APPENDIX 5A

System Impact Study

EDISON MISSION ENERGY
WALNUT ENERGY PARK
PHASE 1
(WEP-P1)

SYSTEM IMPACT STUDY

October 24, 2005

SOUTHERN CALIFORNIA
EDISON
An EDISON INTERNATIONAL® Company

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EXECUTIVE SUMMARY

INTRODUCTION

Edison Mission Energy (EME) applied to the California Independent System Operator (CAISO) for Interconnection pursuant to Section 5.7 of the CAISO Tariff. EME proposed to interconnect a new 500.5 MW generation project "Walnut Energy Park Phase 1" (WEP-P1) to the 220 kV bus at SCE's Walnut Substation. The study included conditions with all generation projects in queue ahead of the Walnut Energy Park Project. The commercial operation date proposed by EME is April 1, 2008.

The purpose of the System Impact Study is to determine the adequacy of SCE's transmission system to accommodate all or part of the requested capacity. This study identified that facility upgrades are necessary to mitigate thermal overload problems identified under single and double outage conditions and circuit breaker problems identified from short circuit duty studies. The facility upgrades identified in this study are the ones that were considered the responsibility of EME.

The study includes power flow, short-circuit duty, transient and post-transient stability, cost estimates, and construction schedules. The study was performed for two system conditions: (a) 2008 heavy summer load forecast (one-in-ten-year heat wave assumption) with maximum eastern area generation, high East-of-River/West-of-River (EOR/WOR) power flow, and high power flow into Devers 500-kV substation, and (b) 2008 spring load forecast (65% of 2008 heavy summer peak load) with maximum eastern area generation, high EOR/WOR power flow, and high power flow into Devers 500-kV substation. These conditions reflect the most critical expected loading condition for the eastern area in the SCE transmission system.

The results of the System Impact Study will be used as the basis to determine project cost allocation for facility upgrades in the Facilities Study. ***The study accuracy and the results for the assessment of the system adequacy are contingent on the accuracy of the technical data provided by Edison Mission Energy (EME).*** Any changes from the attached data and/or in the queue order could void the study results.

LOAD FLOW STUDY RESULTS

The thermal overload that was identified as the responsibility of the WEP-P1 project occurs on Center-Olinda 220 kV transmission line. The transmission thermal overload limit is exceeded under N-1 contingencies. The upgrades needed to mitigate this thermal overload include replacements of electrical equipment such as disconnect switches and wave traps at both terminal facilities.

POST-TRANSIENT STABILITY STUDY RESULTS

Post-Transient Stability Studies conducted in the area for similar and/or larger generators determine that the system voltage remained stable under both single and double contingency conditions and meet WECC Post Transient Voltage Deviation standard. Additional studies were performed for this interconnection which validates previous findings.

TRANSIENT STABILITY STUDY RESULTS

Transient Stability Studies conducted in the area for similar and/or larger generators determine that the system remained stable under both single and double outage conditions. Additional studies were performed for this interconnection which validates previous findings.

SHORT CIRCUIT DUTY STUDY

The Circuit Breakers identified in this study are limited to the replacement of breakers which were found to be adequate before the project and overstressed after the project. A total of ten Circuit Breakers at Mesa Substation were identified as needing upgrades and triggered by WEP-P1 Project.

COST ESTIMATE

The ***Nonbinding*** Cost Estimate for facilities upgrades that are due to thermal overloads and short circuit duty is [redacted]

FACILITY STUDY

A Facility Study will be required to determine the facilities and upgrades necessary to interconnect the proposed WEP-P1 addition.

CONTENTS

SOUTHERN CALIFORNIA EDISON COMPANY
EME WALNUT PARK PHASE 1
SYSTEM IMPACT STUDY

September 14, 2005

INTRODUCTION

Edison Mission Energy Company (EME) applied to the California Independent System Operator (CAISO) for Interconnection pursuant to Section 5.7 of the CAISO Tariff. EME proposed to interconnect a new 500.5 MW generation project Walnut Park Phase 1 (WEP-P1) to the 220-kV bus at SCE's Walnut Substation. The commercial operation date proposed by EME is April 1, 2008.

Southern California Edison Company (SCE) has performed a System Impact Study to determine the adequacy of SCE's transmission system to accommodate the WEP-P1 EME Project. The study indicates that the system cannot accommodate the 500.5 MW of generation without modifications.

The results of the System Impact Study will be used as the basis to determine project cost allocation for facility upgrades in the Facilities Study. ***The study accuracy and the results for the assessment of the system adequacy are contingent on the accuracy of the technical data provided by EME.*** Any changes from the attached data could void the study results.

The study was performed for two system conditions: (a) 2008 heavy summer load forecast (one-in-ten-year heat wave assumption) with maximum eastern area generation, high East-of-River/West-of-River (EOR/WOR) power flow, and high power flow into the Devers 500-kV substation, and (b) 2008 spring load forecast (65% of 2008 heavy summer peak load) with maximum eastern area generation, high EOR/WOR power flow, and high power flow into the Devers 500-kV substation. These conditions reflect the most critical expected loading condition for the transmission system in SCE's eastern area.

STUDY CONDITIONS AND ASSUMPTIONS

A. Planning Criteria

The supplemental study was conducted by applying the California Independent System Operator (CAISO) Reliability Criteria. More specifically, the main criteria applicable to this study are as follows:

Power Flow Assessment

The following contingencies are considered for transmission and subtransmission lines and 500/230 kV transformer banks ("AA-Banks"):

Assuming both San Onofre Units in service and then:

- Single Contingencies (loss of one line or one AA-Bank)
- Double Contingencies (loss of two lines or one line and one AA-Bank) (Outages of two AA-Banks are beyond the Planning Criteria)

The following criteria are used:

Transmission Lines	Base Case	Limiting Component Normal Rating
	N-1	Limiting Component A-Rating
	N-2	Limiting Component B-Rating
AA-Banks	Base Case	Normal Loading Rating
	Long Term & Short Term	As defined by SCE Operation Bulletin

System upgrades or Special Protection Schemes for transmission lines are generally recommended only for base case overloads, single contingency overloads in excess of the A-rating, and common mode failure double contingencies in excess of the B-rating.

Congestion Assessment

The following principles were used in determining whether congestion management, special protection schemes, or facility upgrades are required to mitigate base case, single contingency, or double contingency overloads:

- Congestion management, as a means to mitigate base case overloads, can be used if it is determined to be manageable and the CAISO concurs with the implementation.
- Facility upgrades will be required if it is determined that the use of congestion management is unmanageable as defined in the congestion management section that follows.
- Special protection schemes (SPS), in lieu of facility upgrades, will be recommended if the scheme is effective, does not jeopardize system integrity, does not exceed the current CAISO single and double contingency tripping limitations, does not adversely effect existing or proposed special protection schemes in the area, and can be readily implemented.

- Facility upgrades will be required if use of protection schemes is determined to be ineffective, the amount of tripping exceeds the current CAISO single and double contingency tripping limitations, adverse impacts are identified on existing or currently proposed special protection schemes, or the scheme cannot be readily implemented.
- Congestion management in preparation for the next contingency will be required, with CAISO concurrence, if no facility upgrades or special protection schemes are implemented.

The following study method was implemented to assess the extent of possible congestion:

a) Under Base Case with all transmission facilities in service, the system was evaluated with all existing interconnected generation and all generation requests in the area that have a queue position ahead of this request (pre-project).

b) Under Base Case with all transmission facilities in service, the system was reevaluated with the inclusion of the WEP-P1 Project (post-project).

If the normal loading limits of facilities are exceeded in (a), the overload is identified as an existing overload that was triggered by a project in queue ahead of the WEP-P1 Project. If the normal loading limits of facilities are exceeded in (b) and were not exceeded in (a), the overload is identified as triggered by the addition of the WEP-P1 Project. The WEP-P1 Project, assuming it is a market participant, and other market participants in the area may be subjected to congestion management, potential upgrade cost and/or participation of any proposed special protection scheme if the project addition aggravates or triggers the overload. Additionally, the WEP-P1 Project may have to participate in mitigation of overloads triggered by subsequent projects in queue, subject to FERC protocols and policies.

In order for congestion management to be a feasible alternative to system facilities, all of the following factors need to be satisfied:

- Time requirements for necessary coordination and communication between the CAISO operators, scheduling operators and SCE operators.
- Distinct Path/Corridor rating should be well defined so monitoring and detecting congestion and implementing congestion of the contributing generation resources can be performed when limits are exceeded.
- Sufficient amount of market generation in either side of the congested path/corridor should be available to eliminate market power.
- Manageable generation in the affected area is necessary so that operators can implement congestion management if required (i.e. the dispatch schedule is known and controllable).

The results of these studies should identify:

a. if capacity is available to accommodate the proposed WEP-P1 Project and all projects ahead in queue without the need for congestion management, special protection schemes, or facility upgrades

b. if overloads exist in the area after the addition of all projects in queue ahead of the WEP-P1 Project and all facilities in service

c. if congestion exists in the area with the addition of the WEP-P1 Project and all projects ahead in queue under single and double element outage conditions assuming no new special protection schemes are in place

d. if sufficient capacity is maintained to accommodate all Must-Run and Regulatory Must-Take generation resources with all facilities in service

e. if sufficient capacity is maintained to accommodate the total output of any one generation resource which is not classified as Must-Run.

a) **Walnut Energy Park Phase 1 (WEP-P1) Project**

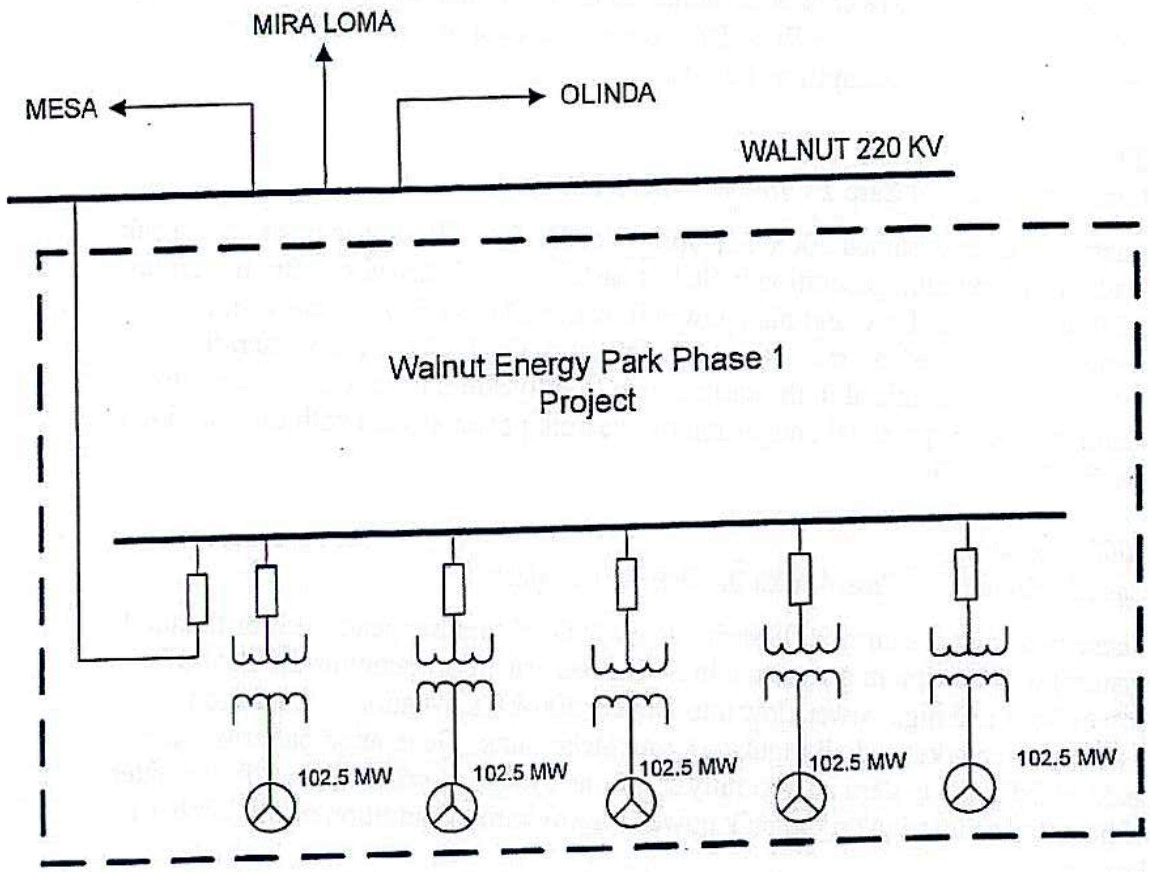
The proposed WEP-P1 Project is geographically located within one-tenth mile of SCE's Walnut substation in the Los Angeles County. The Project is proposed to be radially connected to the Walnut 220kV bus. A one-line diagram of the Project is provided in the Figure below.

With the interconnection application submitted, WEP-P1 did not provide detailed information about the exact construction of the proposed 220 kV line to be connected from the Walnut 220-kV bus to the WEP-P1 Project. As such, this study was conducted assuming that the 220-kV line would consist of 550 feet of SCE-standard 220-kV construction with single 1590 ACSR conductor.

FIGURE 1

WALNUT ENERGY PARK PHASE 1 (WEP-P1)

SINGLE LINE DIAGRAM



C. System Conditions

To simulate the SCE transmission system for analysis, the study selected the databases that were used to conduct the CAISO Controlled Transmission 2004-2008 Assessment. Power flow studies considered the existing system arrangement without the SDGE proposed Rainbow-Valley 500-kV transmission project and to reflect other transmission projects. For example:

- Palo Verde-Devers No. 2 500-kV line was modeled in service
- All four West of Devers 230-kV lines have been upgraded
- Rancho Vista 500/230-kV substation was modeled in service

The bulk power study considered scenarios that evaluated maximum EOR/WOR imports and maximum generation from Qualified Facilities in the eastern area. These conditions were evaluated to identify worst case scenarios that would stress the SCE 500-kV transmission system network in the eastern area vicinity. In addition, the study considered two system load conditions: 2008 heavy summer and 2008 spring. The summer peak load forecast was based on SCE's 2008 Transmission Substation

Transformer Capacity Assessment, and reflects a one-in-ten-year heat wave assumption. The 2005-2015 heavy summer load forecast is shown in Appendix D. The 2005-2015 spring load forecast assumed 65% of heavy summer load forecast.

D. Power Flow Study

The Power Flow Study was conducted under 2008 heavy summer and 2008 spring load conditions with and without the WEP-P1 Project for a total of 4 cases. Further description of the case assumptions follows:

a) *2008 Spring*:
Case 1 **without** and Case 2 **with** the WEP-P1 Project

These two cases assumed 2008 light spring load (65% of 2008 heavy summer peak load) with maximum generation in SCE's eastern area electrical system, maximum EOR/WOR power flow, and high power flow into Devers 500-kV substation. Generation included: all market and all regulatory must-take units. Generation patterns were maximized in the eastern area to fully stress the system in order to identify extent of potential congestion on the bulk power system with the addition of the WEP-P1 Project.

b) *2008 Summer:*
Case 3 **without** and Case 4 **with** the WEP-P1 Project

These two cases assumed 2008 spring load (65% of summer peak load for the total system) with maximum generation in SCE's eastern area, maximum EOR/WOR power flow, and high power flow into Devers 500-kV substation. Generation included: all market and all regulatory must-take units. Generation patterns were maximized in the eastern area to fully stress the system in order to identify the extent of potential congestion on the bulk power system with the addition of the WEP-P1 Project.

With the addition of the WEP-P1 Project, SCE area total generation, imports, loads, and losses for cases 1-4 are summarized in the table below. For each of the four cases, load flow simulations of the bulk power system were conducted for the base case, single contingencies and double contingencies for lines and 500/230-kV transformer banks to determine impacts to the SCE system. All single and double contingencies were simulated without implementation of applicable existing SPS.

SCE AREA TOTAL GENERATION, IMPORT, LOAD AND LOSSES (MW)				
	2008 Spring		2008 Summer	
	Case 1 (pre project)	Case 2 (post project)	Case 3 (without project)	Case 4 (with project)
Generation	12,286	12,288	15,790	15,764
Import	4,265	4,265	9,430	9,430
Load	15,910	15,910	24,477	24,477
Losses	642	643	743	717

E. Post Transient Voltage Study

The voltage deviations are compared to the SCE guidelines of 7% for single contingency outages and 10% for double contingency outages

F. Transient Stability Study

WECC has recently adopted a Generator Electrical Grid Fault Ride Through Capability Criteria. SCE currently supports a Low Voltage Ride-Through Criteria to ensure continued reliable service. A proposed Criteria that SCE supports, is as follows:

a) Generator is to remain in-service during system faults (three phase faults with normal clearing and single-line-to-ground with delayed clearing) unless clearing the fault effectively disconnects the generator from the system.

b) During the transient period, generator is required to remain in-service for the low voltage and frequency excursions specified in WECC Table W-1 (provided below) as applied to load bus constraint. These performance criteria are applied to the generator interconnection point, not the generator terminals.

c) Generators may be tripped after the fault period if this action is intended as part of a special protection scheme.

d) This Standard will not apply to individual units or to a site where the sum of the installed capabilities of all machines is less than 10MVA, unless it can be proven that reliability concerns exist.

e) The performance criteria of this Standard may be satisfied with performance of the generators or by installing equipment to satisfy the performance criteria.

f) The performance criterion of this Standard applies to any generation independent of the interconnected voltage level.

g) No exemption from this Standard will be given because of minor impact to the interconnected system.

h) Existing generators that go through any refurbishments or any replacements are then required to meet this Standard.

WECC DISTURBANCE-PERFORMANCE TABLE
OF ALLOWABLE EFFECTS ON OTHER SYSTEMS

NERC and WECC Categories	Outage Frequency Associated with the Performance Category (Outage/Year)	Transient Voltage Dip Standard	Minimum Transient Frequency Standard	Post-Transient Voltage Deviation Standard (See Note 2)
A	Not Applicable	Nothing in Addition to NERC		
B	≥ 0.33	Not to exceed 25% at load buses or 30% at non-load buses. Not to exceed 20% for more than 20 cycles at load buses.	Not below 59.6 Hz for 6 cycles or more at a load bus	Not to exceed 5% at any bus
C	0.033 – 0.33	Not to exceed 30% at any bus. Not to exceed 20% for more than 40 cycles at load buses.	Not below 59.0 Hz for 6 cycles or more at a load bus	Not to exceed 10% at any bus
D	< 0.033	Nothing in Addition to NERC		

<u>Note 2:</u> As an example in applying the WECC Disturbance-Performance Table, Category B disturbance in one system shall not cause a transient voltage dip in another system that is greater than 20% for more than 20 cycles at load buses, or exceed 25% at load buses or 30% at non-load buses at any time other than during the fault.

G. Dynamic Models

GE PSLF Version 14.3, adopted by WECC, supports the generation models proposed by for the PEF Addition.

a) genrou

This model is used for a solid rotor generator that is represented by equal mutual inductance rotor modeling.

b) ggovl

This model is used to represent a general governor model that is proposed to be used with this generator.

c) rexs

This model is used to represent an IEEE type ST4b excitation system proposed to be used with this generator.

d) pss2a

This model is used to represent a dual input power system stabilizer (IEEE type PSS2A) proposed to be used with this generator.

H. Short Circuit Duty

To determine the impact on short-circuit duty after inclusion of the Walnut Park Phase 1, the study calculated the maximum symmetrical three-phase-to-ground short-circuit duties at the most critical locations. Bus locations where short-circuit duty increased with the addition of WEP-P1 by at least 0.1 KA and the duty is in excess of 65% of the minimum breaker nameplate rating are flagged for further review in the Facilities Study. Generator and transformer data as provided by the customer was used according to the generator and transformer data sheets.

POWER FLOW STUDY RESULTS

A. Spring Results

There are no spring base case overloads triggered by the addition of the WEP-P1. There is one 220 kV transmission line Center-Olinda that overloads during single and double contingencies. The overload is mitigated by replacing seven existing 1200A with 2000A disconnect switches (three at Center and four at Olinda substation), also by replacing two existing 2000A with 3000A wave traps (one at Center and one at Olinda substations). It was also found that Lugo-Vincent No. 1 and No. 2 500 kV transmission lines overload for double contingencies-WEP-P1 aggravates this overload. The overloads were triggered by a project ahead of the queue and it is mitigated by replacing the wave traps at each terminal facility.

Light Spring Results

Outage Type	Transmission Outage	Overloaded Transmission Facilities	Rating Amps		Pre Project		Post Project		Project Impact	
			Normal	Emergency Rating*	Amps	Percent	Amps	Percent Normal	Amps	Percent Normal
Single	Mesa-Walnut 230 kV	Center-Olinda 230 kV	2000	2000	1564	78%	2038	102%	474	24%
Sngle	Lugo-Vincent No. 1 500 kV	Lugo-Vincent No. 2 500 kV	3000	3000	3852	128%	3921	131%	69	2%
Sngle	Lugo-Vincent No. 2 500 kV	Lugo-Vincent No. 1 500 kV	3000	3000	3846	128%	3915	131%	69	2%

** Emergency Rating: N-1 Rating for Single Outage and N-2 Rating for Double Outage*

B. Summer Results

The power flow study identified two 230 kV transmission overloads that were aggravated by the addition of WEP-P1-Chino-Miraloma and La Fresa-Hinson No. 1. The overloads were triggered by a project ahead in the queue. Chino-Mira Loma overload is mitigated by removing one wave trap at Mira Loma Substation, La Fresa-Hinson No. 1 overload is mitigated by replacing the existing 2000A with 3000A wave traps at each terminal facility (One at La Fresa and one at Hinson Substation). These costs are not allocated to the project.

Heavy Summer Results

Outage Type	Transmission Outage	Overloaded Transmission Facilities	Rating Amps	Rating (Amps) N-2 Double	Pre Project Amps	Pre Project Percent Normal	Post Project Amps	Post Project Percent Normal	Project Impact Amps	Project Impact Percent
Double	Chino-Miraloma No. 2 230 kV Chino-Miraloma No. 3 230 kV	Chino-Miraloma No. 1 230 kV	1790	2000	2144	120%	2164	121%	20	1%
Double	La Fresa-Redondo No. 1 230 kV La Fresa-Redondo No. 2 230 kV	La Fresa-Hinson 230 kV	2000	2000	2448	122%	2474	124%	26	2%

* *Emergency Rating: N-1 Rating for Single Outage and N-2 Rating for Double Outage*

POST-TRANSIENT STUDY RESULTS

Studies conducted in the area for generators equal/larger in the area concluded that voltage remains stable under N-1 and N-2 contingencies. Additional studies were performed for this study that validates previous findings that there is no voltage deviations when compared to the SCE guidelines of 7% for single contingency outages and 10% for double contingency outages.

TRANSIENT STUDY RESULTS

Studies conducted in the area for generators equal/larger in the area concluded that the system remains stable under N-1 and N-2 contingencies. Additional transient stability studies conducted for this study validates previous findings that the system remains stable.

SHORT CIRCUIT DUTY STUDY RESULTS

The results of this study indicate that addition of WEP-P1 increased the short circuit duty at eleven (11) substations, but it was determined that WEP-P1 only triggered the replacement/upgrades at Mesa substation. Mesa substation required that ten (10) 220 kV Circuit Breakers be upgraded.

Three-Phase-to-Ground
Short-Circuit Duty Results

Substation	Bus KV	Min Rating	Pre-Project X/R	Pre-Project KA	Post-Project X/R	Post-Project KA	DELTA KA
Lugo	500	37.8	22.8	46.8	22.9	47.1	0.3
Mira Loma	500	38.4	25.8	35.4	26.0	35.8	0.4
Rancho Vista	500	-	34.5	32.6	34.6	32.7	0.1
Serrano	500	40.0	25.6	32.0	25.7	32.2	0.2
Vincent	500	38.0	17.1	34.3	17.1	34.4	0.1
Alamitos E	230	50.2	16.9	30.4	16.9	30.6	0.2
Alamitos W	230	45.6	24.0	35.1	23.9	35.2	0.1
Antelope	230	25.0	12.5	28.3	12.5	28.4	0.1
Barre	230	45.6	18.8	50.4	18.7	50.7	0.3
Center	230	45.6	15.7	40.2	15.8	41.2	1.0
Chino	230	50.0	17.5	48.9	17.5	49.5	0.6
Del Amo	230	50.0	15.9	42.2	15.9	42.7	0.5
Eagle Rock	230	25.1	15.6	18.6	15.7	18.7	0.1
El Nido	230	45.6	21.1	41.3	21.0	41.5	0.2
Ellis	230	45.6	17.8	41.8	17.7	42.0	0.2
El Segundo	230	34.0	22.4	37.2	22.3	37.3	0.1
Etiwanda	230	34.0	28.7	61.9	28.7	62.4	0.5
Harbor	230	45.6	17.0	35.6	16.9	35.7	0.1
Hinson	230	50.0	20.2	46.2	20.2	46.6	0.4
Huntington Beach	230	37.7	14.7	30.3	14.6	30.4	0.1
Jurupa	230	-	15.4	22.1	15.3	22.2	0.1
La Fresa	230	45.6	26.3	47.5	26.2	47.8	0.3
Laguna Bell	230	34.0	16.8	34.1	16.8	34.4	0.3
Long Beach	230	40.0	16.5	33.7	16.4	33.8	0.1
Lewis	230	45.6	21.2	45.3	21.2	45.5	0.2
Lighthipe	230	40.0	17.5	46.2	17.5	46.7	0.5
Mesa	230	50.0	15.4	50.0	15.7	52.0	2.0
Mira Loma E	230	63.0	24.4	63.4	24.5	64.3	0.9
Mira Loma W	230	63.0	20.8	49.9	20.9	50.8	0.9
Olinda	230	37.7	13.9	27.5	14.9	30.2	2.7
Padua	230	25.1	15.4	21.2	15.4	21.3	0.1
Pardee	230	44.3	17.3	55.4	17.3	55.5	0.1
Rancho Vista	230	-	29.0	62.0	29.0	62.4	0.4
Redondo	230	50.2	26.2	46.4	26.1	46.7	0.3
Rio Hondo	230	34.0	15.3	31.0	15.3	31.3	0.3
San Bernardino	230	50.0	21.2	40.2	21.2	40.3	0.1
Santiago	230	34.0	19.2	28.1	19.1	28.2	0.1
Serrano	230	63.0	25.3	54.7	25.3	55.0	0.3
Sylmar	230	59.0	19.5	58.2	19.5	58.3	0.1
Viejo	230	-	19.1	16.5	19.1	16.6	0.1
Villa Park	230	50.0	22.4	47.5	22.3	47.8	0.3
Vincent	230	63.0	19.6	54.6	19.6	54.9	0.3
Vista	230	40.0	20.2	49.0	20.1	49.2	0.2
Walnut	230	37.7	13.7	29.0	16.6	35.5	6.5

The queue is subject to change at any moment and a higher queued project which withdraws its interconnection request will require a restudy for projects in later queue.

