

From: Andrea Grenier <Andrea@agrenier.com>
To: "John Kessler" <Jkessler@energy.state.ca.us>, "Ajoy Guha" <Aguha@ene...
CC: "Jeff Benoit" <jeffrey.benoit@solarreserve.com>, "BruceCenturino" <b...
Date: 7/13/2010 8:18 AM
Subject: FW: Solar Reserve Data Request Follow Up
Attachments: Rice SIS Addendum.pdf

John:

As you know, SR has been working closely with Western on the CEC's SIS information requests. Western has provided the attached for review. Could you please have Ajoy look at this ASAP and let us know if it is responsive to his needs.

Andrea

-----Original Message-----

From: John Kessler [mailto:Jkessler@energy.state.ca.us]
Sent: Wednesday, June 23, 2010 1:30 PM
To: Jeff Benoit; Liana Reilly
Cc: Andrea Grenier
Subject: Fwd: Re: Rice Solar Energy Project System Impact Study

Hi Jeff and Liana

Just want to keep you in the loop that we need some additional info. beyond what was included in the SIS. This is in the form of data that we expect will be readily available from Western's analysis but was not included in the study, and data for which we are dependent on SCE and IID to respond.

Thank you,

John

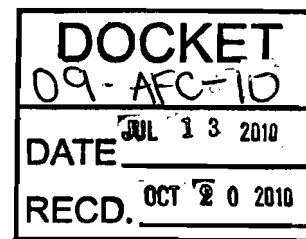
John S. Kessler

CEC - Project Manager

Office: 916-654-4679

Cell: 530-306-5920

Fax: 916-654-4421



>>> Ajoy Guha 6/23/2010 12:28 PM >>>

Hi Bruce:

NO. 1
Supplementary
Studies and
information
provided by
utility system
efficiencies
and Solar
Reserve

Further to our review of the System Impact study (SIS) by Western and our recent discussions, we require the following information at the earliest to show that the project has no adverse thermal impacts on the Western Parker system, but has some thermal impacts on the IID and SCE systems:

1. A Table showing pre and post-project percentage line loadings (higher side) and line ratings in the Western study area under normal system conditions and a few critical contingencies.
2. Pre and Post-project One-line diagrams (with MVA and percentage loading, PU voltage) showing Western study area and all overload elements in the IID and SCE areas for the case for each overloaded element with maximum overloading under the most severe contingency.
3. Letters from the IID and SCE with their comments after reviewing the Western SIS.

In addition, please provide the Facility study report to finalize the Western interconnection facilities.

The above information will enable us to complete the TSE staff. Assessment. If you have any questions or need further information, please contact us.

Thanks,

Ajoy Guha

Transmission System Engineering

CEC

916-654-5012

>>> John Kessler 6/21/2010 4:30 PM >>>

Hi Jeff

Here is Ajoy Guha's contact info: 916-654-5012; His email is as shown on the cc list.

We understand that Bruce Centurino's phone # is 916-740-2294, and his email is as shown on the cc list.

Ajoy and Bruce - Please feel free to coordinate directly, but please keep Jeff and I updated.

Thank you,

John

John S. Kessler

CEC - Project Manager

Office: 916-654-4679

Cell: 530-306-5920

Fax: 916-654-4421

>>> Jeff Benoit <<mailto:jeffrey.benoit@solarreserve.com>>
jeffrey.benoit@solarreserve.com> 6/21/2010 3:54 PM >>>

John,

I received your voice message this afternoon regarding questions related to the Rice Project WAPA System Impact Study. I tried calling you at your office and on your cell phone with Mr. Centurino who is our consultant on transmission system matters. Unfortunately we were unable to reach you. Please let me know when you are available today or tomorrow so we can arrange a call to address any questions or concerns you and your staff may have.

Best regards,

Jeffrey Benoit

Sr. Project Manager

SOLARRESERVE

2425 Olympic Blvd., Santa Monica, CA 90404

Cell: 1.714.642.1236

<<http://www.SolarReserve.com%3chttp://www.solar-reserve.com/>>
www.SolarReserve.com<<http://www.solar-reserve.com/>>

From: Andrea Grenier <Andrea@agrenier.com>
To: "John Kessler" <Jkessler@energy.state.ca.us>, "Mark Hesters" <Mheste...
CC: "Jeff Benoit" <jeffrey.benoit@solarreserve.com>, "BruceCenturino" <b...
Date: 7/16/2010 5:58 PM
Subject: RE: FW: Solar Reserve Data Request Follow Up
Attachments: Rice Plots for CEC_1.pdf

John, the full load rejection stability plots requested by Ajoy are attached. Bruce Centurino will be calling Ajoy on Monday to discuss this information, as well as the status of remaining items requested over the past 10 days. Have a good weekend, and I will check in with you on Monday.

