



United Controls International, Inc.

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Stone Mountain, GA 30083-1302
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March 7, 1997

Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Reference: Docket No. 50-461, 10CFR21 Final Report 21-97-004: Phoenix Power Systems
Regulated Power Transformer Supplied and Qualified by United Controls
International

Subject: United Control Internationals reponse to the referenced filing

Dear Madam or Sir:

United Controls International (UCI) has carefully reviewed the referenced 10CFR, Part 21 filing, along with the applicable Illinois Power purchase order (PO552512) and associated specification. The following comments are offered in an effort to provide you with information which Illinois Power failed to report.

1. The referenced document states: "the purchase specification for the power transformer supplied requires voltage control from the no load condition to unit rating. Contrary to this requirement, IP has found that the transformer is not stable in the no load condition and trips when lightly loaded under various plant conditions."

A. This statement is partially true in that the specification (applicable excerpts included as Attachment 1 to this letter, along with the purchase order) states in division 3, section 301 that: "the transformer shall have a guaranteed output voltage of 117 volts $\pm$ 3% over an output power range of 0 to 15 KVA." The transformer provided is a Phoenix model P3C015C6/EAN which has operating specifications which require it to have a guaranteed output voltage of 117 volts $\pm$ 3% over an output power range of 0 to 15 KVA. The transformer is however reliable in the no load condition. In fact, this has been stated in a letter from Phoenix design engineer Todd Desiato (see Attachment 2 to this letter). In addition, enclosed is a copy of documented functional tests (Attachment 3), for each of the transformers supplied, which demonstrates that the transformer did perform reliably, within spec. requirements at no load.

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Page Two

2. The referenced document states: "IP has been advised by the manufacturer that the transformer units require a minimum load of 2 amps per phase to remain stable." This statement is misleading in that the transformer does skip from one tap to another, basically hunting for a load, when it is unloaded; however, the transformers input circuit breaker does not trip under these conditions. The transformer does perform reliably and provide the required output while under no load conditions as discussed in point 1, above. What is not mentioned by Illinois Power in the referenced Part 21 filing is that it was determined that the problem occurring, at Clinton Power Station, with these transformers was an EMI/RFI susceptibility problem. When the manufacturer of the transformer (Phoenix Power Systems) was contacted, Illinois Power had provided them with a recorded output waveform that identified some type of spikes or noise occurring on the output of one phase of the transformer, just prior to the transformers input breaker tripping. Phoenix, upon review of this waveform, recommended to Illinois Power to apply a minimum load (approximately 5% of full load) in order to provide stable operation. Phoenix made an assumption that the increased output current would decrease the affects of the apparent noise and therefore "stabilize" transformer operation. This approach did not reliably fix the problem; therefore, Illinois Power requested United Controls via Purchase Order PO704980 (Attachment 4) to perform EMI/RFI testing on the transformer in order to determine problem frequencies and resolve the tripping problem.

3. The referenced document states on page 2 section vii that: "IP and representatives of United Controls are working on a network of filters/surge suppressors and minimum load resistors to eliminate the tripping problem." This is true; however, the effort has been temporarily halted by Illinois Power. Again the purpose of this "network" is to resolve the EMI/RFI susceptibility problem with the transformers as stated in point 2, above. It should be noted that the original purchase order and specification to United Controls (see Attachment 1) did not request EMI/RFI testing to be performed.

United Controls International believes that the above comments as well as the attached documentation of the involved purchase order and specifications provides documented evidence that all transformers provided to Illinois Power meet the requirements of the applicable purchase order. If you have any further questions in regard to this issue or need any additional information, please feel free to contact Mike LeBlanc, Director of Nuclear Engineering, Deborah Butler, QA Manager or me (Ben Camp).

Sincerely,



Ben Camp
President, United Controls International

cc: Mike LeBlanc (UCI)
Deborah Butler (UCI)

ATTACHMENT 1

ILLINOIS POWER

REQUIRED DELIVERY DATE
SELLING TERMS
FREIGHT TERMS
PAYMENT TERMS

02/25/95
NO DISCOUNT-NET 30 DAYS
COLLECT
DESTINATION
6.25% SALES-USE TAX

PURCHASE ORDER			
DATE	NUMBER	REL	REV
03/14/96	P0552512	000	003

SUPPLIER NOT REGISTERED TO COLLECT TAX

PAGE 1

REPRINT MESSAGE LINE

MEMO OF CHANGE

U074 02
UNITED CONTROLS
1554 LITTON DRIVE
STONE MOUNTAIN

GA 30083

INSTRUCTIONS

OUR PURCHASE ORDER MUST APPEAR ON INVOICES, SHIPPING PAPERS,
PACKAGES AND CORRESPONDENCE, INVOICES MUST SHOW DESTINATION OF SHIPMENT,
AND APPLICABLE ILLINOIS SALES TAXES AS A SEPARATE ITEM
MAIL: ACKNOWLEDGEMENT AND ALL CORRESPONDENCE TO:
PURCHASING DEPARTMENT
MUST MAIL INVOICES IN DUPLICATE
FAILURE TO FURNISH DUPLICATE COPIES OF INVOICES
MAY RESULT IN DELAY OF PAYMENT. MAIL TO:
ACCOUNTS PAYABLE
ILLINOIS POWER
P.O. BOX 5225, DECATUR, ILLINOIS 62525

LINE NO	QUANTITY	UNIT	DESCRIPTION	PRICE
			NOTE: THIS PURCHASE ORDER IS CHANGED ATTENTION: ROB HALE PRICE PER QUOTE ON OCTOBER 28, 1994. REFERENCE ATTACHMENT 1, PAGE 10A OF 38. 1 EACH OF THE 10 EA OPTION B MODEL #P3C015C6-EAN TRANSFORMERS IS TO BE DROPPED SHIPPED FROM THE MANUFACTURER TO CLINTON POWER STATION. UPON RECEIPT THE TRANSFORMER IS TO BE HELD IN QC-HOLD FOR MEASUREMENTS BY AL HAUMANN. UPON COMPLETION THIS TRANSFORMER IS TO BE SHIPPED ON TO UNITED CONTROLS FOR DEDICATION WITH THE REMAINING 9 TRANSFORMERS AT UNITED CONTROLS. THIS MEMO OF CHANGE IS ISSUED TO REVISE LINE ITEM 1 OF THIS ORDER. REQUISITION NUMBER: 6060S05P ALL OTHER TERMS AND CONDITIONS REMAIN THE SAME. *****	

P.O. DESCRIPTION

SHIP VIA

ILLINOIS POWER COMPANY

BUYER/
ANALYST
PHONE NUMBER

AUTHORIZED BY

CONDITIONS

7. ACCEPTANCE OF THIS ORDER, BUYER HEREBY:
 THAT ALL MATERIAL AND NONMATERIAL DEFECTS SHALL BE SUBJECT TO PURCHASER'S INSPECTION AND ACCEPTANCE WHEN
 DEFECT AND ALL SUCH MATERIALS AND NONMATERIAL DEFECTS BY PURCHASER WILL BE RETURNED TO SELLER, WHICH SHALL PAY ALL
 COSTS THEREOF;
 10. SELLER'S ACCEPTANCE OF THIS ORDER SHALL BE SUBJECT TO THE ORDER BEING EXCEED THE QUANTITY ORDERED. IT WILL ACCEPT THE
 RETURN OF THE EXCESS AND PAY ALL EXPENSES THEREOF;
 10. PURCHASER AND SELLER PURCHASED MATERIALS FROM AND AGAINST ALL CLAIMS FOR IMPEDIMENT OF ANY PATENT OR COPYRIGHTED
 MATERIALS ORDERED;
 10. TO REFRAIN FROM MAKING OR CAUSING TO BE MADE ANY PUBLIC ANNOUNCEMENT, ADVERTISEMENT, OR NEWS RELEASE OF ANY KIND
 CONCERNING THIS ORDER, WITHOUT PERMISSION OF PURCHASER;
 10. NOT TO CHANGE FOR PRICE, CREDIT, LOWER, ETC. TO BE MADE UNLESS WARRANTED FOR AT TIME OF PURCHASE; AND
 10. PURCHASER RESERVES THE POWER OF CANCELLATION WITHOUT A CANCELLATION FEE AT ALL OR ANY PART OF THIS ORDER IF SELLER
 10. NOT MAKE WITHIN THE SPECIFIED TIME;
 10. THAT PRICES SHOWN ARE FIRM, UNLESS OTHERWISE INDICATED ON ORDER; AND
 10. THAT THERE ARE NO CONDITIONS OTHER THAN THOSE STATED HEREIN EXCEPT WHERE A CONTACT IS INVOLVED AND ADDITIONAL
 CONDITIONS ARE STATED THEREIN.
 10. TO COMPLY WITH ALL APPLICABLE GOVERNMENTAL AND REGULATORY

ILLINOIS POWER COMPANY

PLEASE ACKNOWLEDGE RECEIPT OF THIS ORDER
ON ATTACHED FORM ADVISING WHEN YOU WILL SHIP

ILLINOIS POWER

PURCHASE ORDER

DATE	NUMBER	REL	REV
03/14/96	P0592512	000	003

REQUIRED DELIVERY DATE
LOADING TERMS
WEIGHT TERMS
TERMS

PAGE 2

REPRINT MESSAGE LINE

S U074 02
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 L 1554 LITTON DRIVE
 E STONE MOUNTAIN
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GA 30083

INSTRUCTIONS

OUR PURCHASE ORDER MUST APPEAR ON INVOICES, SHIPPING PAPERS, PACKAGES AND CORRESPONDENCE. INVOICES MUST SHOW DESTINATION OF SHIPMENT, AND APPLICABLE ILLINOIS SALES TAXES AS A SEPARATE ITEM.

MAIL: ACKNOWLEDGEMENT AND ALL CORRESPONDENCE TO:
 PURCHASING DEPARTMENT
 MUST MAIL INVOICES IN DUPLICATE

FAILURE TO FURNISH DUPLICATE COPIES OF INVOICES
 MAY RESULT IN DELAY OF PAYMENT. MAIL TO:

ACCOUNTS PAYABLE
 ILLINOIS POWER
 P.O. BOX 2525, DECATUR, ILLINOIS 62525

LINE NO	QUANTITY	UNIT	DESCRIPTION	PRICE
			*** THIS IS A NUCLEAR SAFETY RELATED ORDER. *** ***** ***** ***** *VENDOR: TO EXPEDITE INVOICE PROCESSING, PLEASE: 1. SHIP NO SUBSTITUTIONS WITHOUT PRIOR APPROVAL. 2. SHIP NO MATERIAL OR EQUIPMENT CONTAINING ASBESTOS WITHOUT SPECIFIC PRIOR APPROVAL. 3. SEND ALL REQUIRED DOCUMENTATION WITH SHIPMENT. 4. MATERIALS/EQUIPMENT SHALL BE PACKAGED AND SHIPPED USING GOOD COMMERCIAL PRACTICES. IF GOVERNED BY ANSI STANDARDS, ✓ ANSI N45.2.2, LEVEL C REQUIREMENTS APPLY. 'SPECIAL' REQUIREMENTS WILL BE SO NOTED IN THE BODY OF THIS ORDER. PART NUMBERS MUST BE CLEARLY IDENTIFIED FOR EACH ITEM AND SHOWN ON ALL SHIPPING PAPERS. 5. IF SHELF LIFE APPLIES TO ANY ITEM ON THIS ORDER, IT IS REQUIRED THAT A MINIMUM OF 80% SHELF LIFE REMAINS ON THE ITEM AT TIME OF SHIPMENT. IF SHELF LIFE IS INDEFINITE, NOTIFY THE BUYER PRIOR TO SHIPPING.	

P.O. DESCRIPTION

SHIP VIA

ILLINOIS POWER COMPANY

BUYER/
 ANALYST
 PHONE NUMBER

AUTHORIZED BY

CONDITIONS

ACCEPTANCE OF THIS ORDER, SELLER AGREES:
 THAT ALL MATERIAL AND MERCHANDISE HEREBY ORDERED SHALL BE SUBJECT TO PURCHASER INSPECTION AND ACCEPTANCE WITHIN
 "RECEIPT" AND ALL SUCH MATERIALS AND MERCHANDISE RECEIVED BY PURCHASER SHALL BE RETURNED TO SELLER, WHO SHALL PAY ALL
 COSTS OF RETURN AND FREIGHT AND
 THAT PURCHASER'S OBLIGATION TO PURCHASE SHALL EXCEED THE QUANTITY ORDERED, IT WILL ACCEPT THE
 VOLUME OF THE ORDER AND PAY ALL COSTS OF RETURN AND FREIGHT AND
 TO INDEMNIFY AND SAVE PURCHASER HARMLESS FROM AND AGAINST ALL CLAIMS FOR INFRINGEMENT OF ANY PATENT OR INDEMNITIES
 DELIVERED HEREUNDER; AND
 TO REFRAIN FROM MAKING OR WORKING TO BE MADE ANY PUBLIC ANNOUNCEMENT, ADVERTISEMENT, OR NEWS RELEASE OF ANY KIND
 CONCERNING THIS ORDER, WITHOUT PRIOR WRITTEN PERMISSION OF PURCHASER; AND
 THAT NO CHANGE FOR PACKING, CRAFTING, LUBRICANTS, ETC., IS TO BE MADE UNLESS APPROVED FOR AT TIME OF PERFORMANCE AND
 THE PURCHASER RESERVES THE RIGHT OF CANCELLATION WITHOUT A CANCELLATION FEE ALL OR ANY PART OF THIS ORDER BY SHIPMENT
 TO HAVE BEEN GIVEN THE SPECIFIED TIME; AND
 THAT PRICES SHOWN ARE FIRM, UNLESS OTHERWISE INDICATED ON OR HEREON; AND
 THAT THERE ARE NO SUBSTITUTIONS OTHER THAN THOSE STATED HEREON EXCEPT WHERE A CONTRACT IS INVOLVED AND ADDITIONAL
 CONDITIONS ARE STATED THEREON.
 TO COMPLY WITH ALL APPLICABLE GOVERNMENTAL AND REGULATIONS