COST ESTIMATE

The *Nonbinding* Cost Estimates associated with upgrading the identified facilities is [redacted] dollars, excluding ITCC.

Analysis	Direct Assignments	Network Upgrades*	TOTAL
Generation Tie Line	[redacted]	[redacted]	[redacted]
Communications Equipment	[redacted]		[redacted]
Short Circuit Duty		[redacted]	[redacted]
Overloaded Transmission Lines		[redacted]	[redacted]
	[redacted]	[redacted]	[redacted]

The Generation Tie Line cost includes the 220 kV line drops, relays to connect the new transmission line from the WEP-P1 to Walnut Substation, and equipping one position in a double breaker position. The communications equipment includes the installation of a Remote Terminal Unit (RTU) that will need to be installed at WEP-P1 Facility.

The short circuit duty includes an upgrade of ten (10) 220 kV Circuit Breakers at Mesa Substation. The number of circuit breakers required to be replaced or upgraded may be changed after a detailed evaluation that will be conducted during the Facility Study phase.

Overloaded transmission lines cost includes the replacement of seven (7) existing 1200A with 2000A Disconnect Switches (three at Center and four at Olinda) for [redacted] and the replacements of two (2) wave traps (one at each terminal facility) for [redacted]

CONSTRUCTION SCHEDULE

The nonbinding Construction Schedule estimate indicates that the facilities upgrades can be done within a year time frame. It includes approvals, engineering, design, procurement, construction, and testing for the project.

ELEMENT	START	END	Months 1	2	3	4	5	6	7	8	9	10	11	12
PROJECT APPROVAL	Initiate Work Orders													
WALNUT SUB.	New 220kV Position													
Engineering & Design	Start of Mo.2	Start of Mo.6												
Major Equipment Procure & Deliver	Start of Mo.4	Start of Mo.10												
Construction	Middle of Mo.8	Middle of Mo.12												
Testing	Start of Mo.12	End of Mo.12												
OTHER RELATED SUBSTATIONS	MINOR UPGRADES													
Engineering & Design	Start of Mo.5	Start of Mo.8												
Wave Traps & Line Drops Materials	Start of Mo.7	Middle of Mo.10												
Construction	Start of Mo.10	Middle of Mo.12												
Testing	Start of Mo.12	End of Mo.12												
MESA SUB.	Upgrade ten 220kV CB's													
Engineering & Design	Start of Mo.2	Start of Mo.6												
Major Equipment Procure & Deliver	Start of Mo.4	Start of Mo.10												
Construction	Middle of Mo.8	Middle of Mo.12												
Testing	Start of Mo.12	End of Mo.12												

CONCLUSION

LOAD FLOW RESULTS

The study results show that the existing system is not adequate to accommodate the WEP-P1 Project without upgrades. Upgrades at Center and Olinda 220kV substations need to be implemented.

POST-TRANSIENT AND TRASIENT STUDY RESULTS

Transient and Post-Transient studies conducted in the area for similar or larger generators concluded that the systems remains stable for single and double outage conditions. Additional studies were performed for this interconnection which validates previous findings.

SHORT CIRCUIT DUTY RESULTS

It was identified that upgrades to ten Circuit Breakers at Mesa Substation due to the addition of WEP-P1.

INTERCONNECTION FACILITY

A double breaker position will be implemented at Walnut Substation to terminate the new 220kV transmission line from WEP-P1 to Walnut Substation. Also a Remote Terminal Unit (RTU) will be installed at WEP-P1 location.

CONSTRUCTION SCHEDULE

It will take about a year to approve, engineer, design, procure, construct, and test the upgrades/ installation of the new equipment.

COST

The Nonbinding cost estimate associated with the upgrades is [redacted]

FACILITY STUDY

A Facilities Study will be required to determine the facilities and upgrades necessary to interconnect the proposed WEP-P1 Addition. The study should:

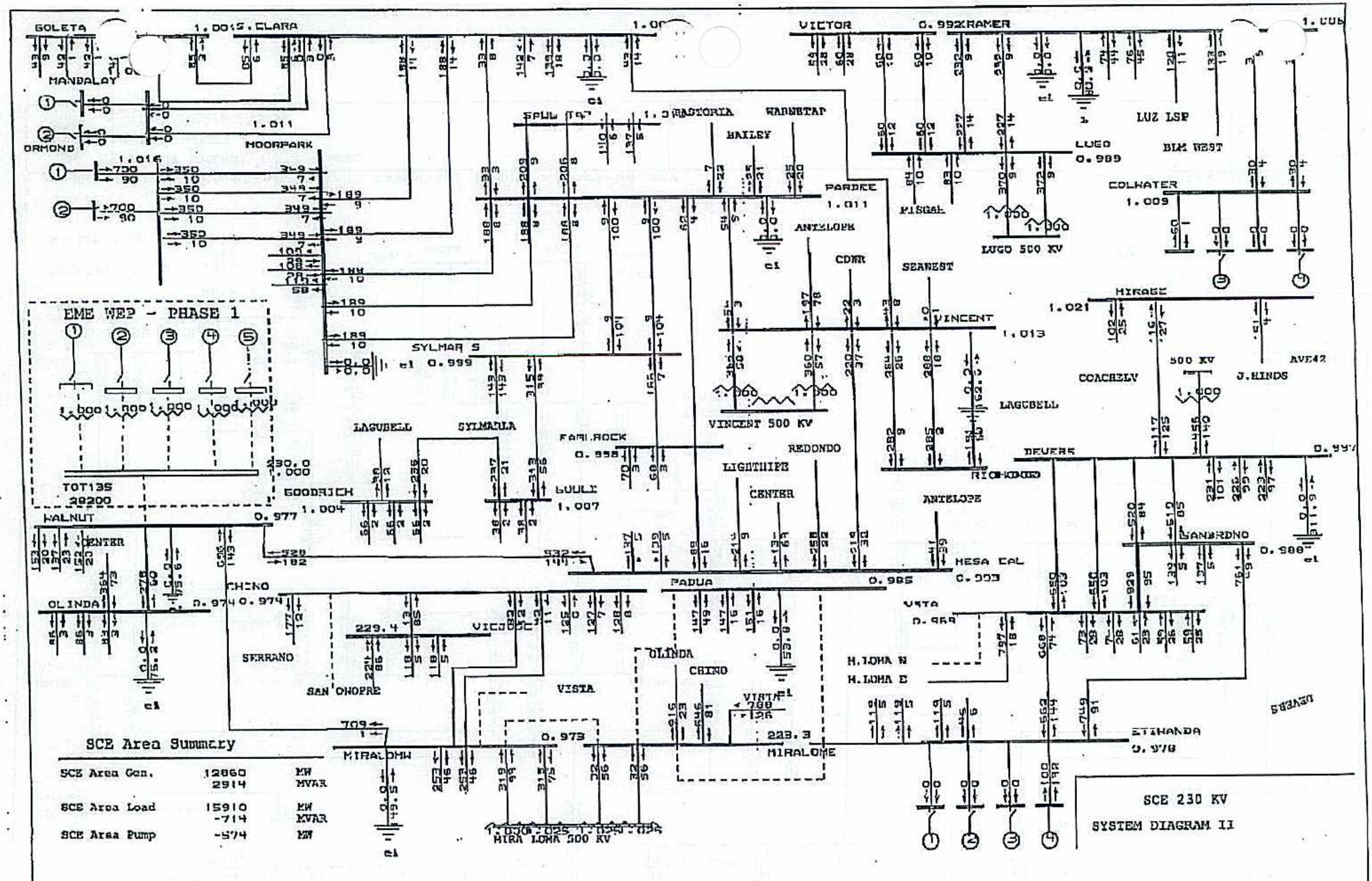
1. Confirm the cost and the feasibility of terminating the new 220kV line by equipping a position with a double breaker configuration.
2. Confirm the cost and the feasibility of installing a new Remote Terminal Unit (RTU) at WEP-P1 facilities.
3. Confirm the cost and feasibility with upgrading the existing ten (10) Circuit Breakers at Mesa Substation in order to meet short circuit duty requirements.

4. Confirm the cost and feasibility of replacing the seven 220 kV Disconnect Switches and the two wave traps at Center and Olinda Substation and that these upgrades are sufficient to mitigate the overloads triggered by WEP-P1.

APPENDIX A

POWER FLOW RESULTS
(POWER FLOW DIAGRAMS)

BASE CASE
(N-0)

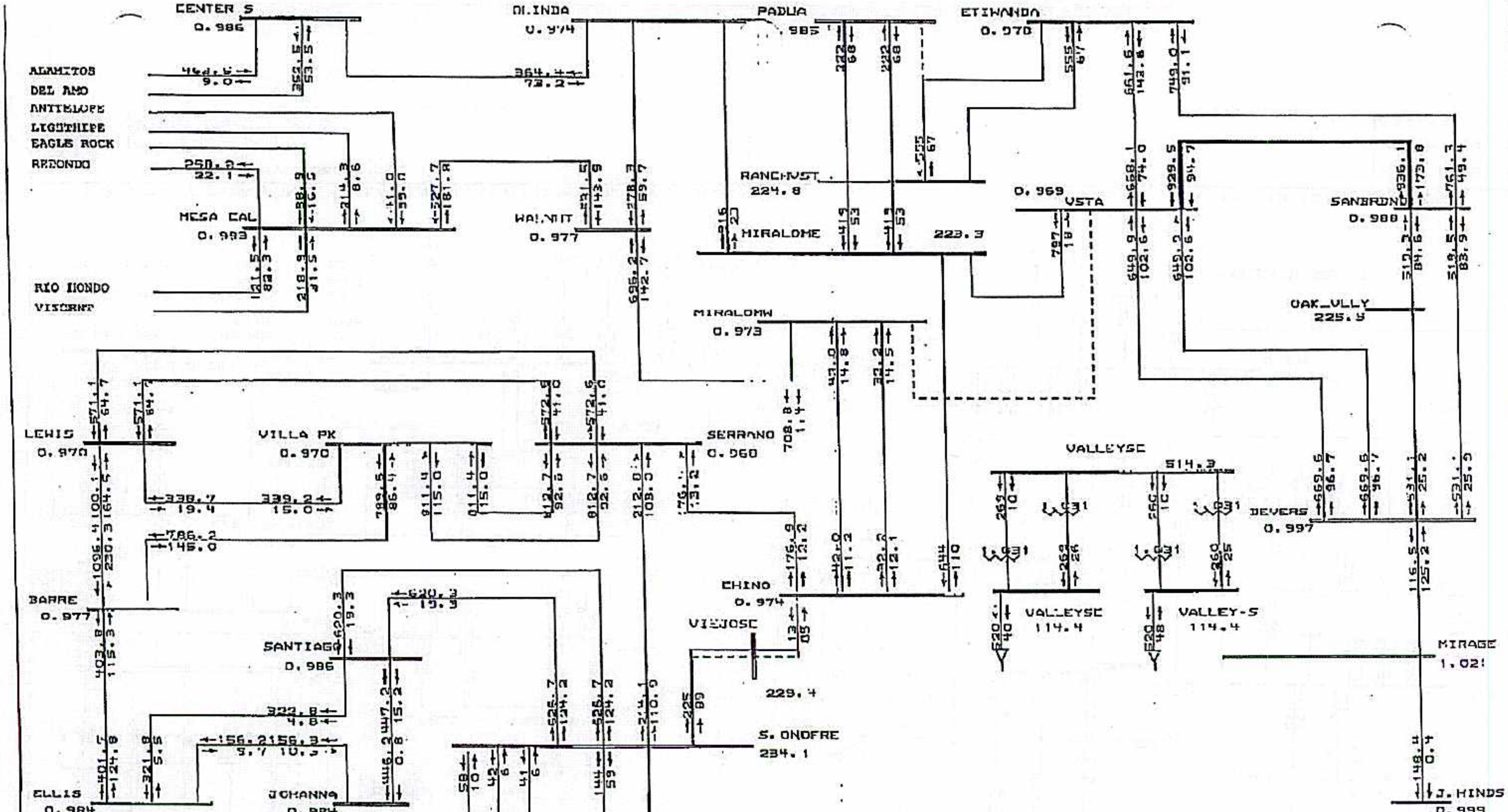


walnut energy park phase 1\final cases\lsp-prewalnutpark-06.sav

Tue Sep 13 16:33:17 2005

WALNUT ENERGY PARK PHASE 1
PRE-PROJECT
LIGHT SPRING CASE

PSLF Program
emewalnut.drw
Rating #1



SCE Area Summary

SCE Area Gen.	12860 2914	MW MVAR
SCE Area Load	15910 -714	MW MVAR
SCE Area Pump	-574	MW

Eastern

220 kV System

walnut energy park phase 1\final cases\lsp-prewalnutpark-06.sav

Tue Sep 13 16:26:12 2005

WALNUT ENERGY PARK PHASE 1

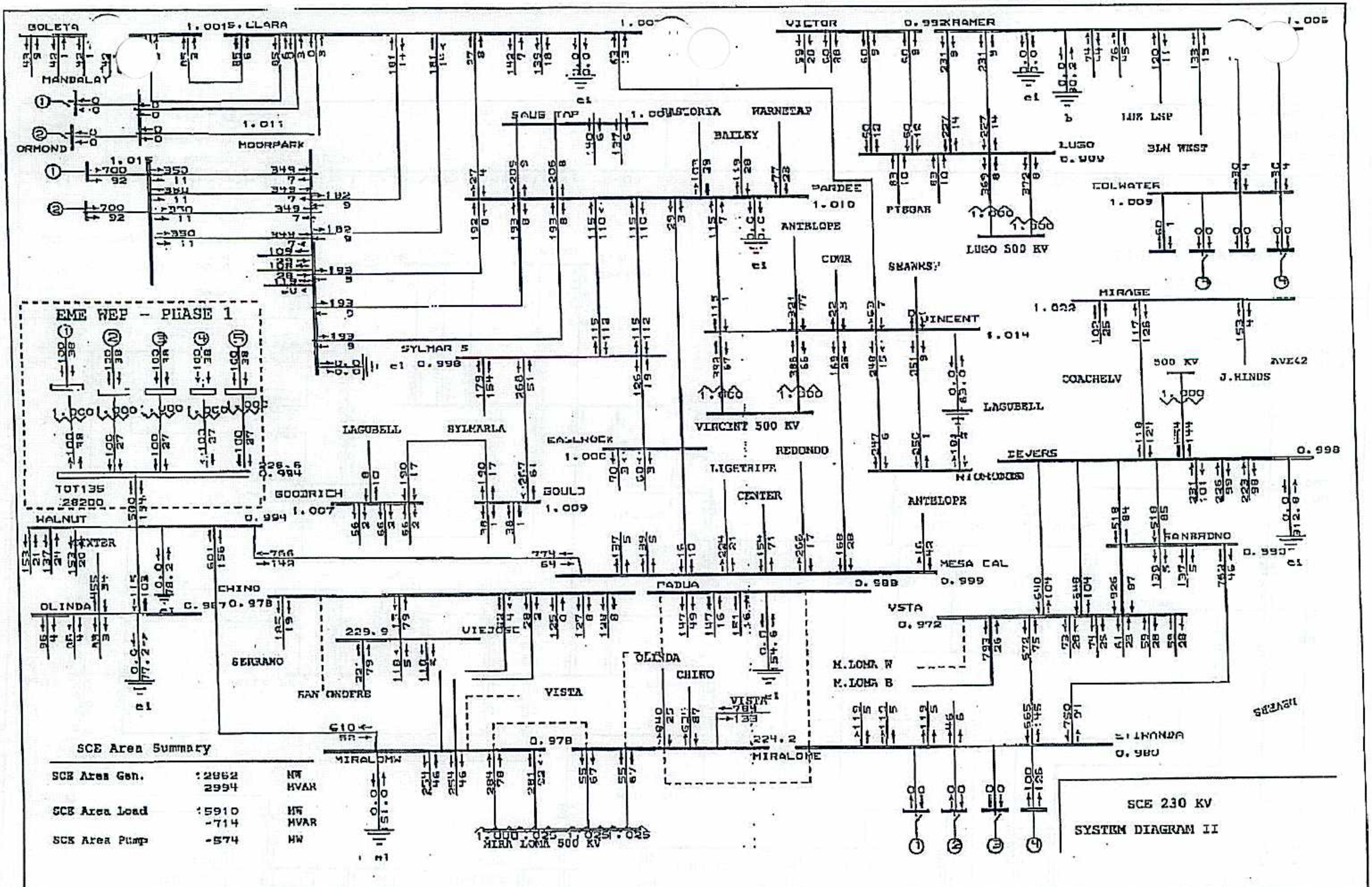
PRE-PROJECT

LIGHT SPRING CASE

PSLF Program

sce230-easter

Rating =1

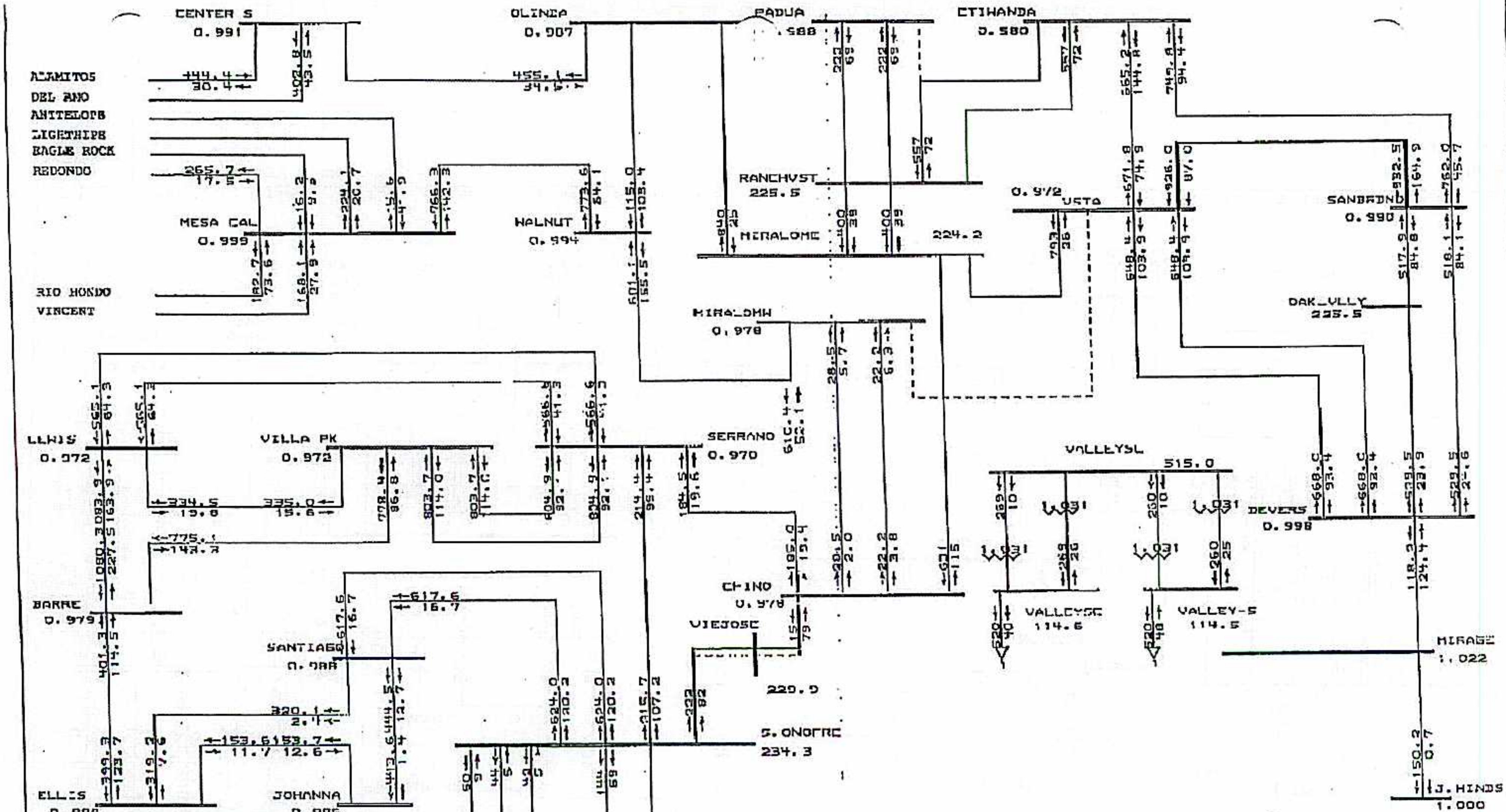


walnut energy park phase 1\final cases\lsp-postwalnutpark-06.sav

Tue Sep 13 16:28:11 2005

WALNUT ENERGY PARK PHASE 1
POST-PROJECT
LIGHT SPRING CASE

PSLF Program
emewalnut.drw
Rating =1



SCE Area Summary

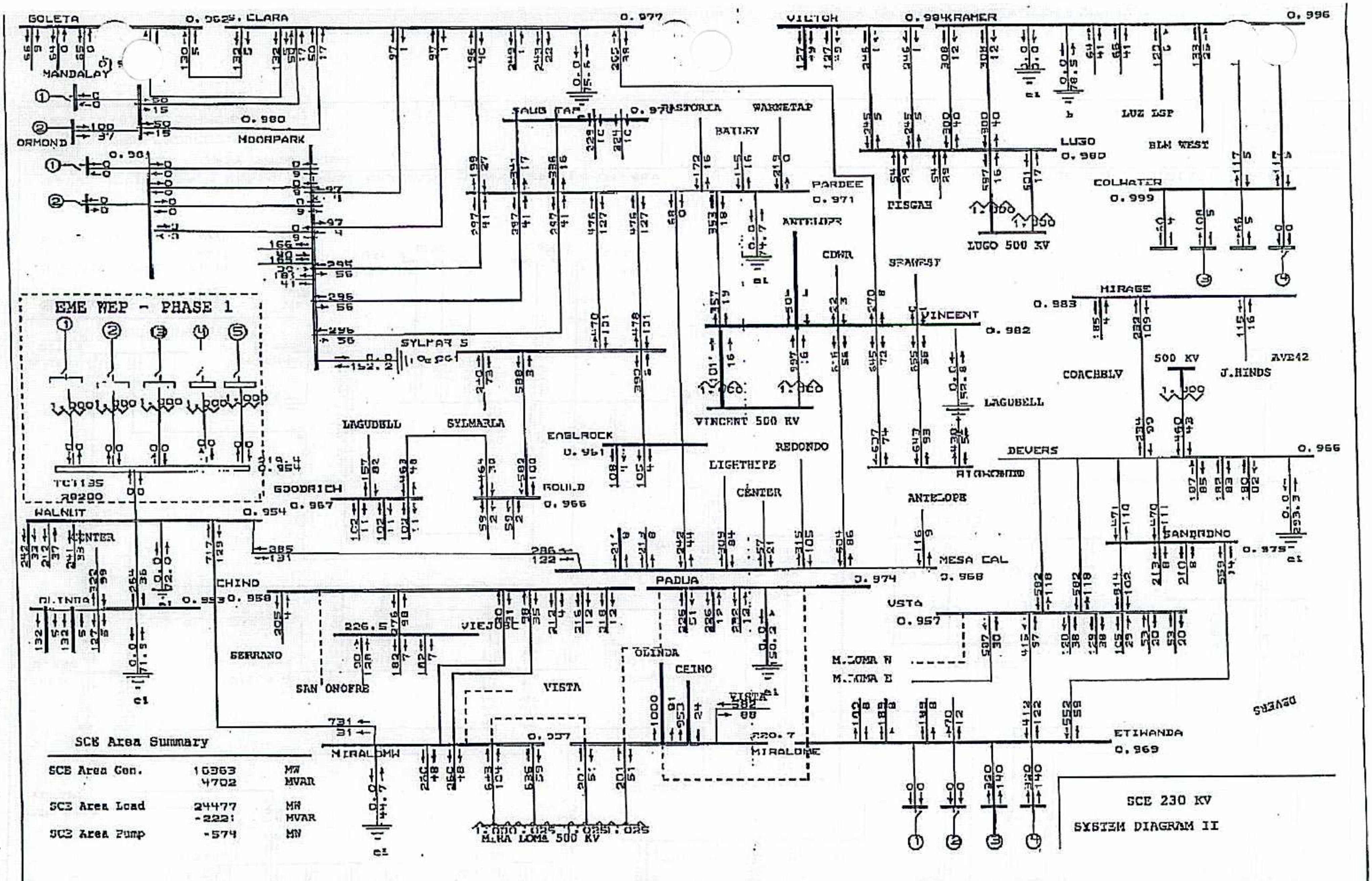
SCE Area Gen.	12062 2994	MW MVAR
SCE Area Load	5910 -714	MW MVAR
SCE Area Pomp	-574	MW

