



# RIVERSIDE PUBLIC UTILITIES

## Board Memorandum

**BOARD OF PUBLIC UTILITIES**

**DATE:** FEBRUARY 19, 2016

**ITEM NO:** 11

File ID – 16-0489 – D

**SUBJECT:** CASA BLANCA SUBSTATION TRANSFORMER OUT-OF-SERVICE UPDATE AND PLANS FOR RESTORATION

**ISSUE:**

The issue for Board of Public Utilities consideration is awareness of the Casa Blanca Substation (Casa) transformer which was removed from service, current status, and the plan for restoration.

**RECOMMENDATION:**

That the Board of Public Utilities receive and file this report.

**BACKGROUND:**

The Casa Blanca Substation is located near Madison Street and Indiana Avenue and supplies electricity to the surrounding area. Casa Blanca Substation Transformer 1 (T1) was manufactured by ABB Group (ABB) and commissioned in October 2012 as part of the Casa Blanca Power project. This transformer changes transmission voltage to distribution voltage, weighs 136,275 lbs. and contains 5,359 gallons of oil. In October 2013, during a routine dissolved gas analysis (DGA) test, T1 was found to be producing some abnormal gasses potentially indicative of an internal problem. T1 was re-tested and in February 2014 the results showed an increase in the generation of key gases. T1 was taken out of service and ABB was notified. ABB's on-site inspection and extensive testing did not positively identify the source of the gases and determined it safe to return to service. After ABB's inspection was completed, the transformer was returned to service in April 2014. RPU staff monitored this transformer monthly and it operated without further incident until December 3, 2015.

On December 3, 2015, the routine DGA results for Casa T1 showed alarming values of abnormal gases. A second oil sample was sent to another laboratory which validated the initial results. The transformer was immediately taken out of service. Staff transferred the customers normally fed by T1 to adjacent distribution feeders with available capacity from Freeman and Plaza Substations. This load transfer took place without affecting electric service to RPU customers.

The transformer is under warranty until July 2017. After consulting with ABB, RPU requested ABB ship the transformer back to their factory to perform all applicable diagnostic tests and repairs to return it by April 30, 2016 before summer loads increase. The T1 is currently in ABB's factory for repair.

RPU staff is preparing several alternate plans for use in the event ABB cannot return the transformer in a timely manner. These alternates include installing the mobile substation trailer, moving the Plaza Substation T5 to Casa, and adding a T2 transformer at Casa. These solutions will be refined as additional information from the transformer manufacturer becomes available.

**FISCAL IMPACT:**

No fiscal impact has been determined at this time.

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**Project Site Map**

