

1 Q. Please provide a status report on recommendation #1 in section 4.3 of the report
2 titled "*January 11, 2013 - Winter Storm Events*", filed as Appendix D to the "*January*
3 *11, 2013 Power System Outage Report*", filed with Hydro's March 24, 2014 Report
4 to the Board that Hydro should develop a schedule for "exercising" its 230kV circuit
5 breakers, including whether:

- 6 (i) Has Hydro developed a plan to exercise its 230kV breakers;
7 (ii) Has Hydro actually exercised any 230kV circuit breakers (which ones);
8 and
9 (iii) Does Hydro plan to exercise its 230kV breakers in 2014?

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12 A. In 2013, Hydro developed a plan to exercise its 230 kV breakers both remotely from
13 the Energy Control Centre (ECC) and locally from the station. (See PUB-NLH-159
14 Attachment 1 for an example of a preventative maintenance (PM) model work
15 order set up to exercise breakers at Holyrood Terminal Station.) An annual, time
16 based PM program was set up in 2013. All 230 kV breakers on Hydro's system will
17 be exercised by October 31, 2014. (See PUB-NLH-159 Attachment 2 for a list of 230
18 kV breakers on Hydro's system.) In addition, Hydro has reviewed the normal
19 operations of these 230 kV breakers to determine which are dormant (i.e., have not
20 been operated within approximately one year) by reviewing Energy Management
21 System (EMS) data from March 1, 2013 to March 31, 2014. Of the 84 230 kV
22 breakers on the Hydro system, 79 of those breakers had been successfully operated
23 in that period. There were only five breakers that had not been operated in that
24 period, namely one breaker at Vale Terminal Station, two at Stony Brook Terminal
25 Station, one at Deer Lake Terminal Station and one at Massey Drive Terminal
26 Station. These will be a priority focus within the 2014 PM exercise program.

48011 Corrective Maintenance (CM1)

Tools Help

ORACLE JD Edwards World World Resources Support

Field Sensitive Help
Display Error Message
Display Functions
Business Unit Analysis
Exit Program
Display UCIS Work Ord
Update with Redisplay
Parts List
Routing Instruction
Work Order Supplement
Category Code Revisio
Item PM
Work Order Approval
Budget to Actual Varian
Equipment Supplement
Record Type Review
Work Order Cost Summ
Equipment Master
Meter Readings
Maintenance Loops
Work Order Copy
Print Work Order
Clear Screen
W.O. Activity Rules

48011 Corrective Maintenance (CM1)

Action Code
Description
Status Comment
Type
Asset Number
Std Parts/Inst
Priority
Status
Originator
Section
Planner
Customer
Employee
Planning Center
Phase Code
W.O. Plant Conditi
Service Address
Remarks

HRDTS, OPERATE BREAKERS
Model Work Order
267998
79649
3 Planned
Model Work Order
11001 Slade, Scott N.
47825 WHB Station Mtce Dept
11091 Wellman, Barry F.
BIF Bishop's Falls
BOMWHB BREAKER TEST
801
Est. Hours
Est. Amount
W.O. Date 13/05/01
Plan Start Dat 13/05/01
Act Start Date
Planned Comp
Completed
Ship to 14145
Subldgr Inac
Meter Position

Parent W.O. No 981618
W.O. Number 981618 W.O.
Charge to BU 1325
Cost Code 2
Branch (W/H) 1829
BREAKERS, HRD T3
BOMWHB BREAKER TEST
801
Est. Hours
Est. Amount
W.O. Date 13/05/01
Plan Start Dat 13/05/01
Act Start Date
Planned Comp
Completed
Ship to 14145
Subldgr Inac
Meter Position

FOR EACH BREAKER, CONFIRM THE FOLLOWING:
1. PERFORM A BREAKER OPEN-CLOSE OPERATION FROM THE STATION

F15=Red Types F6=Parts Lst F8=Labour Inst F10=Cat Codes F21=Print F24=More

4802 W.O. Detail Entry

Tools Help

ORACLE JD Edwards World World Resources Support

Field Sensitive Help
Display Error Message
Display Functions
Exit Program
Redisplay/Re-fresh Vid
Exit to Record Types In
Clear Screen

