

SOUTHEASTERN CONSULTING ENGINEERS, INC.
CHARLOTTE, NORTH CAROLINA

PROPOSALS
FOR
PURCHASE OF SURPLUS POWER TRANSFORMER
FROM
CITY OF CONCORD
CONCORD, NORTH CAROLINA

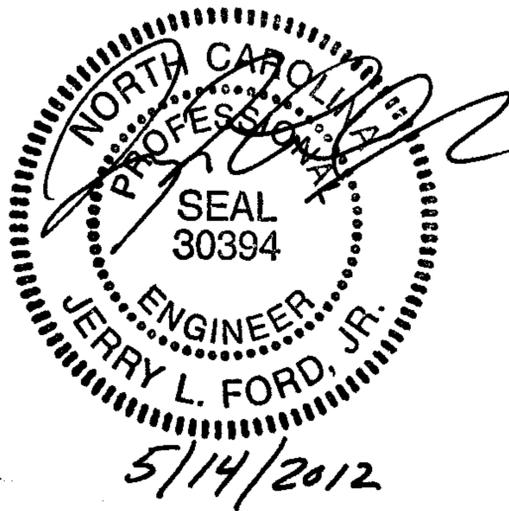


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NOTICE AND INSTRUCTIONS TO BIDDERS

1. Sealed proposals for the purchase and removal of one surplus 12/16 MVA power transformer will be received by the City of Concord, North Carolina, on or before 2:00 P.M., Wednesday, June 20, 2012, in Conference Room 'C' of the Alfred M. Brown Operations Center at 850 Warren C. Coleman Boulevard, Concord, North Carolina 28025, at which time and place the proposals will be publicly opened and read.
2. Proposals and all supporting documents required to be attached thereto must be submitted in a sealed envelope addressed to:

City of Concord
Alfred M. Brown Operations Center
850 Warren C. Coleman Boulevard
Concord, North Carolina 28025
Attention: Mr. Scott Chunn

The name and address of the Bidder and the date and hour of the opening of bids must appear on the envelope in which the proposal is submitted.

3. The successful Bidder will be required to enter into an agreement with the City of Concord, North Carolina and to furnish all forms necessary to insure the proper disposition of the transformers and transformer liquids.
4. The successful Bidder will be required to remove the transformers in September, 2012, on a mutually agreeable date.
5. The City of Concord, North Carolina reserves the right to reject any and all bids.
6. The successful Bidder will be responsible for removing the transformer from the de-energized substation at 3539 Hwy. 73 E., Concord, North Carolina 28025.

CITY OF CONCORD
CONCORD, NORTH CAROLINA
Owner

SOUTHEASTERN CONSULTING
ENGINEERS, INC.
Engineer

Date: May 14, 2012

PROPOSAL

TO: CITY OF CONCORD
CONCORD, NORTH CAROLINA

GENTLEMEN:

The undersigned has carefully examined the annexed form of Notice and Instructions, Description of Surplus Equipment and hereby declares that he will take possession of the transformer, including insulating liquid, in the manner prescribed by all Local, State, and Federal agencies and provide certified copies of all disposition records to the City of Concord, North Carolina, and will pay said City the following amounts for the surplus equipment.

	<u>AMOUNT</u>
(1) 43.8-12.47 kV, 12/16 MVA, Power Transformer	\$ _____

Additional Comments, or Explanations

Title

Date

Bidder

By _____

Address

DESCRIPTION
OF
SURPLUS EQUIPMENT

A. SCOPE

The intent of this description of surplus equipment is to obtain a bid for one surplus 12/16 MVA liquid filled, three-phase power transformer with a load tap changer as hereinafter described.

B. RATING AND MANUFACTURER

The transformer was originally manufactured by Allis-Chalmers in 1969, however, the transformer was re-wound in 1984. The transformer is Class OA/FA, outdoor type, liquid insulated rated 12/16 MVA, 55 degrees centigrade, three-phase, 60 hertz. The high-voltage is 46,200 volts with two taps above and below 43,800 volts. High voltage BIL is 250 kV. The low-voltage is 7620/3200Y volts and the low-voltage BIL is 110 KV. Transformer impedance is 6.8%.

The transformer has a Siemens-Allis Load Tap Changer, Model #TLH-20.

Additional Information:

Mineral Oil (Tank)	4,178 Gal.
Mineral Oil (LTC)	733 Gal.
Total Weight	87,400 lbs.

C. HISTORY

The transformer was purchased from Allis Chalmers in 1969. After a failure in 1984 the transformer was rewound and has been in service ever since.

D. INSPECTION

The transformer is located in Concord, North Carolina and may be inspected during any weekday between the hours of 8:00 A.M. and 4:00 P.M.

E. SHIPMENT

The successful Bidder shall be responsible for all shipping cost, including the disassembly and loading of the surplus equipment. The successful Bidder shall schedule a time to remove the surplus equipment in September of 2012.

