



**Bid / RFP / RFQ Number:** SB-2022-15

**Project Number:** E2022-044

**Project Name:** Electric Substation Upgrades

**Addendum No.:** 2

**Date of Addendum:** October 18<sup>th</sup>, 2022

**To All Plan Holders:**

**1. CHANGE OF BID OPENING DATE:**

***DUE TO LONG LEAD TIMES FOR QUOTES FROM MATERIAL SUPPLIERS, THE BID OPENING WILL BE POSTPONED AGAIN UNTIL DECEMBER 5<sup>th</sup>, 2022 at 3:30 P.M. LOCATION OF THE BID OPENING WILL REMAIN THE SAME.***

**2. OIL TESTING:**

**Current PCB tests for the transformers are attached to this addendum. The other equipment that tests are not provided for are stamped "No PCB" on the nameplates.**

**3. Sub 1 North American Transformer:**

**North American is no longer in business. Prolec-GE Waukesha, Inc now owns the rights to this transformer. The OEM equipment arrestors may not be available any longer. In lieu of the porcelain arrestors, provide polymer or equivalent arrestors meeting current industry standards.**

**4. Sub 3 Jordan Transformer:**

**The OEM equipment may not be available for this transformer. The City of Claremore will provide measurements for bushings and arrestors in a subsequent addendum.**

**5. Sub 3 MB1/Moloney LTC:**

**The motor may not be available for this LTC. If required, the LTC and/or the motor will likely have to be removed and rebuilt by a third party vendor. Cost included in the bid shall reflect this requirement. Additionally, the contractor shall**

supply a temporary motor during the rebuild so that the LTC can be manually operated by city staff if need.

**6. Nitrogen Systems for all Transformers:**

Provide new N2-1 nitrogen systems as manufactured by Waukesha or an approved equal for each transformer. Cost of installation and all incidentals shall be included in the appropriate bid item. The City of Claremore has a separate contract for supply of the Nitrogen cylinders. A full nitrogen cylinder will be provided by the city as needed.

*All other terms, conditions and specifications remain unchanged. Any additions made to the Bidding and Contract Documents including the Plans and Specifications per this Addendum shall be considered a part of the original Bidding and Contract Documents. The professional seals and signatures applied to the original Bidding and Contract Documents are thereby considered to cover any additions to said documents per this Addendum.*



Garrett L. Ball, P.E.  
Claremore City Engineer

10-18-22

Date

*Bidders shall acknowledge receipt of this Addendum in the space provided in the Bid Proposal Form.*

# TEST RESULTS

**Alternative Technologies, Inc.**

12350 River Ridge Blvd.  
Burnsville, MN 55337  
Telephone (800) 255-8656 or (952) 894-3455

Type / Tank: TRN  
KVA: 15000  
Voltage: 67000  
Gallons: 3580  
Manuf Date:  
Fluid Type: Mineral Oil

Rick Priest  
Enserv Environmental Services  
PO Box 5999  
Jacksonville, AR 72076

Serial Number:	C-06387-5-1
Client Number:	EAST 1
Date Received:	9-30-2020
Report Date:	10-8-2020

Location: SUB 3  
Bank & Phase: 3 PHASE  
Manufacturer: MCGRAW EDISON  
Container No.: AL855

## DISSOLVED GAS IN OIL ANALYSIS

	Date	<u>24-Sep-20</u>	
	Temp	30C	
Hydrogen (H2)	0	ppm	
Methane (CH4)	3	ppm	
Ethane (C2H6)	4	ppm	
Ethylene (C2H4)	2	ppm	
Acetylene (C2H2)	0	ppm	
Carbon Monoxide (CO)	61	ppm	
Carbon Dioxide (CO2)	1725	ppm	
Nitrogen (N2)	82774	ppm	
Oxygen (O2)	2453	ppm	
Total Gas	87022	ppm	
Total Combustible Gas	70	ppm	
Equivalent TCG Reading	0.0532	%	
<b>Comments:</b> All gases at acceptable concentrations		<b>Recommended Retest:</b> 1 Year	

