115 KV BUS VOLTAGE 3

CHNL# 260: [VOLT 51076 [FE-TUCUM 115.0]]
CHNL# 258: [VOLT 51070 [TUCUMCAR 115.0]]
CHNL# 141: [VOLT 51206 [CLOVISS 115.00]]
CHNL# 305: [ANGL 51202 [ROOOSEVL 115.0]]
CHNL# 105: [VOLT 51176 [CURRY3 115.00]]

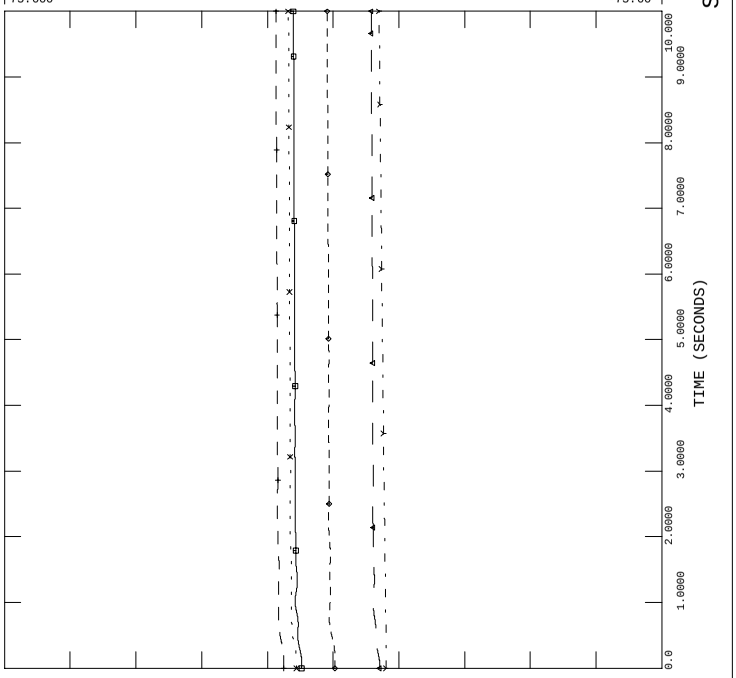


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WO_FLT23PH.OUT

FRI, MAY 21 2004 9:48 7

SPP: ROTOR ANGLE

CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]]
75.000 0.0
CHNL# 55: [ANGL 52212 [CUNN21 20.000] [1]]
75.000 -75.00
CHNL# 54: [ANGL 51973 [MUSTG#3122.000] [1]]
75.000 -75.00
CHNL# 53: [ANGL 51971 [MUSTG#1113.800] [1]]
75.000 -75.00
CHNL# 52: [ANGL 51424 [PLANTX4 20.000] [1]]
75.000 -75.00
CHNL# 51: [ANGL 51423 [PLANTX3 13.800] [1]]
75.000 -75.00

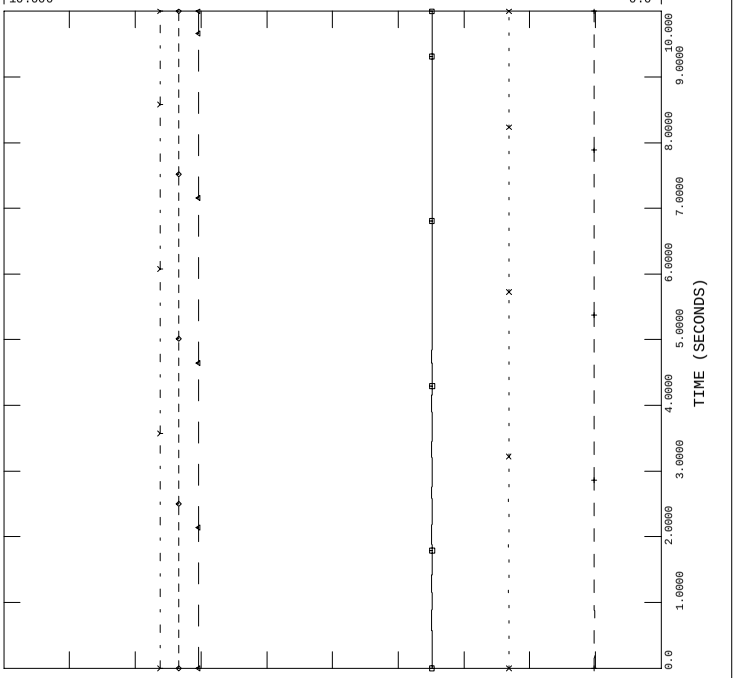


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WO_FLT23PH.OUT

FRI, MAY 21 2004 9:48 9

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
10.000 0.0
CHNL# 61: [POWR 50913 [NICHOL3 22.000] [1]]
10.000 0.0
CHNL# 60: [POWR 50912 [NICHOL2 13.800] [1]]
10.000 0.0
CHNL# 196: [POWR 64106 [GENTLM2G23.400] [2]]
10.000 0.0
CHNL# 11: [POWR 64105 [GENTLM1G22.400] [1]]
10.000 0.0
CHNL# 10: [POWR 56447 [HOLCGEN122.000] [1]]
10.000 0.0

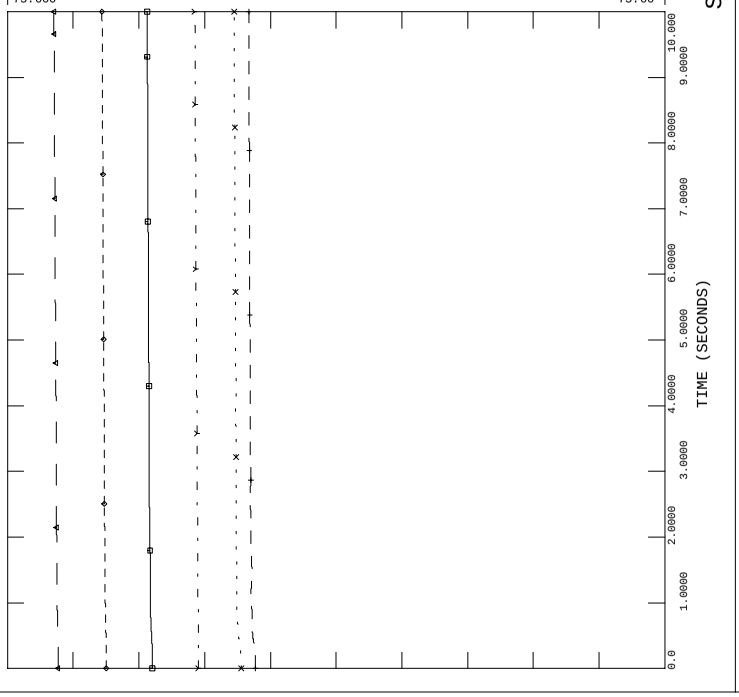


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WO_FLT23PH.OUT

FRI, MAY 21 2004 9:48 5

SPP: ROTOR ANGLE

CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]]
75.000 -75.00
CHNL# 50: [ANGL 50913 [NICHOL3 22.000] [1]]
75.000 -75.00
CHNL# 49: [ANGL 50912 [NICHOL2 13.800] [1]]
75.000 -75.00
CHNL# 195: [ANGL 64106 [GENTLM2G23.400] [2]]
75.000 -75.00
CHNL# 5: [ANGL 64105 [GENTLM1G22.400] [1]]
75.000 -75.00
CHNL# 4: [ANGL 56447 [HOLCGEN122.000] [1]]
75.000 -75.00

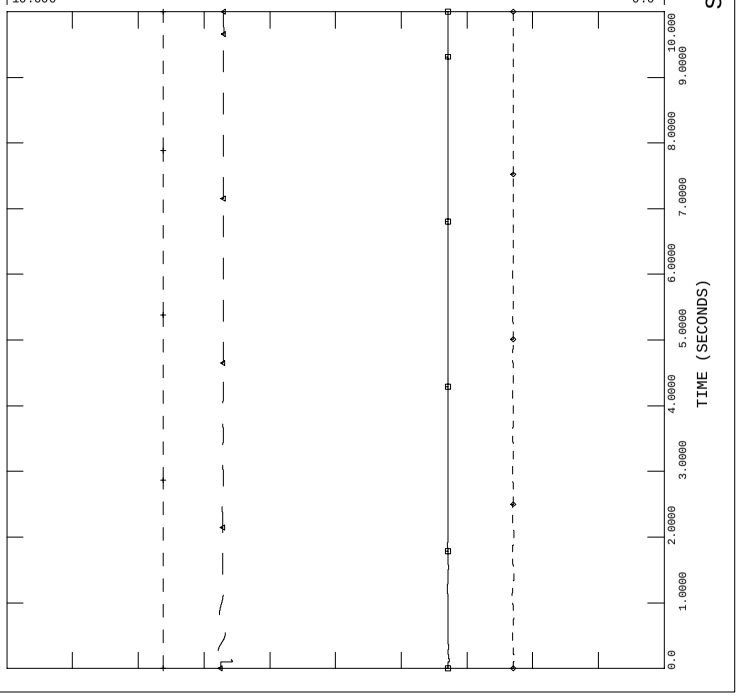


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WO_FLT23PH.OUT

FRI, MAY 21 2004 9:48 8

SPP: PELEC

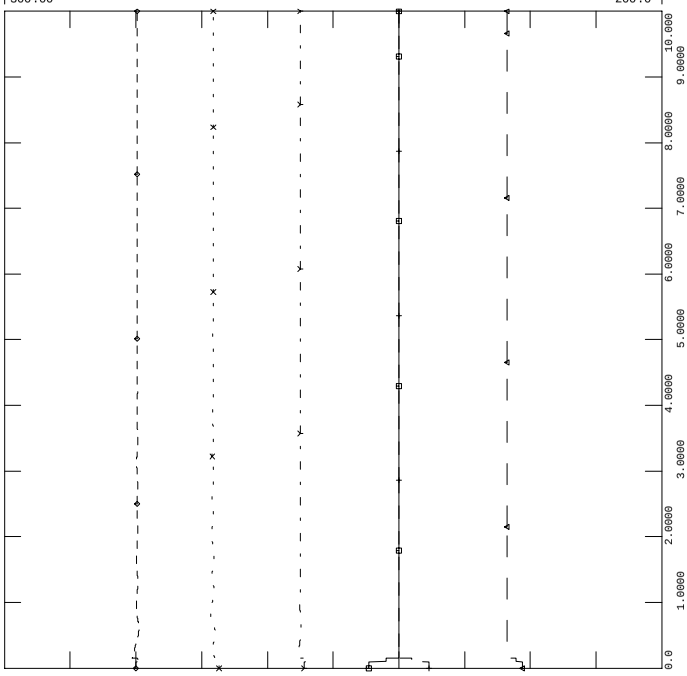
CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
10.000 0.0
CHNL# 9: [POWR 51701 [JONES11 22.000] [1]]
10.000 0.0
CHNL# 8: [POWR 51441 [TOLK1 24.000] [1]]
10.000 0.0
CHNL# 7: [POWR 50891 [HARRNG1 24.000] [1]]
10.000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WO_FLT23PH.OUT

9:48 11
FRI, MAY 21 2004
BRANCH FLOW

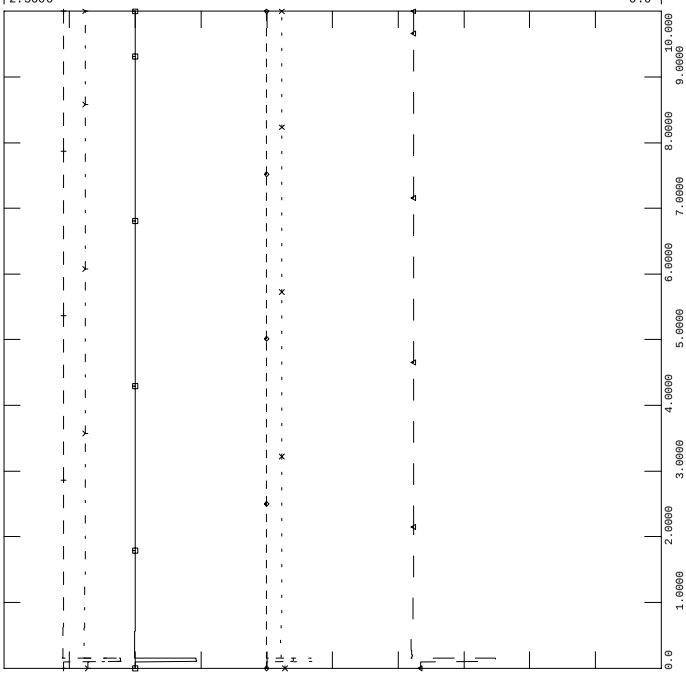
CHNL# 97: [POWR 51195 TO 52073 CKT 1]
300.00 -200.0
CHNL# 316: [POWR 51435 TO 51533 CKT 1]
300.00 -200.0
CHNL# 314: [POWR 99991 TO 51176 CKT 1]
300.00 -200.0
CHNL# 312: [POWR 51440 TO 52186 CKT 1]
300.00 -200.0
CHNL# 310: [POWR 51176 TO 51206 CKT 2]
300.00 -200.0
CHNL# 306: [POWR 99991 TO 51076 CKT 1]
300.00 -200.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WO_FLT23PH.OUT

9:48 13
FRI, MAY 21 2004
DC LINE PNM

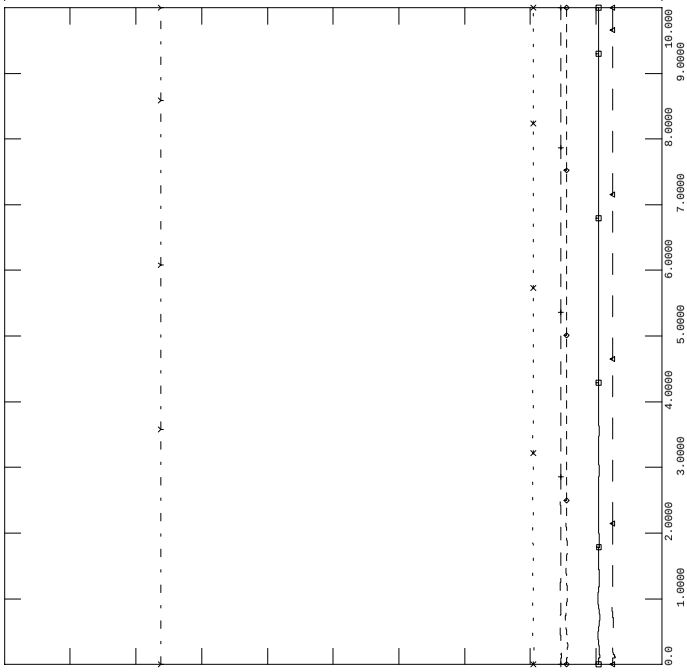
CHNL# 207: [VOLT 59995 [BLKWDC 230.00]]
1.1000 0.10000
CHNL# 193: [DC LINE #2: ALPHA]
100.00 -100.0
CHNL# 192: [DC LINE #2: DC CURRENT]
4000.0 0.0
CHNL# 191: [DC LINE #2: VDCR]
65000. 40000.
CHNL# 187: [DC LINE #2: QACR]
2.5000 0.0
CHNL# 186: [DC LINE #2: PACR]
2.5000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WO_FLT23PH.OUT

9:48 10
FRI, MAY 21 2004
SPP: PELEC

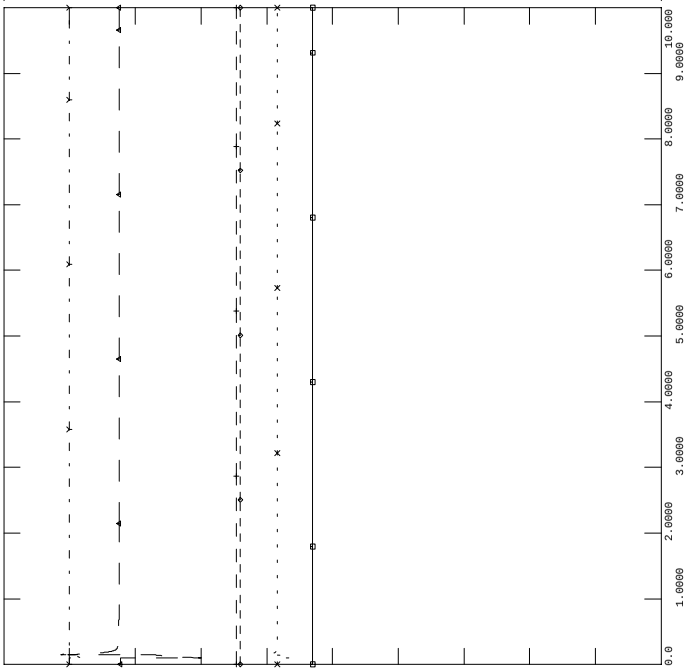
CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
10.000 0.0
CHNL# 66: [POWR 52212 [CUNN21 20.000] [1]]
10.000 0.0
CHNL# 65: [POWR 51973 [MUSTG#3122.000] [1]]
10.000 0.0
CHNL# 64: [POWR 51971 [MUSTG#1113.800] [1]]
10.000 0.0
CHNL# 63: [POWR 51424 [PLANTX4 20.000] [1]]
10.000 0.0
CHNL# 62: [POWR 51423 [PLANTX3 13.800] [1]]
10.000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WO_FLT23PH.OUT

9:48 12
FRI, MAY 21 2004
DC LINE EPE

CHNL# 208: [VOLT 59996 [EPEDC 230.00]]
1.1000 0.10000
CHNL# 184: [DC LINE #1: ALFA]
100.00 -100.0
CHNL# 183: [DC LINE #1: DC CURRENT]
1000.0 0.0
CHNL# 182: [DC LINE #1: VDCR]
1.0000E5 50000.
CHNL# 178: [DC LINE #1: QACR]
0.25000 0.0
CHNL# 177: [DC LINE #1: PACR]
1.0000 0.0

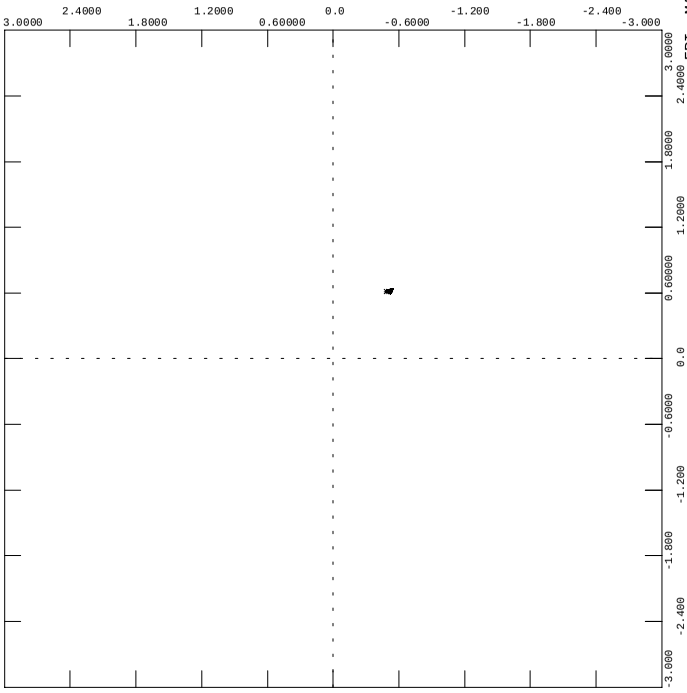


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE

15

FILE: WO_FLT23PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 116: [APPX 50858 TO 50888 CKT 1]



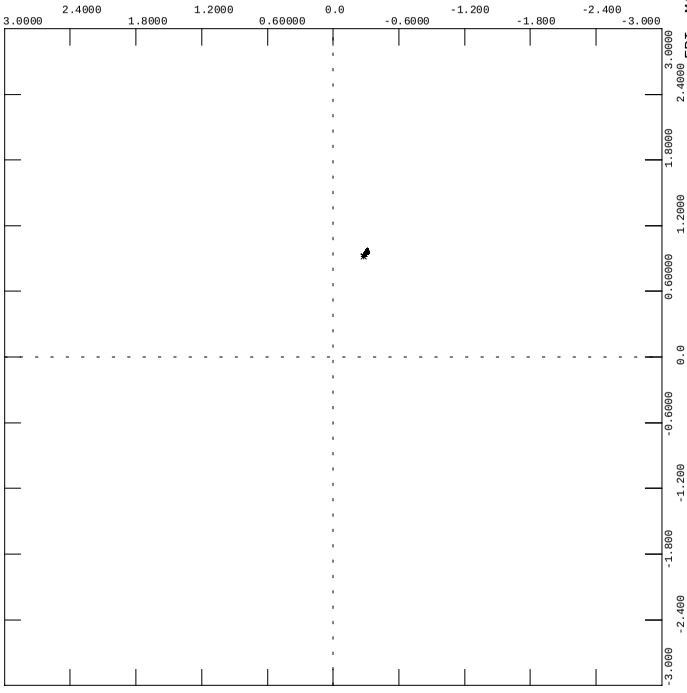
FRI, MAY 21 2004 9:48
POTTER-FINNEY

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE

14

FILE: WO_FLT23PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 114: [APPX 56449 TO 50858 CKT 1]

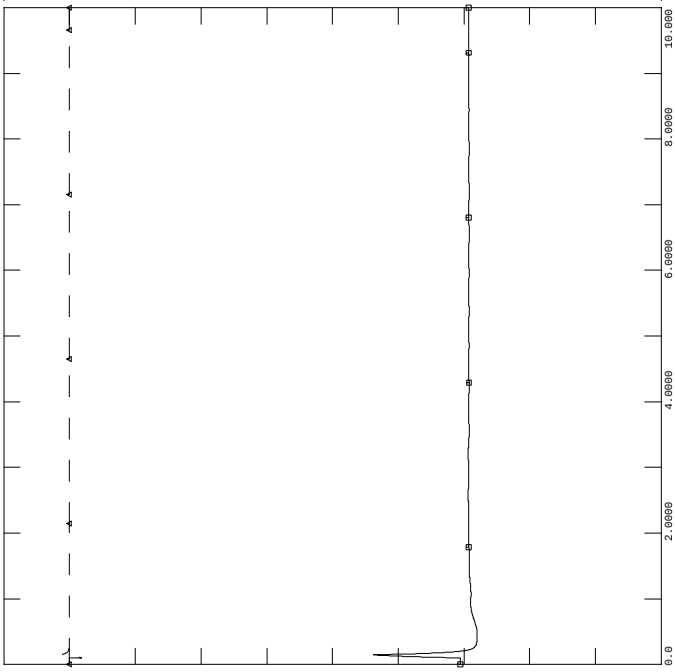


FRI, MAY 21 2004 9:48
FINNEY-HOLCOMB

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT23PH: THREE PHASE FAULT ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMCARI, DISC LINE, NO RECLOSE
FILE: WO_FLT23PH.OUT

16

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]
1.1000 0.10000
CHNL# 117: [BUS 52185 SVC OUTPUT]
2.0000 0.0

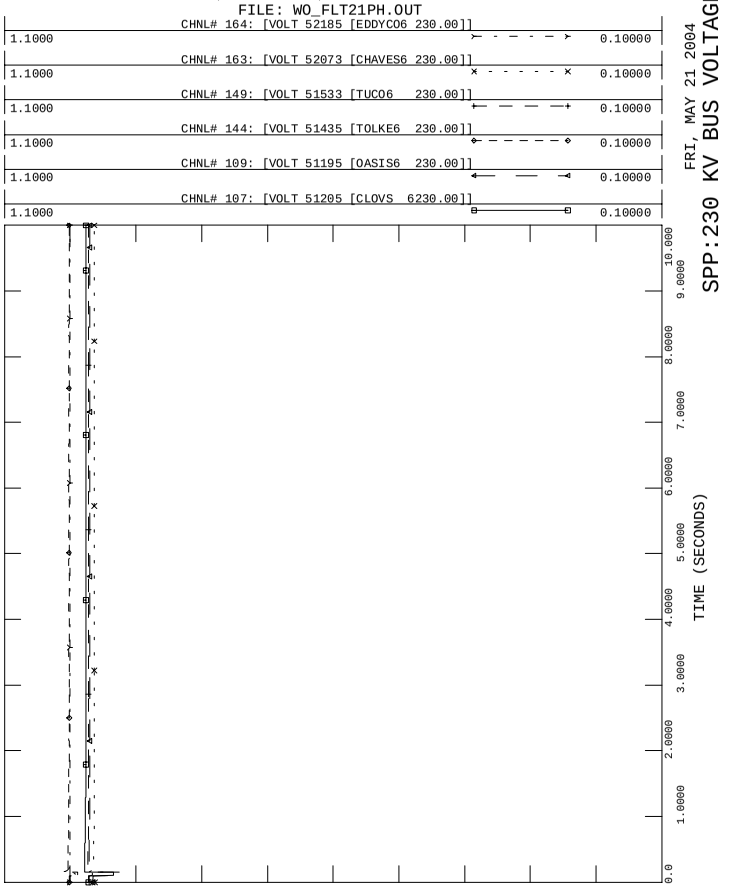


FRI, MAY 21 2004 9:48
SVC OUTPUT

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WO_FLT21PH.OUT

FRI, MAY 21 2004 9:48

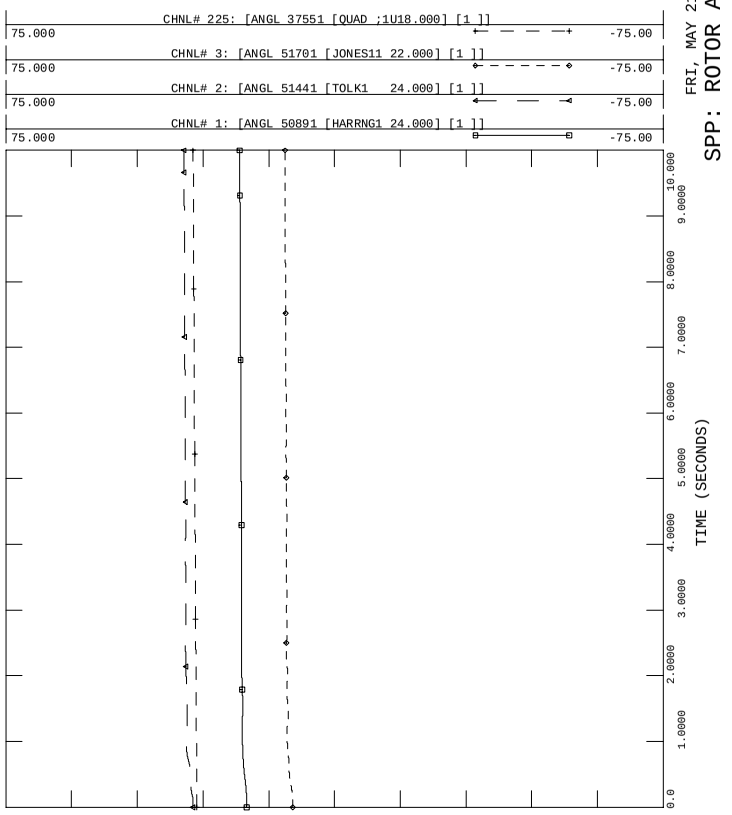
SPP:230 KV BUS VOLTAGE 2



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WO_FLT21PH.OUT

FRI, MAY 21 2004 9:48

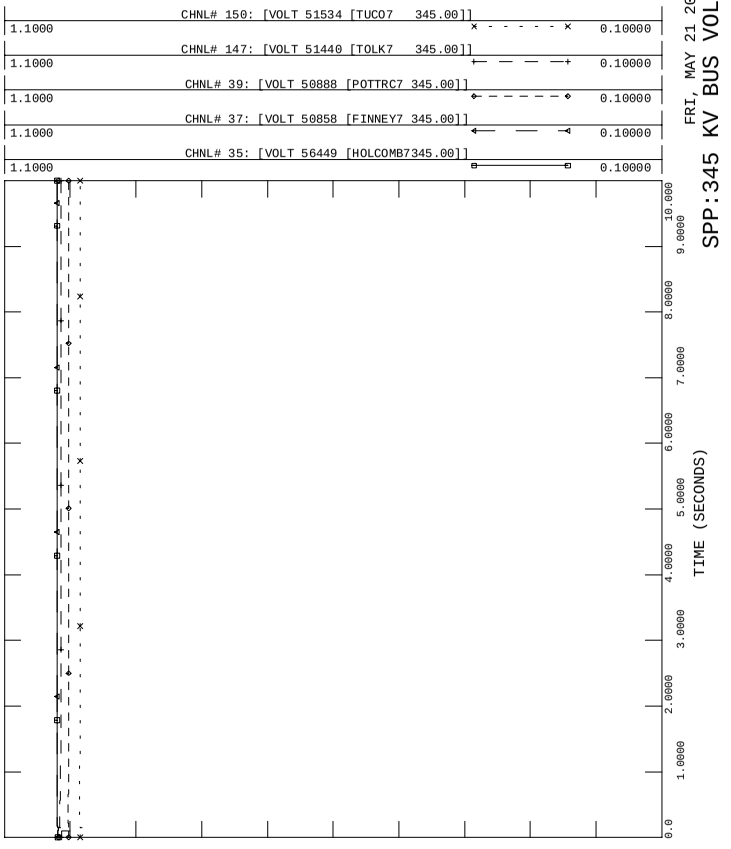
SPP: ROTOR ANGLE 4



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WO_FLT21PH.OUT

FRI, MAY 21 2004 9:47

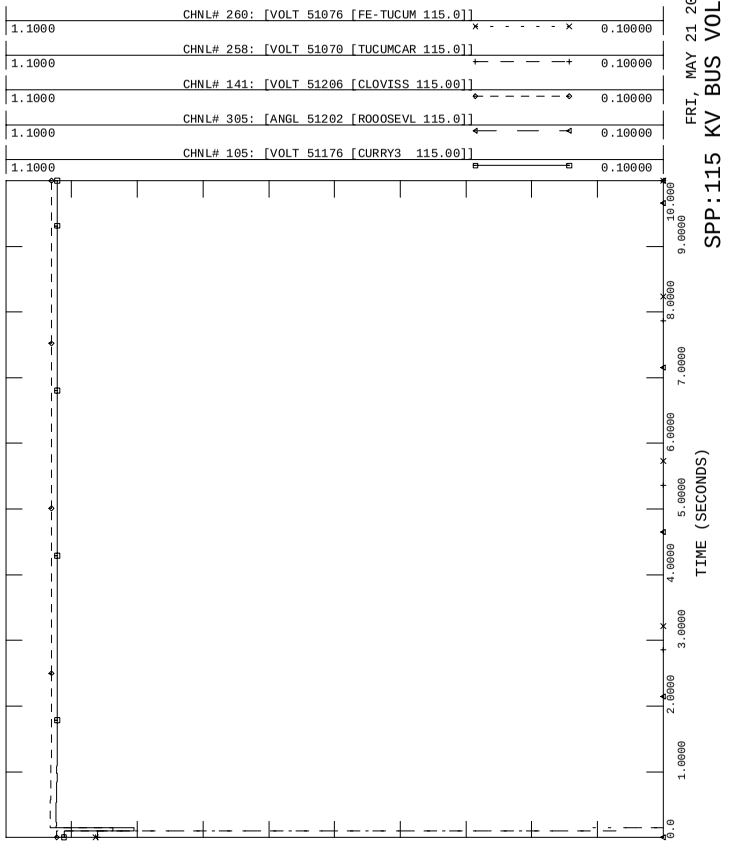
SPP:345 KV BUS VOLTAGE 1



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WO_FLT21PH.OUT

FRI, MAY 21 2004 9:48

SPP:115 KV BUS VOLTAGE 3

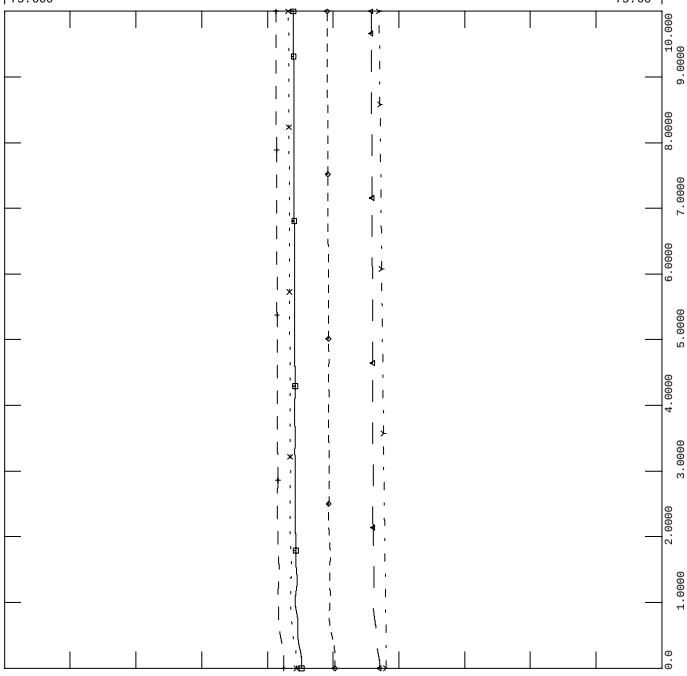


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WO_FLT21PH.OUT

FRI, MAY 21 2004 9:48 7

SPP: ROTOR ANGLE

CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]] 75.000 0.0
CHNL# 55: [ANGL 52212 [CUNN21 20.000] [1]] 75.000 -75.00
CHNL# 54: [ANGL 51973 [MUSTG#3122.000] [1]] 75.000 -75.00
CHNL# 53: [ANGL 51971 [MUSTG#1113.800] [1]] 75.000 -75.00
CHNL# 52: [ANGL 51424 [PLANTX4 20.000] [1]] 75.000 -75.00
CHNL# 51: [ANGL 51423 [PLANTX3 13.800] [1]] 75.000 -75.00

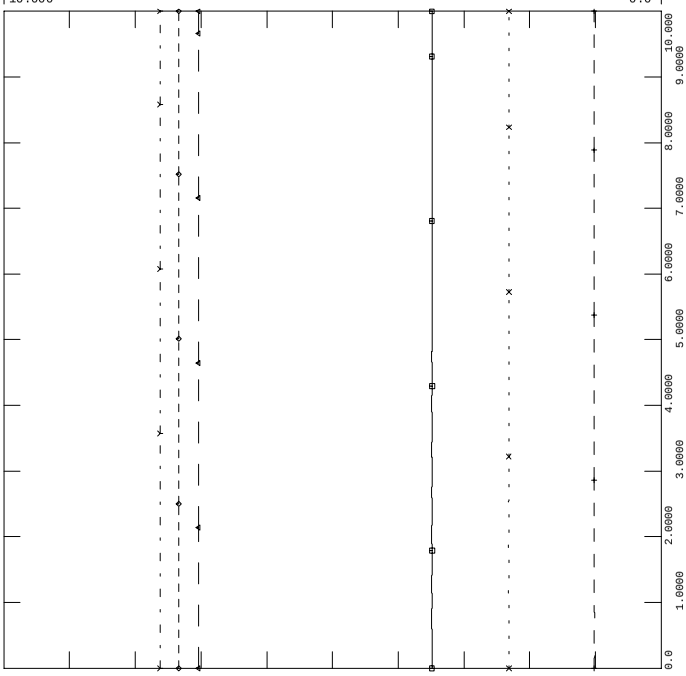


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WO_FLT21PH.OUT

FRI, MAY 21 2004 9:48 9

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]] 10.000 0.0
CHNL# 61: [POWR 50913 [NICHOL3 22.000] [1]] 10.000 0.0
CHNL# 60: [POWR 50912 [NICHOL2 13.800] [1]] 10.000 0.0
CHNL# 196: [POWR 64106 [GENTLM2G23.400] [2]] 10.000 0.0
CHNL# 11: [POWR 64105 [GENTLM1G22.400] [1]] 10.000 0.0
CHNL# 10: [POWR 56447 [HOLCGEN122.000] [1]] 10.000 0.0

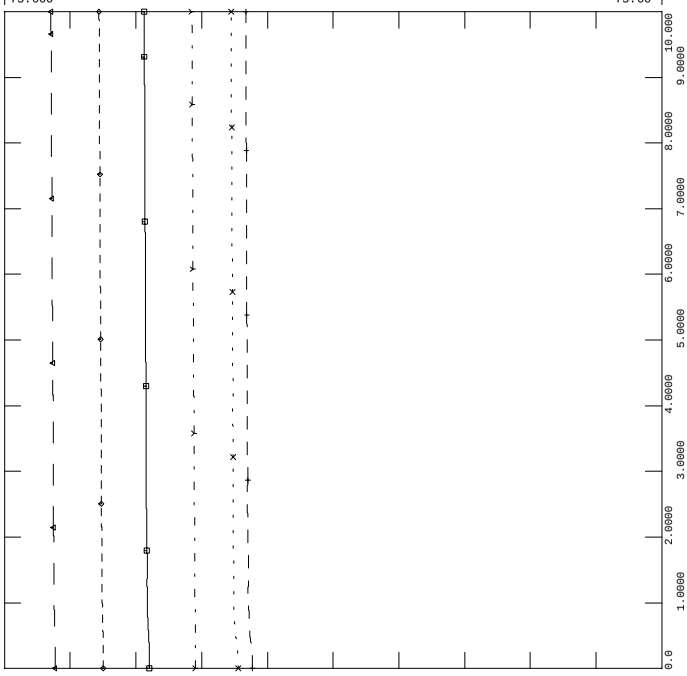


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WO_FLT21PH.OUT

FRI, MAY 21 2004 9:48 5

SPP: ROTOR ANGLE

CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]] 75.000 -75.00
CHNL# 50: [ANGL 50913 [NICHOL3 22.000] [1]] 75.000 -75.00
CHNL# 49: [ANGL 50912 [NICHOL2 13.800] [1]] 75.000 -75.00
CHNL# 195: [ANGL 64106 [GENTLM2G23.400] [2]] 75.000 -75.00
CHNL# 5: [ANGL 64105 [GENTLM1G22.400] [1]] 75.000 -75.00
CHNL# 4: [ANGL 56447 [HOLCGEN122.000] [1]] 75.000 -75.00

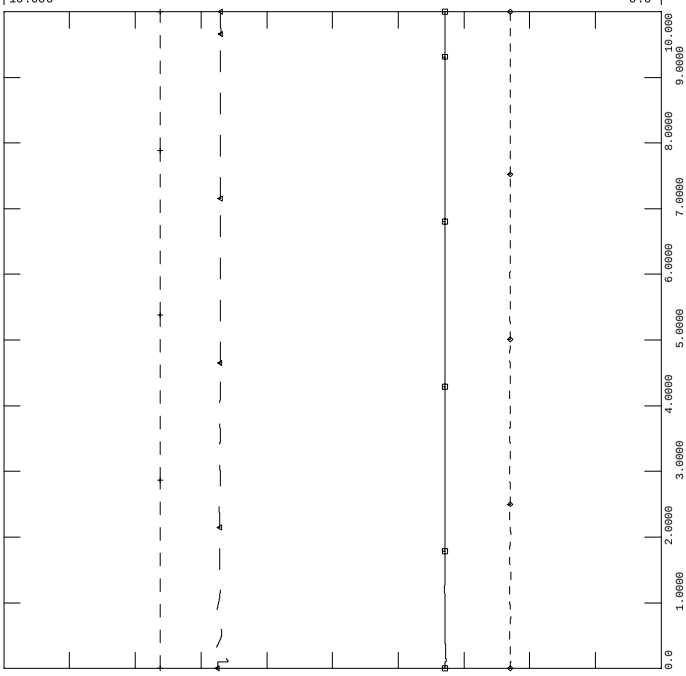


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WO_FLT21PH.OUT

FRI, MAY 21 2004 9:48 8

SPP: PELEC

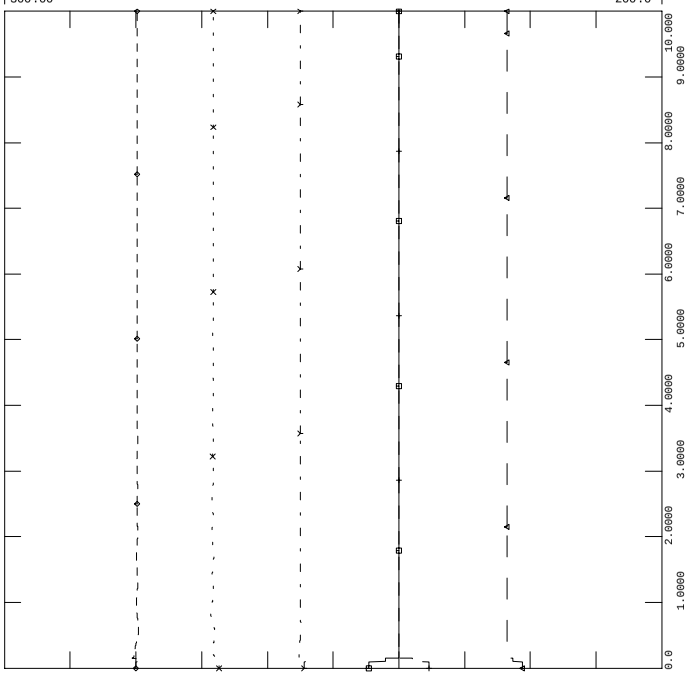
CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]] 10.000 0.0
CHNL# 9: [POWR 51701 [JONES11 22.000] [1]] 10.000 0.0
CHNL# 8: [POWR 51441 [TOLK1 24.000] [1]] 10.000 0.0
CHNL# 7: [POWR 50891 [HARRNG1 24.000] [1]] 10.000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WO_FLT21PH.OUT

9:48 11
FRI, MAY 21 2004
BRANCH FLOW

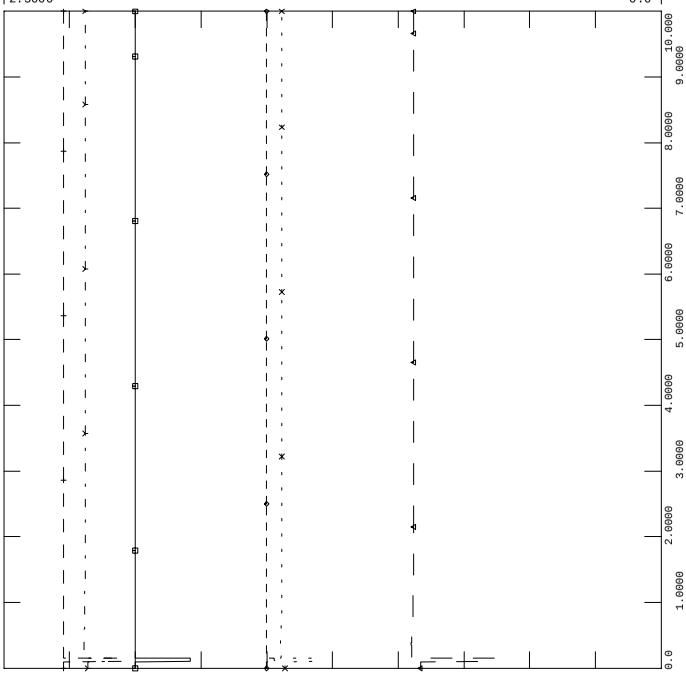
CHNL# 97: [POWR 51195 TO 52073 CKT 1]
300.00 -200.0
CHNL# 316: [POWR 51435 TO 51533 CKT 1]
300.00 -200.0
CHNL# 314: [POWR 99991 TO 51176 CKT 1]
300.00 -200.0
CHNL# 312: [POWR 51440 TO 52186 CKT 1]
300.00 -200.0
CHNL# 310: [POWR 51176 TO 51206 CKT 2]
300.00 -200.0
CHNL# 306: [POWR 99991 TO 51076 CKT 1]
300.00 -200.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WO_FLT21PH.OUT

9:48 13
FRI, MAY 21 2004
DC LINE PNM

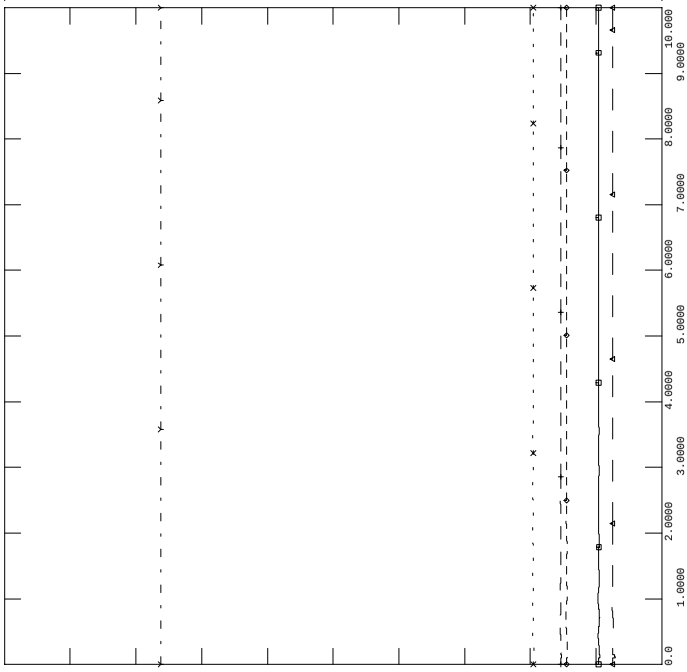
CHNL# 207: [VOLT 59995 [BLKWDC 230.00]]
1.1000 0.10000
CHNL# 193: [DC LINE #2: ALPHA]
100.00 -100.0
CHNL# 192: [DC LINE #2: DC CURRENT]
4000.0 0.0
CHNL# 191: [DC LINE #2: VDCR]
65000. 40000.
CHNL# 187: [DC LINE #2: QACR]
2.5000 0.0
CHNL# 186: [DC LINE #2: PACR]
2.5000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WO_FLT21PH.OUT