Andrea

-----Original Message-----

From: Ajoy Guha [mailto:Aguha@energy.state.ca.us]
Sent: Wednesday, July 14, 2010 5:13 PM
To: Andrea@agrenier.com; John Kessler; Mark Hesters
Cc: Ajoy Guha; 'Jeff Benoit'; 'BruceCenturino'
Subject: Re: FW: Solar Reserve Data Request Follow Up

Hi Andrea:

After reviewing the submittal, we have the following comments:

1. About 13 HS Base Case with Quartzsite Gen off:
 - a. Load Flow diagram for the Base Case with RICE ON is not included.
 - b. Load Flow diagrams for Category B outage of the Palo Verde-Colorado River 500 kV line (with all identified overloaded elements) not included
 - b. Figures 2 & 3- N. Gila-Imperial Valley (IV) 500 kV line outage case- shows exacerbated pre-project overloads on the Knob-Pilot Knob (PK) 161 kV line, PK-EI Centro Swtn. 161 kV line and PK 161/92 kV transformer. Note: These overloads are not listed in Table 6 of the SIS report.
 2. About 13 HW Base Case with Quartzsite Gen off:
 - a. Load Flow diagram for the Base Case with RICE ON is not included.
 - b. Figures 12 & 13: N. Gila-IV 500 kV outage case-Table 8 in the SIS report shows pre-project overload on the IV-EI Centro 230 kV line which is not shown in the diagrams. This line may be included in all LF diagrams.
 - c. Load Flow diagrams for Category B outage of the Palo Verde-Colorado River 500 kV line (with all overloaded elements) not included.
 3. About 13 HS Base Case with Quartzsite Gen on:
 - a. Load Flow diagram for the Base Case with RICE ON is not included.
 - b. Load Flow diagrams for Category B outage of the N. Gila- IV 500 kV line (with all overloaded elements)not included.
 4. About 13 HW Base Case with Quartzsite Gen on:
 - a. Load Flow diagram for the Base Case with RICE ON is not included.
 - b. Figures 17 & 18: N. Gila-IV 500 kV outage case-Table 9 in the SIS report shows pre-project overload on the IV-EI Centro 230 kV line which is not shown in the diagrams.
 - c. LF Diagrams for Category B outage of the Palo Verde-Colorado River 500 kV line not included.
- NOTE: Two (the Dixieland- RTap1 92 kV line and Coachlella valley (CV) 92/161 kV transformer) pre-project overloaded elements as in Table 9 be included in these diagrams.

5. About Stability plots:

- a. Provide Switching chits for all simulations including names of substations for breaker failure cases with sequences for 15 cycles fault clearing time cases.
- b. For Rice generating plant full load rejection simulation, besides Rice Plant include monitoring of voltages and frequencies at Parker and Blythe substations 161 kV buses.

In addition, in reference to our discussions on last Friday, July 9, 2010, please provide the following:

- a. Submit letters from SCE and IID with their comments about the SIS and the proposed mitigation, if any.
- b. About the base cases of the SIS, mention or show in a one-line diagram the major interconnection details modeled for the RICE Solar Energy project (RSEP) to the Western grid (such as amount of net RSEP generation, the step-up transformer size and impedance, mileage of the new Gen Tie line and size of its conductor, lengths of the existing Parker-Blythe 161 kV #1 line from the Blythe and Parker substations respectively to the proposed new RICE substation point of interconnection etc) and if all planned transmission upgrades up to 2013 in the Western and California ISO grids have been included and if all major Path flows are within limits. Also mention construction responsibilities of the interconnection facilities between the applicant and Western.
- c. About the Short Circuit study, mention the base case used.

If you have any concerns, please let me know.

Sincerely,
Ajoy Guha
Transmission Systems Engineering
California Energy Commission
916-654-5012

>>> John Kessler 7/13/2010 10:20 AM >>>

Thank you for putting this together in short order. We will get back to you at the first opportunity.

Thank you,
John

John S. Kessler
CEC - Project Manager
Office: 916-654-4679
Cell: 530-306-5920
Fax: 916-654-4421

>>> Andrea Grenier <Andrea@agrenier.com> 7/13/2010 8:17 AM >>>
John:

As you know, SR has been working closely with Western on the CEC's SIS information requests. Western has provided the attached for review. Could

you please have Ajoy look at this ASAP and let us know if it is responsive to his needs.

Andrea

-----Original Message-----

From: John Kessler [mailto:jkessler@energy.state.ca.us]

Sent: Wednesday, June 23, 2010 1:30 PM

To: Jeff Benoit; Liana Reilly

Cc: Andrea Grenier

Subject: Fwd: Re: Rice Solar Energy Project System Impact Study

Hi Jeff and Liana

Just want to keep you in the loop that we need some additional info. beyond what was included in the SIS. This is in the form of data that we expect will be readily available from Western's analysis but was not included in the study, and data for which we are dependent on SCE and IID to respond.

Thank you,

John

John S. Kessler

CEC - Project Manager

Office: 916-654-4679

Cell: 530-306-5920

Fax: 916-654-4421

>>> Ajoy Guha 6/23/2010 12:28 PM >>>

Hi Bruce:

Further to our review of the System Impact study (SIS) by Western and our recent discussions, we require the following information at the earliest to show that the project has no adverse thermal impacts on the Western Parker system, but has some thermal impacts on the IID and SCE systems:

1. A Table showing pre and post-project percentage line loadings (higher side) and line ratings in the Western study area under normal system conditions and a few critical contingencies .
2. Pre and Post-project One-line diagrams (with MVA and percentage loading, PU voltage) showing Western study area and all overload elements in the IID

and SCE areas for the case for each overloaded element with maximum overloading under the most severe contingency.

3. Letters from the IID and SCE with their comments after reviewing the Western SIS.

In addition, please provide the Facility study report to finalize the Western interconnection facilities.

The above information will enable us to complete the TSE staff. Assessment. If you have any questions or need further information, please contact us.

Thanks,

Ajoy Guha

Transmission System Engineering

CEC

916-654-5012

>>> John Kessler 6/21/2010 4:30 PM >>>

Hi Jeff

Here is Ajoy Guha's contact info: 916-654-5012; His email is as shown on the cc list.

We understand that Bruce Centurino's phone # is 916-740-2294, and his email is as shown on the cc list.