Eastern
220 kV System

walnut energy park phase 1\final cases\lsp-postwalnutpark-06.sav

Tue Sep 13 16:28:29 2005

WALNUT ENERGY PARK PHASE 1 POST-PROJECT LIGHT SPRING CASE		PSLF Program sce230-easter Rating -1



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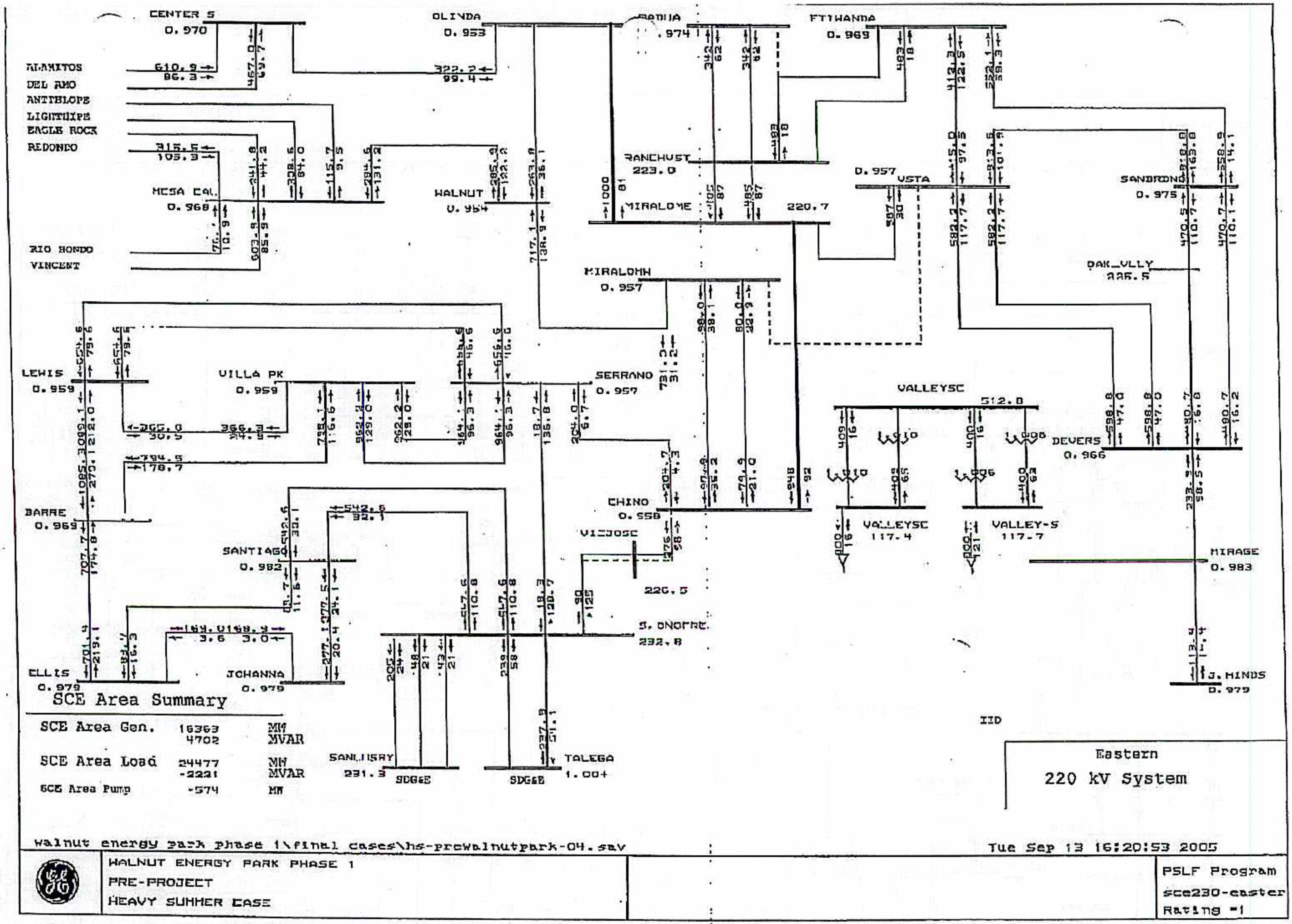
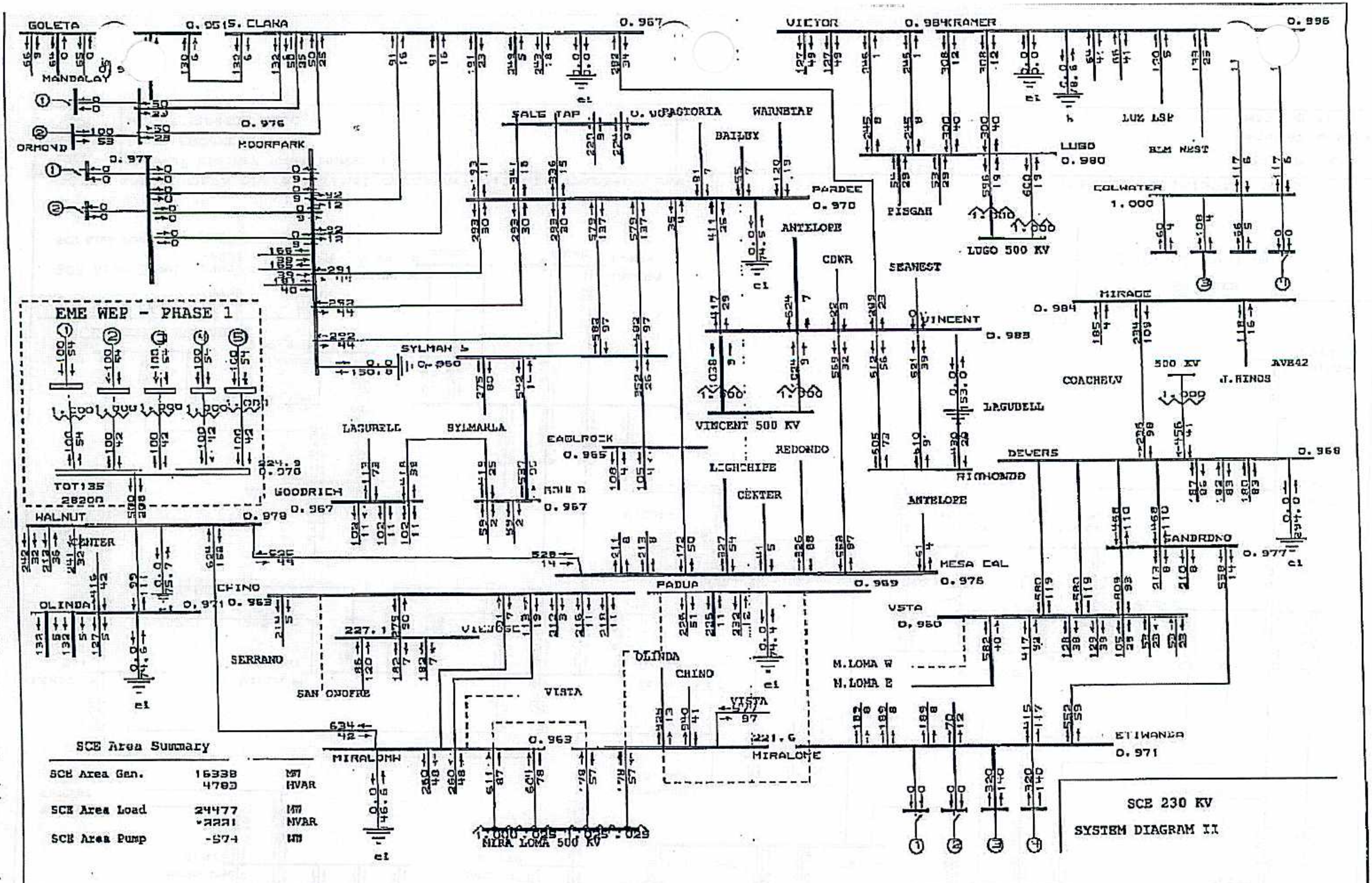
Tue Sep 13 16:20:28 2005

WALNUT ENERGY PARK PHASE 1 PRE-PROJECT HEAVY SUMMER CASE		PSLF Program emewalnut.drw Rating -1


CENTER S 0.970
ALAMITOS
DEL AMO
ANTELOPE
LIGHTHIPE
EAGLE ROCK
REDONDO
RIO HONDO
VINCENT
MESA CAL 0.968
WALNUT 0.954
OLINDA 0.953
BARDIA .974
RANCHUST 223.0
MIRALOME 220.7
ETIWANDA 0.969
VSTA 0.957
SANBRDNO 0.975
OAK_VLLY 225.5
MIRALOMW 0.957
LEWIS 0.959
VILLA PK 0.959
SERRANO 0.957
VALLEYSC 512.8
DEVERS 0.966
CHINO 0.558
VALLEYSC 117.4
VALLEY-S 117.7
VIEJOSE
MIRAGE 0.983
BARRE 0.969
SANTIAGO 0.982
226.5
S. ONOFRE 232.8
ELLIS 0.979
JOHANNA 0.979
J.HINDS 0.979
SANLUSRY 231.3
SDG&E
TALEGA 1.00+
IID
SCE Area Summary
SCE Area Gen. 16363 MW 4702 MVAR
SCE Area Load 24477 MW -2221 MVAR
SCE Area Pump -574 MW
Eastern
220 kV System
walnut energy park phase 1\final cases\hs-prewalnutpark-04.sav
Tue Sep 13 16:20:53 2005
WALNUT ENERGY PARK PHASE 1
PRE-PROJECT
HEAVY SUMMER CASE
PSLF Program
sce230-easter
Rating =1



SCE Area Summary

SCE Area Gen.	16338 4783	MW MVAR
SCE Area Load	24477 *3331	MW MVAR
SCE Area Pump	-574	MW

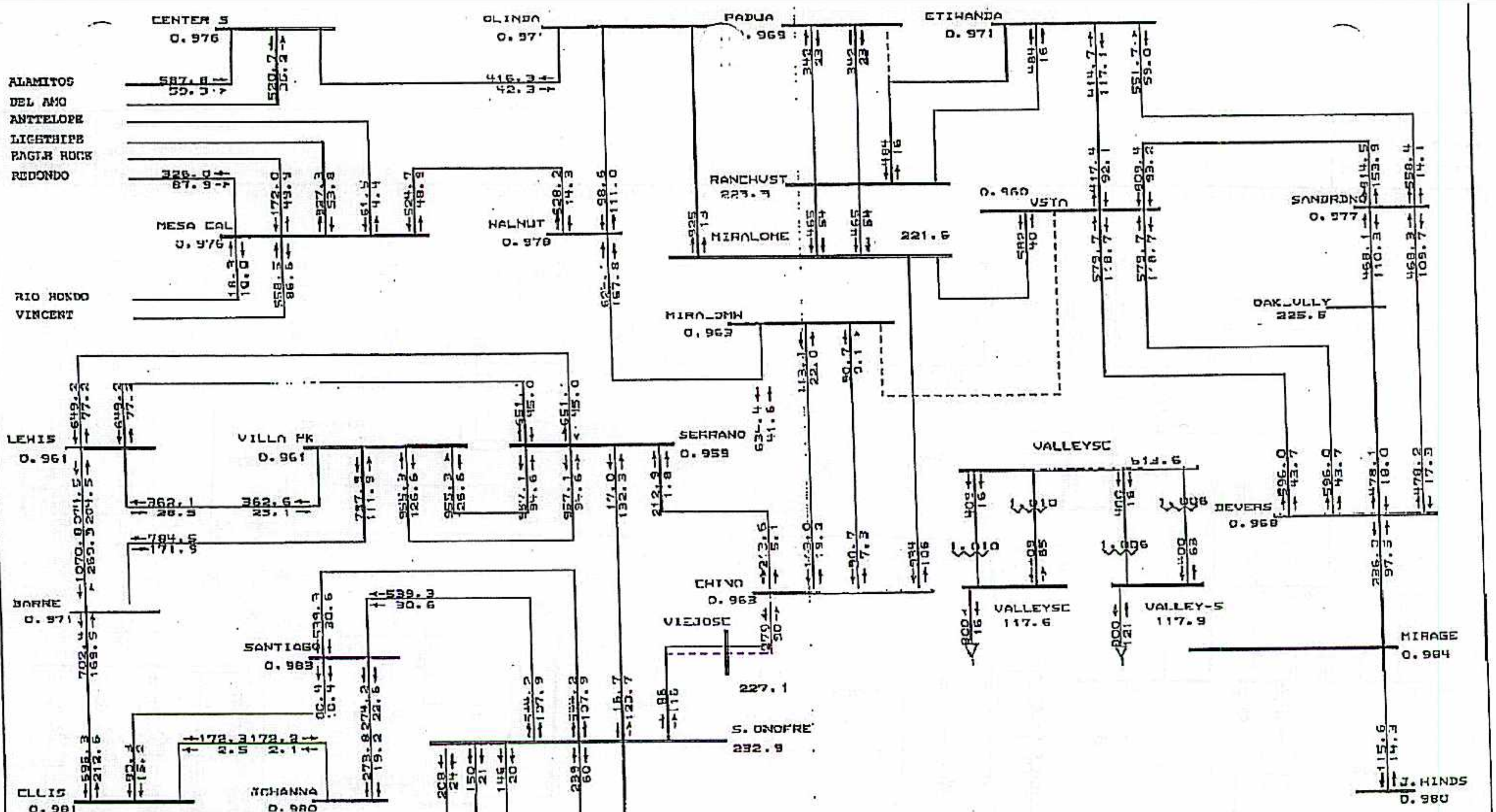
walnut energy park phase 1\final cases\hs-postwalnutpark-04.sav

Wed Sep 14 15:28:06 2005

WALNUT ENERGY PARK PHASE 1
POST-PROJECT
HEAVY SUMMER CASE

BASE CASE

PSLF Program
emewalnut.drw
Rating =1



SCE Area Summary

SCE Area Gen.	16338 4783	MW MVAR
SCE Area Load	24477 -2221	MW MVAR
SCE Area Pump	-574	MW

Eastern

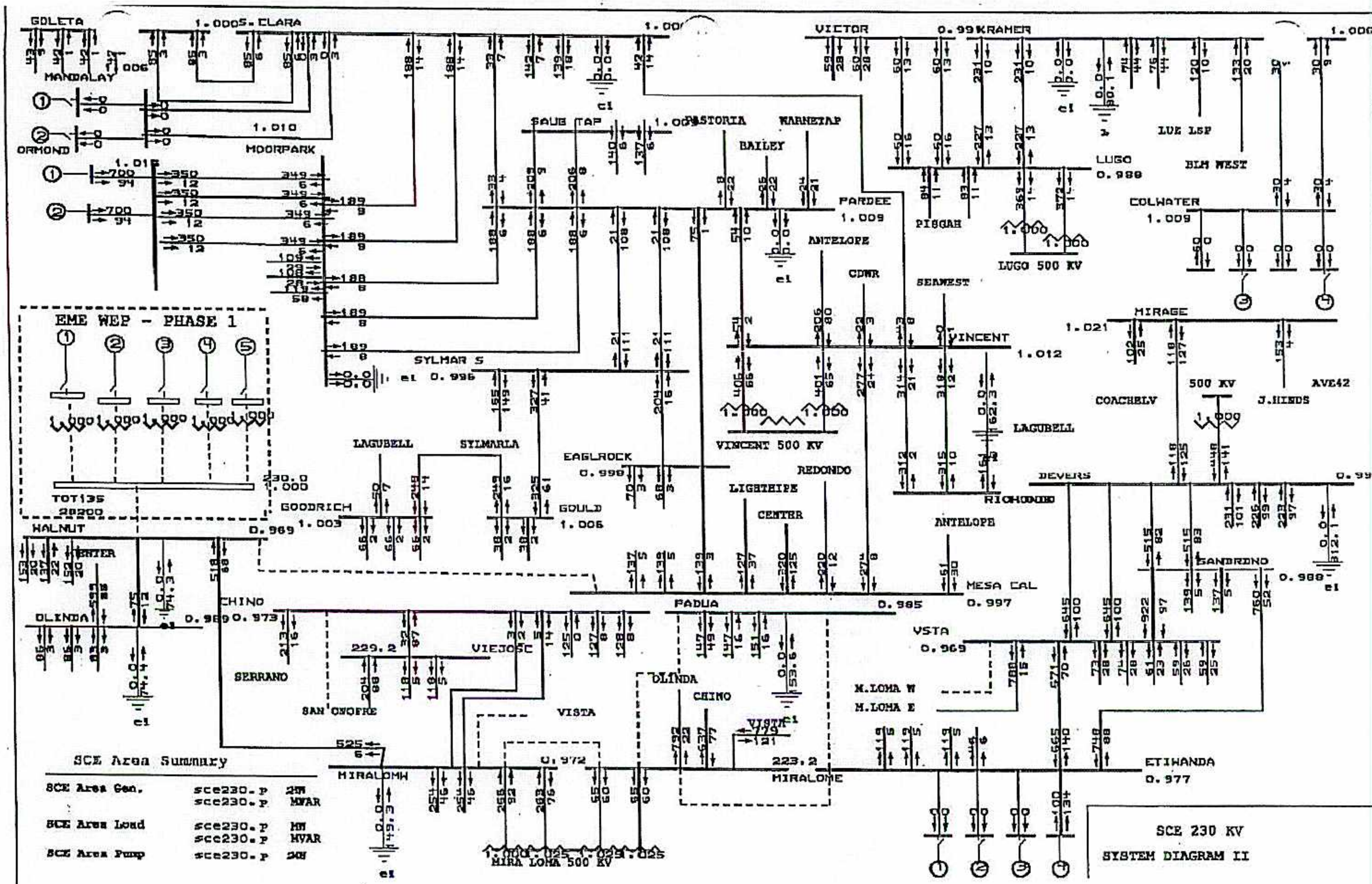
220 kV System

walnut energy park phase 1\final cases\hs-postwalnutpark-04.sav

Tue Sep 13 16:22:58 2005

GE	WALNUT ENERGY PARK PHASE 1 POST-PROJECT HEAVY SUMMER CASE		PSLF Program sce230-easter Rating =1

SINGLE CONTINGENCY (N-1)



SCE Area Summary

SCE Area Gen.	sce230.p sce230.p	MW MVAR
SCE Area Load	sce230.p sce230.p	MW MVAR
SCE Area Pump	sce230.p	MW

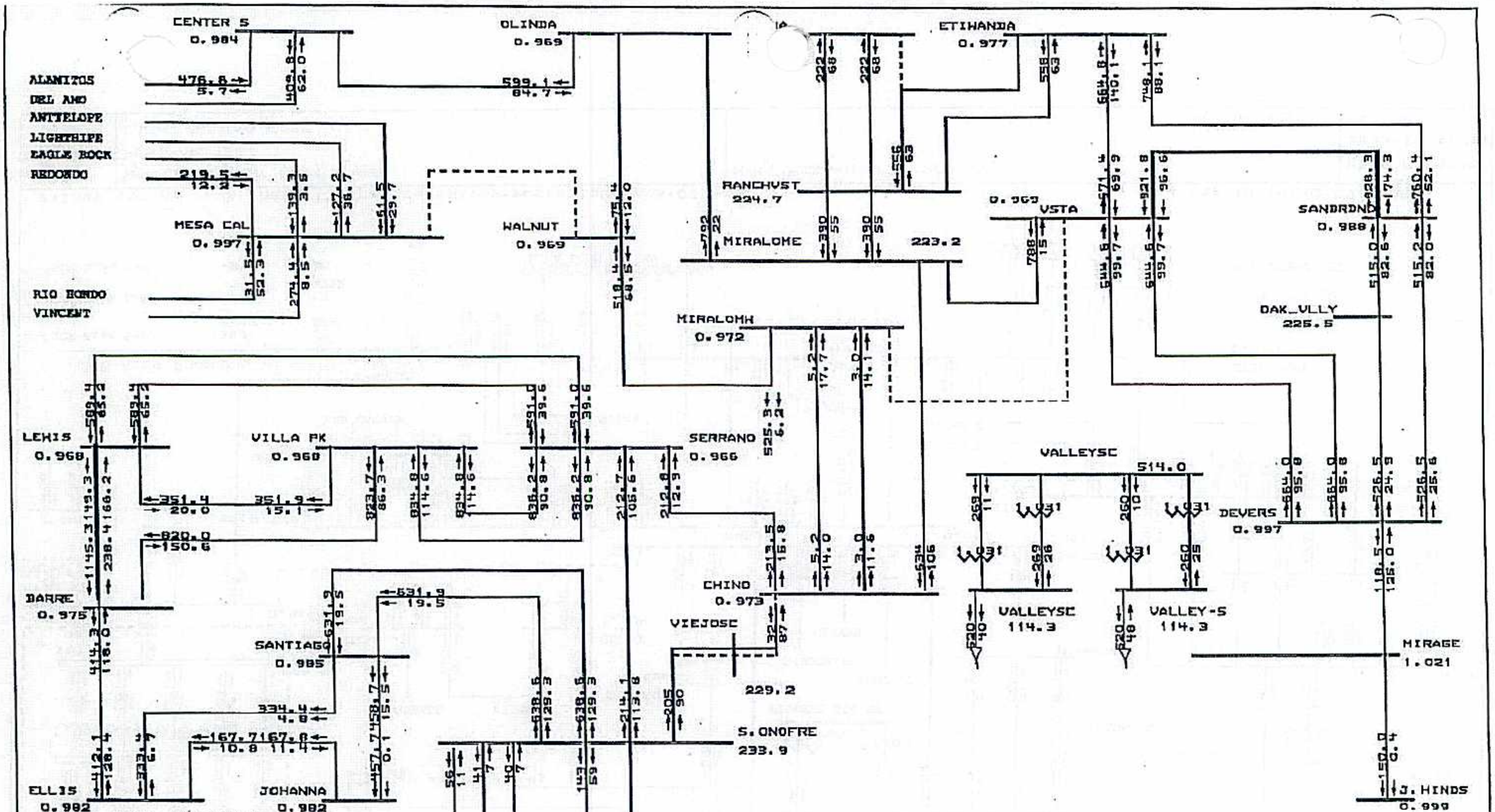
walnut energy park phase 1\final cases\lsp-prewalnutpark-06.sav

Wed Sep 14 14:31:15 2005

WALNUT ENERGY PARK
PRE-PROJECT
LIGHT SPRING CASE

N-1: MESA-WALNUT 230 KV

PSLF Program
emewalnut.drw
Rating -1



SCE Area Summary

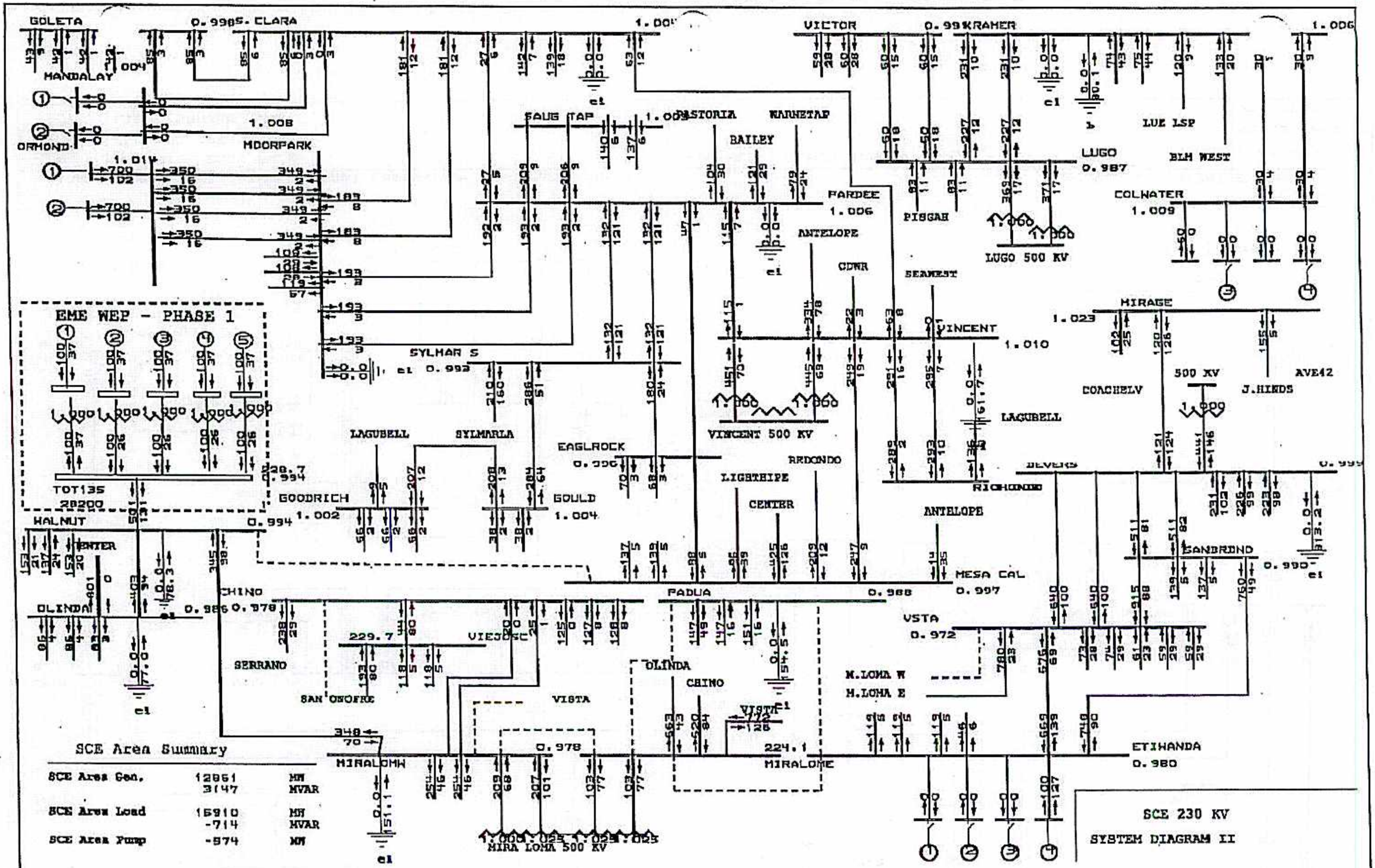
SCE Area Gen.	12057 2986	MW MVAR
SCE Area Load	15910 -714	MW MVAR
SCE Area Pump	-574	MW