4802 W.O. Detail Entry
Full Description of Request
Record Type

Action Code
Order Number

HRDTS, OPERATE BREAKERS

Description
Option

HRDTS, OPERATE BREAKERS
FOR EACH BREAKER, CONFIRM THE FOLLOWING:
1. PERFORM A BREAKER OPEN-CLOSE OPERATION FROM THE STATION
AND DOCUMENT IF SUCCESSFUL (CHECK SDE POINT TO CONFIRM
OPERATION)
2. PERFORM A BREAKER OPEN-CLOSE OPERATION REMOTELY AND
DOCUMENT IF SUCCESSFUL (CHECK SDE POINT TO CONFIRM OPERATION)
NOTE: ONLY PERFORM THIS PM WHEN AUTHORIZED BY THE CONTROLLING
AUTHORITY
BREAKERS: B7L38, B2L42, B2B11, B1L17, B1B11, B12L17, B3L18, B12B15,
B3B13, B12L42, B7L2, B8L39, B12L18, B13B15, B6L3, B12T10, B7T5, B6T10

Opt: 1=Insert 9=Delete F5=Refresh F8=Record Types F24=More Keys

230 kV Circuit Breakers

LOCATION	NLH ID	TYPE	MODEL	YEAR BUILT	OPERATING VOLT (kV)
BBK TS	B1L11	Air Blast	DLF 245 nc2	1971	230
BBK TS	B1L09	Air Blast	DLF 245 nc2	1971	230
BBK TS	L09L33	Air Blast	DLF 245 nc2	1973	230
BBK TS	L11L33	Air Blast	DLF 245 nc2	1978	230
BDE TS1	B1T2	Air Blast	DCVF 245 mc6	1966	230
BDE TS1	B2T4	Air Blast	DCVF 245 mc6	1968	230
BDE TS1	B3T6	Air Blast	DCVF 245 mc6	1966	230
BDE TS1	B2T3	Air Blast	DCVF 245 mc6	1966	230
BDE TS1	B1T1	Air Blast	DCVF 245 mc6	1966	230
BDE TS1	B4B5	Air Blast	DCVF 245 mc6	1964	230
BDE TS1	B3T5	Air Blast	DCVF 245 mc6	1969	230
BDE TS1	B1B2	Air Blast	DCVF 245 mc6	1966	230
BDE TS1	B6B10	Air Blast	DCVF 245 mc6	1968	230
BDE TS1	B2B3	Air Blast	DCVF 245 mc6	1968	230
BDE TS1	B5B6	Air Blast	DCVF 245 mc6	1968	230
BDE TS1	B3B4	Air Blast	DCVF 245 mc6	1972	230
BDE TS1	B1B10	Air Blast	DCVF 245 mc6	1975	230
BDE TS2	B9L34	SF6	ELF 245 n2s	1981	230
BDE TS2	B9B10	SF6	3AQ1	1990	230
BDE TS2	B11L06	SF6	3AQ1	1990	230
BDE TS2	B10B11	SF6	3AQ1	1990	230
BDE TS2	L06L34	SF6	3AQ1	1990	230
BUC TS	L05L33	Air Blast	DLF 245 nc2	1973	230
BUC TS	L28L32	Air Blast	DLF 245 nc2	1972	230
BUC TS	B1L05	Air Blast	DLF 245 nc2	1973	230
BUC TS	B1L28	Air Blast	DLF 245 nc2	1975	230
BUCTS	L32L33	SF6	ELF 245 n2s	1980	230
CAT TS	L47T1	SF6	200-SFMT-40A	1984	230
CAT TS	L47T2	SF6	200-SFMT-40A	1984	230
CBC TS	B1B2	SF6	HGF 114/1A	1997	230
CBCTS	B1C1	SF6	DT1-245 F3	2010	230
CBCTS	B1C2	SF6	DT1-245 F3	2010	230
CBCTS	B2C3	SF6	DT1-245 F3	2010	230
CBCTS	B2C4	SF6	DT1-245 F3	2010	230
DLK TS	B3L47	SF6	HGF 114/1A	1983	230
DLK TS	B3L48	SF6	HGF 114/1A	1983	230
HRD TS	B2L42	Air Blast	DLF 245 nc2	1973	230
HRD TS	B2B11	Air Blast	DLF 245 nc2	1974	230
HRD TS	B1B11	Air Blast	DLF 245 nc2	1974	230
HRD TS	B12L42	Air Blast	DLF 245 nc2	1978	230
HRD TS	B1L17	Air Blast	DLF 245 nc2	1973	230
HRD TS	B12L17	Air Blast	DLF 245 nc2	1973	230