9:48 10
FRI, MAY 21 2004
SPP: PELEC

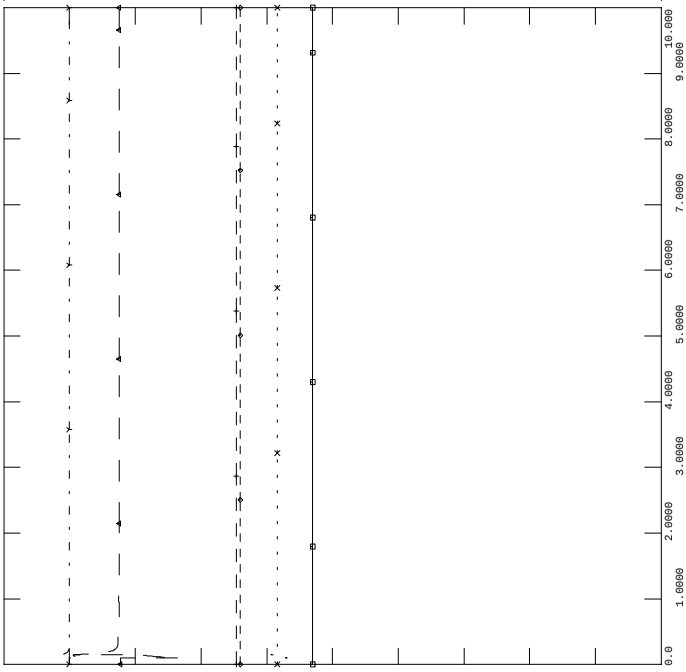
CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
10.000 0.0
CHNL# 66: [POWR 52212 [CUNN21 20.000] [1]]
10.000 0.0
CHNL# 65: [POWR 51973 [MUSTG#3122.000] [1]]
10.000 0.0
CHNL# 64: [POWR 51971 [MUSTG#1113.800] [1]]
10.000 0.0
CHNL# 63: [POWR 51424 [PLANTX4 20.000] [1]]
10.000 0.0
CHNL# 62: [POWR 51423 [PLANTX3 13.800] [1]]
10.000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WO_FLT21PH.OUT

9:48 12
FRI, MAY 21 2004
DC LINE EPE

CHNL# 208: [VOLT 59996 [EPEDC 230.00]]
1.1000 0.10000
CHNL# 184: [DC LINE #1: ALFA]
100.00 -100.0
CHNL# 183: [DC LINE #1: DC CURRENT]
1000.0 0.0
CHNL# 182: [DC LINE #1: VDCR]
1.0000E5 50000.
CHNL# 178: [DC LINE #1: QACR]
0.25000 0.0
CHNL# 177: [DC LINE #1: PACR]
1.0000 0.0

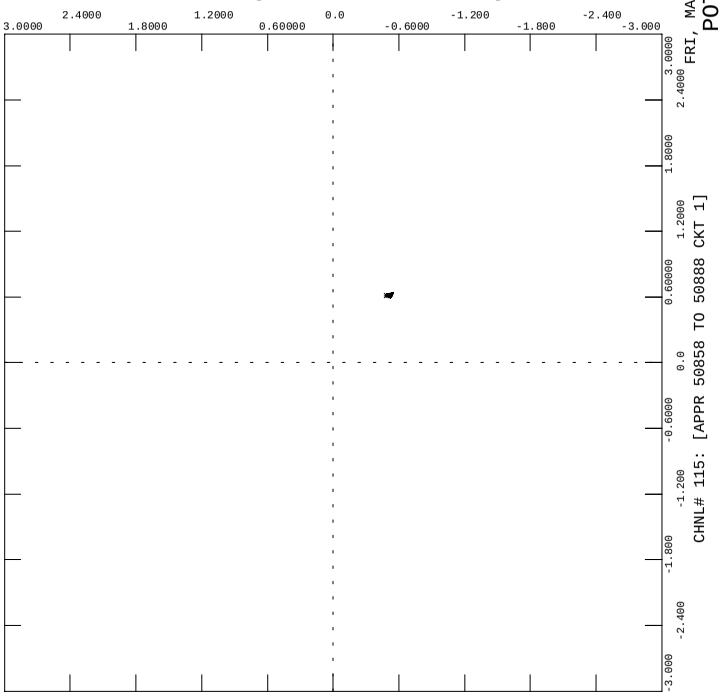


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE

15

FILE: WO_FLT21PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 116: [APPX 50858 TO 50888 CKT 1]



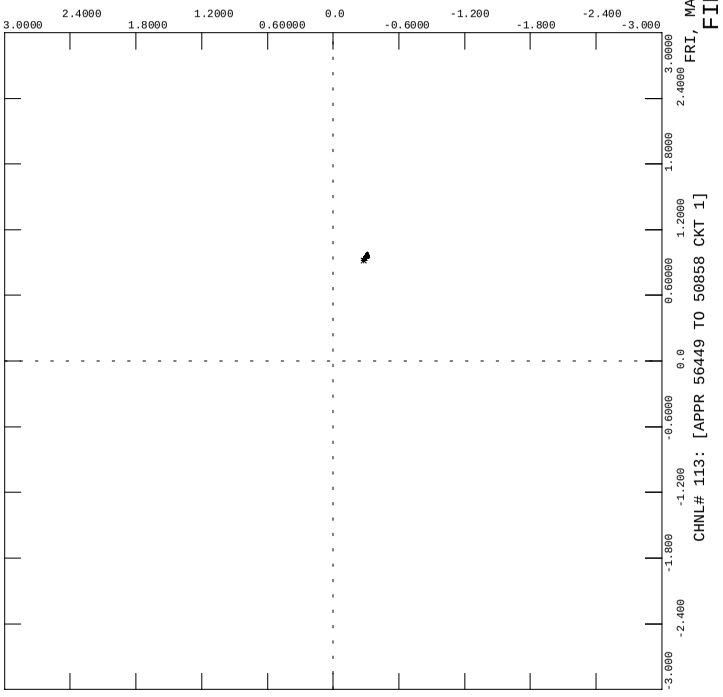
FRI, MAY 21 2004 9:48
POTTER-FINNEY
CHNL# 115: [APPR 50858 TO 50888 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE

14

FILE: WO_FLT21PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 114: [APPX 56449 TO 50858 CKT 1]

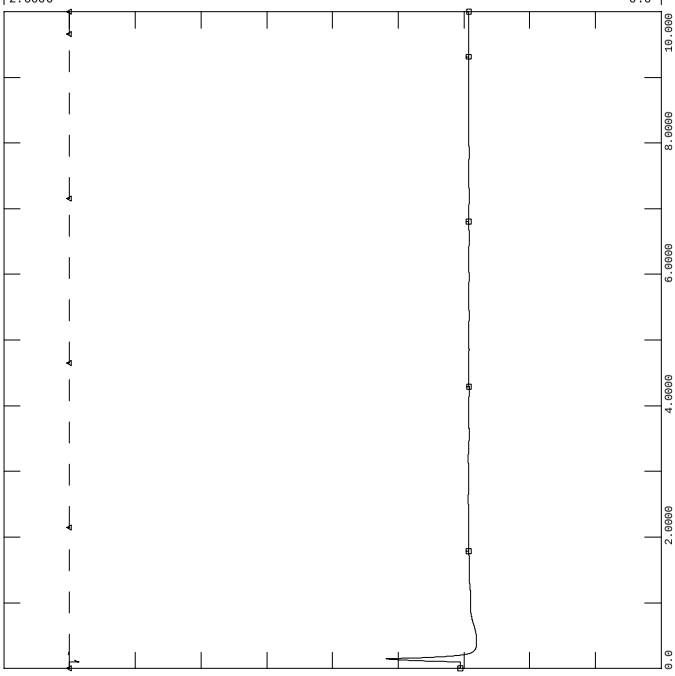


FRI, MAY 21 2004 9:48
FINNEY-HOLCOMB
CHNL# 113: [APPR 56449 TO 50858 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT21PH: SLG FAULT ON ON TUCUMCARI 115 KV BUS
5 CY AT TUCUMARI, DISC LINE, NO RECLOSE
FILE: WO_FLT21PH.OUT

16

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]
1.1000 0.10000
CHNL# 117: [BUS 52185 SVC OUTPUT]
2.0000 0.0

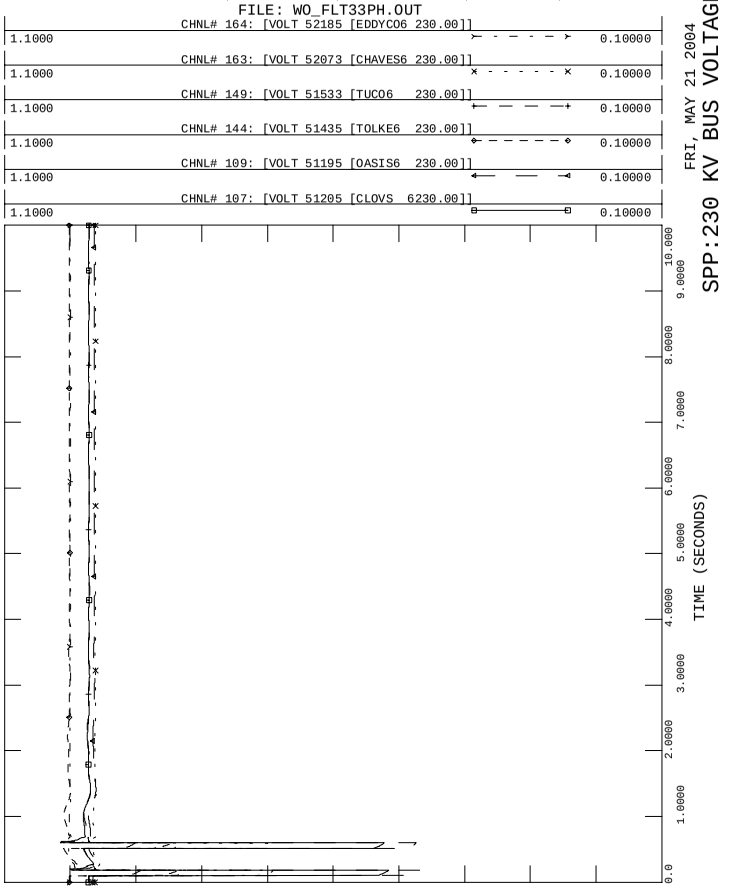


FRI, MAY 21 2004 9:48
SVC OUTPUT
TIME (SECONDS)

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT33PH.OUT

FRI, MAY 21 2004 9:48

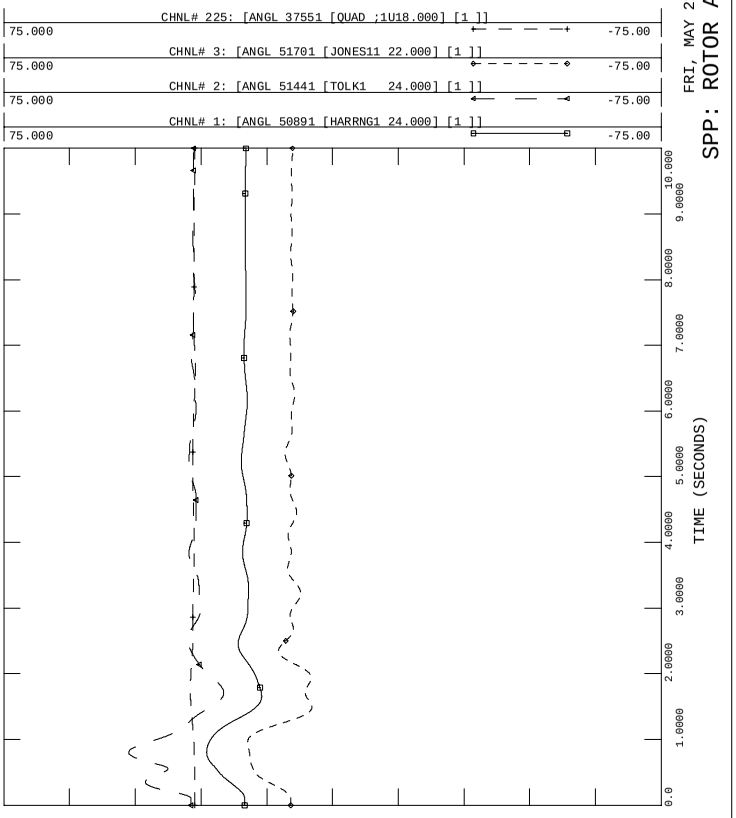
SPP:230 KV BUS VOLTAGE 2



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT33PH.OUT

FRI, MAY 21 2004 9:48

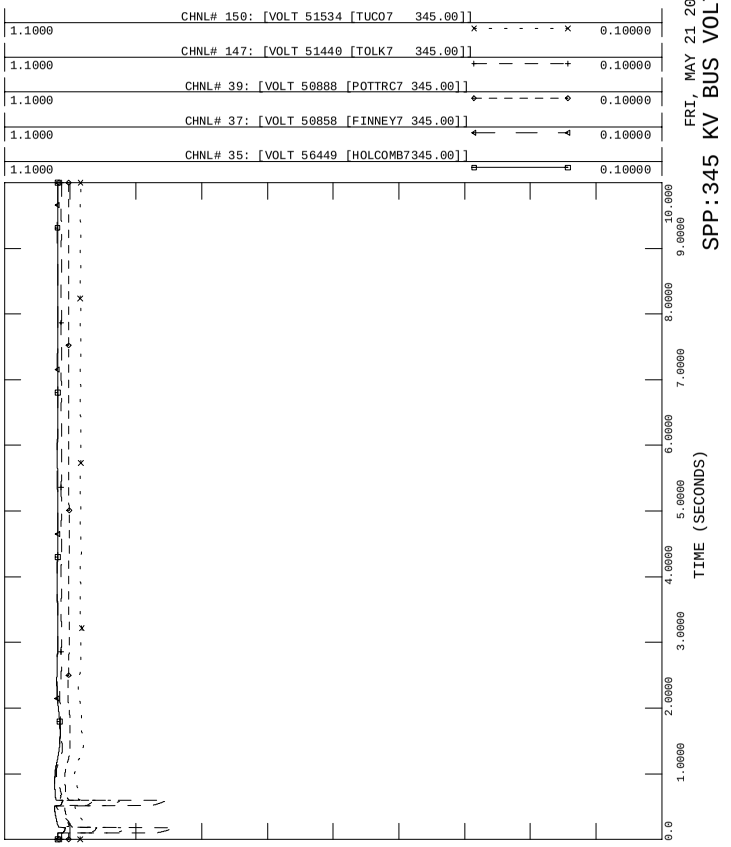
SPP: ROTOR ANGLE 4



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT33PH.OUT

FRI, MAY 21 2004 9:48

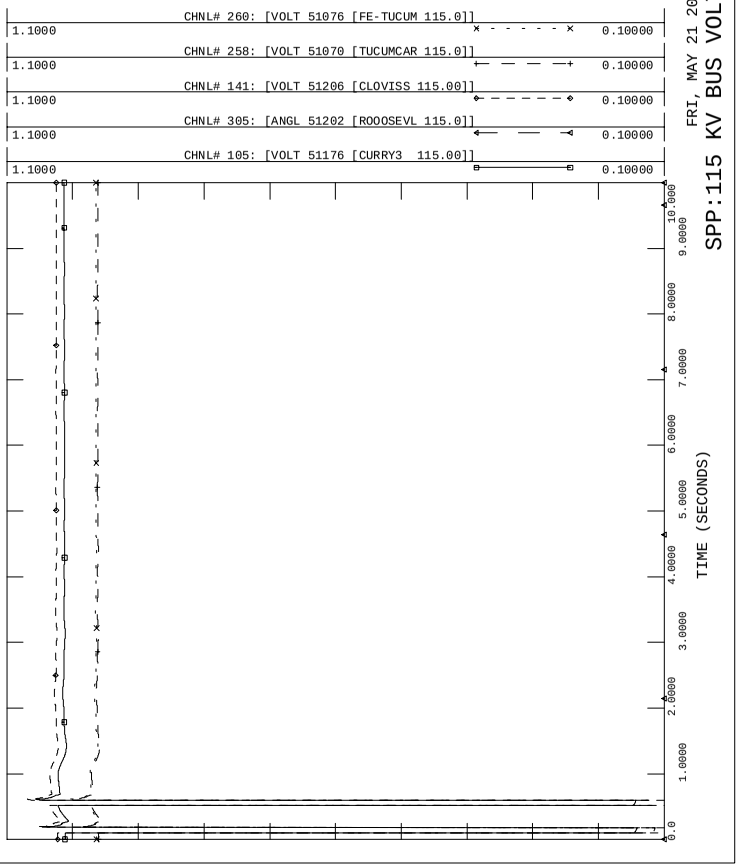
SPP:345 KV BUS VOLTAGE 1



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT33PH.OUT

FRI, MAY 21 2004 9:48

SPP:115 KV BUS VOLTAGE 3

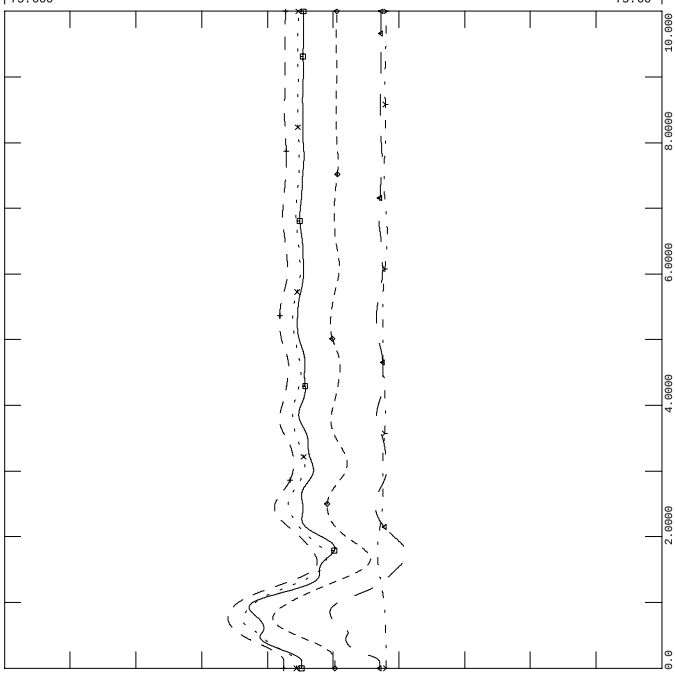


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT33PH.OUT

FRI, MAY 21 2004 9:48 7

SPP: ROTOR ANGLE

CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]]
CHNL# 55: [ANGL 52212 [CUNN21 20.000] [1]]
CHNL# 54: [ANGL 51973 [MUSTG#3122.000] [1]]
CHNL# 53: [ANGL 51971 [MUSTG#1113.800] [1]]
CHNL# 52: [ANGL 51424 [PLANTX4 20.000] [1]]
CHNL# 51: [ANGL 51423 [PLANTX3 13.800] [1]]

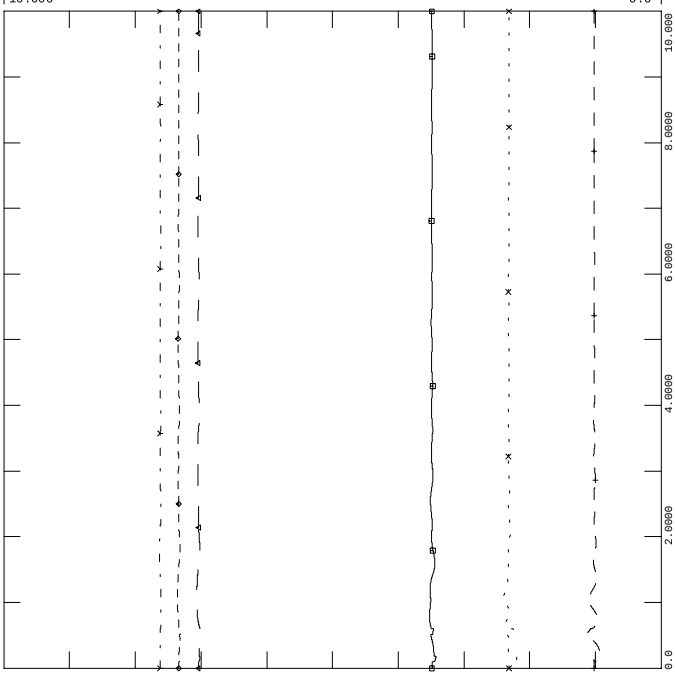


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT33PH.OUT

FRI, MAY 21 2004 9:48 9

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
CHNL# 61: [POWR 50913 [NICHOL3 22.000] [1]]
CHNL# 60: [POWR 50912 [NICHOL2 13.800] [1]]
CHNL# 196: [POWR 64106 [GENTLM2G23.400] [2]]
CHNL# 11: [POWR 64105 [GENTLM1G22.400] [1]]
CHNL# 10: [POWR 56447 [HOLCGEN122.000] [1]]

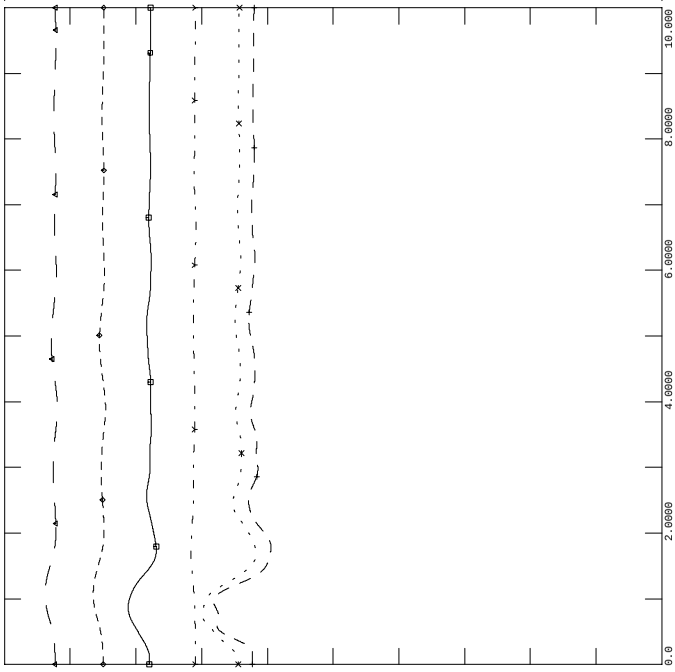


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT33PH.OUT

FRI, MAY 21 2004 9:48 5

SPP: ROTOR ANGLE

CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]]
CHNL# 50: [ANGL 50913 [NICHOL3 22.000] [1]]
CHNL# 49: [ANGL 50912 [NICHOL2 13.800] [1]]
CHNL# 195: [ANGL 64106 [GENTLM2G23.400] [2]]
CHNL# 5: [ANGL 64105 [GENTLM1G22.400] [1]]
CHNL# 4: [ANGL 56447 [HOLCGEN122.000] [1]]

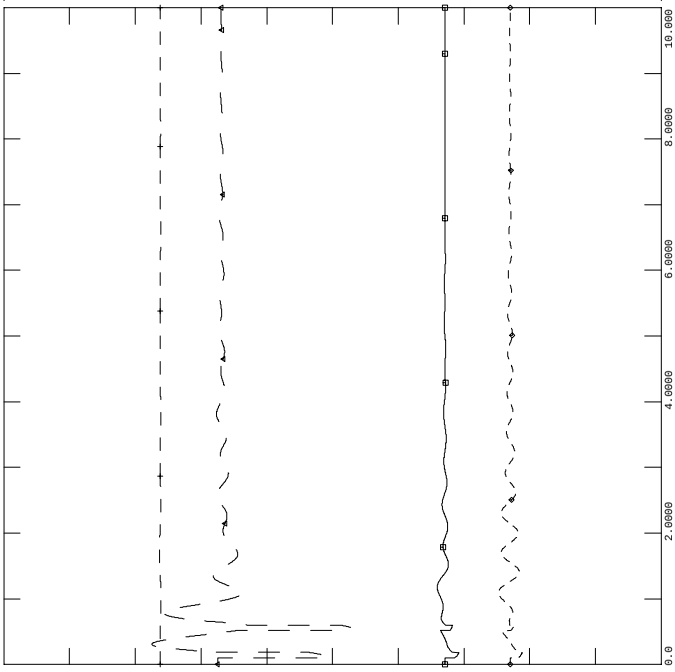


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT33PH.OUT

FRI, MAY 21 2004 9:48 8

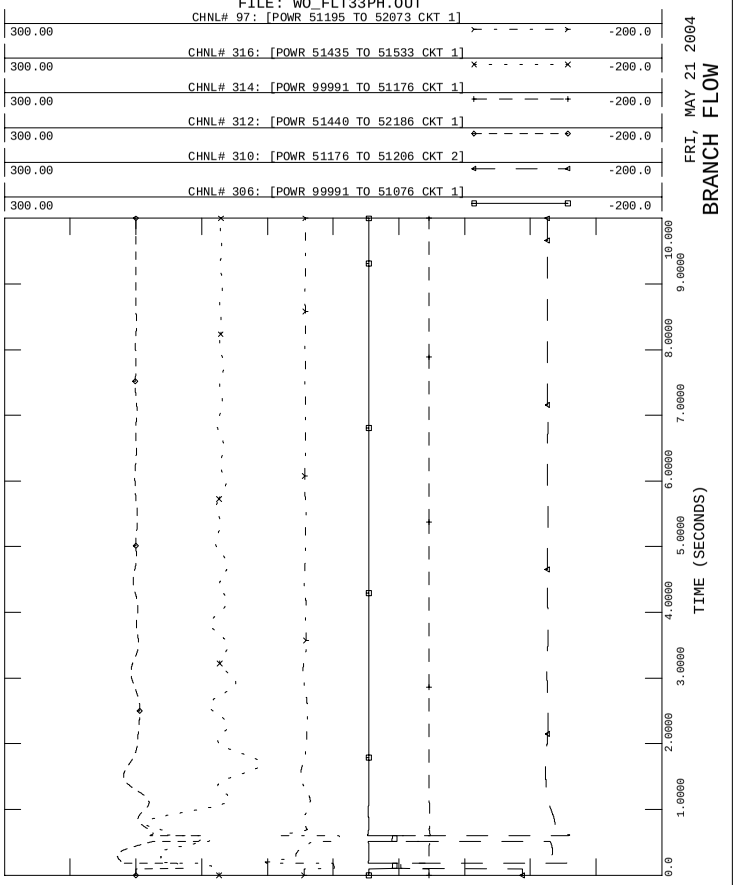
SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
CHNL# 9: [POWR 51701 [JONES11 22.000] [1]]
CHNL# 8: [POWR 51441 [TOLK1 24.000] [1]]
CHNL# 7: [POWR 50891 [HARRNG1 24.000] [1]]



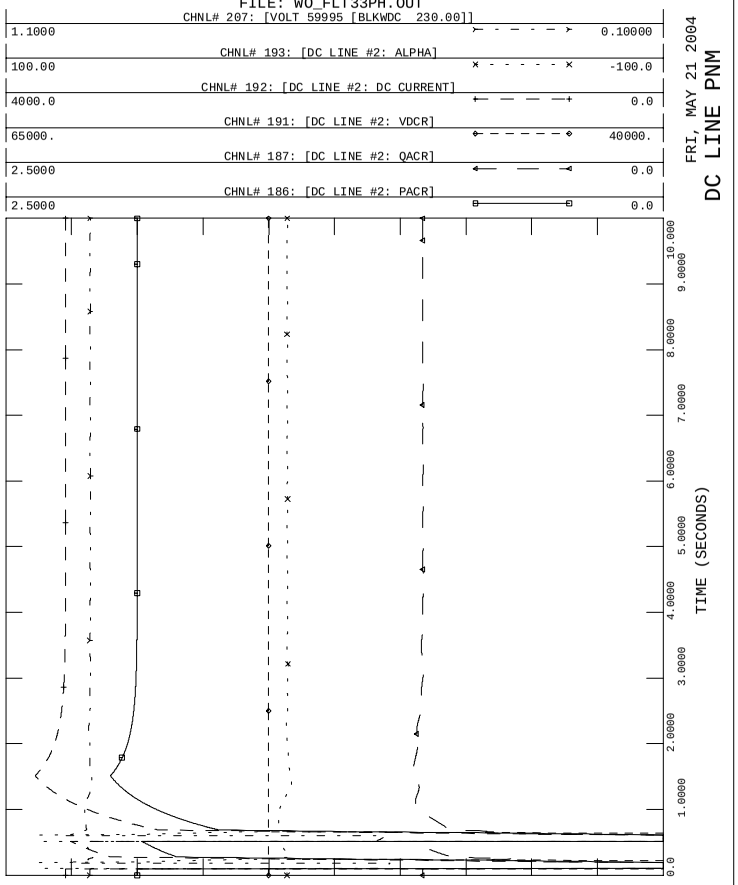
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT33PH.OUT

9:48 11
FRI, MAY 21 2004
BRANCH FLOW



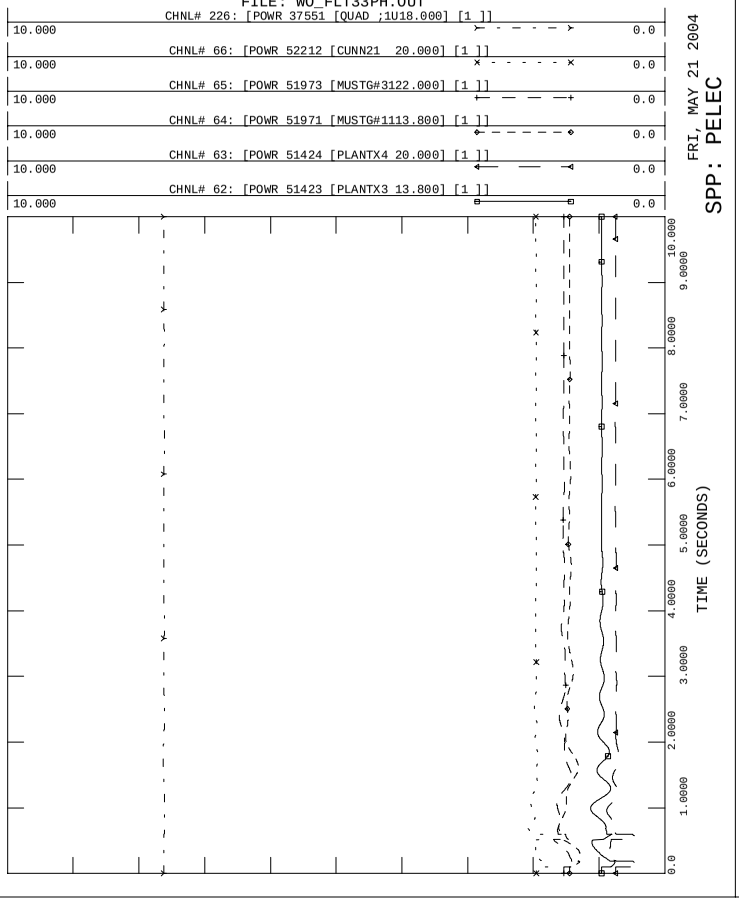
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT33PH.OUT

9:48 13
FRI, MAY 21 2004
DC LINE PNM



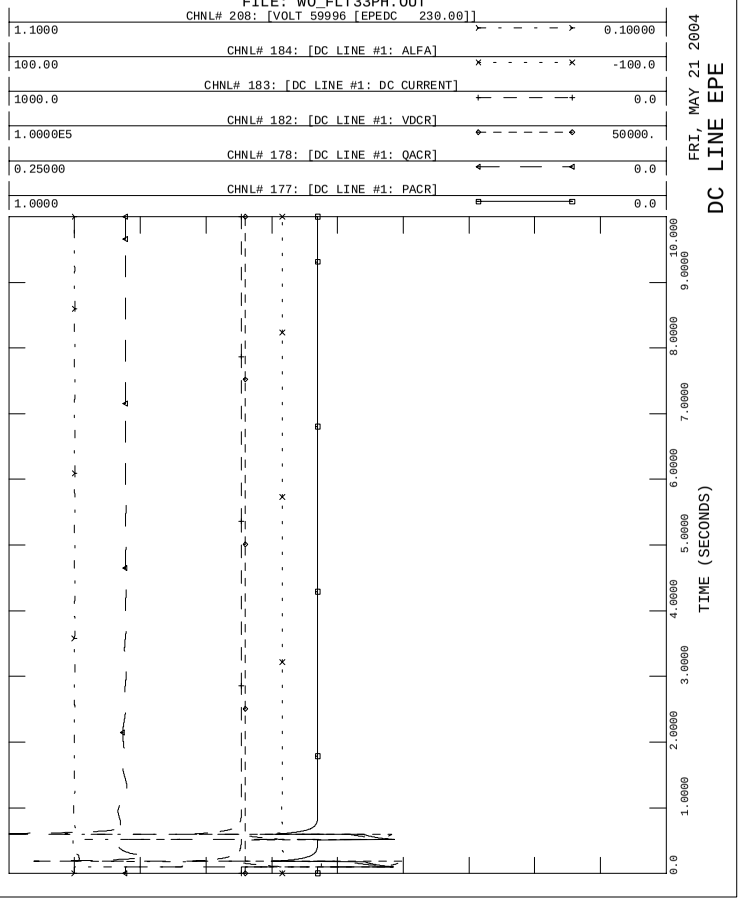
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT33PH.OUT

9:48 10
FRI, MAY 21 2004
SPP: PELEC



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT33PH.OUT

9:48 12
FRI, MAY 21 2004
DC LINE EPE

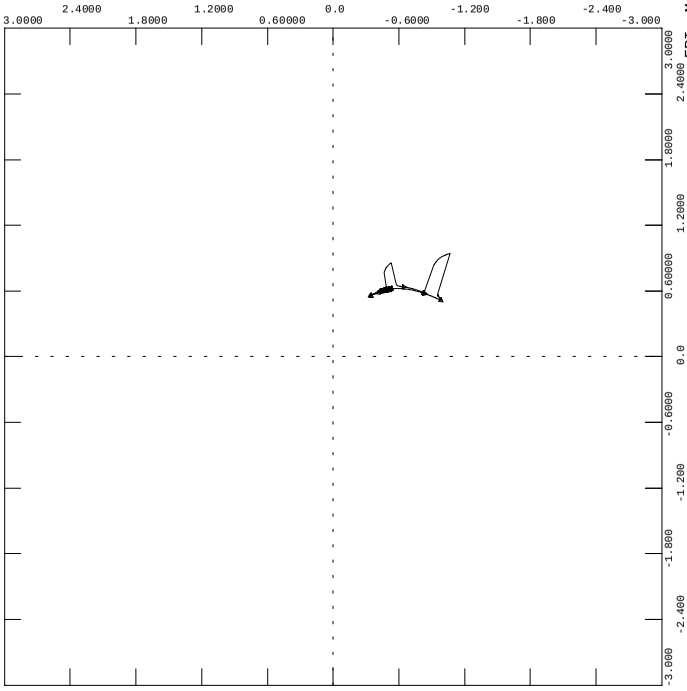


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

15

FILE: WO_FLT33PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 116: [APPX 50858 TO 50888 CKT 1]



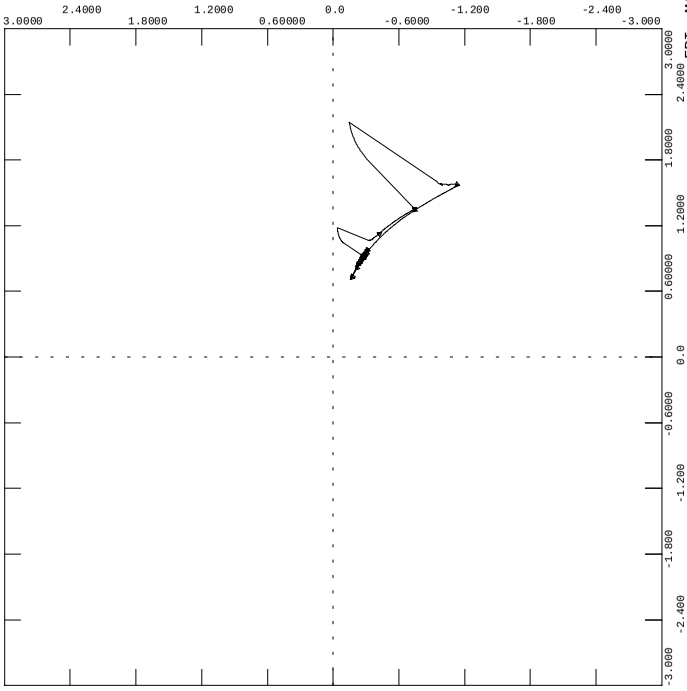
FRI, MAY 21 2004 9:48
POTTER-FINNEY

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

14

FILE: WO_FLT33PH.OUT

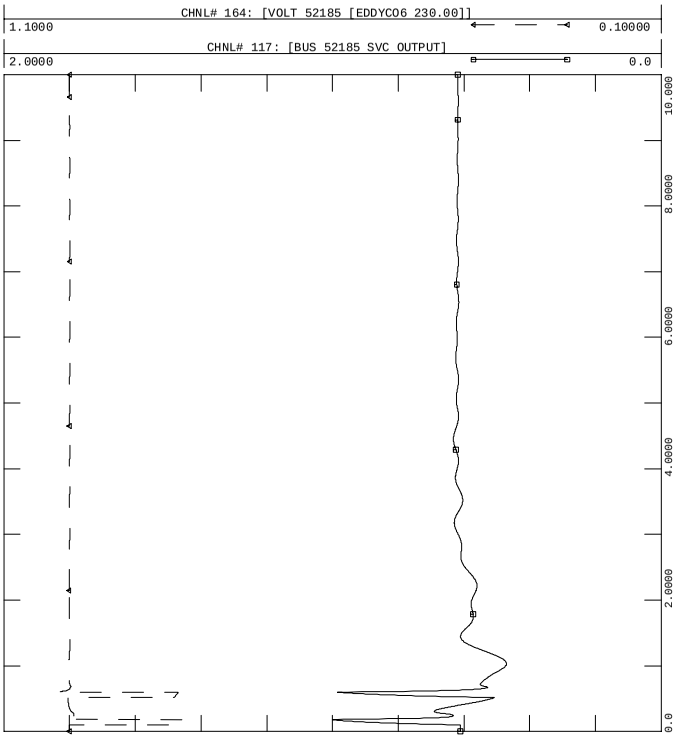
TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 114: [APPX 56449 TO 50858 CKT 1]



FRI, MAY 21 2004 9:48
FINNEY-HOLCOMB

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT33PH: THREE PHASE FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT33PH.OUT

16

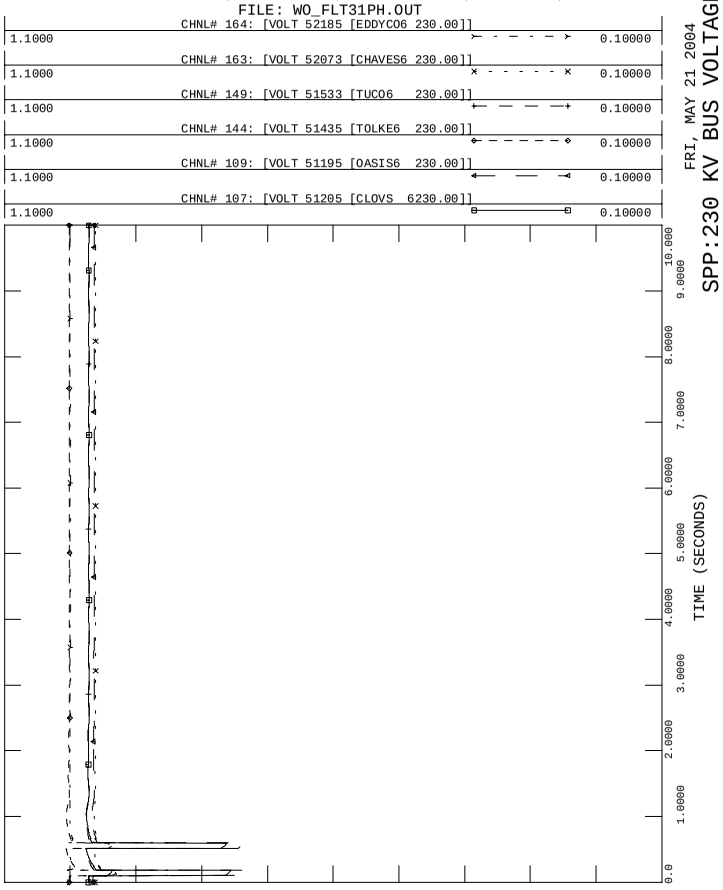


FRI, MAY 21 2004 9:48
SVC OUTPUT

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT31PH.OUT

FRI, MAY 21 2004 9:48

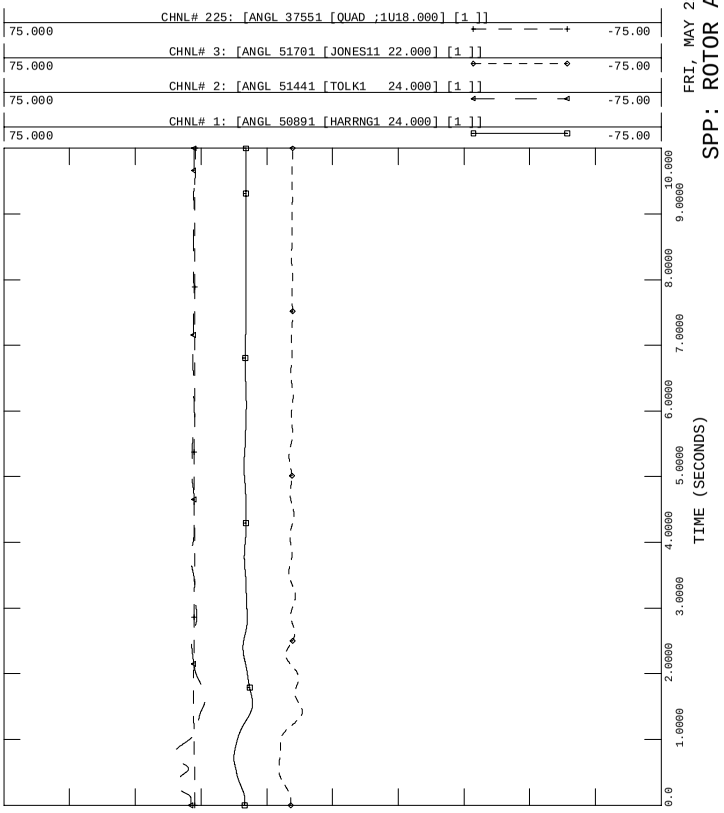
SPP:230 KV BUS VOLTAGE 2



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT31PH.OUT

FRI, MAY 21 2004 9:48

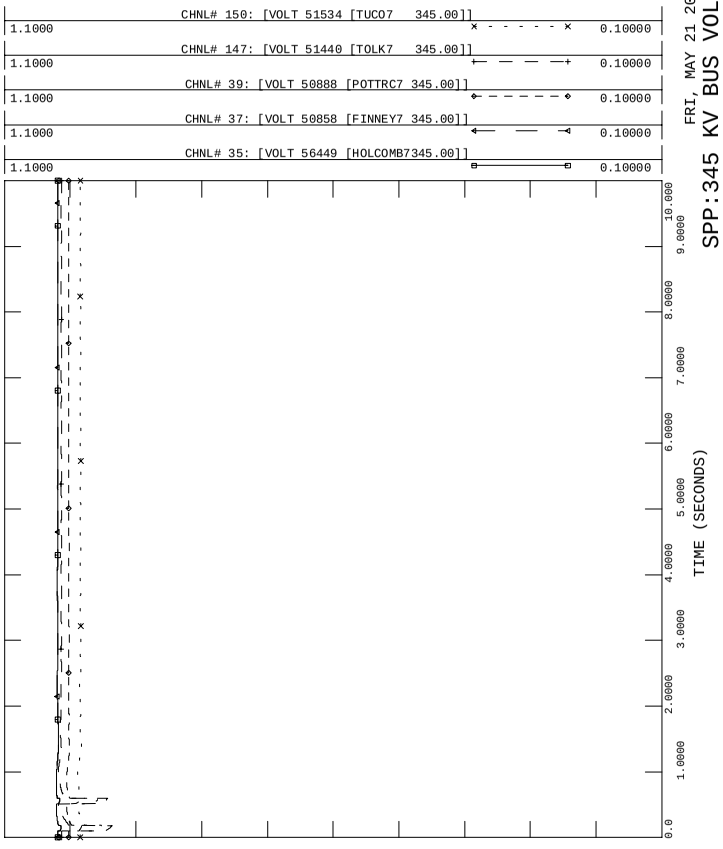
SPP: ROTOR ANGLE 4



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT31PH.OUT

FRI, MAY 21 2004 9:48

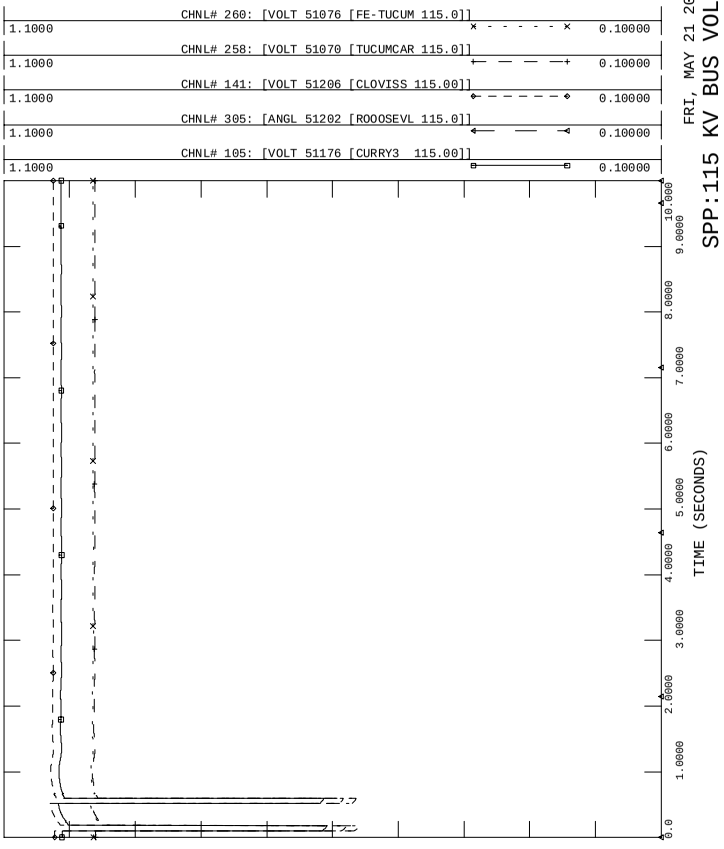
SPP:345 KV BUS VOLTAGE 1



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT31PH.OUT

FRI, MAY 21 2004 9:48

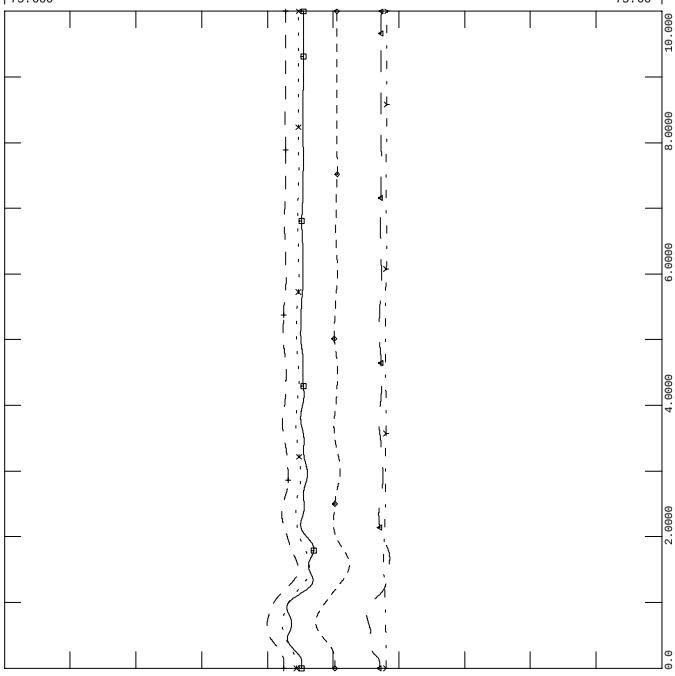
SPP:115 KV BUS VOLTAGE 3



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT31PH.OUT

9:48 7
FRI, MAY 21 2004
SPP: ROTOR ANGLE

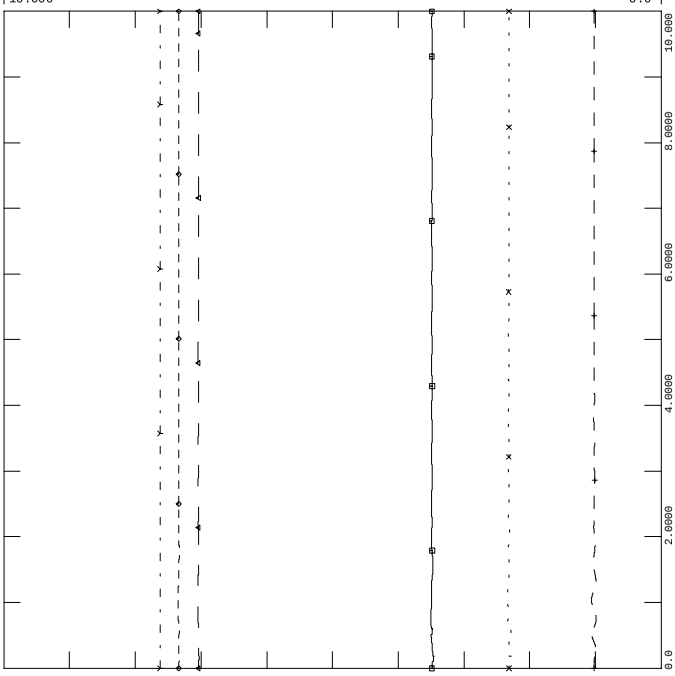
CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]]
CHNL# 55: [ANGL 52212 [CUNN21 20.000] [1]]
CHNL# 54: [ANGL 51973 [MUSTG#3122.000] [1]]
CHNL# 53: [ANGL 51971 [MUSTG#1113.800] [1]]
CHNL# 52: [ANGL 51424 [PLANTX4 20.000] [1]]
CHNL# 51: [ANGL 51423 [PLANTX3 13.800] [1]]