## PHYSICAL AND CHEMICAL TESTS

	Date:	<u>24-Sep-20</u>	
Moisture in Oil	9	ppm	
Interfacial Tension	30.2	dynes/cm	
Acid Number	0.024	mg KOH/g	
Color Number	1.5	relative	
Visual	CLEAR		
Dielectric D877	54	kV	
Viscosity			
Specific Gravity	0.885	relative	
Power Factor @ 25C	<.05	%	
Power Factor @ 100C	0.26	%	
Oxidation Inhibitor			
Fural Screen			
Pour Point			
Flash Point			

## PCB CONTENT METALS IN OIL (ppm)

PPM	Aroclor	Date	Aluminum	Copper	Iron	Lead	Silver	Tin	Zinc
< 1									

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: \_\_\_\_\_

<b>Lab Number:</b>	219540-007
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# TEST RESULTS

**Alternative Technologies, Inc.**

12350 River Ridge Blvd.  
Burnsville, MN 55337  
Telephone (800) 255-8656 or (952) 894-3455

Type / Tank: LTC  
KVA: 15000  
Voltage: 67000  
Gallons: 188  
Manuf Date:  
Fluid Type: Mineral Oil

Rick Priest  
Enserv Environmental Services  
PO Box 5999  
Jacksonville, AR 72076

Location: SUB 3  
Bank & Phase: LTC  
Manufacturer: MCGRAW EDISON  
Container No.: CM842

Serial Number:	C-06387-5-1LTC
Client Number:	EAST 1
Date Received:	9-30-2020
Report Date:	10-8-2020

**DISSOLVED GAS IN OIL ANALYSIS**

Date	24-Sep-20	
Temp	30C	
Hydrogen (H2)	87	ppm
Methane (CH4)	40	ppm
Ethane (C2H6)	13	ppm
Ethylene (C2H4)	154	ppm
Acetylene (C2H2)	491	ppm
Carbon Monoxide (CO)	87	ppm
Carbon Dioxide (CO2)	2992	ppm
Nitrogen (N2)	69878	ppm
Oxygen (O2)	26053	ppm
Total Gas	99795	ppm
Total Combustible Gas	872	ppm
Equivalent TCG Reading	0.3208	%

**Comments:** All gases at acceptable concentrations for LTC **Recommended Retest:** 1 Year

**PHYSICAL AND CHEMICAL TESTS**

Date:	24-Sep-20	
Moisture in Oil	56	ppm
Interfacial Tension	15.2	dynes/cm
Acid Number	0.565	mg KOH/g
Color Number	3.0	relative
Visual	CLEAR	
Dielectric D877	52	kV
Viscosity		
Specific Gravity	0.886	relative
Power Factor @ 25C	<.05	%
Power Factor @ 100C	0.64	%
Oxidation Inhibitor		
Fural Screen		
Pour Point		
Flash Point		

PCB CONTENT		METALS IN OIL (ppm)							
PPM	Arco/lor	Date	Aluminum	Copper	Iron	Lead	Silver	Tin	Zinc
<1									

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Approved By: \_\_\_\_\_

Lab Number:	219540-008
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# TEST RESULTS

**Alternative Technologies, Inc.**

12350 River Ridge Blvd.  
Burnsville, MN 55337  
Telephone (800) 255-8656 or (952) 894-3455

Type / Tank: TRN  
KVA: 15000  
Voltage: 67000  
Gallons: 3580  
Manuf Date:  
Fluid Type: Mineral Oil

Rick Priest  
Enserv Environmental Services  
PO Box 5999  
Jacksonville, AR 72076

Location: SUB 2  
Bank & Phase: 3 PHASE  
Manufacturer: MCGRAW EDISON  
Container No.: EC141

Serial Number:	C-06387-5-2
Client Number:	
Date Received:	9-30-2020
Report Date:	10-8-2020