ILLINOIS POWER COMPANY

PLEASE ACKNOWLEDGE RECEIPT OF THIS ORDER
 ON ATTACHED FORM ADVISING WHEN YOU WILL SHIP

ILLINOIS POWER

REQUIRED DELIVERY DATE
ILLINOIS TERMS
REIGHT TERMS
TERMS

PURCHASE ORDER			
DATE	NUMBER	REL	REV
03/14/96	P0552512	000	003

PAGE 3

REPRINT MESSAGE LINE

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 L 1554 LITTON DRIVE
 E STONE MOUNTAIN GA 30083
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INSTRUCTIONS

OUR PURCHASE ORDER MUST APPEAR ON INVOICES, SHIPPING PAPERS, PACKAGES AND CORRESPONDENCE. INVOICES MUST SHOW DESTINATION OF SHIPMENT, AND APPLICABLE ILLINOIS SALES TAXES AS A SEPARATE ITEM.
 MAIL: ACKNOWLEDGEMENT AND ALL CORRESPONDENCE TO:
 PURCHASING DEPARTMENT
 MUST MAIL INVOICES IN DUPLICATE
 FAILURE TO FURNISH DUPLICATE COPIES OF INVOICES MAY RESULT IN DELAY OF PAYMENT. MAIL TO:
 ACCOUNTS PAYABLE
 ILLINOIS POWER
 P.O. BOX 2525, DECATUR, ILLINOIS 62525

LINE NO	QUANTITY	UNIT	DESCRIPTION	PRICE
			THIS PURCHASE ORDER IS FOR GOODS AND/OR SERVICES TO BE USED AT THE CLINTON POWER STATION, WHICH IS JOINTLY OWNED BY ILLINOIS POWER COMPANY AND SOYLAND POWER COOPERATIVE, INC., AND TITLE TO SUCH GOODS AND/OR SERVICES SHALL PASS TO THEM IN PROPORTION TO THEIR RESPECTIVE OWNERSHIP SHARES. ALL MATERIAL OR EQUIPMENT SUPPLIED UNDER OUR PURCHASE ORDERS SHALL BE FURNISHED IN A NEW UNUSED CONDITION. USED REBUILT OR REFURBISHED ITEMS ARE UNACCEPTABLE UNLESS SPECIFICALLY NOTED IN WRITING ON OUR PURCHASE DOCUMENT. SELLER AGREES THAT THE MERCHANDISE AND/OR SERVICES COVERED BY THIS CONTRACT SHALL BE OR HAVE BEEN MANUFACTURED OR PERFORMED, PRICED AND SOLD IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL LAWS, INCLUDING WITHOUT LIMITATION, THE FAIR LABOR STANDARDS ACT, THE EQUAL OPPORTUNITY CLAUSE SET FORTH IN 41 C.F.R. SECTION 60-1.4(A), AND THE AFFIRMATIVE ACTION CLAUSES SET FORTH IN 41 C.F.R. SECTIONS 60-250.4, -741.4.	

P.O. DESCRIPTION

SHIP VIA ILLINOIS POWER COMPANY

SHIP TO

BUYER/
 ANALYST
 PHONE NUMBER

AUTHORIZED BY

CONDITIONS

ACCEPTANCE OF THIS ORDER, SELLER AGREES:
 THAT ALL MATERIAL AND MERCHANDISE HERBY ORDERED SHALL BE SUBJECT TO A "AS IS" INSPECTION AND ACCEPTANCE WHEN RECEIVED AND ALL SUCH MATERIALS AND MERCHANDISE RECEIVED BY PURCHASER SHALL BE RETURNED TO SELLER, WHO SHALL PAY ALL COSTS THEREOF; AND
 THAT IF SHIPMENT OR SHIPMENTS MADE PURSUANT TO THIS ORDER SHALL EXCEED THE QUANTITY ORDERED, IT WILL ACCEPT THE RETURN OF THE EXCESS AND PAY ALL EXPENSES INCURRED THEREIN; AND
 TO INDEMNIFY AND SAVE PURCHASER HARMLESS FROM AND AGAINST ALL CLAIMS FOR INFRINGEMENT OF ANY PATENT OR MERCHANDISE OR SERVICE MARKS; AND
 TO REFRAIN FROM MAKING OR CAUSING TO BE MADE ANY PUBLIC ANNOUNCEMENT, ADVERTISEMENT, OR NEWS RELEASE OF ANY KIND CONCERNING THIS ORDER, WITHOUT PERMISSION OF PURCHASER; AND
 THAT NO CHARGE FOR PACKING, CRATING, LASHING, ETC., IS TO BE MADE UNLESS ADVISED FOR AT TIME OF PURCHASE; AND
 THE PURCHASER RESERVES THE RIGHT OF CANCELLATION WITHOUT A CANCELLATION FEE AT ALL OR ANY PART OF THIS ORDER IF RECEIVED 30 DAYS BEFORE THE SPECIFIED DATE; AND
 THAT PRICES QUOTED ARE F.T.B., UNLESS OTHERWISE INDICATED ON AN ORDER; AND
 THAT THERE ARE NO CONDITIONS OTHER THAN THOSE STATED HEREIN EXCEPT WHERE A CONTRACT IS DEVELOPED AND ADDITIONAL CONDITIONS ARE STATED THEREIN.
 TO COMPLY WITH ALL APPLICABLE GOVERNMENTAL AND REGULATORY

ILLINOIS POWER COMPANY

PLEASE ACKNOWLEDGE RECEIPT OF THIS ORDER
 ON ATTACHED FORM ADVISING WHEN YOU WILL SHIP

ILLINOIS POWER

REQUIRED DELIVERY DATE
ILLING TERMS
REIGHT TERMS
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PURCHASE ORDER			
DATE	NUMBER	REL	REV
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PAGE 5

REPRINT MESSAGE LINE

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INSTRUCTIONS
OUR PURCHASE ORDER MUST APPEAR ON INVOICES, SHIPPING PAPERS, PACKAGES AND CORRESPONDENCE. INVOICES MUST SHOW DESTINATION OF SHIPMENT, AND APPLICABLE ILLINOIS SALES TAXES AS A SEPARATE ITEM MAIL: ACKNOWLEDGEMENT AND ALL CORRESPONDENCE TO: PURCHASING DEPARTMENT MUST MAIL INVOICES IN DUPLICATE FAILURE TO FURNISH DUPLICATE COPIES OF INVOICES MAY RESULT IN DELAY OF PAYMENT. MAIL TO: ACCOUNTS PAYABLE ILLINOIS POWER P.O. BOX 2525, DECATUR, ILLINOIS 62525

LINE NO	QUANTITY	UNIT	DESCRIPTION	PRICE
			POWER RANGE. * VENDOR DOCUMENTATION REQUIRED: CB,DS,EI,FT,MI,SE,* 1) CERTIFICATE OF CONFORMANCE (CB) PER ATTACHED. 2) DRAWING SUBMITTAL REQUIRED (DS) 3) ENVIRONMENTAL REPORT TO IEEE 323-1974 (EI) 4) FUNCTION TEST REPORTS (FT) 5) MAINTENANCE/INSTRUCTION MANUAL SUBMITTAL REQUIRED (MI). DOCUMENTATION CODE 'MI' SHALL ALSO INCLUDE REQUESTED DESCRIPTIVE PHOTOGRAPHS AND BULLETINS AS SPECIFIED IN ATTACHMENT 1, PAGE 10 PARAGRAPH 16.1. 6) SEISMIC REPORT TO IEEE 344-1975 7) *, VENDOR SHALL SUBMIT GENERATED HEAT (BTU/HR) LOADING DOCUMENTATION SPECIFIED IN ATTACHMENT 1, REV. 2, PAGE 6, PARA. 306. * SELLER QUALITY ASSURANCE PROGRAM REQUIREMENTS PER THE ATTACHED, SHALL APPLY TO THIS ORDER.: A,I,J,K * TECHNICAL REQUIREMENTS: *, DESIGN, MANUFACTURE, AND TESTING REQUIREMENTS SHALL CONFORM TO THE FURNISHED DIVISION 2, DIVISION 3, & STANDARD SPECIFICATIONS FOR DRY TYPE REGULATING TRANSFORMERS (ATTACHMENT 1, REV. 2, ALL INCLUSIVE).	

P.O. DESCRIPTION

SHIP VIA ILLINOIS POWER COMPANY

BUYER/
 ANALYST
 PHONE NUMBER

AUTHORIZED BY

CONDITIONS

- 1. ACCEPTANCE OF THIS ORDER, BY THE BUYER, SHALL BE SUBJECT TO THE BUYER'S INSPECTION AND ACCEPTANCE OF THE MATERIAL AND WORKMANSHIP OF THE ORDER. THE BUYER SHALL BE RESPONSIBLE FOR THE RETURN OF THE ORDER TO THE SELLER, WHO SHALL PAY ALL COSTS OF RETURN AND ALL SUCH MATERIALS AND WORKMANSHIP DEFECTS BY THE BUYER SHALL BE RETURNED TO THE SELLER, WHO SHALL PAY ALL COSTS OF RETURN AND ALL SUCH MATERIALS AND WORKMANSHIP DEFECTS BY THE BUYER.
- 2. THE BUYER SHALL BE RESPONSIBLE FOR THE RETURN OF THE ORDER TO THE SELLER, WHO SHALL PAY ALL COSTS OF RETURN AND ALL SUCH MATERIALS AND WORKMANSHIP DEFECTS BY THE BUYER.
- 3. THE BUYER SHALL BE RESPONSIBLE FOR THE RETURN OF THE ORDER TO THE SELLER, WHO SHALL PAY ALL COSTS OF RETURN AND ALL SUCH MATERIALS AND WORKMANSHIP DEFECTS BY THE BUYER.
- 4. THE BUYER SHALL BE RESPONSIBLE FOR THE RETURN OF THE ORDER TO THE SELLER, WHO SHALL PAY ALL COSTS OF RETURN AND ALL SUCH MATERIALS AND WORKMANSHIP DEFECTS BY THE BUYER.
- 5. THE BUYER SHALL BE RESPONSIBLE FOR THE RETURN OF THE ORDER TO THE SELLER, WHO SHALL PAY ALL COSTS OF RETURN AND ALL SUCH MATERIALS AND WORKMANSHIP DEFECTS BY THE BUYER.
- 6. THE BUYER SHALL BE RESPONSIBLE FOR THE RETURN OF THE ORDER TO THE SELLER, WHO SHALL PAY ALL COSTS OF RETURN AND ALL SUCH MATERIALS AND WORKMANSHIP DEFECTS BY THE BUYER.
- 7. THE BUYER SHALL BE RESPONSIBLE FOR THE RETURN OF THE ORDER TO THE SELLER, WHO SHALL PAY ALL COSTS OF RETURN AND ALL SUCH MATERIALS AND WORKMANSHIP DEFECTS BY THE BUYER.
- 8. THE BUYER SHALL BE RESPONSIBLE FOR THE RETURN OF THE ORDER TO THE SELLER, WHO SHALL PAY ALL COSTS OF RETURN AND ALL SUCH MATERIALS AND WORKMANSHIP DEFECTS BY THE BUYER.
- 9. THE BUYER SHALL BE RESPONSIBLE FOR THE RETURN OF THE ORDER TO THE SELLER, WHO SHALL PAY ALL COSTS OF RETURN AND ALL SUCH MATERIALS AND WORKMANSHIP DEFECTS BY THE BUYER.
- 10. THE BUYER SHALL BE RESPONSIBLE FOR THE RETURN OF THE ORDER TO THE SELLER, WHO SHALL PAY ALL COSTS OF RETURN AND ALL SUCH MATERIALS AND WORKMANSHIP DEFECTS BY THE BUYER.

ILLINOIS POWER COMPANY

PLEASE ACKNOWLEDGE RECEIPT OF THIS ORDER
 ON ATTACHED FORM ADVISING WHEN YOU WILL SHIP

DRY TYPE REGULATED POWER TRANSFORMERS

DIVISION 3 - Technical Requirements

301 Each transformer shall be a self contained, dry type regulating transformer, three phase, 60 Hertz 15 KVA with an input voltage of 480 volts $\pm 15\%$, and a guaranteed output voltage of 117 volts $\pm 3\%$ over an output power range of 0 to 15 KVA. The regulating transformers shall be qualified 1E per IEEE 323 and Clinton Form 1999-D. The Vendor must supply supporting documentation and test results prior to shipment.

302 The environmental and radiation qualification conditions are specified as follows:

	<u>NORMAL</u>	<u>ABNORMAL</u>	<u>LOCA</u>
a. Temperature:	50-90°F	104°F	104°F
b. Pressure:	Atmosphere	± 0.5 in W.G.	± 0.5 in W.G.
c. Relative Humidity:	30-90%	5-90%	5-90%
d. Radiation Integrated radiation exposure for Gamma and Beta:	1x10 ⁴ Rads	1x10 ⁴ Rads	1x10 ⁴ Rads
Neutron:	Negligible	Negligible	Negligible

303 Transformer conduit entrance shall be furnished to allow back and top entry for incoming 3/C - #19/22 1KV Cable and outgoing 3/C - #2 1KV Cable.

The maximum conduit size to be used is 3 in.

304 Transformers shall be designed for floor mounting. The floor dimensions shall be 21" x 19" d and must not be altered without approval of the purchaser. The transformers must be seismically qualified so the Purchaser can choose to mount the transformer to the floor using bolting or welded connection. The Contractor must supply the purchaser with the mounting detail used to qualify the transformers.

305 The transformer shall include an over voltage protection device which will trip the transformer if the output exceeds a preset value. The trip device must be settable between 120 and 125 volts.

The Vendor must supply accuracy data so the Purchaser can perform a set point calculation per Instrument Society of America Standard S67.04-88 "Set Points for Nuclear Safety Related Instrumentation."

