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November 27, 2013

Attention: Kirsten Walli, Board Secretary
Ontario Energy Board
2300 Yonge Street
27th Floor P.O. Box 2319
Toronto, ON M4P 1E4

Dear Ms. Walli:

Re: Wellington North Power Inc. – ED-2002-0511
2014 Distribution Rate Application
Response to Board Staff Interrogatories
OEB File Number: EB-2013-0178

Enclosed are Wellington North Power Inc.'s responses to Board Staff Interrogatories relating to the LDC's Incentive Rate Mechanism Adjustment Application for 2014 Distribution rates (file number: EB-2013-0178).

An electronic copy of these Interrogatory Responses has been filed on the RESS site and two hard copies have been sent by courier to the Board's office for the attention of the Board Secretary.

Should the Board have questions regarding this matter please contact Richard Bucknall at rbucknall@wellingtonnorthpower.com or myself at jrosebrugh@wellingtonnorthpower.com or call 519-323-1710.

Yours truly,

Judy Rosebrugh

President & CEO

cc: Board Secretary
cc: Intervenors on Record (by e-mail)
cc: Mr. Randy Aiken, Consultant to Energy Probe (by e-mail)
cc: Ms. Shelley Grice, Consultant to VECC (by e-mail)

Wellington North Power Inc. ("WNP")
2014 IRM Rate Application
Applicants Responses to Board Staff Interrogatories
EB-2013-0178

Manager's Summary

Board Staff Interrogatory No. 1

Ref: Manager's Summary – Page 19

On page 18 of the Manager's Summary, WNP notes that it "is requesting a 2-year disposition period because WNP is very concerned about current cash-flow as a consequence of the disposition of sizeable balances crediting customers as a result of recent OEB Decision and Orders." The credit rate riders noted by WNP on page 19 all expire on April 30, 2014. The proposed Deferral and Variance Account Rate Riders, to effective May 1, 2014, are debit rate riders.

a) Given that the proposed Deferral and Variance Account Rate Riders for 2014 will result in collections from customers and that the existing credit rate riders will expire, as of April 30, 2014, please explain how a 1-year disposition period would materially affect WNP's cash-flows.

Wellington North Power Inc. - Response:

a) As cited on page 19 of the Manager's Summary, WNP is nearing the completion of disposition of Group 1 accounts with a total balance in excess of $1.6m based upon recent OEB Decision and Orders. *(Decision and Order EB-2009-0253 approved a Group 1 disposition of $753,360; and Decision and Order EB-2011-0249 approved a Group 1 disposition of $851,153.)* The OEB approved Rate Riders for these Group 1 disposition balances have a sunset date of April 30, 2014.

WNP has been carefully monitoring its cash-flow and, from May 1st 2014 believes that cash-flow will improve as a consequence of:

i) The existing Deferral and Variance Account Rate Riders from previous Decisions & Orders (as mentioned above) are credit rate riders and expire as at April 30, 2014; and

ii) The proposed Deferral and Variance Account Rate Riders for 2014 will result in collections from customers, as calculated in the LDC's 2014 IRM application.

However, as identified in the 3rd party Substation Condition Assessment report, WNP needs to invest in its' substations to comply with reliability as well as worker and public safety requirements and to replace aging infrastructure. *(A summary of the 3rd party Substation Condition Assessment Study was filed with WNP's 2014 IRM application in Appendix 5.)* WNP has re-financed existing assets and secured a loan for $1.6m from Infrastructure Ontario (IO) commencing November 1, 2013 which has been procured to finance the replacement of MS2 Substation. The LDC is aware that the company will need to pay all costs in 2014 to enable the new substation to be energized and in-service for 2014. Therefore, WNP is planning to:

1) Use the funds secured from the IO loan to pay for the substation to be built, energized and in-service in 2014 and;

2) Utilise the revenue collected from Rate Riders from the Incremental Capital to pay the IO monthly loan installment amounts.