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT31PH.OUT

9:48 9
FRI, MAY 21 2004
SPP: PELEC

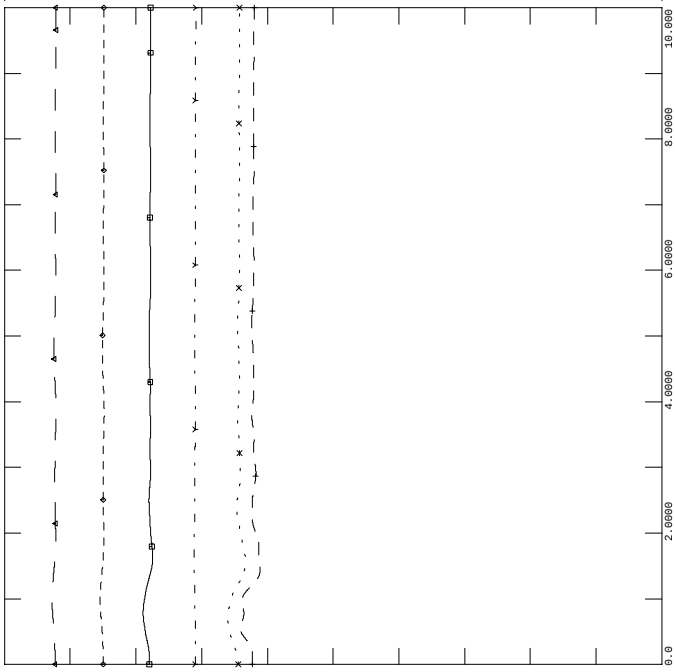
CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
CHNL# 61: [POWR 50913 [NICHOL3 22.000] [1]]
CHNL# 60: [POWR 50912 [NICHOL2 13.800] [1]]
CHNL# 196: [POWR 64106 [GENTLM2G23.400] [2]]
CHNL# 11: [POWR 64105 [GENTLM1G22.400] [1]]
CHNL# 10: [POWR 56447 [HOLCGEN122.000] [1]]



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT31PH.OUT

9:48 5
FRI, MAY 21 2004
SPP: ROTOR ANGLE

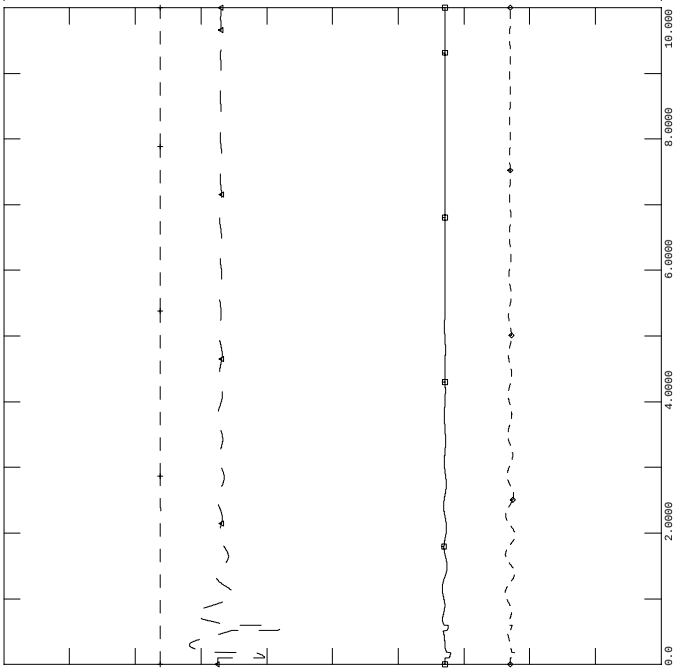
CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]]
CHNL# 50: [ANGL 50913 [NICHOL3 22.000] [1]]
CHNL# 49: [ANGL 50912 [NICHOL2 13.800] [1]]
CHNL# 195: [ANGL 64106 [GENTLM2G23.400] [2]]
CHNL# 5: [ANGL 64105 [GENTLM1G22.400] [1]]
CHNL# 4: [ANGL 56447 [HOLCGEN122.000] [1]]



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT31PH.OUT

9:48 8
FRI, MAY 21 2004
SPP: PELEC

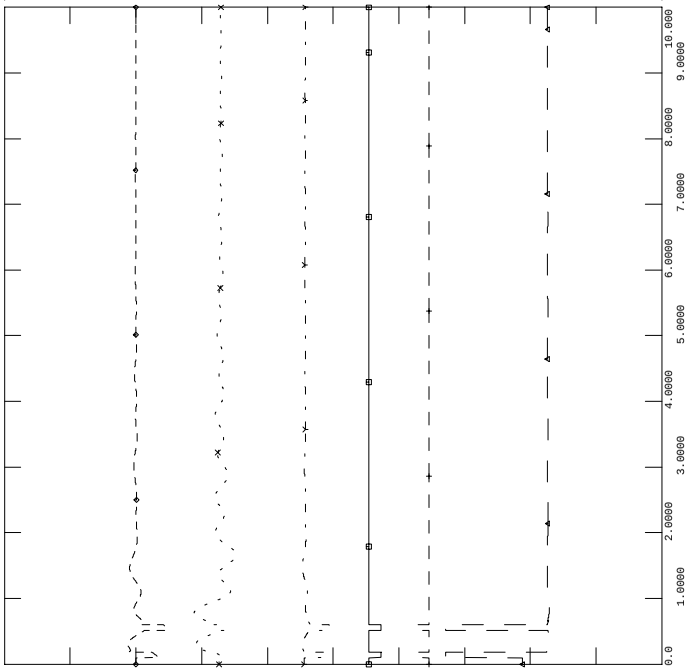
CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
CHNL# 9: [POWR 51701 [JONES11 22.000] [1]]
CHNL# 8: [POWR 51441 [TOLK1 24.000] [1]]
CHNL# 7: [POWR 50891 [HARRNG1 24.000] [1]]



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT31PH.OUT

9:48 11
FRI, MAY 21 2004
BRANCH FLOW

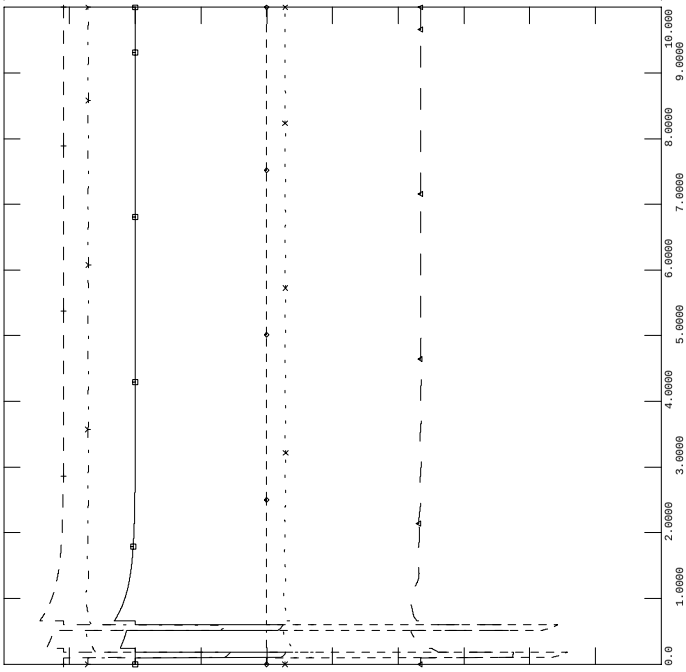
CHNL# 97: [POWR 51195 TO 52073 CKT 1]
300.00 -200.0
CHNL# 316: [POWR 51435 TO 51533 CKT 1]
300.00 -200.0
CHNL# 314: [POWR 99991 TO 51176 CKT 1]
300.00 -200.0
CHNL# 312: [POWR 51440 TO 52186 CKT 1]
300.00 -200.0
CHNL# 310: [POWR 51176 TO 51206 CKT 2]
300.00 -200.0
CHNL# 306: [POWR 99991 TO 51076 CKT 1]
300.00 -200.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT31PH.OUT

9:48 13
FRI, MAY 21 2004
DC LINE PNM

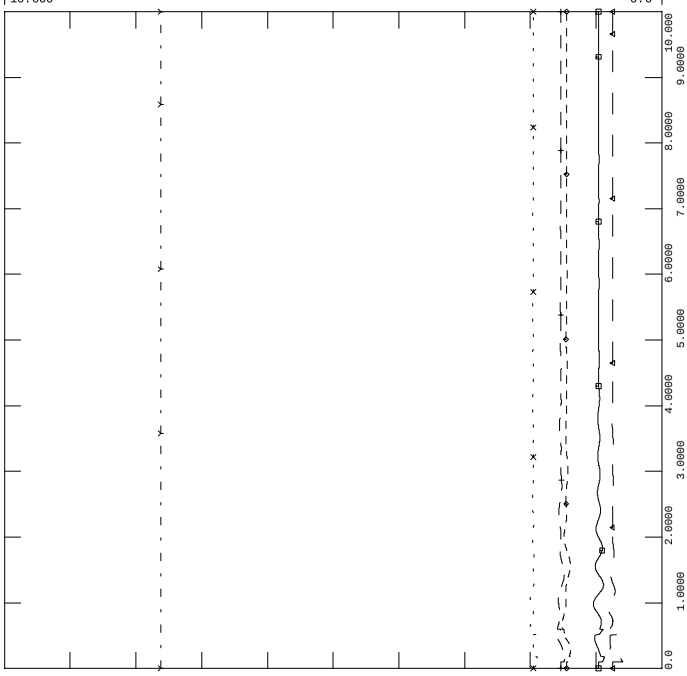
CHNL# 207: [VOLT 59995 [BLKWDC 230.00]]
1.1000 0.10000
CHNL# 193: [DC LINE #2: ALPHA]
100.00 -100.0
CHNL# 192: [DC LINE #2: DC CURRENT]
4000.0 0.0
CHNL# 191: [DC LINE #2: VDCR]
65000. 40000.
CHNL# 187: [DC LINE #2: QACR]
2.5000 0.0
CHNL# 186: [DC LINE #2: PACR]
2.5000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT31PH.OUT

9:48 10
FRI, MAY 21 2004
SPP: PELEC

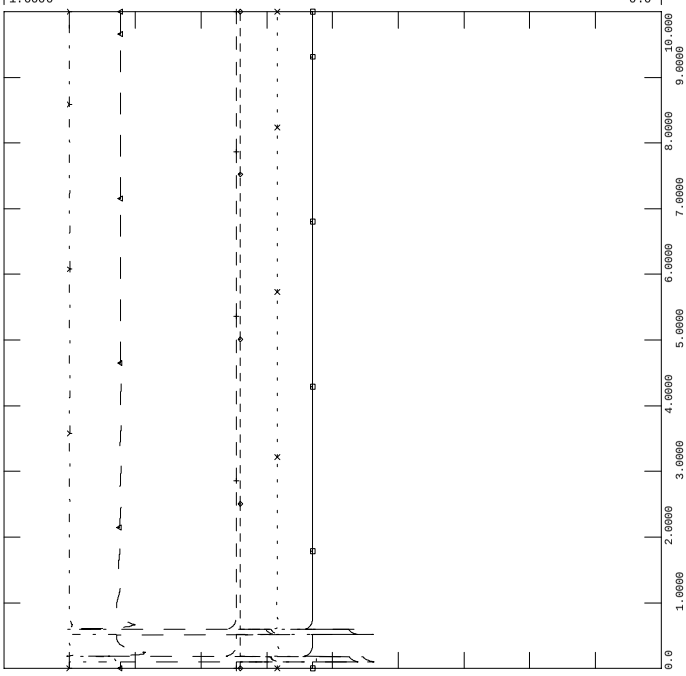
CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
10.000 0.0
CHNL# 66: [POWR 52212 [CUNN21 20.000] [1]]
10.000 0.0
CHNL# 65: [POWR 51973 [MUSTG#3122.000] [1]]
10.000 0.0
CHNL# 64: [POWR 51971 [MUSTG#1113.800] [1]]
10.000 0.0
CHNL# 63: [POWR 51424 [PLANTX4 20.000] [1]]
10.000 0.0
CHNL# 62: [POWR 51423 [PLANTX3 13.800] [1]]
10.000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT31PH.OUT

9:48 12
FRI, MAY 21 2004
DC LINE EPE

CHNL# 208: [VOLT 59996 [EPEDC 230.00]]
1.1000 0.10000
CHNL# 184: [DC LINE #1: ALFA]
100.00 -100.0
CHNL# 183: [DC LINE #1: DC CURRENT]
1000.0 0.0
CHNL# 182: [DC LINE #1: VDCR]
1.0000E5 50000.
CHNL# 178: [DC LINE #1: QACR]
0.25000 0.0
CHNL# 177: [DC LINE #1: PACR]
1.0000 0.0

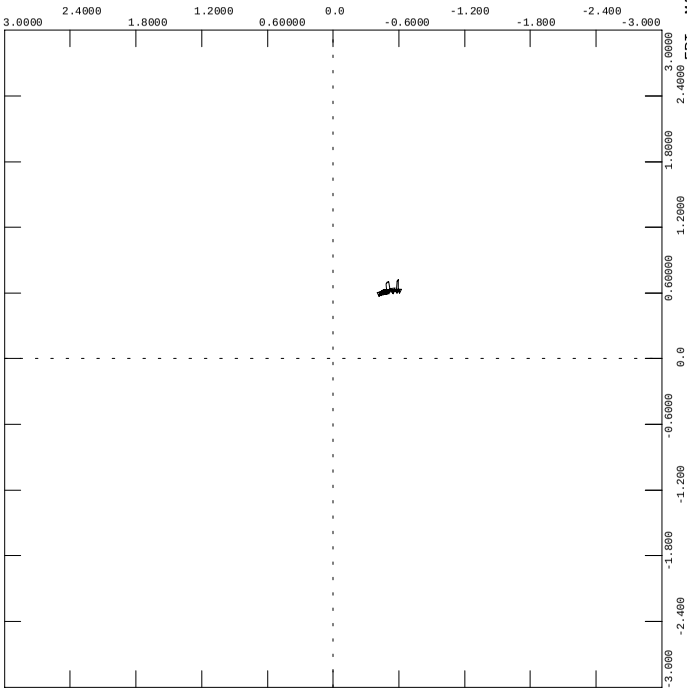


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

15

FILE: WO_FLT31PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 116: [APPX 50858 TO 50888 CKT 1]



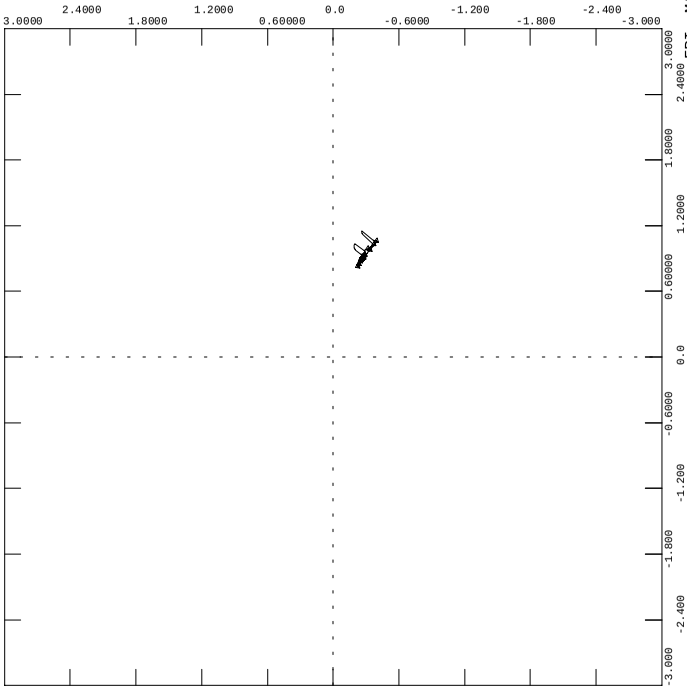
FRI, MAY 21 2004 9:48
POTTER-FINNEY
CHNL# 115: [APPR 50858 TO 50888 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

14

FILE: WO_FLT31PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 114: [APPX 56449 TO 50858 CKT 1]

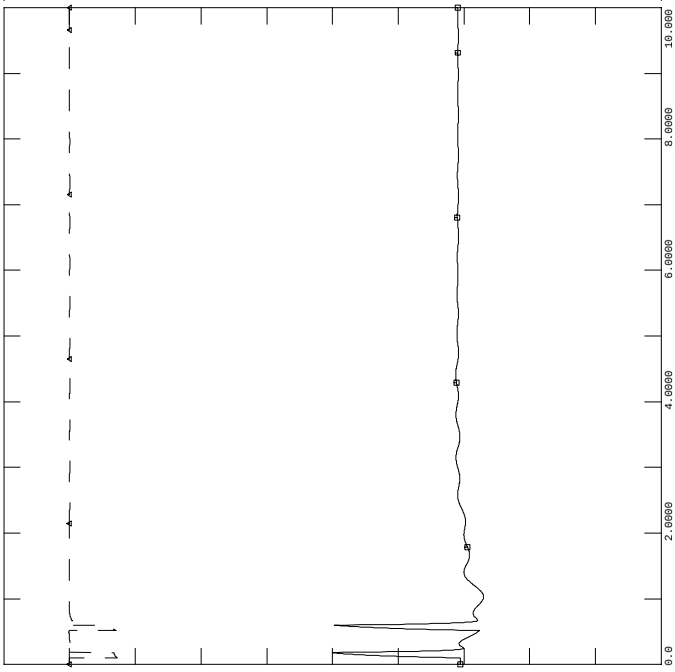


FRI, MAY 21 2004 9:48
FINNEY-HOLCOMB
CHNL# 113: [APPR 56449 TO 50858 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT31PH: SLG FAULT ON ROOSEVELT-CLOVIS 115 KV LINE
5 CY AT ROOSEVELT, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT31PH.OUT

16

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]
1.1000 0.10000
CHNL# 117: [BUS 52185 SVC OUTPUT]
2.0000 0.0

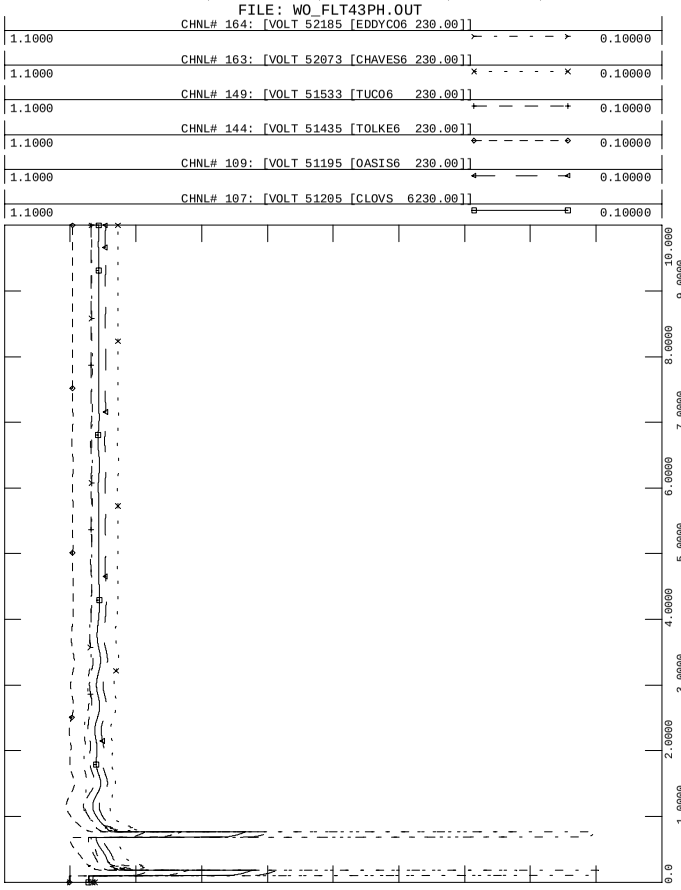


FRI, MAY 21 2004 9:48
SVC OUTPUT
TIME (SECONDS)

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT43PH.OUT

FRI, MAY 21 2004 9:48

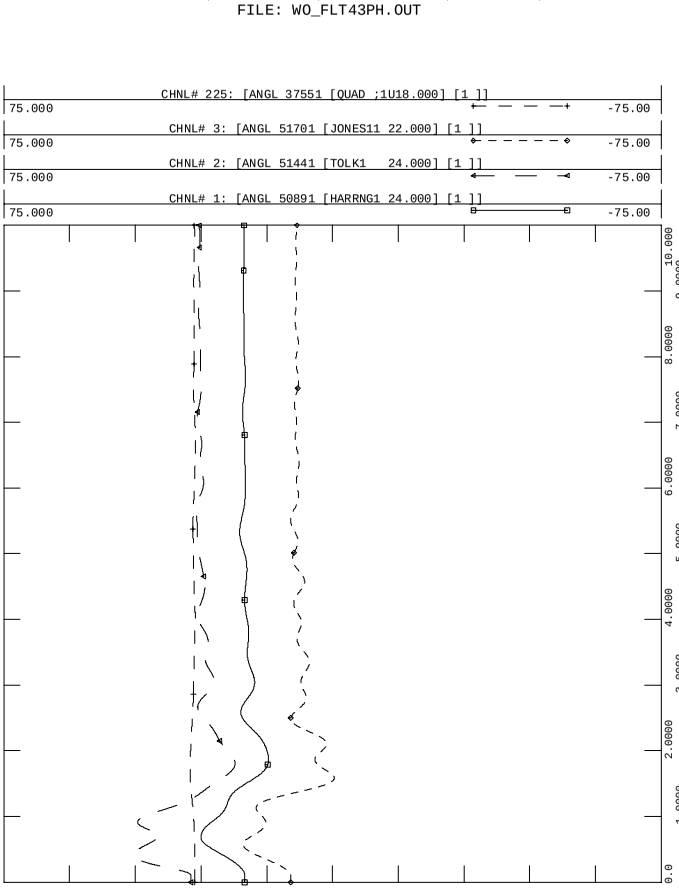
SPP:230 KV BUS VOLTAGE 2



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT43PH.OUT

FRI, MAY 21 2004 9:48

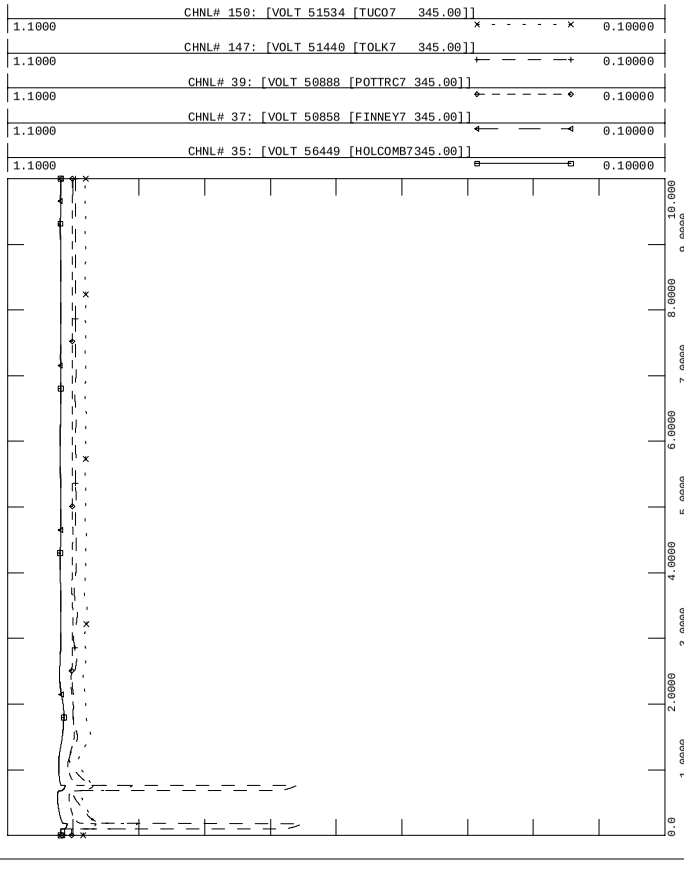
SPP: ROTOR ANGLE 4



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT43PH.OUT

FRI, MAY 21 2004 9:48

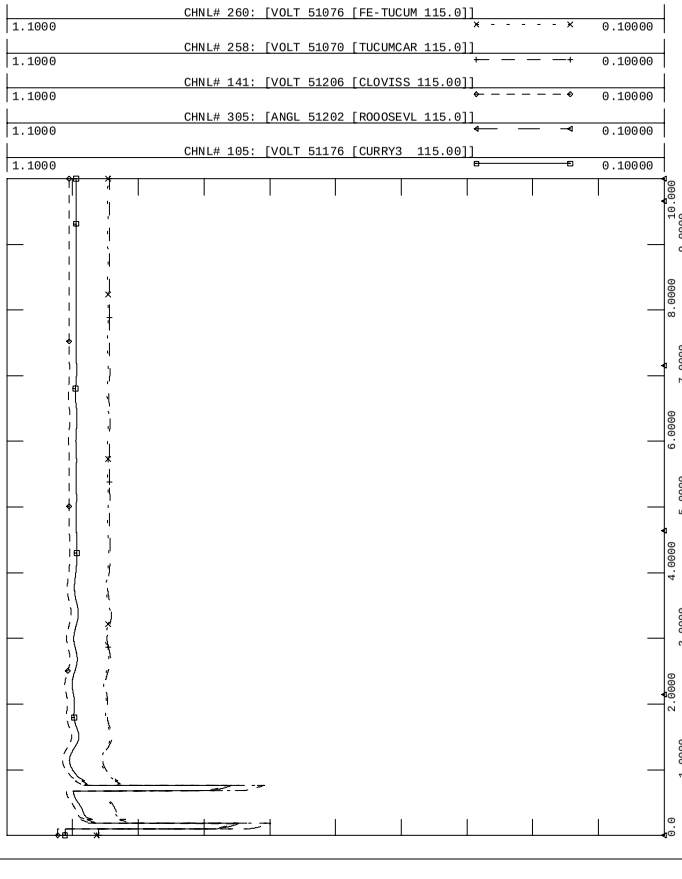
SPP:345 KV BUS VOLTAGE 1



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT43PH.OUT

FRI, MAY 21 2004 9:48

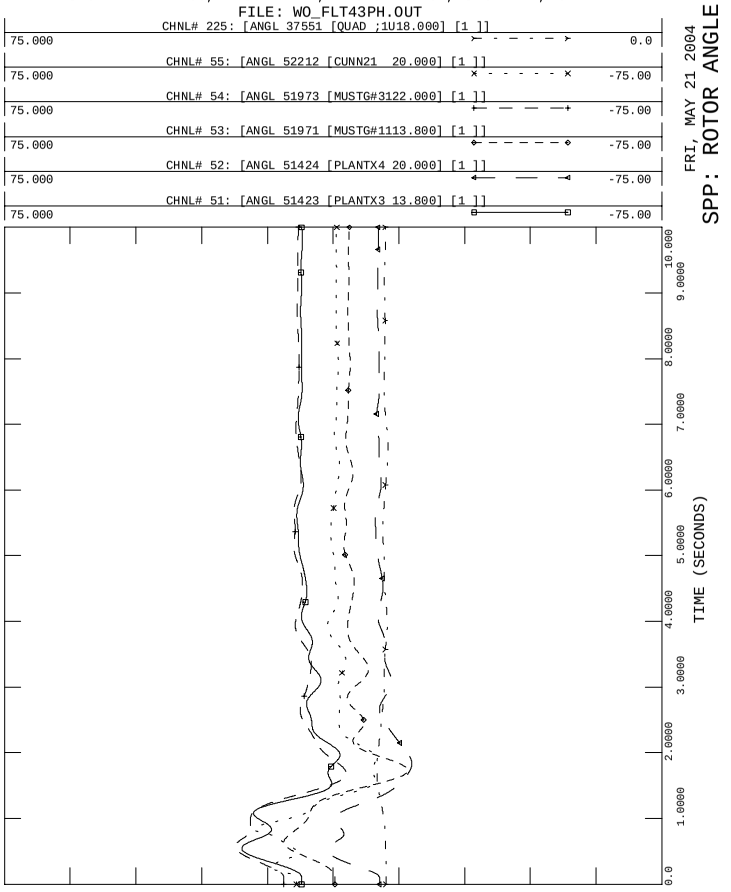
SPP:115 KV BUS VOLTAGE 3



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT43PH.OUT

FRI, MAY 21 2004 9:48 7

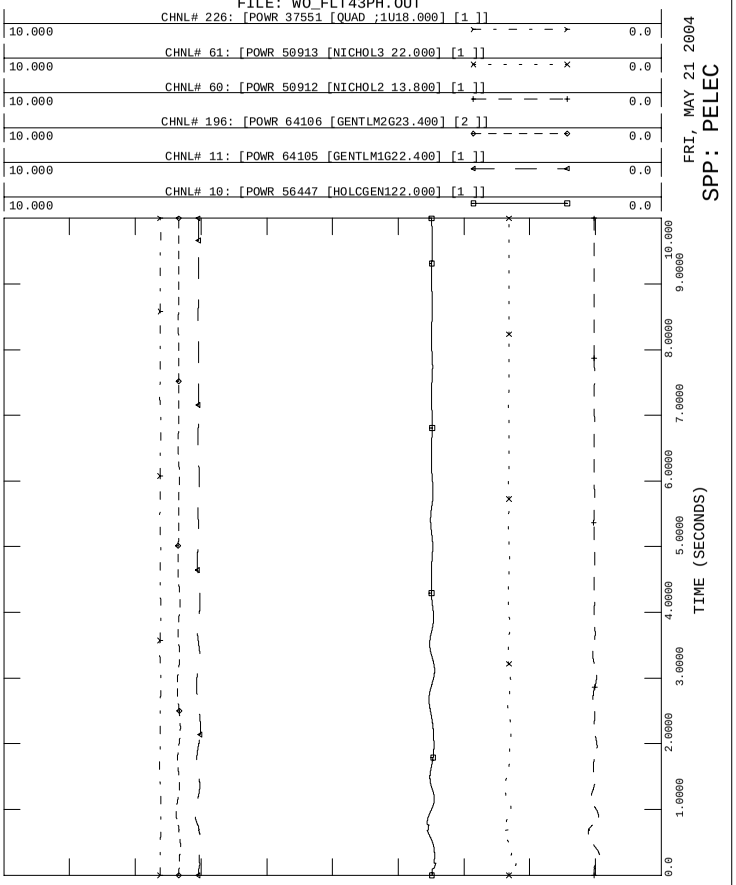
SPP: ROTOR ANGLE



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT43PH.OUT

FRI, MAY 21 2004 9:48 9

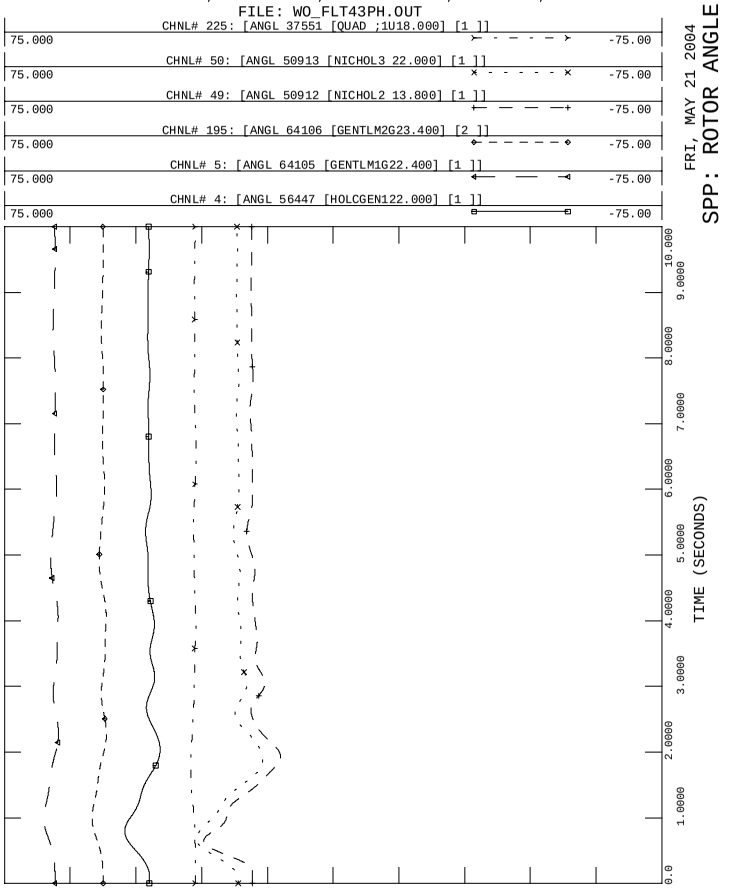
SPP: PELEC



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT43PH.OUT

FRI, MAY 21 2004 9:48 5

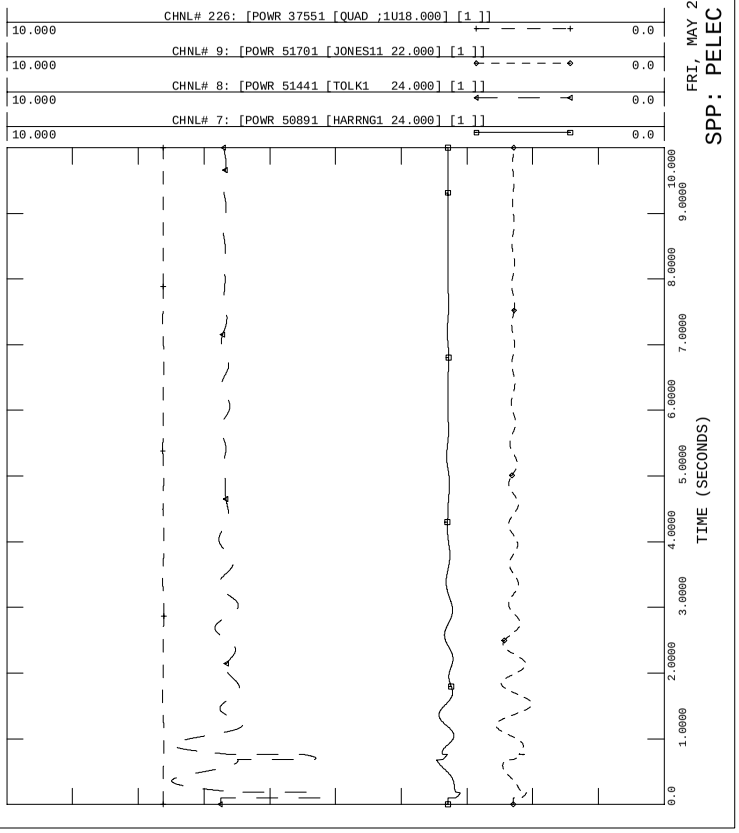
SPP: ROTOR ANGLE



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT43PH.OUT

FRI, MAY 21 2004 9:48 8

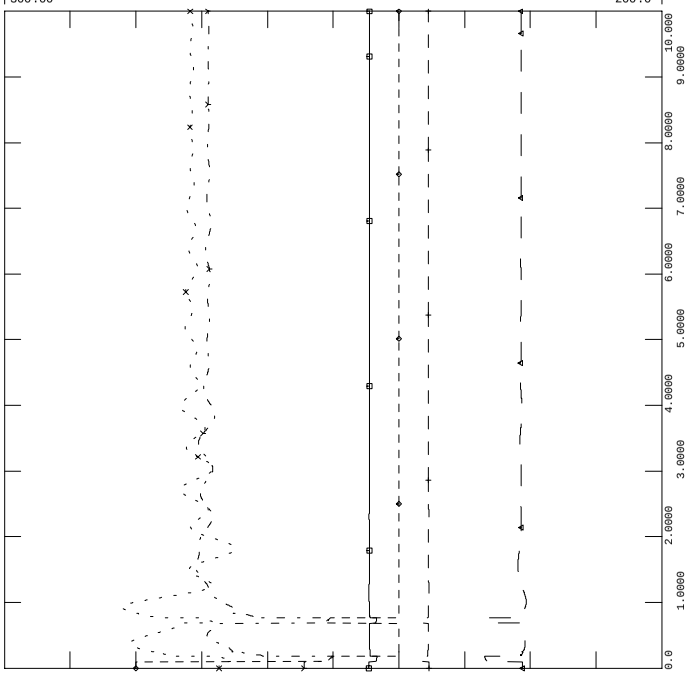
SPP: PELEC



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT43PH.OUT

9:48 11
FRI, MAY 21 2004
BRANCH FLOW

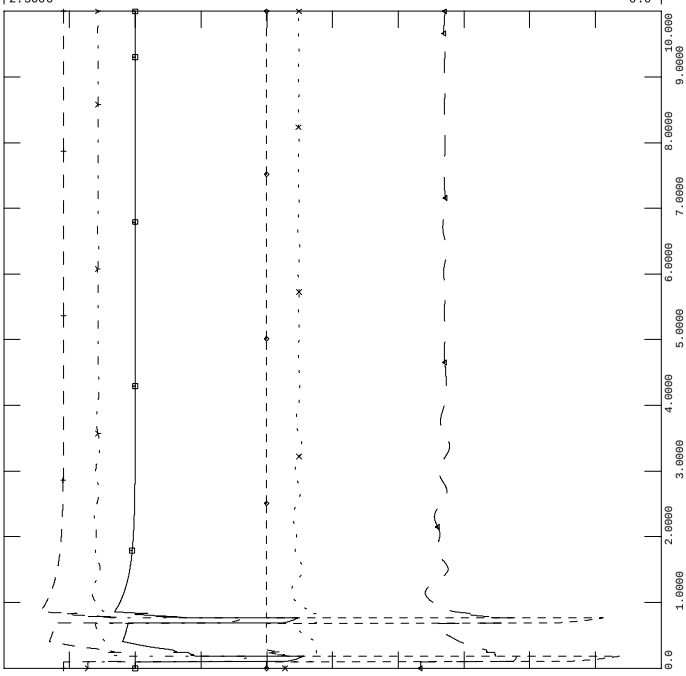
CHNL# 97: [POWR 51195 TO 52073 CKT 1]
300.00 -200.0
CHNL# 316: [POWR 51435 TO 51533 CKT 1]
300.00 -200.0
CHNL# 314: [POWR 99991 TO 51176 CKT 1]
300.00 -200.0
CHNL# 312: [POWR 51440 TO 52186 CKT 1]
300.00 -200.0
CHNL# 310: [POWR 51176 TO 51206 CKT 2]
300.00 -200.0
CHNL# 306: [POWR 99991 TO 51076 CKT 1]
300.00 -200.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT43PH.OUT

