

**Substation Inspection forms for Rattling Brook and St. Georges
Substations**

Rattling Brook Inspection

10/25/02 08:59 FAX 709 651 6665
10/25/02 FRI 07:55 FAX 708 653 2652

NF POWER GANDER
NORRIS ARM NF POWER

ENERGY SUPPLY 002
001

Routine Substation Inspection		NEW ZEALAND POWER A FORTIS COMPANY	
Substation: <u>RBR</u>		Identification No. _____	
Completed By: <u>T.H. BH</u>		Date: <u>6/03/30</u>	
Please X if satisfactory			
Building & Accessories			
Lighting A.C. / D.C.	<input type="checkbox"/>	Hard hats	<input type="checkbox"/>
Heaters	<input type="checkbox"/>	First aid kit	<input type="checkbox"/>
Telephone(s) with directories	<input type="checkbox"/>	Panel A.C. / D.C. Wall cabinet	<input type="checkbox"/>
Fire-break doors	<input type="checkbox"/>	Humus toilet	<input type="checkbox"/>
Spare power fuses	<input type="checkbox"/>	Housekeeping	<input type="checkbox"/>
		Garbage can	<input type="checkbox"/>
		H&E line gloves	<input type="checkbox"/>
Remarks: _____			
Battery & Battery Charger			
Liquid level in cells	<input type="checkbox"/>	Eye wash Neutralite	<input type="checkbox"/>
Battery cleanliness	<input type="checkbox"/>	Eye wash expiry date	<input type="checkbox"/>
Fan	<input type="checkbox"/>	Ground test	<input type="checkbox"/>
Hydrometer, apron, and goggles	<input type="checkbox"/>	Float voltage	_____
		Equalize voltage	_____
		Charger current	_____
		Pilot cell S.P.G.	_____
		Pilot cell temperature	_____
Remarks: _____			
Equipment in Yard			
Breakers closed and springs charged	<input type="checkbox"/>	Oil leaks	<input checked="" type="checkbox"/>
Bleed-compressor tanks	<input type="checkbox"/>	Lubrication	<input checked="" type="checkbox"/>
Compressor belts	<input type="checkbox"/>	Switch blades	<input checked="" type="checkbox"/>
Oil levels (all)	<input checked="" type="checkbox"/>	Pothead and cables	<input checked="" type="checkbox"/>
Heaters	<input checked="" type="checkbox"/>	Hinges, hasps, latches and handles	<input checked="" type="checkbox"/>
Silica gel	<input checked="" type="checkbox"/>	Physical condition of equipment	<input checked="" type="checkbox"/>
Gas detectors	<input checked="" type="checkbox"/>	Metering Tank	<input type="checkbox"/>
Fans	<input checked="" type="checkbox"/>	Metering cabinet	<input type="checkbox"/>
Pressure relief dev indicator buttons	<input type="checkbox"/>	Recloser and feeder breakers in "Reclose"	<input checked="" type="checkbox"/>
Relief vent diaphragms	<input type="checkbox"/>	Ground trip blocking switches	<input checked="" type="checkbox"/>
Glass in gauges, etc.	<input checked="" type="checkbox"/>	Recloser meters	<input checked="" type="checkbox"/>
Bushings and insulators	<input checked="" type="checkbox"/>	Equipment grounding	<input checked="" type="checkbox"/>
Foundations	<input checked="" type="checkbox"/>		
		Electronic Reclosers; Ground trip block switch, lockout indicating lamp, battery test, heater & spare fuses.	<input type="checkbox"/>
		Westinghouse recloser; Block reclose switch in mechanism compartment	<input type="checkbox"/>
		Westinghouse reclosers & O.C.B.; Relay targets & indicating lamps	<input type="checkbox"/>
		Tapchangers automatic	<input type="checkbox"/>
		Voltage regulators	<input checked="" type="checkbox"/>
		Equipment identification	<input checked="" type="checkbox"/>
Remarks: _____			
Indoor Switchgear & Control Panels			
Control panel lamps	<input type="checkbox"/>	Meters	<input type="checkbox"/>
Relay targets	<input type="checkbox"/>	Elevating motors, racking handles and dollies in holders on wall	<input type="checkbox"/>
Breakers closed and springs charged	<input type="checkbox"/>	Check for excessive heating, unusual noises or other abnormal conditions	<input type="checkbox"/>
Cubicle heaters	<input type="checkbox"/>	Equipment identification	<input type="checkbox"/>
Remarks: _____			

NA
WA

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→ ENERGY SUPPLY

003

002

Equipment Readings

Ambient Temperature 9 C

Transformer I.D. No.	Designation	Winding Temperature C			Oil Temperature C		
		Min.	Max.	Present	Min.	Max.	Present
	<u>RBK-T1</u>			<u>30</u>			
	<u>RBK-T2</u>			<u>34</u>			
	<u>RBK-T4</u>		<u>30</u>	<u>26</u>			

Remarks: OIL LEAK IN T4 Tap changer

WINDING temp. unable to reset on t2

Breaker I.D. No.	Designation	Gas Pressure (psi)			Units	Air Pressure (psi)
		Phase A	Phase B	Phase C		