This approach will continue until the LDC's their next Cost of Service application for review and approval of rates effective May 1, 2016. Upon this basis, WNP needs to continue to monitor its cash-flow closely and the LDC requests disposition of Group 1 balances identified in WNP's 2014 IRM application over a 2-year period.

Board Staff Interrogatory No. 2

Ref: Manager's Summary – Pages 25 and 57
Ref: Incremental Capital Project Summary for 2014 Filers – Sheet 2

The following table is reproduced from page 57 of the Manager's Summary. It lists the major equipment that will be required in the replacement of the MS-2 substation.

3)	**Major equipment**		
	3 1) Power Transformer 5 MVA	$ 240 000	
	3 2) Station Reclosers (3)	$ 90,000	
	3 3) 44 kV PM Switches/Fuses	$ 55 000	
	3 4) S&C Switchgear	$ 105,000	
	3 5) Prefab Control Shack w/pad	$ 30 000	
	3 6) Station Service	$ 7 500	
	3 7) 44 kV Cables/Terminators est 120m	$ 20 000	
	3 8) 15 kV 500 MCM Cables/Terminators est 550m	$ 125 000	
	3 9) Solid Blade Riser Switches (9)	$ 6,000	
	3 10) Scada RTU	$ 45,000	
			$ 723,500

Sheet 2, labeled "Incremental Capital Summary," of the Incremental Capital Project Summary for 2014 filers indicates only one asset component for the proposed MS-2 substation replacement. WNP is depreciating the entirety of its estimated $1.6M in capital expenditures using a depreciation rate of 2% (i.e. 50 year depreciation period).

On page 25 of the Manager's Summary, WNP states that it has made the accounting policy changes required in the Board's filing requirements. WNP indicated that it had adopted the "mid-range" useful lives from the Kinectrics report.

a) Please explain why WNP is proposing to use a uniform depreciation rate for all assets that will be installed as part of its proposed replacement of the MS-2 substation.
b) Please provide a mapping of the useful lives for each of the capital assets that will be installed compared to the "mid-range" useful lives for that asset type indicated in the Kinectrics report.

Wellington North Power Inc. - Response:

a) In its' 4th Generation IRM application, Wellington North Power Inc. completed the Incremental Capital Project workbook applying a uniform depreciation rate of 2%. WNP acknowledges that because the company adopted the mid-range typical useful life deprecation rate for assets (derived from the Kinectrics report) effective from January 1, 2012, the LDC should have listed the individual components of the new substation in the Capital Project workbook and applied corresponding deprecation rates.

WNP has updated the Incremental Capital Project workbook and has filed this information on the OEB's RESS website. The Incremental Capital Project workbook is limited to listing five (5) asset components and therefore WNP has filed three (3) copies of this model (A, B and C) as summarised below:

Asset Component	Capital Project workbook name
Substation replacement **– Major Equipment** • Power Transformer 5 MVA • Station Reclosers (x3) • 44 kV PM Switches/Fuses • S&C Switchgear • Prefab. Control Shack with pad	WellingtonNorth_EB-2013-0178_2014_Inc_Cap_Project_V1.0_**A**_IR#1 *(This workbook is A)*
Substation replacement **– Major Equipment – *continued*** • Station Service • 44 kV Cables/Terminators est. 120m • 15 kV 500 MCM Cables/Terminators • Solid Blade Riser Switches (x9) • Scada RTU	WellingtonNorth_EB-2013-0178_2014_Inc_Cap_Project_V1.0_**B**_IR#1 *(This workbook is B)*
Substation replacement **– Non Major Equipment Capital Items** • Property costs – legal & surveying expenses • Engineering & Design • Civil Construction • Electrical work • Insurance fees, permits, mobilization, WNP linemen & engineering time, contingency	WellingtonNorth_EB-2013-0178_2014_Inc_Cap_Project_V1.0_**C**_IR#1 *(This workbook is C)*

A summary of the components and useful lives are discussed in IR Response 2(b) below.

b) The table below illustrates the mapping of the useful lives for each of the capital assets that will be installed in the new substation compared to "mid-range" useful lives. This table demonstrates that the "Mid-Range" useful life (years) is identical to the Typical Useful Life (TUL) from the Kinectrics report.