230 kV Circuit Breakers

LOCATION	NLH ID	TYPE	MODEL	YEAR BUILT	OPERATING VOLT (kV)
HRD TS	B3L18	Air Blast	DLF 245 nc2	1978	230
HRD TS	B12B15	Air Blast	DLF 245 nc2	1978	230
HRD TS	B3B13	Air Blast	DLF 245 nc2	1978	230
HRD TS	B12L18	SF6	ELF 245 n2s	1981	230
HRD TS	B13B15	SF6	ELF 245 n2s	1981	230
HRD TS	B12T10	SF6	3AQ1	1990	230
HWD TS	B1L01	Air Blast	DLF 245 nc2	1972	230
HWD TS	B2L42	SF6	ELF 245 n2s	1981	230
HWD TS	B1B2	SF6	BHG 114	1993	230
HWD TS	B1L36	SF6	DT1-245 F3	2013	230
MDR TS	B5L11	Air Blast	DCVF 245 mc6	1967	230
MDR TS	B1L28	Air Blast	DCVF 245 mc6	1966	230
MDR TS	B1L48	SF6	HGF 114/1A	1983	230
OPD TS	B1L18	Air Blast	DCVF 245 mc6	1969	230
OPD TS	B1L36	Air Blast	DCVF 245 mc6	1969	230
SSD TS	B1L03	Air Blast	DCVF 245 mc6	1966	230
SSD TS	L02L07	Air Blast	DCVF 245 mc6	1966	230
SSD TS	B1L02	Air Blast	DCVF 245 mc6	1966	230
SSD TS	L06L07	Air Blast	DCVF 245 mc6	1968	230
SSD TS	L03L06	SF6	DT1-245 F3	2012	230
STB TS	B1L31	Air Blast	DCVF 245 mc6	1966	230
STB TS	L05L35	Air Blast	DCVF 245 mc6	1966	230
STB TS	B1L35	Air Blast	DCF 245 mc6	1966	230
STB TS	B2L04	Air Blast	DCVF 245 mc6	1966	230
STB TS	L05L31	Air Blast	DCF 245 mc6	1969	230
STB TS	B1L32	Air Blast	DCVF 245 mc6	1968	230
STB TS	L04L32	SF6	3AQ1	1990	230
SVL TS	B1L09	Circuit Switcher	Mark III	1983	230
USL TS	L34L63	SF6	HGF 1014IPO	2002	230
USLTS	L34T1	SF6	ELF 245 nc2s	1981	230
VBNTS	B1T1	SF6	DT1-245 F3	2011	230
VBNTS	B1T2	SF6	DT1-245 F3	2011	230
WAV TS	B1L37	Air Blast	DCVF 245 mc6	1968	230
WAV TS	B1L08	Air Blast	DCVF 245 mc6	1968	230
WAV TS	L03L17	Air Blast	DCVF 245 mc6	1969	230
WAV TS	B1L17	Air Blast	DCVF 245 mc6	1969	230
WAV TS	L01L03	Air Blast	DCVF 245 mc6	1969	230
WAV TS	B1T1	Circuit Switcher	Mark III	1983	230
WAV TS	B1T2	Circuit Switcher	Mark III	1983	230
WAV TS	L01L37	SF6	3AQ1	1990	230
WAV TS	B1B3	Air Blast	DLF 245 nc4	1977	230