Ajoy and Bruce - Please feel free to coordinate directly, but please keep Jeff and I updated.

Thank you,

John

John S. Kessler

CEC - Project Manager

Office: 916-654-4679

Cell: 530-306-5920

Fax: 916-654-4421

>>> Jeff Benoit <<mailto:jeffrey.benoit@solarreserve.com>
jeffrey.benoit@solarreserve.com> 6/21/2010 3:54 PM >>>

John,

I received your voice message this afternoon regarding questions related to the Rice Project WAPA System Impact Study. I tried calling you at your office and on you cell phone with Mr. Centurino who is our consultant on transmission system matters. Unfortunately we were unable to reach you. Please let me know when you are available today or tomorrow so we can arrange a call to address any questions or concerns you and you staff may have.

Best regards,

Jeffrey Benoit

Sr. Project Manager

SOLARRESERVE

2425 Olympic Blvd., Santa Monica, CA 90404

Cell: 1.714.642.1236

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www.SolarReserve.com<<http://www.solar-reserve.com/>>

From: Andrea Grenier <Andrea@agrenier.com>
To: "John Kessler" <Jkessler@energy.state.ca.us>, "Ajoy Guha" <Aguha@ene...
CC: "Jeff Benoit" <jeffrey.benoit@solarreserve.com>, "BruceCenturino" <b...
Date: 8/6/2010 4:56 PM
Subject: Rice: CEC supplemental data request for Rice Solar
Attachments: SR_CEC_Supplemental_Data_Request_2_rev2.pdf

John: Please replace the file I sent you on Tuesday evening with the one attached; Bruce has revised the original document based on conversations he has had with Ajoy since the original version was submitted.

Andrea Grenier

Grenier & Associates, Inc.

1420 E. Roseville Parkway, Suite 140-377

Roseville, CA 95661

Office: (916) 780-1171

Cell: (916) 847-0918

Email: andrea@agrenier.com

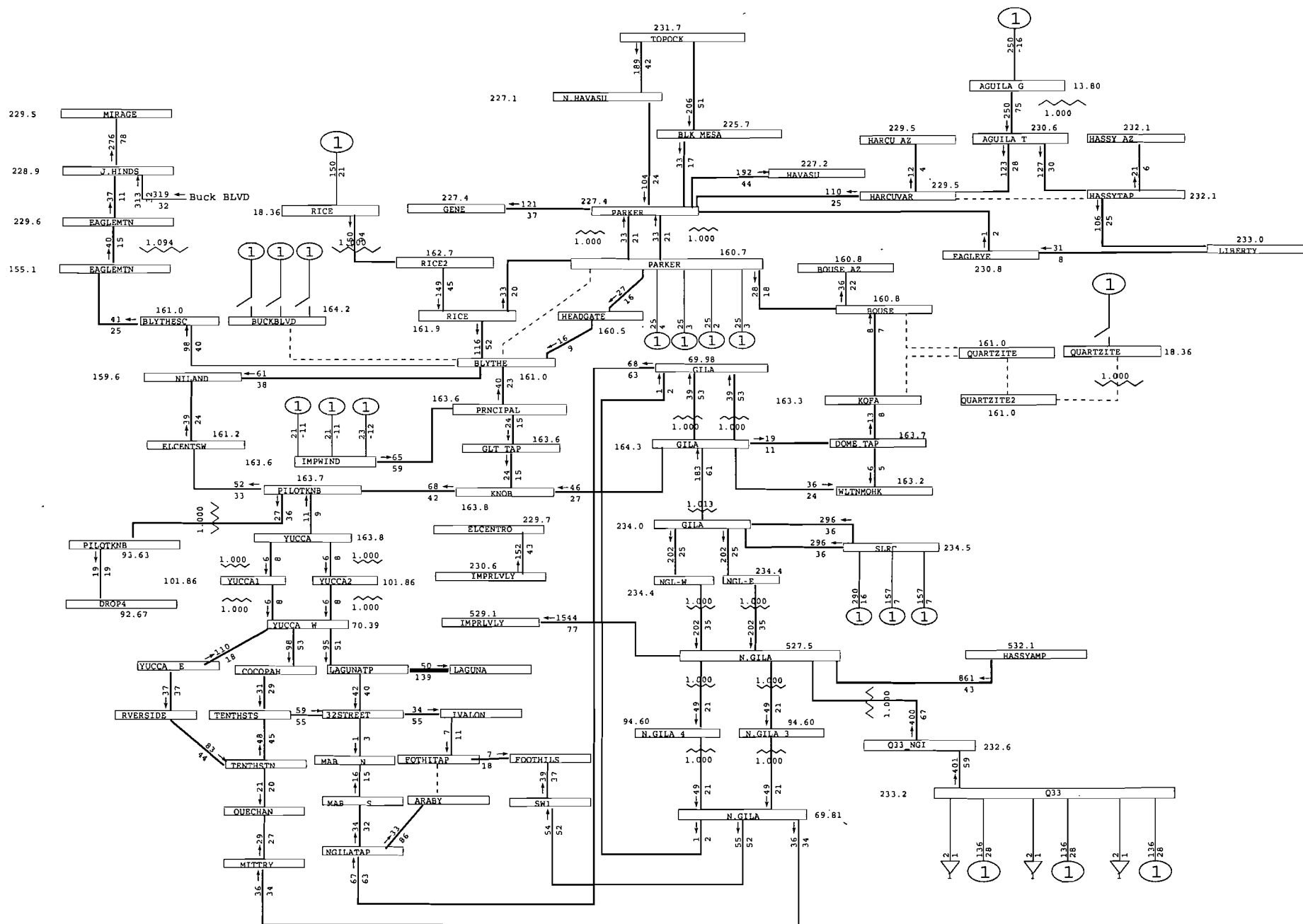
In response to Ajoy Guha's email request dated 7/14/2010 – Response provided by Solar Reserve using Western data:

