



CountonUs

## Laboratory Services

A CENTURY OF EXCELLENCE

135 W. Trail St., Jackson, MI 49201

<b>CUSTOMER:</b>	Utilco 4730 Madison Rd. Cincinnati, OH. 45227	<b>LOCATION:</b>	Laboratory
<b>SUBJECT:</b>	Utilco 18 Volt Battery Operated Crimp Tools- Revised		
<b>SERVICE:</b>	Dielectric	<b>REPORT DATE:</b>	September 15, 2017
<b>REQUESTOR:</b>	BMitchell	<b>SAP/ PO NO:</b>	CONS-BM91217
<b>REPORT BY:</b>	DRRutan	<b>MAT PROJECT NO:</b>	1701784
<b>DISTRIBUTION:</b>	File		

### INTRODUCTION

Two battery operated Crimp Tools, with one battery each, were submitted to the Laboratory for testing. The Laboratory was asked to determine if the tool would function normally while connected to 25, 50, and 75kV alternating current. They were also checked for function post testing.

### SUMMARY OF RESULTS

The Crimp tool (BLL-WO-1) was hooked up to the power source, with the trigger zip tied in the on position. Voltage was slowly ramped up to the first test point (25kV). The tool under test stopped running approximately 20 seconds into the test; this is believed to be a safety. The Crimper was in the on position but not running for the test. After the 3 minutes in each position (25kV, 50 kV, 75 kV) the tool was taken off the test structure and ran normally.

Crimp tool (BLL-U42-P) was hooked up to the power source, with the trigger zip tied in the on position. The Crimper continued to function throughout the test period.

All tests were performed in conjunction with a simulated insulated aerial work platform in the engaged position (See Test Results).

### TEST MATERIAL

<u>Item:</u>	Battery Operated Crimp Tools	Batteries: Lithium 18 V
<u>Manufacturer:</u>	Utilco	Milwaukee
<u>Model:</u>	BLL-WO-1, BLL-U42-P	

## TEST EQUIPMENT

<u>Instrument</u>	<u>Company No.</u>	<u>CalDue Date</u>
Timer	3741-00808	07-31-18
High Voltage Meter	008938	04-06-18
Multimeter	012572	09-22-17
Resistance Meter	3741-00981	05-30-18

## TEST PROCEDURE

See Attachment A.

## TEST RESULTS

### **Energized Conductor Test**

#### Leakage Microamps at Three Operating Voltages

	<u>25kV</u>	<u>50 kV</u>	<u>75 kV</u>
(Battery Operated Crimp Tool)			
BLL-WO-1	18.9 $\mu$ A	34.5 $\mu$ A	43.0 $\mu$ A
BLL-U42-P	15.1 $\mu$ A	27.2 $\mu$ A	42.2 $\mu$ A

## ACCEPTANCE REQUIREMENTS

To be determined by requestor.

## MATERIAL DISPOSITION

Return to requestor.

Prepared By DRRutan

Reviewed By \_\_\_\_\_

**TEST PROCEDURE**

Using the ANSI A92.2 standards for in field tests of insulating aerial devices it was determined that 75 $\mu$  amps of leakage is allowed for category A or B aerial devices. A resistor array was used to simulate the aerial device. The resistance was adjusted to produce 75 $\mu$  amps of leakage at 75kVac. The working end was connected to the high voltage source with the resistor array connected to the handle of the tool using foil to simulate the hand of the user. The other end of the resistors was connected to ground through an AC amp meter to measure leakage current.

The tool was then secured to an insulator and 25kVac, 50kVac and 75kVac was applied for three minutes for each voltage with the tool operating.

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

Date \_\_\_\_\_