REQ 60605051 ATTACHMENT 1, 100-4
NSED RENEW 8542742 PAGE 5A OF 57

The revisions to section 301 and 305 of the specification for DRY TYPE REGULATING TRANSFORMERS that is part of Illinois Power Company's purchase order PO552512 with United Controls International are being made so that United Controls can deliver a product that will meet IP's needs. These changes are at the request of United Controls and are, therefore, not in addition to the original IP order. There will be no additional charge associated with these changes. The revised Sections ~~310~~ and 305 are to read as follows:

DRY TYPE REGULATED POWER TRANSFORMERS

DIVISION 3 -- Technical Requirements

- 301 Each transformer shall be a self contained, dry type regulating transformer, three phase, nominal 480V delta 202/117V wye, 60 Hertz, 15 KVA. The transformer shall be capable of operating with an input voltage between 530.4 and 414 volts, while maintaining a guaranteed output voltage between 113.5 and 121 volts over an output power range. The regulating transformers shall be qualified 1E per IEEE 323 and Clinton Form 1999-D. The Vendor must supply supporting documentation and test results prior to shipment.
- 305 The transformer shall include an over voltage protection device that will protect the 120 volt level equipment from extended periods of over voltage. The over-voltage protective device must trip (shut down) the transformer if the output exceeds a pre-set value. The Transformer over voltage trip must be manually reset. The protective device must trip prior to the output exceeding 124.5 volts, but not less than 121. It shall have a time delay of sufficient duration to allow the regulator to ride through both supply voltage transients and low side step load changes. The transient is expected to last between 10 and 60 cycles. Therefore, the over voltage trip device shall have a delay of about 1 second.

The transformer may have an undervoltage trip (due to low input voltage) provided the trip automatically resets prior to the input voltage reaching 408 volts.

ATTACHMENT 2

**PHOENIX POWER SYSTEMS**

Innovation and Excellence in Power Protection

10547 Viper Way, San Diego, California 92121

619/ 450-9620 Fax 619/ 450-9662 Web Page: <http://www.phoenixpower.com>**FACSIMILE COVER SHEET****To:** Mike LaBlanc**From:** Todd Desiato**Fax:** 770-496-7097**No. Pages:** 1**Date:** 03/07/97 1:05 PM**CC:** Al Bagherian**Re:** 15kVA Regulating Transformer

Dear Mr. LaBlanc,

This is a summary of our conversation of 3/7/97. The 15kVA Regulating Transformers provided by Phoenix Power will operate within the specified 117 Vac +/- 3% for an output load of zero to 15kVA. Having no load applied will not cause the circuit breaker to trip. Our investigation has shown that the circuit breaker trips due to EMI being fed back from the load, and a filter applied to the output of the transformer will solve the problem. When we were informed that Illinois Power was having a problem with the circuit breaker tripping, it was suggested that a minimum resistive load be applied to determine if the poor quality output load waveform that we were shown was the cause of the problem. The result was that the minimum load helped delay the tripping but the unit still tripped. I hope this clarifies your situation. Please call me if you need further assistance.

Sincerely,

Todd Desiato
Chief Engineer

ATTACHMENT 3

DATA SHEET FOR FUNCTIONAL TESTING OF POWER TRANSFORMER

Test Procedure No. NOTP-836.1.1

UCI S/N 836-1-02 Page 1 of 2

Description Phoenix Power Transformer

Part No.: P3C015C6/EAN

Functional Type Dedication

Test Date 5-17-96

Ambient Temperature 24°C

Test Number 1

MFR S/N E0057A

INSTRUMENT AND EQUIPMENT LIST

ITEM	SERIAL NO.	RANGE	CALIBRATION DATE
FLUKE 8050A	4725162	0-200V	2-28-96 (du'97)
FLUKE 8050A	3645120	0-2000V	11-10-95 (du'96)
AR HYPOT	712432	1000V	2-27-96 (du'97)
FLUKE 8014A	2086490	0-20µA	2-28-96 (du'97)
TEST PROCEDURE	TEST DATA	TEST REQUIREMENTS	

Insulation Resistance:

Primary to Secondary
Primary to Ground
Secondary to Ground

(5µA) 200 MΩ
(6µA) 167 MΩ
(18µA) 56 MΩ

10 Megohm or
Greater

Electrical Output Check (Unit Unloaded)

Three Phase 480 Applied LED's Illuminated Yes/No Yes

Input Voltage	Output Voltage Required	Actual
at 480 VAC	1 113 - 121 VAC	120.3
	2 113 - 121 VAC	119.6
	3 113 - 121 VAC	119.9
at 414 VAC	1 113 - 121 VAC	118.6
	2 113 - 121 VAC	118.0
	3 113 - 121 VAC	117.2
at 530 VAC	1 113 - 121 VAC	120.7
	2 113 - 121 VAC	120.0
	3 113 - 121 VAC	120.5

Dropout Voltage	Primary	Secondary	Alarm
low end 312-360VAC	1 330	43.7	yes/no
	2 333	44.4	yes/no
	3 332	43.9	yes/no

Unit picks up at	Primary	Secondary	Alarm Clears
360-408VAC	1 380	107	yes/no
	2 379	107	yes/no
	3 384	106	yes/no

Dropout Voltage	Primary	Secondary
>530VAC	1 542	123.9
	2 544	123.9
	3 546	123.9

Dropout Time Delay 60 cycles = 1 second yes/no

Unit does not return until input breaker reset yes/no

DATA SHEET FOR FUNCTIONAL TESTING
OF POWER TRANSFORMER CONTINUED

Test Procedure No. NOTP-836.1.1

UCI S/N 836-1-02 Page 2 of 2
ED 057A

Electrical Output Check, Unit Loaded

Load Condition at 480VAC input Output Stable yes/no

at 480 VAC	1	113 - 121 VAC	<u>117.1</u>
	2	113 - 121 VAC	<u>117.0</u>
	3	113 - 121 VAC	<u>117.2</u>
at 414 VAC	1	113 - 121 VAC	<u>114.5</u>
	2	113 - 121 VAC	<u>114.5</u>
	3	113 - 121 VAC	<u>114.5</u>
at 530 VAC	1	113 - 121 VAC	<u>117.7</u>
	2	113 - 121 VAC	<u>117.7</u>
	3	113 - 121 VAC	<u>117.9</u>

Dropout Voltage low end 312-360VAC	1	Primary <u>334</u>	Secondary <u>92.4</u>	Alarm <u>yes/no</u>
	2	<u>336</u>	<u>92.8</u>	Alarm <u>yes/no</u>
	3	<u>335</u>	<u>92.6</u>	Alarm <u>yes/no</u>

Unit picks up at 360-408VAC	1	Primary <u>382</u>	Secondary <u>102</u>	Alarm Clears <u>yes/no</u>
	2	<u>384</u>	<u>102</u>	Alarm Clears <u>yes/no</u>
	3	<u>384</u>	<u>102</u>	Alarm Clears <u>yes/no</u>

Dropout Voltage >530VAC	1	Primary <u>554</u>	Secondary <u>123.5</u>
	2	<u>556</u>	<u>123.8</u>
	3	<u>557</u>	<u>123.7</u>

Unit does not return until input breaker reset yes/no

Temperature Rise Check

Operating Temperature full load < or = 90° above ambient N/A at

Ambient Temperature < or = 40° C Ambient Temperature N/A

Simulated SCR Short Test

Power Module	1	<u>381</u> VAC
Shut Down at short	2	<u>384</u> VAC
	3	<u>384</u> VAC

Circuit Breaker Trip yes/no

Tested by: Lu Thorsen

Reviewed by: Albert Chang

DATA SHEET FOR FUNCTIONAL TESTING OF POWER TRANSFORMER

Test Procedure No. NOTP-836.1.1 UCI S/N 836-1-03 Page 1 of 2
Description Phoenix Power Transformer Part No.: P3C015C6/EAN
Functional Type Dedication Test Date 5-23-96
Ambient Temperature 22°C Test Number 1
MFR S/N ED058A

INSTRUMENT AND EQUIPMENT LIST

ITEM	SERIAL NO.	RANGE	CALIBRATION DATE
FLUKE 8050A	472511.2	0-200V	2-28-96 (dur' 97)
FLUKE 8050A	3645120	0-200V + 0.20 1000V + 4A	11-10-95 (dur' 96)
AR HYPOT	712432	1000V	2-27-96 (dur' 97)

TEST PROCEDURE

TEST DATA

TEST REQUIREMENTS

Insulation Resistance:

Primary to Secondary
Primary to Ground
Secondary to Ground

(13 uA) 77 MΩ
(10 uA) 56 MΩ
(24 uA) 45 MΩ

10 Megohm or
Greater

Electrical Output Check (Unit Unloaded)

Three Phase 480 Applied

LED's Illuminated

(Yes) No

Input Voltage
at 480 VAC

Output Voltage
Required

Actual

at 414 VAC

at 530 VAC

1	113 - 121 VAC	119.0
2	113 - 121 VAC	119.0
3	113 - 121 VAC	117.4
1	113 - 121 VAC	118.0
2	113 - 121 VAC	118.0
3	113 - 121 VAC	118.1
1	113 - 121 VAC	120.9
2	113 - 121 VAC	120.0
3	113 - 121 VAC	120.6

Dropout Voltage
low end 312-360VAC

	Primary
1	370
2	334
3	332

Secondary

94.3	Alarm	(yes) no
94.8	Alarm	(yes) no
94.0	Alarm	(yes) no

Unit picks up at
360-408VAC

	Primary
1	383
2	382
3	382

Secondary

109	Alarm Clears	(yes) no
108	Alarm Clears	(yes) no
109	Alarm Clears	(yes) no

Dropout Voltage
>530VAC

	Primary
1	543
2	544
3	545

Secondary

124.2
123.4
124.3

Dropout Time Delay

60 cycle

=1 second (yes) no

Unit does not return
until input breaker reset

(yes) no

DATA SHEET FOR FUNCTIONAL TESTING
OF POWER TRANSFORMER CONTINUED

Page 2 of 2

Test Procedure No. NOTP-836.1.1

UCI S/N 836-1-03

ED058A

Electrical Output Check, Unit Loaded

Load Condition
at 480VAC input

Output Stable

yes/no

at 480 VAC

1 113 - 121 VAC

118.0

2 113 - 121 VAC

117.4

3 113 - 121 VAC

117.6

at 414 VAC

1 113 - 121 VAC

115.3

2 113 - 121 VAC

114.9

3 113 - 121 VAC

114.9

at 530 VAC

1 113 - 121 VAC

118.6

2 113 - 121 VAC

118.2

3 113 - 121 VAC

118.3

Dropout Voltage
low end 312-360VAC

Primary

Secondary

1

332

92.3

Alarm yes/no

2

336

92.1

Alarm yes/no

3

334

92.5

Alarm yes/no

Unit picks up at
360-408VAC

Primary

Secondary

1

382

103

Alarm Clears yes/no

2

382

102

Alarm Clears yes/no

3

382

102

Alarm Clears yes/no

Dropout Voltage
>530VAC

Primary

Secondary

1

552

123.6

2

549

122.2

3

550

122.8

Unit does not return
until input breaker reset

yes/no

Temperature Rise Check

Operating Temperature
full load

< or = 90° above ambient N/A at

Ambient Temperature < or = 40° C

Ambient Temperature N/A

Simulated SCR Short Test

Power Module
Shut Down at short

1

383 VAC

2

382 VAC

3

380 VAC

Circuit Breaker Trip

yes/no

Tested by:

Low Thompson

Reviewed by:

Ally + Crip

DATA SHEET FOR FUNCTIONAL TESTING OF POWER TRANSFORMER

Test Procedure No. NOTP-836.1.1

UCI S/N 836-1-04 Page 1 of 2

Description Phoenix Power Transformer

Part No.: P3C015C6/EAN

Functional Type Dedication

Test Date 5-17-96

Ambient Temperature 24°C

Test Number 1

MFR S/N ED059A

INSTRUMENT AND EQUIPMENT LIST

ITEM	SERIAL NO.	RANGE	CALIBRATION DATE
FLUKE 8050A	4725162	0-200V	2-28-96 (dye '97)
FLUKE 8050A	3645120	0-2000V	11-10-95 (dye '96)
AR HY POT	712432	1000V	2-27-96 (dye '97)
FLUKE 8010A	2086490	0-200µA	2-28-96 (dye '97)
TEST PROCEDURE	TEST DATA	TEST REQUIREMENTS	

Insulation Resistance:

Primary to Secondary	(11µA) 91 MΩ	10 Megohm or Greater
Primary to Ground	(13µA) 77 MΩ	
Secondary to Ground	(19µA) 53 MΩ	

Electrical Output Check (Unit Unloaded)

Three Phase 480 Applied LED's Illuminated Yes/No

Input Voltage	Output Voltage Required	Actual
at 480 VAC	1 113 - 121 VAC	120.7
	2 113 - 121 VAC	120.3
	3 113 - 121 VAC	120.0
at 414 VAC	1 113 - 121 VAC	117.2
	2 113 - 121 VAC	117.9
	3 113 - 121 VAC	118.0
at 530 VAC	1 113 - 121 VAC	120.3
	2 113 - 121 VAC	120.5
	3 113 - 121 VAC	120.5

Dropout Voltage	Primary	Secondary	Alarm
low end 312-360VAC	1 332	95.1	yes/no
	2 332	94.5	yes/no
	3 335	95.0	yes/no

Unit picks up at	Primary	Secondary	Alarm Clears
360-408VAC	1 381	109	yes/no
	2 383	109	yes/no
	3 381	108	yes/no

Dropout Voltage	Primary	Secondary
>530VAC	1 539	122.5
	2 543	122.6
	3 544	124.3

Dropout Time Delay 60 cycles = 1 second yes/no

Unit does not return until input breaker reset yes/no

DATA SHEET FOR FUNCTIONAL TESTING
OF POWER TRANSFORMER CONTINUED

Test Procedure No. NQTP-836.1.1

UCI S/N 836-1-04 Page 2 of 2
E0059A

Electrical Output Check. Unit Loaded

Load Condition at 480VAC input Output Stable yes/no

at 480 VAC	1	113 - 121 VAC	<u>117.8</u>
	2	113 - 121 VAC	<u>117.3</u>
	3	113 - 121 VAC	<u>117.8</u>
at 414 VAC	1	113 - 121 VAC	<u>115.0</u>
	2	113 - 121 VAC	<u>115.1</u>
	3	113 - 121 VAC	<u>115.0</u>
at 530 VAC	1	113 - 121 VAC	<u>118.4</u>
	2	113 - 121 VAC	<u>118.2</u>
	3	113 - 121 VAC	<u>118.5</u>