9:48 13
FRI, MAY 21 2004
DC LINE PNM

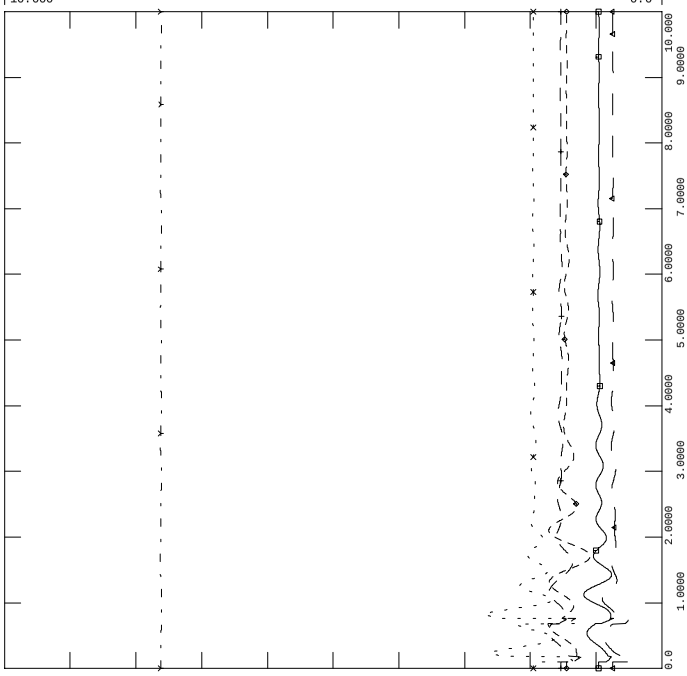
CHNL# 207: [VOLT 59995 [BLKWDC 230.00]]
1.1000 0.10000
CHNL# 193: [DC LINE #2: ALPHA]
100.00 -100.0
CHNL# 192: [DC LINE #2: DC CURRENT]
4000.0 0.0
CHNL# 191: [DC LINE #2: VDCR]
65000. 40000.
CHNL# 187: [DC LINE #2: QACR]
2.5000 0.0
CHNL# 186: [DC LINE #2: PACR]
2.5000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT43PH.OUT

9:48 10
FRI, MAY 21 2004
SPP: PELEC

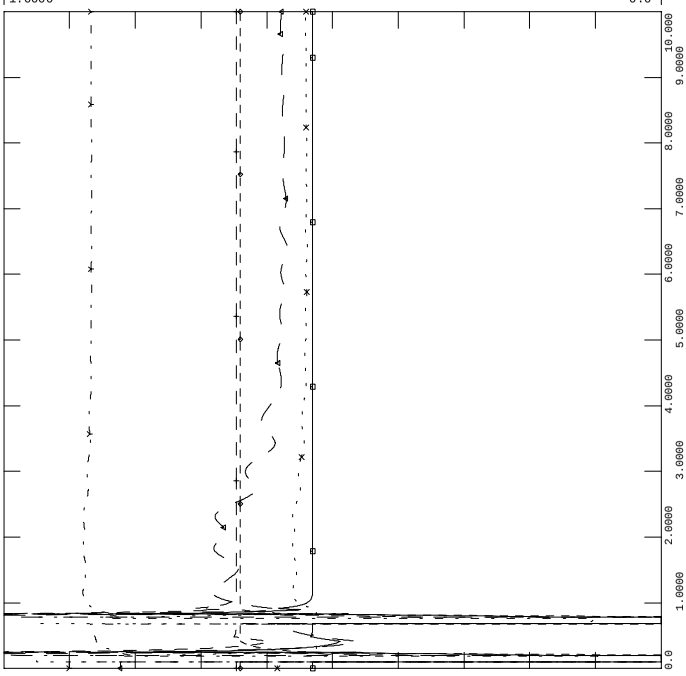
CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
10.000 0.0
CHNL# 66: [POWR 52212 [CUNN21 20.000] [1]]
10.000 0.0
CHNL# 65: [POWR 51973 [MUSTG#3122.000] [1]]
10.000 0.0
CHNL# 64: [POWR 51971 [MUSTG#1113.800] [1]]
10.000 0.0
CHNL# 63: [POWR 51424 [PLANTX4 20.000] [1]]
10.000 0.0
CHNL# 62: [POWR 51423 [PLANTX3 13.800] [1]]
10.000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT43PH.OUT

9:48 12
FRI, MAY 21 2004
DC LINE EPE

CHNL# 208: [VOLT 59996 [EPEDC 230.00]]
1.1000 0.10000
CHNL# 184: [DC LINE #1: ALFA]
100.00 -100.0
CHNL# 183: [DC LINE #1: DC CURRENT]
1000.0 0.0
CHNL# 182: [DC LINE #1: VDCR]
1.0000E5 50000.
CHNL# 178: [DC LINE #1: QACR]
0.25000 0.0
CHNL# 177: [DC LINE #1: PACR]
1.0000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR

15

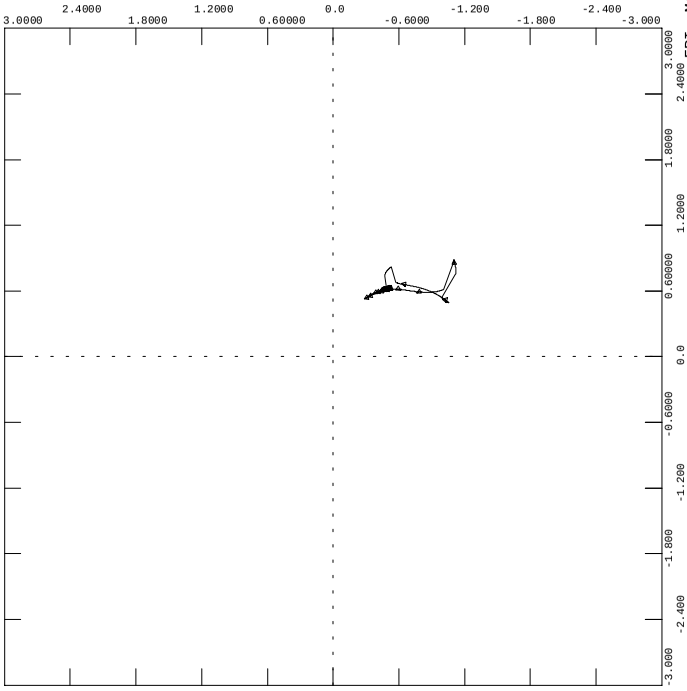
FRI, MAY 21 2004 9:48

POTTER-FINNEY

FILE: WO_FLT43PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25

CHNL# 116: [APPX 50858 TO 50888 CKT 1]



CHNL# 115: [APPR 50858 TO 50888 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR

14

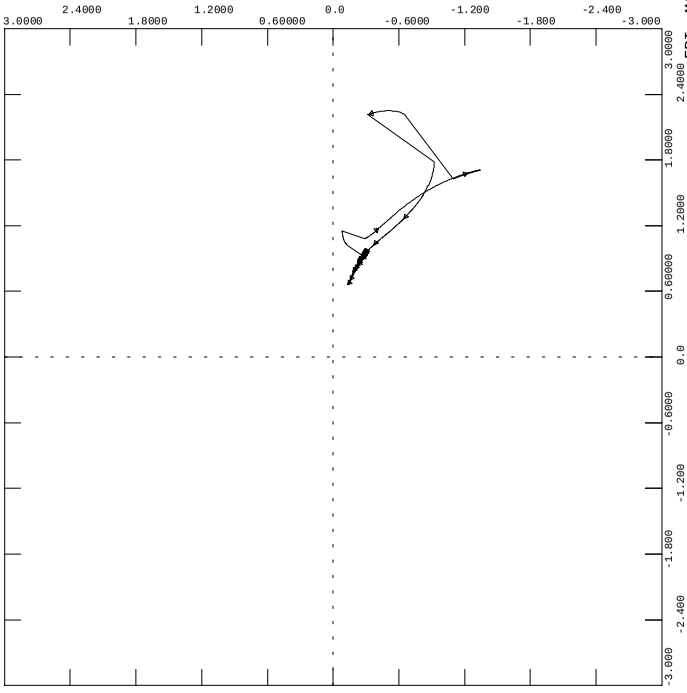
FRI, MAY 21 2004 9:48

FINNEY-HOLCOMB

FILE: WO_FLT43PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25

CHNL# 114: [APPX 56449 TO 50858 CKT 1]



CHNL# 113: [APPR 56449 TO 50858 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT43PH: THREE PHASE FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT43PH.OUT

16

FRI, MAY 21 2004 9:48

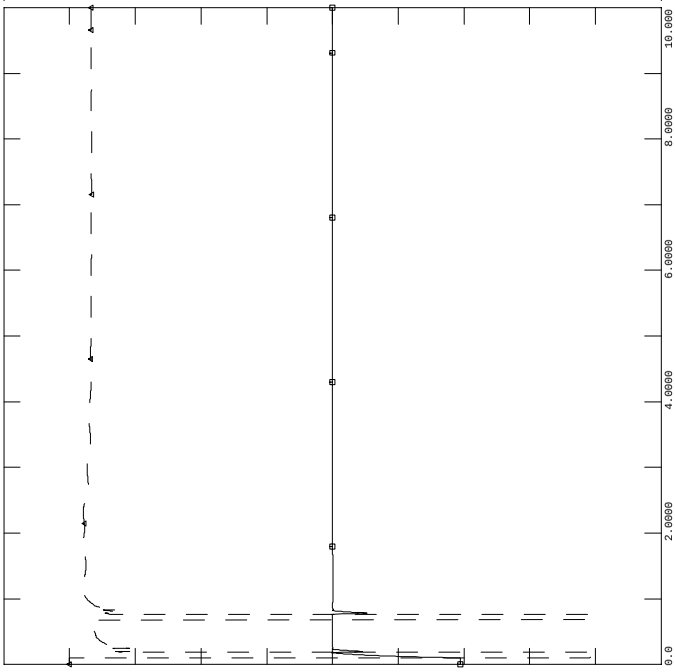
SVC OUTPUT

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]

1.1000 0.10000

CHNL# 117: [BUS 52185 SVC OUTPUT]

2.0000 0.0

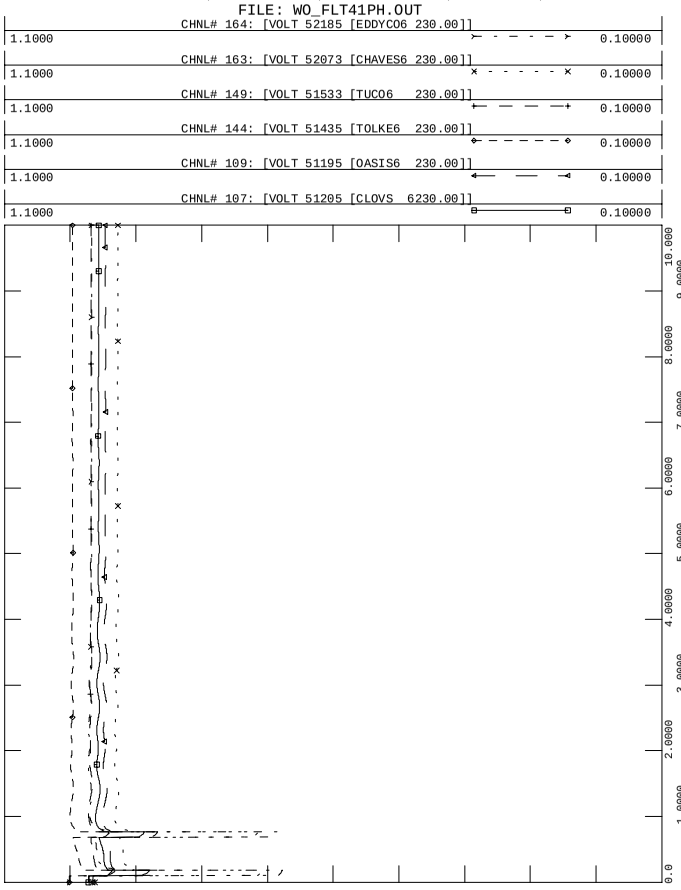


TIME (SECONDS)

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT41PH.OUT

FRI, MAY 21 2004 9:48

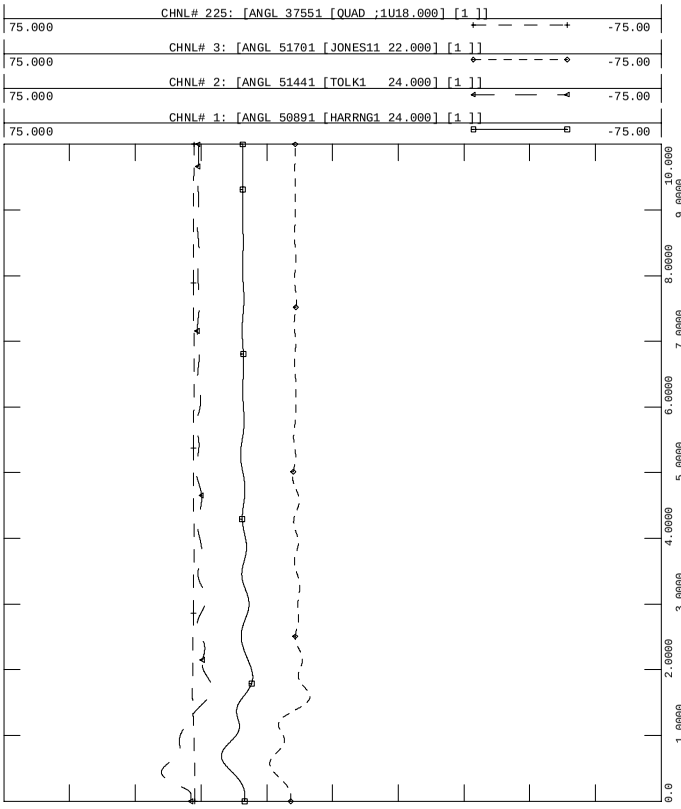
SPP:230 KV BUS VOLTAGE 2



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT41PH.OUT

FRI, MAY 21 2004 9:48

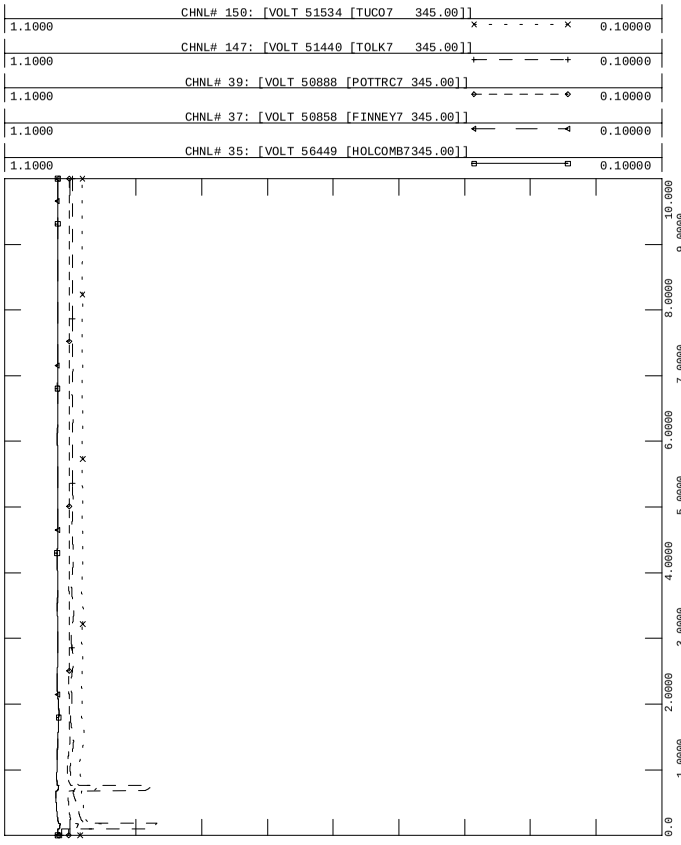
SPP: ROTOR ANGLE 4



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT41PH.OUT

FRI, MAY 21 2004 9:48

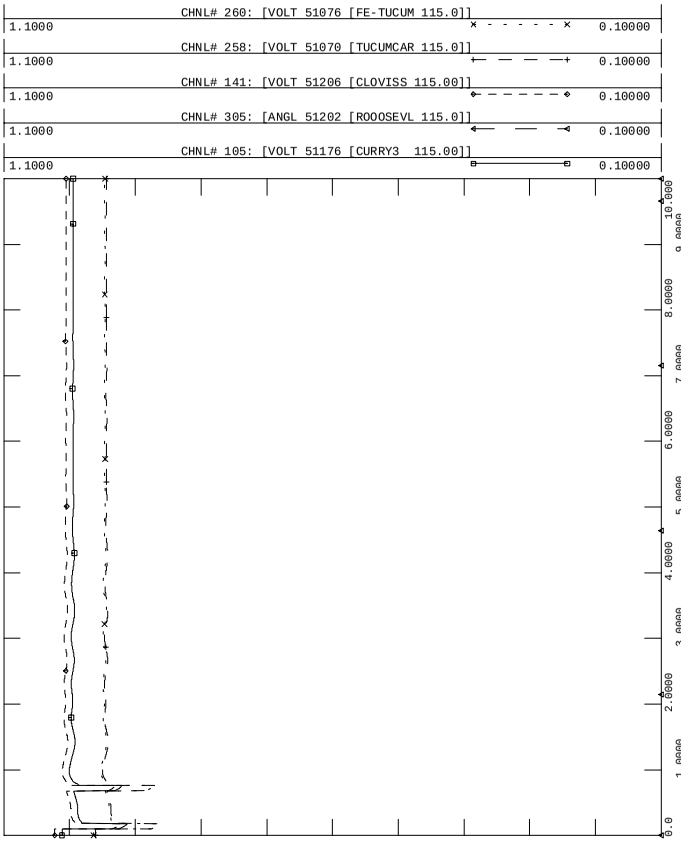
SPP:345 KV BUS VOLTAGE 1



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT41PH.OUT

FRI, MAY 21 2004 9:48

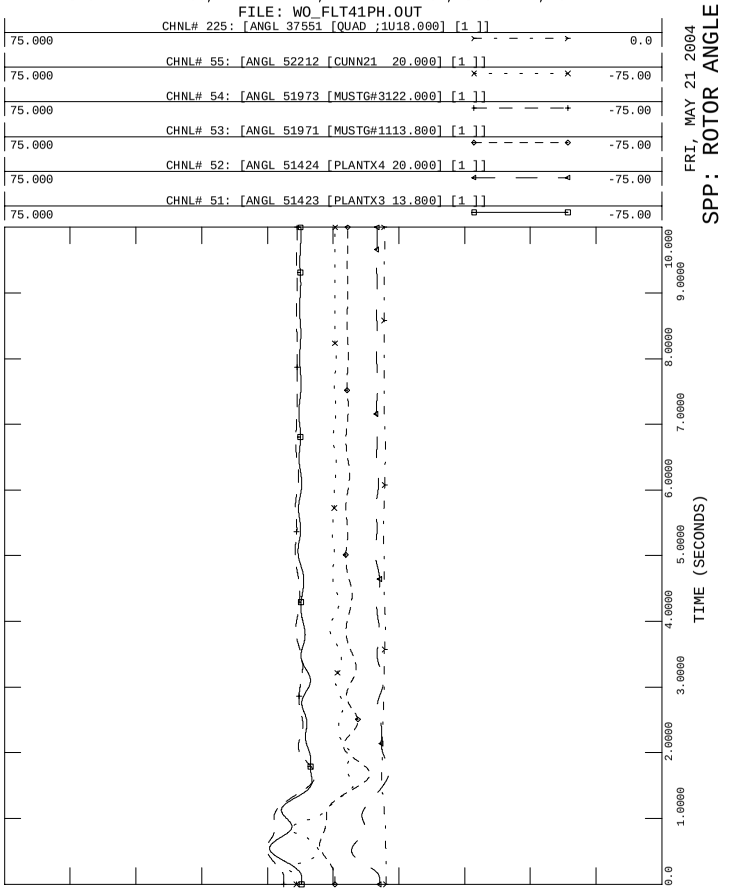
SPP:115 KV BUS VOLTAGE 3



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT41PH.OUT

FRI, MAY 21 2004 9:48 7

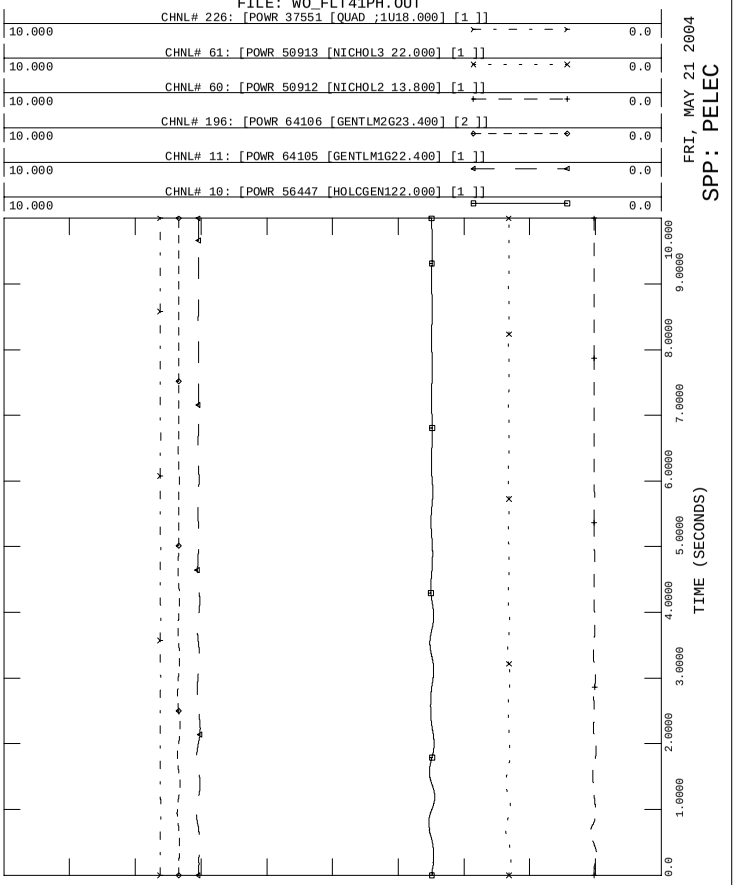
SPP: ROTOR ANGLE



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT41PH.OUT

FRI, MAY 21 2004 9:48 9

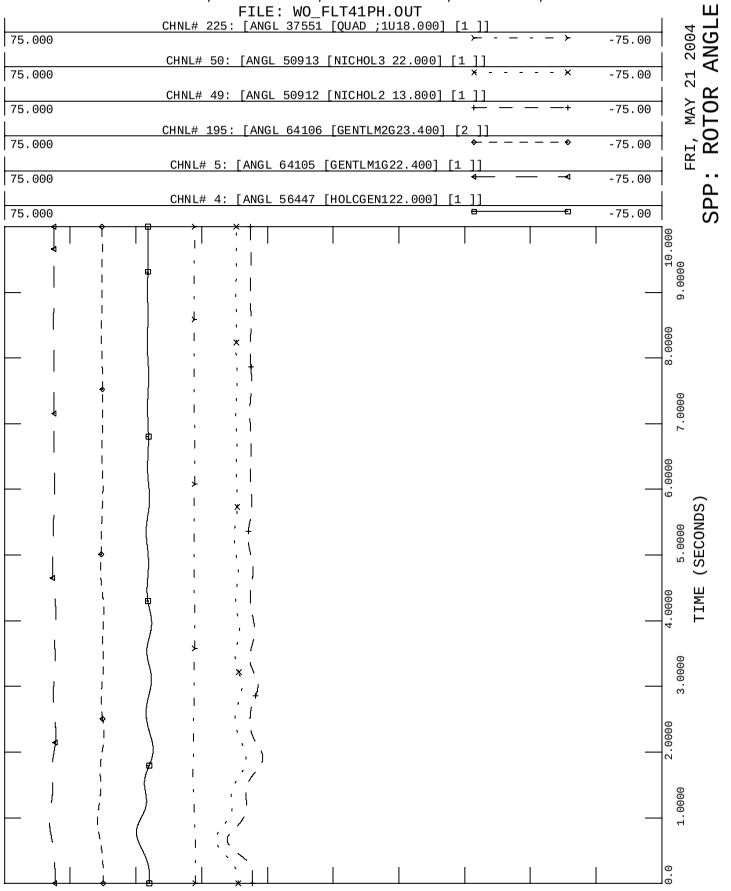
SPP: PELEC



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT41PH.OUT

FRI, MAY 21 2004 9:48 5

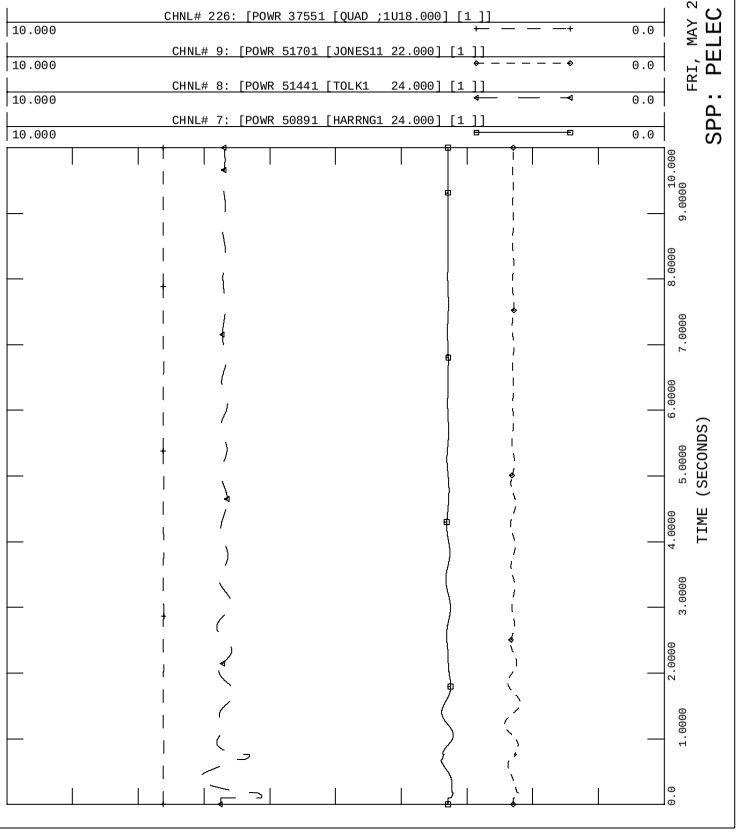
SPP: ROTOR ANGLE



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT41PH.OUT

FRI, MAY 21 2004 9:48 8

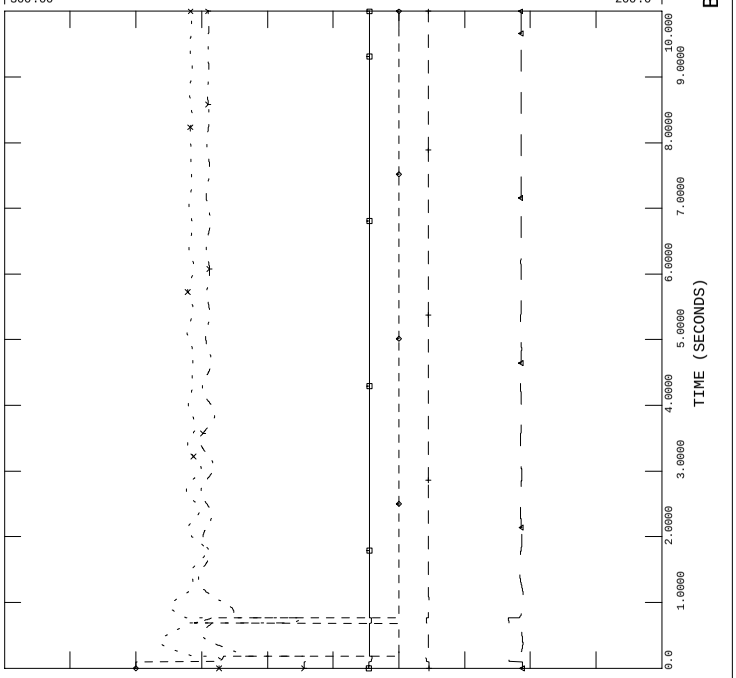
SPP: PELEC



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT41PH.OUT

9:48 11
FRI, MAY 21 2004
BRANCH FLOW

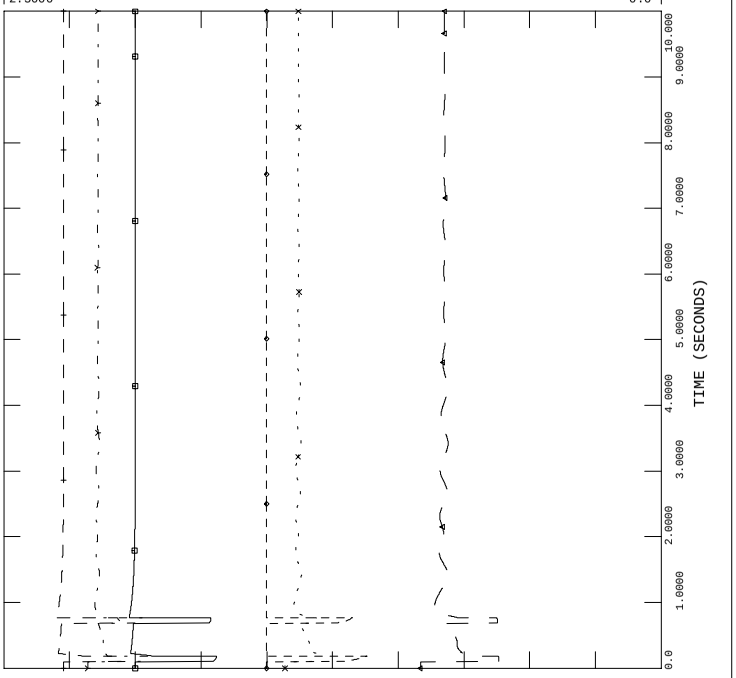
CHNL# 97: [POWR 51195 TO 52073 CKT 1] 300.00 -200.0
CHNL# 316: [POWR 51435 TO 51533 CKT 1] 300.00 -200.0
CHNL# 314: [POWR 99991 TO 51176 CKT 1] 300.00 -200.0
CHNL# 312: [POWR 51440 TO 52186 CKT 1] 300.00 -200.0
CHNL# 310: [POWR 51176 TO 51206 CKT 2] 300.00 -200.0
CHNL# 306: [POWR 99991 TO 51076 CKT 1] 300.00 -200.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT41PH.OUT

9:48 13
FRI, MAY 21 2004
DC LINE PNM

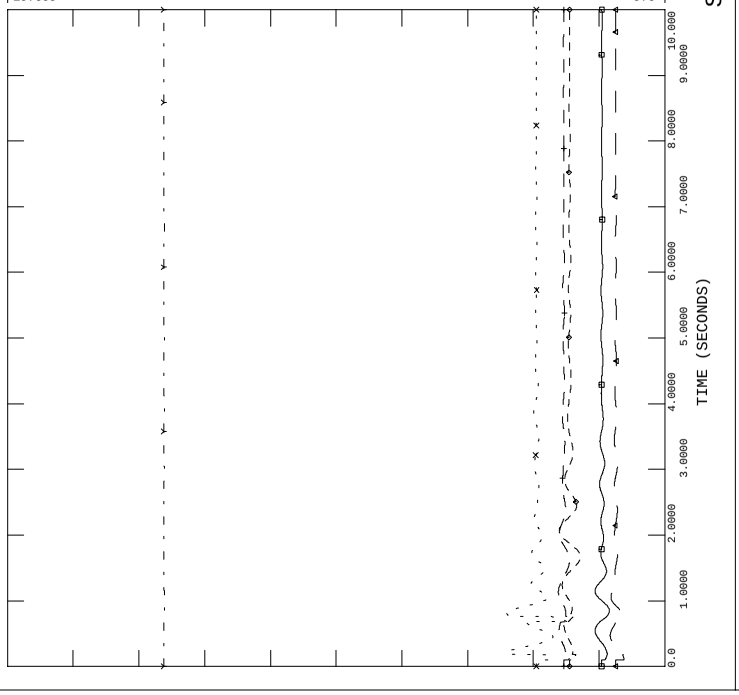
CHNL# 207: [VOLT 59995 [BLKWDC 230.00]] 1.1000 0.10000
CHNL# 193: [DC LINE #2: ALPHA] 100.00 -100.0
CHNL# 192: [DC LINE #2: DC CURRENT] 4000.0 0.0
CHNL# 191: [DC LINE #2: VDCR] 65000. 40000.
CHNL# 187: [DC LINE #2: QACR] 2.5000 0.0
CHNL# 186: [DC LINE #2: PACR] 2.5000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT41PH.OUT

9:48 10
FRI, MAY 21 2004
SPP: PELEC

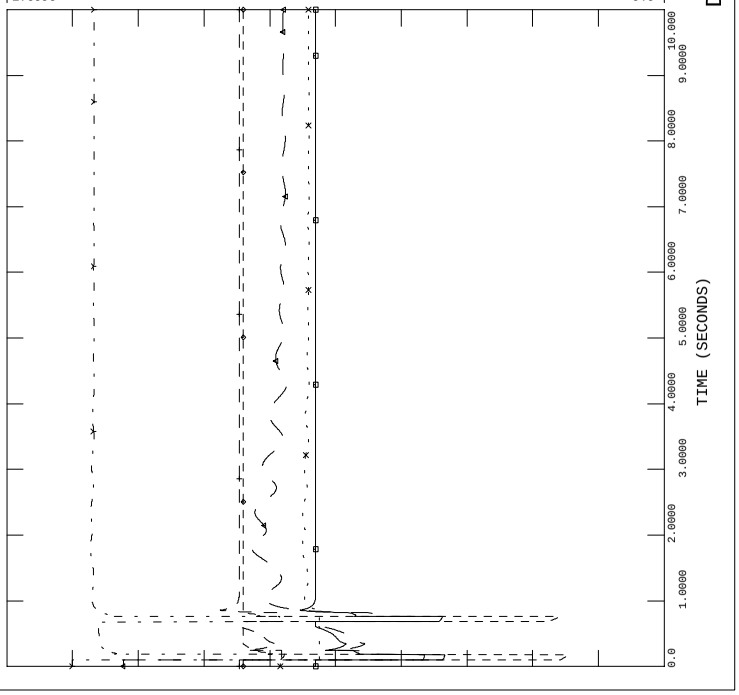
CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]] 10.000 0.0
CHNL# 66: [POWR 52212 [CUNN21 20.000] [1]] 10.000 0.0
CHNL# 65: [POWR 51973 [MUSTG#3122.000] [1]] 10.000 0.0
CHNL# 64: [POWR 51971 [MUSTG#1113.800] [1]] 10.000 0.0
CHNL# 63: [POWR 51424 [PLANTX4 20.000] [1]] 10.000 0.0
CHNL# 62: [POWR 51423 [PLANTX3 13.800] [1]] 10.000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT41PH.OUT

9:48 12
FRI, MAY 21 2004
DC LINE EPE

CHNL# 208: [VOLT 59996 [EPEDC 230.00]] 1.1000 0.10000
CHNL# 184: [DC LINE #1: ALFA] 100.00 -100.0
CHNL# 183: [DC LINE #1: DC CURRENT] 1000.0 0.0
CHNL# 182: [DC LINE #1: VDCR] 1.0000E5 50000.
CHNL# 178: [DC LINE #1: QACR] 0.25000 0.0
CHNL# 177: [DC LINE #1: PACR] 1.0000 0.0

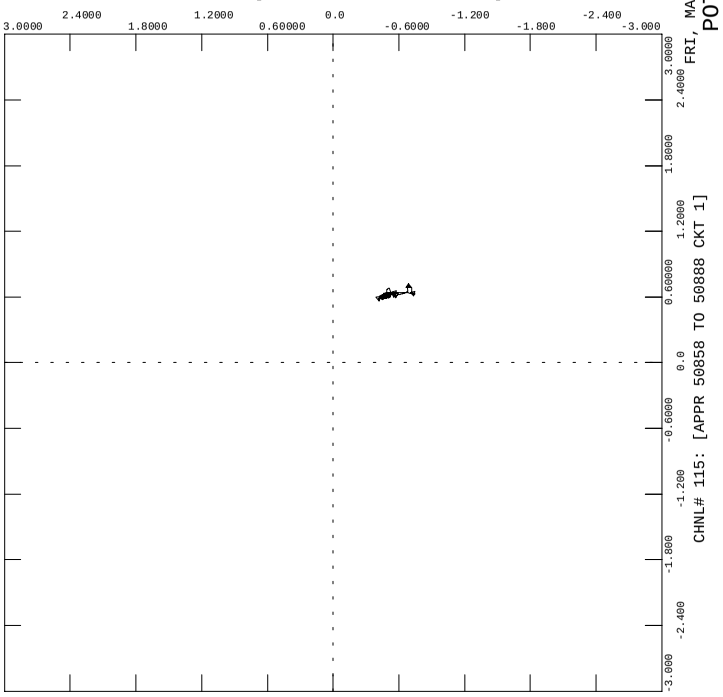


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR

15

FILE: WO_FLT41PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 116: [APPX 50858 TO 50888 CKT 1]



FRI, MAY 21 2004 9:48 POTTER-FINNEY

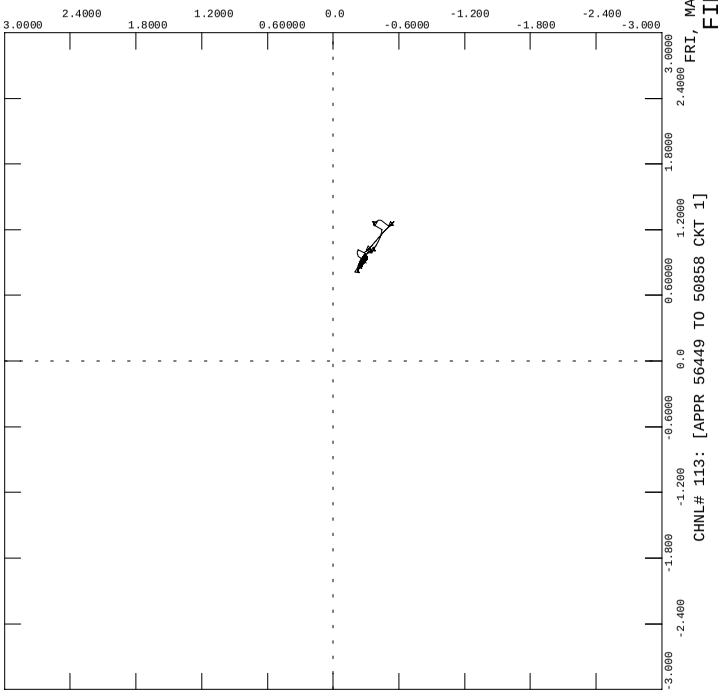
CHNL# 115: [APPR 50858 TO 50888 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR

14

FILE: WO_FLT41PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 114: [APPX 56449 TO 50858 CKT 1]



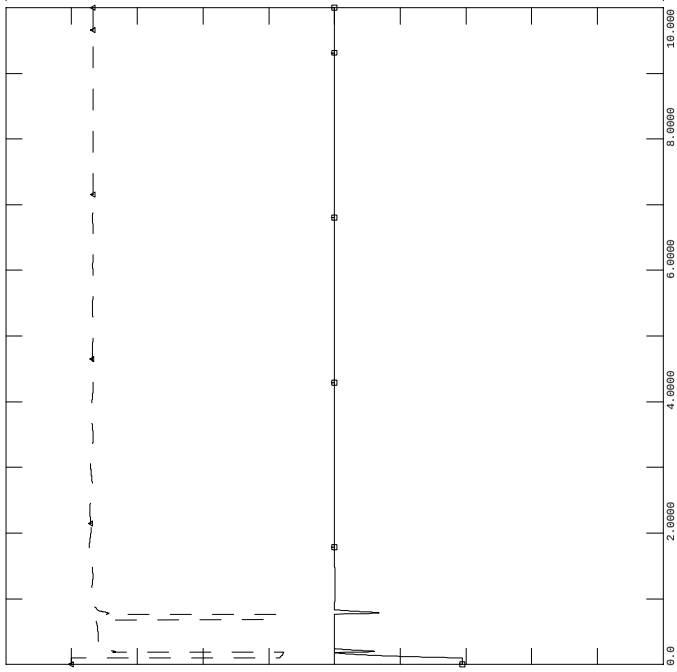
FRI, MAY 21 2004 9:48 FINNEY-HOLCOMB

CHNL# 113: [APPR 56449 TO 50858 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT41PH: SLG FAULT ON TOLK-EDDY CO 345 KV LINE
5 CY AT EDDY CO, DISCT LINE, RECLOR 30 CY, 5 CY FLT, CLR
FILE: WO_FLT41PH.OUT

16

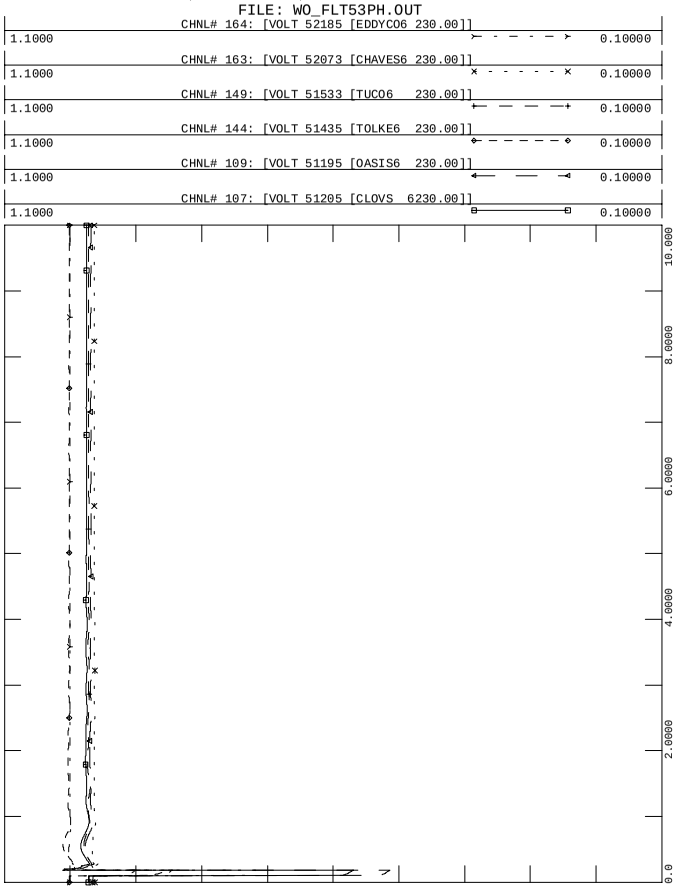
CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]
1.1000 0.10000
CHNL# 117: [BUS 52185 SVC OUTPUT]
2.0000 0.0



FRI, MAY 21 2004 9:48 SVC OUTPUT

TIME (SECONDS)

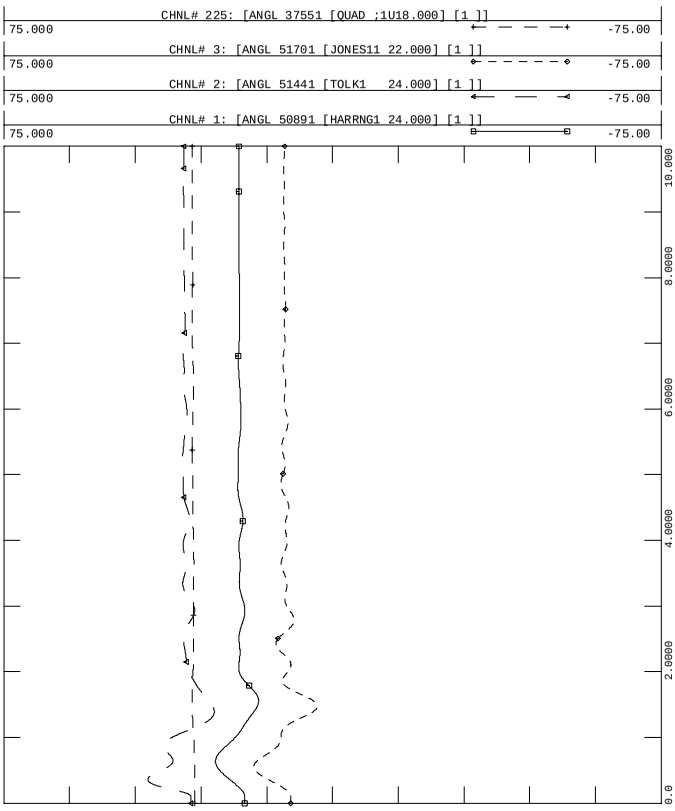
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WO_FLT53PH.OUT



