

CITY OF SACRAMENTO

Permit No: 0508075

1231 I Street, Sacramento, CA 95814

Insp Area: 1

Site Address: 3301 C ST SAC

Thos Bros:

Parcel No: 004-0010-029

Sub-Type: REM

Housing (Y/N): N

CONTRACTOR  
EMPIRE ELECTRIC  
860 S RIVER RD  
WEST SAC CA

OWNER  
HOLGERSON HARRY T JR/MARY E  
72 98TH AV  
OAKLAND, CA 94603

ARCHITECT

Nature of Work: Install service panel DLD1, Trans. TL1 & panl. L1. One light circuit & 1 plug circuit as per plan.

CONSTRUCTION LENDING AGENCY: I hereby affirm under penalty of perjury that there is a construction lending agency for the performance of the work for which this permit is issued (Sec. 3097, Civ. C).

Lender's Name Owner Lender's Address \_\_\_\_\_

LICENSED CONTRACTORS DECLARATION: I hereby affirm under penalty of perjury that I am licensed under provisions of Chapter 9 (commencing with section 7000) of Division 3 of the Business and Professions Code and my license is in full force and effect.

License Class C10 License Number 430814 Date 6-7-05 Contractor Signature Harold R. Gou

OWNER-BUILDER DECLARATION: I hereby affirm under penalty of perjury that I am exempt from the contractors License Law for the following reason (Sec. 7031.5, Business and Professions Code; any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he or she is licensed pursuant to the provisions of the Contractors License Law (Chapter 9 (commencing with Section 7000) of Division 8 of the Business and Professions Code) or that he or she is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than five hundred dollars (\$500.00);

I, as a owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business and Professional Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or herself or through his/her own employees, provided that such improvements are not intended or offered for sale. If, however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he/she did not build or improve for the purpose of sale.)

I, as owner of the property, am exclusively contracting with licensed contractors to construct the project (Sec. 7044, Business and Professions Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractors License Law).

I am exempt under Sec. \_\_\_\_\_ B & PC for this reason: \_\_\_\_\_

Date \_\_\_\_\_ Owner Signature \_\_\_\_\_

IN ISSUING THIS BUILDING PERMIT, the applicant represents, and the city relies on the representation of the applicant, that the applicant verified all measurements and locations shown on the application or accompanying drawings and that the improvement to be constructed does not violate any law or private agreement relating to permissible or prohibited locations for such improvements. This building permit does not authorize any illegal location of any improvement or the violation of any private agreement relating to location of improvements.

I certify that I have read this application and state that all information is correct. I agree to comply with all city and county ordinances and state laws relating to building construction and hereby authorize representative(s) of this city to enter upon the abovementioned property for inspection purposes.

X Date 6-7-05 Applicant/Agent Signature Harold R. Gou

WORKER'S COMPENSATION DECLARATION: I hereby affirm under penalty of perjury one of the following declarations:  
X I have and will maintain a certificate of consent to self-insure for workers' compensation as provided for by Section 3700 of the Labor Code, for the performance of work for which the permit is issued.

I have and will maintain workers' compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My workers' compensation insurance carrier and policy number are:

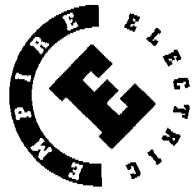
Carrier CALCO INS Policy Number 1656487-02 Exp Date 11/01/2005

(This section need not be completed if the permit is for \$100 or less) I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California and agree that if I should become subject to the workers' compensation provisions of Section 3700 of the Labor Code, I shall forthwith comply with those provisions.

X Date 6-7-05 Applicant Signature Harold R. Gou

WARNING: FAILURE TO SECURE WORKER'S COMPENSATION COVERAGE IS UNLAWFUL AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS (\$100,000) IN ADDITION TO THE COST OF COMPENSATION, DAMAGES AS PROVIDED FOR IN SECTION 3706 OF THE LABOR CODE, INTEREST AND ATTORNEY'S FEE.

THIS PERMIT SHALL EXPIRE BY LIMITATION IF WORK IS NOT COMMENCED WITHIN 180 DAYS.



# GROUND FAULT SYSTEM TEST REPORT

CANNERY BUSINESS PARK

3301 C ST SACRAMENTO

*Permit # 0508075*

**Ground Fault System Test Report**

at

**Cannery Business Park  
West Sacramento, CA**

for

Empire Electric  
Cannery Business Park Near 'C' Street  
West Sacramento, CA 95691

**Attention: Mr. Curt Wright**  
Order No: 58356

Reference No.


3023595

Submitted By:

Peter G. Langdon  
Field Engineer

May 24, 2005

Reviewed By:

  
Richard J. Alessandri  
Operations Supervisor

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## 1 PURPOSE

Performance testing of ground fault protective equipment is conducted to verify proper installation and operation. The National Electrical Code™ Section 230-95(c) requires an on site test of all ground fault systems upon initial installation. In healthcare facilities, the National Electrical Code™ section 517-17 requires at least one additional level of ground fault protection to be installed. This Code section also requires the additional testing of each level to ensure the ground fault system is 100% selective.

## 2 SUMMARY

- 2.1 This project was initiated by Mr. Curt Wright with Empire Electric. All testing was performed by Electrical Reliability Services Field Engineer Pete Langdon on Thursday, May 19, 2005.
- 2.2 Please refer to Section 5 "Results and Recommendations" for complete details of the testing.