Dropout Voltage low end 312-360VAC	1	Primary <u>334</u>	Secondary <u>92.6</u>	Alarm <u>yes/no</u>
	2	<u>332</u>	<u>92.1</u>	Alarm <u>yes/no</u>
	3	<u>337</u>	<u>93.0</u>	Alarm <u>yes/no</u>

Unit picks up at 360-408VAC	1	Primary <u>380</u>	Secondary <u>103</u>	Alarm Clears <u>yes/no</u>
	2	<u>382</u>	<u>102</u>	Alarm Clears <u>yes/no</u>
	3	<u>380</u>	<u>102</u>	Alarm Clears <u>yes/no</u>

Dropout Voltage >530VAC	1	Primary <u>552</u>	Secondary <u>123.4</u>
	2	<u>552</u>	<u>123.5</u>
	3	<u>553</u>	<u>123.9</u>

Unit does not return until input breaker reset yes/no

Temperature Rise Check

Operating Temperature full load < or = 90° above ambient NIA at

Ambient Temperature < or = 40° C Ambient Temperature NIA

Simulated SCR Short Test

Power Module	1	<u>382</u> VAC
Shut Down at short	2	<u>383</u> VAC
	3	<u>382</u> VAC

Circuit Breaker Trip yes/no

Tested by: Ken Thomson

Reviewed by: Albert C. King

DATA SHEET FOR FUNCTIONAL TESTING OF POWER TRANSFORMER

Test Procedure No. NOTP-836.1.1

UCI S/N 836-1-05 Page 1 of 2

Description Phoenix Power Transformer

Part No.: P3C015C6/EAN

Functional Type Dedication

Test Date 5-17-96

Ambient Temperature 24°C

Test Number 1

MFR S/N E0060A

INSTRUMENT AND EQUIPMENT LIST

ITEM	SERIAL NO.	RANGE	CALIBRATION DATE
FLUKE 8050A	4725162	200V	2-28-96 (duc'97)
FLUKE 8050A	3645120	2000V	11-10-95 (duc'96)
AL HYPOT	712432	1000V	2-27-96 (duc'97)
FLUKE 8010A	2086490	20uA	2-28-96 (duc'97)
TEST PROCEDURE	TEST DATA	TEST REQUIREMENTS	

Insulation Resistance:

Primary to Secondary

(11uA) 91 MΩ

10 Megohm or Greater

Primary to Ground

(11uA) 71 MΩ

Secondary to Ground

(20uA) 50 MΩ

Electrical Output Check (Unit Unloaded)

Three Phase 480 Applied

LED's Illuminated

Yes/No Yes

Input Voltage
at 480 VAC

Output Voltage
Required

Actual

at 414 VAC

at 530 VAC

1	113 - 121 VAC	119.6
2	113 - 121 VAC	119.6
3	113 - 121 VAC	120.1
1	113 - 121 VAC	118.0
2	113 - 121 VAC	117.8
3	113 - 121 VAC	118.0
1	113 - 121 VAC	120.9
2	113 - 121 VAC	120.5
3	113 - 121 VAC	120.7

Dropout Voltage
low end 312-360VAC

Primary

Secondary

1
2
3

330
331
331

95.0
95.0
95.0

Alarm yes/no
Alarm yes/no
Alarm yes/no

Unit picks up at
360-408VAC

Primary

Secondary

1
2
3

382
383
383

109
110
109

Alarm Clears yes/no
Alarm Clears yes/no
Alarm Clears yes/no

Dropout Voltage
>530VAC

Primary

Secondary

1
2
3

540
550
544

123.9
124.3
123.9

Dropout Time Delay

60 cycle

=1 second yes/no

Unit does not return
until input breaker reset

yes/no

DATA SHEET FOR FUNCTIONAL TESTING
OF POWER TRANSFORMER CONTINUED

Test Procedure No. NOTP-836.1.1

UCI S/N 836-1-05 Page 2 of 2
ED-060A

Electrical Output Check, Unit Loaded

Load Condition Output Stable yes/no

at 480 VAC	1 113 - 121 VAC	<u>118.0</u>
	2 113 - 121 VAC	<u>118.1</u>
	3 113 - 121 VAC	<u>117.7</u>
at 414 VAC	1 113 - 121 VAC	<u>115.3</u>
	2 113 - 121 VAC	<u>115.5</u>
	3 113 - 121 VAC	<u>114.0</u>
at 530 VAC	1 113 - 121 VAC	<u>118.8</u>
	2 113 - 121 VAC	<u>118.5</u>
	3 113 - 121 VAC	<u>118.4</u>

Dropout Voltage low end 312-360VAC	1	Primary <u>332</u>	Secondary <u>92.6</u>	Alarm <u>yes</u> /no
	2	<u>334</u>	<u>93.1</u>	Alarm <u>yes</u> /no
	3	<u>332</u>	<u>92.1</u>	Alarm <u>yes</u> /no

Unit picks up at 360-408VAC	1	Primary <u>382</u>	Secondary <u>104</u>	Alarm Clears <u>yes</u> /no
	2	<u>382</u>	<u>103</u>	Alarm Clears <u>yes</u> /no
	3	<u>377</u>	<u>102</u>	Alarm Clears <u>yes</u> /no

Dropout Voltage >530VAC	1	Primary <u>552</u>	Secondary <u>122.8</u>	123.8
	2	<u>552</u>	<u>123.5</u>	
	3	<u>548</u>	<u>122.8</u>	

Unit does not return
until input breaker reset yes/no

Temperature Rise Check

Operating Temperature < or = 90° above ambient N/A at full load

Ambient Temperature < or = 40° C Ambient Temperature N/A

Simulated SCR Short Test

Power Module	1	<u>379</u>	VAC
Shut Down at short	2	<u>382</u>	VAC
	3	<u>381</u>	VAC

Circuit Breaker Trip yes/no

Tested by: Ken Thomson

Reviewed by: Albert Clegg

DATA SHEET FOR FUNCTIONAL TESTING OF POWER TRANSFORMER

Test Procedure No. NOTP-836.1.1

UCI S/N 836-1-06 Page 1 of 2

Description Phoenix Power Transformer

Part No.: P3C015C6/EAN

Functional Type Dedication

Test Date 5-17-96

Ambient Temperature 24°C

Test Number 1

MFR S/N ED061A

INSTRUMENT AND EQUIPMENT LIST

ITEM	SERIAL NO.	RANGE	CALIBRATION DATE
Fluke 8050A	4725162	0-200V	2-20-96 (due '97)
Fluke 8050A	3645120	0-200V	11-10-95 (due '96)
AA HYPOT	712432	1000V	2-27-96 (due '97)
Fluke 8010A	2086490	0-20uA	2-28-96 (due '97)
TEST PROCEDURE	TEST DATA	TEST REQUIREMENTS	

Insulation Resistance:

Primary to Secondary	(10uA) 100 MΩ	10 Megohm or Greater
Primary to Ground	(10uA) 77 MΩ	
Secondary to Ground	(10uA) 56 MΩ	

Electrical Output Check (Unit Unloaded)

Three Phase 480 Applied LED's Illuminated Yes/No

Input Voltage	Output Voltage Required	Actual
at 480 VAC	1 113 - 121 VAC	119.0
	2 113 - 121 VAC	120.3
	3 113 - 121 VAC	120.0
at 414 VAC	1 113 - 121 VAC	116.0
	2 113 - 121 VAC	118.3
	3 113 - 121 VAC	117.5
at 530 VAC	1 113 - 121 VAC	120.4
	2 113 - 121 VAC	120.8
	3 113 - 121 VAC	120.8

Dropout Voltage	Primary	Secondary	Alarm
low end 312-360VAC	1 333	95.1	yes/no
	2 328	93.5	yes/no
	3 330	94.9	yes/no

Unit picks up at	Primary	Secondary	Alarm Clears
360-408VAC	1 360	108	yes/no
	2 379	106	yes/no
	3 381	165	yes/no

Dropout Voltage	Primary	Secondary
>530VAC	1 541	123.8
	2 543	123.9
	3 544	123.7

Dropout Time Delay 60 cycles = 1 second yes/no

Unit does not return until input breaker reset yes/no

DATA SHEET FOR FUNCTIONAL TESTING
OF POWER TRANSFORMER CONTINUED

Test Procedure No.: NOTP-836.1.1

UCI S/N 836-1-06 Page 2 of 2

E0061A

Electrical Output Check, Unit Loaded

Load Condition at 480VAC input Output Stable yes/no

at 480 VAC	1	113 - 121 VAC	<u>118.1</u>
	2	113 - 121 VAC	<u>117.7</u>
	3	113 - 121 VAC	<u>118.1</u>
at 414 VAC	1	113 - 121 VAC	<u>115.3</u>
	2	113 - 121 VAC	<u>115.0</u>
	3	113 - 121 VAC	<u>115.0</u>
at 530 VAC	1	113 - 121 VAC	<u>118.4</u>
	2	113 - 121 VAC	<u>118.5</u>
	3	113 - 121 VAC	<u>118.4</u>

Dropout Voltage low end 312-360VAC	1	Primary <u>334</u>	Secondary <u>93.1</u>	Alarm <u>yes</u> /no
	2	<u>329</u>	<u>91.5</u>	Alarm <u>yes</u> /no
	3	<u>333</u>	<u>91.1</u>	Alarm <u>yes</u> /no

Unit picks up at 360-408VAC	1	Primary <u>360</u>	Secondary <u>102</u>	Alarm Clears <u>yes</u> /no
	2	<u>360</u>	<u>102</u>	Alarm Clears <u>yes</u> /no
	3	<u>381</u>	<u>102</u>	Alarm Clears <u>yes</u> /no

Dropout Voltage >530VAC	1	Primary <u>552</u>	Secondary <u>123.5</u>
	2	<u>552</u>	<u>123.4</u>
	3	<u>550</u>	<u>124.1</u>

Unit does not return until input breaker reset yes/no

Temperature Rise Check

Operating Temperature full load < or = 90° above ambient N/A at

Ambient Temperature < or = 40° C Ambient Temperature N/A

Simulated SCR Short Test

Power Module	1	<u>379</u>	VAC
Shut Down at short	2	<u>370</u>	VAC
	3	<u>381</u>	VAC

Circuit Breaker Trip yes/no

Tested by: Jan Thoms

Reviewed by: Albert Clegg

DATA SHEET FOR FUNCTIONAL TESTING OF POWER TRANSFORMER

Test Procedure No. NOTP-836.1.1

UCI S/N 836-1-07 Page 1 of 2

Description Phoenix Power Transformer

Part No.: P3C015C6/EAN

Functional Type Dedication

Test Date 5-17-96

Ambient Temperature 24°C

Test Number 1

MFR S/N ED062A

INSTRUMENT AND EQUIPMENT LIST

ITEM	SERIAL NO.	RANGE	CALIBRATION DATE
FLUKE 8050A	4725162	200V	2-28-96 (due '97)
FLUKE 8050A	3645120	2000V	11-10-95 (due '96)
AL HYPST	712432	1000V	2-27-96 (due '97)
FLUKE 8010A	2086490	20uA	2-28-96 (due '97)
TEST PROCEDURE	TEST DATA	TEST REQUIREMENTS	

Insulation Resistance:

Primary to Secondary	(9uA) 111MΩ	10 Megohm or Greater
Primary to Ground	(10uA) 100MΩ	
Secondary to Ground	(23uA) 43MΩ	

Electrical Output Check (Unit Unloaded)

Three Phase 480 Applied LED's Illuminated Yes/No

Input Voltage	Output Voltage Required	Actual
at 480 VAC	1 113 - 121 VAC	118.5
	2 113 - 121 VAC	118.5
	3 113 - 121 VAC	118.4
at 414 VAC	1 113 - 121 VAC	118.0
	2 113 - 121 VAC	117.8
	3 113 - 121 VAC	118.0
at 530 VAC	1 113 - 121 VAC	119.8
	2 113 - 121 VAC	120.9
	3 113 - 121 VAC	119.7

Dropout Voltage low end 312-360VAC	1 Primary 333	2 Secondary 94.5	Alarm <u>yes</u> /no
	2 Primary 333	3 Secondary 94.0	Alarm <u>yes</u> /no
	3 Primary 335	Secondary 93.0	Alarm <u>yes</u> /no
Unit picks up at 360-408VAC	1 Primary 377	2 Secondary 104	Alarm Clears <u>yes</u> /no
	2 Primary 377	3 Secondary 107	Alarm Clears <u>yes</u> /no
	3 Primary 380	Secondary 107	Alarm Clears <u>yes</u> /no
Dropout Voltage >530VAC	1 Primary 538	2 Secondary 123.3	
	2 Primary 538	3 Secondary 122.9	
	3 Primary 545	Secondary 124.2	
Dropout Time Delay	60 cycles	=1 second	<u>yes</u> /no
Unit does not return until input breaker reset	<u>yes</u> /no		

DATA SHEET FOR FUNCTIONAL TESTING
OF POWER TRANSFORMER CONTINUED

Test Procedure No. NOTP-836.1.1

UCI S/N 836-1-07 Page 2 of 2
ED 062A

Electrical Output Check, Unit Loaded

Load Condition at 480VAC input Output Stable ☒ yes ☐ no

at 480 VAC	1	113 - 121 VAC	<u>117.3</u>
	2	113 - 121 VAC	<u>117.3</u>
	3	113 - 121 VAC	<u>117.3</u>
at 414 VAC	1	113 - 121 VAC	<u>114.7</u>
	2	113 - 121 VAC	<u>114.5</u>
	3	113 - 121 VAC	<u>114.5</u>
at 530 VAC	1	113 - 121 VAC	<u>118.0</u>
	2	113 - 121 VAC	<u>118.0</u>
	3	113 - 121 VAC	<u>118.0</u>

Dropout Voltage low end 312-360VAC	1	Primary <u>333</u>	Secondary <u>90.9</u>	Alarm ☒ yes ☐ no
	2	<u>334</u>	<u>92.5</u>	Alarm ☒ yes ☐ no
	3	<u>326</u>	<u>90.5</u>	Alarm ☒ yes ☐ no

Unit picks up at 360-408VAC	1	Primary <u>379</u>	Secondary <u>101</u>	Alarm Clears ☒ yes ☐ no
	2	<u>382</u>	<u>102</u>	Alarm Clears ☒ yes ☐ no
	3	<u>380</u>	<u>102</u>	Alarm Clears ☒ yes ☐ no