Table showing Kinectrics Useful Asset Life and "Mid –Range" Useful Life

3)	Major equipment	Cost Detail	Kinectrics Inc - Asset Depreciation Study for the Ontario Energy Board Table F Summary of Results (K-418033-RA-001-R000) Minimum Useful Life (years)	Typical Useful Life (years)	Maximum Useful Life (years)	WNP Mid-Range Typical Useful Life (years)	Comments
3.1)	Power Transformer 5 MVA	$ 240,000	30	45	55	45	
3.2)	Station Reclosers (3)	$ 90,000	10	30	45	30	Using the Kinectrics report, WNP have mapped this capital asset to "Solid State Relays"
3.3)	44 kV PM Switches/Fuses	$ 55,000	30	50	60	50	
3.4)	S&C Switchgear	$ 105,000	30	40	60	40	
3.5)	Prefab Control Shack w/pad	$ 30,000	35	50	90	50	Using the Kinectrics report, WNP have mapped this capital asset to "Steel Structure"
3.6)	Station Service	$ 7,500	30	45	55	45	
3.7)	44 kV Cables/Terminators est 120m	$ 20,000	35	40	55	40	Using the Kinectrics report, WNP have mapped this capital asset to "Primary TR XLPE Cables in Duct"
3.8)	15 kV 500 MCM Cables/Terminators est 550m	$ 125,000	35	40	55	40	Using the Kinectrics report, WNP have mapped this capital asset to "Primary TR XLPE Cables in Duct"
3.9)	Solid Blade Riser Switches (9)	$ 6,000	30	45	55	45	Using the Kinectrics report, WNP have mapped this capital asset to "OH Line Switch"
3.10)	Scada RTU	$ 45,000	15	20	30	20	
	Sub-Total	$ 723,500					

Source: "Asset Depreciation Study for the Ontario Energy Board" (July 8, 2010)
Kinectrics Inc. Report No: K-418033-RA-001-R000
Table F Summary of Results, pages 39 – 41

As discussed in IR Response 2a), WNP has filed an updated version of the Incremental Capital Project workbook on the OEB's RESS site. Furthermore, the LDC has also filed an updated Incremental Capital workform which takes into account the revised amortization expenses and CCA balances as a consequence of adjusting the deprecation rates for each component of the new substation.

Submitted Filenames: WellingtonNorth_EB-2013-0178_2014_Inc_Cap_Project_V1.0_A_IR#1
WellingtonNorth_EB-2013-0178_2014_Inc_Cap_Project_V1.0_B_IR#1
WellingtonNorth_EB-2013-0178_2014_Inc_Cap_Project_V1.0_C_IR#1
WellingtonNorth_EB-2013-0178_2014_IRM3_Incremental_Capital_Wrkfrm_V1.1_IR#1

Board Staff Interrogatory No. 3

Ref: Manager's Summary – pages 60, 65, 68 and 69

On page 68 of the Manager's Summary, the Costello Associates report indicates the following with regarding to the MS-2 substation:

> The MS-2 substation has been assigned a rating of "Red", which will improve to "Yellow" once the safety issues are resolved and switchgear deficiencies are corrected.

On page 65 of the Manager's Summary, Costello Associates defines a "Yellow" rating as "average condition" and states that "mitigation is required between four and 11 years."

On page 69 of the Manager's Summary, Costello Associates states the following with respect to the MS-4 substation:

> This station is classified as "Red" due to the age of the transformer, the system neutral connection, and diagnostic test results. This station is a candidate for replacement.

Costello Associations also highlights equipment deficiencies, problems with cables, wiring code violations, bonding and grounding issues, among others, in its summary of the MS-4 substation.