## 3 EQUIPMENT TESTED AND INSPECTED

- 3.1 One (1), Four Wire Residual type Ground Fault System mfg. by Siemens installed in the Main Switchboard

## 4 PROCEDURES

### 4.1 Ground Fault Systems

#### 4.1.1 Visual and Mechanical Inspection

1. Inspected for physical damage. Visually inspected the components for errors in polarity or conductor routing.
2. Inspected neutral main bonding connection to assure:
  - a. Proper size
  - b. Ground connection was made ahead of neutral disconnect link
3. Verified ground electrode conductor(s) for proper size and connection.

4. Checked proper operation of ground fault monitor panel (if present).
5. Verified that neutral sensors are connected with correct polarity on both primary and secondary.

#### 4.1.2 Electrical Tests

1. Measured the system neutral-to-ground insulation resistance with the neutral disconnect link temporarily removed. Replaced the neutral disconnect link after testing.
2. Measured pickup current by primary injection at sensor.
3. Verified the relay did not operate at ninety percent of the pickup setting.
4. Measured time delay at two points above pickup current level by injecting current into the sensor. Total trip time was electrically monitored.
5. Verified correct polarities on summation type systems utilizing separate phase and neutral current sensors by applying current to each phase-neutral current transformer pair.

## 5 RESULTS AND RECOMMENDATIONS

- 5.1 The ground fault relay system was found correctly installed and operating properly.
- 5.2 In the absence of engineered settings, pickup current and time delay settings were left at minimum for service energization. Electrical Reliability Services accepts no liability for these settings. The design engineer should be consulted for final settings.

<b>CLIENT:</b> Empire Electric		<b>ENGINEER:</b> P. Langdon		<b>JOB NO.:</b> 3023595		
<b>LOCATION:</b> Cannery Business Park, Sacramento, CA		<b>WITNESS:</b> NA		<b>DATE:</b> 19-May-05		
<b>SWITCHGEAR DESIGNATION:</b> Main Switchboard		<b>TEST EQPT ASSET NO:</b> 72-01083		<b>CAL. DATE:</b> 04/18/2005		
<b>FIELD DATA</b>						
<b>SWITCHBOARD MANUFACTURER</b> Siemens		<b>S.O. NUMBER</b> 19-56496-A00010-02		<b>UL NUMBER</b> E-546255		
<b>MAIN OVERCURRENT DEVICE</b> <input checked="" type="checkbox"/> Circuit Breaker <input type="checkbox"/> Fused Switch		<b>MFGR.</b> Siemens				
<b>TYPE</b> SHPD6	<b>MODEL/CAT. NUMBER</b> SHPD69160NGT	<b>CURRENT RATING</b> 1600	<b>SYSTEM VOLTAGE</b> 480/277	<b>VOLTAGE RATING</b> 600		
<b>GROUND FAULT SYSTEM</b> <input type="checkbox"/> Neutral Ground Strap <input type="checkbox"/> Zero Sequence <input checked="" type="checkbox"/> Residual			<b>MFGR.</b> Siemens			
<b>MODEL</b> Integral with breaker	<b>CAT. NUMBER</b> NA	<b>PICKUP RANGE</b> 320-1120	<b>TIME RANGE</b> .1, .2, .4 seconds		<b>SENSOR / CT</b> Label not visible	
<b>AS FOUND</b>	<b>PICKUP</b> 320	<b>TIME</b> .1s	<b>AS LEFT SETTING</b>	<b>PICKUP</b> 320	<b>TIME</b> .1s	
<b>SETTINGS BY</b> None supplied						
<b>INSPECTION</b>						
<b>SERVICE ENTRANCE CONDUCTORS</b>		<b>PER</b>	<b>MAIN BONDING JUMPER</b>		<b>GROUND ELECTRODE CONDUCTOR</b>	
PHASE 400 MCM		X 5	1 x 1/4" CU		4/0 <input checked="" type="checkbox"/> AWG <input type="checkbox"/> MCM	
<b>NEUTRAL - GROUND LOCATION</b> <input checked="" type="checkbox"/> Correct <input type="checkbox"/> Incorrect <input type="checkbox"/> Corrected by Contractor				<b>CONTROL POWER TRANSFORMER</b> VA NA		
<b>MONITOR TEST PANEL OPERATION</b> <input type="checkbox"/> Correct <input type="checkbox"/> Incorrect <input type="checkbox"/> Corrected <input checked="" type="checkbox"/> NA			<b>OTHER</b> NA			
<b>ELECTRICAL TESTS</b>						
<b>BREAKER SWITCH REACTION TIME</b> <input type="checkbox"/> Seconds <input type="checkbox"/> Cycles <input checked="" type="checkbox"/> NA			<b>REDUCED VOLTAGE TEST (55% RATED VOLTAGE)</b> <input type="checkbox"/> Trip (Correct) <input type="checkbox"/> No Trip (Incorrect) <input checked="" type="checkbox"/> NA			
<b>PICKUP CURRENT</b> 326		<b>PICKUP CURRENT (PICKUP MINUS 25%)</b> <input type="checkbox"/> Trip (Incorrect) <input checked="" type="checkbox"/> No Trip (Correct)				
<b>SYSTEM NEUTRAL INSULATION RESISTANCE TO GROUND MEGOHMS</b> >999		<b>OTHER</b> NA				
<b>TIME -CURRENT CALIBRATION TESTS</b>	<b>PERCENT PICKUP</b>	<b>CURRENT</b>	<b>TOTAL TIME</b>	<b>REACTION TIME</b>	<b>RELAY TIME</b>	<b>MFGR. TOLERANCE</b>
	200	640	0.13	NA	NA	
	300	960	0.1	NA	NA	
<b>REMARKS:</b>						