Dropout Voltage >530VAC	1	Primary <u>542</u>	Secondary <u>120.1</u>
	2	<u>544</u>	<u>121.0</u>
	3	<u>552</u>	<u>122.7</u>

Unit does not return until input breaker reset ☒ yes ☐ no

Temperature Rise Check

Operating Temperature full load < or = 90° above ambient N/A at

Ambient Temperature < or = 40° C Ambient Temperature N/A

Simulated SCR Short Test

Power Module	1	<u>380</u>	VAC
Shut Down at short	2	<u>379</u>	VAC
	3	<u>378</u>	VAC

Circuit Breaker Trip ☒ yes ☐ no

Tested by: Ken Thomson

Reviewed by: Albert Clegg

DATA SHEET FOR FUNCTIONAL TESTING OF POWER TRANSFORMER

Page 1 of 2

Test Procedure No. NOTP-836.1.1

UCI S/N 836-1-08

Description Phoenix Power Transformer

Part No.: P3C015C6/EAN

Functional Type Dedication

Test Date 5-17-96

Ambient Temperature 24°C

Test Number 1

MFR S/N ED063A

INSTRUMENT AND EQUIPMENT LIST

ITEM	SERIAL NO.	RANGE	CALIBRATION DATE
FLUKE 8050A	4725162	0-200V	2-28-96 (due '97)
FLUKE 8050A	3645120	0-200V	11-10-95 (due '96)
ARHY POT	712432	1000 V	2-27-96 (due '97)
FLUKE 8010A	2006490	0-20mA	2-28-96 (due '97)
TEST PROCEDURE	TEST DATA	TEST REQUIREMENTS	

Insulation Resistance:

Primary to Secondary	(10uA) 100 MΩ	10 Megohm or Greater
Primary to Ground	(12uA) 83 MΩ	
Secondary to Ground	(10uA) 50 MΩ	

Electrical Output Check (Unit Unloaded)

Three Phase 480 Applied LED's Illuminated ☒ Yes ☐ No

Input Voltage	Output Voltage Required	Actual
at 480 VAC	1 113 - 121 VAC	119.9
	2 113 - 121 VAC	120.3
	3 113 - 121 VAC	119.9
at 414 VAC	1 113 - 121 VAC	117.9
	2 113 - 121 VAC	118.2
	3 113 - 121 VAC	118.2
at 530 VAC	1 113 - 121 VAC	120.4
	2 113 - 121 VAC	120.5
	3 113 - 121 VAC	120.6

Dropout Voltage	Primary	Secondary	Alarm
low end 312-360VAC	1 331	94.1	yes/no
	2 332	95.6	yes/no
	3 337	96.2	yes/no

Unit picks up at	Primary	Secondary	Alarm Clears
360-408VAC	1 382	108	yes/no
	2 380	106	yes/no
	3 381	106	yes/no

Dropout Voltage	Primary	Secondary
>530VAC	1 539	123.5
	2 545	121.0
	3 540	122.8

Dropout Time Delay 60 cycles = 1 second ☒ yes ☐ no

Unit does not return until input breaker reset ☒ yes ☐ no

DATA SHEET FOR FUNCTIONAL TESTING
OF POWER TRANSFORMER CONTINUED

Test Procedure No. NOTP-836.1.1

UCI S/N 836-1-08 Page 2 of 2
E0063A

Electrical Output Check, Unit Loaded

Load Condition
at 480VAC input

Output Stable

yes/no

at 480 VAC

1 113 - 121 VAC

2 113 - 121 VAC

3 113 - 121 VAC

at 414 VAC

1 113 - 121 VAC

2 113 - 121 VAC

3 113 - 121 VAC

at 530 VAC

1 113 - 121 VAC

2 113 - 121 VAC

3 113 - 121 VAC

118.1
117.7
117.9
115.3
115.0
115.2
118.7
118.4
118.5

Dropout Voltage
low end 312-360VAC

1
2
3

Primary

332
335
337

Secondary

92.9
93.4
94.7

Alarm yes/no
Alarm yes/no
Alarm yes/no

Unit picks up at
360-408VAC

1
2
3

Primary

382
379
380

Secondary

104.0
102.1
102.4

Alarm Clears yes/no
Alarm Clears yes/no
Alarm Clears yes/no

Dropout Voltage
>530VAC

1
2
3

Primary

552
551
549

Secondary

123.6
123.5
123.0

Unit does not return
until input breaker reset

yes/no

Temperature Rise Check

Operating Temperature
full load

< or = 90° above ambient N/A at

Ambient Temperature < or = 40° C

Ambient Temperature N/A

Simulated SCR Short Test

Power Module
Shut Down at short

1
2
3

382 VAC
382 VAC
382 VAC

Circuit Breaker Trip

yes/no

Tested by:

Law Thomson

Reviewed by:

Albert Chaf

DATA SHEET FOR FUNCTIONAL TESTING OF POWER TRANSFORMER

Test Procedure No. NOTP-836.1.1

Page 1 of 2
UCI S/N 836-1-09

Description Phoenix Power Transformer

Part No.: P3C015C6/EAN

Functional Type Dedication

Test Date 5-17-96

Ambient Temperature 24°C

Test Number 1

MFR S/N ED064A

INSTRUMENT AND EQUIPMENT LIST

ITEM	SERIAL NO.	RANGE	CALIBRATION DATE
FLUNG 8050A	4725162	0-2000V	2-28-96 (dec' 97)
FLUNG 8050A	3645120	0-200V	11-10-95 (dec' 96)
AB HYPOT	712432	1000V	2-27-96 (dec' 97)
FLUNG 8010A	2686490	0-20uA	2-28-96 (dec' 97)
TEST PROCEDURE	TEST DATA	TEST REQUIREMENTS	

Insulation Resistance:

Primary to Secondary	(10uA) 100 MΩ	10 Megohm or Greater
Primary to Ground	(15uA) 77 MΩ	
Secondary to Ground	(18uA) 56 MΩ	

Electrical Output Check (Unit Unloaded)

Three Phase 480 Applied LED's Illuminated Yes/No

Input Voltage	Output Voltage Required	Actual
at 480 VAC	1 113 - 121 VAC	119.4
	2 113 - 121 VAC	119.5
	3 113 - 121 VAC	119.7
at 414 VAC	1 113 - 121 VAC	117.5
	2 113 - 121 VAC	117.8
	3 113 - 121 VAC	117.7
at 530 VAC	1 113 - 121 VAC	119.7
	2 113 - 121 VAC	120.3
	3 113 - 121 VAC	120.3

Dropout Voltage	Primary	Secondary	Alarm
low end 312-360VAC	1 331	92.2	yes/no
	2 333	94.0	yes/no
	3 334	94.1	yes/no

Unit picks up at	Primary	Secondary	Alarm Clears
360-408VAC	1 364	107	yes/no
	2 365	106	yes/no
	3 363	108	yes/no

Dropout Voltage	Primary	Secondary
>530VAC	1 544	123.6
	2 547	123.3
	3 541	123.1

Dropout Time Delay 60 cycles = 1 second yes/no

Unit does not return until input breaker reset yes/no

DATA SHEET FOR FUNCTIONAL TESTING
OF POWER TRANSFORMER CONTINUED

Page 2 of 2

Test Procedure No. NOTP-836.1.1

UCI S/N 836-1-09
ED064A

Electrical Output Check, Unit Loaded

Load Condition at 480VAC input Output Stable yes/no

at 480 VAC	1	113	-	121	VAC	<u>117.1</u>
	2	113	-	121	VAC	<u>117.0</u>
	3	113	-	121	VAC	<u>117.1</u>
at 414 VAC	1	113	-	121	VAC	<u>114.5</u>
	2	113	-	121	VAC	<u>114.3</u>
	3	113	-	121	VAC	<u>114.4</u>
at 530 VAC	1	113	-	121	VAC	<u>117.9</u>
	2	113	-	121	VAC	<u>117.7</u>
	3	113	-	121	VAC	<u>117.8</u>

Dropout Voltage low end 312-360VAC	1	Primary	<u>334</u>	Secondary	<u>92.4</u>	Alarm	<u>yes</u> /no
	2		<u>334</u>		<u>92.2</u>	Alarm	<u>yes</u> /no
	3		<u>335</u>		<u>92.5</u>	Alarm	<u>yes</u> /no

Unit picks up at 360-408VAC	1	Primary	<u>384</u>	Secondary	<u>103</u>	Alarm Clears	<u>yes</u> /no
	2		<u>385</u>		<u>103</u>	Alarm Clears	<u>yes</u> /no
	3		<u>382</u>		<u>102</u>	Alarm Clears	<u>yes</u> /no

Dropout Voltage >530VAC	1	Primary	<u>551</u>	Secondary	<u>122.9</u>
	2		<u>556</u>		<u>123.7</u>
	3		<u>552</u>		<u>122.6</u>

Unit does not return until input breaker reset yes/no

Temperature Rise Check

Operating Temperature full load < or = 90° above ambient N/A at

Ambient Temperature < or = 40° C Ambient Temperature N/A

Simulated SCR Short Test

Power Module	1	<u>384</u>	VAC
Shut Down at short	2	<u>385</u>	VAC
	3	<u>388</u>	VAC

Circuit Breaker Trip yes/no

Tested by: La. Thomson

Reviewed by: Albert Chap

DATA SHEET FOR FUNCTIONAL TESTING OF POWER TRANSFORMER

Test Procedure No. NOTP-836.1.1

UCI S/N 836-1-10 Page 1 of 2

Description Phoenix Power Transformer

Part No.: P3C015C6/EAN

Functional Type Dedication

Test Date 5-23-96

Ambient Temperature 32°C

Test Number 1
MFR S/N ED065A

INSTRUMENT AND EQUIPMENT LIST

ITEM	SERIAL NO.	RANGE	CALIBRATION DATE
FLUKE 8050A	4725162	0-200V	2-28-96 (dec '97)
FLUKE 8050A	3645120	0-2000V 0-200uA	11-10-95 (dec '96)
AB HYPT	712432	1000V	2-27-96 (dec '97)

TEST PROCEDURE

TEST DATA

TEST REQUIREMENTS

Insulation Resistance:

Primary to Secondary	(14uA) 71MΩ	10 Megohm or Greater
Primary to Ground	(18uA) 55MΩ	
Secondary to Ground	(23uA) 45MΩ	

Electrical Output Check (Unit Unloaded)

Three Phase 480 Applied LED's Illuminated Yes/No _____

Input Voltage	Output Voltage Required	Actual
at 480 VAC	1 113 - 121 VAC	119.0
	2 113 - 121 VAC	116.9
	3 113 - 121 VAC	119.0
at 414 VAC	1 113 - 121 VAC	118.9
	2 113 - 121 VAC	118.4
	3 113 - 121 VAC	117.6
at 530 VAC	1 113 - 121 VAC	120.7
	2 113 - 121 VAC	120.9
	3 113 - 121 VAC	120.2

Dropout Voltage	Primary	Secondary	Alarm
low end 312-360VAC	1 329	93.8	yes/no
	2 327	92.9	yes/no
	3 325	93.1	yes/no

Unit picks up at	Primary	Secondary	Alarm Clears
360-408VAC	1 383	108	yes/no
	2 382	102	yes/no
	3 382	109	yes/no

Dropout Voltage	Primary	Secondary
>530VAC	1 543	123.1
	2 542	123.4
	3 525	122.8

Dropout Time Delay 60 cycles = 1 second yes/no

Unit does not return until input breaker reset yes/no

DATA SHEET FOR FUNCTIONAL TESTING
OF POWER TRANSFORMER CONTINUED

Page 2 of 2

Test Procedure No. NOTP-836.1.1

UCI S/N 836-1-10

ED 065A

Electrical Output Check, Unit Loaded

Load Condition Output Stable ☒ yes ☐ no

at 480 VAC	1	113	-	121	VAC	<u>117.7</u>
	2	113	-	121	VAC	<u>117.5</u>
	3	113	-	121	VAC	<u>117.6</u>
at 414 VAC	1	113	-	121	VAC	<u>114.8</u>
	2	113	-	121	VAC	<u>114.8</u>
	3	113	-	121	VAC	<u>114.7</u>
at 530 VAC	1	113	-	121	VAC	<u>118.2</u>
	2	113	-	121	VAC	<u>118.1</u>
	3	113	-	121	VAC	<u>118.5</u>

Dropout Voltage		Primary	Secondary	Alarm	☒ yes ☐ no
low end 312-360VAC	1	<u>331</u>	<u>91.7</u>	Alarm	☒ yes ☐ no
	2	<u>330</u>	<u>91.7</u>	Alarm	☒ yes ☐ no
	3	<u>329</u>	<u>90.1</u>	Alarm	☒ yes ☐ no

Unit picks up at		Primary	Secondary	Alarm Clears	☒ yes ☐ no
360-408VAC	1	<u>383</u>	<u>102</u>	Alarm Clears	☒ yes ☐ no
	2	<u>383</u>	<u>102</u>	Alarm Clears	☒ yes ☐ no
	3	<u>381</u>	<u>101</u>	Alarm Clears	☒ yes ☐ no

Dropout Voltage		Primary	Secondary
>530VAC	1	<u>555</u>	<u>123.2</u>
	2	<u>555</u>	<u>123.5</u>
	3	<u>548</u>	<u>122.2</u>

Unit does not return until input breaker reset ☒ yes ☐ no

Temperature Rise Check

Operating Temperature full load < or = 90° above ambient NIA at

Ambient Temperature < or = 40° C Ambient Temperature NIA

Simulated SCR Short Test

Power Module	1	<u>382</u>	VAC
Shut Down at short	2	<u>384</u>	VAC
	3	<u>382</u>	VAC

Circuit Breaker Trip ☒ yes ☐ no

Tested by: Gu Thomas

Reviewed by: Albert Chap

DATA SHEET FOR FUNCTIONAL TESTING OF POWER TRANSFORMER

Test Procedure No. NOTP-836.1.1

UCI S/N 836-1-11 Page 1 of 2

Description Phoenix Power Transformer

Part No.: P3C015C6/EAN

Functional Type Dedication

Test Date 5-16-96

Ambient Temperature 23°C

Test Number 1

MFR S/N ED066A

INSTRUMENT AND EQUIPMENT LIST

ITEM	SERIAL NO.	RANGE	CALIBRATION DATE
800A FLUKE	2086490	2000V + 20uA	2-28-96 (due '97)
8050A FLUKE	3645120	200V	11-10-95 (due '96)
AB HYPOT	712432	1000V	2-27-96 (due '97)