Eastern
220 kV System

walnut energy park phase 1\final cases\lsp-prewalnutpark-06.sav

Wed Sep 14 14:35:45 2005

GE	WALNUT ENERGY PARK PRE-PROJECT LIGHT SPRING CASE	N-1: MESA-WALNUT 230 KV	PSLF Program sce230-easter Rating -1



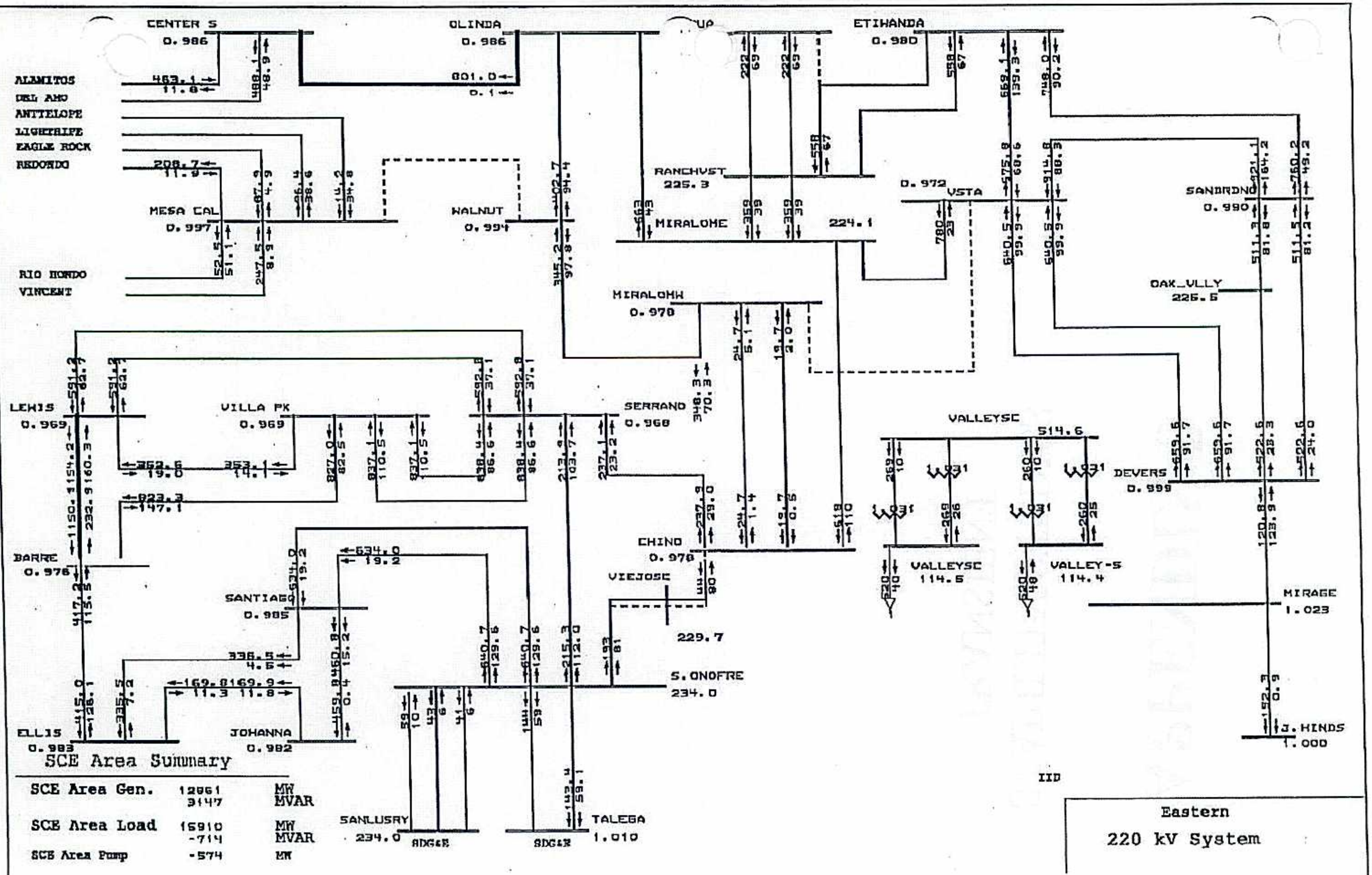
SCE Area Summary

SCE Area Gen.	12861 3147	MW MVAR
SCE Area Load	16910 -714	MW MVAR
SCE Area Pump	-974	MW

walnut energy park phase 1\final cases\lsp-postwalnutpark-06.sav

Wed Sep 14 14:40:27 2005

WALNUT ENERGY PARK PHASE 1 POST-PROJECT LIGHT SPRING CASE	N-1: MESA-WALNUT 230 KV	PSLF Program emewalnut.drw Rating -1



walnut energy park phase 1\final cases\lsp-postwalnutpark-06.sav

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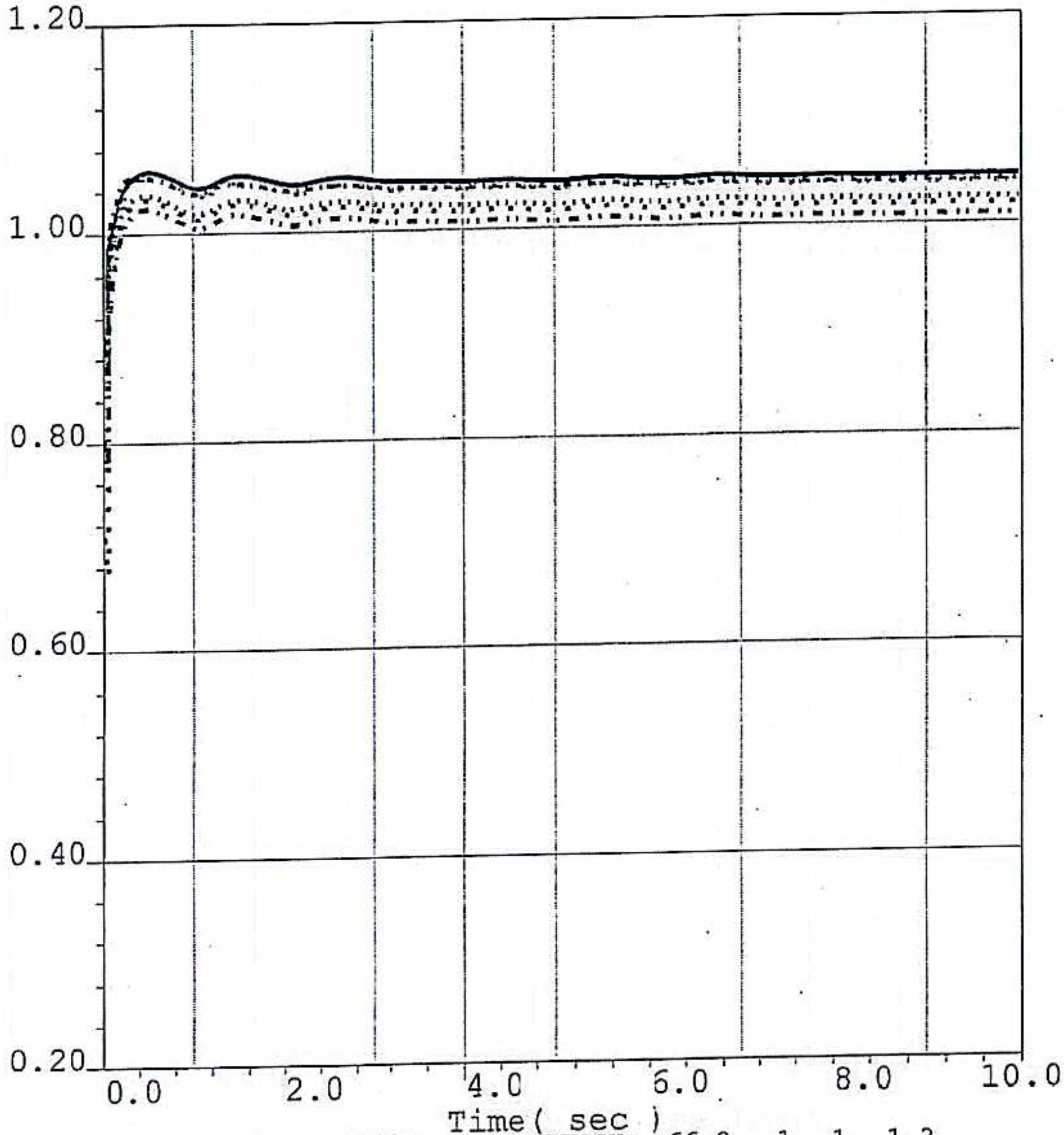
GE	WALNUT ENERGY PARK PHASE 1 POST-PROJECT LIGHT SPRING CASE	N-1: MESA-WALNUT 230 KV	PSLF Program sce230-easter Rating -1

APPENDIX B

STABILITY STUDIES
TRANSIENT

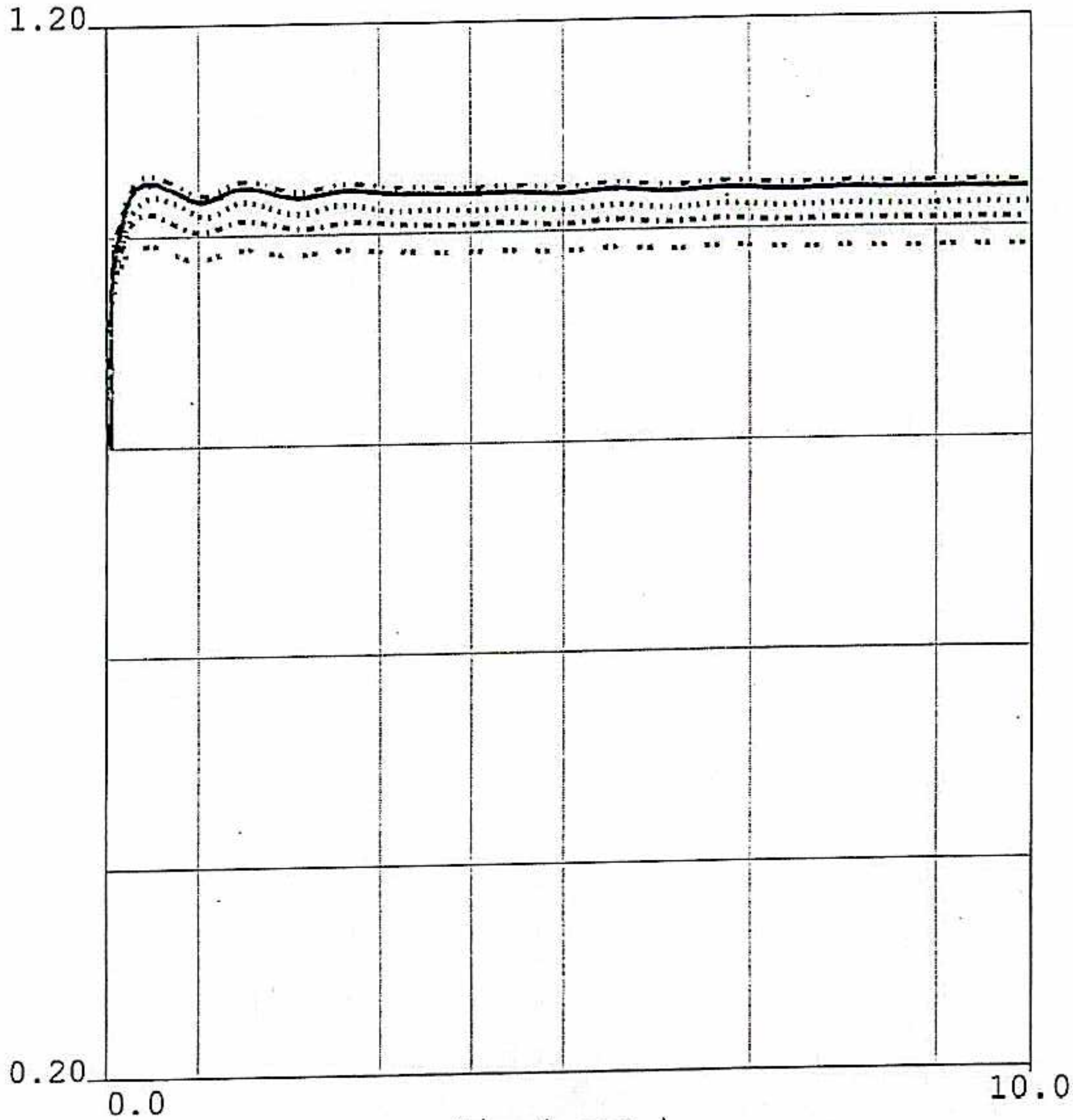


___	0.2	vt	24007	ALMITOSW	66.0	1	1	1.2
....	0.2	vt	24201	BARRE	66.0	1	1	1.2
..	0.2	vt	24203	CENTER S	66.0	1	1	1.2
.. .	0.2	vt	24199	CHEVMAIN	66.0	1	1	1.2
_..	0.2	vt	24024	CHINO	66.0	1	1	1.2
_..	0.2	vt	24028	DELAMO	66.0	1	1	1.2

System Impact Study Base Case (Heavy Summer - Stress Eastern)
EME-Walnut Energy Park Phase 1
N-2:
Chino-Walnut 230 kV
da-Walnut 230 kV

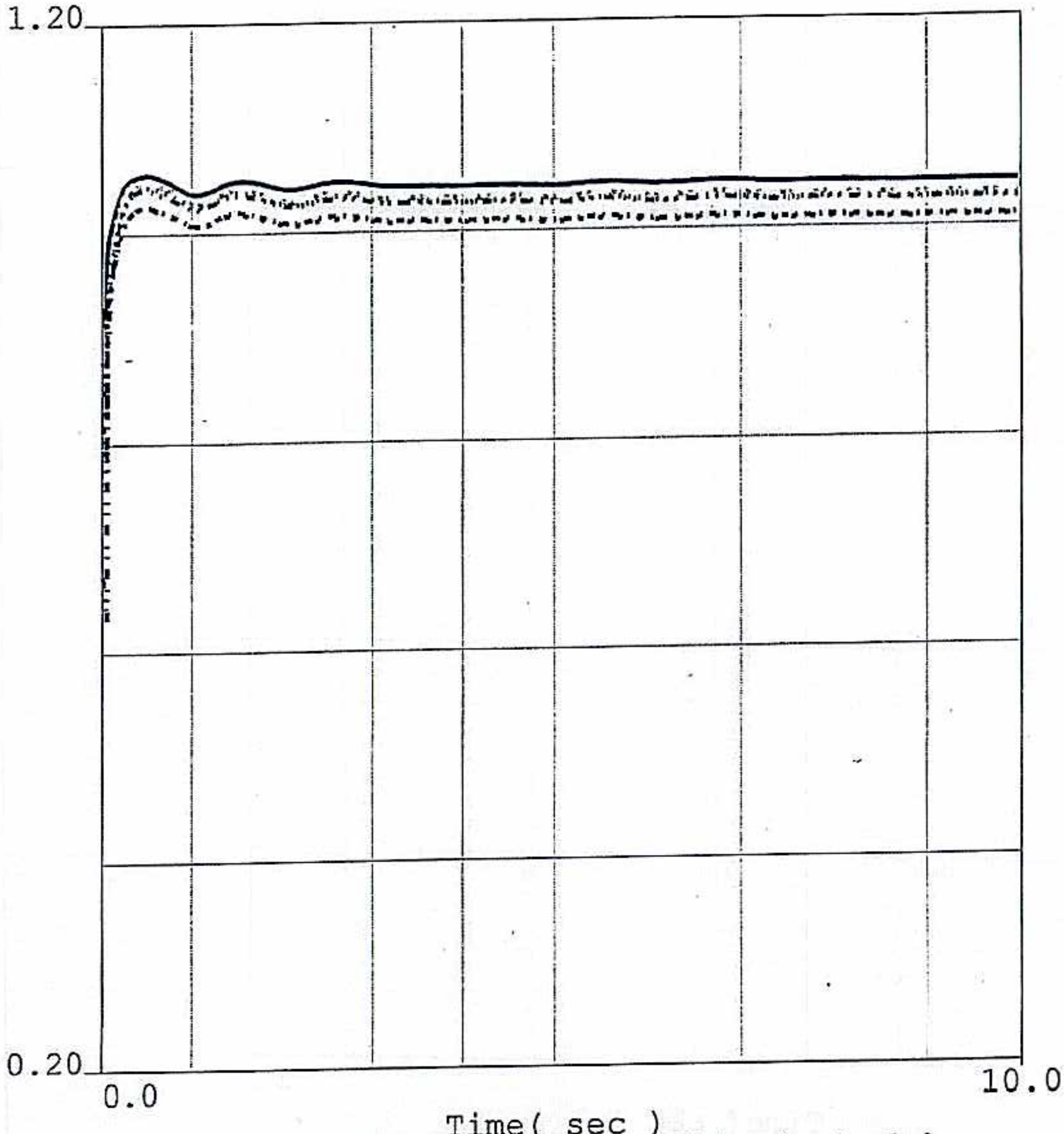
hs-postwalnutpark-04_chinowalnut-olindawalnut-dlo

Fri Oct 14 17:15:21 2005



— 0.2	vt	24205	EAGLROCK	66.0	1	1	1.2
.... 0.2	vt	24039	EL NIDO	66.0	1	1	1.2
.. 0.2	vt	24197	ELLIS	66.0	1	1	1.2
.. . 0.2	vt	24032	AMERON	66.0	1	1	1.2
--- 0.2	vt	24057	GOLETA	66.0	1	1	1.2
-.. 0.2	vt	24206	GOULD	66.0	1	1	1.2

System Impact Study Base Case (Heavy Summer - Stress Eastern)
EME-Walnut Energy Park Phase 1
N-2:
Chino-Walnut 230 kV
Olinda-Walnut 230 kV



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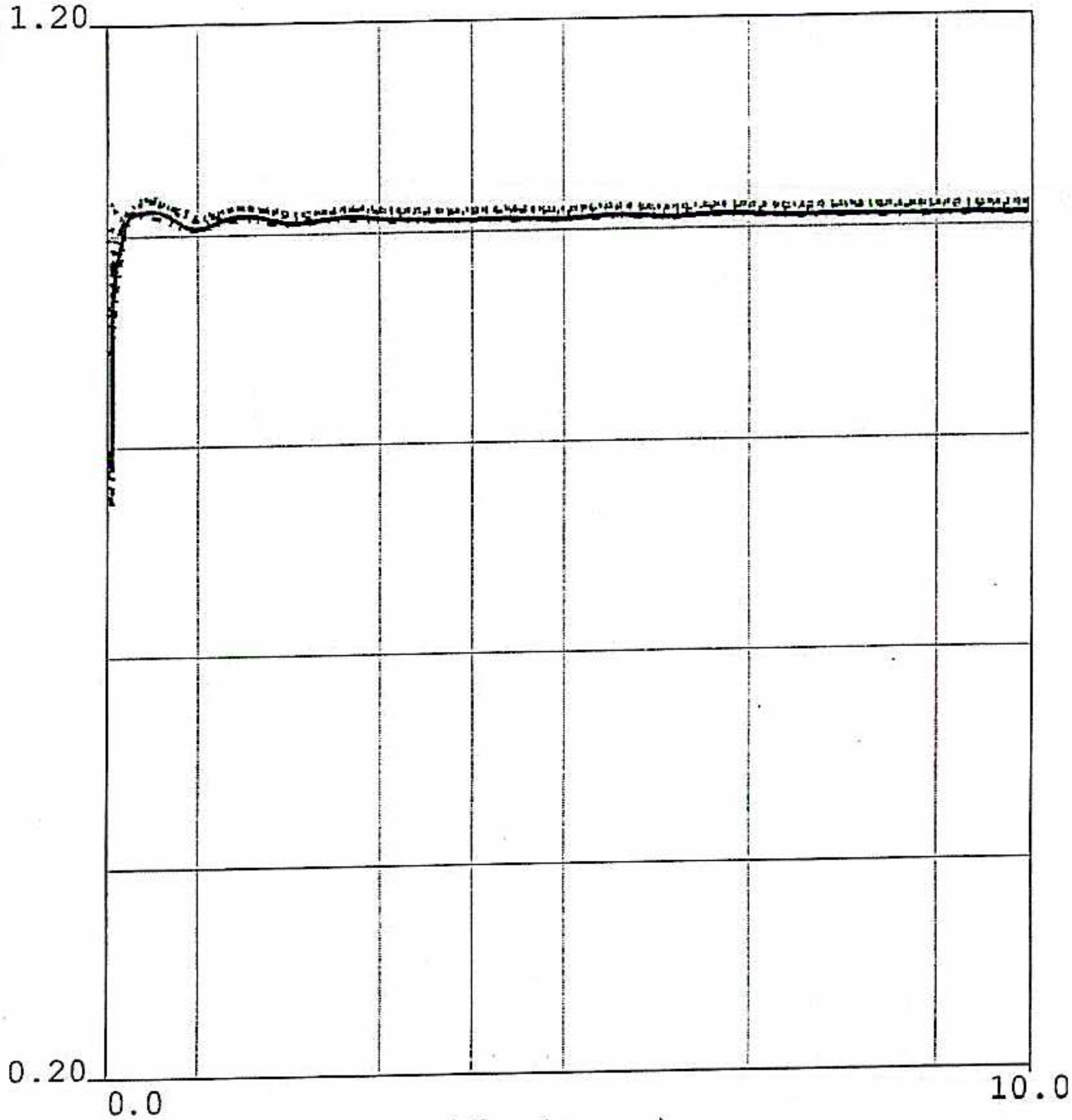
..	0.2	vt	24075	LAGUBELL	66.0	1	1	1.2
-- .	0.2	vt	24208	LCIENEGA	66.0	1	1	1.2
---	0.2	vt	24083	LITEHIPE	66.0	1	1	1.2
-..	0.2	vt	24209	MESA CAL	66.0	1	1	1.2