FRI, MAY 21 2004 9:49

SPP:230 KV BUS VOLTAGE 2

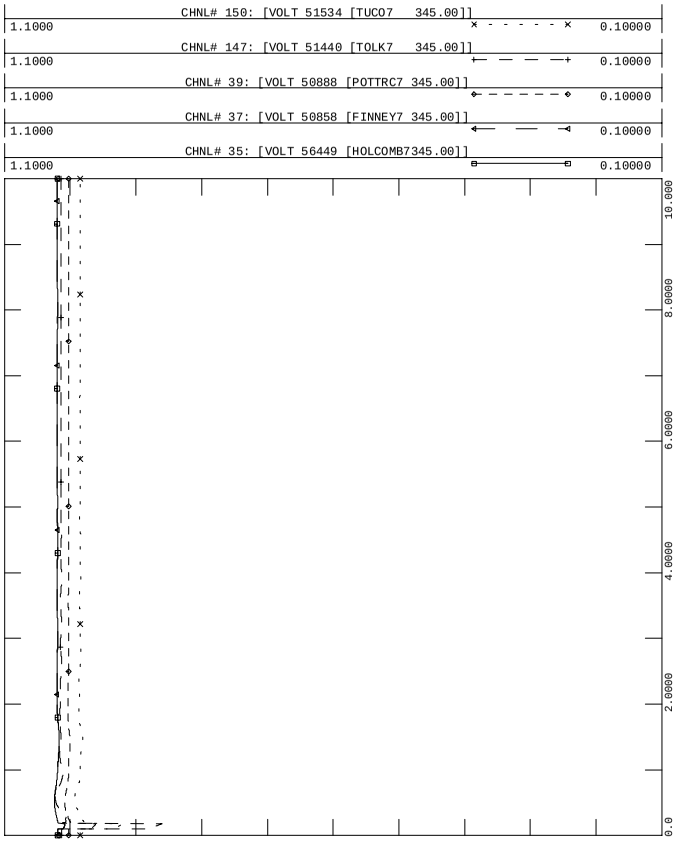
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WO_FLT53PH.OUT



FRI, MAY 21 2004 9:49

SPP: ROTOR ANGLE 4

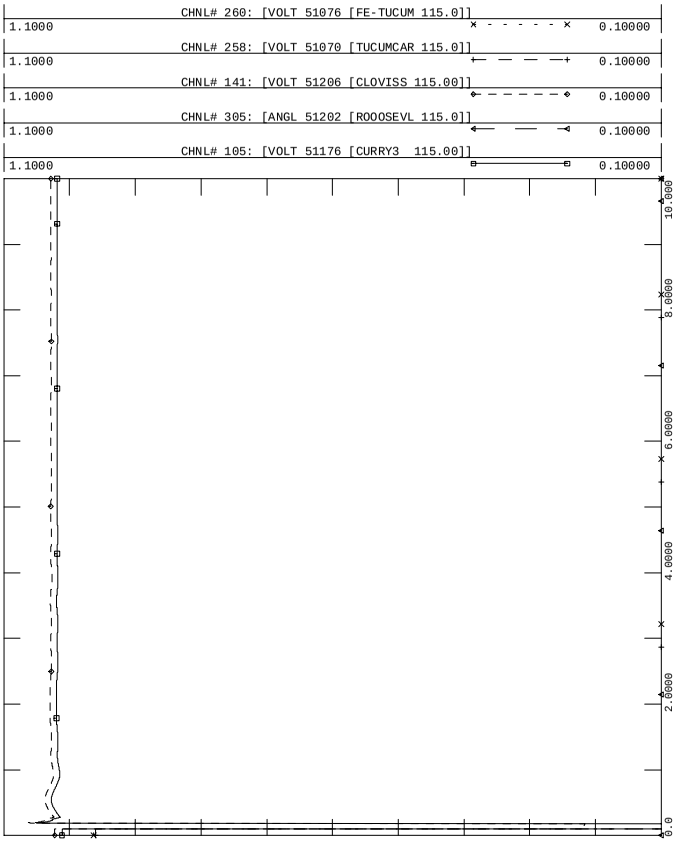
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WO_FLT53PH.OUT



FRI, MAY 21 2004 9:49

SPP:345 KV BUS VOLTAGE 1

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WO_FLT53PH.OUT



FRI, MAY 21 2004 9:49

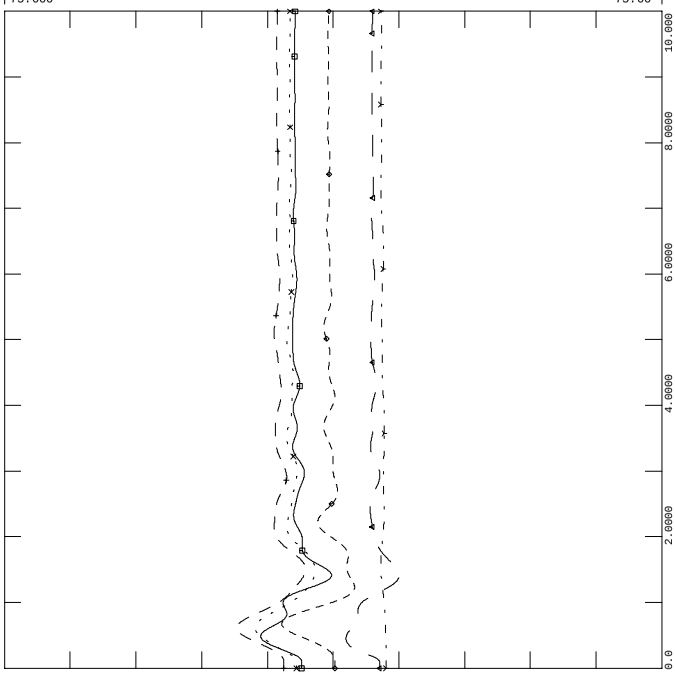
SPP:115 KV BUS VOLTAGE 3

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WO_FLT53PH.OUT

FRI, MAY 21 2004 9:49 7

SPP: ROTOR ANGLE

CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]]
CHNL# 55: [ANGL 52212 [CUNN21 20.000] [1]]
CHNL# 54: [ANGL 51973 [MUSTG#3122.000] [1]]
CHNL# 53: [ANGL 51971 [MUSTG#1113.800] [1]]
CHNL# 52: [ANGL 51424 [PLANTX4 20.000] [1]]
CHNL# 51: [ANGL 51423 [PLANTX3 13.800] [1]]

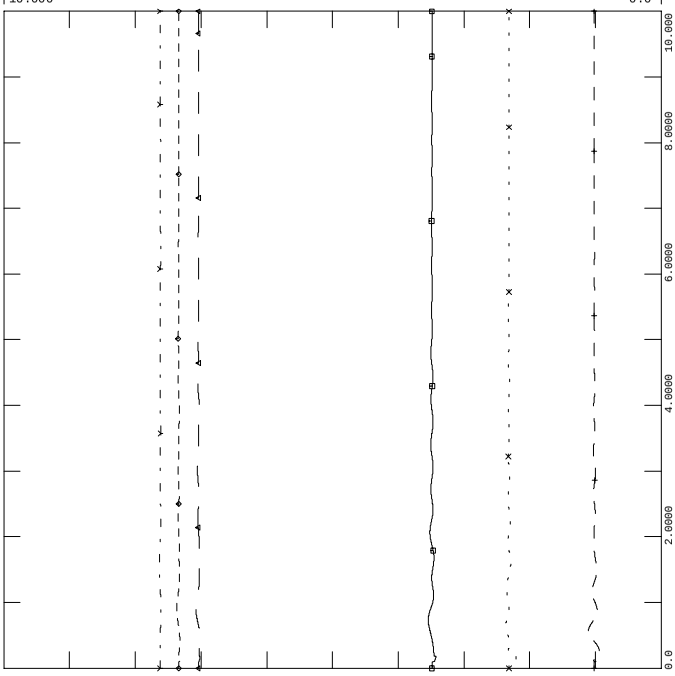


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WO_FLT53PH.OUT

FRI, MAY 21 2004 9:49 9

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
CHNL# 61: [POWR 50913 [NICHOL3 22.000] [1]]
CHNL# 60: [POWR 50912 [NICHOL2 13.800] [1]]
CHNL# 196: [POWR 64106 [GENTLM2G23.400] [2]]
CHNL# 11: [POWR 64105 [GENTLM1G22.400] [1]]
CHNL# 10: [POWR 56447 [HOLCGEN122.000] [1]]

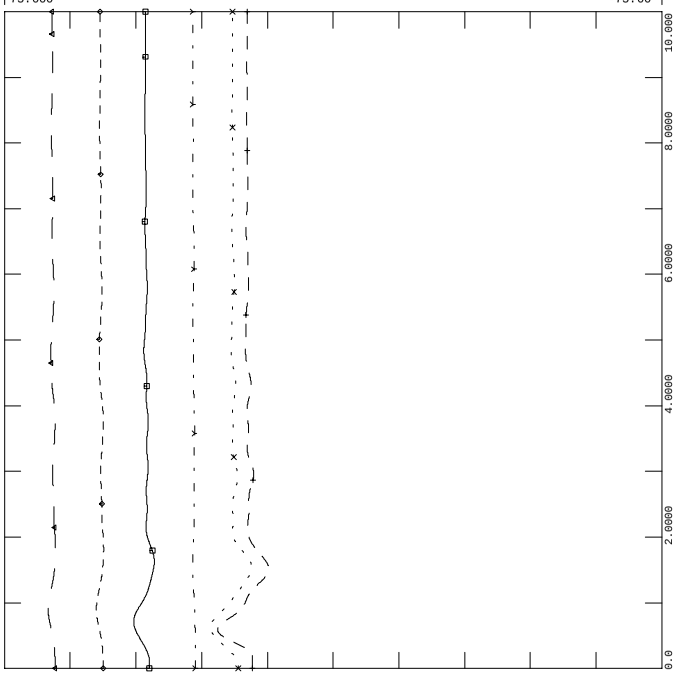


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WO_FLT53PH.OUT

FRI, MAY 21 2004 9:49 5

SPP: ROTOR ANGLE

CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]]
CHNL# 50: [ANGL 50913 [NICHOL3 22.000] [1]]
CHNL# 49: [ANGL 50912 [NICHOL2 13.800] [1]]
CHNL# 195: [ANGL 64106 [GENTLM2G23.400] [2]]
CHNL# 5: [ANGL 64105 [GENTLM1G22.400] [1]]
CHNL# 4: [ANGL 56447 [HOLCGEN122.000] [1]]

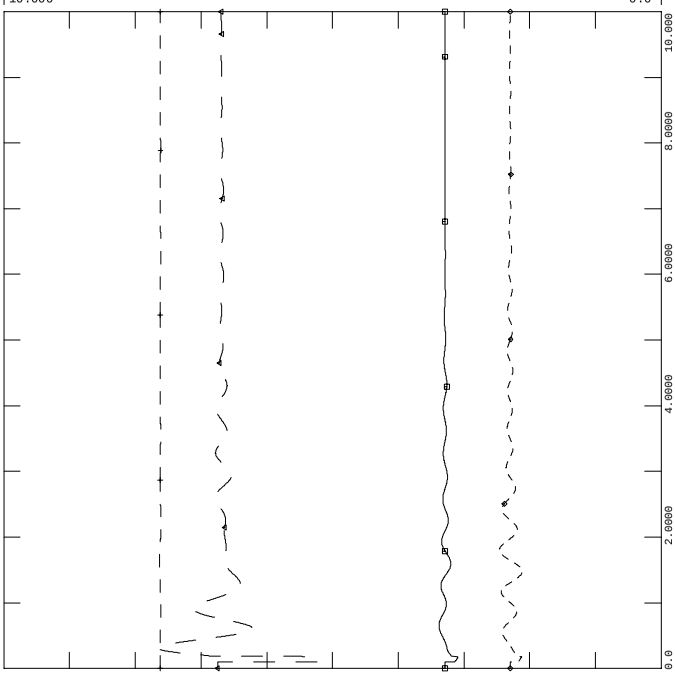


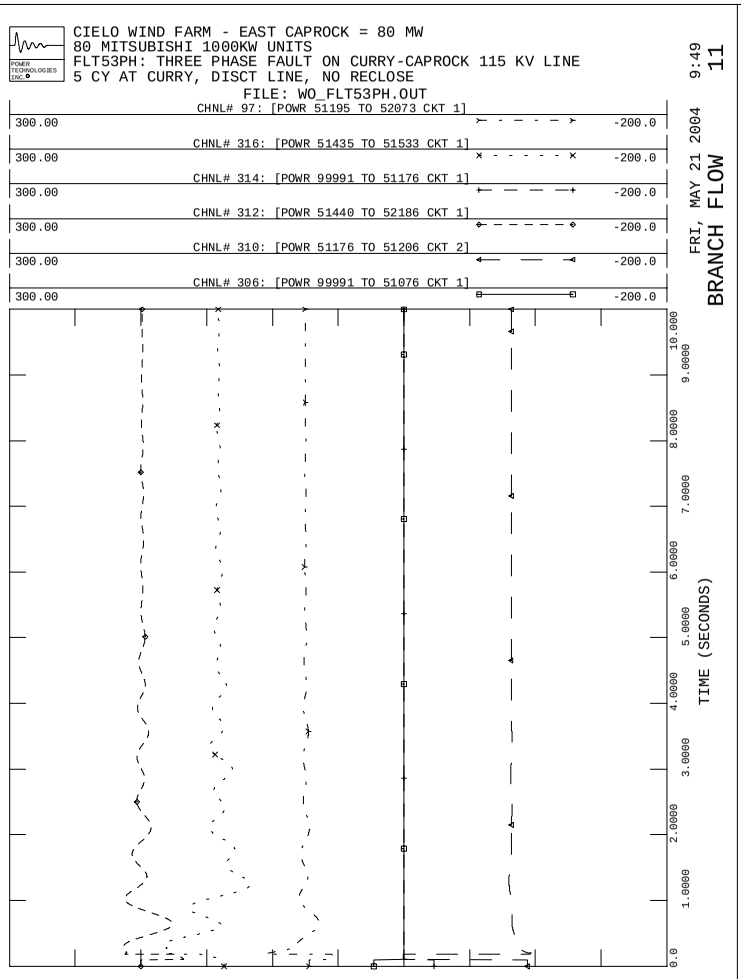
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WO_FLT53PH.OUT

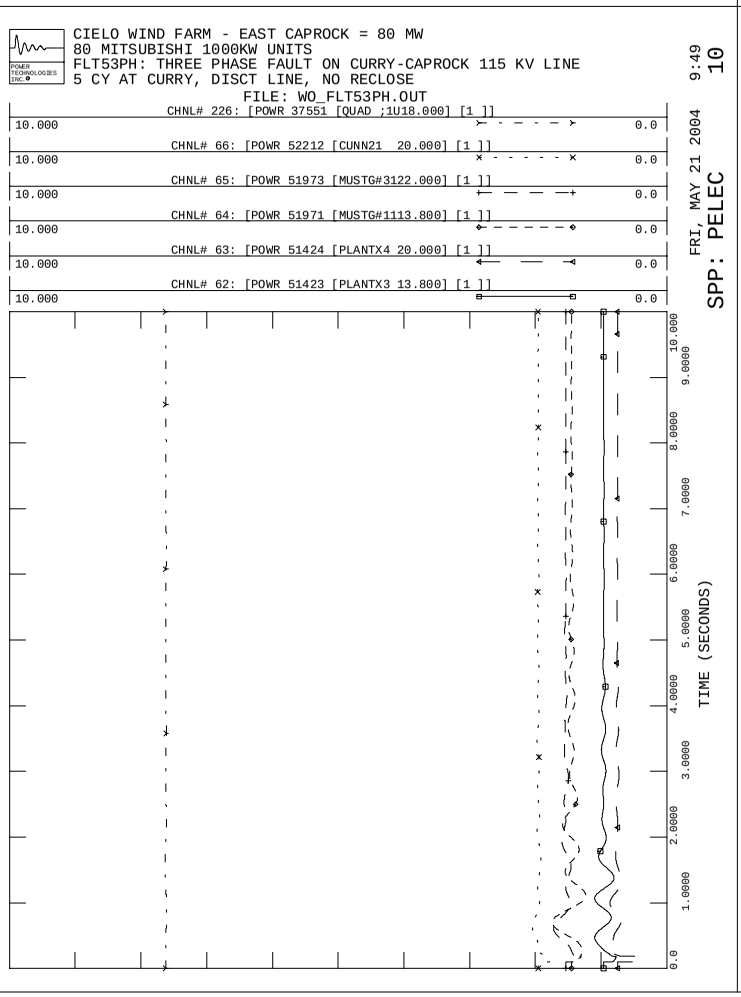
FRI, MAY 21 2004 9:49 8

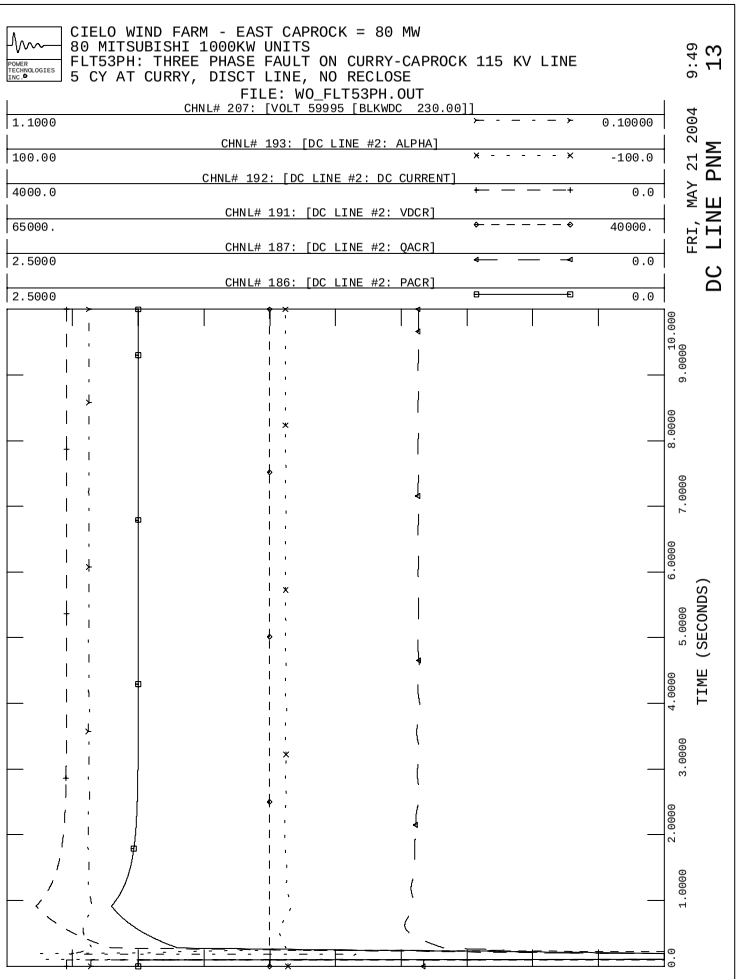
SPP: PELEC

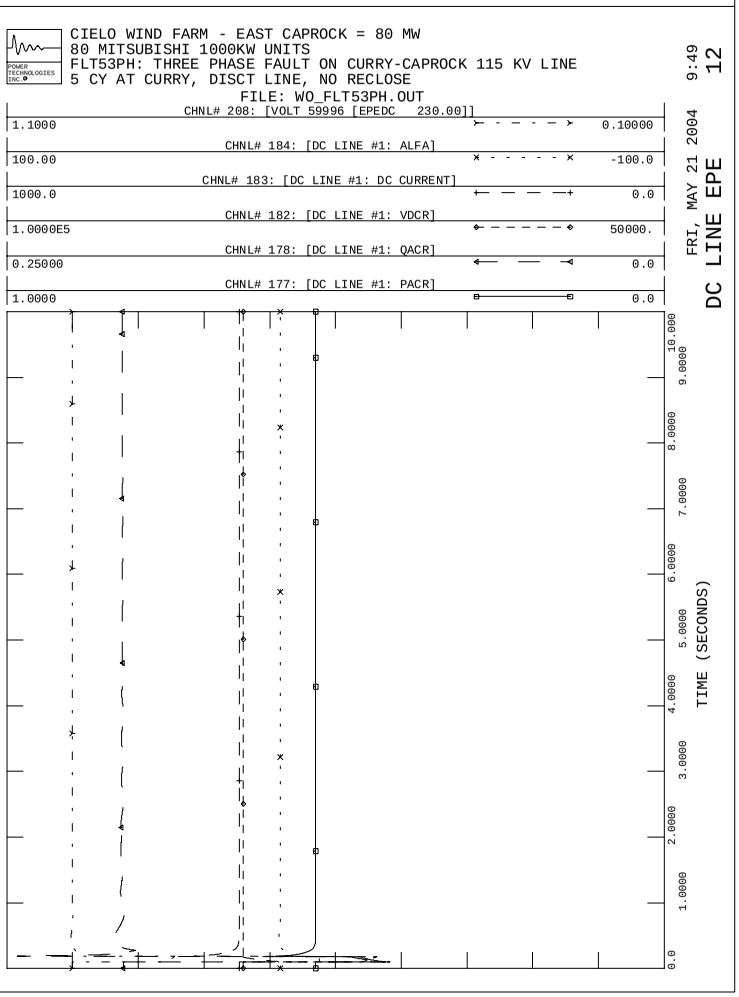
CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
CHNL# 9: [POWR 51701 [JONES11 22.000] [1]]
CHNL# 8: [POWR 51441 [TOLK1 24.000] [1]]
CHNL# 7: [POWR 50891 [HARRNG1 24.000] [1]]




CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WO_FLT53PH.OUT
9:49
11
FRI, MAY 21 2004
BRANCH FLOW
CHNL# 97: [POWR 51195 TO 52073 CKT 1]
300.00
-200.0
CHNL# 316: [POWR 51435 TO 51533 CKT 1]
300.00
-200.0
CHNL# 314: [POWR 99991 TO 51176 CKT 1]
300.00
-200.0
CHNL# 312: [POWR 51440 TO 52186 CKT 1]
300.00
-200.0
CHNL# 310: [POWR 51176 TO 51206 CKT 2]
300.00
-200.0
CHNL# 306: [POWR 99991 TO 51076 CKT 1]
300.00
-200.0
0.0
1.0000
2.0000
3.0000
4.0000
5.0000
6.0000
7.0000
8.0000
9.0000
10.000
TIME (SECONDS)


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WO_FLT53PH.OUT
9:49
10
FRI, MAY 21 2004
SPP: PELEC
CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
10.000
0.0
CHNL# 66: [POWR 52212 [CUNN21 20.000] [1]]
10.000
0.0
CHNL# 65: [POWR 51973 [MUSTG#3122.000] [1]]
10.000
0.0
CHNL# 64: [POWR 51971 [MUSTG#1113.800] [1]]
10.000
0.0
CHNL# 63: [POWR 51424 [PLANTX4 20.000] [1]]
10.000
0.0
CHNL# 62: [POWR 51423 [PLANTX3 13.800] [1]]
10.000
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)


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WO_FLT53PH.OUT
9:49
13
FRI, MAY 21 2004
DC LINE PNM
CHNL# 207: [VOLT 59995 [BLKWDC 230.00]]
1.1000
0.10000
CHNL# 193: [DC LINE #2: ALPHA]
100.00
-100.0
CHNL# 192: [DC LINE #2: DC CURRENT]
4000.0
0.0
CHNL# 191: [DC LINE #2: VDCR]
65000.
40000.
CHNL# 187: [DC LINE #2: QACR]
2.5000
0.0
CHNL# 186: [DC LINE #2: PACR]
2.5000
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)

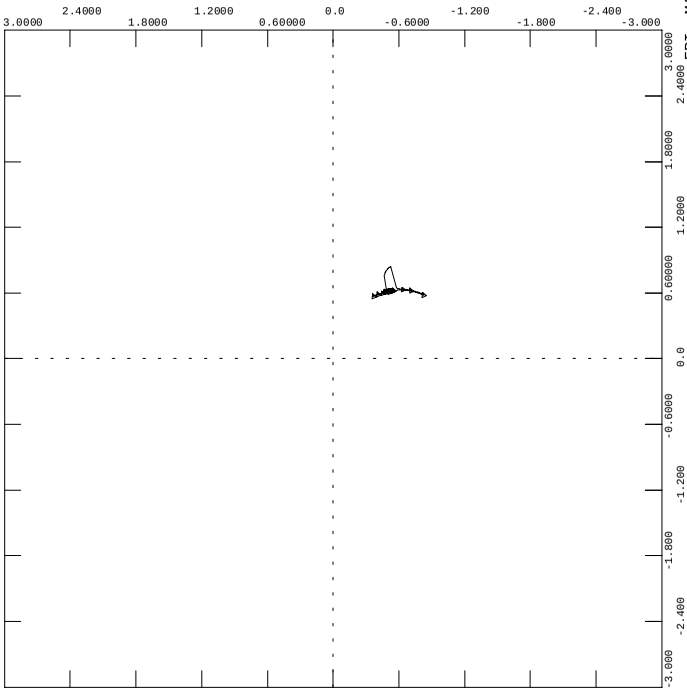

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WO_FLT53PH.OUT
9:49
12
FRI, MAY 21 2004
DC LINE EPE
CHNL# 208: [VOLT 59996 [EPEDC 230.00]]
1.1000
0.10000
CHNL# 184: [DC LINE #1: ALFA]
100.00
-100.0
CHNL# 183: [DC LINE #1: DC CURRENT]
1000.0
0.0
CHNL# 182: [DC LINE #1: VDCR]
1.0000E5
50000.
CHNL# 178: [DC LINE #1: QACR]
0.25000
0.0
CHNL# 177: [DC LINE #1: PACR]
1.0000
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)

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE

15

FILE: WO_FLT53PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 116: [APPX 50858 TO 50888 CKT 1]



FRI, MAY 21 2004 9:49 POTTER-FINNEY

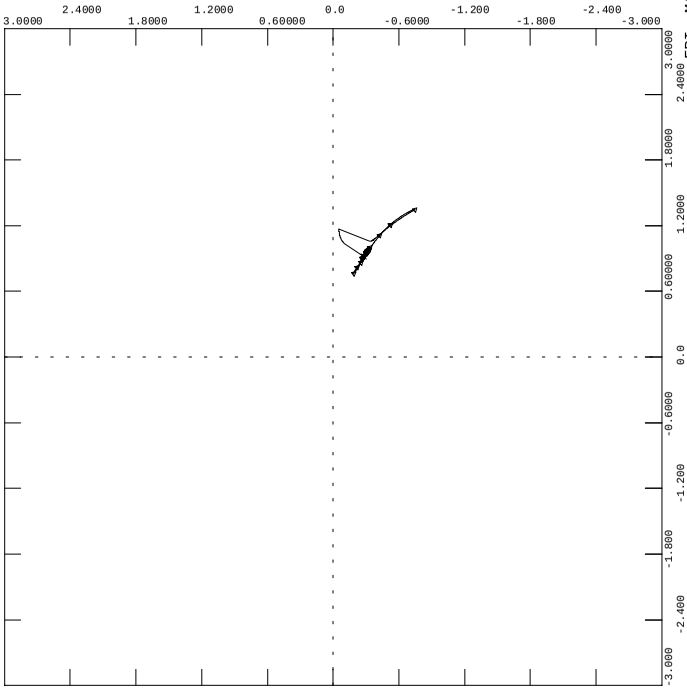
CHNL# 115: [APPR 50858 TO 50888 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE

14

FILE: WO_FLT53PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 114: [APPX 56449 TO 50858 CKT 1]



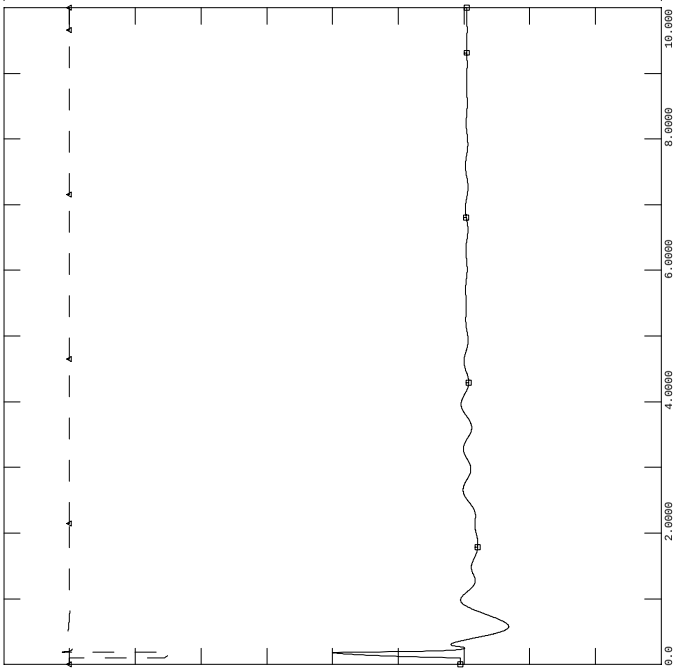
FRI, MAY 21 2004 9:49 FINNEY-HOLCOMB

CHNL# 113: [APPR 56449 TO 50858 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT53PH: THREE PHASE FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WO_FLT53PH.OUT

16

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]
1.1000 0.10000
CHNL# 117: [BUS 52185 SVC OUTPUT]
2.0000 0.0



FRI, MAY 21 2004 9:49 SVC OUTPUT

TIME (SECONDS)

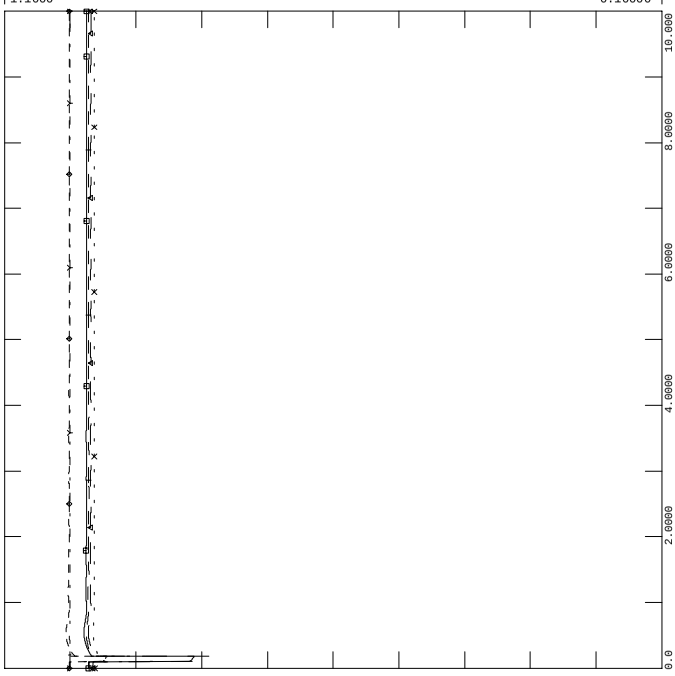
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WO_FLT51PH.OUT

FRI, MAY 21 2004 9:48

SPP:230 KV BUS VOLTAGE 2

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]
CHNL# 163: [VOLT 52073 [CHAVES6 230.00]]
CHNL# 149: [VOLT 51533 [TUCO6 230.00]]
CHNL# 144: [VOLT 51435 [TOLKE6 230.00]]
CHNL# 109: [VOLT 51195 [OASIS6 230.00]]
CHNL# 107: [VOLT 51205 [CLOVS 6230.00]]

1.1000 0.10000



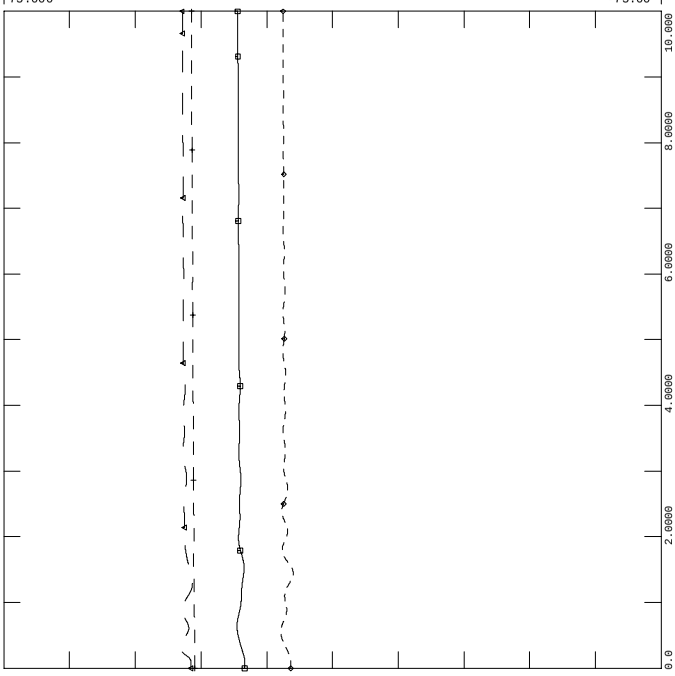
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WO_FLT51PH.OUT

FRI, MAY 21 2004 9:49

SPP: ROTOR ANGLE 4

CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]]
CHNL# 3: [ANGL 51701 [JONES11 22.000] [1]]
CHNL# 2: [ANGL 51441 [TOLK1 24.000] [1]]
CHNL# 1: [ANGL 50891 [HARRNG1 24.000] [1]]

75.000 -75.00



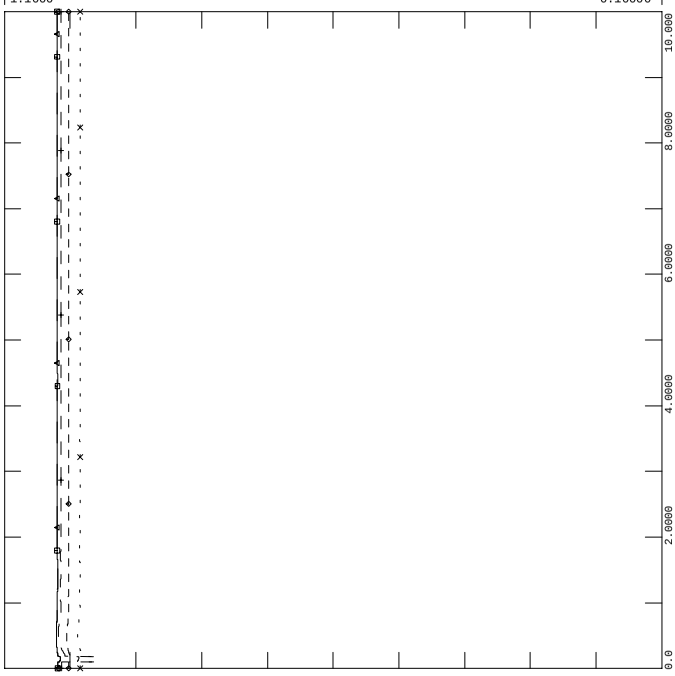
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WO_FLT51PH.OUT

FRI, MAY 21 2004 9:48

SPP:345 KV BUS VOLTAGE 1

CHNL# 150: [VOLT 51534 [TUCO7 345.00]]
CHNL# 147: [VOLT 51440 [TOLK7 345.00]]
CHNL# 39: [VOLT 50888 [POTTRC7 345.00]]
CHNL# 37: [VOLT 50858 [FINNEY7 345.00]]
CHNL# 35: [VOLT 56449 [HOLCOMB7345.00]]

1.1000 0.10000



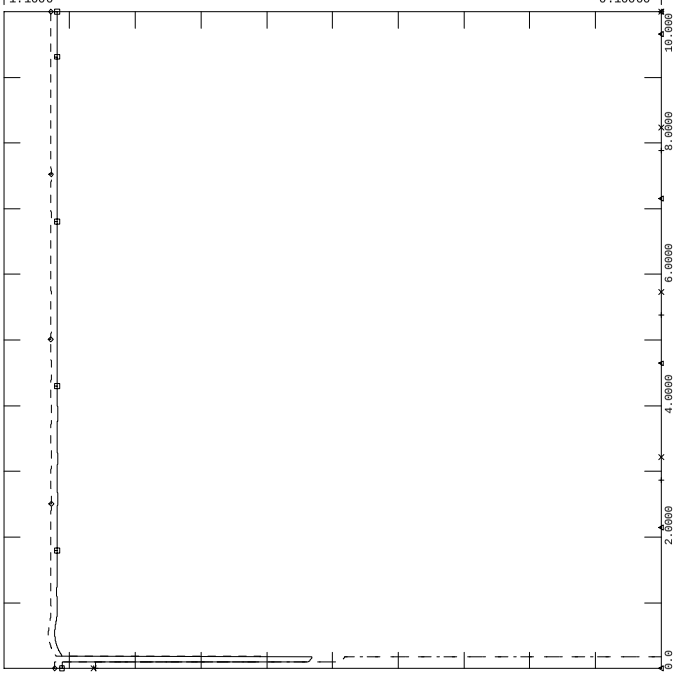
CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WO_FLT51PH.OUT

FRI, MAY 21 2004 9:49

SPP:115 KV BUS VOLTAGE 3

CHNL# 260: [VOLT 51076 [FE-TUCUM 115.0]]
CHNL# 258: [VOLT 51070 [TUCUMCAR 115.0]]
CHNL# 141: [VOLT 51206 [CLOVISS 115.00]]
CHNL# 305: [ANGL 51202 [ROOOSEVL 115.0]]
CHNL# 105: [VOLT 51176 [CURRY3 115.00]]

1.1000 0.10000

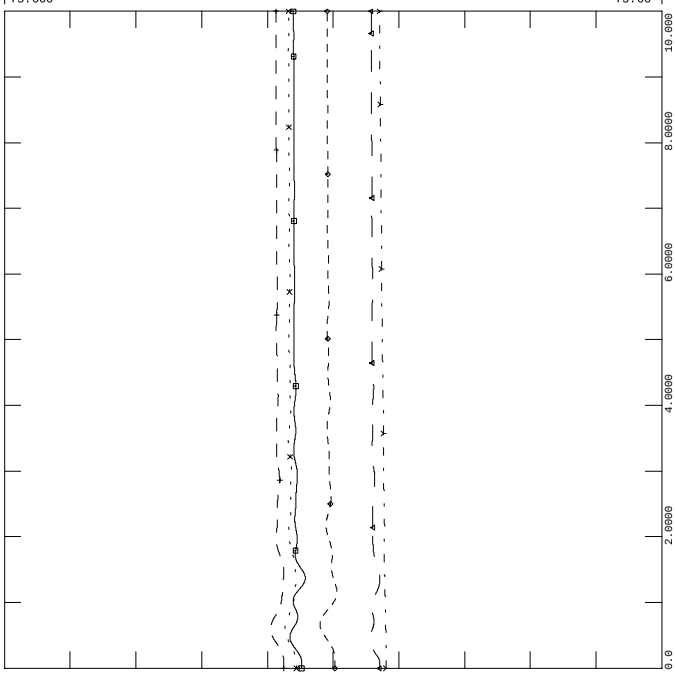


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WO_FLT51PH.OUT

FRI, MAY 21 2004 9:49 7

SPP: ROTOR ANGLE

CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]]
CHNL# 55: [ANGL 52212 [CUNN21 20.000] [1]]
CHNL# 54: [ANGL 51973 [MUSTG#3122.000] [1]]
CHNL# 53: [ANGL 51971 [MUSTG#1113.800] [1]]
CHNL# 52: [ANGL 51424 [PLANTX4 20.000] [1]]
CHNL# 51: [ANGL 51423 [PLANTX3 13.800] [1]]

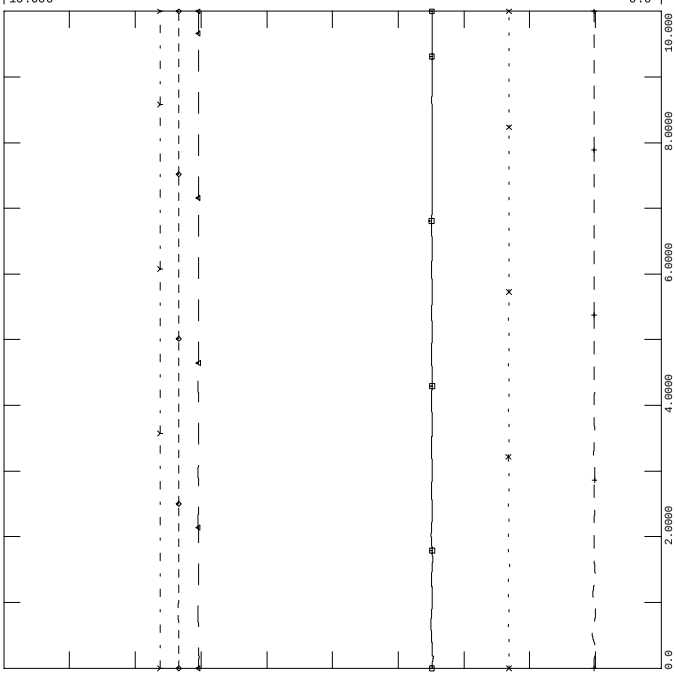


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WO_FLT51PH.OUT

FRI, MAY 21 2004 9:49 9

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
CHNL# 61: [POWR 50913 [NICHOL3 22.000] [1]]
CHNL# 60: [POWR 50912 [NICHOL2 13.800] [1]]
CHNL# 196: [POWR 64106 [GENTLM2G23.400] [2]]
CHNL# 11: [POWR 64105 [GENTLM1G22.400] [1]]
CHNL# 10: [POWR 56447 [HOLCGEN122.000] [1]]

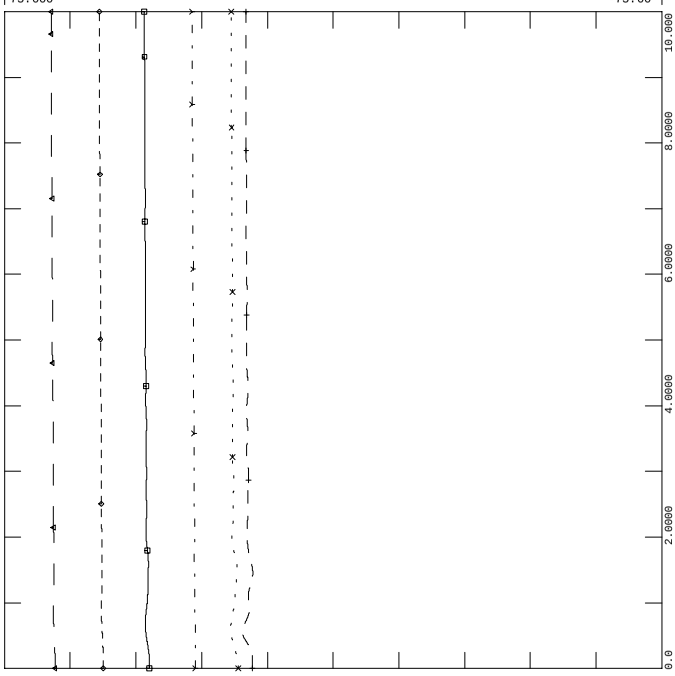


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WO_FLT51PH.OUT

FRI, MAY 21 2004 9:49 5

SPP: ROTOR ANGLE

CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]]
CHNL# 50: [ANGL 50913 [NICHOL3 22.000] [1]]
CHNL# 49: [ANGL 50912 [NICHOL2 13.800] [1]]
CHNL# 195: [ANGL 64106 [GENTLM2G23.400] [2]]
CHNL# 5: [ANGL 64105 [GENTLM1G22.400] [1]]
CHNL# 4: [ANGL 56447 [HOLCGEN122.000] [1]]

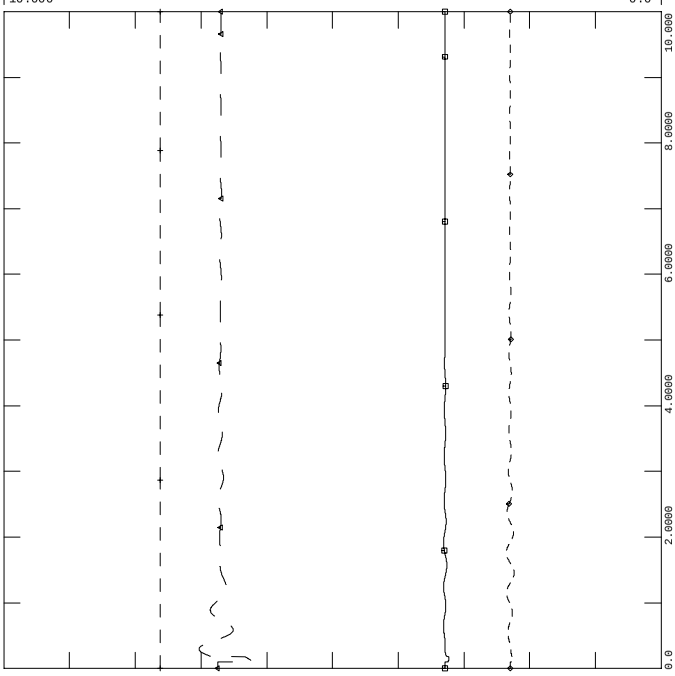


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WO_FLT51PH.OUT

FRI, MAY 21 2004 9:49 8

SPP: PELEC

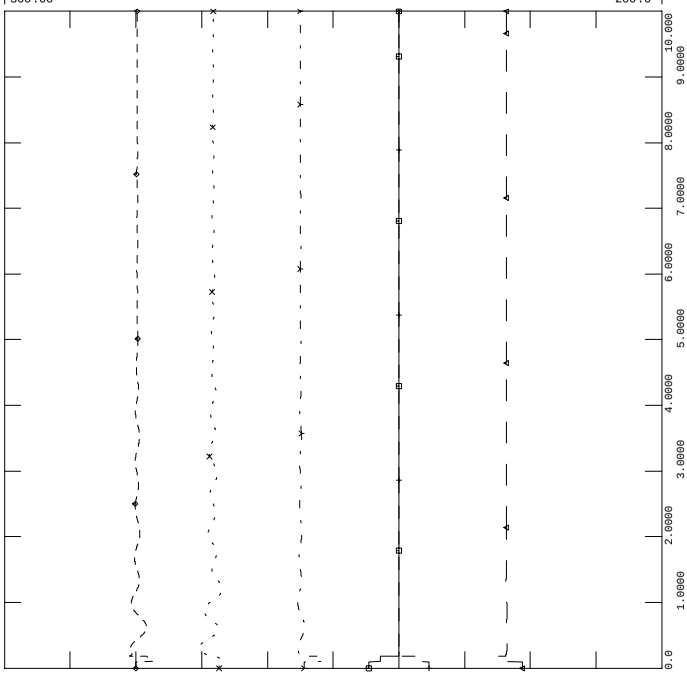
CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
CHNL# 9: [POWR 51701 [JONES11 22.000] [1]]
CHNL# 8: [POWR 51441 [TOLK1 24.000] [1]]
CHNL# 7: [POWR 50891 [HARRNG1 24.000] [1]]