TEST PROCEDURE

TEST DATA

TEST REQUIREMENTS

Insulation Resistance:

Primary to Secondary	(10uA) 63MΩ	10 Megohm or Greater
Primary to Ground	(10uA) 63MΩ	
Secondary to Ground	(4uA) 24MΩ	

Electrical Output Check (Unit Unloaded)

Three Phase 480 Applied LED's Illuminated Yes No

Input Voltage	Output Voltage Required	Actual
at 480 VAC	1 113 - 121 VAC	119.0
	2 113 - 121 VAC	119.9
	3 113 - 121 VAC	119.2
at 414 VAC	1 113 - 121 VAC	117.2
	2 113 - 121 VAC	117.5
	3 113 - 121 VAC	117.7
at 530 VAC	1 113 - 121 VAC	120.5
	2 113 - 121 VAC	121.0
	3 113 - 121 VAC	120.0

Dropout Voltage	Primary	Secondary	Alarm
low end 312-360VAC	1 325	90.0	yes/no
	2 335	90.0	yes/no
	3 327	96.0	yes/no

Unit picks up at	Primary	Secondary	Alarm Clears
360-408VAC	1 381	105	yes/no
	2 383	106	yes/no
	3 382	108	yes/no

Dropout Voltage	Primary	Secondary
>530VAC	1 546	124.2
	2 542	123.5
	3 541	123.5

Dropout Time Delay 60 cycles = 1 second yes/no

Unit does not return until input breaker reset yes/no

DATA SHEET FOR FUNCTIONAL TESTING
OF POWER TRANSFORMER CONTINUED

Test Procedure No. NOTP-836.1.1

UCI S/N 836-1-11 Page 2 of 2

ED 066A

Electrical Output Check, Unit Loaded

Load Condition at 480VAC input Output Stable yes/no

at 480 VAC	1	113 - 121 VAC	<u>117.3</u>
	2	113 - 121 VAC	<u>117.9</u>
	3	113 - 121 VAC	<u>117.4</u>
at 414 VAC	1	113 - 121 VAC	<u>114.9</u>
	2	113 - 121 VAC	<u>115.0</u>
	3	113 - 121 VAC	<u>114.3</u>
at 530 VAC	1	113 - 121 VAC	<u>117.7</u>
	2	113 - 121 VAC	<u>118.4</u>
	3	113 - 121 VAC	<u>118.4</u>

Dropout Voltage low end 312-360VAC	1	Primary <u>330</u>	Secondary <u>91.0</u>	Alarm <u>yes</u> /no
	2	<u>339</u>	<u>93.0</u>	Alarm <u>yes</u> /no
	3	<u>336</u>	<u>90.0</u>	Alarm <u>yes</u> /no

Unit picks up at 360-408VAC	1	Primary <u>383</u>	Secondary <u>100</u>	Alarm Clears <u>yes</u> /no
	2	<u>383</u>	<u>102</u>	Alarm Clears <u>yes</u> /no
	3	<u>383</u>	<u>102</u>	Alarm Clears <u>yes</u> /no

Dropout Voltage >530VAC	1	Primary <u>553</u>	Secondary <u>123.0</u>
	2	<u>542</u>	<u>121.0</u>
	3	<u>545</u>	<u>121.7</u>

Unit does not return yes/no
unit at breaker reset

Temperature Rise Check

Operating Temperature < or = 90° above ambient N/A at full load

Ambient Temperature < or = 40° C Ambient Temperature N/A

Simulated SCR Short Test

Power Module	1	<u>382</u> VAC
Shut Down at short	2	<u>384</u> VAC
	3	<u>385</u> VAC

Circuit Breaker Trip yes/no

Tested by: Ken Thomson

Reviewed by: Albert Chapp

ATTACHMENT 4

Fax Cover Sheet

2816

ILLINOIS POWER COMPANY

CLINTON POWER
STATION

POST OFFICE BOX 678
CLINTON, ILLINOIS 61727

DATE: 2-6-97

TIME:

ATTENTION: Mike Sablanc / Ben Camp

COMPANY United Control

TELECOPY: 770-496-7097

FROM: LINDA DEGROFFT PHONE: 217-935-8881, EXT 3839
FAX: 217-935-4258

NUMBER OF PAGES 14 + COVER SHEET

NOTES: Item 2 begins on page ⁵ of this revision

[illegible]

PURCHASE ORDER			
DATE	NUMBER	REL	REV
02/06/97	P0704970	000	003

OUR PURCHASE ORDER MUST APPEAR ON INVOICES, SHIPPING PAPERS,
PACKAGES AND CORRESPONDENCE; INVOICES MUST SHOW DESTINATION OF SHIPMENT,
AND APPLICABLE ILLINOIS SALES TAXES AS A SEPARATE ITEM
MAIL: ACKNOWLEDGMENT AND ALL CORRESPONDENCES TO:
PURCHASING DEPARTMENT
MUST MAIL INVOICES IN DUPLICATE
FAILURE TO FURNISH DUPLICATE COPIES OF INVOICES
MAY RESULT IN DELAY OF PAYMENT. MAIL TO:
ACCOUNTS PAYABLE
ILLINOIS POWER
P. O. BOX 2525, DECATUR, ILLINOIS 62525

LINE NO	QUANTITY	UNIT	DESCRIPTION	PRICE
			NOTE: THIS PURCHASE ORDER IS CHANGED ***** ***** THIS IS A NUCLEAR SAFETY RELATED ORDER ***** ***** ATTENTION: BEN CAMP * SOURCE SURVEILLANCE REQUIRED THIS MEMO OF CHANGE IS TO REVISE THE BREAKER AND SHUNT PART NUMBERS AS FOLLOWS: ITEM #1 UNITED CONTROLS TO PROVIDE 10 EA. BREAKER P/N MG24545 AND 10 EA. SHUNT TRIP P/N MG26973 (PHOENIX P/N 182-0082) WITH ANY MOUNTING HARDWARE REQUIRED FOR INSTALLATION TO REPLACE THE EXISTING BREAKERS IN THE PHOENIX POWER SYSTEM TRANSFORMER ORIGINALLY PROVIDED UNDER PO552512. THE INTENT OF THE NEW BREAKER IS TO MAINTAIN THE EXISTING SHUNT TRIP FUNCTION (FOR OVER VOLTAGE, OVER TEMPERATURE AND SCR SHORT) BUT MOVE THE INSTANTANEOUS TRIP FEATURE WELL ABOVE THE REGULATING TRANSFORMER AVAILABLE SHORT CIRCUIT CURRENT. THE NEW BREAKER MUST MEET THE SAME	

AUTHORIZED BY

CONDITIONS

[illegible]

ILLINOIS POWER COMPANY

PLEASE ACKNOWLEDGE RECEIPT OF THIS ORDER
ON ATTACHED FORM ADVISING WHEN YOU WILL SHIP

INOIS, POWER

VENDORS COPY

FIXED DELIVERY DATE
FIXED TERMS
FIXED TERMS
FIXED TERMS

PURCHASE ORDER			
DATE	NUMBER	REL	REV
02/06/97	P0704970	000	003

PAGE 2

PRINT MESSAGE LINE

U074 02
UNITED CONTROLS
1554 LITTON DRIVE
STONE MOUNTAIN GA 30083

INSTRUCTIONS
ONE PURCHASE ORDER MUST APPEAR ON INVOICES, SHIPPING PAPERS, PACKAGES AND CORRESPONDENCE. INVOICES MUST SHOW DEDUCTION OF SHIPMENT, AND APPLICABLE ILLINOIS SALES TAXES AS A SEPARATE ITEM MAIL: ACKNOWLEDGEMENT AND ALL CORRESPONDENCE TO: PURCHASING DEPARTMENT MUST MAIL INVOICES IN DUPLICATE FAILURE TO FURNISH DUPLICATE COPIES OF INVOICES MAY RESULT IN DELAY OF PAYMENT. MAIL TO: ACCOUNTS PAYABLE ILLINOIS POWER P.O. BOX 2525, DECATUR, ILLINOIS 62525

QUANTITY	UNIT	DESCRIPTION	PRICE
		QUALIFICATION AS THE ORIGINAL. ACCOUNTING DATA TO BE SHOWN ON ALL INVOICES: TASK #1 9300-28631-350 THE PURCHASE ORDER ACKNOWLEDGEMENT SHALL BE RETURNED TO THE SUPPLIER RELATIONSHIP TEAM LEADER WITHIN 14 DAYS AFTER RECEIPT OF PURCHASE ORDER. COMPENSATION SHALL BE AS FOLLOWS: NOT TO EXCEED \$10,000.00 WITHOUT PRIOR APPROVAL. 10 BREAKER P/N M-24545 @ \$415.00 EACH 10 EACH SHUNT TRIP P/N MG-26973 @ \$165.00 EACH 1 EACH SEISMIC QUALIFICATION AND REPORT @ \$4,000.00/LOT VENDOR DOCUMENTATION: CB,DS,EI,FT,MI,SE*, **, * APPLY TO THIS PURCHASE ORDER. (CB) CERTIFICATE OF CONFORMANCE, PER ATTACHED	

DESCRIPTION

IF VIA ILLINOIS POWER COMPANY

BUYER/
ANALYST
PHONE NUMBER

AUTHORIZED BY

CONDITIONS

TERMS OF THIS ORDER, SELLER AGREES:
 ALL MATERIAL AND WORKMANSHIP MUST BE SUBJECT TO INSPECTION AND ACCEPTANCE BY
 THE BUYER. ALL SUCH INSPECTIONS AND INSPECTIONS SELECTED BY PURCHASER WILL BE RETURNED TO SELLER, WHO SHALL PAY ALL
 COSTS OF INSPECTION AND
 IF THE BUYER OR PURCHASER SHALL PURCHASE TO THIS ORDER SHALL EXCEED THE MAXIMUM ORDER, IT WILL ACCEPT THE
 ORDER AND PAY ALL EXPENSES INCURRED THEREBY AND
 [RECEIPT AND STATE PURCHASER'S RELEASE FROM AND WAIVER ALL CLAIMS FOR IMPROVEMENT OF ANY PARTS OR EQUIPMENT
 UNDER THIS ORDER, WITHOUT PERFECTION OF PURCHASER'S AND
 IN CHARGE FOR PURCHASER'S CLAIMS, ETC. IS TO BE MADE UNLESS ADVANCED FOR AT TIME OF PURCHASE; AND
 PURCHASER RELEASES THE BUYER OF CANCELLATION WITHOUT A CANCELLATION COST ALL OR ANY PART OF THIS ORDER IF SHIPMENT
 IS MADE WITHIN THE SPECIFIED TIME AND
 PURCHASER'S ORDER IS FINAL, UNLESS OTHERWISE INDICATED BY OR POWER; AND
 THERE ARE NO CONDITIONS OTHER THAN THOSE STATED HEREIN EXCEPT WHERE A CONTRADICTORY IS INVOLVED AND AGREEMENT
 TERMS ARE STATED THEREIN.
 APPLY WITH ALL APPLICABLE SUPPLEMENTAL AND REGULATIONS

ILLINOIS POWER COMPANY

PLEASE ACKNOWLEDGE RECEIPT OF THIS ORDER
ON ATTACHED FORM ADVISING WHEN YOU WILL SHIP

VENDORS COPY

ORDERED DELIVERY DATE
LINE TERMS
8127 TERMS
2 TERMS

PURCHASE ORDER			
DATE	NUMBER	REL	REV
04/06/97	P0704970	000	003

PAGE 5

U074 02
UNITED CONTROLS
1554 LITTON DRIVE
STONE MOUNTAIN GA 30083

INSTRUCTIONS

OUR PURCHASE ORDER MUST APPEAR ON INVOICES, SHIPPING PAPERS, PACKAGES AND CORRESPONDENCE. INVOICES MUST SHOW DESTINATION OF SHIPMENT, AND APPLICABLE ILLINOIS SALES TAXES AS A SEPARATE ITEM

MAIL: ACKNOWLEDGEMENT AND ALL CORRESPONDENCE TO:
PURCHASING DEPARTMENT
MUST MAIL INVOICES IN DUPLICATE

FAILURE TO FURNISH DUPLICATE COPIES OF INVS. P25 MAY RESULT IN DELAY OF PAYMENT. MAIL TO:

ACCOUNTS PAYABLE
ILLINOIS POWER
P.O. BOX 25225, DECATUR, ILLINOIS 62525

LINE NO	QUANTITY	UNIT	DESCRIPTION	PRICE
			***** ITEM #2 ATTENTION: MIKE LABLANC/BEN CAMP . SOURCE INSPECTION/SURVEILLANCE IS REQUIRED ON THIS ORDER REFER TO ATTACHED. . THIS REVISION IS TO ADD ITEM #2 (REF. QUOTE OF 2/6/97) AS FOLLOWS: . UCI TO PERFORM EMI/RFI TESTING OF THE 15 KVA PHOENIX POWER GUARDIAN TRANSFORMER SUPPLIED TO IPC UNDER IPC P0552512 AND RETAINED BY UCI. BASED ON TESTING UCI TO SELECT OR DESIGN A FILTER TO FILTER OUT ALL FREQUENCIES WHICH COULD HAVE AN ADVERSE AFFECT ON THE TRANSFORMER. TRANSFORMER TO BE TESTED PER UCI QUOTATION DATED 2/6/97 SPECIFIC RESISTIVE (BASE) LOAD TO BE SPECIFIED BY IPC LATER. ALL TESTING SHALL BE PERFORMED IN ACCORDANCE WITH EPRI TR-102323 R/1. TEST SHALL INCLUDE CE 101, CE 102, RE 101, RE 102, CS 01, CS 02, IEC 801-4, IEC 801-5, AND RS 103. UCI TO SUPPLY IPC WITH 10 CLASS 1E QUALIFIED FILTERS.	