F. DRAWINGS

No original outline drawings for the transformers are available. Pictures of the transformers and nameplates are enclosed.

G. SUBMITTAL DATA

The Bidder shall submit with the proposal the methods which will be utilized in the disposition of the transformers (rebuild, scrap for metal, direct resale, etc.).

References and contact persons shall be provided on removal of similar size and type units.

Location:	G	Nom Voltage:	
Equip #:		Rating:	
Equip Position:	G	Class:	44 KV LTC TX
Serial #:	28224465643	Shop #:	
Equip Catg:	Transformer	Bankbay:	
Equip Type:	LTCTransformer	Status:	Active/InService
Manufacturer:	Allis-Chamers	Criticality Value:	1.00
Model:		Health Value:	236.00
Mfg Date:	9/1/1984	Risk Value:	236.00
Install Date:			

Standard

Attachment Flag:	1
MxOrders Open:	2
Triggers State:	1
Alerts Unacknowledged:	0
No Spares:	1

Page 1

TX Size:	12/16	MVA
PRI:	43800	KV
PRI BIL:	250	KV
Pri tap no load:	42600	
SEC:	13200	KV
SEC BIL:	110	KV
Weight:	87400	lbs
Impedance:	6.80	
Phase:	3	
Cycle:	60	Cycles
Liquid Type:	MINERAL OIL	
Main Tank Gallons of Liquid:	4178	
Main Tank Full Vacuum:	y	
LTC Model:	TLH-20	
LTC Serial #:	11	
LTC Type:	Auto-Trans	
LTC Manufacture:	Seimens-Allis	
LTC Liquid Type:	MINERAL OIL	
LTC Gallons:	733	
LTC Full Vacuum:	y	

TEST RESULTS

Alternative Technologies, Inc.

12350 River Ridge Blvd.

Burnsville, MN 55337

Telephone (800) 255-8656 or (952) 894-3455

Serial Number:	28224465643LTC
Client Number:	
Date Received:	9-24-2010
Report Date:	9-30-2010

Type / Tank: LTC

KVA:

Barry Perkins

Concord Board of Light & Water

PO Box 308

Concord, NC 28025

Voltage: 13200

Gallons: 733

Manuf Date: 1/84

Fluid Type: Mineral Oil

Location: SUB G

Bank & Phase: LTC DV

Manufacturer: SIEMENS/ALLIS

Container No.: AN485

DISSOLVED GAS IN OIL ANALYSIS

	Date:	21-Sep-10	26-Oct-09	22-Sep-08	04-Sep-08	16-Aug-07	26-Jul-06	
	Temp:	25C	16C	24C	40C	55C	40C	
Hydrogen (H2)		19	12		23	24	24	ppm
Methane (CH4)		5	6		5	4	9	ppm
Ethane (C2H6)		1	1		1	0	6	ppm
Ethylene (C2H4)		11	17		9	9	20	ppm
Acetylene (C2H2)		52	54		39	41	59	ppm
Carbon Monoxide (CO)		25	29		33	51	31	ppm
Carbon Dioxide (CO2)		430	511		462	515	471	ppm
Nitrogen (N2)		68411	72742		65370	69155	68575	ppm
Oxygen (O2)		30288	34545		28921	29876	31036	ppm
Total Gas		99242	107917		94863	99675	100231	ppm
Total Combustible Gas		113	119		110	129	149	ppm
Equivalent TCG Reading		0.0672	0.0530		0.0837	0.0976	0.0848	%

Comments: All gases at acceptable concentrations for LTC

Recommended Retest: 1 Year

PHYSICAL AND CHEMICAL TESTS

	Date:	21-Sep-10	26-Oct-09	22-Sep-08	04-Sep-08	16-Aug-07	26-Jul-06	
Moisture in Oil		31	19	28	35	28	35	ppm
Interfacial Tension		25.8	27.3	26.1	28.1	26.0	26.2	dynes/cm
Acid Number		0.036	0.030	0.030	0.024	0.030	0.030	mg KOH/g
Color Number		2.5	2.0	2.0	2.0	2.0	2.0	relative
Visual		CLEAR	CLEAR	CLEAR	OK	CLEAR	OK	
Dielectric D877		50	41	41	36	39	36	kV
Viscosity								
Specific Gravity		0.873	0.874	0.872	0.872	0.872	0.873	relative
Power Factor @ 25C		0.06	0.07	<.05	0.56	<.05	<.05	%
Power Factor @ 100C		2.46	1.54	0.93	1.45	1.71	1.34	%
Oxidation Inhibitor		0.13	0.15	0.14	0.16	0.14	0.16	%
Fural Screen				<.2				ppm
Pour Point								
Flash Point								