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WO_FLT51PH.OUT

9:49 11
FRI, MAY 21 2004
BRANCH FLOW

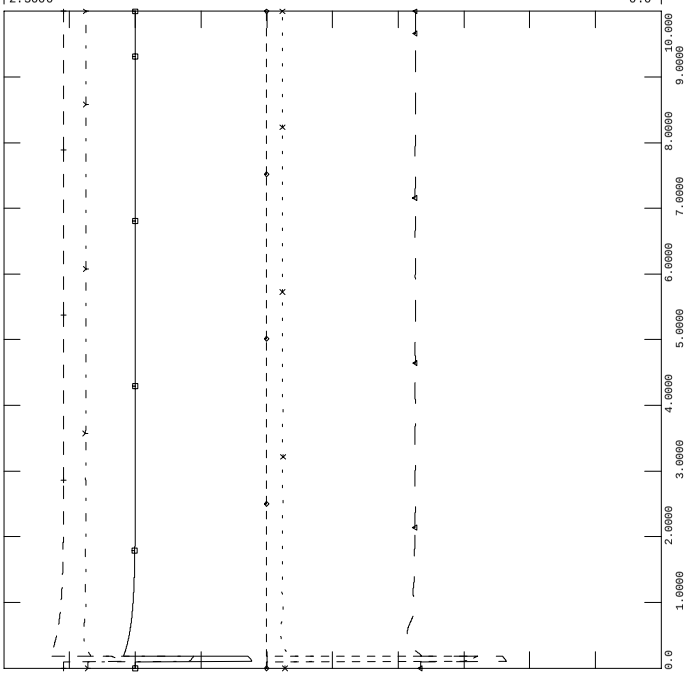
CHNL# 97: [POWR 51195 TO 52073 CKT 1]
300.00 -200.0
CHNL# 316: [POWR 51435 TO 51533 CKT 1]
300.00 -200.0
CHNL# 314: [POWR 99991 TO 51176 CKT 1]
300.00 -200.0
CHNL# 312: [POWR 51440 TO 52186 CKT 1]
300.00 -200.0
CHNL# 310: [POWR 51176 TO 51206 CKT 2]
300.00 -200.0
CHNL# 306: [POWR 99991 TO 51076 CKT 1]
300.00 -200.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WO_FLT51PH.OUT

9:49 13
FRI, MAY 21 2004
DC LINE PNM

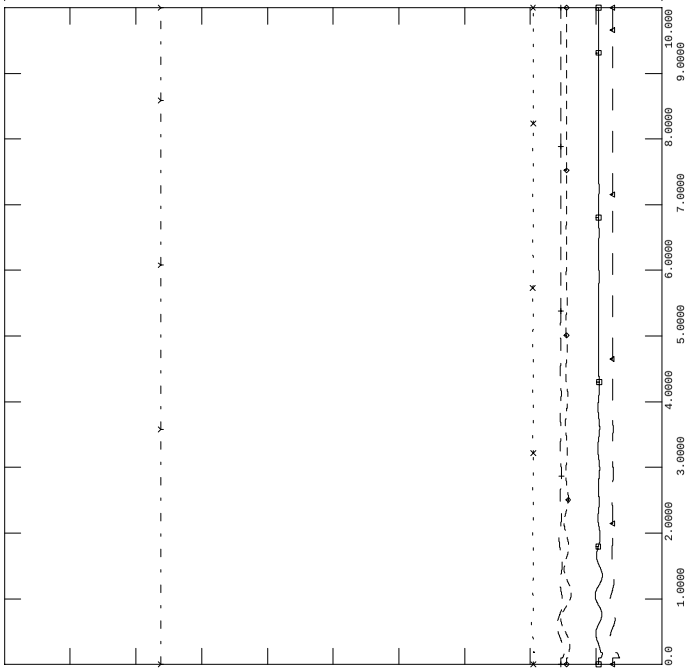
CHNL# 207: [VOLT 59995 [BLKWDC 230.00]]
1.1000 0.10000
CHNL# 193: [DC LINE #2: ALPHA]
100.00 -100.0
CHNL# 192: [DC LINE #2: DC CURRENT]
4000.0 0.0
CHNL# 191: [DC LINE #2: VDCR]
65000. 40000.
CHNL# 187: [DC LINE #2: QACR]
2.5000 0.0
CHNL# 186: [DC LINE #2: PACR]
2.5000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WO_FLT51PH.OUT

9:49 10
FRI, MAY 21 2004
SPP: PELEC

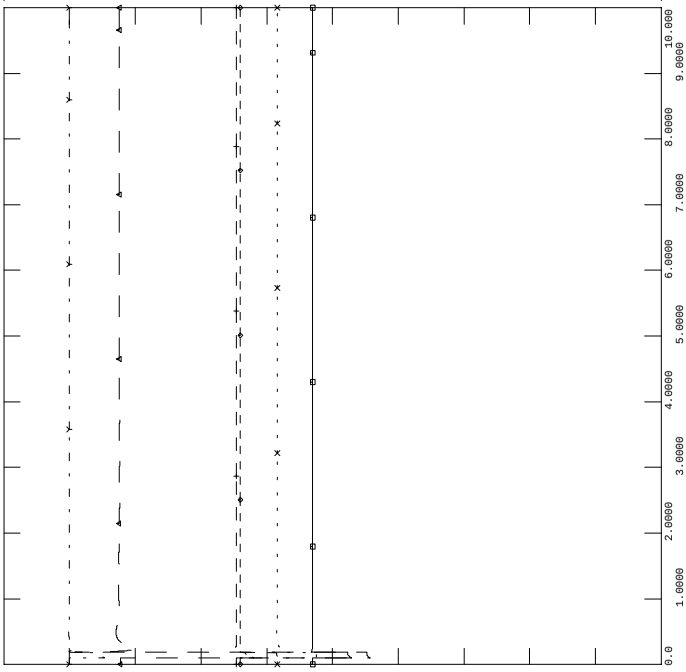
CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
10.000 0.0
CHNL# 66: [POWR 52212 [CUNN21 20.000] [1]]
10.000 0.0
CHNL# 65: [POWR 51973 [MUSTG#3122.000] [1]]
10.000 0.0
CHNL# 64: [POWR 51971 [MUSTG#1113.800] [1]]
10.000 0.0
CHNL# 63: [POWR 51424 [PLANTX4 20.000] [1]]
10.000 0.0
CHNL# 62: [POWR 51423 [PLANTX3 13.800] [1]]
10.000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WO_FLT51PH.OUT

9:49 12
FRI, MAY 21 2004
DC LINE EPE

CHNL# 208: [VOLT 59996 [EPEDC 230.00]]
1.1000 0.10000
CHNL# 184: [DC LINE #1: ALFA]
100.00 -100.0
CHNL# 183: [DC LINE #1: DC CURRENT]
1000.0 0.0
CHNL# 182: [DC LINE #1: VDCR]
1.0000E5 50000.
CHNL# 178: [DC LINE #1: QACR]
0.25000 0.0
CHNL# 177: [DC LINE #1: PACR]
1.0000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE

15

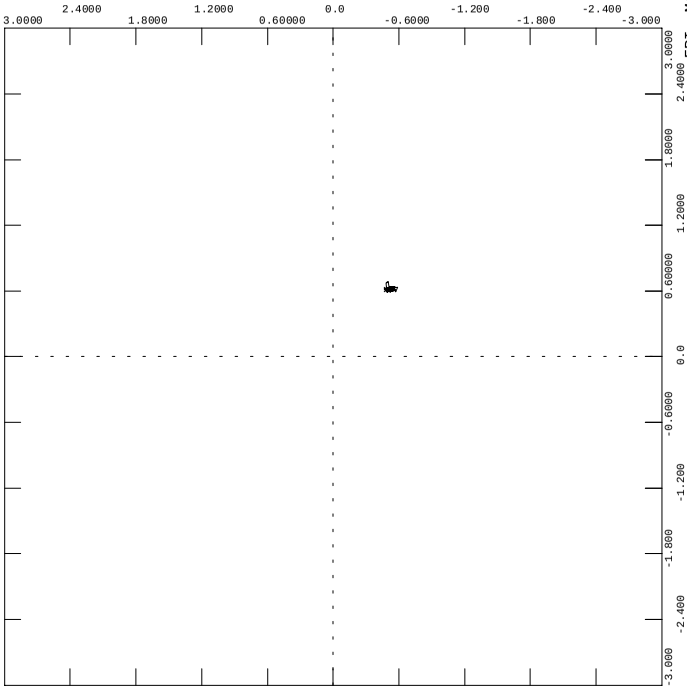
FRI, MAY 21 2004 9:49

POTTER-FINNEY

FILE: WO_FLT51PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25

CHNL# 116: [APPX 50858 TO 50888 CKT 1]



CHNL# 115: [APPR 50858 TO 50888 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE

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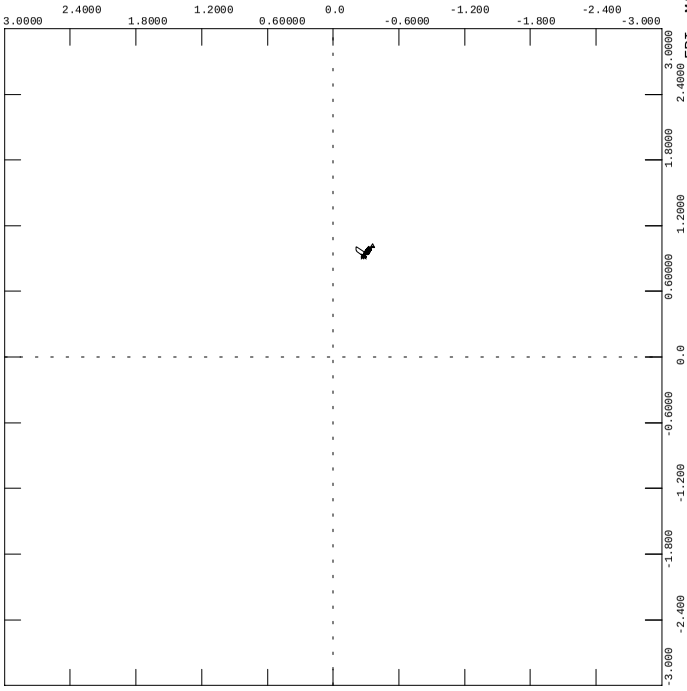
FRI, MAY 21 2004 9:49

FINNEY-HOLCOMB

FILE: WO_FLT51PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25

CHNL# 114: [APPX 56449 TO 50858 CKT 1]



CHNL# 113: [APPR 56449 TO 50858 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT51PH: SLG FAULT ON CURRY-CAPROCK 115 KV LINE
5 CY AT CURRY, DISCT LINE, NO RECLOSE
FILE: WO_FLT51PH.OUT

16

FRI, MAY 21 2004 9:49

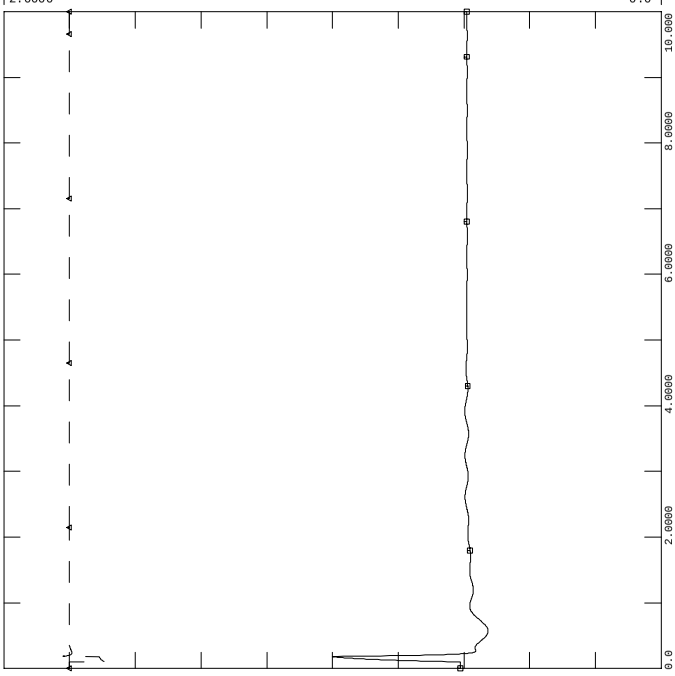
SVC OUTPUT

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]

1.1000 0.10000

CHNL# 117: [BUS 52185 SVC OUTPUT]

2.0000 0.0

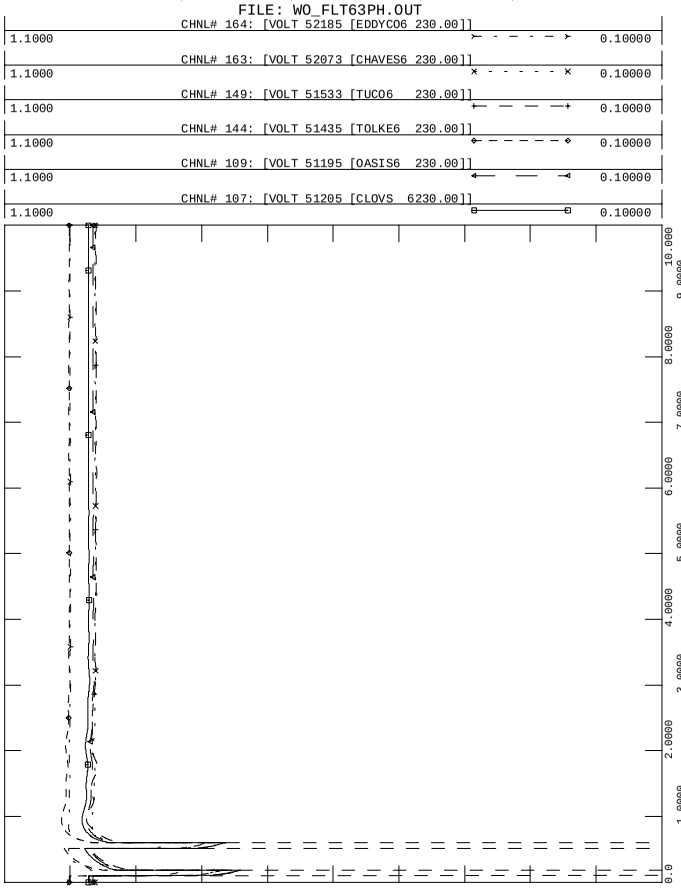


TIME (SECONDS)

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT63PH.OUT

FRI, MAY 21 2004 9:49

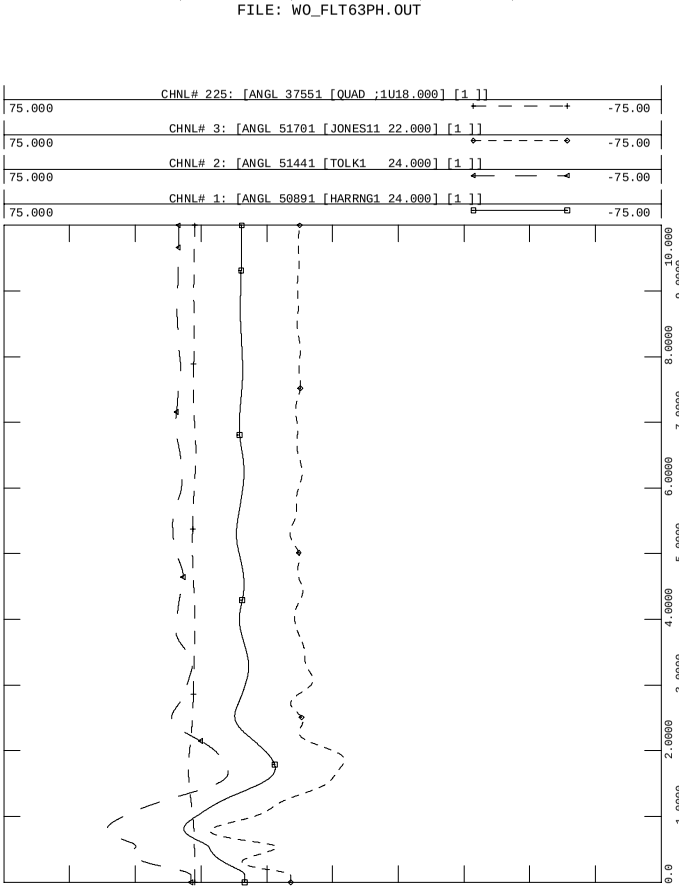
SPP:230 KV BUS VOLTAGE 2



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT63PH.OUT

FRI, MAY 21 2004 9:49

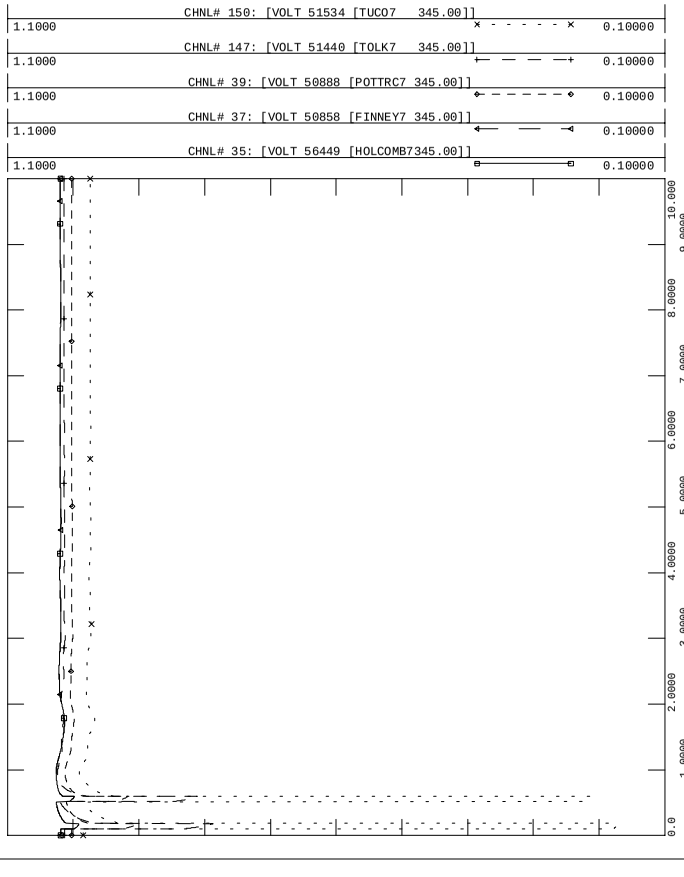
SPP: ROTOR ANGLE 4



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT63PH.OUT

FRI, MAY 21 2004 9:49

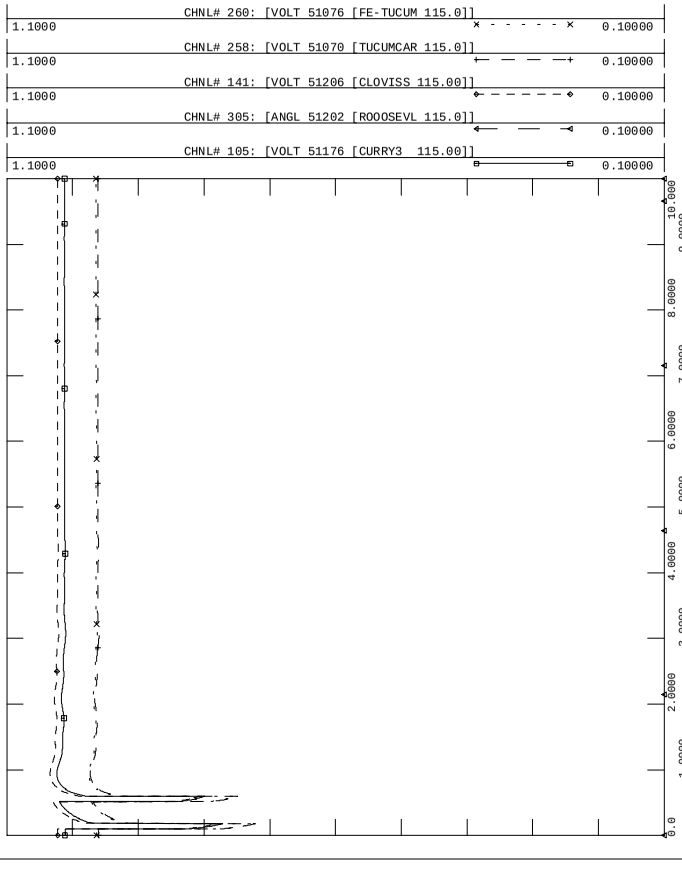
SPP:345 KV BUS VOLTAGE 1



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT63PH.OUT

FRI, MAY 21 2004 9:49

SPP:115 KV BUS VOLTAGE 3

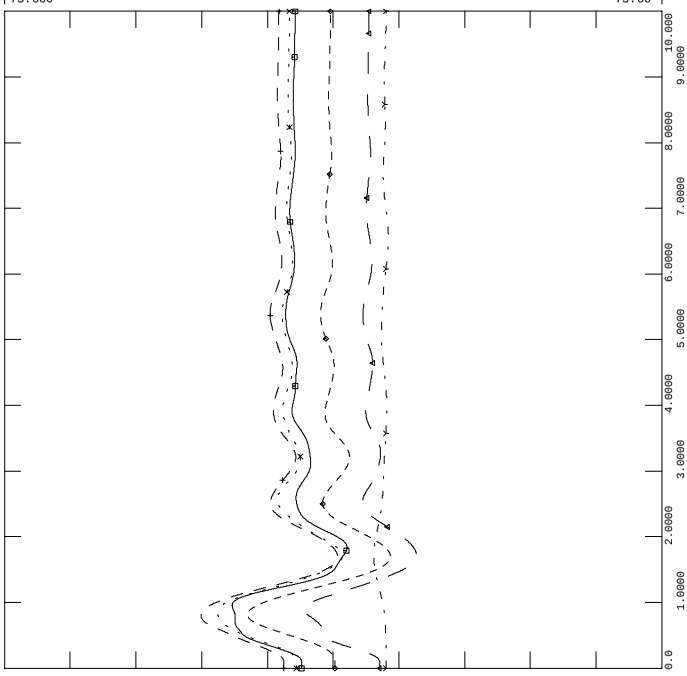


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT63PH.OUT

FRI, MAY 21 2004 9:49 7

SPP: ROTOR ANGLE

CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]]
CHNL# 55: [ANGL 52212 [CUNN21 20.000] [1]]
CHNL# 54: [ANGL 51973 [MUSTG#3122.000] [1]]
CHNL# 53: [ANGL 51971 [MUSTG#1113.800] [1]]
CHNL# 52: [ANGL 51424 [PLANTX4 20.000] [1]]
CHNL# 51: [ANGL 51423 [PLANTX3 13.800] [1]]

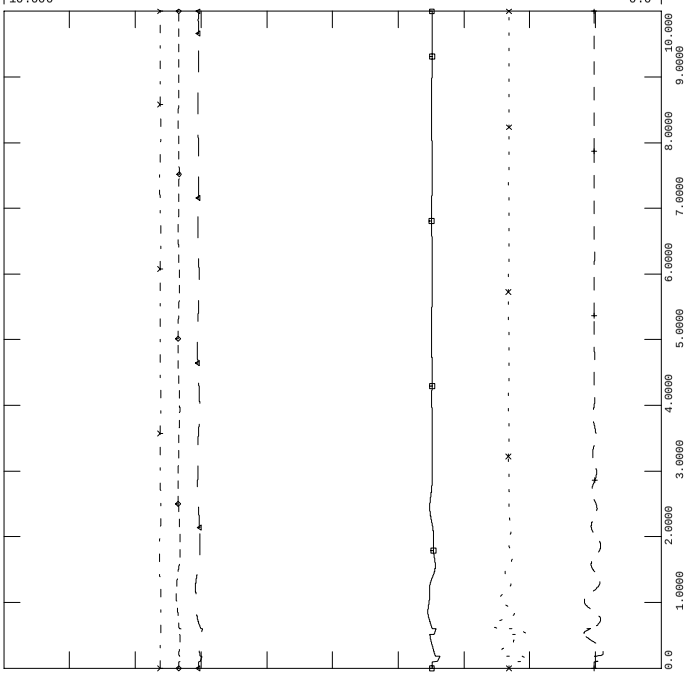


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT63PH.OUT

FRI, MAY 21 2004 9:49 9

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
CHNL# 61: [POWR 50913 [NICHOL3 22.000] [1]]
CHNL# 60: [POWR 50912 [NICHOL2 13.800] [1]]
CHNL# 196: [POWR 64106 [GENTLM2G23.400] [2]]
CHNL# 11: [POWR 64105 [GENTLM1G22.400] [1]]
CHNL# 10: [POWR 56447 [HOLCGEN122.000] [1]]

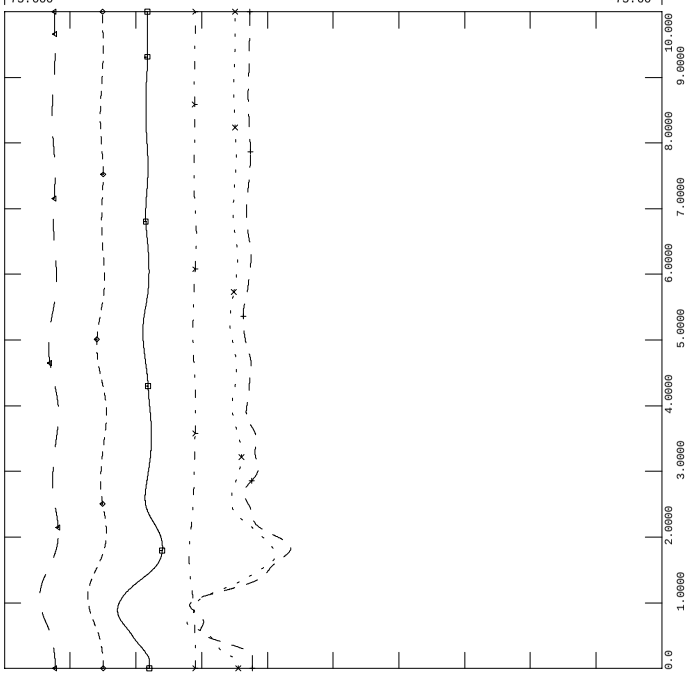


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT63PH.OUT

FRI, MAY 21 2004 9:49 5

SPP: ROTOR ANGLE

CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]]
CHNL# 50: [ANGL 50913 [NICHOL3 22.000] [1]]
CHNL# 49: [ANGL 50912 [NICHOL2 13.800] [1]]
CHNL# 195: [ANGL 64106 [GENTLM2G23.400] [2]]
CHNL# 5: [ANGL 64105 [GENTLM1G22.400] [1]]
CHNL# 4: [ANGL 56447 [HOLCGEN122.000] [1]]

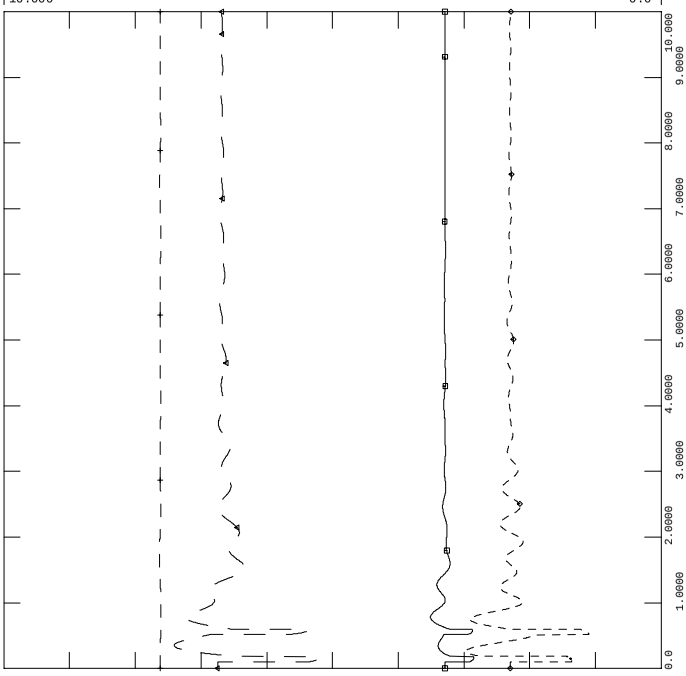


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT63PH.OUT

FRI, MAY 21 2004 9:49 8

SPP: PELEC

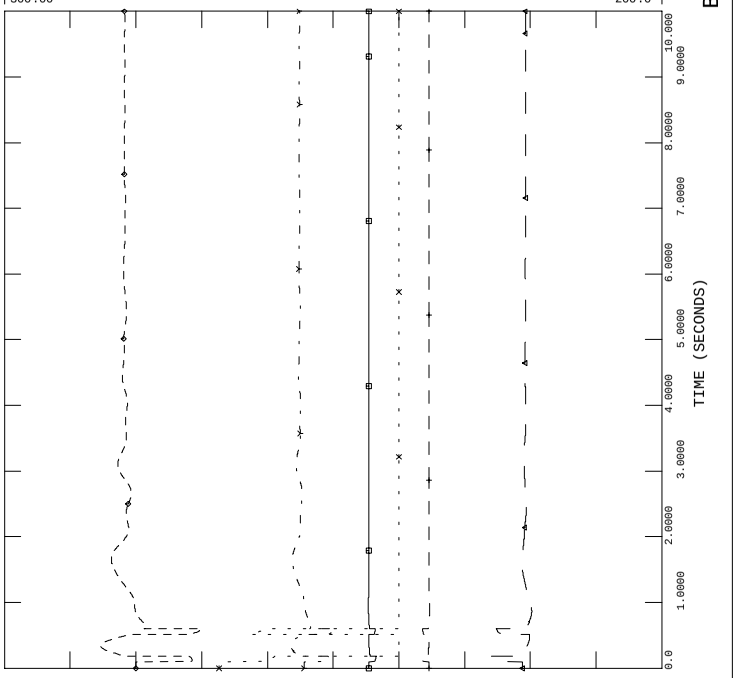
CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
CHNL# 9: [POWR 51701 [JONES11 22.000] [1]]
CHNL# 8: [POWR 51441 [TOLK1 24.000] [1]]
CHNL# 7: [POWR 50891 [HARRNG1 24.000] [1]]



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT63PH.OUT

9:49 11
FRI, MAY 21 2004
BRANCH FLOW

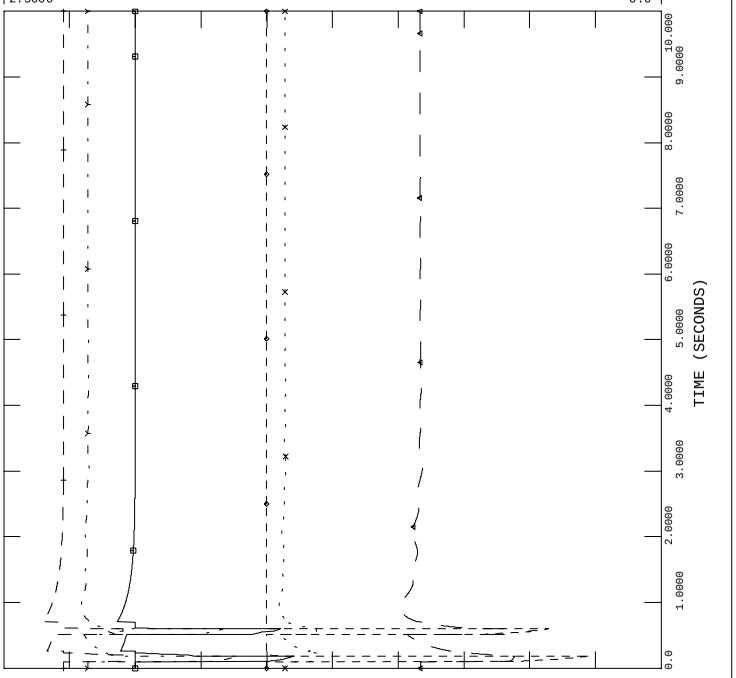
CHNL# 97: [POWR 51195 TO 52073 CKT 1] 300.00 -200.0
CHNL# 316: [POWR 51435 TO 51533 CKT 1] 300.00 -200.0
CHNL# 314: [POWR 99991 TO 51176 CKT 1] 300.00 -200.0
CHNL# 312: [POWR 51440 TO 52186 CKT 1] 300.00 -200.0
CHNL# 310: [POWR 51176 TO 51206 CKT 2] 300.00 -200.0
CHNL# 306: [POWR 99991 TO 51076 CKT 1] 300.00 -200.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT63PH.OUT

9:49 13
FRI, MAY 21 2004
DC LINE PNM

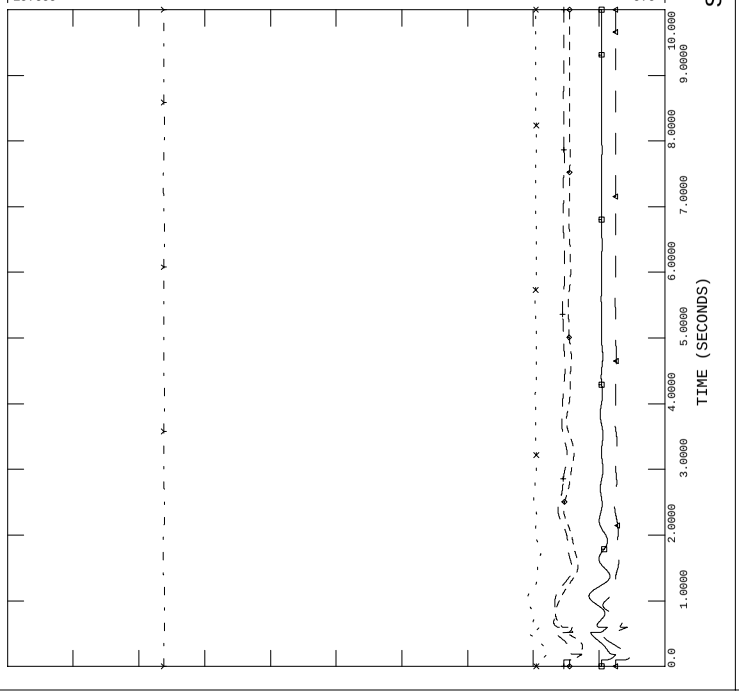
CHNL# 207: [VOLT 59995 [BLKWDC 230.00]] 1.1000 0.10000
CHNL# 193: [DC LINE #2: ALPHA] 100.00 -100.0
CHNL# 192: [DC LINE #2: DC CURRENT] 4000.0 0.0
CHNL# 191: [DC LINE #2: VDCR] 65000. 40000.
CHNL# 187: [DC LINE #2: QACR] 2.5000 0.0
CHNL# 186: [DC LINE #2: PACR] 2.5000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT63PH.OUT

9:49 10
FRI, MAY 21 2004
SPP: PELEC

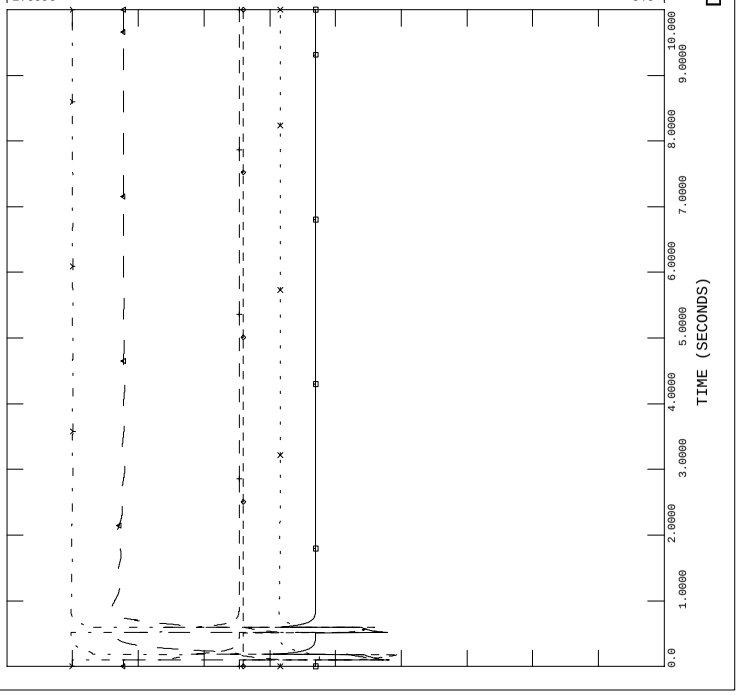
CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]] 10.000 0.0
CHNL# 66: [POWR 52212 [CUNN21 20.000] [1]] 10.000 0.0
CHNL# 65: [POWR 51973 [MUSTG#3122.000] [1]] 10.000 0.0
CHNL# 64: [POWR 51971 [MUSTG#1113.800] [1]] 10.000 0.0
CHNL# 63: [POWR 51424 [PLANTX4 20.000] [1]] 10.000 0.0
CHNL# 62: [POWR 51423 [PLANTX3 13.800] [1]] 10.000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT63PH.OUT

9:49 12
FRI, MAY 21 2004
DC LINE EPE

CHNL# 208: [VOLT 59996 [EPEDC 230.00]] 1.1000 0.10000
CHNL# 184: [DC LINE #1: ALFA] 100.00 -100.0
CHNL# 183: [DC LINE #1: DC CURRENT] 1000.0 0.0
CHNL# 182: [DC LINE #1: VDCR] 1.0000E5 50000.
CHNL# 178: [DC LINE #1: QACR] 0.25000 0.0
CHNL# 177: [DC LINE #1: PACR] 1.0000 0.0

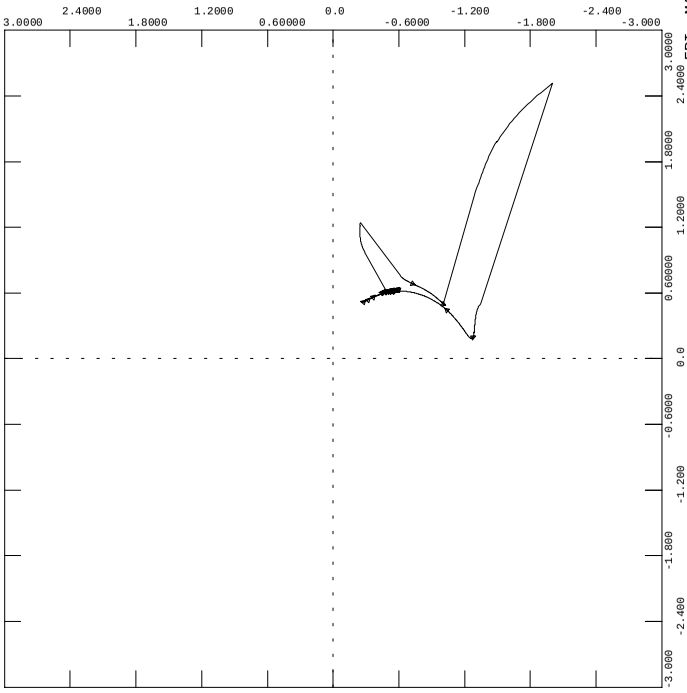


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

15

FILE: WO_FLT63PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 116: [APPX 50858 TO 50888 CKT 1]



FRI, MAY 21 2004 9:49 POTTER-FINNEY

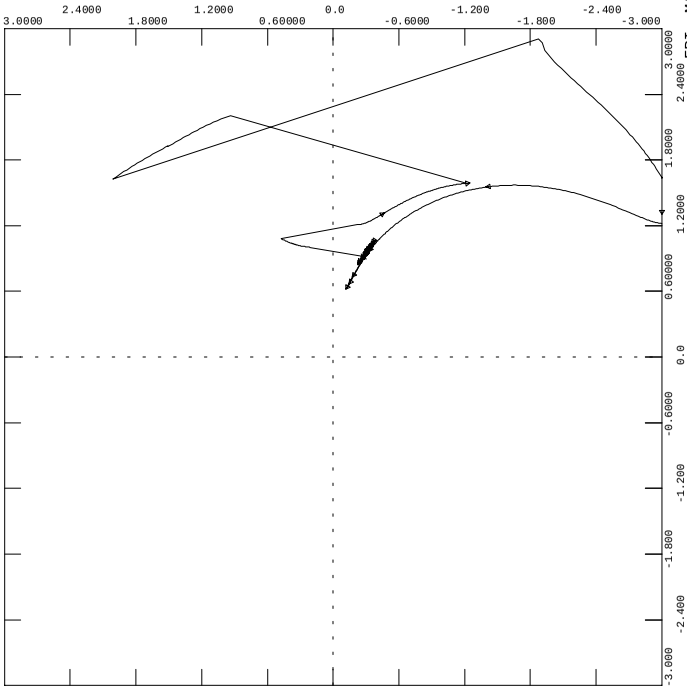
CHNL# 115: [APPR 50858 TO 50888 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

14

FILE: WO_FLT63PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 114: [APPX 56449 TO 50858 CKT 1]



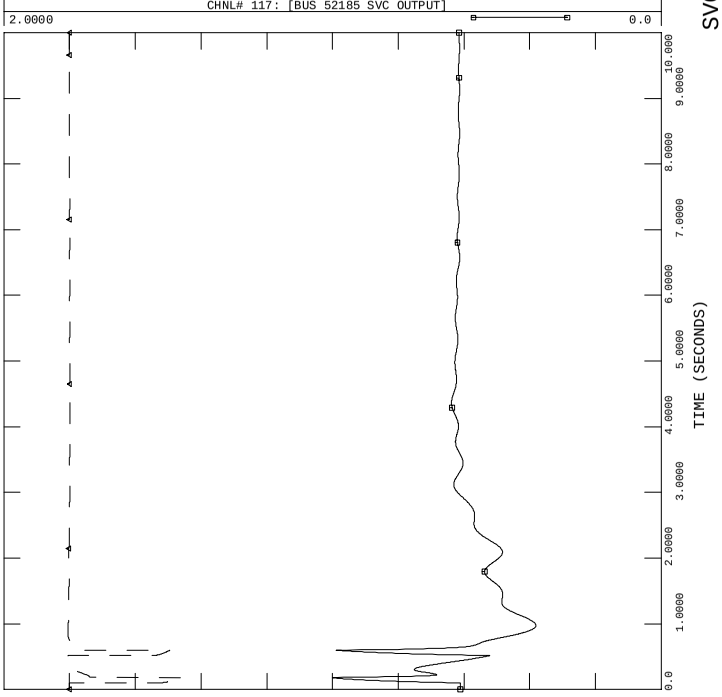
FRI, MAY 21 2004 9:49 FINNEY-HOLCOMB

CHNL# 113: [APPR 56449 TO 50858 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT63PH: THREE PHASE FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT63PH.OUT

16

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]
1.1000 0.10000
CHNL# 117: [BUS 52185 SVC OUTPUT]
2.0000 0.0



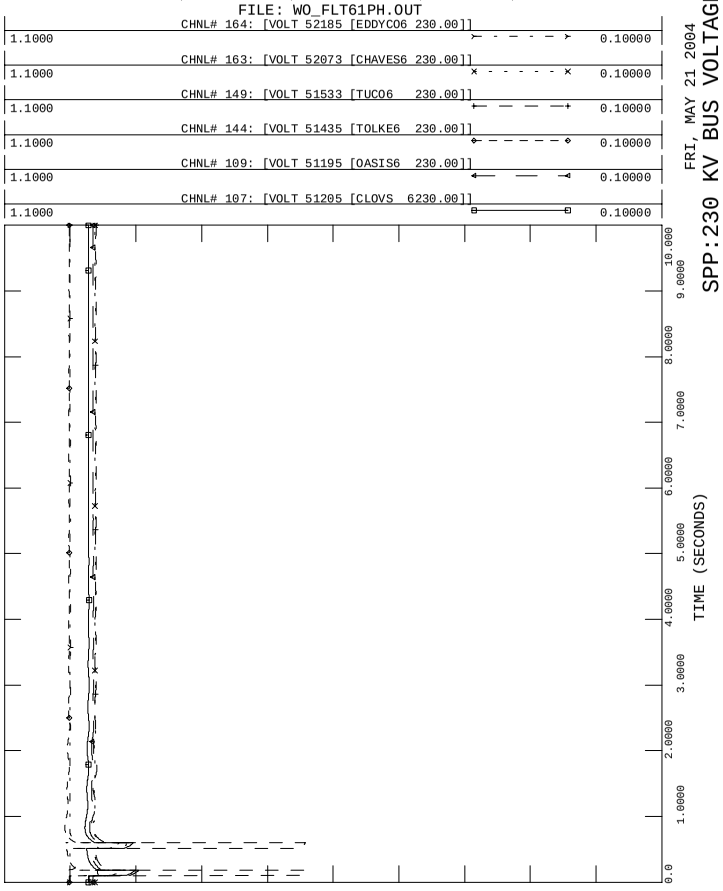
FRI, MAY 21 2004 9:49 SVC OUTPUT

TIME (SECONDS)