- 1) 13 HS Base Case with Quartzsite Gen off:
 - a. Load Flow diagram for Base Case with RICE ON – Included in Figure 21
 - b. Load Flow diagram for Category B outage of the Palo Verde-Colorado River 500kV line – Included in figure 22 (Pre-Project) and 23 (Post-Project)
 - c. Figures 2 & 3 – N. Gila-Imperial Valley (IV) 500 kV line outage case shows exacerbated pre-project overloads on the Knob-Pilot Knob (PK) 161 kV line, PK-El Centro Swtn. 161 kV line and PK 161/92 kV transformer. Note: These overloads are not listed in Table 6 of the SIS report – The overload of Knob-Pilot Knob is listed in Table 12 of the SIS report. The other lines are a direct result of this line overloading which is why only the worst element was shown.
- 2) 13 HW Base Case with Quartzsite Gen off:
 - a. Load flow diagrams for the Base Case with RICE ON – Included in Figure 24
 - b. Figures 12 & 13: N. Gila-IV 500 kV outage case- Table 8 in the SIS report shows pre-project overload on the IV-El Centro 230 kV line which is not shown in the diagrams. – Included as Figures 25 (Pre-Project) and 26 (Post-Project)
 - c. Load flow diagrams for Category B outage of the Palo Verde-Colorado River 500 kV line – Included in Figure 27 (Pre-Project) & 28 (Post-Project)
- 3) 13 HS Base Case with Quartzsite Gen on:
 - a. Load flow diagram for the Base Case with RICE ON – Included in Figure 29
 - b. Load flow diagram for Category B outage of the N. Gila-IV 500kV line – Included in Figure 30 (Pre-Project) & 31 (Post-Project) Only the worst overload was shown on the table for the Knob-Pilot Knob area similar to item 1c above.
- 4) 13 HW Base Case with Quartzsite Gen on:
 - a. Load flow diagram for the Base Case with RICE ON – Included in Figure 32
 - b. Figures 17 & 18: N. Gila-IV 500 kV outage case-Table 9 in the SIS report shows pre project overload on the IV-El Centro 230 kV line which is not shown in the diagrams. – Included as Figure 33 (Pre-Project) & 34 (Post-Project).
 - c. Load flow diagrams for Category B outage of the Palo Verde-Colorado River 500 kV line – Included in Figure 35 (Pre-Project) & 36 (Post-Project)
- 5) Stability Plots
 - a. Provide Switching charts for all simulations including names of substations for breaker failure cases with the sequences for 15 cycle fault clearing times – Per our NDA with Western we are not able to share this information.
 - b. Full load rejection simulation besides the Rice plant monitor voltages and frequencies at Parker and Blythe substations 161 kV buses. - Refer to email dated 7/16/2010, attachment "Rice Plots for CEC_1.pdf"?
- 6) Additional data requested Friday July 9, 2010
 - a. Submit letters from SCE and IID with their comments about the SIS and the proposed mitigation, if any. – Utilities have been contacted and we are awaiting the response.
 - b. Mention of show in a one-line diagram the major interconnection details modeled for the RICE Solar Energy project (RSEP) to the Western grid (such as amount of net RSEP generation, the step-up transformer size and impedance, mileage of the new Gen Tie line and size of its conductor, lengths of the existing Parker-Blythe 161 kV line from Blythe and Parker substations respectively to the proposed new RICE substation point of interconnection. – Included in Figure 37
 - c. All planned transmission upgrades up to 2013 in the Western and CAISO grids have been included? – Western has the following response "The funded upgrades for

Western's system have been incorporated into the 2013 cases. Utilities are asked to include their planned transmission projects into the approved WECC base cases.

Western cannot independently verify that each utility in the CAISO area has complied with the WECC base case building process.”

- d. All Major path flows are within limits. – Verified this in all base cases.
- e. Mention construction responsibilities of the interconnection facilities between applicant and Western. – Will be identified in the Facilities Study which is currently in the Western process. The SIS identifies that SR will be responsible for building up to the Rice Substation and that Western will build the Rice Substation.
- f. Mention the base case used for the Short Circuit study. – Western indicated that both the 13hs and 13hw cases were used for the short circuit study. See Table 14 in the SIS.



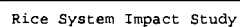
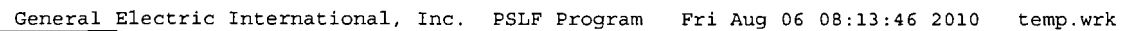
General Electric International, Inc. PSLF Program Fri Aug 06 08:14:09 2010 temp.wrk



Rice System Impact Study
13HS case with Quartzite Project Out of Service and Rice Project In service
Base Case