IP VIA

ILLINOIS POWER COMPANY

BUYER/
ANALYST
PHONE NUMBER

AUTHORIZED BY

CONDITIONS

ILLINOIS POWER COMPANY

PLEASE ACKNOWLEDGE RECEIPT OF THIS ORDER
ON ATTACHED FORM ADVISING WHEN YOU WILL SHIP

ALL OF THIS STATE, SELLER
ALL MATERIAL AND INFORMATION SELLER MUSTED SHALL BE SUBJECT TO PURCHASERS INSPECTION AND ACCEPTANCE WHEN
AND ALL AND ANY OTHERS AND INFORMATION RELATES OF PURCHASERS SHALL BE RETURNED TO SELLER, WHICH SHALL PAY ALL
THE COSTS OF THE INSPECTION AND
PURCHASER ON INSPECTION MUST PROMPTLY TO THIS STATE SHALL CANCEL THE PURCHASE ORDER, IT WILL ACCEPT THE
IN A
SELLER AND PAY ALL COSTS CAUSED THE INSPECTION AND
PURCHASER AND HAVE PURCHASER SELLER FROM AND RESOLVE ALL CLAIMS FOR DEFICIENCY OF ANY PART ON PURCHASER'S
THESE TERMS AND
SHELLER FROM ORDER ON CANCELLING TO BE HAVE ANY PUBLIC ACCREDITATION, ADVERTISEMENT, OR ANY RELEASE OF ANY INFO
SHELLER THIS ORDER, WITHOUT PERMISSION OF PURCHASER AND
AND PURCHASER MUST RETURN SELLER'S ORDER TO BE CANCELLED SELLER UNLESSED FOR AT TIME OF PURCHASE AND
PURCHASER RECEIVED THE PURCHASE OF SELLER'S ORDER WITHOUT A CANCELLATION SELLER AND ON ANY PART OF THIS ORDER IF PURCHASER
IF SELLER WITHIN THE SPECIFIED TIME AND
SHELLER ORDER AND FIRM, SELLER'S ORDER CANCELLING ON NO WORKS AND
THESE AND NO CANCELLING ORDER FROM THESE STATED ORDER WHEN A CONTRACT IS INVOLVED AND ANNOTATION
THESE AND STAFF INSPECTION
SHELLER WITH ALL APPLICABLE COMMERCIAL AND METALLURGICAL

ILLINOIS POWER

VENDORS COPY

REQUIRED DELIVERY DATE
LEADING TERMS
EIGHTY TERMS
30 TERMS

PURCHASE ORDER			
DATE	NUMBER	REL	REV
02/06/97	P0704970	000	003

PRINT MESSAGE LINE

PAGE 6

U074 02
UNITED CONTROLS
1554 LITTON DRIVE
STONE MOUNTAIN GA 30083

INSTRUCTIONS
OUR PURCHASE ORDER MUST APPEAR ON INVOICES, SHIPPING PAPERS, PACKAGES AND CORRESPONDENCE. INVOICES MUST SHOW DESTINATION OF SHIPMENT, AND APPLICABLE ILLINOIS SALES TAXES AS A SEPARATE ITEM.
MAIL: ACKNOWLEDGEMENT AND ALL CORRESPONDENCE TO:
PURCHASING DEPARTMENT
MUST MAIL INVOICES IN DUPLICATE
FAILURE TO FURNISH DUPLICATE COPIES OF INVOICES MAY RESULT IN DELAY OF PAYMENT. MAIL TO:
ACCOUNTS PAYABLE
ILLINOIS POWER
P.O. BOX 2525, DECATUR, ILLINOIS 62525

QTY	QUANTITY	UNIT	DESCRIPTION	PRICE
			REF. UCI QUOTATION DATED 2/6/97.	
			THE PURCHASE ORDER ACKNOWLEDGEMENT SHALL BE RETURNED TO THE SUPPLIER RELATIONSHIP TEAM LEADER WITHIN 14 DAYS AFTER RECEIPT OF PURCHASE ORDER.	
			ACCOUNTING DATA TO BE SHOWN ON ALL INVOICES: ITEM #2 9300 28631 350	
			COMPENSATION SHALL BE AS FOLLOWS: PREPARATION OF TEST PROCEDURE/PERFORM EMI/RFI TESTING = \$59,850. FILTER DESIGN SELECTION AND ASSEMBLY = \$12,500. SEISMIC QUALIFICATION OF FILTER = \$3,500. ASSEMBLY AND DEDICATION OF (10) FILTERS = \$17,560. CERTIFICATION AND DOCUMENTATION = \$5,000. EXPEDITING TO MEET 3 WEEK SCHEDULE = \$8,000.	
			VENDOR DOCUMENTATION: CB, DS, MI, * APPLIES TO THIS PURCHASE ORDER. (DS) DRAWING SUBMITTAL REQUIRED (CB) CERTIFICATE OF CONFORMANCE (PER ATTACHED) THE CERTIFICATION SHALL ALSO STATE THE FILTERS	

DESCRIPTION
P VIA
ILLINOIS POWER COMPANY

BUYER/
ANALYST
PHONE NUMBER

AUTHORIZED BY

CONDITIONS
1. ALL OF THIS ORDER, SELLER AGREES TO FURNISH, AND GUARANTEE THE WORKMANSHIP SHALL BE SUBJECT TO PURCHASER'S INSPECTION AND ACCEPTANCE. ORDER IS VOID IF NOT SIGNED BY PURCHASER OR AUTHORIZED AGENT OF PURCHASER. ORDER SHALL PAY ALL TAXES AND FEES.
2. BUYER'S OBLIGATION TO THIS ORDER SHALL BE LIMITED TO THE EXTENT OF THE ORDER. IT SHALL ASSUME THE RISK AND PAY ALL EXPENSES OF THE ORDER.
3. SELLER'S OBLIGATION TO THIS ORDER SHALL BE LIMITED TO THE EXTENT OF THE ORDER. IT SHALL ASSUME THE RISK AND PAY ALL EXPENSES OF THE ORDER.
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ILLINOIS POWER COMPANY
PLEASE ACKNOWLEDGE RECEIPT OF THIS ORDER
ON ATTACHED FORM ADVISING WHEN YOU WILL SHIP

QUOTED DELIVERY DATE
ILLINOIS TERMS
EIGHT YEARS
C.B. TERMS

PURCHASE ORDER			
DATE	NUMBER	REL	REV
02/06/97	P0704970	000	003

PRINT MESSAGE LINE

PAGE 7

U074 02
UNITED CONTROLS
1554 LITTON DRIVE
STONE MOUNTAIN

GA 30083

INSTRUCTIONS
ONE PURCHASE ORDER MUST APPEAR ON INVOICES, SHIPPING PAPERS, PACKAGES AND CORRESPONDENCE. INVOICES MUST SHOW DESTINATION OF SHIPMENT, AND APPLICABLE ILLINOIS SALES TAXES AS A SEPARATE ITEM. MAIL: ACKNOWLEDGEMENT AND ALL CORRESPONDENCE TO: PURCHASING DEPARTMENT MUST MAIL INVOICES IN DUPLICATE FAILURE TO FURNISH DUPLICATE COPIES OF INVOICES MAY RESULT IN DELAY OF PAYMENT. MAIL TO: ACCOUNTS PAYABLE ILLINOIS POWER P.O. BOX 2525, DECATUR, ILLINOIS 62525

QTY	QUANTITY	UNIT	DESCRIPTION	PRICE
			MEET THE REQUIREMENTS OF IEEE 344-1975, 323-1974 AND 627-1980. NOTE: THE SEISMIC SPECTRA PREVIOUSLY SUPPLIED WITH P0552512 (MI) MAINTENANCE INSTRUCTION MANUAL SUBMITTAL REQUIRED. MAINTENANCE INSTRUCTION TO INCLUDE ANY PREVENTIVE MAINTENANCE REQUIREMENT, I.E. REPLACE FILTER EVERY FIVE YEARS. (*) UNITED CONTROLS, INC. TO PROVIDE IPC WITH FINAL EMI/RFI TEST RESULTS AND SEISMIC QUALIFICATION REPORT. UCI TO FAX TEST RESULTS TO IPC PURCHASING DEPARTMENT; ATTN: LINDA DEGROFFT; FAX # 217-935-4258. ALL DOCUMENTATION SHALL BE SUBMITTED TO IPC PURCHASING DEPARTMENT; ATTN: LINDA DEGROFFT. SELLER QUALITY ASSURANCE PROGRAM REQUIREMENTS PER THE ATTACHED, SHALL APPLY TO THIS ORDER: A,I,J,K,L TECHNICAL: * APPLIES TO THIS PURCHASE ORDER. * UNITED CONTROLS, INC. SHALL PROVIDE IPC THE TEST PLAN/SEISMIC PLAN FOR APPROVAL PRIOR TO ANY TESTING. SUBMIT TEST PLAN (FAXED) TO ILLINOIS POWER COMPANY 217-935-4258, ATTN: LINDA DEGROFFT. IPC SHALL PROVIDE	

DESCRIPTION

P VIA

ILLINOIS POWER COMPANY

HIP
TO

BUYER/
ANALYST
PHONE NUMBER

AUTHORIZED BY

CONDITIONS

ONE OF THIS ORDER, DELIVERED HEREIN
1. MATERIALS AND WORKMANSHIP HEREBY ORDERED SHALL BE SUBJECT TO PURCHASER'S INSPECTION AND ACCEPTANCE UNDER
2. AND ALL OTHER MATERIALS AND WORKMANSHIP ORDERED BY PURCHASER SHALL BE RETURNED TO SELLER, ORDER SHALL PAY ALL
3. C. FREIGHT AND
4. BUYER OR PURCHASER SHALL FURNISH TO THIS ORDER SHALL CANCEL THE QUANTITY ORDERED. IT WILL ACCEPT THE
5. C. AND PAY ALL EXPENSES ORDERED HEREIN; AND
6. THE PURCHASER SHALL FURNISH AND MAINTAIN ALL CLAIMS FOR IMPROVEMENT OF ANY PATENT OR INVENTION
7. TO BE ORDERED; AND
8. ALL FROM CANCELING OR RETURNED TO BE MADE ANY PUBLIC ANNOUNCEMENT, ADVERTISEMENT, OR NEWS RELEASE OF ANY KIND
9. THIS ORDER, WITHOUT FORFEITURE OF PURCHASER'S AND
10. CHARGE FOR PACKING, UNLOADING, UNLOADING, ETC. IS TO BE MADE UNLESS OTHERWISE PAID AT TIME OF PURCHASE; AND
11. CHARGE UNLESS THE PURCHASE OF CANCELLATION ORDER & CANCELLATION THAT ALL NO ANY PART OF THIS ORDER IF SHIPMENT
12. NAME WITHIN THE SPECIFIED TIME; AND
13. ORDER ORDER AND FROM, UNLESS OTHERWISE INDICATED ON THE ORDER; AND
14. ARE AND NO CANCELLATION ORDER FROM ORDER ORDERED UNLESS ORDER & CANCELLATION IS CANCELED AND MODIFIED
15. FOR AND STATED THEREIN.
16. WITH ALL APPLICABLE SUPPLEMENTAL AND REGULATIONS

ILLINOIS POWER COMPANY

PLEASE ACKNOWLEDGE RECEIPT OF THIS ORDER
ON ATTACHED FORM ADVISING WHEN YOU WILL SHIP

QUOTED DELIVERY DATE
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PURCHASE ORDER			
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PRINT MESSAGE LINE

PAGE 8

U074 02
UNITED CONTROLS
1554 LITTON DRIVE
STONE MOUNTAIN GA 30083

INSTRUCTIONS
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QTY	QUANTITY	UNIT	DESCRIPTION	PRICE
			UOI THE REQUIREMENTS FOR BASE LOAD AND IPC TEST DATA. TECHNICAL CONTACT AT IPC IS AL HAUMAN 217-935-8881, X-4078. ALL OTHER TERMS AND CONDITIONS REMAIN THE SAME. ***** * FOLLOWING ENCLOSED INFORMATION FOR IP USE ONLY * REQUISITION NUMBER: 7035551P REQUISITION ORIGINATOR: JERRY BLOUNT SUPPLIER RELATIONSHIP TEAM LEADER: LINDA DEGROFFT MWR NUMBER: AP031 MSD REVIEW NUMBER: 89422, REV. 0 J. I K. 50,21,S L. V M. B O. N P. N R. ID,DA,DO S. RI,DI,SA,SI T. RK U. Y T. RK = RISK HOLD PENDING ECN TO AUTHORIZE THE FILTER PER AP028. ***** ***** ***** ***** *****	

DESCRIPTION

P VIA ILLINOIS POWER COMPANY

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BUYER/
ANALYST
PHONE NUMBER

AUTHORIZED BY

CONDITIONS

USE OF THIS ORDER, SELLER AGREES:

1. MATERIALS AND SERVICES HEREBY ORDERED SHALL BE SUBJECT TO PRELIMINARY INSPECTION AND APPROVAL BY THE BUYER. IF THE BUYER DOES NOT APPROVE THE MATERIALS OR SERVICES, THE BUYER SHALL BE RESPONSIBLE FOR THE COST OF REWORK OR REPAIR. IF THE BUYER DOES NOT APPROVE THE MATERIALS OR SERVICES, THE BUYER SHALL BE RESPONSIBLE FOR THE COST OF REWORK OR REPAIR.

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ILLINOIS POWER COMPANY

PLEASE ACKNOWLEDGE RECEIPT OF THIS ORDER
ON ATTACHED FORM ADVISING WHEN YOU WILL SHIP

ILLINOIS POWER

PURCHASE ORDER

DATE	NUMBER	REL	REV
02/06/97	PO704970	000	003

ORDER DELIVERY DATE
LINE TERMS
QUANTITY
TERMS

PAGE 9

PRINT MESSAGE LINE

U074 02
UNITED CONTROLS
1554 LITTON DRIVE
STONE MOUNTAIN GA 30083

INSTRUCTIONS

OUR PURCHASE ORDER MUST APPEAR ON INVOICES, SHIPPING PAPERS, PACKAGES AND CORRESPONDENCE. INVOICES MUST SHOW DESTINATION OF SHIPMENT, AND APPLICABLE ILLINOIS SALES TAXES AS A SEPARATE ITEM.