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT61PH.OUT

FRI, MAY 21 2004 9:49

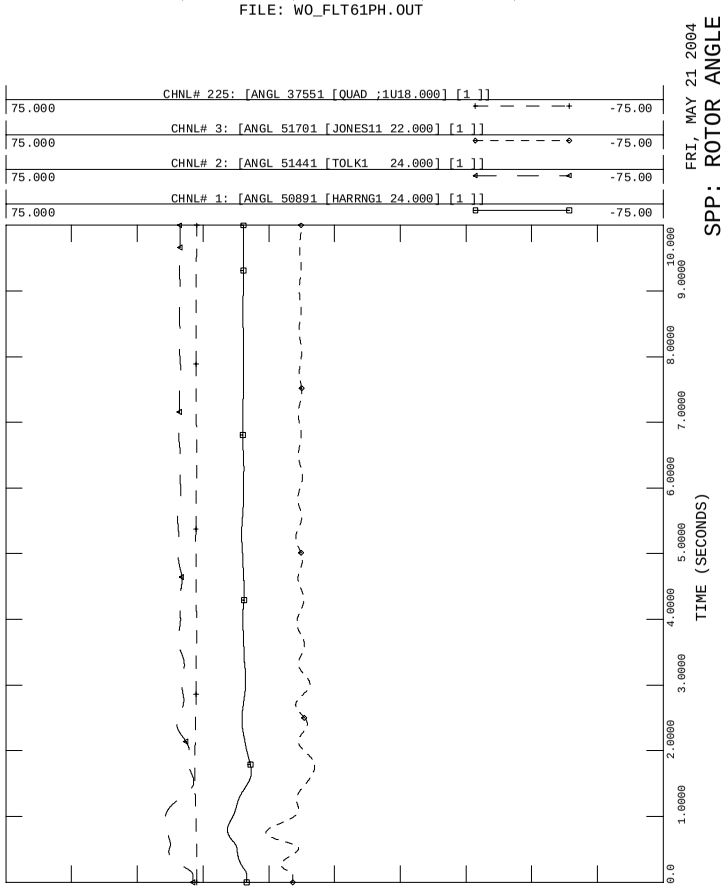
SPP:230 KV BUS VOLTAGE 2



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT61PH.OUT

FRI, MAY 21 2004 9:49

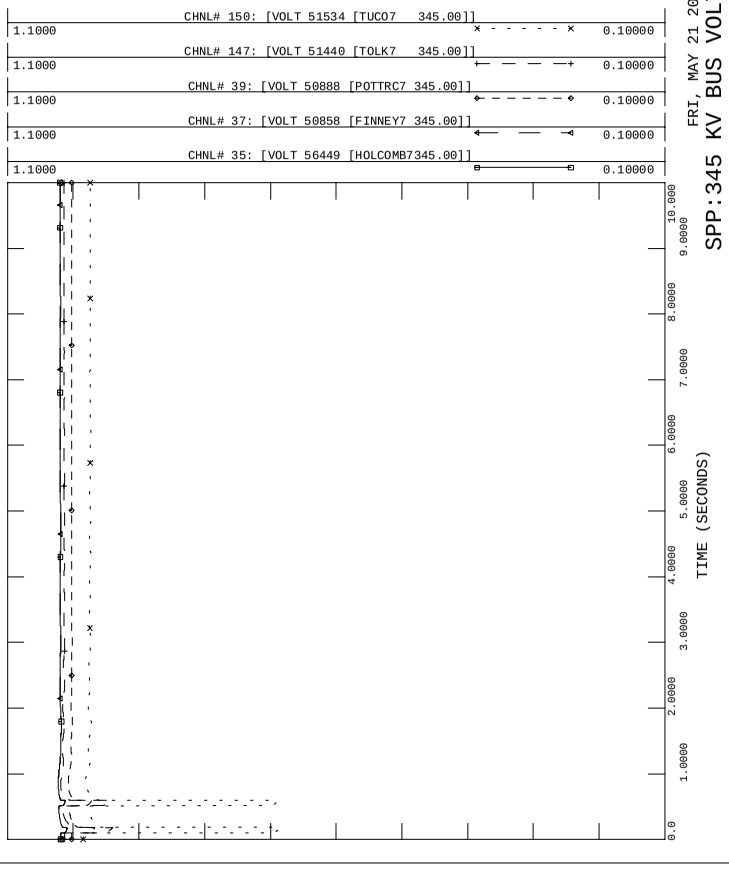
SPP: ROTOR ANGLE 4



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT61PH.OUT

FRI, MAY 21 2004 9:49

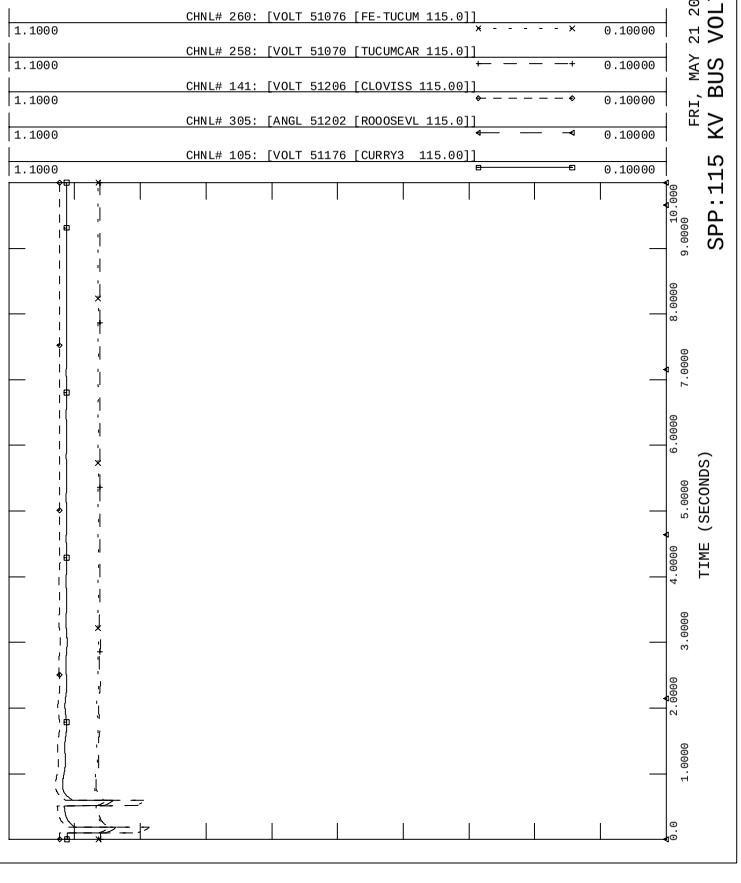
SPP:345 KV BUS VOLTAGE 1



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT61PH.OUT

FRI, MAY 21 2004 9:49

SPP:115 KV BUS VOLTAGE 3

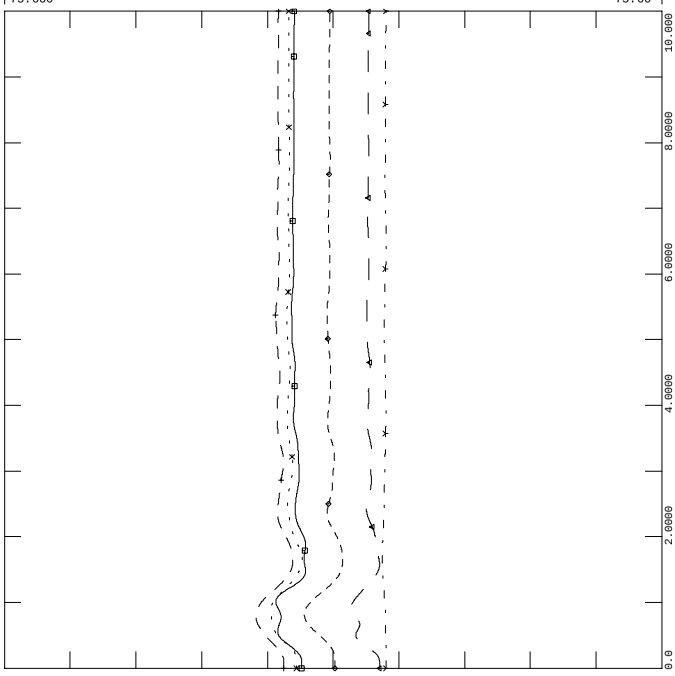


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT61PH.OUT

FRI, MAY 21 2004 9:49 7

SPP: ROTOR ANGLE

CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]]
CHNL# 55: [ANGL 52212 [CUNN21 20.000] [1]]
CHNL# 54: [ANGL 51973 [MUSTG#3122.000] [1]]
CHNL# 53: [ANGL 51971 [MUSTG#1113.800] [1]]
CHNL# 52: [ANGL 51424 [PLANTX4 20.000] [1]]
CHNL# 51: [ANGL 51423 [PLANTX3 13.800] [1]]

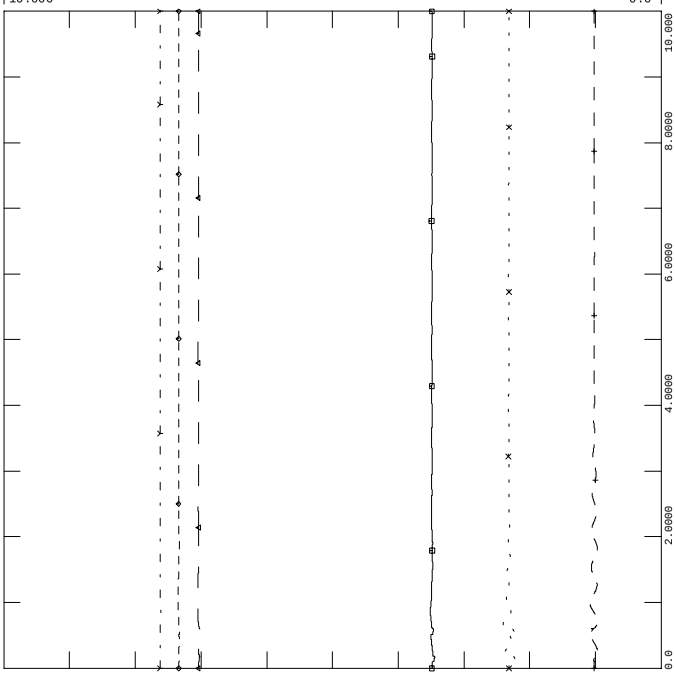


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT61PH.OUT

FRI, MAY 21 2004 9:49 9

SPP: PELEC

CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
CHNL# 61: [POWR 50913 [NICHOL3 22.000] [1]]
CHNL# 60: [POWR 50912 [NICHOL2 13.800] [1]]
CHNL# 196: [POWR 64106 [GENTLM2G23.400] [2]]
CHNL# 11: [POWR 64105 [GENTLM1G22.400] [1]]
CHNL# 10: [POWR 56447 [HOLCGEN122.000] [1]]

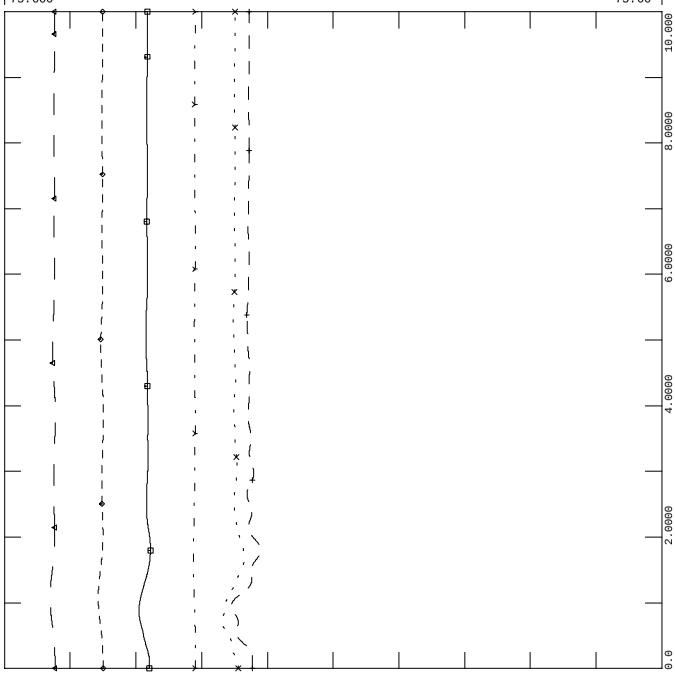


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT61PH.OUT

FRI, MAY 21 2004 9:49 5

SPP: ROTOR ANGLE

CHNL# 225: [ANGL 37551 [QUAD ;1U18.000] [1]]
CHNL# 50: [ANGL 50913 [NICHOL3 22.000] [1]]
CHNL# 49: [ANGL 50912 [NICHOL2 13.800] [1]]
CHNL# 195: [ANGL 64106 [GENTLM2G23.400] [2]]
CHNL# 5: [ANGL 64105 [GENTLM1G22.400] [1]]
CHNL# 4: [ANGL 56447 [HOLCGEN122.000] [1]]

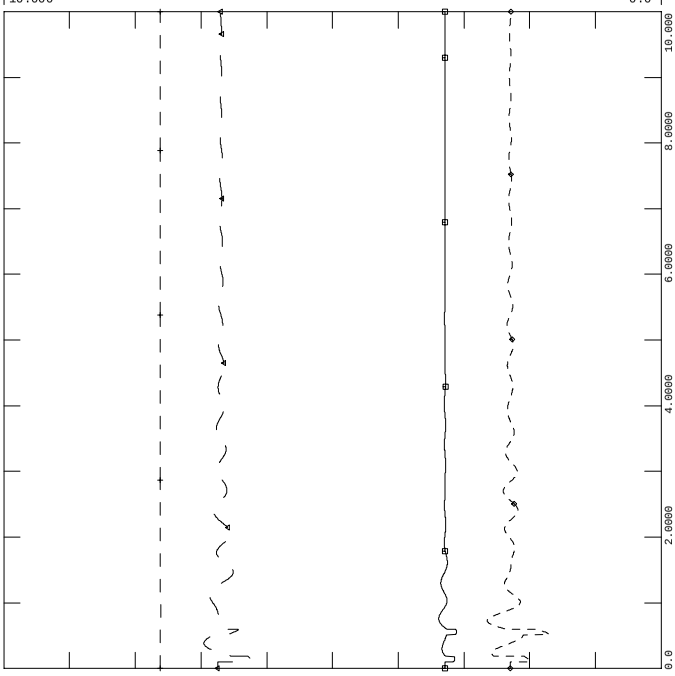


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT61PH.OUT

FRI, MAY 21 2004 9:49 8

SPP: PELEC

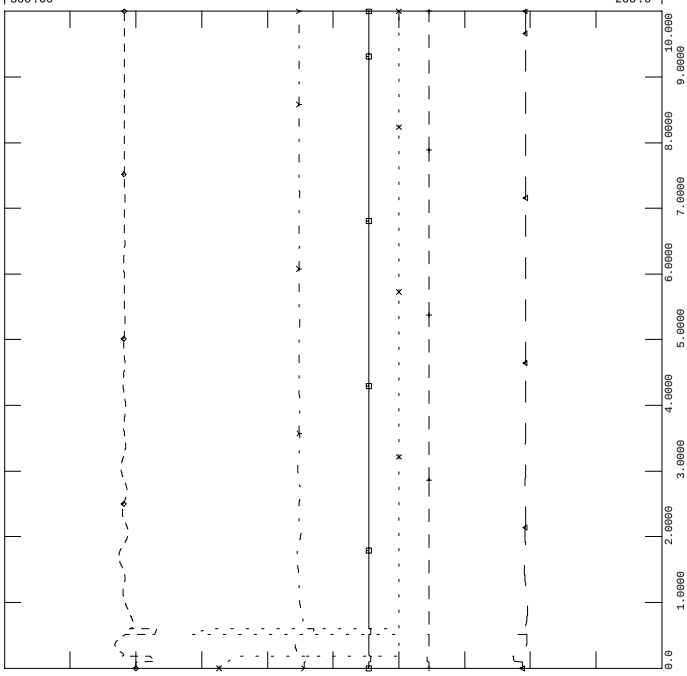
CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
CHNL# 9: [POWR 51701 [JONES11 22.000] [1]]
CHNL# 8: [POWR 51441 [TOLK1 24.000] [1]]
CHNL# 7: [POWR 50891 [HARRNG1 24.000] [1]]



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT61PH.OUT

9:49 11
FRI, MAY 21 2004
BRANCH FLOW

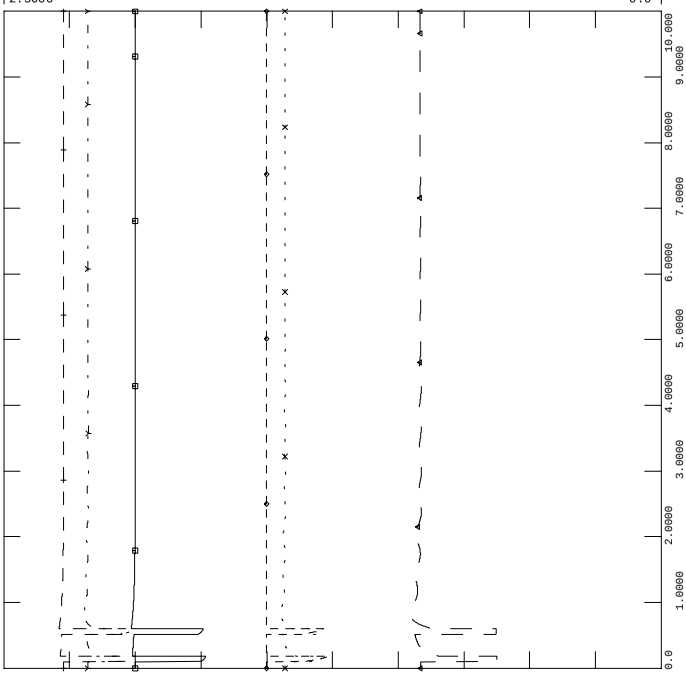
CHNL# 97: [POWR 51195 TO 52073 CKT 1]
300.00 -200.0
CHNL# 316: [POWR 51435 TO 51533 CKT 1]
300.00 -200.0
CHNL# 314: [POWR 99991 TO 51176 CKT 1]
300.00 -200.0
CHNL# 312: [POWR 51440 TO 52186 CKT 1]
300.00 -200.0
CHNL# 310: [POWR 51176 TO 51206 CKT 2]
300.00 -200.0
CHNL# 306: [POWR 99991 TO 51076 CKT 1]
300.00 -200.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT61PH.OUT

9:49 13
FRI, MAY 21 2004
DC LINE PNM

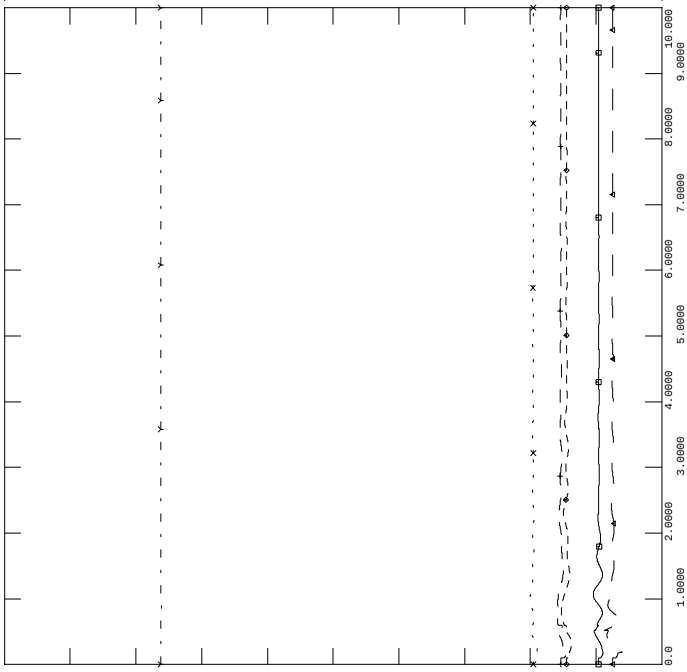
CHNL# 207: [VOLT 59995 [BLKWDC 230.00]]
1.1000 0.10000
CHNL# 193: [DC LINE #2: ALPHA]
100.00 -100.0
CHNL# 192: [DC LINE #2: DC CURRENT]
4000.0 0.0
CHNL# 191: [DC LINE #2: VDCR]
65000. 40000.
CHNL# 187: [DC LINE #2: QACR]
2.5000 0.0
CHNL# 186: [DC LINE #2: PACR]
2.5000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT61PH.OUT

9:49 10
FRI, MAY 21 2004
SPP: PELEC

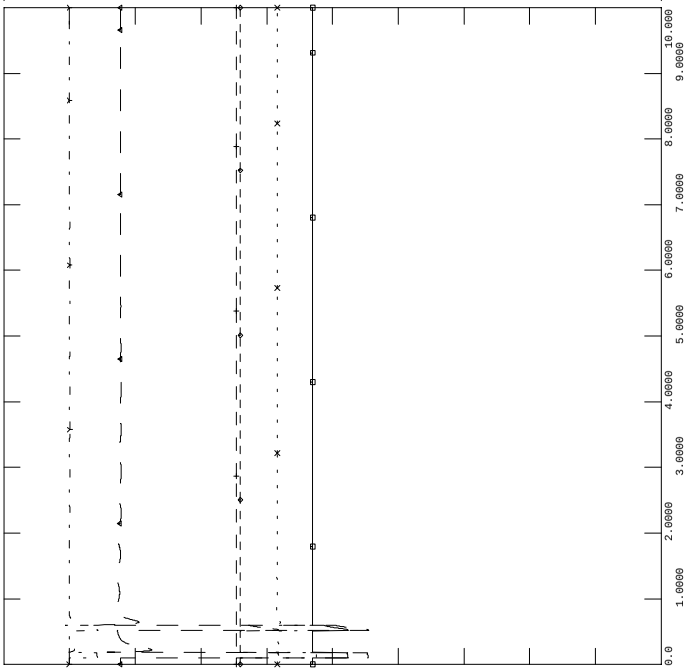
CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
10.000 0.0
CHNL# 66: [POWR 52212 [CUNN21 20.000] [1]]
10.000 0.0
CHNL# 65: [POWR 51973 [MUSTG#3122.000] [1]]
10.000 0.0
CHNL# 64: [POWR 51971 [MUSTG#1113.800] [1]]
10.000 0.0
CHNL# 63: [POWR 51424 [PLANTX4 20.000] [1]]
10.000 0.0
CHNL# 62: [POWR 51423 [PLANTX3 13.800] [1]]
10.000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT61PH.OUT

9:49 12
FRI, MAY 21 2004
DC LINE EPE

CHNL# 208: [VOLT 59996 [EPEDC 230.00]]
1.1000 0.10000
CHNL# 184: [DC LINE #1: ALFA]
100.00 -100.0
CHNL# 183: [DC LINE #1: DC CURRENT]
1000.0 0.0
CHNL# 182: [DC LINE #1: VDCR]
1.0000E5 50000.
CHNL# 178: [DC LINE #1: QACR]
0.25000 0.0
CHNL# 177: [DC LINE #1: PACR]
1.0000 0.0

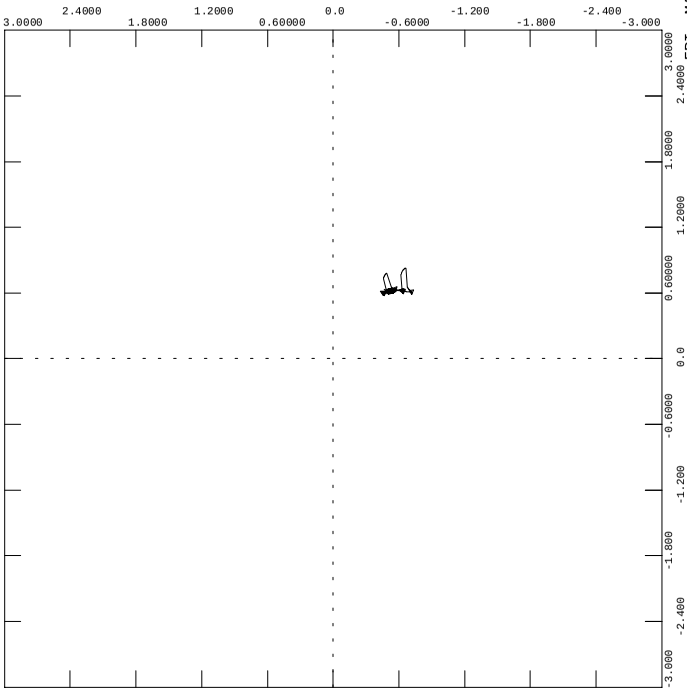


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

15

FILE: WO_FLT61PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 116: [APPX 50858 TO 50888 CKT 1]



FRI, MAY 21 2004 9:49 POTTER-FINNEY

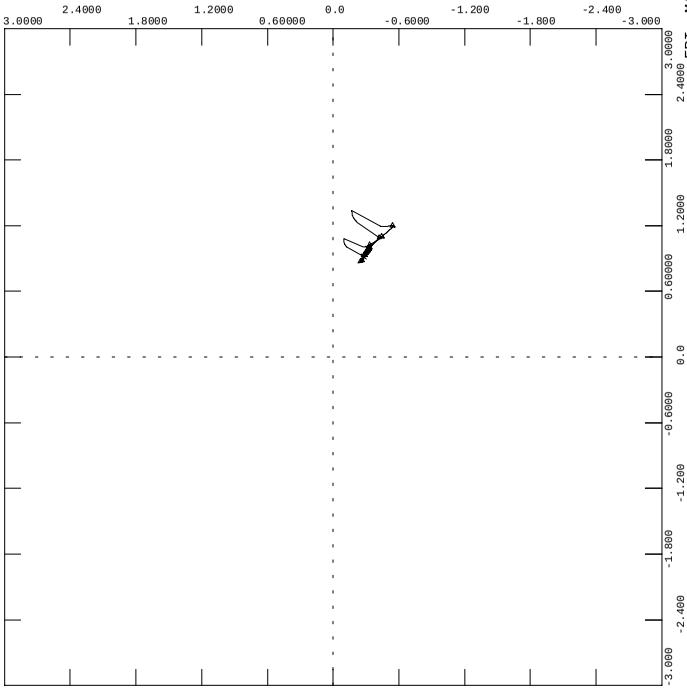
CHNL# 115: [APPR 50858 TO 50888 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

14

FILE: WO_FLT61PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 114: [APPX 56449 TO 50858 CKT 1]



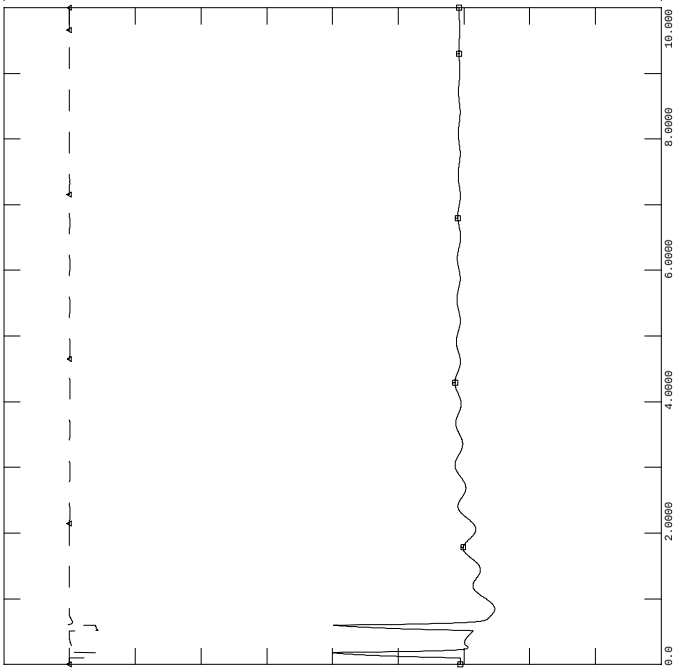
FRI, MAY 21 2004 9:49 FINNEY-HOLCOMB

CHNL# 113: [APPR 56449 TO 50858 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT61PH: SLG FAULT ON TOLK-TUCO 230 KV LINE
5 CY AT TUCO, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT61PH.OUT

16

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]
1.1000 0.10000
CHNL# 117: [BUS 52185 SVC OUTPUT]
2.0000 0.0



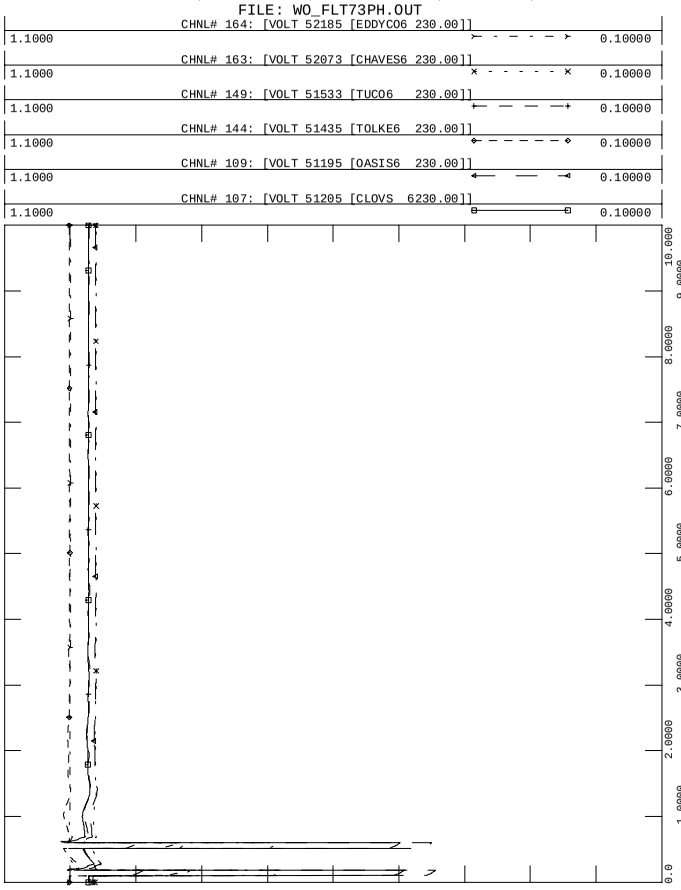
FRI, MAY 21 2004 9:49 SVC OUTPUT

TIME (SECONDS)

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT73PH.OUT

FRI, MAY 21 2004 9:49

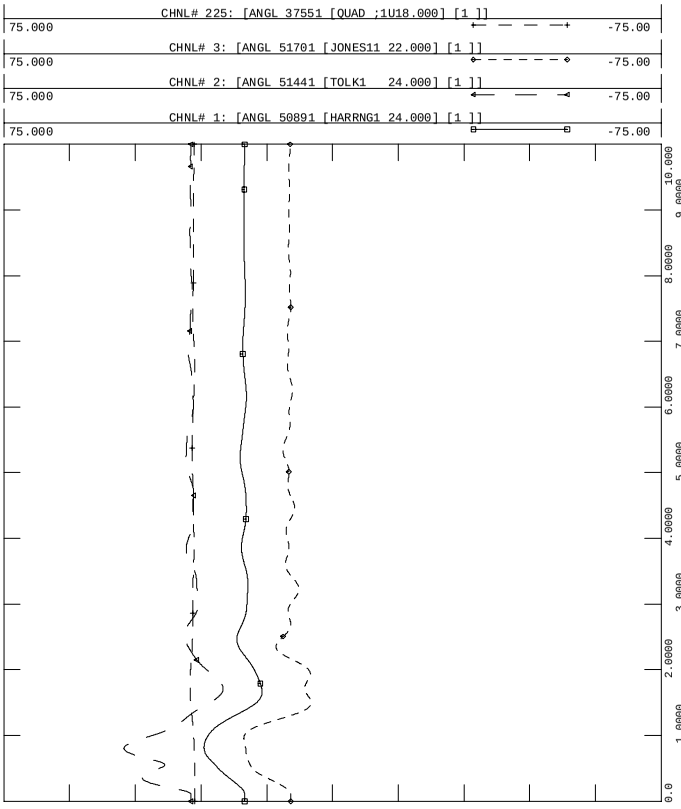
SPP:230 KV BUS VOLTAGE 2



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT73PH.OUT

FRI, MAY 21 2004 9:49

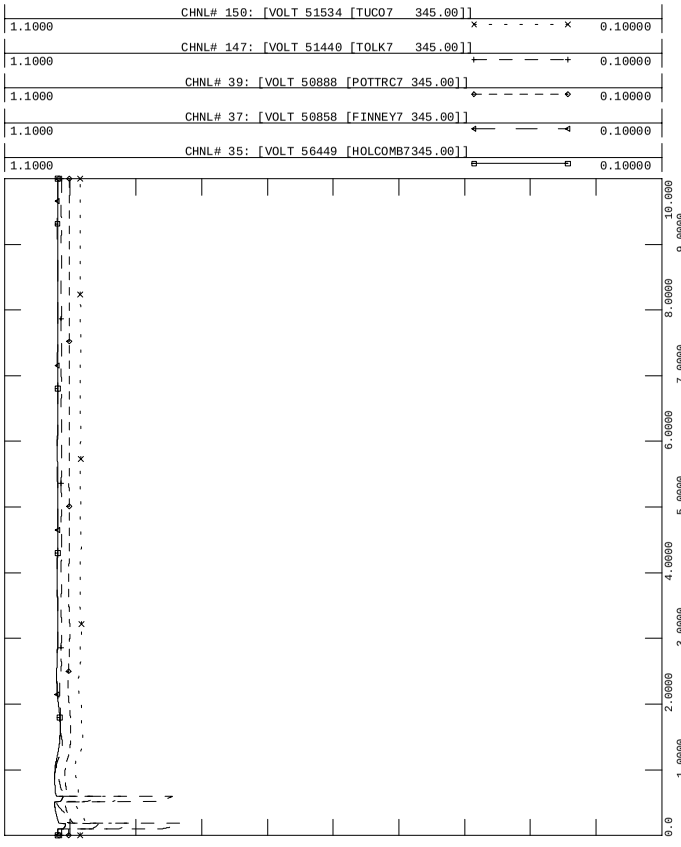
SPP: ROTOR ANGLE 4



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT73PH.OUT

FRI, MAY 21 2004 9:49

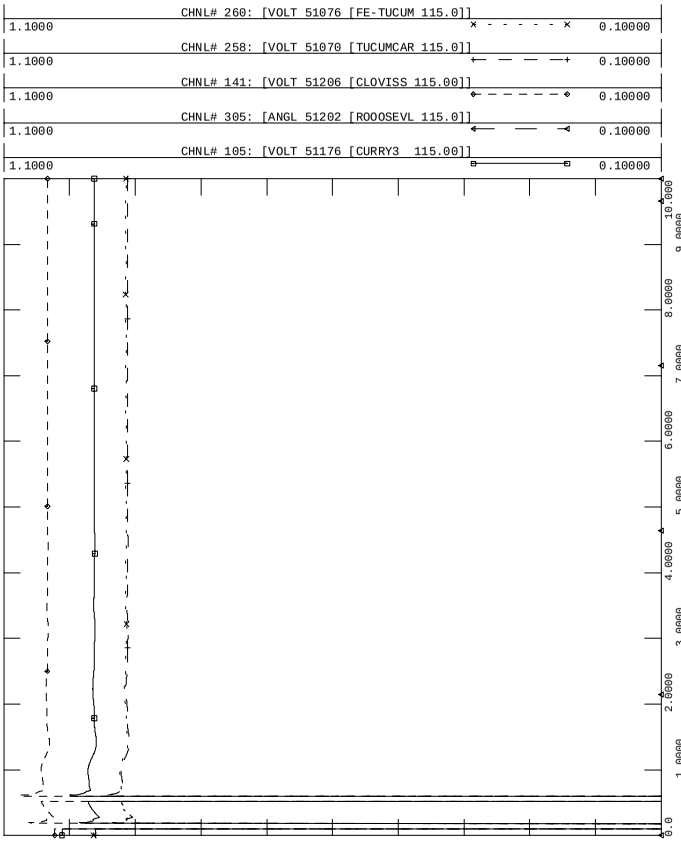
SPP:345 KV BUS VOLTAGE 1



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT73PH.OUT

FRI, MAY 21 2004 9:49

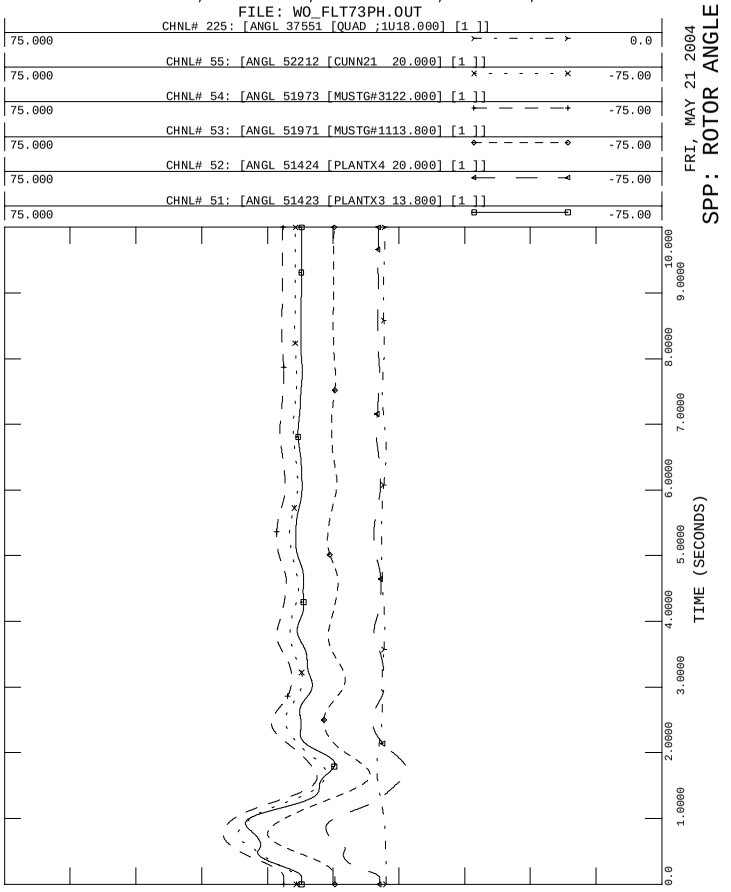
SPP:115 KV BUS VOLTAGE 3



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT73PH.OUT

FRI, MAY 21 2004 9:49 7

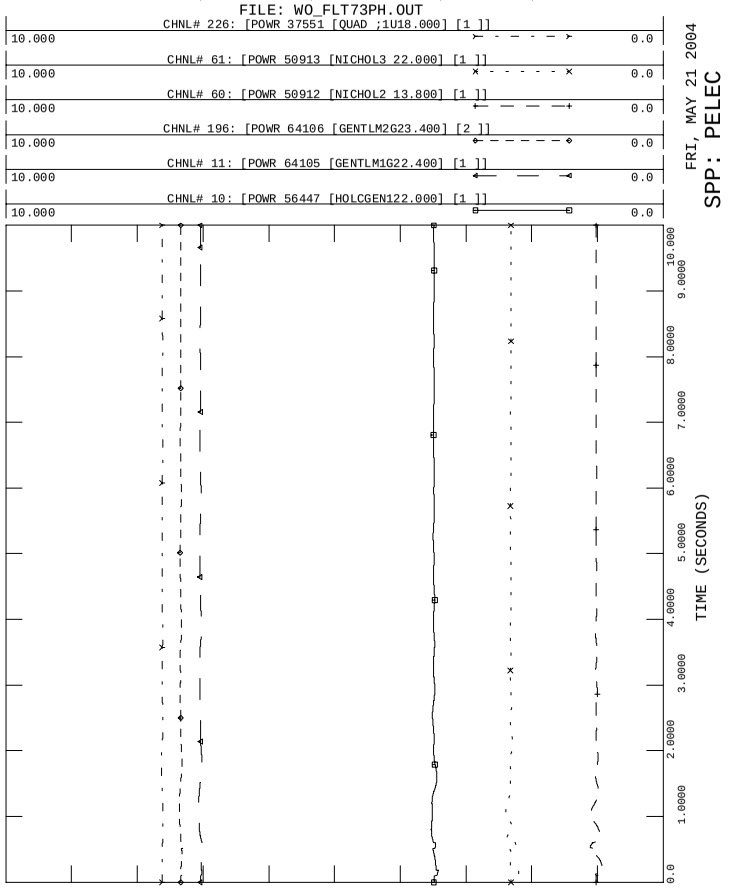
SPP: ROTOR ANGLE



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT73PH.OUT

FRI, MAY 21 2004 9:49 9

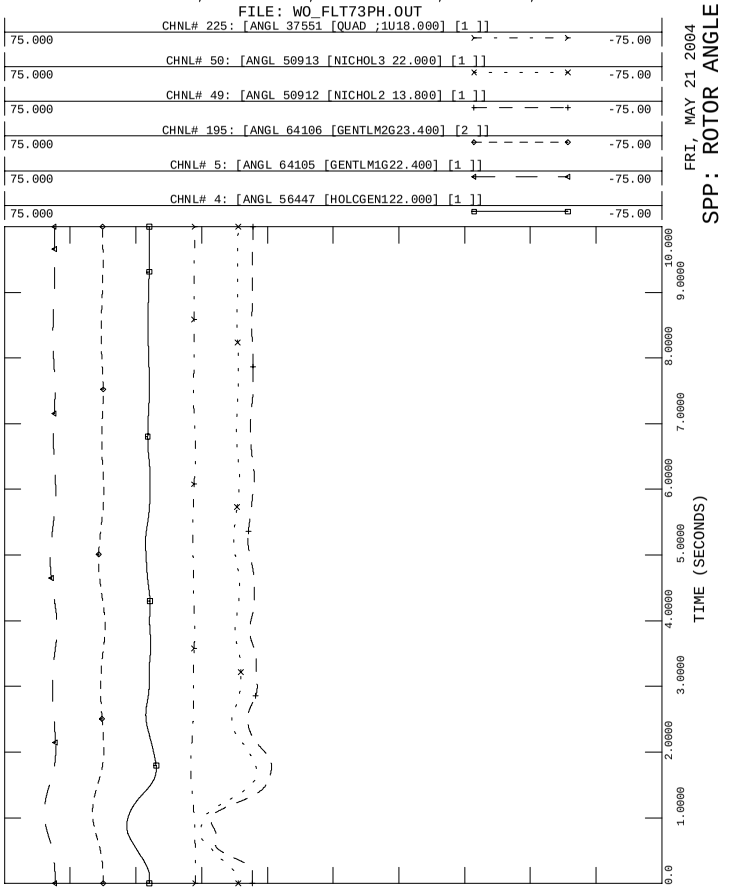
SPP: PELEC



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT73PH.OUT

FRI, MAY 21 2004 9:49 5

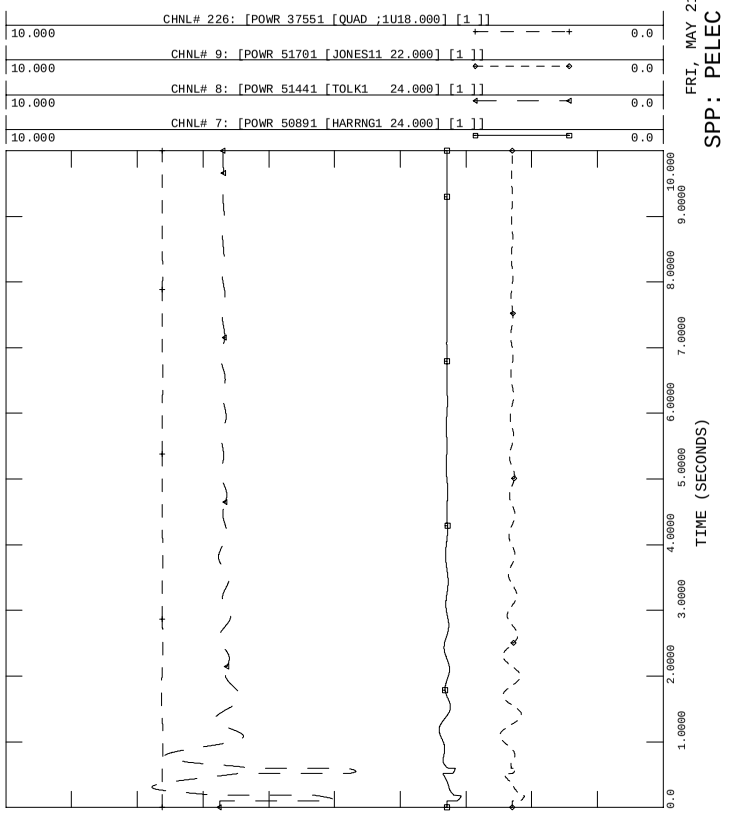
SPP: ROTOR ANGLE



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT73PH.OUT

FRI, MAY 21 2004 9:49 8

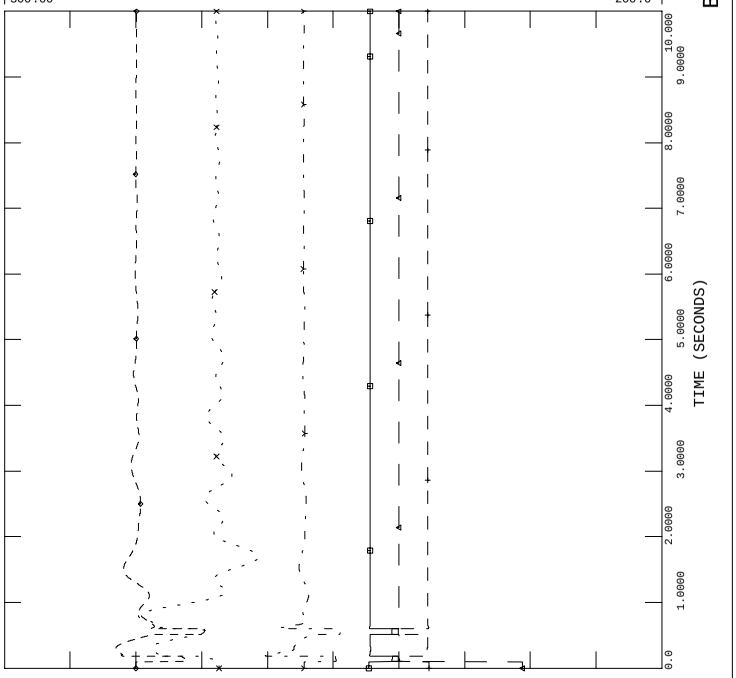
SPP: PELEC



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT73PH.OUT

9:49 11
FRI, MAY 21 2004
BRANCH FLOW

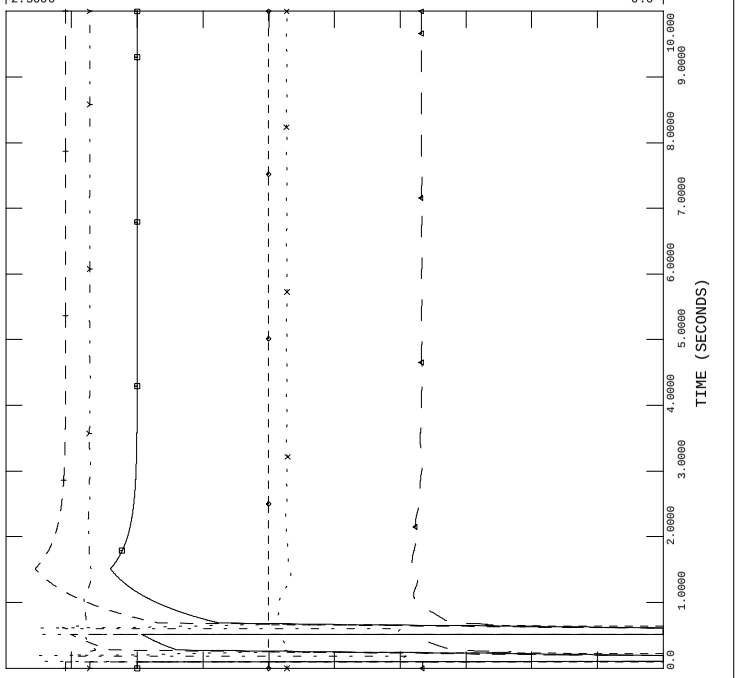
CHNL# 97: [POWR 51195 TO 52073 CKT 1]
300.00 -200.0
CHNL# 316: [POWR 51435 TO 51533 CKT 1]
300.00 -200.0
CHNL# 314: [POWR 99991 TO 51176 CKT 1]
300.00 -200.0
CHNL# 312: [POWR 51440 TO 52186 CKT 1]
300.00 -200.0
CHNL# 310: [POWR 51176 TO 51206 CKT 2]
300.00 -200.0
CHNL# 306: [POWR 99991 TO 51076 CKT 1]
300.00 -200.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT73PH.OUT