System Impact Study Base Case (Heavy Summer - Stress Eastern)
EME-Walnut Energy Park Phase 1
N-2:
Chino-Walnut 230 kV
O da-Walnut 230 kV

hs-postwalnutpark-04_chinowalnut-olindawalnut-dlo | Fri Oct 14 17:15:21 2005



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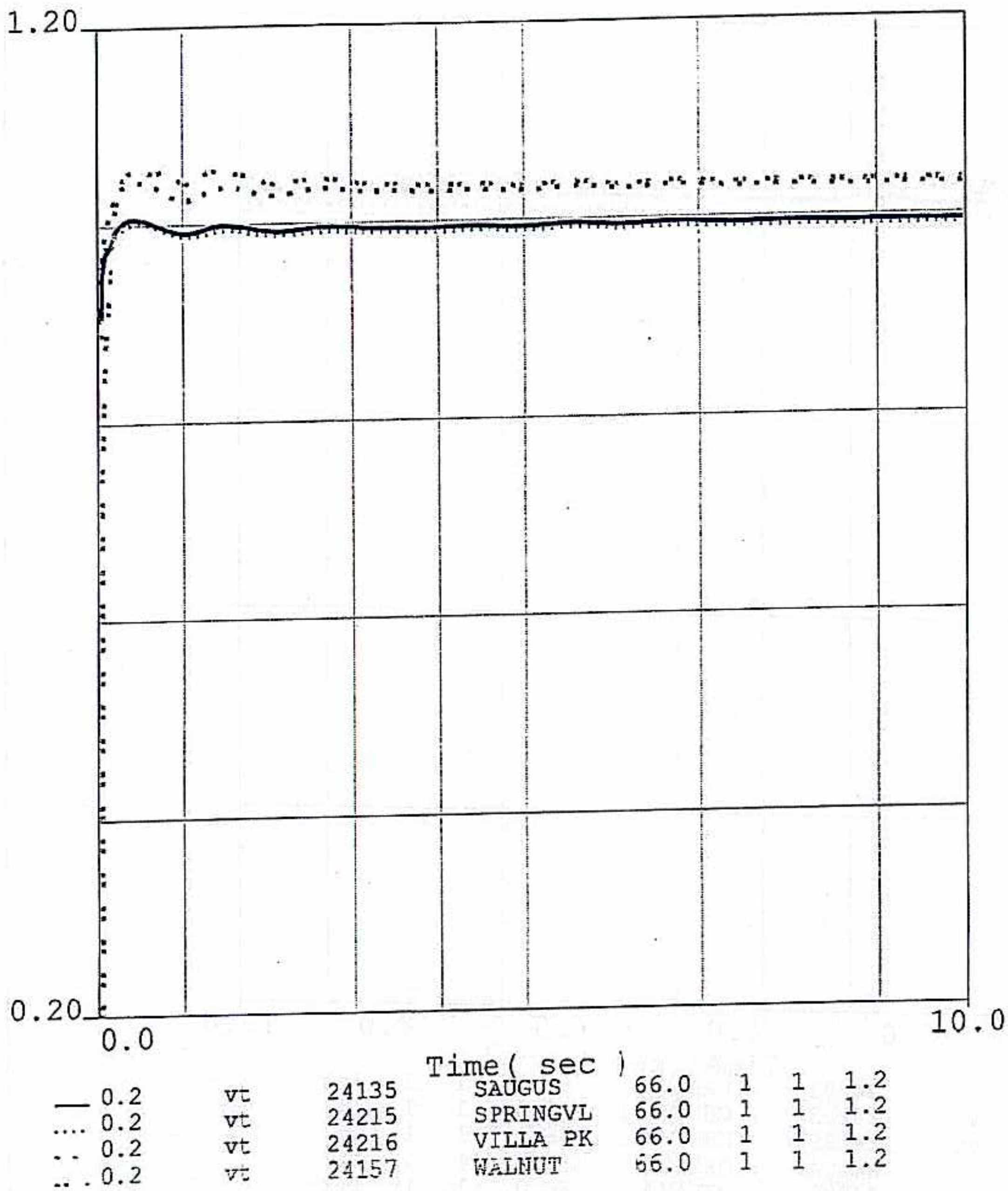
.... 0.2	vt	24098	MOORPARK	66.0	1	1	1.2
_ _ 0.2	vt	24111	PADUA	66.0	1	1	1.2
_. . 0.2	vt	24212	RECTOR	66.0	1	1	1.2
_.. 0.2	vt	24213	RIOHONDO	66.0	1	1	1.2
_.. 0.2	vt	24214	SANBRDNO	66.0	1	1	1.2

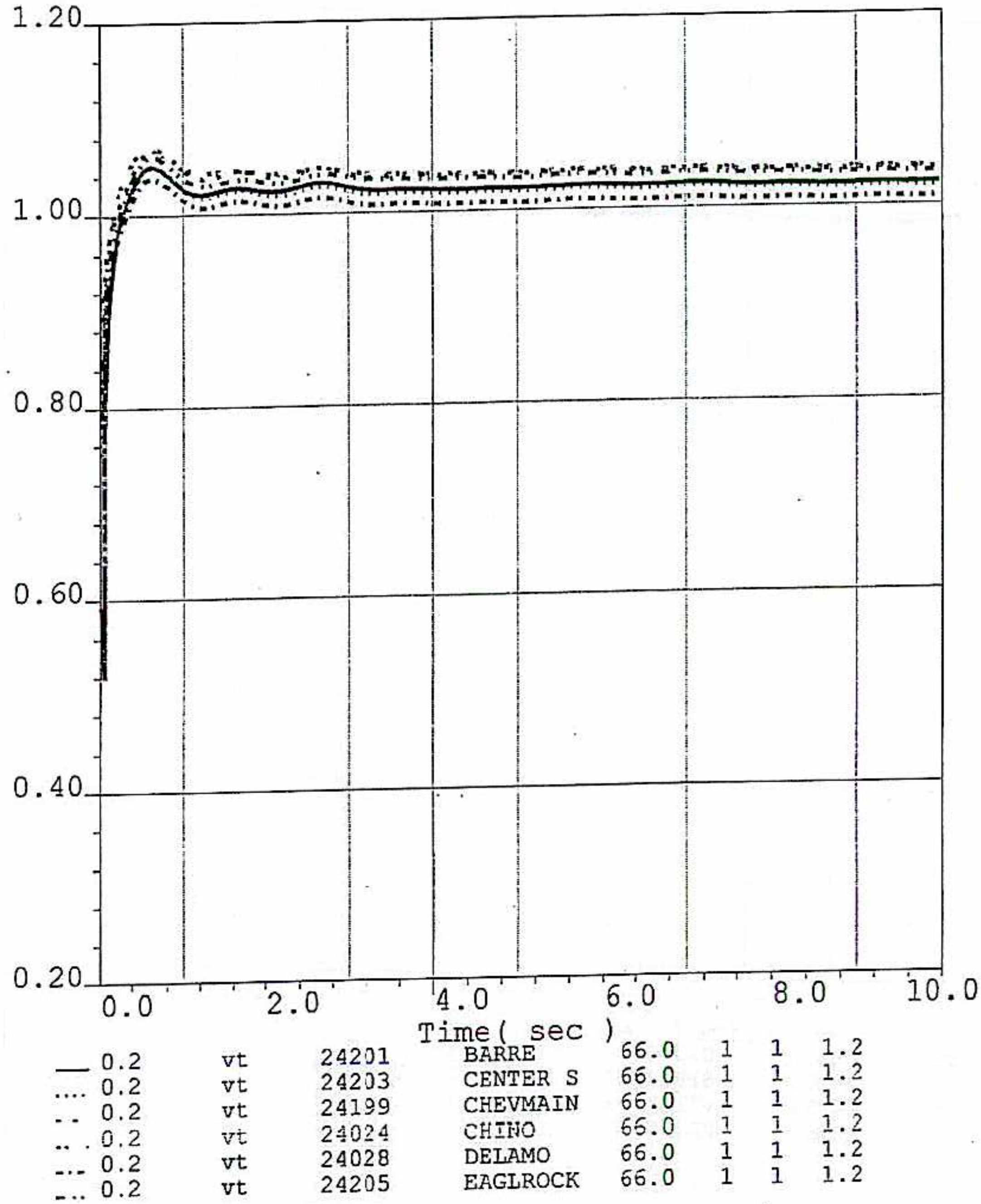
System Impact Study Base Case (Heavy Summer - Stress Eastern)
EME-Walnut Energy Park Phase 1
N-2:
Chino-Walnut 230 kV
Olinda-Walnut 230 kV

hs-postwalnutpark-04_chinowalnut-olindawalnut-dlo

Fri Oct 14 17:15:21 2005



System Impact Study Base Case (Heavy Summer - Stress Eastern)
EME-Walnut Energy Park Phase 1
N-2:
Chino-Walnut 230 kV
Olinda-Walnut 230 kV



System Impact Study Base Case (Heavy Summer - Stress Eastern)

EME-Walnut Energy Park Phase 1

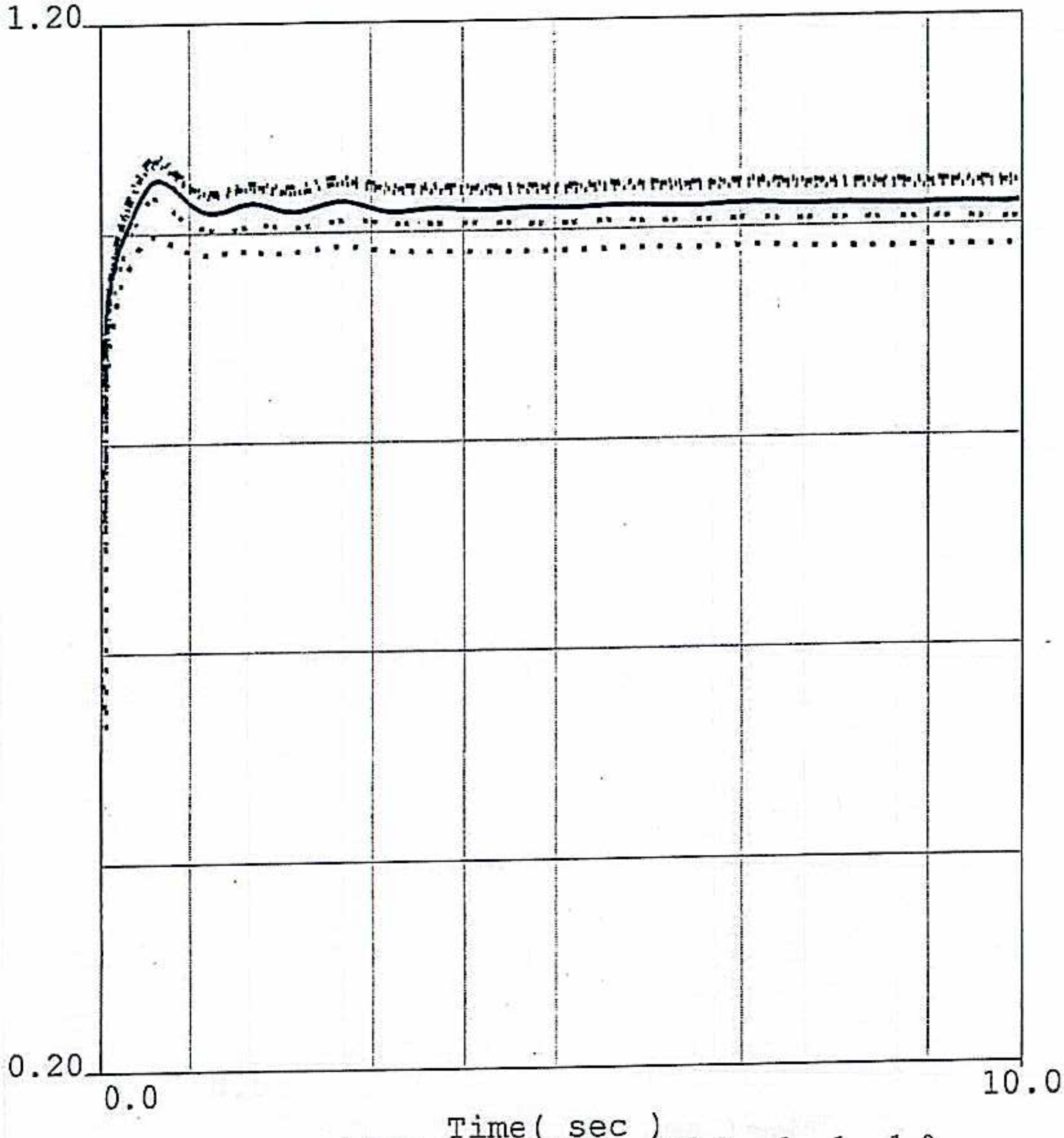
N-2:

Lugo Miraloma No. 1 500 kV

Lugo Miraloma No. 2 500 kV

hs-postwalnutpark-04_lugomiraloma-dlo

Fri Oct 14 17:19:41 2005



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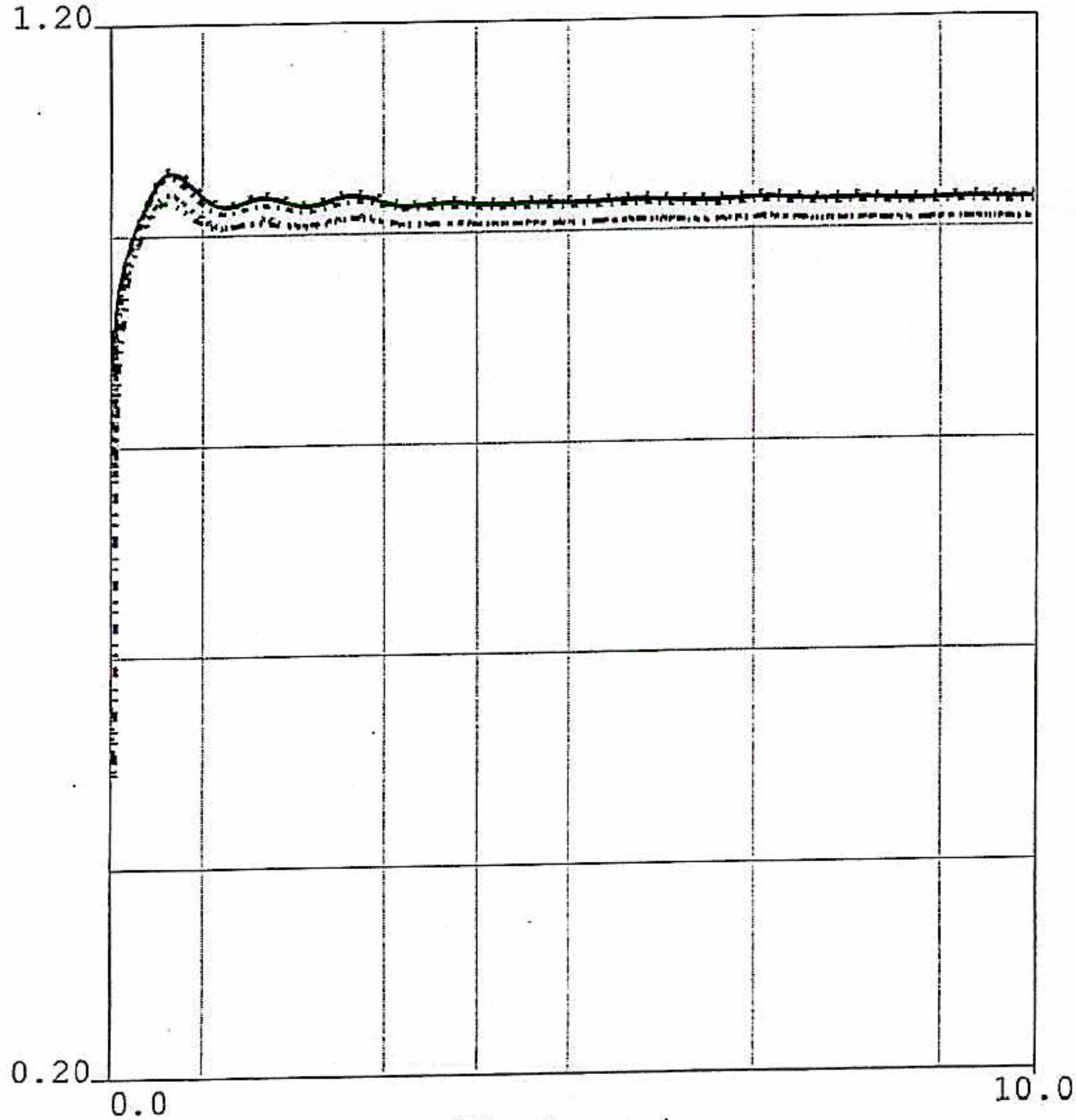
....	0.2	vt	24197	ELLIS	66.0	1	1	1.2
. .	0.2	vt	24032	AMERON	66.0	1	1	1.2
.. .	0.2	vt	24057	GOLETA	66.0	1	1	1.2
._.	0.2	vt	24206	GOULD	66.0	1	1	1.2
_..	0.2	vt	24207	JOHANNA	66.0	1	1	1.2

System Impact Study Base Case (Heavy Summer - Stress Eastern)
EME-Walnut Energy Park Phase 1
N-2:
Lugo Miraloma No. 1 500 kV
T Miraloma No. 2 500 1V



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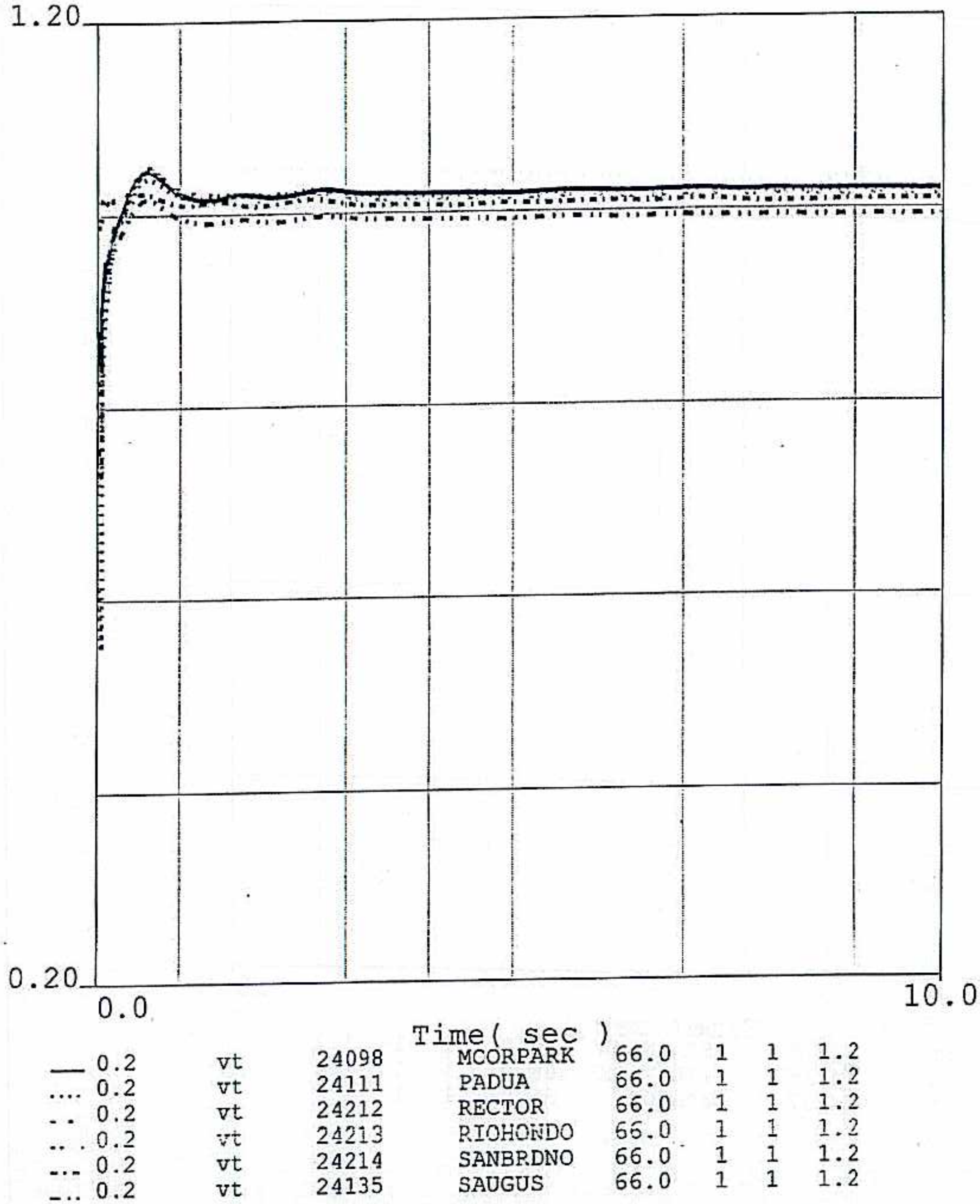
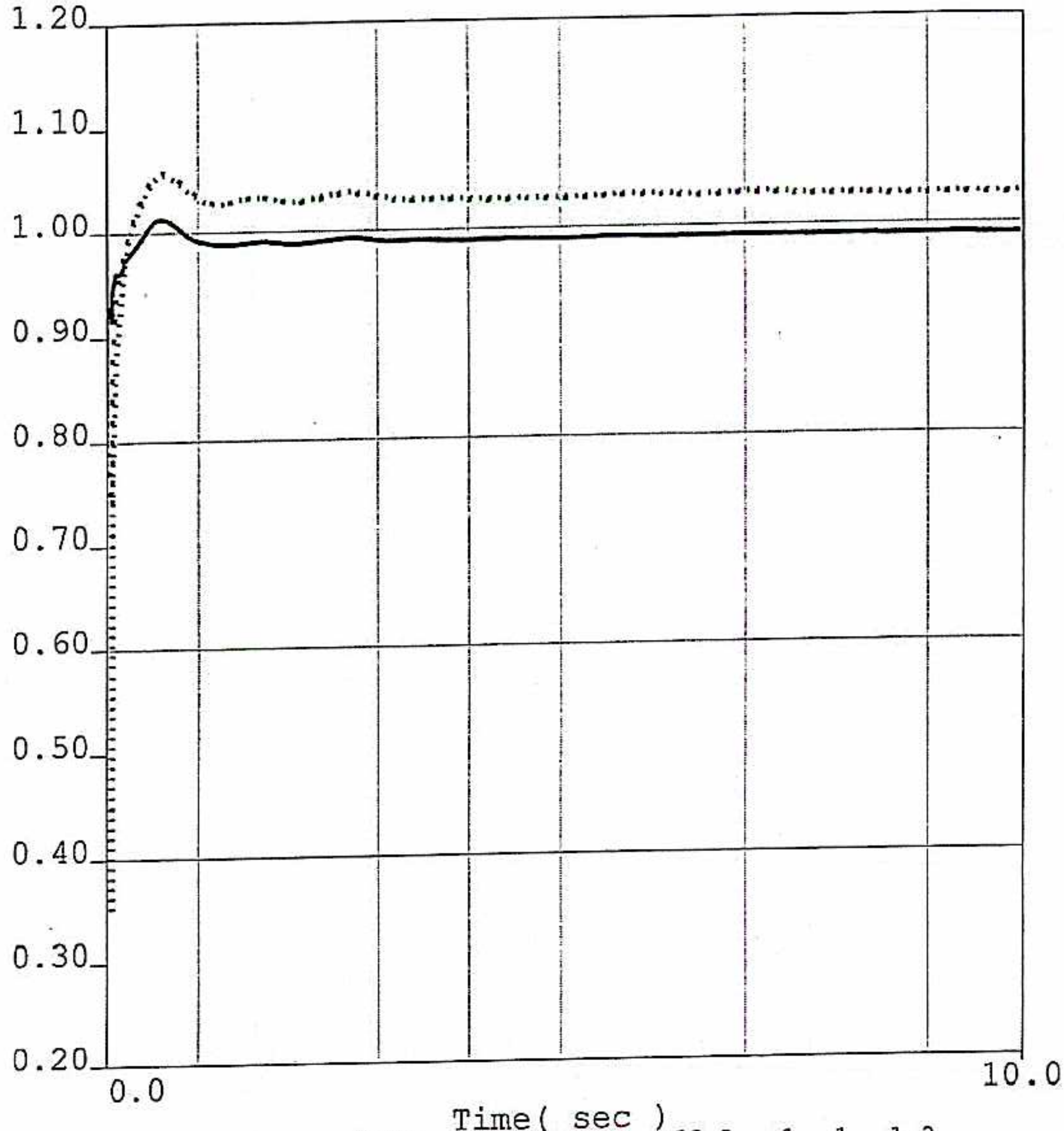
.... 0.2	vt	24075	LAGUBELL	66.0	1	1	1.2
_ _ 0.2	vt	24208	LCIENEGA	66.0	1	1	1.2
_ _ . 0.2	vt	24083	LITEHIPE	66.0	1	1	1.2
_._ 0.2	vt	24209	MESA CAL	66.0	1	1	1.2
_.. 0.2	vt	24210	MIRALOMA	66.0	1	1	1.2

System Impact Study Base Case (Heavy Summer - Stress Eastern)
EME-Walnut Energy Park Phase 1
N-2:
Lugo Miraloma No. 1 500 kV
Lugo Miraloma No. 2 500 kV