MAIL: ACKNOWLEDGEMENT AND ALL CORRESPONDENCE TO:
PURCHASING DEPARTMENT
MUST MAIL INVOICES IN DUPLICATE

FAILING TO FURNISH DUPLICATE COPIES OF INVOICES MAY RESULT IN DELAY OF PAYMENT. MAIL TO:
ACCOUNTS PAYABLE
ILLINOIS POWER
P.O. BOX 2525, DECATUR, ILLINOIS 62525

Q	QUANTITY	UNIT	DESCRIPTION	PRICE
			*VENDOR: TO EXPEDITE INVOICE PROCESSING, PLEASE: 1. SHIP NO SUBSTITUTIONS WITHOUT PRIOR APPROVAL. 2. SHIP NO MATERIAL OR EQUIPMENT CONTAINING ASBESTOS WITHOUT SPECIFIC PRIOR APPROVAL. 3. SEND ALL REQUIRED DOCUMENTATION WITH SHIPMENT. 4. MATERIALS/EQUIPMENT SHALL BE PACKAGED AND SHIPPED USING GOOD COMMERCIAL PRACTICES. IF GOVERNED BY ANSI STANDARDS, ANSI N45.2.2, LEVEL C REQUIREMENTS APPLY. 'SPECIAL' REQUIREMENTS WILL BE SO NOTED IN THE BODY OF THIS ORDER. PART NUMBERS MUST BE CLEARLY IDENTIFIED FOR EACH ITEM AND SHOWN ON ALL SHIPPING PAPERS. 5. IF SHELF LIFE APPLIES TO ANY ITEM ON THIS ORDER, IT IS REQUIRED THAT A MINIMUM OF 80% SHELF LIFE REMAINS ON THE ITEM AT TIME OF SHIPMENT. IF SHELF LIFE IS INDEFINITE, NOTIFY THE BUYER PRIOR TO SHIPPING. THIS PURCHASE ORDER IS FOR GOODS AND/OR SERVICES TO BE USED AT THE CLINTON POWER STATION, WHICH IS JOINTLY OWNED BY ILLINOIS POWER COMPANY AND SOYLAND POWER COOPERATIVE, INC., AND TITLE TO SUCH GOODS AND/OR SERVICES SHALL PASS TO THEM IN	

DESCRIPTION

P VIA

ILLINOIS POWER COMPANY

BUYER/
ANALYST
PHONE NUMBER

ZIP
Q

AUTHORIZED BY

CONDITIONS

USE OF THIS ORDER, ORDER AGREES

1. MATERIALS AND SERVICES ORDERED SHALL BE SUBJECT TO PURCHASER INSPECTION AND ACCEPTANCE WHEN

2. ORDER IS RECEIVED AND ACCEPTANCE REQUESTED BY PURCHASER WILL BE RETURNED TO SELLER, SELLER SHALL PAY ALL

3. FREIGHT AND

4. SET BY SHIPMENT DATE PROVIDED TO THIS ORDER SHALL EXCEED THE QUANTITY ORDERED, IT WILL ACCEPT THE

5. ORDER AND PAY ALL EXPENSES CAUSED THEREBY AND

6. SET AND SAME PROVIDED EXPLAIN FROM AND AGAINST ALL CLAIMS FOR IMPROVEMENT OF ANY PATENT OR INVENTION

7. ORDER FROM SELLER OR S-ORDER TO BE SAME ANY PUBLIC ANNOUNCEMENT, ADVERTISEMENT, OR NEWS RELEASE OF ANY KIND

8. THIS ORDER, WITH ANY PERMISSION OF PURCHASER AND

9. ORDER FOR PACKING, COATING, LABELING, ETC. IS TO BE MADE ORDER ARRANGED FOR AT TIME OF PURCHASE; AND

10. ORDER PROVIDES THE PURCHASER OF CANCELLATION WITHOUT A CANCELLATION COST ALL OR ANY PART OF THIS ORDER IF SHIPMENT

11. FROM WITHIN THE SPECIFIED TIME AND

12. THIS ORDER AND PLAN, ORDER BY ORDER INDICATED IN ORDER; AND

13. THE AND NO CONDITIONS OTHER THAN THOSE STATED HEREON EXCEPT WHERE A CONTRA IS LOYALTY AND ADVERTISING

14. THE AND STATED THEREIN.

15. WITH ALL APPLICABLE GOVERNMENTAL AND REGULATIONS

ILLINOIS POWER COMPANY

PLEASE ACKNOWLEDGE RECEIPT OF THIS ORDER
ON ATTACHED FORM ADVISING WHEN YOU WILL SHIP

ILLINOIS POWER

VENDORS COPY

ENTERED DELIVERY DATE
LOADING TERMS
STORAGE TERMS
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PURCHASE ORDER			
DATE	NUMBER	REL	REV
02/06/97	P0704970	000	003

PRINT MESSAGE LINE

U074 02
UNITED CONTROLS
1554 LITTON DRIVE
STONE MOUNTAIN GA 30083

INSTRUCTIONS

OUR PURCHASE ORDER MUST APPEAR ON INVOICES, SHIPPING PAPERS, PACKAGES AND COMMERCIAL INVOICES MUST SHOW DESTINATION OF SHIPMENT, AND APPLICABLE ILLINOIS SALES TAXES AS A SEPARATE ITEM

MAIL: ACKNOWLEDGEMENT AND ALL CORRESPONDENCE TO: PURCHASING DEPARTMENT

MUST MAIL INVOICES IN DUPLICATE

FAILURE TO FURNISH DUPLICATE COPIES OF INVOICES MAY RESULT IN DELAY OF PAYMENT. MAIL TO:

ACCOUNTS PAYABLE
ILLINOIS POWER
P.O. BOX 2528, DECATUR, ILLINOIS 62526

QTY	QUANTITY	UNIT	DESCRIPTION	PRICE
			PROPORTION TO THEIR RESPECTIVE OWNERSHIP SHARES. ALL MATERIAL OR EQUIPMENT SUPPLIED UNDER OUR PURCHASE ORDERS SHALL BE FURNISHED IN A NEW UNUSED CONDITION. USED REBUILT OR REFURBISHED ITEMS ARE UNACCEPTABLE UNLESS SPECIFICALLY NOTED IN WRITING ON OUR PURCHASE DOCUMENT. SELLER AGREES THAT THE MERCHANDISE AND/OR SERVICES COVERED BY THIS CONTRACT SHALL BE OR HAVE BEEN MANUFACTURED OR PERFORMED, PRICED AND SOLD IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL LAWS, INCLUDING WITHOUT LIMITATION, THE FAIR LABOR STANDARDS ACT, THE EQUAL OPPORTUNITY CLAUSE SET FORTH IN 41 C.F.R. SECTION 60-1.4(A), AND THE AFFIRMATIVE ACTION CLAUSES SET FORTH IN 41 C.F.R. SECTIONS 60-250.4, -741.4. QAP-407.02F02, REV. 2 (2 PAGES), IS INCLUDED HERewith AND IS AN INTEGRAL PART OF THIS PURCHASE ORDER.	

DESCRIPTION P VIA AIR EXPRESS ILLINOIS POWER COMPANY CLINTON POWER STATION IP800 RR 3, P.O. BOX 678 (RT. 54 E.) CLINTON IL 61727 STORES SUPERVISOR 217-935-8881	END OF ORDER/SIGNATURE PAGE BUYER/ ANALYST L.D. DEGROFFT <i>LD 2647</i> PHONE NUMBER (217) 935-8881 <i>K. J. Johnson</i> AUTHORIZED BY
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CONDITIONS

ALL OF THIS ORDER, WHETHER WRITTEN OR NOT, SHALL BE SUBJECT TO THE TERMS AND CONDITIONS OF THE PURCHASE ORDER. THE BUYER SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE ORDER. THE BUYER SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE ORDER. THE BUYER SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE ORDER.

ILLINOIS POWER COMPANY

PLEASE ACKNOWLEDGE RECEIPT OF THIS ORDER ON ATTACHED FORM ADVISING WHEN YOU WILL SHIP

EXAMPLE OF DOCUMENTATION CODE CR

CERTIFICATE OF CONFORMANCE REQUIREMENTS
(COMPONENT PURCHASES THAT DO NOT HAVE
ALL NECESSARY CHARACTERISTICS SPECIFIED)

For each heat of material, lot of material, or item delivered, the supplier shall provide a certification that the item conforms to all of the requirements of the Purchase Order for that item. The certification shall identify the part number(s), serial number(s), lot number(s), etc. (when used), as well as the drawings, specifications, codes, and standards, to which that item conforms. The date, title, and signature of the responsible individual in the supplier's organization shall appear indicating acceptance of the document(s). The document(s) shall reference the IP Purchase Order Number (and item number, if required, to assure traceability), or other traceable identification number.

The vendor shall certify that the part being supplied meets the requirements for form, fit, function, material, and manufacturing process identified by the vendor's drawing/part numbers specified on this Purchase Order.



March 18, 1996

Carson Power Station
P.O. Box 678
Clinton, IL 61727
Tel 217-432-8881

To: All Vendors and Suppliers

The message at the beginning of this Order contains some very important information, designed to help you process our requirements.

Items two (2) through four (4) are self-explanatory and generally do not pose a problem with filling orders.

Item one(1) and its intent is the purpose of this notice:

"Ship no substitutions without prior approval" is the paragraph you need to understand.

If what you intend to ship to us is not an EXACT MATCH to the description and the part number in the Purchase Order DO NOT SHIP IT.

Please call the Buyer shown on the last page of the Order immediately and notify him/her of the discrepancy. You will receive further instructions at that point.

WITH FEW EXCEPTIONS, IF WHAT YOU SHIP DOES NOT MATCH THE DESCRIPTION ON THE ORDER, PAYMENT OF YOUR INVOICE WILL BE DELAYED.

We don't want that and neither do you.

Thank you for your cooperation.

Regards,

Nuclear Purchasing Team

REQUISITION NUMBER _____

P. O. NUMBER _____

Check boxes which apply:

☒

L1 Source Inspection/Surveillance Notification

The supplier shall provide access to the Supplier's plant facilities and records pertaining to this purchase order for the purpose of planning and performing source inspection/surveillance activities. The Buyer requires 5 working days advance notice that the Buyer hold points will be reached.

The supplier shall contact the Buyer's designated representative prior to reaching a hold point and the Supplier will not proceed past that point until inspection has been established or waived by the Buyer.

The following hold points apply:

Any time after receipt of purchase order
and prior to testing

Contact: Joni Perry

Phone: (217) 935-8881, Ext. 4002

☐

L2 100% Surveillance

100% surveillance applies to this order, the Supplier shall provide access to the plant facilities and records pertaining to this order at any time work is performed regardless of the time of day or day of the week. Work shall not proceed without the presence of the surveillant, except as agreed to by the surveillant. IP is to be notified _____ working days prior to the start of work.

Contact: _____

Phone: (217) 935-8881, Ext. _____

☐

L3 Procedure/Certification Approval

Suppliers performing work at Clinton Power Station who intend to use their own procedures shall submit the procedures to the designated representative listed below for review and approval.

Contact: _____

Phone: (217) 935-8881, Ext. _____

☐

L4 Equipment Calibration

Suppliers who propose to use their own measuring and test equipment at Clinton Power Station shall have calibration certificates traceable to the National Institute of Standards and Technology (N.I.S.T.) including verification that the certificate provided is valid. If the equipment is of such a nature that it cannot be traced to N.I.S.T., the basis for calibration shall be provided.

Contact: _____

Phone: (217) 935-8881, Ext. _____

PURCHASE ORDER

- ☒ A. The Seller shall provide the item or service in accordance with the Seller's 10CFR50, Appendix B Quality Assurance Program reviewed and approved by IP. Changes to the approved Quality Assurance Program shall be submitted to IP for approval. Quality Assurance Program requirements shall be incorporated in sub-tier procurement documents as required by Seller's approved Quality Assurance Program.
- ☐ B. The Seller shall provide the item or service in accordance with the Seller's Quality Assurance Program reviewed and approved by IP. Changes to the approved Quality Assurance Program shall be submitted to IP for approval. Quality Assurance Program requirements shall be incorporated in sub-tier procurement documents as required by Seller's approved Quality Assurance Program.
- ☐ C. The Seller shall provide the item or service in accordance with the Seller's ASME Section III Quality Assurance Program and applicable ASME Certificate(s), including the Quality Assurance controls of 10CFR50, Appendix B. Changes to the approved Quality Assurance Program shall be submitted to IP for review.
- ☐ D. The Seller shall provide the item or service in accordance with the Seller's ASME NCA-4000 Quality Assurance Program and applicable ASME Certificate(s) of Authorization with the following exceptions:
- 1) Third party inspection not required; and
 - 2) ASME Code stamping not required.
- ☐ E. General Electric Company will comply with their Quality Assurance Program as identified in NEDO-11209-04A. Changes to the approved Quality Assurance Program shall be submitted to IP for approval.
- ☐ F. DELETED
- ☐ G. This procurement shall be in accordance with the Agreement for Equipment and Services dated 11/19/85 between Westinghouse Electric Corporation and Illinois Power Company. The item or service shall be supplied in accordance with the Westinghouse Quality Assurance Program as identified in WCAP 8370, WCAP 9245 or the approved Westinghouse ASME code manual.
- ☐ H. The utility shall provide the item or service in accordance with the utility's 10CFR50, Appendix B Quality Assurance Program.
- ☐ I. This order is subject to the provisions of Title 10 of the Code of Federal Regulations, Part 21. If assistance in evaluating potential deviations under 10CFR21 is required, correspondence shall be addressed to: Manager of Licensing & Safety, Illinois Power Company. Should Seller make any notification(s) to the NRC relative to defects covered by 10CFR21, which are related to items or services covered by this procurement document, concurrent notification shall be made to: Manager of Licensing & Safety, Illinois Power Company.
- ☐ J. Illinois Power Company (IP) reserves the right of access, for inspection or audit by IP or its designated representative, to the records and plant facilities of both the Seller and the Seller's subcontractors and suppliers.
- ☐ K. Approval by IP is required for all nonconformances dispositioned as "use as is" or "repair". Those nonconformance reports identified to IP shall be included in the final documentation package sent to IP.
- ☐ L. Other requirements: Attached Page 2.