On page 60 of the Manager's Summary, WNP lists three options it had considered following receipt of the Costello Associates report. The alternatives were: i) to do nothing, ii) a complete replacement of the MS-2 substation (i.e. the proposed ICM with an estimated cost of $1.6M) and iii) replacing the MS-2 substation while reusing the existing transformer (a total cost of $1.39M).

a) Based on Costello Associates' assessment of the MS-2 and MS-4 substations, it appears that the concerns surrounding the MS-4 station are more significant than those for the MS-2. Why has WNP prioritized the MS-2 station for complete replacement? Please summarize WNP's assessment of the risks to public and worker safety for each station assuming none of the proposed rehabilitation/replacement work was completed.

b) Did WNP consider Costello Associates recommendation to correct the identified safety issues for the MS-2 substation to improve the station to a "Yellow" rating? What was the cost of that option? Why was it rejected as an option?

Wellington North Power Inc. - Response:

a) Wellington North Power Inc has prioritized MS-2 station above MS-4 station based upon the following factors listed below. It's important to note that according to the details provided within Costello's report, both MS2 and MS4 stations showed "problems with cables, wiring code violations, bonding and grounding issues..."

MS2 Station:

- The station transformer is 42 years old and future reliability is a concern;
- WNP seeks to proactively replace its aging assets to protect reliability and allow for planned capital activities rather than funding future repair and maintenance work;
- The station transformer is more heavily utilized than MS4. MS2 station currently supplies four 4,160V circuits with capacity to supply 5MVA; whereas MS4 station currently supplies one 4,160V circuit with a capacity to supply 2MW;
- The integration of latest technology at MS2 will impact a larger population of WNP customers then would MS4. It would also provide increased service and reliability over the existing technology in service at the substation. This includes but is not limited to recloser equipment, advanced protection schemes and scada and communication technology;
- MS2 exists in the critical industrial area in the north part of Mount Forest, i.e. location is close to important load with the majority of WNP's industrial customers being fed from MS2;
- The perimeter fence is in a poor condition which needs resolve. This item has been temporarily resolved. This was noted under section "2.2 Mt. Forest MS-2 Substation" of the 3rd party assessment report that was filed with WNP's IRM application – Appendix 5, page 180;
- MS2 is a large parcel of land, which allows for more design flexibility. WNP, working with Costello, has determined a design concept for this site.

MS4 Station:

- Although the transformer is 50 years old, the substation currently supplies one 4,160V circuit with a capacity to supply 2MW;
- The distribution plant in and around MS4 station requires significant upgrade to fully utilize this substation asset (for instance, the distribution plant (pole lines) at MS4 are under sized and need upgrading.) MS4 station will take more capital planning and related distribution plant construction. This will increase project schedule and cost and, for these reasons, WNP believes it will be difficult to re-build this asset and have it in-service before the end of 2014;
- MS4 station neutral connection was repaired using an engineered work instruction. The station was out of service from May 8, 2013 to November 19, 2013 for this repair work; and
- MS4 has land constraints, being a 50' by 50' parcel. WNP is still working with Costello to develop a design concept for MS4 that will be effective.

The table below summarizes WNP's assessment of the risks to public and worker safety for each station assuming none of the proposed rehabilitation/replacement work was completed:

MS2 Substation	MS4 Substation
Public safety: High • Fence as a barricade to entry. • Improperly installed sub-station bonding and grounding.	Public safety: High • Improperly installed substation bonding and grounding. • Improperly installed neutral connection.
Worker safety: Medium • Improperly installed sub-station bonding and grounding.	Worker safety: High • Improperly installed substation bonding and grounding. • Improperly installed neutral connection.