Figure 21

MW/k rate
.\draws\rice_cec_mod.drw
Rating = 1



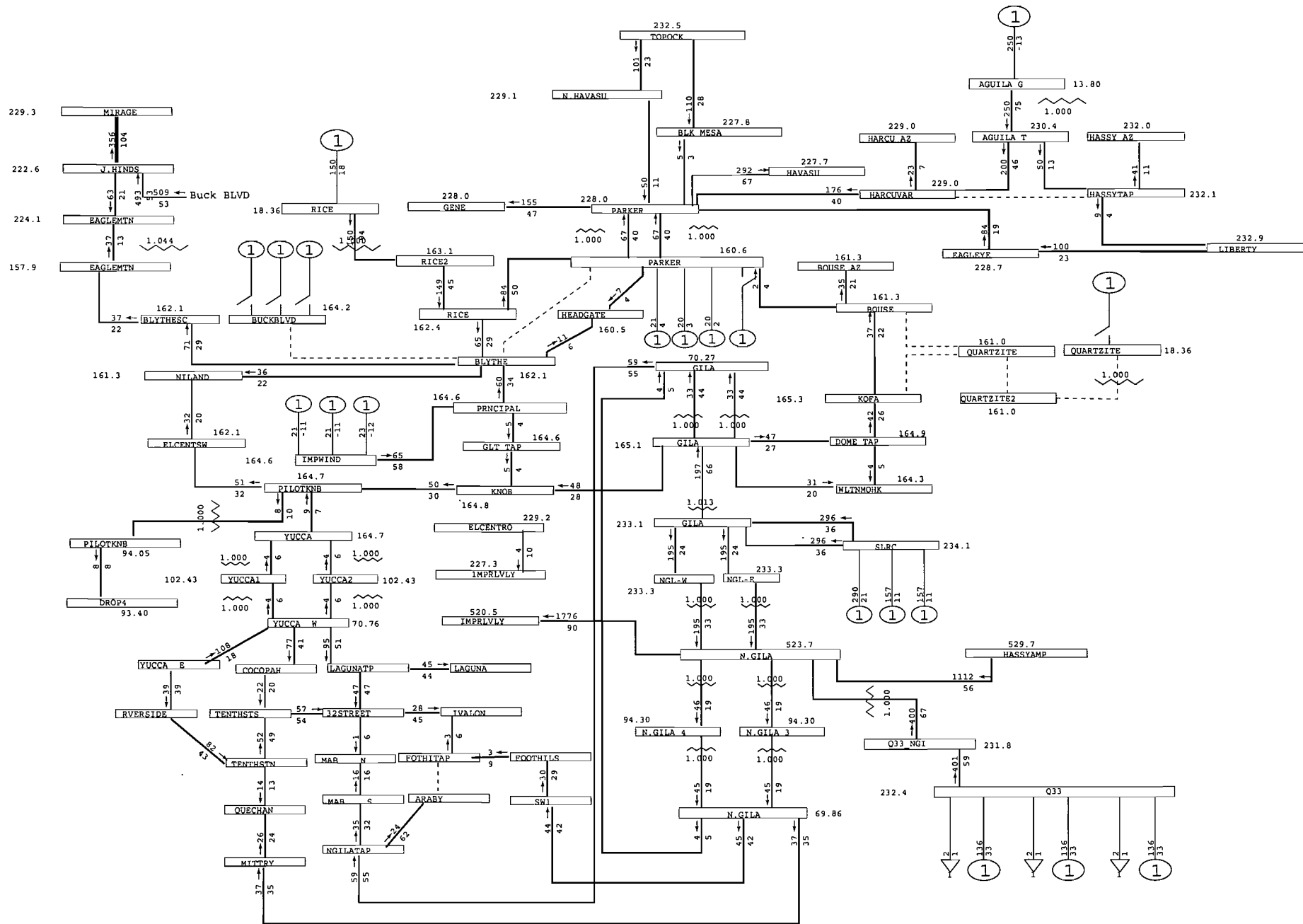
13HS case with Quartzite & Rice Projects Out of Service

```
line_58 Line PALOVRDE      500.0 to COLRIVER      500.0 Circuit 1
```

