

ORIGINAL



0000084020

Tucson Electric Power Company

One South Church, P.O. Box 711

Tucson, AZ 85702

RECEIVED

2008 APR 30 A 11: 27

50

AZ CORP COMMISSION
DOCKET CONTROL

April 29, 2008

Docket Control
Arizona Corporation Commission
1200 West Washington
Phoenix, Arizona 85007

Re: Annual Summer Preparedness Report
Decision No. 69680, Docket No. L-00000C-95-0084-00000

Docket Control:

Enclosed please find Tucson Electric Power Company's ("TEP") annual summer preparedness report that documents the ability of TEP's Green Valley area 46 kV system to timely restore service to: a) all customers served from Green Valley Substation and Canoa Ranch Substation following outage of the 138 kV South to Green Valley line outage, b) applicable load of UNS Electric, Inc. ("UNS Electric") customers via the 46 kV tie from Canoa Substation to Cañez Substation for an outage of the UNS Electric 115 kV line to Nogales, and c) all TEP customers and applicable load of UNS Electric customers for the concurrent outage of the South to Green Valley 138 kV line and the UNS Electric 115 kV line to Nogales. TEP is filing this report in accordance with Decision No. 69680, Docket No. L-00000C-95-0084-00000, which modified the CEC granted in Decision No. 59221. Also enclosed is an additional copy of the filing that the Company requests you date-stamp and return in the self-addressed, stamped envelope for our files.

If you have any questions regarding the report, please do not hesitate to contact me at (520) 884-3680.

Sincerely,

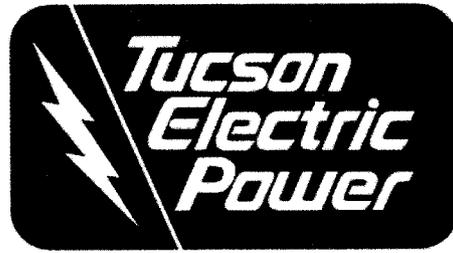
Jessica Bryne
Regulatory Services

Arizona Corporation Commission
DOCKETED

APR 30 2008

cc: Prem Bahl, ACC
Compliance, ACC
Shannon Kanlan (cover letter only), ACC

DOCKETED BY



A UniSource Energy Company

2008 Green Valley and Kantor Substation Summer Preparedness

**Prepared By:
Tucson Electric Power Company**

April 2008

Kantor

Kantor substation is one of four substations serving UES load in Santa Cruz county. This station is served by the 115 kV radial transmission line served from WAPA's Nogales substation. For loss of this line the load at Kantor can be picked up via an existing 46 kV tie, 46C552, served from TEP's South substation. The rating of this 46 kV circuit is 49 MVA. The transformer capacity at Kantor is 12.5 MVA. Expected load on 46C552 is shown in Table 3.

GREEN VALLEY CONTINGENCY OPERATION

Loss of the 138 kV radial requires that the existing 46 kV system be available to back up the 138 kV system. As shown in Table 2 below, the forecast load in Green Valley is anticipated to exceed the capability of the 46 kV transformers to back up loss of the 138 kV radial by 2012. This is due to an increase in forecast load since the 2007 study, and also in part, to the need to back up part of the load south of the new Hartt 138/13.8 kV substation scheduled to be in-service by summer, 2013. Hartt will be served from the same 138 kV circuit currently supplying Green Valley. The two 46 kV circuits, 46-C-550 and 46-C-552, are not the limiting elements in this case.

Green Valley Area Transformer Capacity, MVA											
	Rating	Emergency Rating	2008	2009	2010	2011	2012	2013	2014	2015	2016
Green Valley-T3	0	0	-54.2	-35.2	-36.5	-37.6	-38.6	-25.7	-26.2	-26.2	-26.2
Canoa Ranch-T1	0	0	0.0	-20.3	-21.1	-21.7	-22.3	-19.2	-19.6	-19.6	-19.6
Hartt-T1	0	0						-17.1	-17.4	-17.4	-17.4
Green Valley -T1	25	30	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Green Valley -T2	25	30	25.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Canoa-T1	4.7	5.6	2.2	2.2	2.1	2.0	1.9	1.9	1.9	1.9	1.9
Cyprus Esparanza Wells-T2	9.4	11.3	0.7	0.3	0.0	-0.2	-0.5	-0.6	-0.6	-0.6	-0.6
Cyprus Raw Water Supply-T2	9.4	11.3	-0.7	-0.7	-0.7	-0.7	-2.0	-3.3	-4.5	-5.8	-7.1
TOTAL CAPACITY			3.0	6.3	3.8	1.8	-1.5	-4.0	-6.3	-7.6	-8.9

Table 2

Transmission Planning recommends that completion of the 138kV line between Canoa Ranch and Cyprus Sierrita be complete by summer, 2012 (the CEC for this line extends until June 27, 2013). In the interim, the existing 46 kV system in the Green Valley area should continue to be used to back up the 138 kV radial.

KANTOR CONTINGENCY OPERATION

For loss of the 115 kV radial in Santa Cruz county serving the Kantor 115/13.2 kV substation, the TEP 46 kV circuit 46C552 served from South substation is used to back up this load. The circuit is rated at 49 MVA and also serves Canoa, Cyprus Esparanza Wells, Cyprus Raw Water Supply and Cyprus Raw Water Booster. The remaining capacity available to back up Kantor is shown in the following table:

46C552 kV Loading, MVA											
Substation	Rating	Emergency Rating	2008	2009	2010	2011	2012	2013	2014	2015	2016
Canoa-T1	4.7	5.6	3.4	3.4	3.5	3.6	3.7	3.7	3.7	3.7	3.7
Canoa-T2 (mine)	3.1	3.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Cyprus Esparanza Wells-T1 (mine)	3.1	3.7	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Cyprus Esparanza Wells-T2	9.4	11.3	10.6	11.0	11.3	11.5	11.8	11.9	11.9	11.9	11.9
Cyprus Raw Water Booster-T1 (mine)	5.0	6.0	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
Cyprus Raw Water Supply-T2 (mine)	9.4	11.3	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
Cyprus Raw Water Supply-T3	4.7	5.6	6.3	6.3	6.3	6.3	7.6	8.9	10.1	11.4	12.7
Kantor	12.5	14.9	8.0	8.2	8.4	8.6	8.8	9.0	9.2	9.5	9.7
46C552	49.0		36.6	37.2	37.8	38.3	40.2	41.8	43.2	44.8	46.3
46C552 Margin			12.4	11.8	11.2	10.7	8.8	7.2	5.8	4.2	2.7
46C552 Margin w/ Green Valley 138 OOS			9.5	9.3	9.1	8.9	7.4	5.9	4.5	2.9	1.4

Table 3

It is clear from the table above that there is adequate capacity to serve the native Canoa and Cyprus load as well as Kantor through 2016 for loss of the 115 kV circuit even after loss of the 138 kV circuit (N-1 and N-1-1 contingencies).