WNP, in partnership with AESI, has resolved the neutral connection problem at MS4 and returned the substation to service. WNP is currently replacing the bonding and grounding clamps at all of substations to address this concern. The new clamps are CSA-rated.

b) Wellington North Power Inc. has taken immediate action to ensure MS2 safety was improved. The LDC has been working through all items identified as critical in Costello's report and this has been reported at the monthly at WNP's Operations Committee meeting. A summary of the issues and updates as well as actions to date are summarized in the table below:

	Problem Name / Description	Comments
1	Sub-Station: MS2 - Existing ground grid does not extend out at swing gate locations	Issue - When touching the swing gate, a person may not be standing on station's the ground grid. This results in a possible electrical hazard during a catastrophic electrical fault. Action: - WNP has engaged AESI to complete an engineered work instruction for this work which will be followed by installation. Update: - AESI has provided WNP with engineered instructions for this work which is being undertaken by WNP's staff.
2	Sub-Station: MS2 - Improperly installed riser cable	Issue - Costello feels these cables place unnecessary weight on the riser pole. Action - AESI has provided direction which indicates although this is not current standard practice; it is not in need of immediate action. - The cost of building these risers to current standard would be significant. The issues within the risers will be dealt with during station rebuild.
3	Sub-Station: MS2 - Add locks to equipment within sub-station - Use more secure, less readily available, lock and key	Issue - WNP currently uses lock and key the old Ontario Hydro used. - These lock and key are readily available, which creates an accessibility risk. Action - Abloy locks, many LDCs standard lock, are approximately $80 per lock. - AESI agrees that new locks for WNP equipment are necessary.

	Problem Name / Description	Comments
		Update: - WNP has contacted Master locks for an alternative to Abloy.
4	Sub-Station: MS2 - Replace grounding clamps used at sub-stations	Issue - Pipe clamps have been used for grounding clamps at sub-stations. - Copper grounding clamps, CSA-rated, are available/required for these installations. Action - WNP purchased clamps for installation. Update: - WNP has completed 60% of this work.
5	Sub-Station: MS2 - Poor perimeter fencing	Issue - Perimeter fencing is in poor condition. Action - WNP is replacing MS2 which will include new fencing. - Temporary measures have been taken to ensure public safety.
6	Sub-Station: MS2 - Stone required 1.5m around sub-station	Issue - 1.5m of stone required around outside of sub-station fence Action: - No further action required for this item. Stone will be added when sub-stations are replaced.
7	Sub-Station: MS2 - Substation ID	Issue - Substation ID is faded. Update: - Substation ID was replaced.
8	Sub-Station: MS2 - Inconsistent nomenclature	Issue - Worker safety is impacted by nomenclature. Update: - Old Hydro One nomenclature was removed from around WNP's substations. - WNP workers are trained on company nomenclature.

WNP has spent $14,000 to date on substation remediation as a result of Costello's report with more of these repair and maintenance costs expected in late 2013 and 2014. WNP feels

confident it has promptly acted to resolve the issues identified in Costello's report in a planned and professional manner while ensuring technical compliance.

WNP considered completing all of the items identified on Costello's report; however, the real decision driver to replace MS2 is the age of the existing substation equipment, the existing technology used and the fact that this station supplies the majority of WNP's industrial customer base. A perimeter fence could be replaced for $30,000, however, it would still be housing equipment that is aged and in need of replacement. A planned approach to replacing the substation in its entirety will ensure WNP's customers are provided with a modern substation having latest technology capability and increased reliability and safety. It will also ensure workers are provided with a designed substation while considering safety and maintenance as it applies to all equipment, rather than a simple "patch work" or "make it work" philosophy. For these reasons, it was decided that WNP would look to replace MS2 in its entirety.

Board Staff Interrogatory No. 4

Ref: Appendix 5: 3rd Party Substation Condition Assessment Study – page 175

On page 175 of the Application, WNP states "the report below is a 'shortened' version containing the substation assessment findings and information relevant to Substation MS-2".

a) Please provide the detailed substation assessment findings and information relevant to Substation MS-4 in the Costello Associates report that was not included in the Application.

Wellington North Power Inc. - Response:

a) Wellington North Power Inc. has included a copy of the detailed substation assessment findings and information relevant to Substation MS-4 in Appendix A at the end of this document.