MW/% rate

```
.\draws\rice_cec_mod.drv
```

Rating = 2



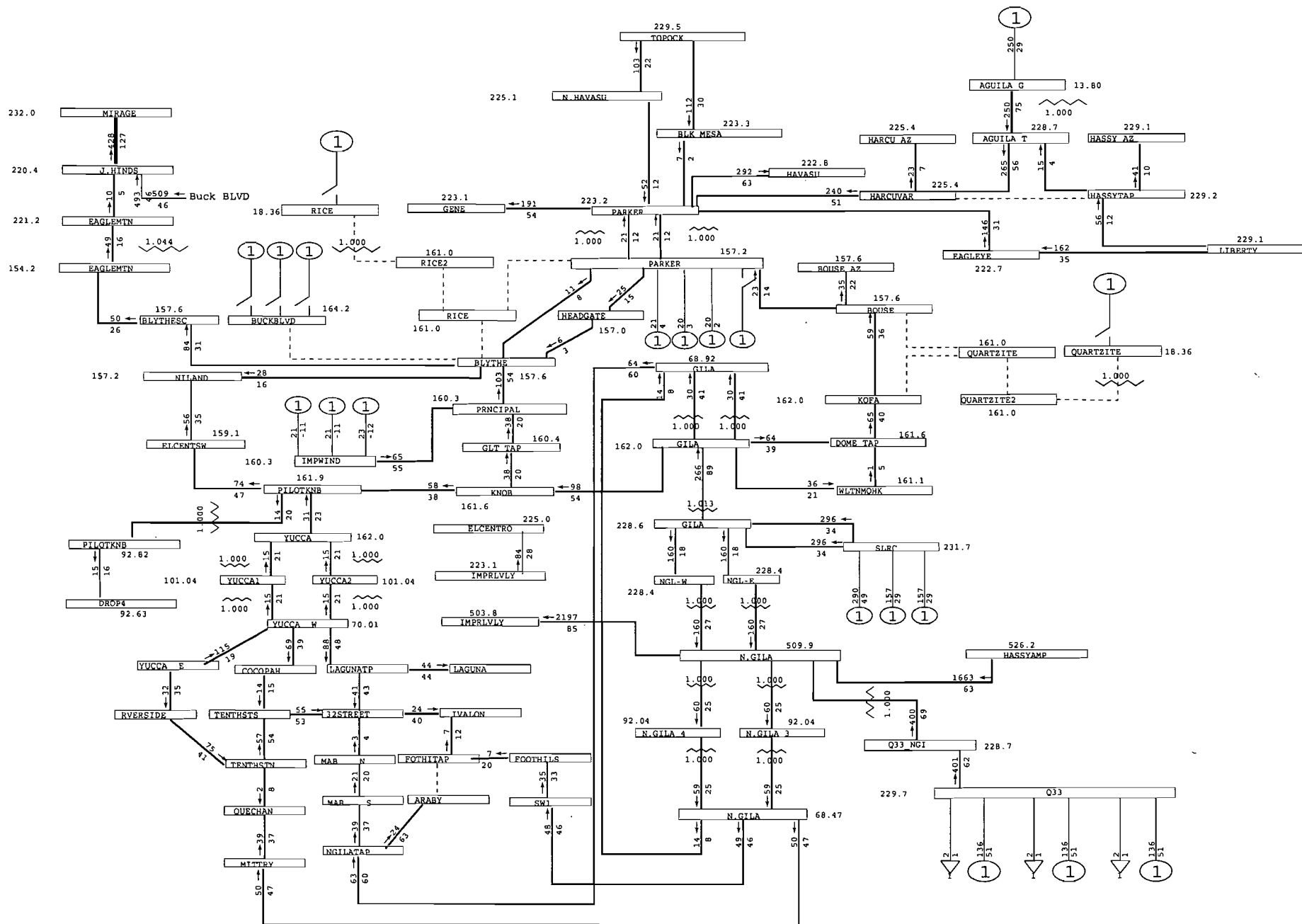
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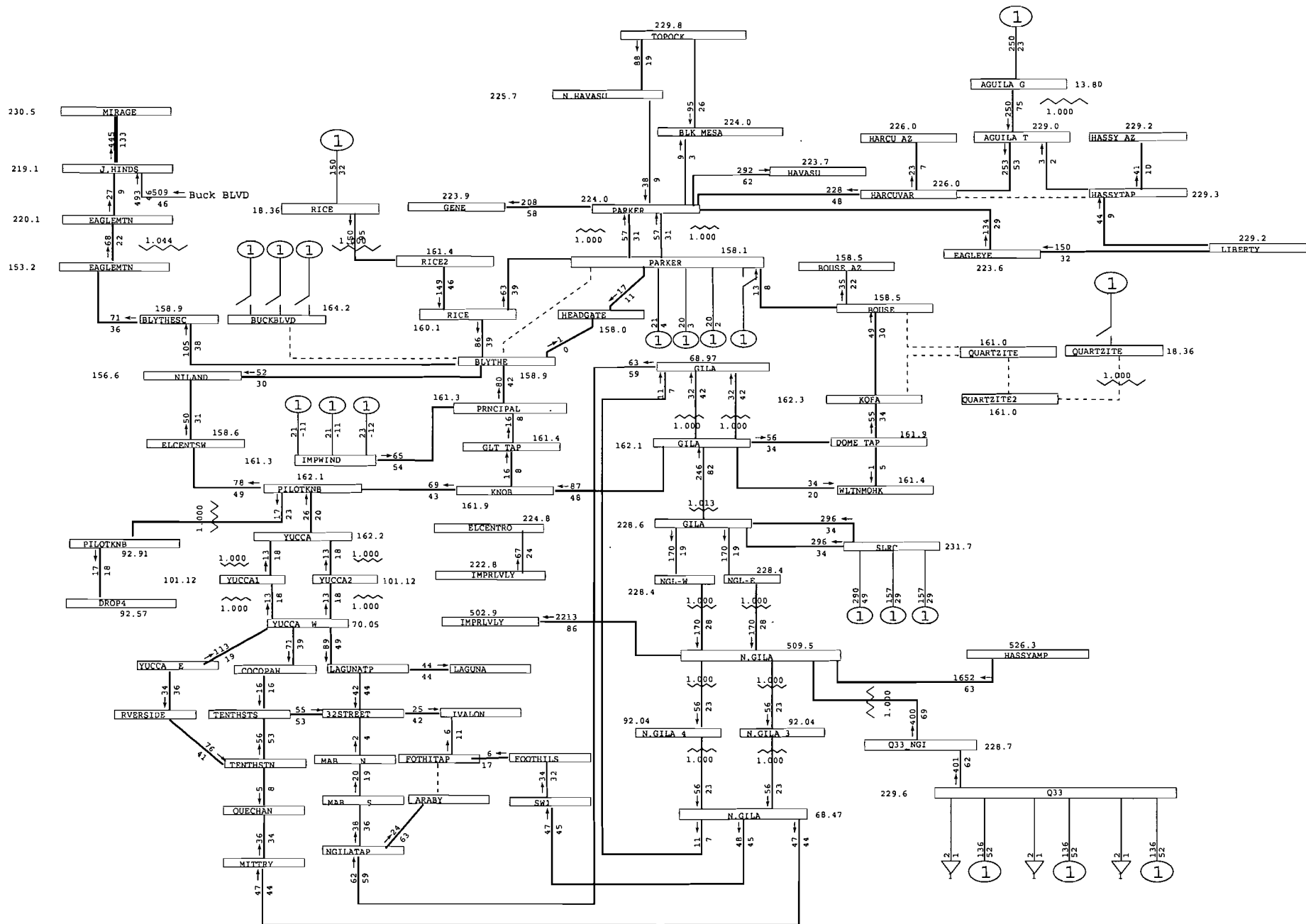