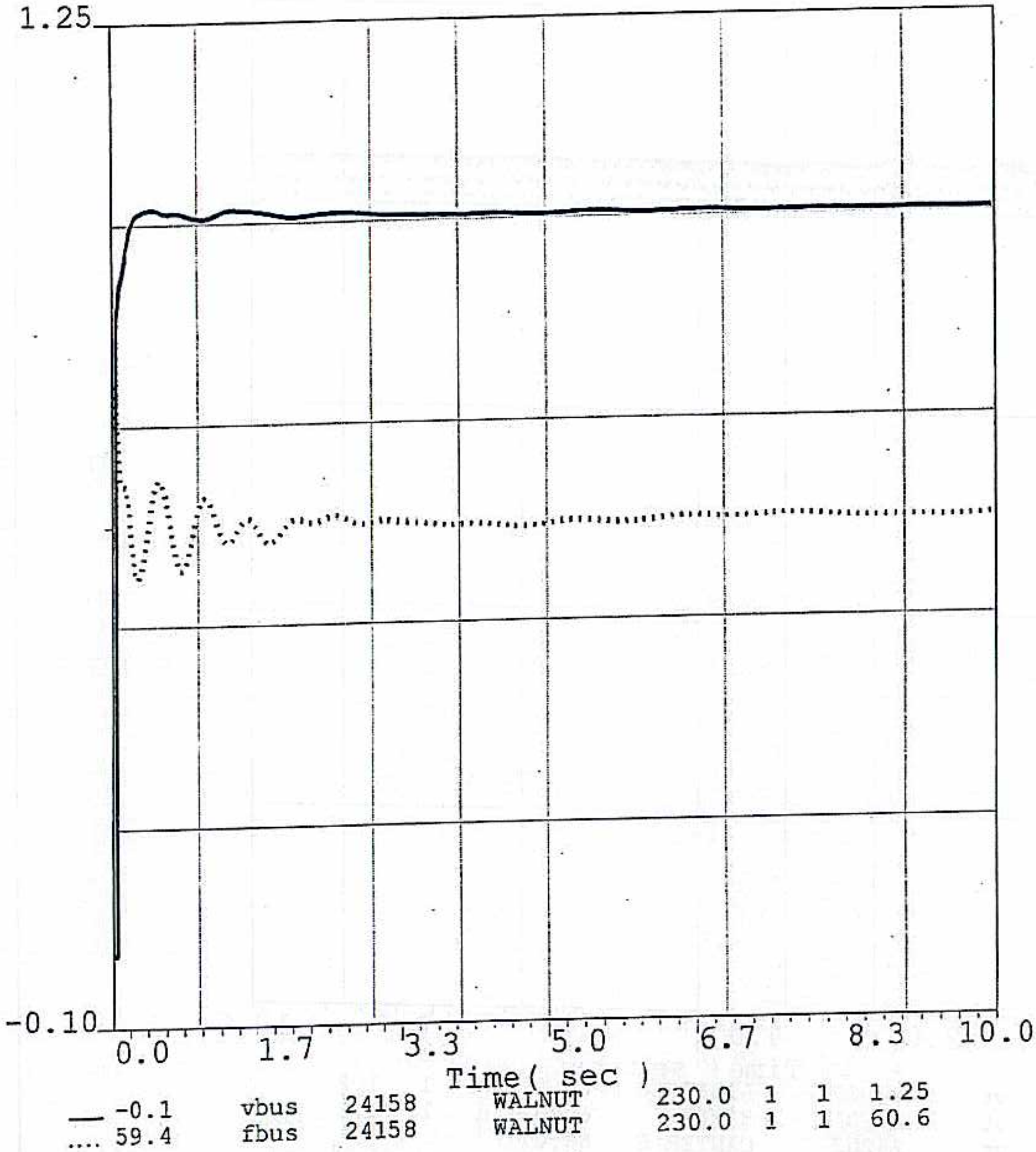
System Impact Study Base Case (Heavy Summer - Stress Eastern)
EME-Walnut Energy Park Phase 1
N-2:
Lugo Miraloma No. 1 500 kV
[illegible] Miraloma No. 2 500 kV

hs-postwalnutpark-04_lugomiralcma-dlo | Fri Oct 14 17:19:41 2005



___ 0.2	vt	24215	SPRINGVL	66.0	1	1	1.2
.... 0.2	vt	24216	VILLA PK	66.0	1	1	1.2
_ _ 0.2	vt	24157	WALNUT	66.0	1	1	1.2

System Impact Study Base Case (Heavy Summer - Stress Eastern)
EME-Walnut Energy Park Phase 1
N-2:
Lugo Miraloma No. 1 500 kV
Lugo Miraloma No. 2 500 kV



System Impact Study (Heavy Summer-Stress Eastern)

EME-Walnut Energy Park Phase 1

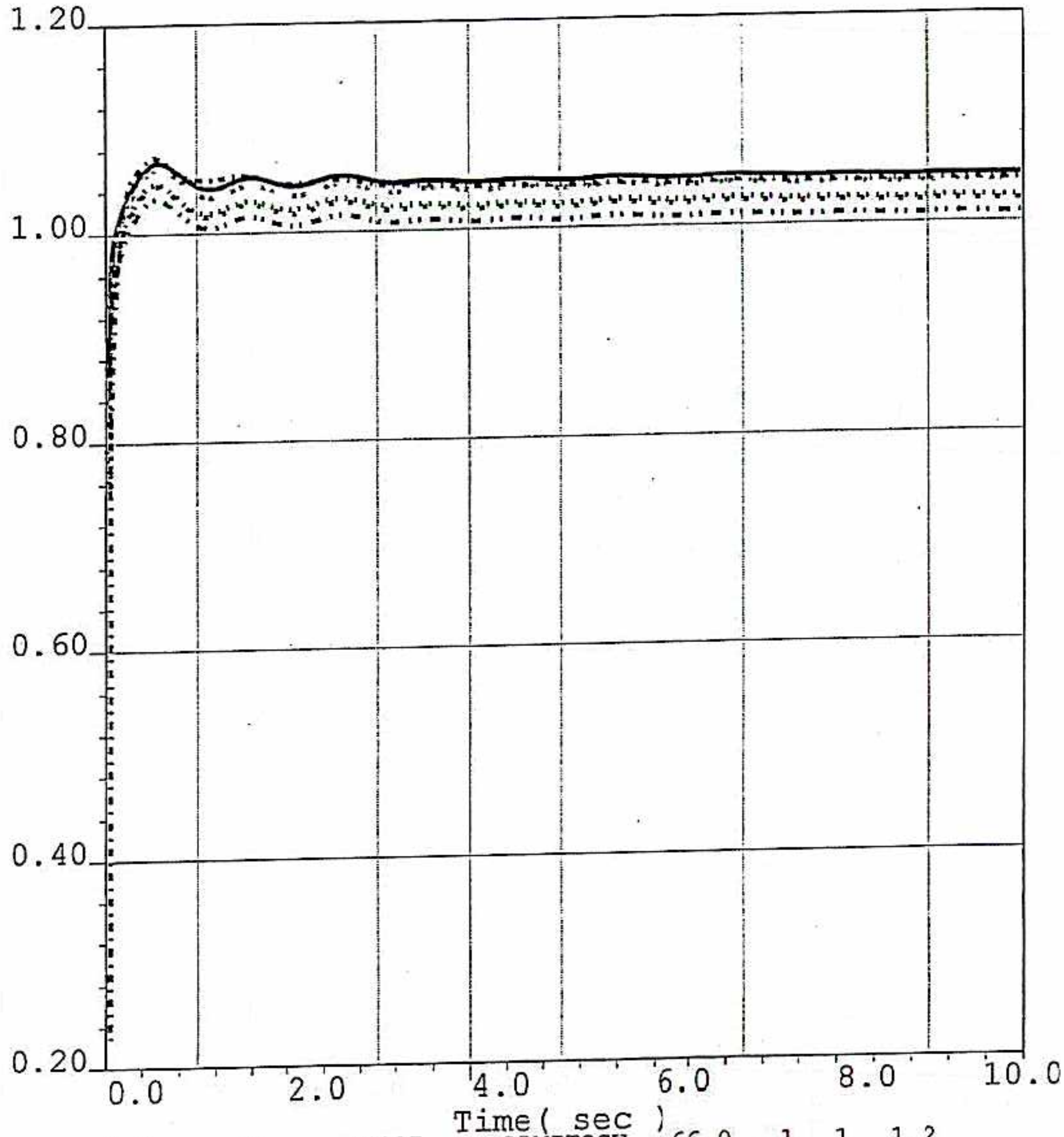
N-2:

Mesa-Walnut 230 kV

Olinda-Walnut 230 KV

hs-postwalnutpark-04_mesawalnut-olindawalnut-dlo

Fri Oct 14 16:42:01 2005



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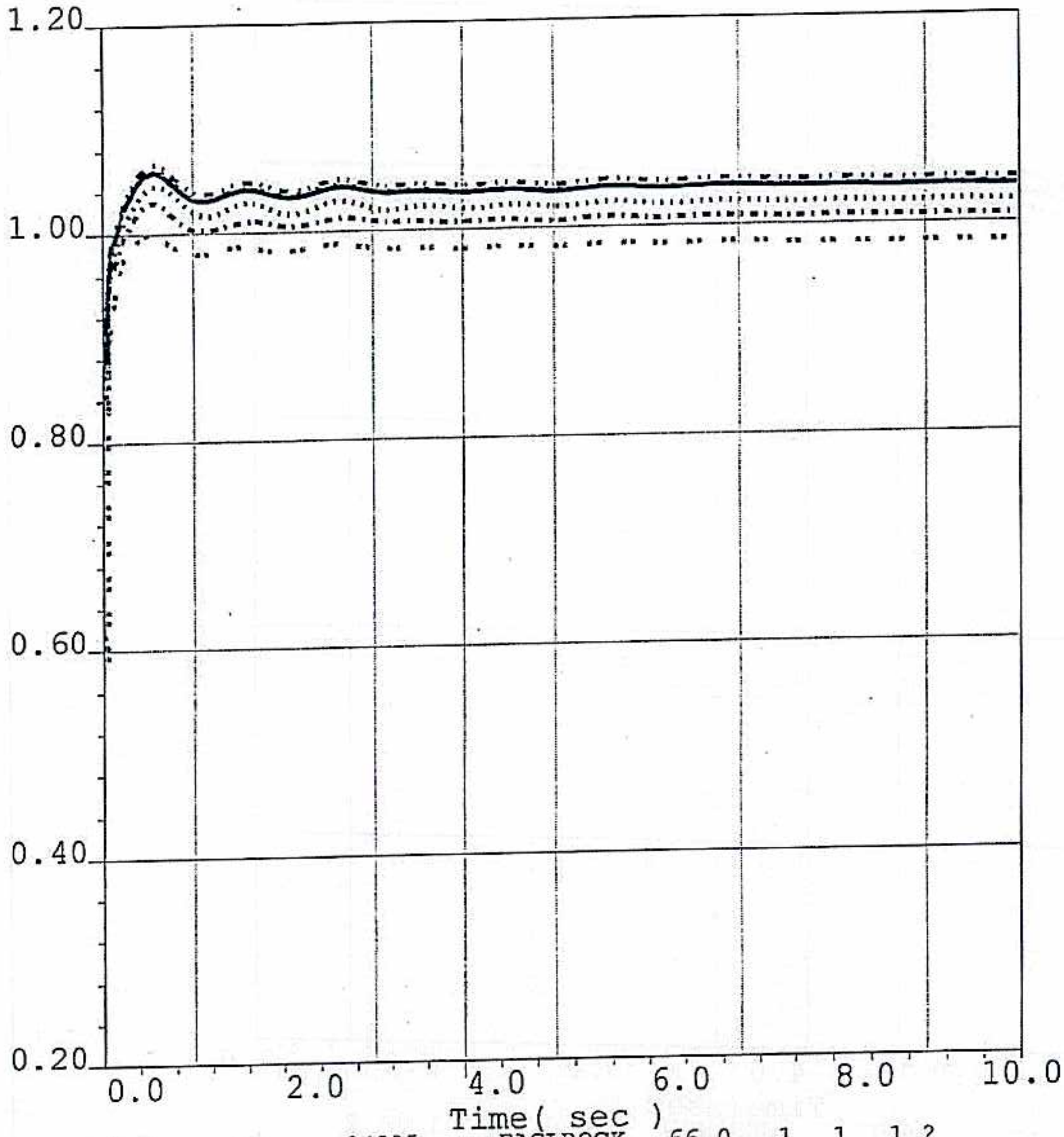
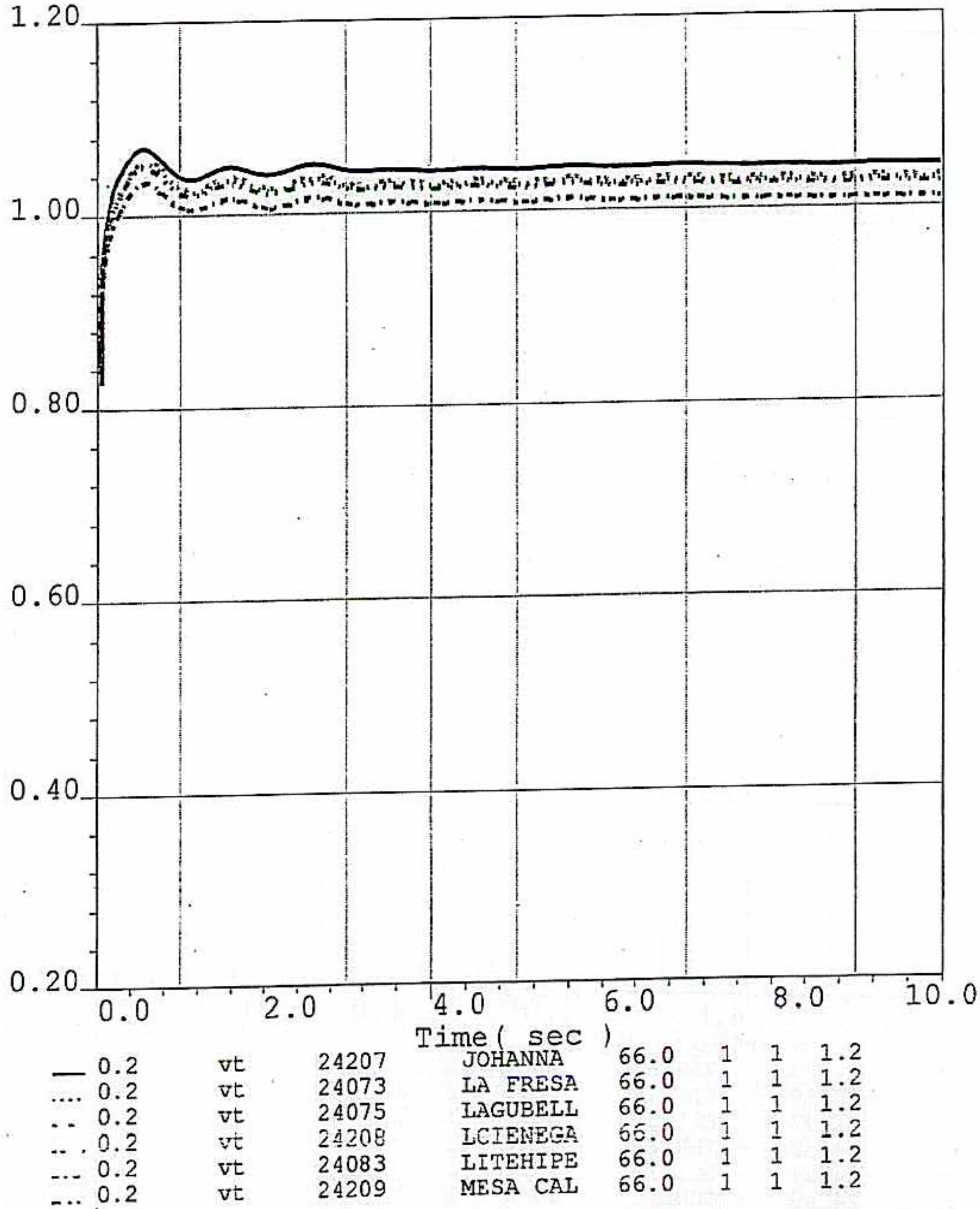
- -	0.2	vt	24203	CENTER S	66.0	1	1	1.2
-- .	0.2	vt	24199	CHEVMAIN	66.0	1	1	1.2
---	0.2	vt	24024	CHINO	66.0	1	1	1.2
-..	0.2	vt	24028	DELAMO	66.0	1	1	1.2

System Impact Study Base Case (Heavy Summer - Stress Eastern)
EME-Walnut Energy Park Phase 1
N-2
Chino-Walnut
Chino-Olinda



___	0.2	vt	24205	EAGLROCK	66.0	1	1	1.2
....	0.2	vt	24039	EL NIDO	66.0	1	1	1.2
..	0.2	vt	24197	ELLIS	66.0	1	1	1.2
.. .	0.2	vt	24032	AMERON	66.0	1	1	1.2
_._	0.2	vt	24057	GCLETA	66.0	1	1	1.2
_..	0.2	vt	24206	GCULD	66.0	1	1	1.2

System Impact Study Base Case (Heavy Summer - Stress Eastern)
EME-Walnut Energy Park Phase 1
N-2
Chino-Walnut
C[illegible]o-Olinda



System Impact Study Base Case (Heavy Summer - Stress Eastern)

EME-Walnut Energy Park Phase 1

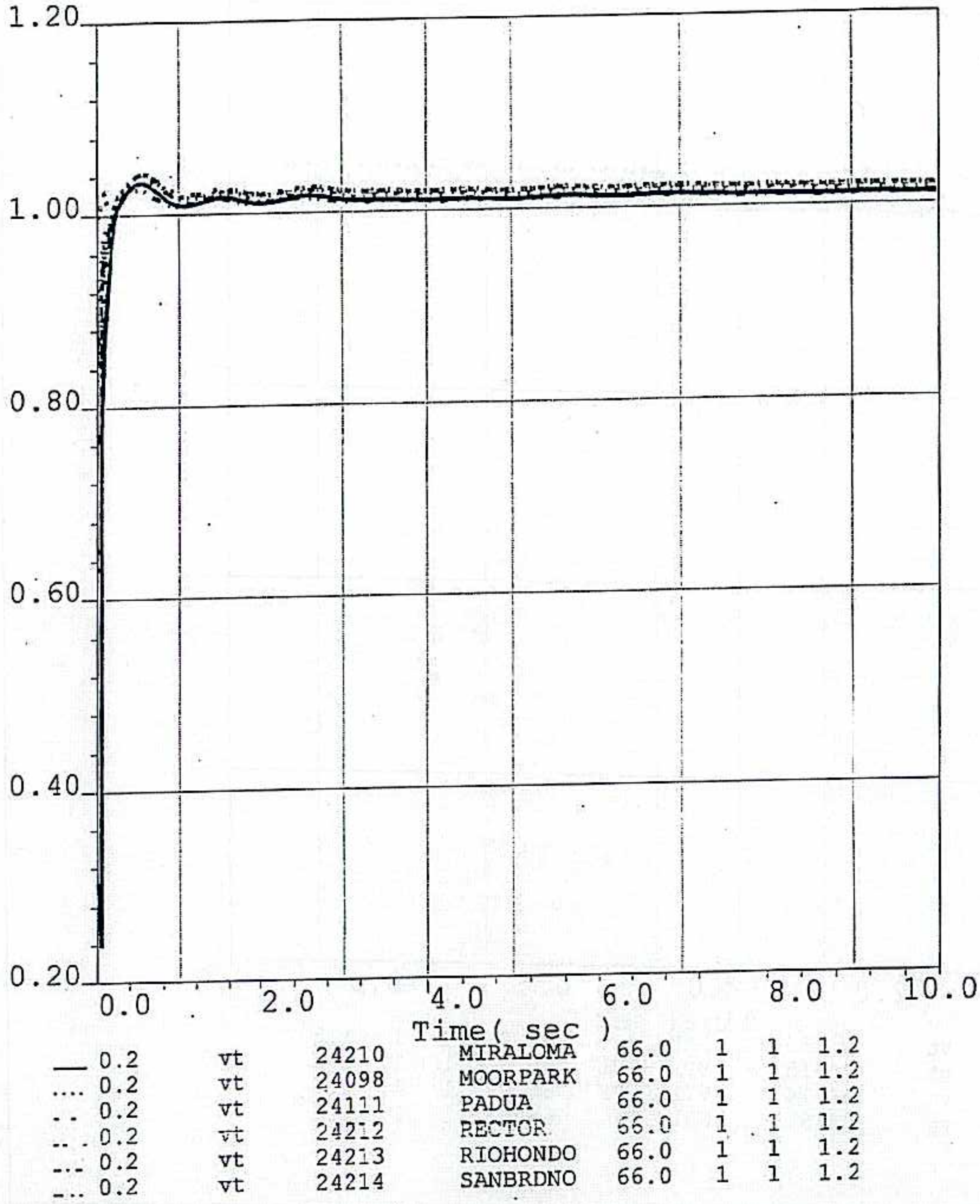
N-2

Chino-Walnut

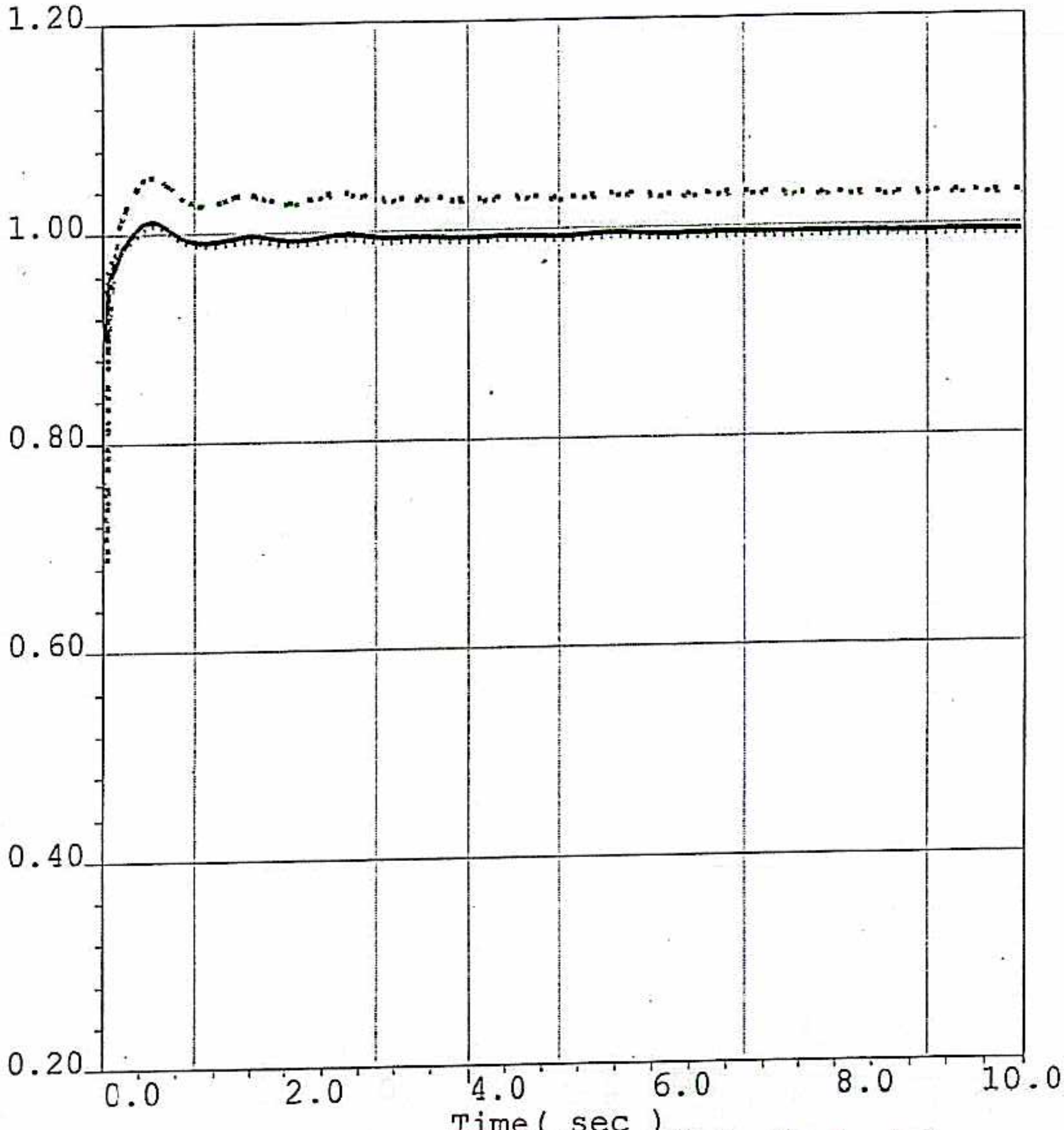
Chino-Olinda

hs-postwalnutpark-04_chinowalnut-chinoolinda-dlo

Fri Oct 14 17:01:42 2005



System Impact Study Base Case (Heavy Summer - Stress Eastern)
EME-Walnut Energy Park Phase 1
N-2
Chino-Walnut
Chino-Olinda



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.... 0.2	vt	24215	SPRINGVL	66.0	1	1	1.2
.. 0.2	vt	24216	VILLA PK	66.0	1	1	1.2
-- . 0.2	vt	24157	WALNUT	66.0	1	1	1.2

System Impact Study Base Case (Heavy Summer - Stress Eastern)