Remarks: OIL LEAK ON 101L bushing center PH LINE STAR
OIL LEAKING ON 102L B OCB

Cable I.D. No.	Designation	Oil Pressure (psi)			Units
		A	B	C	

Remarks:

General Property

- | | | | | | |
|------------------------------|-------------------------------------|-------------------------|-------------------------------------|---------------------|-------------------------------------|
| Gates and locks | <input checked="" type="checkbox"/> | Yard lightning | <input checked="" type="checkbox"/> | Check for vandalism | <input checked="" type="checkbox"/> |
| Telephone in yard | <input type="checkbox"/> | Station service | <input type="checkbox"/> | Drainage | <input checked="" type="checkbox"/> |
| Ground sticks and hot sticks | <input type="checkbox"/> | Fence and fence grounds | <input checked="" type="checkbox"/> | Crushed stone | <input checked="" type="checkbox"/> |
| Cable trench covers | <input checked="" type="checkbox"/> | Yard clean | <input checked="" type="checkbox"/> | Snow clearing | <input checked="" type="checkbox"/> |
| H.V. danger signs | <input checked="" type="checkbox"/> | | | | |

Remarks: LEADS ON HIGH SIDE OF RBK-T2 APPEAR TO BE TOO HIGH

10/25/02 FRI 10:38 FAX 709 643 7032

STEPHENVILLE NF POWER

FORM NO 247

004

NEWFOUNDLAND LIGHT & POWER CO. LIMITED
MAINTENANCE STANDARDS

CIRCUIT BREAKER MAINTENANCE REPORT

Location: <i>ST. GEORGE'S</i>	Switching Function No: <i>STG-4036-B</i>	ID: <i>210242</i>
Manufacturer: <i>Reynolds</i>	Serial No: <i>LSORT23</i>	Type: <i>030RT2/1X2/B</i>
		Rated Volts: <i>33KV</i>

COMPLETE THE FOLLOWING:

Counter Reading:
Start _____ Finish _____
Oil Dielectric _____ KV
Ductor Test (in oil and closed):
1 to 2 _____ Micro-ohms
3 to 4 _____ Micro-ohms
5 to 6 _____ Micro-ohms
Megger Test (in oil and closed):
Phase to Phase _____
Phase to Ground _____
Across Open Contacts _____
SF6 Gas Pressure and Amb. Temp.:
No. 1 _____ Psi
No. 2 _____ Psi
No. 3 _____ Psi
Temp. _____ °C.
Dissipation Factor of Bushings:
No. 1 _____ No. 2 _____
No. 3 _____ No. 4 _____
No. 5 _____ No. 6 _____

MARK APPROPRIATE BLOCK	X	Yes	No
Operated: Locally	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Remotely	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Manually	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Electrically	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Position Indicator Operating Properly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plumb and Positioned Properly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hold Down Bolts Tight	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Frame Ground Connection Tight	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Accessible for Inspection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Evidence of Oil or Gas Leakage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oil Level Sight Glass Cleaned	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oil Filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oil Replaced	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mechanism Adjustments Made	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mechanism Lubricated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
All Nuts and Bolts Tight	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C.T. Checks: Ratio	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Continuity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ground	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Polarity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Water Drained from Compressor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compressor Oil Checked	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compressor Oil Changed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compressor Belt Satisfactory	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compressor Filter Satisfactory	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air Leakage Satisfactory	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compressor Overhauled	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CHECK	✓
Physical Condition	<input type="checkbox"/>
Paint	<input type="checkbox"/>
Bushings	<input type="checkbox"/>
Bushing Oil Level	<input type="checkbox"/>
Line Connections	<input type="checkbox"/>
Conduit	<input type="checkbox"/>
Control Wiring	<input type="checkbox"/>
Insulation	<input type="checkbox"/>
Aux. Switch Contacts	<input type="checkbox"/>
Relay Contacts	<input type="checkbox"/>
Alarms	<input type="checkbox"/>
Main Contacts	<input type="checkbox"/>
Arcing Contacts	<input type="checkbox"/>
Arc Chutes	<input type="checkbox"/>
Blow-out Devices	<input type="checkbox"/>
Interruption	<input type="checkbox"/>
Dashpots	<input type="checkbox"/>
Tank Liners	<input type="checkbox"/>
Gaskets	<input type="checkbox"/>
Tank Oil Level	<input type="checkbox"/>
Interlocks	<input type="checkbox"/>
Terminal Connections	<input type="checkbox"/>
Heaters and Thermostats	<input type="checkbox"/>
Pressure Guages	<input type="checkbox"/>
Pressure Switches	<input type="checkbox"/>
Breather	<input type="checkbox"/>
Silica Gel	<input type="checkbox"/>
Metalclad Lifting Mechanism	<input type="checkbox"/>
Metalclad Limit Switches	<input type="checkbox"/>
"Test" and "Operate" Positions	<input type="checkbox"/>

Motion Analyser Test:
Opening Velocity _____ Ft. per sec. Contact Part Time _____ Cycles
Closing Velocity _____ Ft. per sec. Reclose Time _____ Cycles
Contact Wipe _____ Inches Trip Free Time _____ Cycles
Stroke _____ Inches Overtravel _____ Inches

USE OTHER SIDE FOR "REMARKS"

Type of Maintenance 5 Date May 12 18 01 Inspected By D. Doherty