Rice System Impact Study
13HW EOR case with Quartzite Project Out of Service & Rice Project In Service
Base Case

Figure 24

MW/4 rate
.\draws\rice_hec_mod.drw
Rating = 1





General Electric International, Inc. PSLF Program Fri Aug 06 08:09:32 2010 temp.wrk



Rice System Impact Study

13HW BOR case with Quartzite Project Out of Service & Rice Project In Service

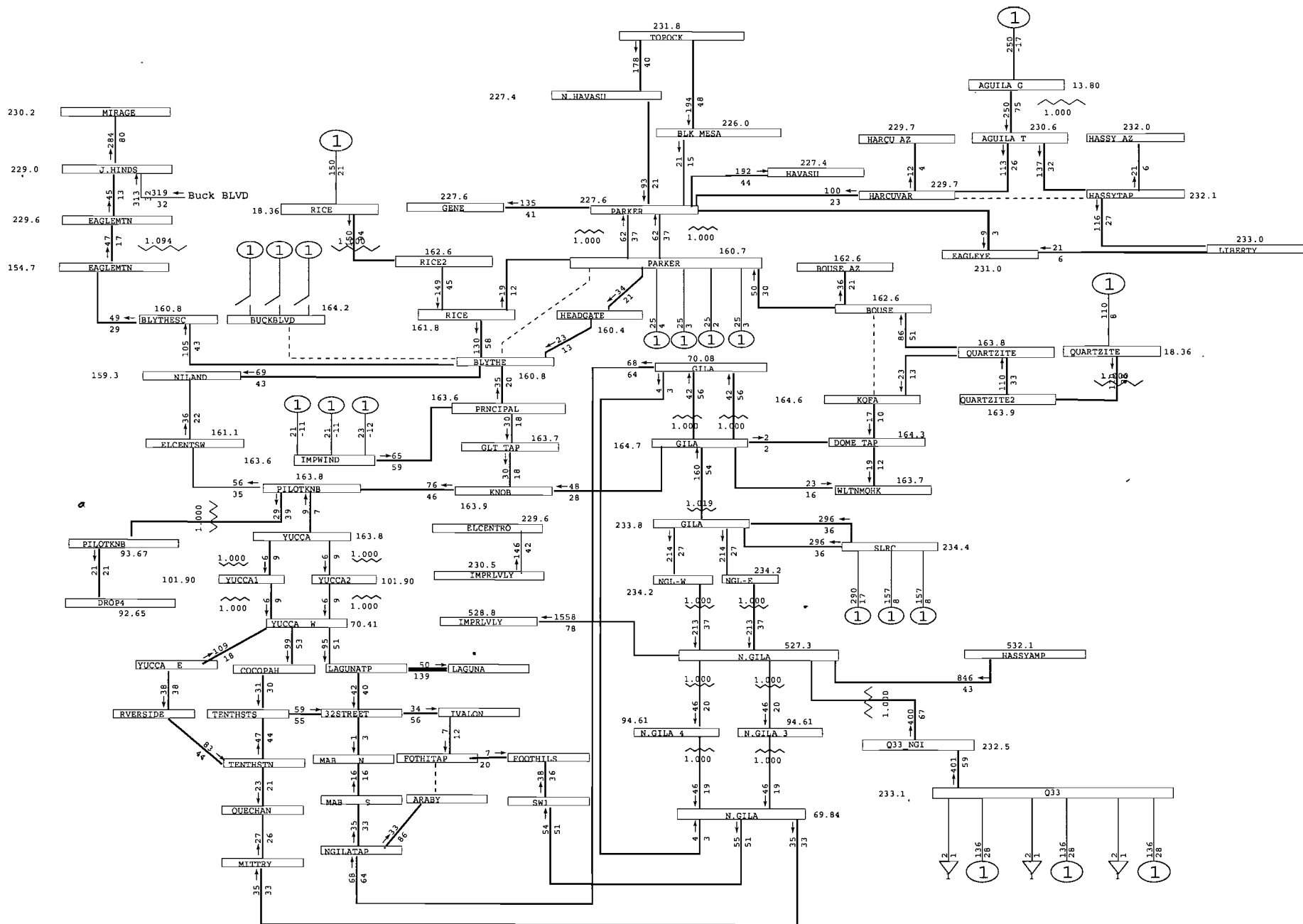
line_58 Line PALOVRDE 500.0 to COLRIVER 500.0 Circuit 1

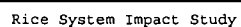
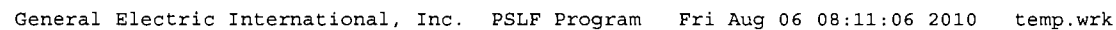
Figure 28