EME-Walnut Energy Park Phase 1

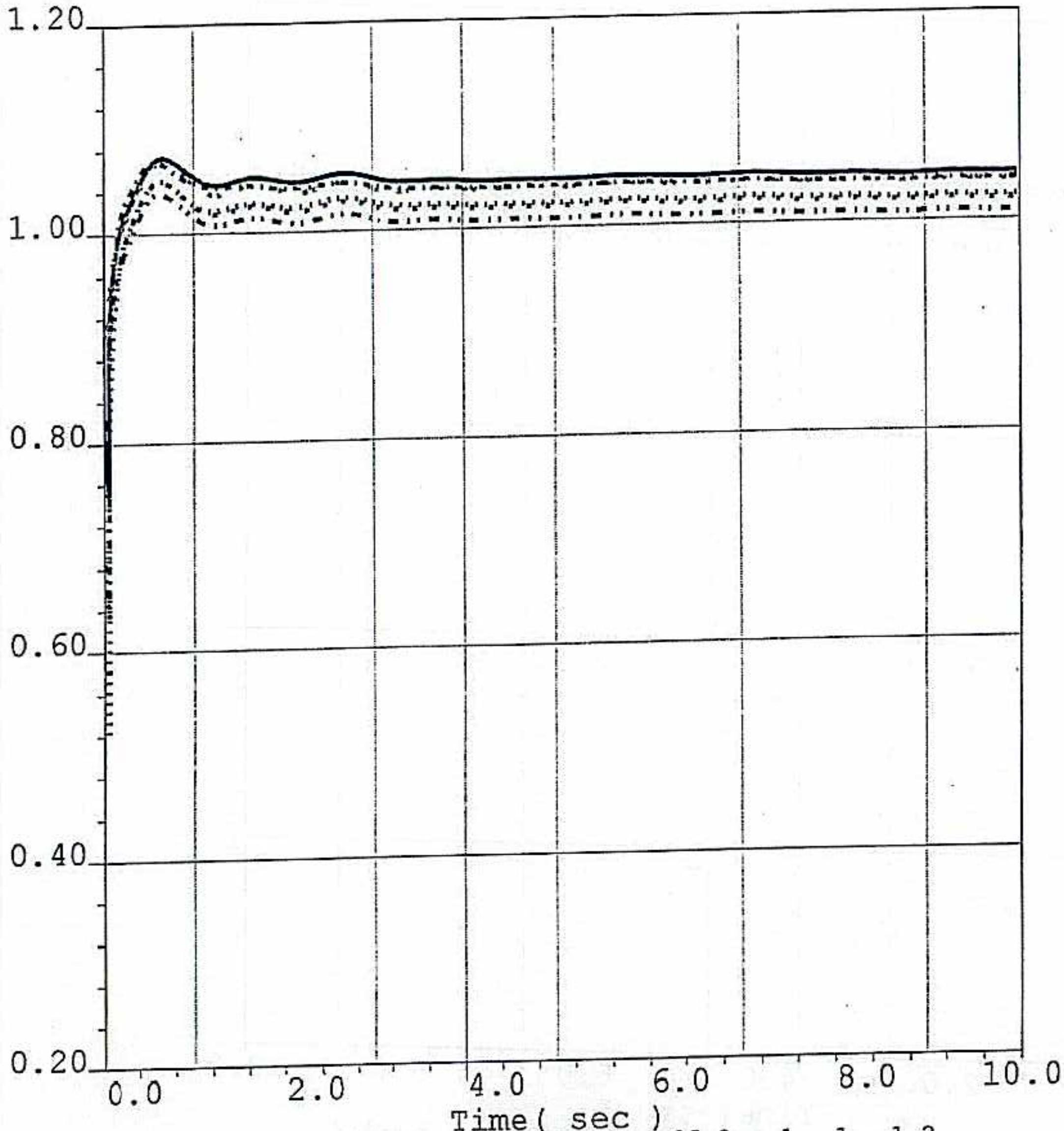
N-2

Chino-Walnut

Chino-Olinda

hs-postwalnutpark-04_chinowalnut-chinoolinda-dlo

Fri Oct 14 17:01:44 2005



——	0.2	vt	24007	ALMITOSW	66.0	1	1	1.2
....	0.2	vt	24201	BARRE	66.0	1	1	1.2
.--	0.2	vt	24203	CENTER S	66.0	1	1	1.2
-- .	0.2	vt	24199	CHEVMAIN	66.0	1	1	1.2
---	0.2	vt	24024	CHINO	66.0	1	1	1.2
-..	0.2	vt	24028	DELAMO	66.0	1	1	1.2

System Impact Study Base Case (Heavy Summer - Stress Eastern)

EME-Walnut Energy Park Phase 1

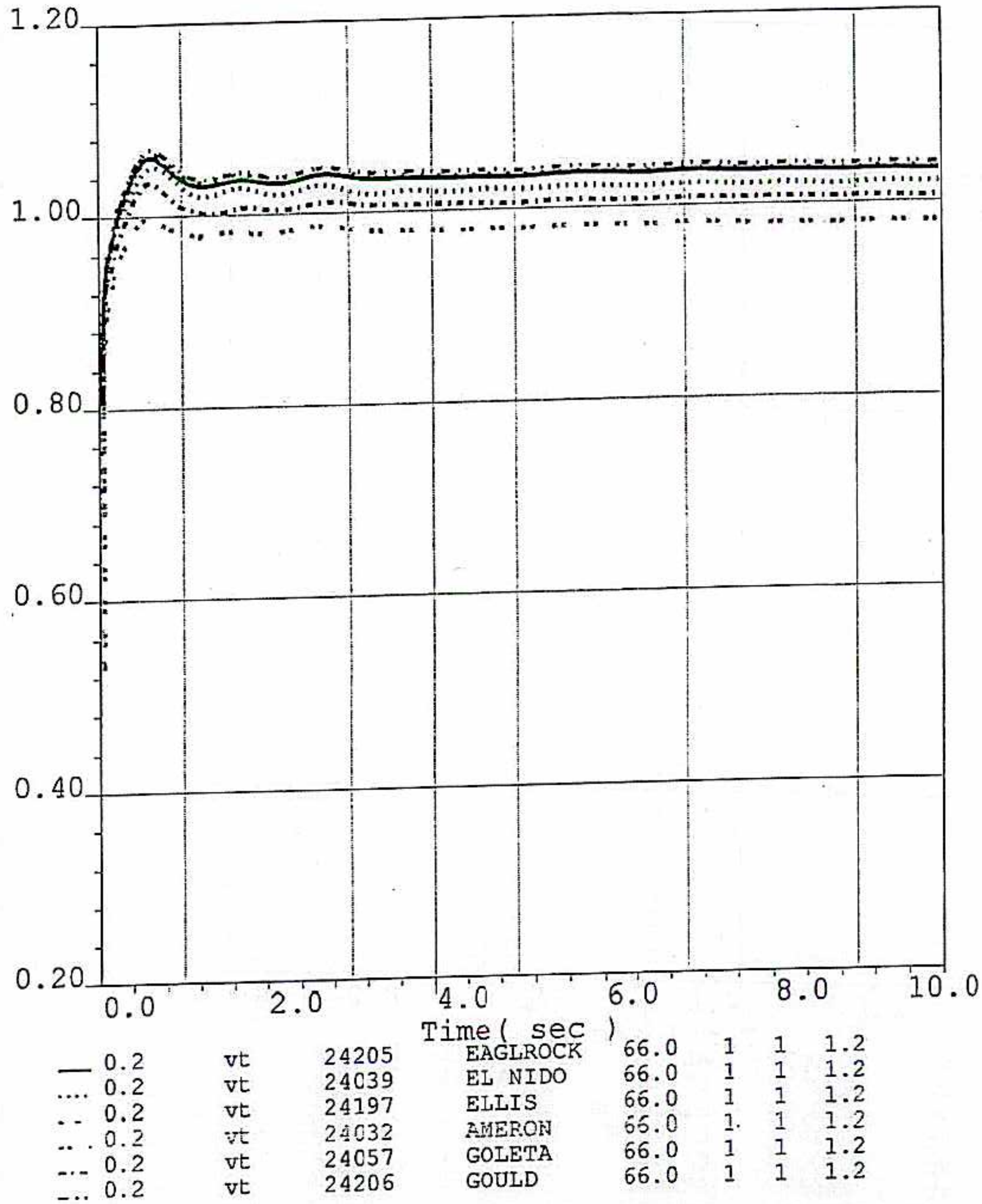
N-2:

L-o-Miraloma No. 1 500 kV

L-o-Miraloma No. 2 500 kV

hs-postwalnutpark-04_lugomiraloma-dlo

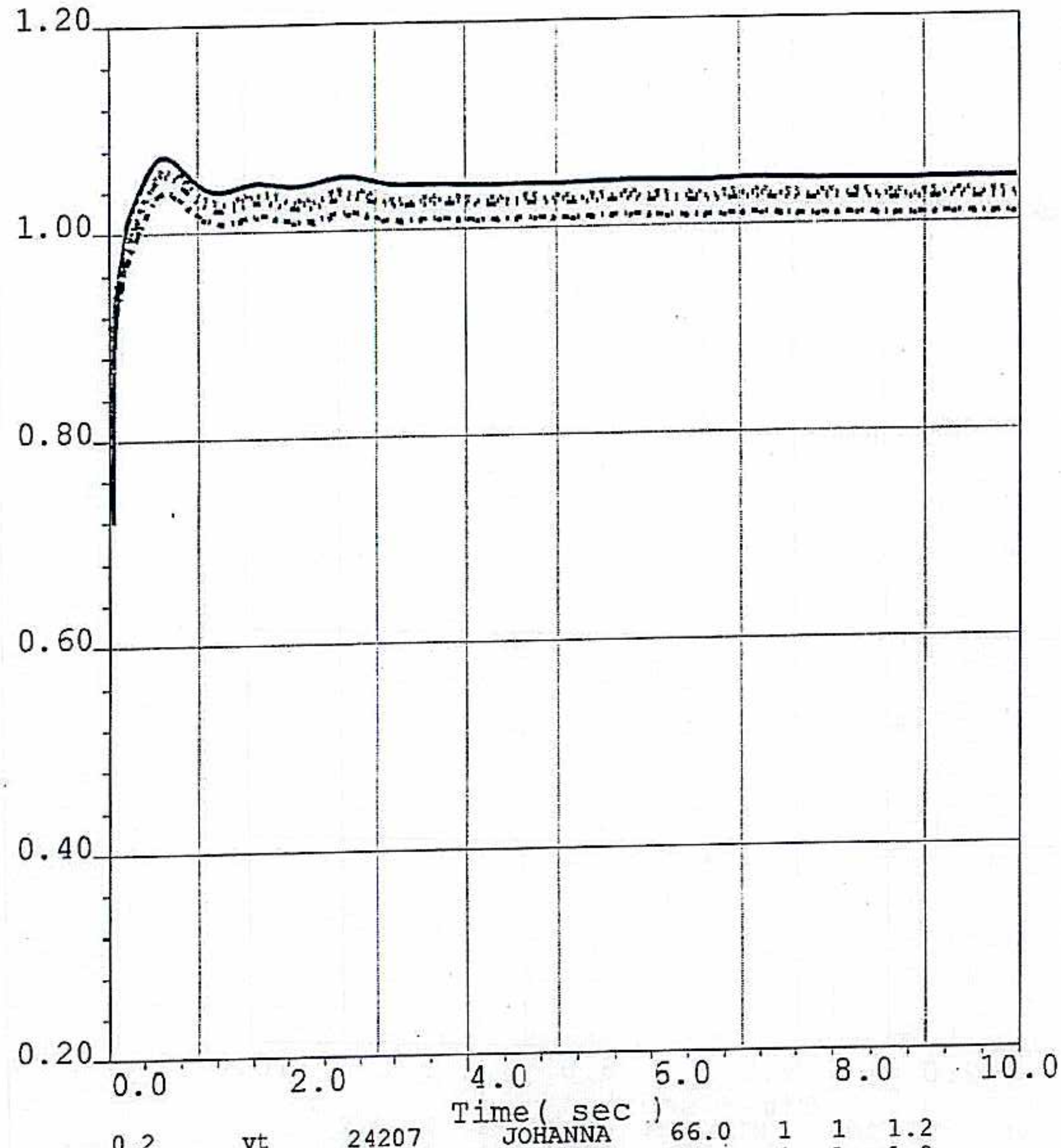
Fri Oct 14 17:25:05 2005



System Impact Study Base Case (Heavy Summer - Stress Eastern)
EME-Walnut Energy Park Phase 1
N-2:
Lugo-Miraloma No. 1 500 kV
Lugo-Miraloma No. 2 500 kV

hs-postwalnutpark-04_lugomiraloma-dlo

Fri Oct 14 17:25:05 2005



___ 0.2	vt	24207	JOHANNA	66.0	1	1	1.2
.... 0.2	vt	24073	LA FRESA	66.0	1	1	1.2
.. 0.2	vt	24075	LAGUBELL	66.0	1	1	1.2
.. . 0.2	vt	24208	LCIENEGA	66.0	1	1	1.2
_._ 0.2	vt	24083	LITEHIPE	66.0	1	1	1.2
_.. 0.2	vt	24209	MESA CAL	66.0	1	1	1.2

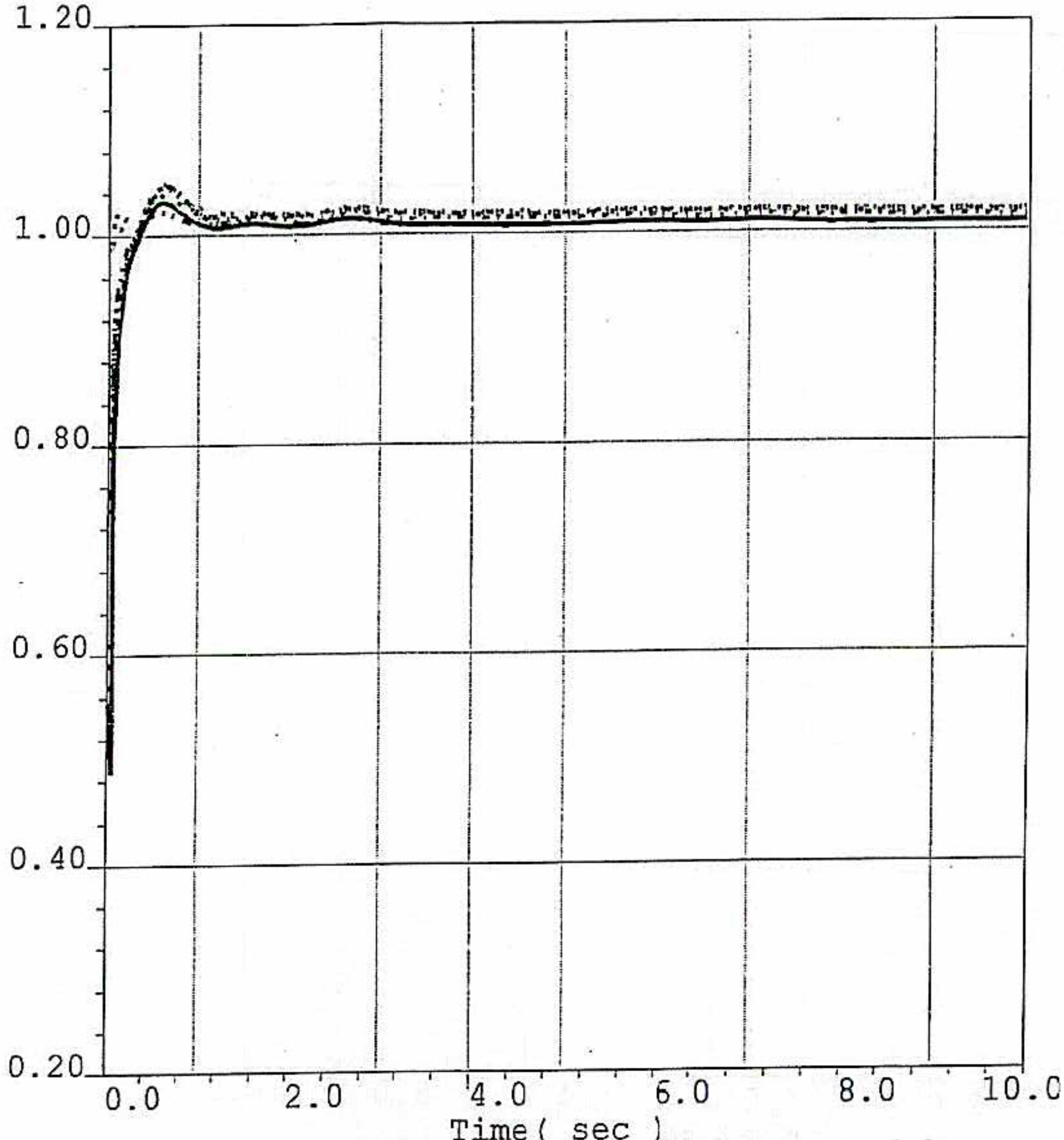
System Impact Study Base Case (Heavy Summer - Stress Eastern)

EME-Walnut Energy Park Phase 1

N-2:

Lugo-Miraloma No. 1 500 kV

Lugo-Miraloma No. 2 500 kV



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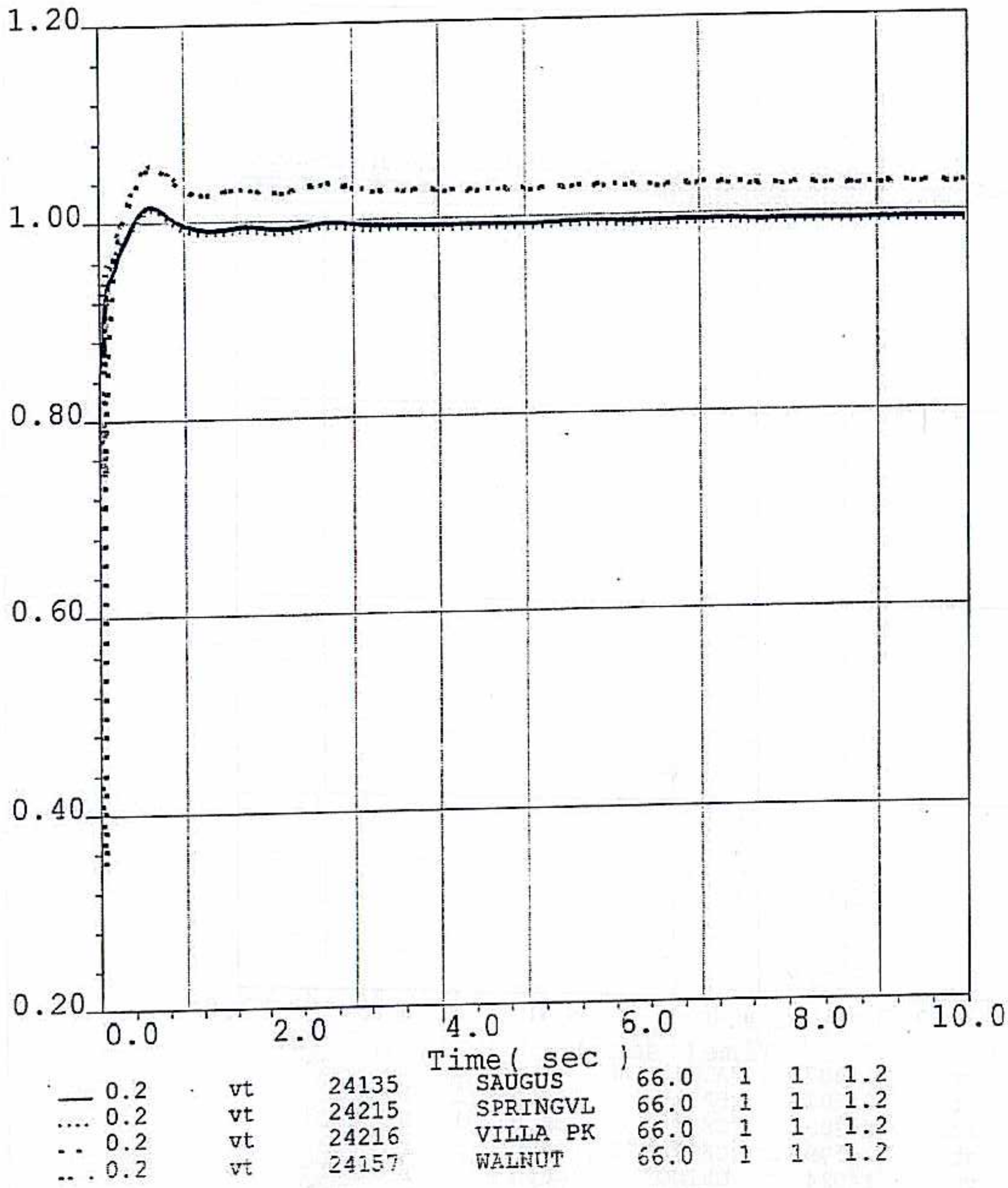
.... 0.2	vt	24098	MOORPARK	66.0	1	1	1.2
-- 0.2	vt	24111	PADUA	66.0	1	1	1.2
--. 0.2	vt	24212	RECTOR	66.0	1	1	1.2
--- 0.2	vt	24213	RIOHONDO	66.0	1	1	1.2
-.. 0.2	vt	24214	SANBRDNO	66.0	1	1	1.2

System Impact Study Base Case (Heavy Summer - Stress Eastern)
EME-Walnut Energy Park Phase 1
N-2:
Lugo-Miraloma No. 1 500 kV
Lugo-Miraloma No. 2 500 kV



System Impact Study Base Case (Heavy Summer - Stress Eastern)

EME-Walnut Energy Park Phase 1

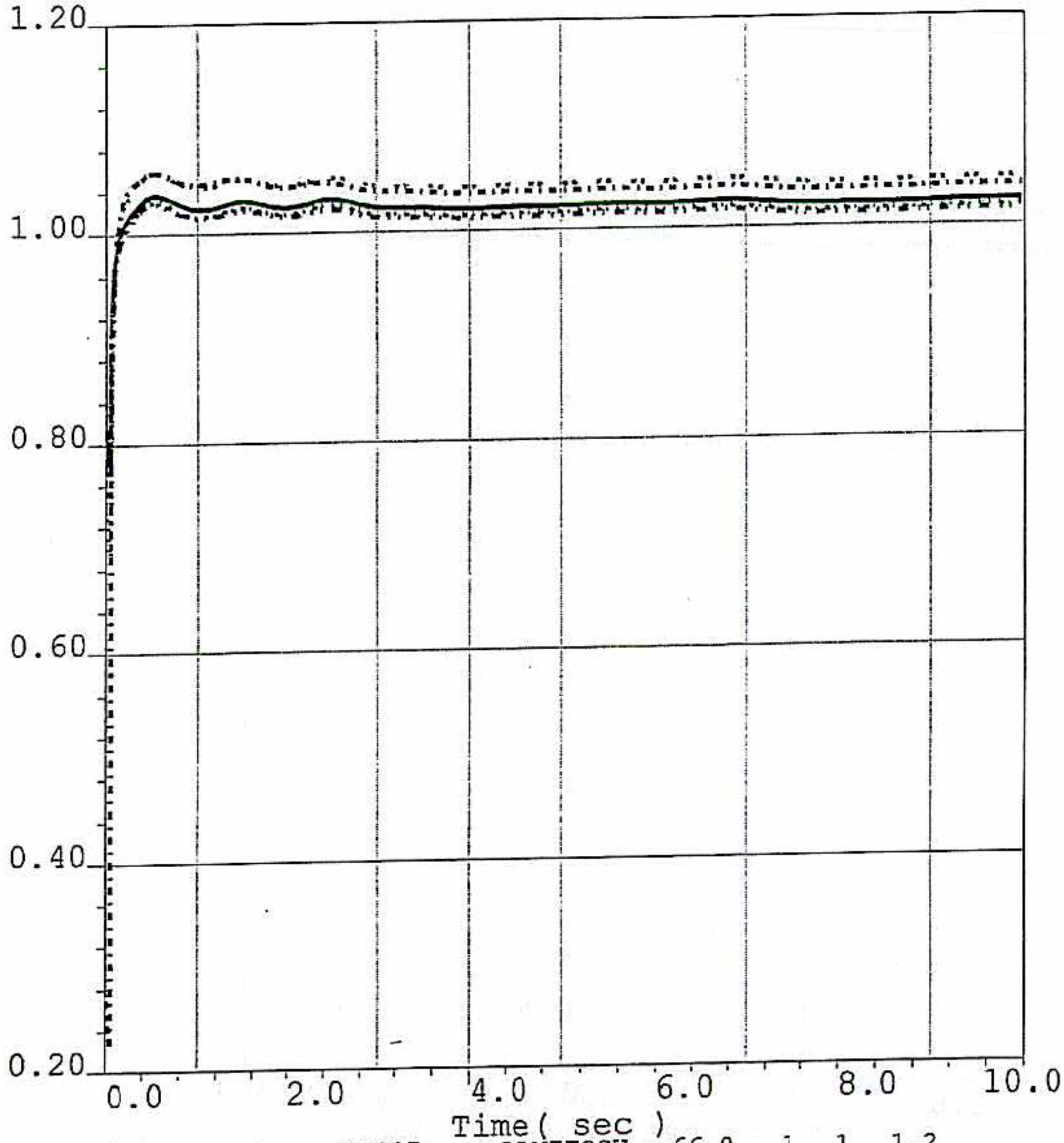
N-2:

