

CITY COUNCIL MEETING  
JULY 17, 1984  
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CC-20  
CC-47  
SPECIFICATIONS  
FOR THE  
SHIPMENT OF  
SUBSTATION  
POWER TRANS-  
FORMER APPROVED

COUNCIL APPROVED THE SPECIFICATIONS FOR THE LOADING/SHIPMENT (RETURN SHIPMENT/UNLOADING) OF THE KILLELEA #2 TRANSFORMER BANK, FOR REPAIR AT THE WESTINGHOUSE REPAIR FACILITY AND AUTHORIZED THE ADVERTISING FOR BIDS THEREON.

Council was apprised that this substation transformer has been taken out of service, because of an overheated condition; subsequent tests have shown that it is damaged. The extent of damage cannot be determined without the transformer being disassembled in a transformer shop and further evaluated. The unit was manufactured, and previously repaired in 1978 (a different failure from the current one), by the Westinghouse Electric Corporation. Westinghouse has all equipment drawings and specifications in its library.

The estimated cost of this 'shipping service' is \$20,000 maximum. The cost for repairs cannot be estimated accurately until the extent of damage is known; however, even a complete 'rewind' would cost less than a new unit.

# COUNCIL COMMUNICATION

TO THE CITY COUNCIL  
FROM THE CITY MANAGER'S OFFICE

DATE June 25, 1984

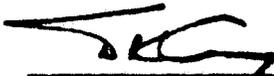
NO.

SUBJECT. SPECIFICATIONS FOR THE SHIPMENT OF SUBSTATION POWER TRANSFORMER (UD-E84-6)

Specifications for the loading/shipment (and return shipment/unloading) of the Killelea #2 transformer bank, for repair at the Westinghouse repair facility in Compton, California, are presented for Council's approval and permission to advertise for bids is requested. The bid opening date has been set for Tuesday, July 17, 1984.

This substation transformer has been taken out of service, because of an overheated condition; subsequent tests have shown that it is damaged. The extent of damage cannot be determined without the transformer being disassembled in a transformer shop and further evaluated. The unit was manufactured, and previously repaired in 1978 (a different failure from the current one), by the Westinghouse Electric Corporation. Westinghouse has all equipment drawings and specifications in its library.

The estimated cost of this 'shipping service' is \$20,000 maximum. The cost for repairs cannot be estimated accurately until the extent of damage is known; however, even a complete 'rewind' would cost less than a new unit.

  
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David K. Curry  
Utility Director

Attach.

MEMORANDUM

TO: DAVID K. CURRY, UTILITY DIRECTOR  
FROM: HANS HANSEN, ASSIST. UTILITY DIRECTOR  
DATE: JUNE 21, 1984  
SUBJECT: KILLELEA #2 TRANSFORMER FAILURE

On May 1, 1984 (at 0700 hrs.), the Killelea #2, 60/12-kv transformer bank was taken out of service as a result of an overheated condition in the auto-transformer section. The outside paint, in this area, is discolored from heat. Subsequent tests performed on the oil indicate possible arcing as well as severe overheating. Electrical tests applied to the transformer indicate a malfunction of at least a portion of the auto-transformer section. Further analysis and evaluation as to the extent of failure/damage cannot be accomplished without a 'tear-down' of the core-coil assembly, a task that can only be performed by untanking the unit. Untanking power transformers in the field is not practical, probably not even possible, and is not recommended.

At this point, it is proposed that the transformer be shipped to the Westinghouse repair facility in Compton, California for untanking and a complete evaluation of the extent of damage. Westinghouse is recommended for a number of reasons, such as: (1) Westinghouse is the manufacturer of the transformer and thus has all drawings and specifications in its library; (2) Westinghouse is highly recommended by other utilities for its expertise in repair/rebuild at the Compton facility; (3) Westinghouse charges (overall) will be lower than those of a comparable General Electric facility in Anaheim (informal itemized quotes have been obtained).

Since the extent of damage is still unknown at this time, the cost for repairs cannot be determined. However, costs for a 'worst-case' repair have been determined not to exceed \$145,000. Worst-case repair costs consist of a complete rewind, based on all core-steel being reusable. Westinghouse personnel feel confident, with their knowledge of the failure, that the core-steel has not been significantly damaged. It is quite likely that less than a complete rewind will restore the unit to operating condition. In the event of a complete rewind, the unit would be restored to the latest design specifications and be equivalent to a new unit with comparable warranties. An equivalent new unit, if it were to be purchased today, would cost an estimated \$260,000.

It should be noted that, in addition to repair costs, there are rigging and transportation expenses as well as new transformer oil. It is estimated that these costs will not exceed \$30,000.