MW/rate

.\draws\rice_cec_mod.drv

Rating = 2





line_65 Line N.GILA 500.0 to IMPRLVLY 500.0 Circuit 1

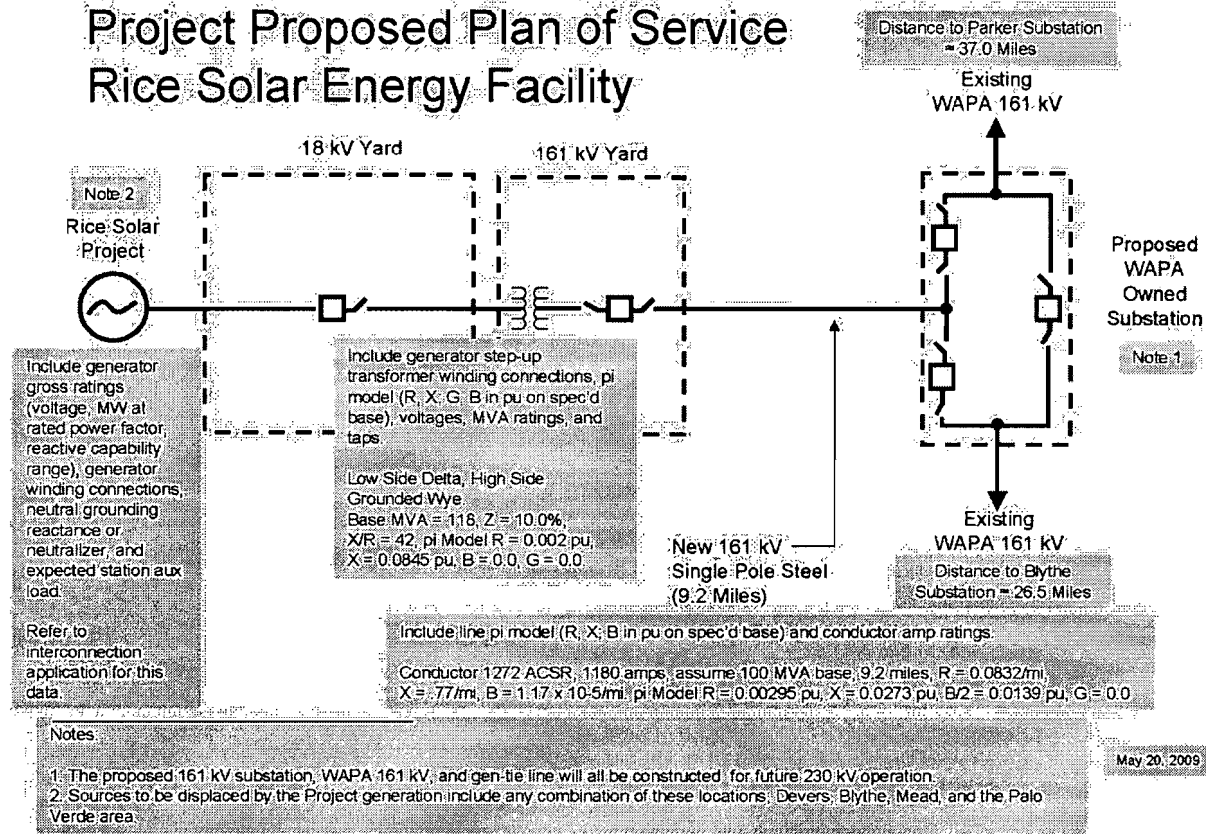
MW/1 rate

```
.\draws\rice cec mod.drv
```

Rating = 2

Figure 37

SolarReserve Feasibility Study Project Proposed Plan of Service Rice Solar Energy Facility



From: Andrea Grenier <Andrea@agrenier.com>
To: "John Kessler" <Jkessler@energy.state.ca.us>, "Ajoy Guha" <Aguha@ene...
CC: "Bruce Centurino" <brucecenturino@useconsulting.com>, "Jeff Benoit" ...
Date: 8/9/2010 3:35 PM
Subject: REVISION: Rice Data Clarification for CEC / Conductor Size & Transformer Base MVA

John & Ajoy--I apologize for any confusion, but SolarReserve would like to provide a corrected version of the information I sent to you earlier today. Please see the information below:

Upon further review, the 2,000 A breaker, disconnect, and bus ratings per the WAPA SIS are correct. DA 3.0-2 and DA 3.0-3 were submitted based on the assumption the system would be operated at 230 kV, whereby the 1,200 A ratings would be sufficient. Given the current operation of the system by WAPA at 161 kV, it is necessary to increase the current ratings of the high voltage equipment from the high-side of the GSU at the Rice switchyard up to and including the ring bus at the interconnection point in the WAPA system to 2,000 A as indicated in Section 6 on Page 24 of the WAPA SIS.

Andrea

-----Original Message-----

From: Andrea Grenier [mailto:Andrea@agrenier.com]
Sent: Monday, August 09, 2010 10:19 AM
To: 'John Kessler'; 'Ajoy Guha'; Mark Hesters (Mhesters@energy.state.ca.us)
Cc: 'Bruce Centurino'; 'Jeff Benoit'; Scott.Kaminski@solarreserve.com
Subject: FW: Rice Data Clarification for CEC / Conductor Size & Transformer Base MVA

John: Here is the breaker information for Rice as requested by Ajoy.

~~~~~

Upon further review, the 2,000 A breaker rating per the WAPA SIS is correct. DA 3.0-2 and DA 3.0-3 were submitted based on the assumption the system would be operated at 230 kV, whereby the 1,200 ratings would be sufficient. Given the current operation of the system by WAPA at 161 kV, it is necessary to increase the current ratings of the high voltage equipment from the high-side of the GSU at the Rice switchyard up to and including the ring bus at the interconnection point in the WAPA system to 2,000 A as indicated in Section 6 on Page 24 of the WAPA SIS.