L[illegible]-Miraloma No. 1 500 kV

[illegible]-Miraloma No. 2 500 kV

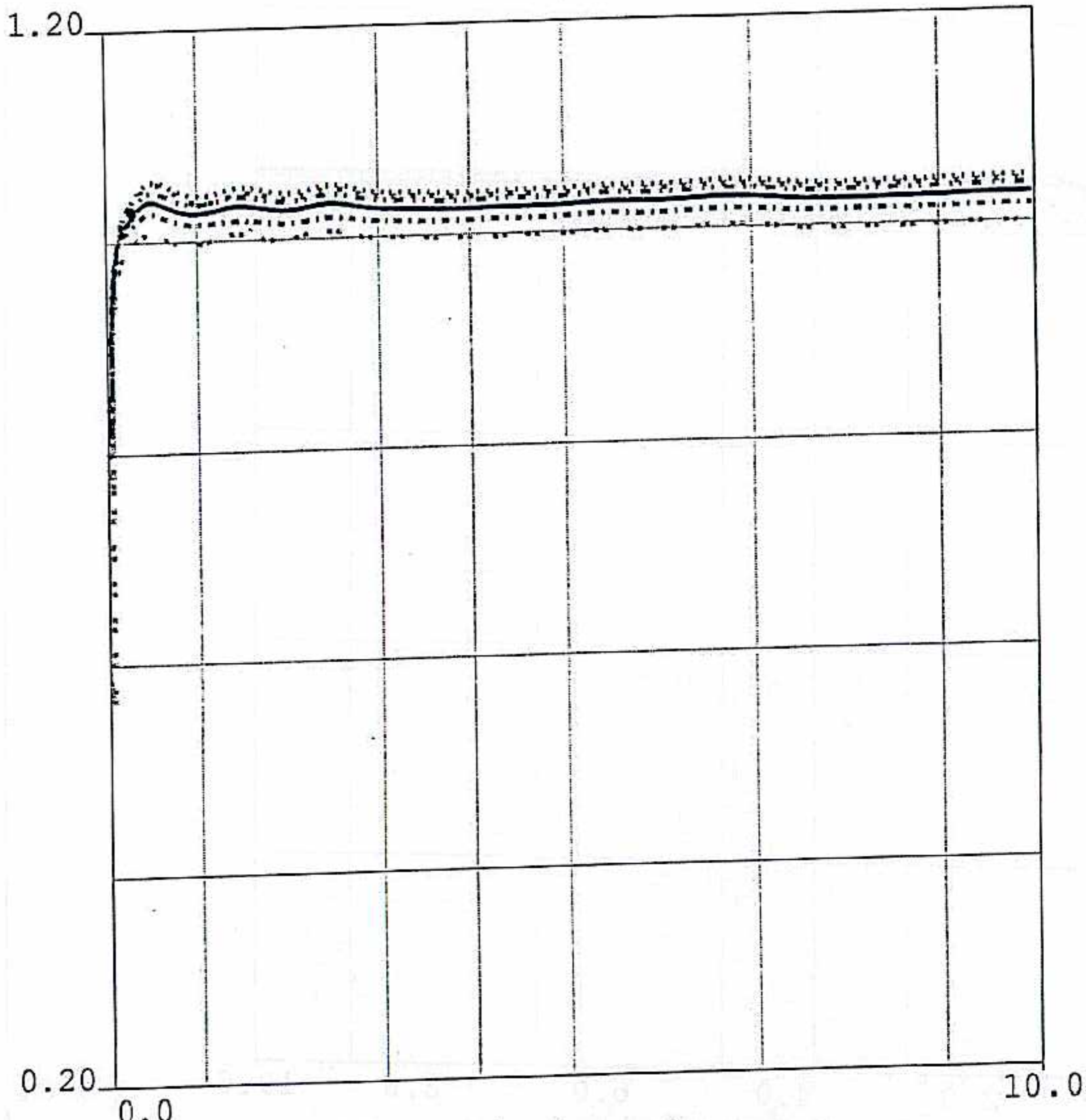
hs-postwalnutpark-04_lugomiraloma-dlo

Fri Oct 14 17:25:06 2005



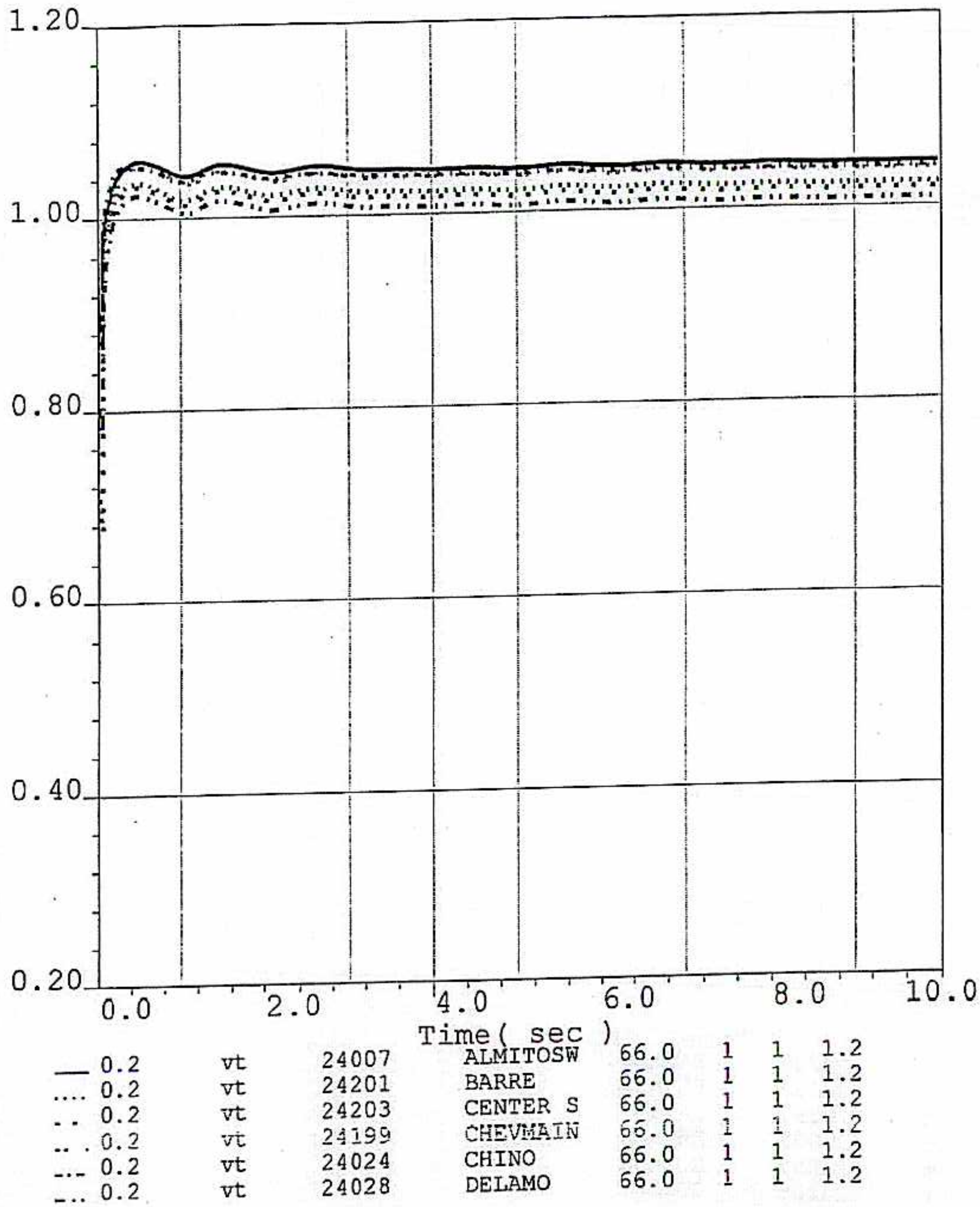
——	0.2	vt	24007	ALMITOSW	66.0	1	1	1.2
....	0.2	vt	24201	BARRE	66.0	1	1	1.2
- -	0.2	vt	24203	CENTER S	66.0	1	1	1.2
-- .	0.2	vt	24199	CHEVMAIN	66.0	1	1	1.2
-.-	0.2	vt	24024	CHINO	66.0	1	1	1.2
-..	0.2	vt	24028	DELAMO	66.0	1	1	1.2

System Impact Study (Heavy Summer-Stress Eastern)
EME-Walnut Energy Park Phase 1
N-2:
Chino-Walnut 230 kV
Chino-Olinda 230 kV



___ 0.2	vt	24205	EAGLROCK	66.0	1	1	1.2
.... 0.2	vt	24039	EL NIDO	66.0	1	1	1.2
- - 0.2	vt	24197	ELLIS	66.0	1	1	1.2
-- . 0.2	vt	24032	AMERON	66.0	1	1	1.2
--- 0.2	vt	24057	GOLETA	66.0	1	1	1.2
_.. 0.2	vt	24206	GOULD	66.0	1	1	1.2

System Impact Study (Heavy Summer-Stress Eastern)
EME-Walnut Energy Park Phase 1
N-2:
Chino-Walnut 230 kV
Chino-Olinda 230 kV



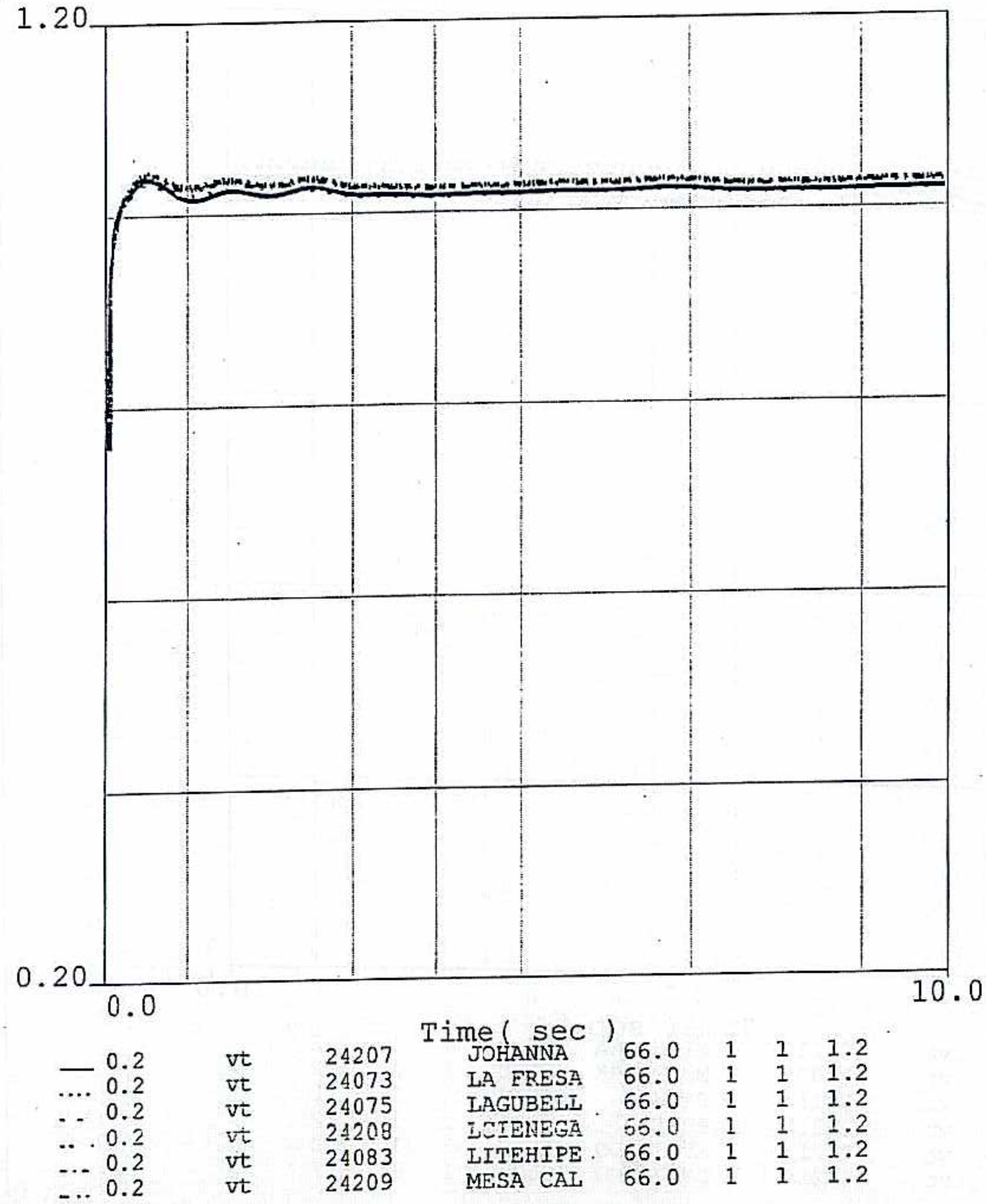
System Impact Study Base Case (Heavy Summer - Stress Eastern)

EME-Walnut Energy Park Phase 1

N-2:

Chino-Walnut 230 kV

Olinda-Walnut 230 kV



System Impact Study (Heavy Summer-Stress Eastern)

EME-Walnut Energy Park Phase 1

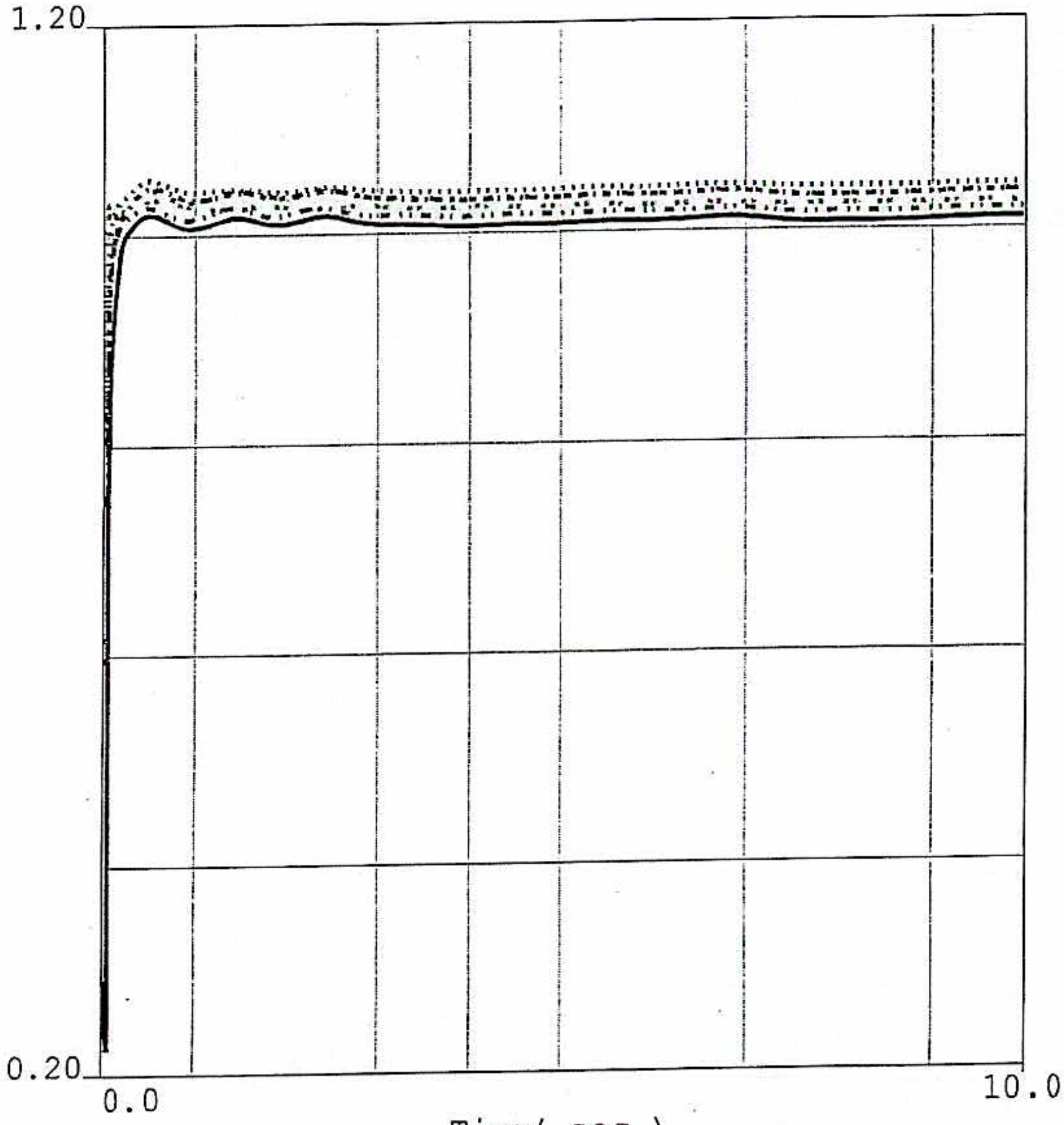
N-2:

Chino-Walnut 230 kV

o-Olinda 230 kV

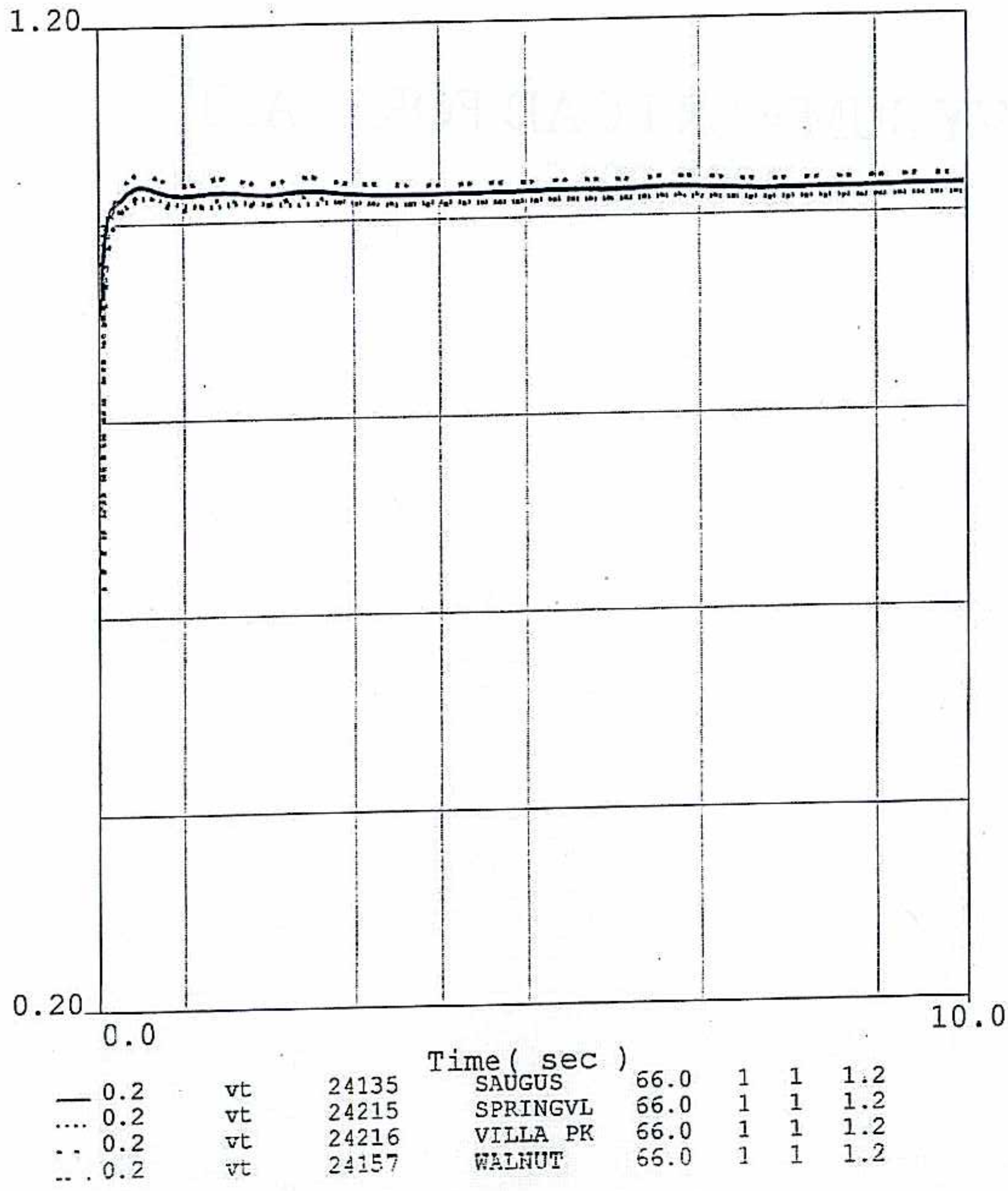
lsp-postwalnutpark-06_chinowalnut-chinoolinda-dlo

Fri Oct 14 17:36:29 2005



___ 0.2	vt	24210	MIRALOMA	66.0	1	1	1.2
.... 0.2	vt	24098	MOORPARK	66.0	1	1	1.2
.. 0.2	vt	24111	PADUA	66.0	1	1	1.2
.. . 0.2	vt	24212	RECTOR	66.0	1	1	1.2
... 0.2	vt	24213	RIOHONDO	66.0	1	1	1.2
_.. 0.2	vt	24214	SANBRDNO	66.0	1	1	1.2

System Impact Study (Heavy Summer-Stress Eastern)
EME-Walnut Energy Park Phase 1
N-2:
Chino-Walnut 230 kV
Chino-Olinda 230 kV



System Impact Study (Heavy Summer-Stress Eastern)

EME-Walnut Energy Park Phase 1

N-2:

Chino-Walnut 230 kV

Chino-Olinda 230 kV

APPENDIX C

HEAVY SUMMER LOAD FORECAST
2005-2015

Coincident A-Bank Load Forecast (MW)

Substation Load and Large Customer Load (1 in 5 Year Heat Wave)

	SUBSTATION	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	GROWTH
1	ALAMITOS	187	190	183	185	185	186	187	189	192	193	194	0.39%
2	ANTELOPE	539	558	575	593	612	633	653	673	699	716	740	3.22%
3	BAILEY	77	80	82	85	87	90	93	96	100	102	106	3.22%
4	BARRE	675	682	703	709	772	777	787	793	805	818	836	2.16%
5	BLYTHE	53	54	55	56	57	58	59	60	61	62	63	1.75%
6	CAMINO	2	2	2	2	2	2	2	2	2	2	2	0.05%
7	CENTER	475	489	499	507	509	514	518	522	525	533	540	1.30%
8	CHEVMAIN	130	130	130	130	130	130	130	130	130	130	130	0.00%
9	CHINO	674	696	712	737	752	904	927	951	971	976	1018	4.21%
10	CIMA	2	2	2	2	2	2	2	2	2	2	2	0.05%
11	DEL AMO	487	494	510	519	466	469	482	492	506	516	520	0.65%
12	DEVERS - MIRAGE	674	705	732	389	345	364	375	386	400	413	428	-4.44%
13	EAGLE MT.	4	4	4	4	4	4	4	4	4	4	4	0.05%
14	EAGLE ROCK	193	194	205	207	209	213	215	217	212	215	218	1.22%
15	ELLIS	615	621	629	637	643	648	653	664	669	680	688	1.12%
16	EL NIDO	339	343	348	352	357	359	363	367	374	379	384	1.26%
17	ETIWANDA	535	552	571	588	605	623	632	668	690	713	736	3.25%
18	ETIWANDA "AMERON"	70	70	70	70	70	70	70	70	70	70	70	0.00%
19	GOLETA	245	248	251	253	255	256	259	262	267	270	273	1.10%
20	GOULD	113	116	113	115	118	119	122	124	128	130	132	1.57%
21	HINSON	490	521	531	536	539	575	579	585	595	603	617	2.33%
22	JOHANNA	411	419	428	434	442	450	457	467	523	534	550	2.96%
23	JURUPA	0	0	0	287	291	296	301	308	315	323	328	#DIV/0!
24	KRAMER	211	214	218	221	223	226	228	232	237	242	246	1.54%
25	LA CIENEGA	453	458	455	459	462	465	469	475	492	499	504	1.07%
26	LA FRESA	687	690	695	697	697	678	680	685	695	702	704	0.25%
27	LAGUNA BELL	624	632	642	650	652	657	663	671	685	696	705	1.23%
28	LEWIS	532	543	555	570	585	591	596	607	617	626	633	1.75%
29	LIGHTHIPE	535	543	556	564	567	573	574	581	588	598	606	1.26%
30	MESA	586	590	614	623	628	628	634	643	654	663	673	1.39%
31	MIRAGE	0	0	0	388	377	378	397	398	410	422	432	#DIV/0!
32	MIRA LOMA	654	687	723	759	785	677	698	717	756	792	810	2.17%
33	MOORPARK	625	644	659	674	685	697	710	727	868	887	923	3.97%
34	OAKVALLEY	0	0	0	0	157	166	176	188	197	208	220	#DIV/0!
35	OLINDA	354	357	365	380	387	397	399	403	418	426	435	2.10%
36	PADUA	639	646	658	666	668	673	687	694	705	722	733	1.39%
37	RECTOR	670	701	731	752	770	787	803	834	859	879	906	3.06%
38	RIO HONDO	721	733	736	745	756	764	770	780	794	809	820	1.30%
39	SAN BERNARDINO	565	- 584	609	617	627	639	653	665	689	703	721	2.47%
40	SANTA CLARA	538	553	570	586	598	609	622	635	653	669	686	2.47%
41	SANTIAGO	648	666	685	705	721	744	766	789	813	829	853	2.79%
42	SAUGUS	664	685	706	731	752	776	801	824	721	747	757	1.31%
43	SPRINGVILLE	219	223	230	235	233	245	250	244	251	257.	261	1.79%
44	VALLEY	1318	1405	1486	1557	1626	1688	1753	1824	1909	1985	2079	4.66%
45	VESTAL	179	182	188	191	191	192	194	197	200	204	207	1.51%
46	VICTOR	475	488	503	518	525	538	542	557	573	588	603	2.42%
47	VIEJO	319	328	339	354	364	374	381	389	401	412	424	2.91%
48	VILLA PARK	730	745	741	740	744	743	751	761	729	742	744	0.18%
49	VISTA 66 KV	789	806	826	550	551	561	572	582	596	611	595	-2.79%
50	VISTA 115 KV	430	439	441	463	383	386	387	394	396	404	409	-0.51%
51	WALNUT	673	679	691	701	707	708	712	719	729	740	748	1.06%
	Total	21,826	22,392	22,956	23,470	23,877	24,301	24,728	25,251	25,872	26,445	27,018	2.16%
									AVERAGE GROWTH (MW) =				519