2014 IRM Rate Generator Model

Board Staff Interrogatory No. 5

Ref: 2014 IRM Rate Generator Model – Sheet 6
Ref: Appendix D, Proposed Settlement Agreement, WNP's 2012 Cost of Service Application, EB-2011-0249, September 7, 2012 – Page 52

The metered kW values provided for some of the classes on sheet 6 of WNP's 2014 Rate Generator Model do not match the values in the Board approved load forecast shown in Appendix D of the Proposed Settlement Agreement from WNP's 2012 cost of service application. The discrepancies are summarized in the table below.

Class	Billed kW (Sheet 6)	Billed kW (Appendix D)
GS 50 – 999 kW	50,517	50,979
GS 1,000 – 4,999 kW	97,039	97,926
Street Lighting	1,907	1,925

a) If the values have been entered in error, please indicate the error and Board staff will make the appropriate changes to the model. If not, please explain the source of the billed kW provided in sheet 6 of WNP's 2014

Wellington North Power Inc. - Response:

a) The kW values provided on sheet 6 of WNP's 2014 Rate Generator Model reflect the billed kW forecast less the CDM adjustments that were approved in WNP 2012 Cost of Service application (reference: – Appendix D, Proposed Settlement Agreement, WNP's 2012 Cost of Service Application, EB-2011-0249, September 7, 2012 – Section 3.3, page 22.) The kW values represented on page 52 of the Proposed Settlement Agreement are prior to any CDM adjustment.

WNP believes that the CDM adjusted kW values should be used on the basis that:

i. The kWh values included in 2014 IRM Rate Generator Model – Sheet 6 are CDM adjusted. Therefore the kW values also should be CDM adjusted so as to be consistent with kWh values (i.e. kW forecast less the CDM adjustments);

ii. CDM adjusted kWh and kW values should be used in the WNP's 2014 IRM application because these amounts reflect the most recent Board Approved volumetric forecast from which the LDC's current rates were set. Any revenue variance balance incurred as result of over- or under-achieving CDM targets are being recorded in the 1562 LRAM Variance account.

Below is a copy of the table that was included in Section 3.3 on page 22 of WNP's Settlement Agreement that shows both the kWh and kW values with and without applying the 2012 CDM reduction:

	kWh			kW		
Customer Class	2012 Weather Normal Billed kWh	CDM kWh Reduction	Adjusted Billed kWh with CDM Applied	2012 Weather Normal Billed kW	CDM kW Reduction	Adjusted Billed kWh with CDM Applied
Residential	25,103,878	(227,359)	24,876,519			
General Service < 50 kW	10,801,659	(97,828)	10,703,832			
General Service 50 - 999 kW	19,997,614	(181,113)	19,816,501	50,979	(462)	50,517
General Service 1,000 - 4,999 kW	43,160,131	(390,890)	42,769,242	97,926	(887)	97,039
Street Lights	718,453	(6,507)	711,946	1,925	(17)	1,907
Sentinel Lights	29,529	(267)	29,261	80	(1)	80
Unmetered Loads	4,006	(36)	3,969			
	0					
	99,815,269	(904,000)	98,911,269	150,910	(1,367)	149,544
	2012 CDM Target	904,000 kWh				

Taking into account the above comments, WNP believes that the billed kW values on sheet 6 of WNP's 2014 Rate Generator Model do not need to be changed.

If Board Staff request that kW values be changed to reflect non-CDM adjusted amounts, then WNP would like clarification concerning the two points below:

i. kWh values should also be adjusted to be non-CDM adjusted so as to be consistent?

ii. Other models submitted in WNP's IRM application should also be updated with non CDM adjusted values (e.g. IRM Revenue Cost Ratio Adjustment workform, sheet 3. "Re-Based Bill Det and Rates")?

2014 Incremental Capital Workform

Board Staff Interrogatory No. 6

Ref: Incremental Capital Workform – Sheet C1.1

On Sheet C1.1 of the Incremental Capital Workform, WNP has indicated that it has a combined 43 customers in the General Service 50 to 999 kW and General Service 1,000 to 4,999 kW classes, combined. WNP's 2011 2.1.5 RRR filing indicates 45 customers for those two classes combined.

a) Please confirm the customer numbers for the GS > 50 kW classes. If the numbers are in error, please provide the correct customer numbers for the 2011 year and Board staff will make the appropriate changes to the model

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Wellington North Power Inc. - Response:

a) Wellington North Power Inc. confirms that there are 45 customers for the combined classes of General Service 50 to 999 kW and General Service 1,000 to 4,999 kW.