**DISSOLVED GAS IN OIL ANALYSIS**

Date	<u>24-Sep-20</u>	
Temp	<u>30C</u>	
Hydrogen (H2)	5	ppm
Methane (CH4)	10	ppm
Ethane (C2H6)	33	ppm
Ethylene (C2H4)	8	ppm
Acetylene (C2H2)	3	ppm
Carbon Monoxide (CO)	18	ppm
Carbon Dioxide (CO2)	2409	ppm
Nitrogen (N2)	83842	ppm
Oxygen (O2)	1598	ppm
Total Gas	87926	ppm
Total Combustible Gas	77	ppm
Equivalent TCG Reading	0.0302	%
<b>Comments:</b> Presence of Acetylene may indicate arcing		
<b>Recommended Retest:</b> 1 Month		

**PHYSICAL AND CHEMICAL TESTS**

Date:	<u>24-Sep-20</u>	
Moisture in Oil	24	ppm
Interfacial Tension	29.5	dynes/cm
Acid Number	0.018	mg KOH/g
Color Number	3.0	relative
Visual	OK	
Dielectric D877	53	kV
Viscosity		
Specific Gravity	0.886	relative
Power Factor @ 25C	<.05	%
Power Factor @ 100C	1.04	%
Oxidation Inhibitor		
Fural Screen		
Pour Point		
Flash Point		

**PCB CONTENT METALS IN OIL (ppm)**

PPM	Aroclor	Date	Aluminum	Copper	Iron	Lead	Silver	Tin	Zinc
2	1242								

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Approved By: \_\_\_\_\_

Lab Number:	219540-005
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# TEST RESULTS

**Alternative Technologies, Inc.**

12350 River Ridge Blvd.  
Burnsville, MN 55337  
Telephone (800) 255-8656 or (952) 894-3455

Type / Tank: LTC  
KVA: 15000  
Voltage: 67000  
Gallons: 188  
Manuf Date:  
Fluid Type: Mineral Oil

Rick Priest  
Enserv Environmental Services  
PO Box 5999  
Jacksonville, AR 72076

Serial Number:	C-06387-5-2LTC
Client Number:	
Date Received:	9-30-2020
Report Date:	10-8-2020

Location: SUB 2  
Bank & Phase: LTC  
Manufacturer: MCGRAW EDISON  
Container No.: EC277

**DISSOLVED GAS IN OIL ANALYSIS**

Date	<u>24-Sep-20</u>	
Temp	30C	
Hydrogen (H2)	5393	ppm
Methane (CH4)	1775	ppm
Ethane (C2H6)	235	ppm
Ethylene (C2H4)	2768	ppm
Acetylene (C2H2)	9624	ppm
Carbon Monoxide (CO)	357	ppm
Carbon Dioxide (CO2)	5324	ppm
Nitrogen (N2)	72946	ppm
Oxygen (O2)	3024	ppm
Total Gas	101446	ppm
Total Combustible Gas	20152	ppm
Equivalent TCG Reading	12.7188	%

**Comments:** Concentrations of combustible gases high for LTC

**Recommended Retest:** 6 Months

**PHYSICAL AND CHEMICAL TESTS**

Date:	<u>24-Sep-20</u>	
Moisture in Oil	31	ppm
Interfacial Tension	22.7	dynes/cm
Acid Number	0.093	mg KOH/g
Color Number	3.0	relative
Visual	SEDIMENT	
Dielectric D877	49	kV
Viscosity		
Specific Gravity	0.884	relative
Power Factor @ 25C	<.05	%
Power Factor @ 100C	1.88	%
Oxidation Inhibitor		
Fural Screen		
Pour Point		
Flash Point		

**PCB CONTENT**

**METALS IN OIL (ppm)**

PPM	Aroclor	Date	Aluminum	Copper	Iron	Lead	Silver	Tin	Zinc
< 1									

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Approved By: \_\_\_\_\_

Lab Number:	219540-006
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