9:49 13
FRI, MAY 21 2004
DC LINE PNM

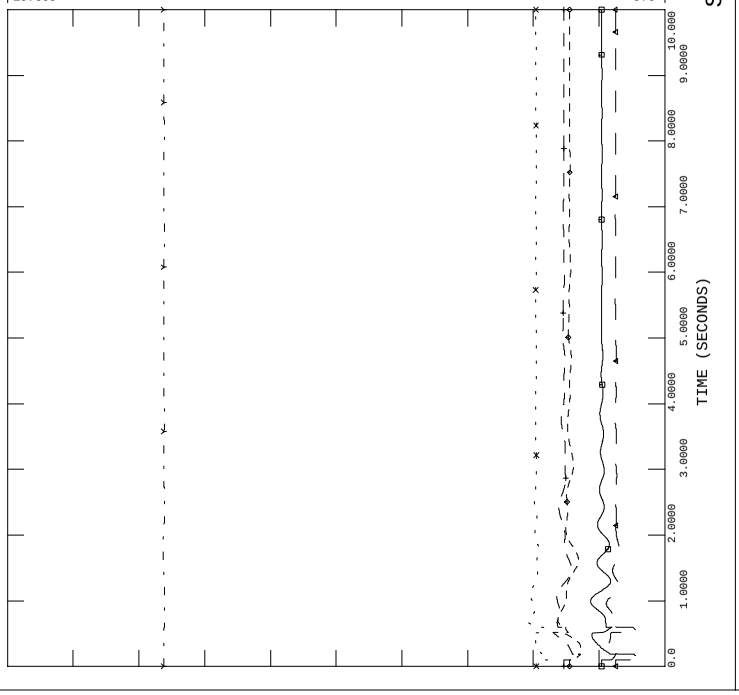
CHNL# 207: [VOLT 59995 [BLKWDC 230.00]]
1.1000 0.10000
CHNL# 193: [DC LINE #2: ALPHA]
100.00 -100.0
CHNL# 192: [DC LINE #2: DC CURRENT]
4000.0 0.0
CHNL# 191: [DC LINE #2: VDCR]
65000. 40000.
CHNL# 187: [DC LINE #2: QACR]
2.5000 0.0
CHNL# 186: [DC LINE #2: PACR]
2.5000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT73PH.OUT

9:49 10
FRI, MAY 21 2004
SPP: PELEC

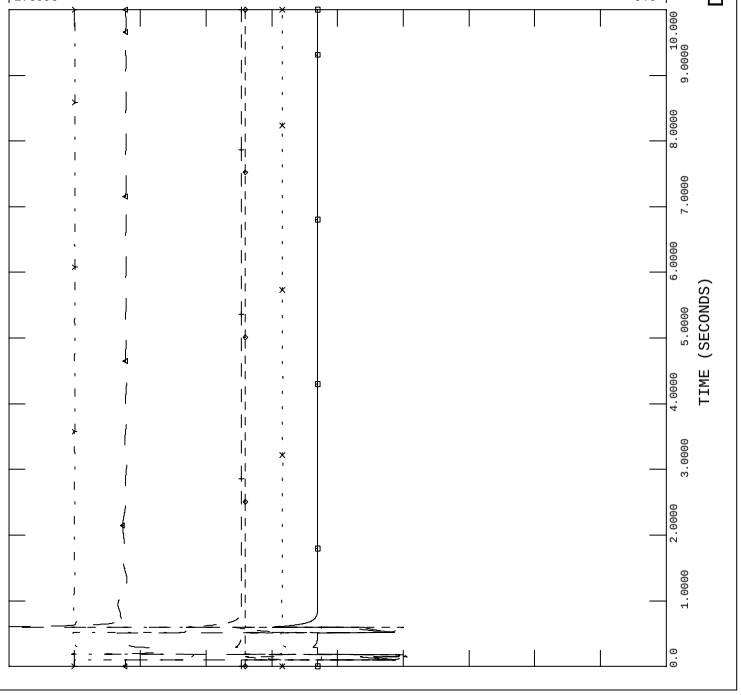
CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
10.000 0.0
CHNL# 66: [POWR 52212 [CUNN21 20.000] [1]]
10.000 0.0
CHNL# 65: [POWR 51973 [MUSTG#3122.000] [1]]
10.000 0.0
CHNL# 64: [POWR 51971 [MUSTG#1113.800] [1]]
10.000 0.0
CHNL# 63: [POWR 51424 [PLANTX4 20.000] [1]]
10.000 0.0
CHNL# 62: [POWR 51423 [PLANTX3 13.800] [1]]
10.000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT73PH.OUT

9:49 12
FRI, MAY 21 2004
DC LINE EPE

CHNL# 208: [VOLT 59996 [EPEDC 230.00]]
1.1000 0.10000
CHNL# 184: [DC LINE #1: ALFA]
100.00 -100.0
CHNL# 183: [DC LINE #1: DC CURRENT]
1000.0 0.0
CHNL# 182: [DC LINE #1: VDCR]
1.0000E5 50000.
CHNL# 178: [DC LINE #1: QACR]
0.25000 0.0
CHNL# 177: [DC LINE #1: PACR]
1.0000 0.0

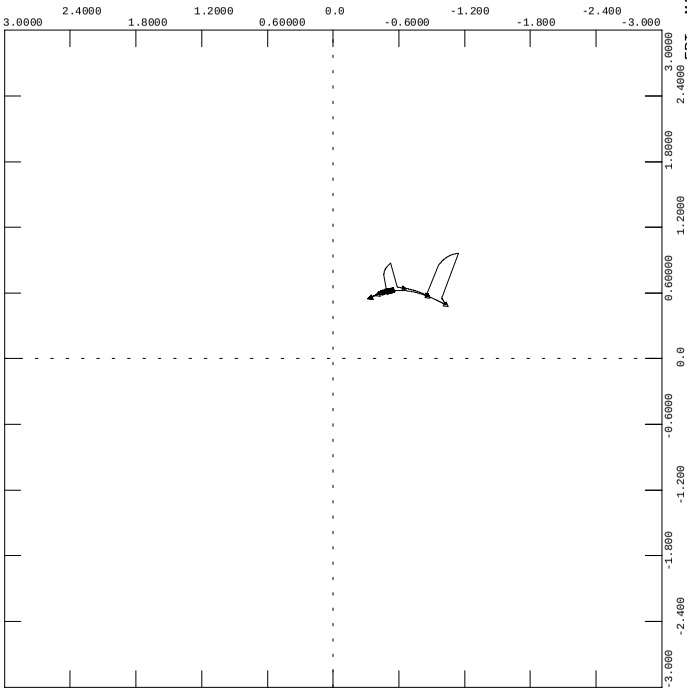


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

15

FILE: WO_FLT73PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 116: [APPX 50858 TO 50888 CKT 1]



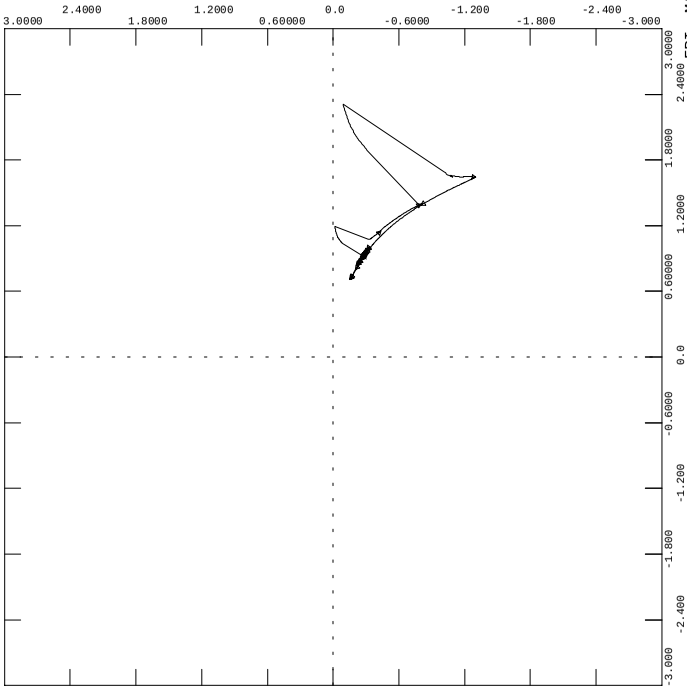
FRI, MAY 21 2004 9:49
POTTER-FINNEY
CHNL# 115: [APPR 50858 TO 50888 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

14

FILE: WO_FLT73PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 114: [APPX 56449 TO 50858 CKT 1]

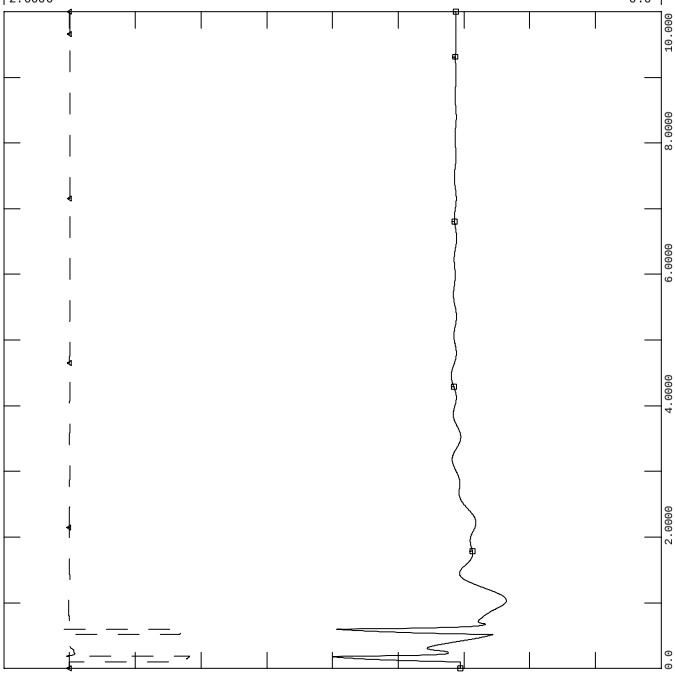


FRI, MAY 21 2004 9:49
FINNEY-HOLCOMB
CHNL# 113: [APPR 56449 TO 50858 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT73PH: THREE PHASE FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT73PH.OUT

16

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]
1.1000 0.10000
CHNL# 117: [BUS 52185 SVC OUTPUT]
2.0000 0.0

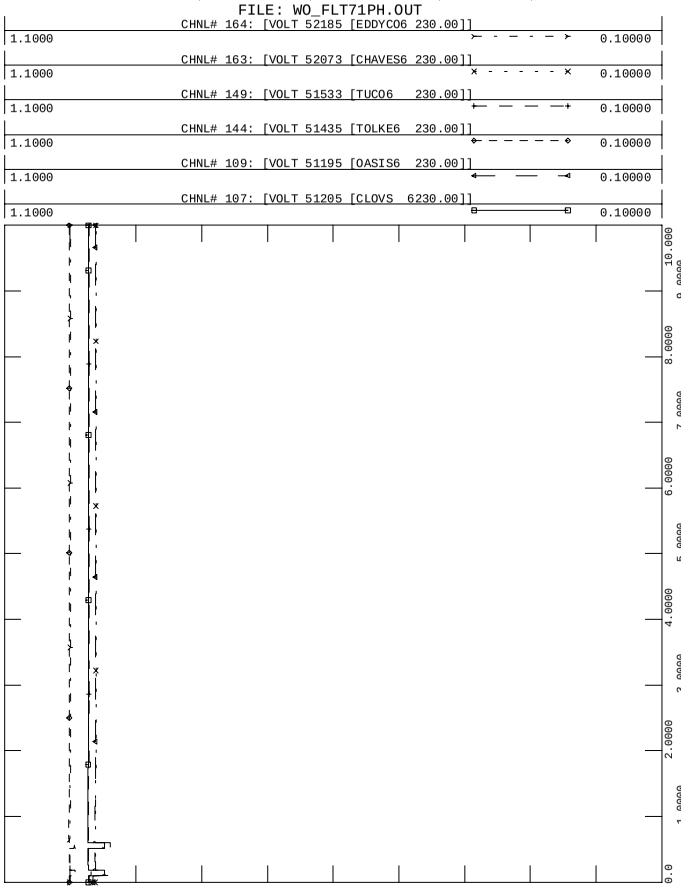


FRI, MAY 21 2004 9:49
SVC OUTPUT
TIME (SECONDS)

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT71PH.OUT

FRI, MAY 21 2004 9:49

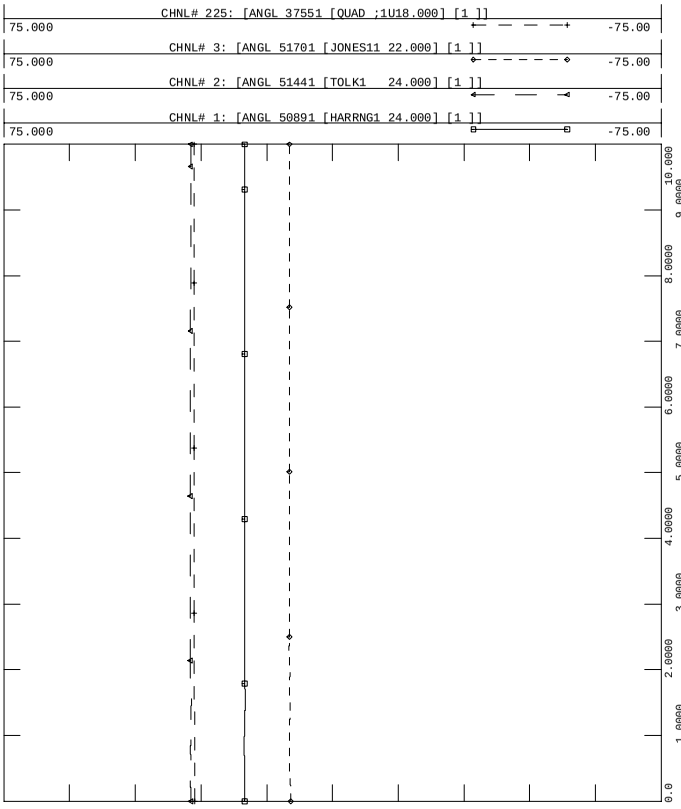
SPP:230 KV BUS VOLTAGE 2



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT71PH.OUT

FRI, MAY 21 2004 9:49

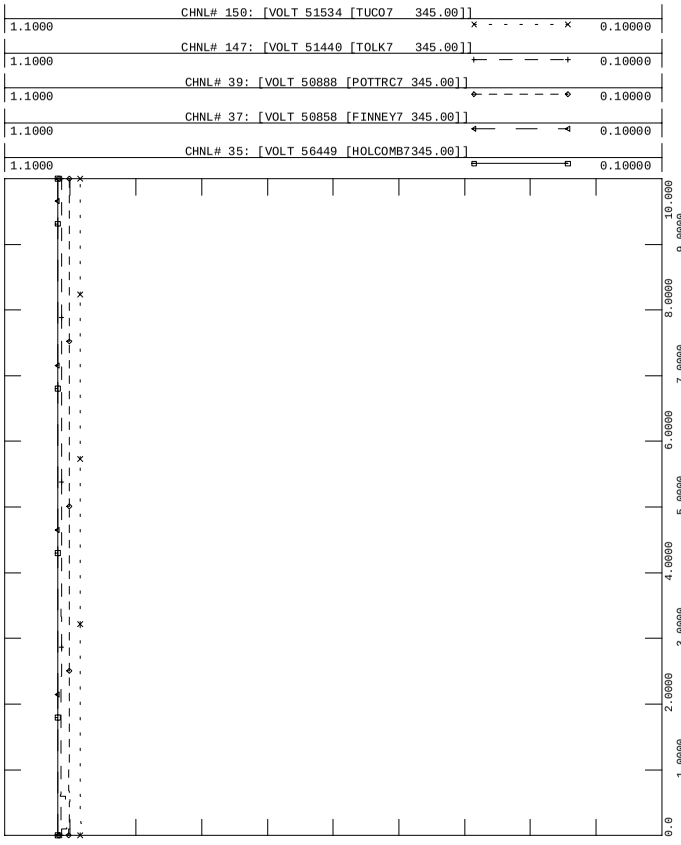
SPP: ROTOR ANGLE 4



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT71PH.OUT

FRI, MAY 21 2004 9:49

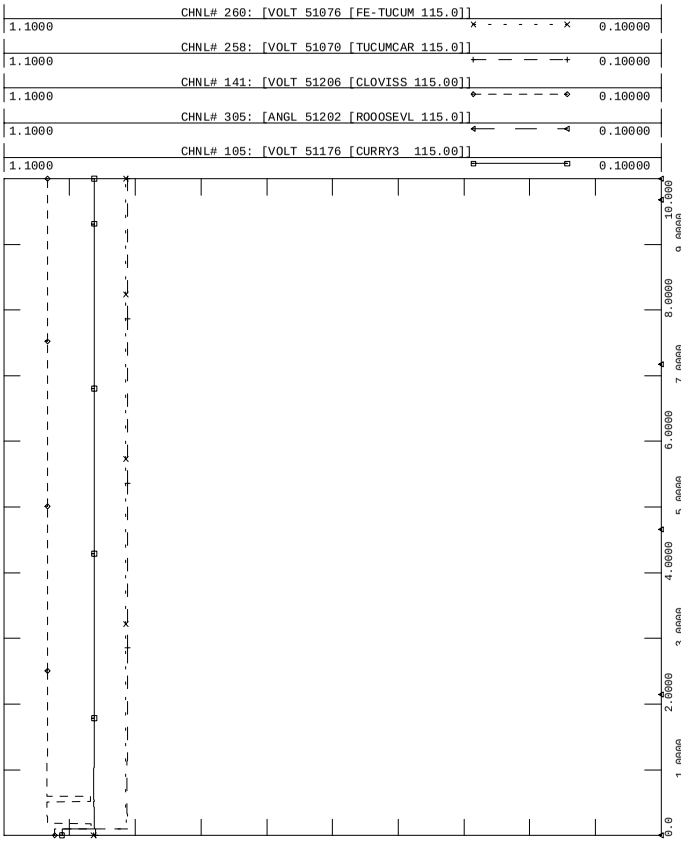
SPP:345 KV BUS VOLTAGE 1



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT71PH.OUT

FRI, MAY 21 2004 9:49

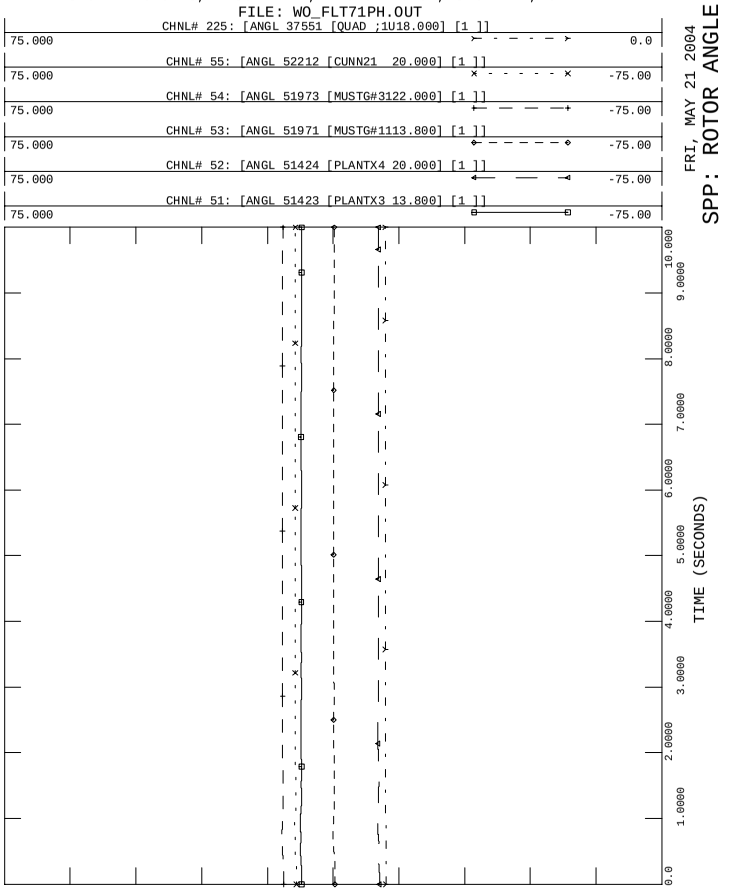
SPP:115 KV BUS VOLTAGE 3



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT71PH.OUT

FRI, MAY 21 2004 9:49 7

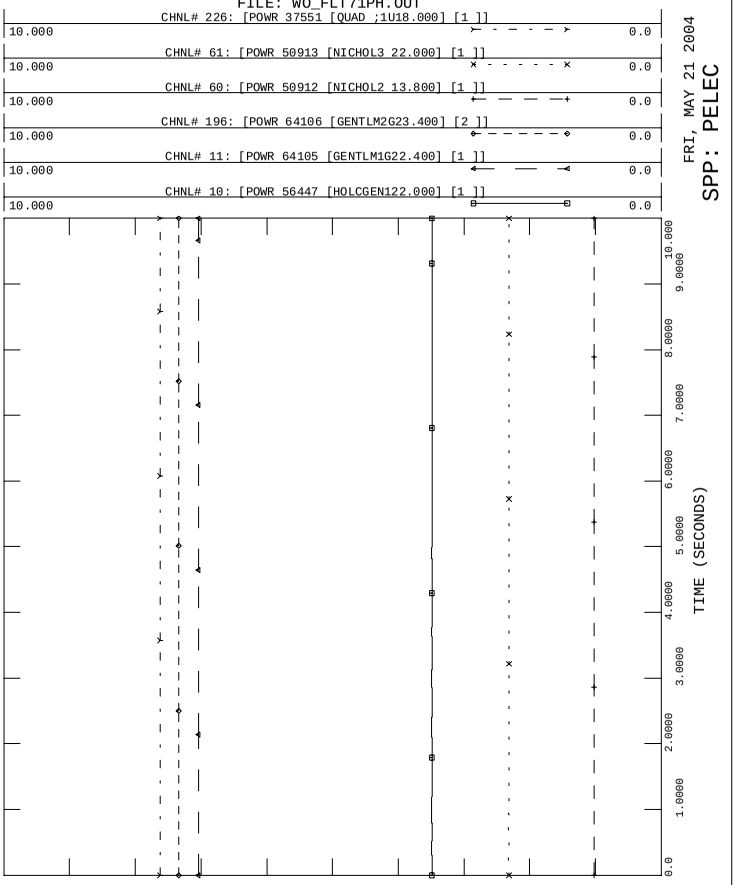
SPP: ROTOR ANGLE



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT71PH.OUT

FRI, MAY 21 2004 9:49 9

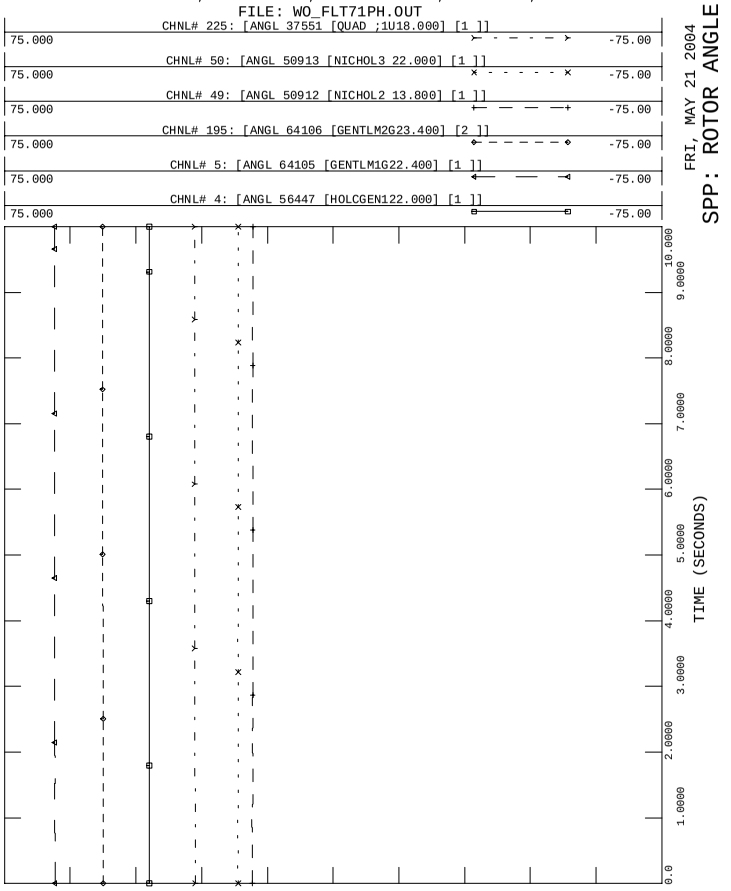
SPP: PELEC



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT71PH.OUT

FRI, MAY 21 2004 9:49 5

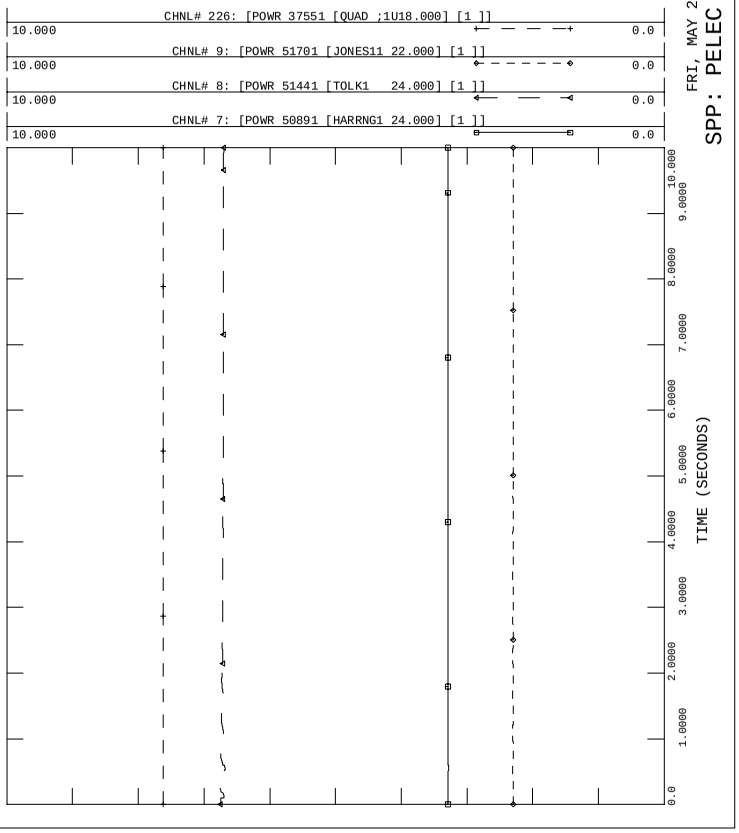
SPP: ROTOR ANGLE



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT71PH.OUT

FRI, MAY 21 2004 9:49 8

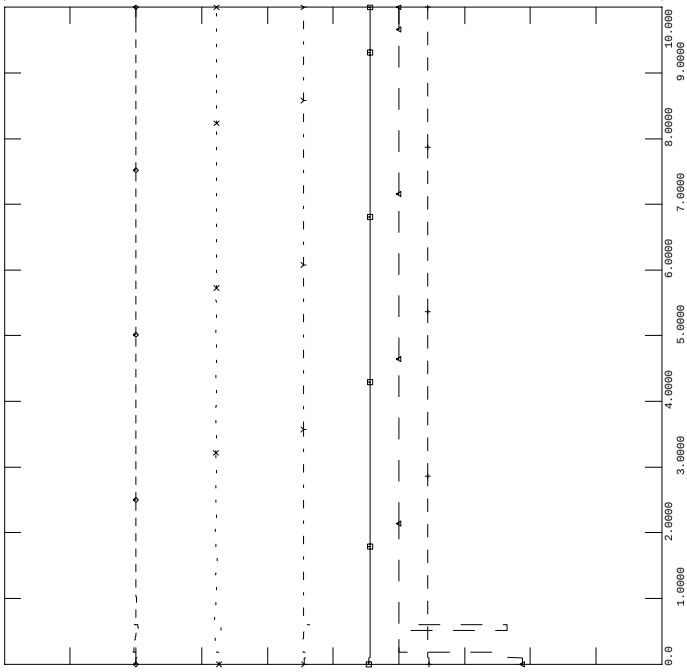
SPP: PELEC



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT71PH.OUT

9:49 11
FRI, MAY 21 2004
BRANCH FLOW

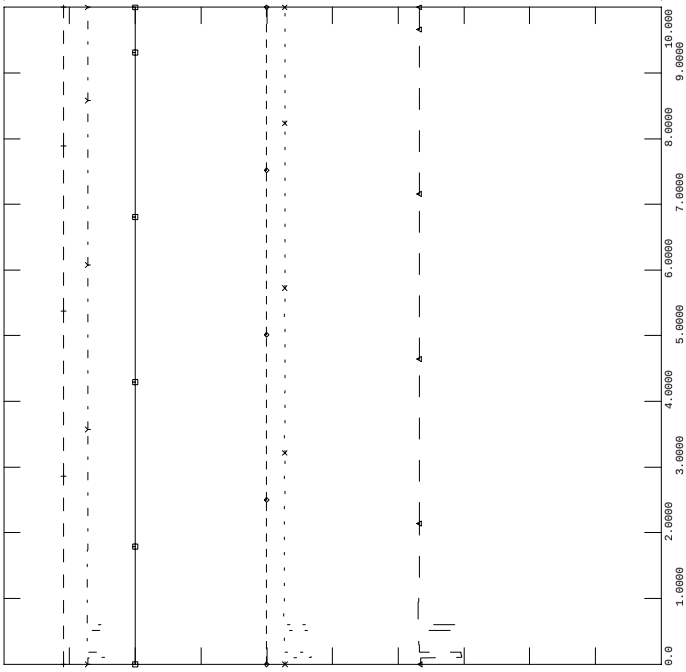
CHNL# 97: [POWR 51195 TO 52073 CKT 1]
300.00 -200.0
CHNL# 316: [POWR 51435 TO 51533 CKT 1]
300.00 -200.0
CHNL# 314: [POWR 99991 TO 51176 CKT 1]
300.00 -200.0
CHNL# 312: [POWR 51440 TO 52186 CKT 1]
300.00 -200.0
CHNL# 310: [POWR 51176 TO 51206 CKT 2]
300.00 -200.0
CHNL# 306: [POWR 99991 TO 51076 CKT 1]
300.00 -200.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT71PH.OUT

9:49 13
FRI, MAY 21 2004
DC LINE PNM

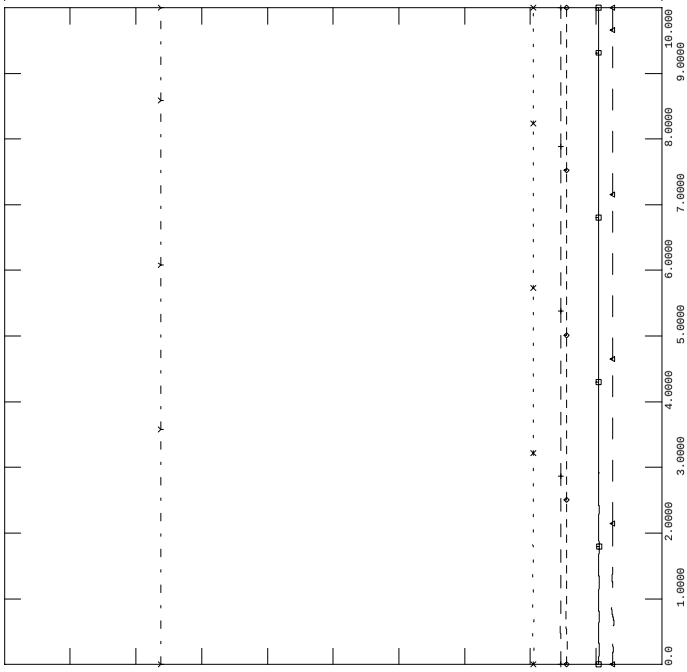
CHNL# 207: [VOLT 59995 [BLKWDC 230.00]]
1.1000 0.10000
CHNL# 193: [DC LINE #2: ALPHA]
100.00 -100.0
CHNL# 192: [DC LINE #2: DC CURRENT]
4000.0 0.0
CHNL# 191: [DC LINE #2: VDCR]
65000. 40000.
CHNL# 187: [DC LINE #2: QACR]
2.5000 0.0
CHNL# 186: [DC LINE #2: PACR]
2.5000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT71PH.OUT

9:49 10
FRI, MAY 21 2004
SPP: PELEC

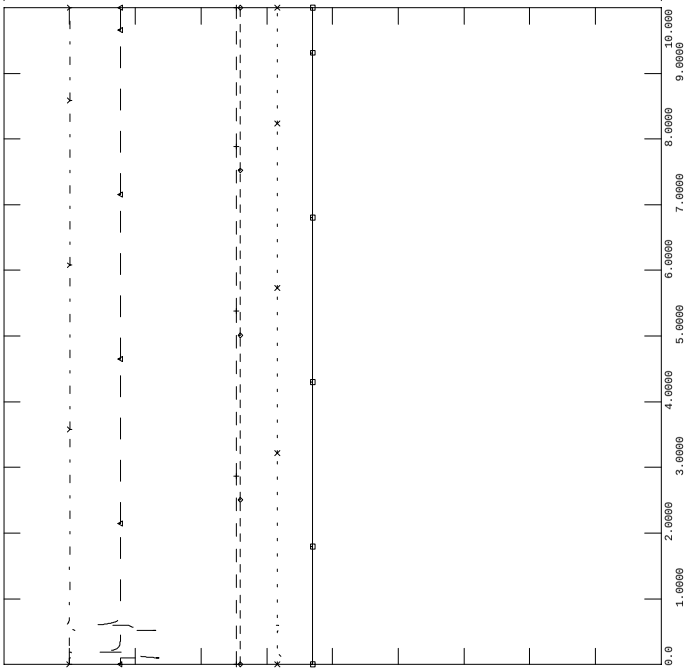
CHNL# 226: [POWR 37551 [QUAD ;1U18.000] [1]]
10.000 0.0
CHNL# 66: [POWR 52212 [CUNN21 20.000] [1]]
10.000 0.0
CHNL# 65: [POWR 51973 [MUSTG#3122.000] [1]]
10.000 0.0
CHNL# 64: [POWR 51971 [MUSTG#1113.800] [1]]
10.000 0.0
CHNL# 63: [POWR 51424 [PLANTX4 20.000] [1]]
10.000 0.0
CHNL# 62: [POWR 51423 [PLANTX3 13.800] [1]]
10.000 0.0



CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT71PH.OUT

9:49 12
FRI, MAY 21 2004
DC LINE EPE

CHNL# 208: [VOLT 59996 [EPEDC 230.00]]
1.1000 0.10000
CHNL# 184: [DC LINE #1: ALFA]
100.00 -100.0
CHNL# 183: [DC LINE #1: DC CURRENT]
1000.0 0.0
CHNL# 182: [DC LINE #1: VDCR]
1.0000E5 50000.
CHNL# 178: [DC LINE #1: QACR]
0.25000 0.0
CHNL# 177: [DC LINE #1: PACR]
1.0000 0.0

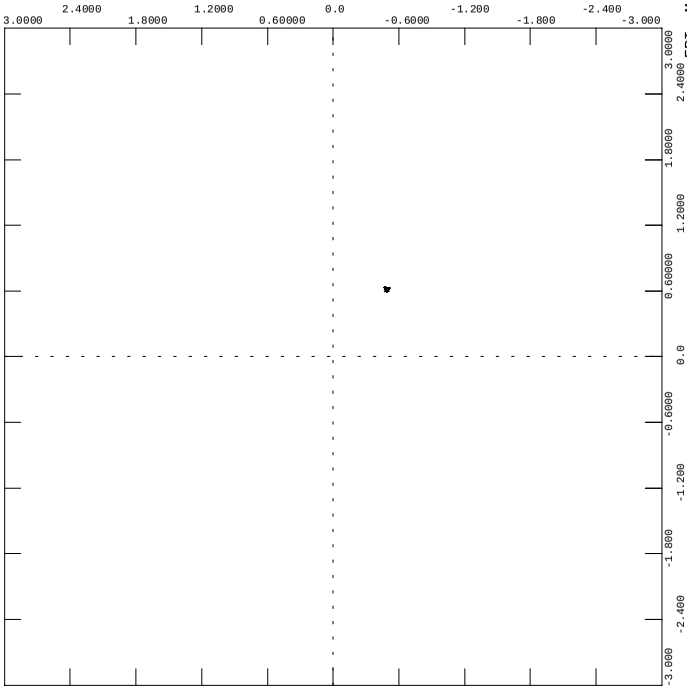


CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

15

FILE: WO_FLT71PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 116: [APPX 50858 TO 50888 CKT 1]



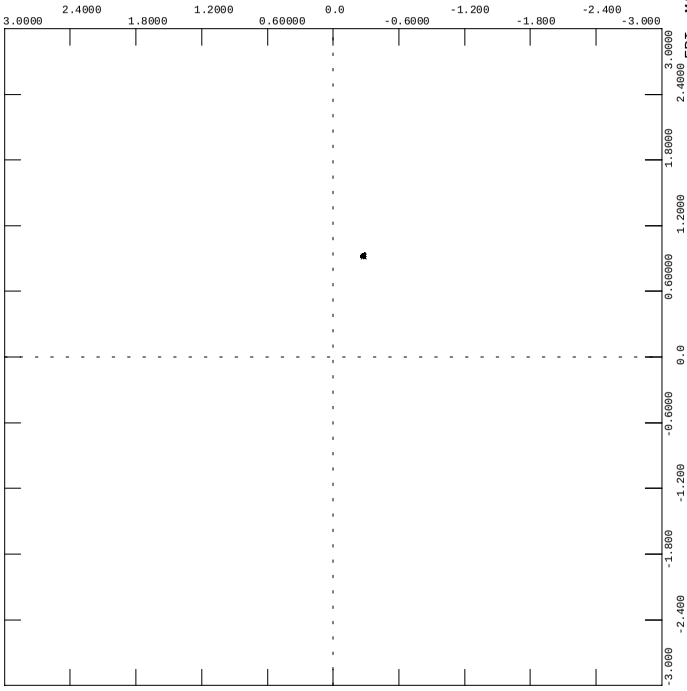
FRI, MAY 21 2004 9:49
POTTER-FINNEY
CHNL# 115: [APPR 50858 TO 50888 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR

14

FILE: WO_FLT71PH.OUT

TSTART: 0.0 TSTOP: 10.0 TIC INCREMENT: 0.25
CHNL# 114: [APPX 56449 TO 50858 CKT 1]

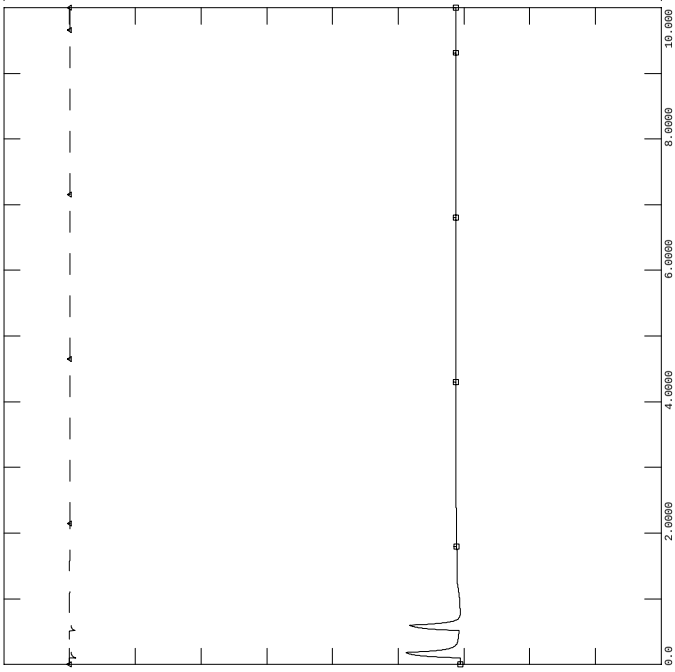


FRI, MAY 21 2004 9:49
FINNEY-HOLCOMB
CHNL# 113: [APPR 56449 TO 50858 CKT 1]

CIELO WIND FARM - EAST CAPROCK = 80 MW
80 MITSUBISHI 1000KW UNITS
FLT71PH: SLG FAULT ON CLOVIS-CURRY 115 KV LINE
5 CY AT CLOVIS, DISCT LINE, RECLOR 20 CY, 5 CY FLT, CLR
FILE: WO_FLT71PH.OUT

16

CHNL# 164: [VOLT 52185 [EDDYCO6 230.00]]
1.1000 0.10000
CHNL# 117: [BUS 52185 SVC OUTPUT]
2.0000 0.0



FRI, MAY 21 2004 9:49
SVC OUTPUT