PCB CONTENT

METALS IN OIL

PPM Aroclor

Aluminum

Copper

Iron

Lead

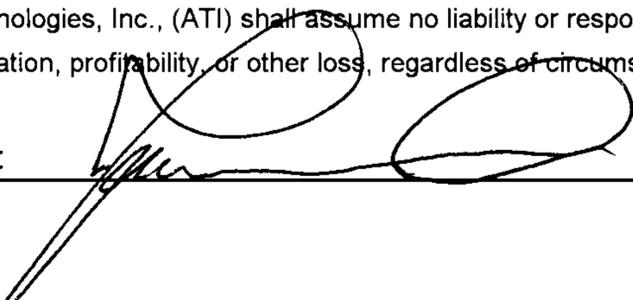
Silver

Tin

Zinc

Alternative Technologies, Inc., (ATI) shall assume no liability or responsibility, nor imply or express any warranty or other security against client loss of production, operation, profitability, or other loss, regardless of circumstances, beyond the cost of re-analysis by ATI.

Approved By: _____



Lab Number:

160676-014

TEST RESULTS

Alternative Technologies, Inc.

12350 River Ridge Blvd.

Burnsville, MN 55337

Telephone (800) 255-8656 or (952) 894-3455

Serial Number:	28224465643
Client Number:	
Date Received:	9-24-2010
Report Date:	9-30-2010

Type / Tank: TRN
KVA: 16000

Barry Perkins
Concord Board of Light & Water
PO Box 308
Concord, NC 28025

Voltage:
Gallons: 4178
Manuf Date: 1/84
Fluid Type: Mineral Oil

Location: SUB G
Bank & Phase: TRN DV
Manufacturer: ALLIS CHALMERS
Container No.: AS876

DISSOLVED GAS IN OIL ANALYSIS

	Date: 21-Sep-10	26-Oct-09	04-Sep-08	16-Aug-07	26-Jul-06	06-Jun-05	
Temp:	23C	17C	40C	55C	40C	45C	
Hydrogen (H2)	5	5	10	18	7	21	ppm
Methane (CH4)	10	10	10	11	10	9	ppm
Ethane (C2H6)	5	5	6	5	4	4	ppm
Ethylene (C2H4)	4	4	5	4	4	4	ppm
Acetylene (C2H2)	0	0	0	0	0	0	ppm
Carbon Monoxide (CO)	214	252	282	291	283	272	ppm
Carbon Dioxide (CO2)	3784	4011	3997	5216	4023	3785	ppm
Nitrogen (N2)	86204	90246	85058	88974	86869	85396	ppm
Oxygen (O2)	2338	1298	1404	1462	1716	1293	ppm
Total Gas	92564	95831	90772	95981	92916	90784	ppm
Total Combustible Gas	238	276	313	329	308	310	ppm
Equivalent TCG Reading	0.1899	0.2128	0.2619	0.2718	0.2498	0.2732	%

Comments: All gases at acceptable concentrations

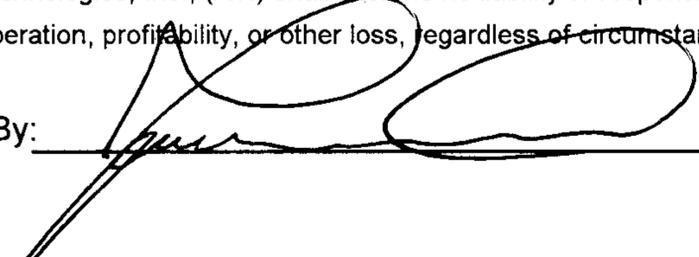
Recommended Retest: 1 Year

PHYSICAL AND CHEMICAL TESTS

	Date: 21-Sep-10	26-Oct-09	04-Sep-08	16-Aug-07	26-Jul-06	06-Jun-05	
Moisture in Oil	10	6	7	11	11	7	ppm
Interfacial Tension	33.7	35.8	35.3	33.2	33.9	35.9	dynes/cm
Acid Number	<.010	<.010	<.010	<.010	<.010	<.010	
Color Number	1.5	1.5	1.5	1.5	1.5	1.5	relative
Visual	OK	CLEAR	OK	CLEAR	CLEAR	CLEAR	
Dielectric D877	49	48	52	44	42	52	kV
Viscosity							
Specific Gravity	0.868	0.869	0.867	0.867	0.868	0.868	relative
Power Factor @ 25C	<.05	<.05	<.05	<.05	<.05	<.05	%
Power Factor @ 100C	0.80	0.52	0.40	0.74	0.80	0.90	%
Oxidation Inhibitor	0.26	0.25	0.26	0.29	0.29		%
Fural Screen							
Pour Point							
Flash Point							

PCB CONTENT		METALS IN OIL						
PPM	Aroclor	Aluminum	Copper	Iron	Lead	Silver	Tin	Zinc

Alternative Technologies, Inc., (ATI) shall assume no liability or responsibility, nor imply or express any warranty or other security against client loss of production, operation, profitability, or other loss, regardless of circumstances, beyond the cost of re-analysis by ATI.

Approved By: 

Lab Number:	160676-013
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