WNP has updated sheet "*C1.1 Ld Act-Mst Rcent Yr*" of the Incremental Capital Workform to show 40 customers Service 50 to 999 kW and 5 customers for Service 1000 to 4999 kW, a combined total of 45 customers as table below:

Load Actual - 2011 Actual

Rate Class	Fixed Metric	Vol Metric	Billed Customers or Connections A	Billed kWh B	Billed kW C
Residential	Customer	kWh	3,103	22,862,125	0
General Service Less Than 50 kW	Customer	kWh	478	10,582,059	0
General Service 50 to 999 kW	Customer	kW	40	0	60,617
General Service 1,000 to 4,999 kW	Customer	kW	5	0	78,957
Unmetered Scattered Load	Connection	kWh	1	4,752	0
Sentinel Lighting	Connection	kW	20	0	74
Street Lighting	Connection	kW	900	0	1,800

It should be noted that by updating rate class General Service 50 to 999 kW from 38 customers to 40 customers, the ***Service Charge Revenue*** and consequently the ***Total Revenue by Rate Class*** amounts have increased compared to the values that were originally filed by WNP. The

impact of these Revenue changes (increases) has resulted in the growth percentage changing to 1.15% (previously 1.44% as per initial IRM application) as shown in sheet "*E1.1 Threshold Parameters*" of the Incremental Capital Workform.

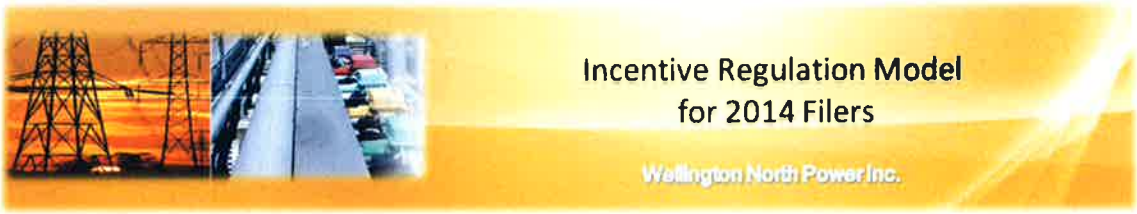
WNP has filed an updated version of the Incremental Capital Project Workform. Furthermore, as the proposed Incremental Capital Rate Riders have changed (since WNP's IRM initial application) due to the revisions made as described under responses to Board Staff IRs #2 and #6 as well as the LDC's responses to Energy Probe IR#1 and #3, WNP has also filed an updated Rate Generator model reflecting the revised Incremental Rate Riders (Service Charge and Distribution Volumetric) and consequent changes to the Tariff Schedule and Bill Impact worksheets. These workforms have been filed on the OEB's RESS site.

Submitted File: WellingtonNorth_EB-2013-0178_2014_IRM3_Incremental_Capital_Wrkfrm_V1.1_IR#1
WellingtonNorth_EB-2013-0178_2014_IRM Rate Generator_V2.3_IR#1

Based upon the revisions made as described above the tables on the following pages illustrate the bill impacts for Residential and General Service <50kW rate classes.

Bill Impact: Residential Customer - 800 kWh:

The Rates and Charges in the table below are based upon the output from the WellingtonNorth_EB_2013-0178_2014_IRM Rate Generator_v2.3_IR#1 workfom worksheet 14 "Bill Impacts" and refer to a Residential customer with a typical monthly consumption of 800 kWh:



Rate Class	RESIDENTIAL	
Loss Factor		1.0716
Consumption	kWh	800
If Billed on a kW basis:		
Demand	kW	
Load Factor		

Update Bill Impacts

	Current Board-Approved			Proposed			Impact	
	Rate ($)	Volume	Charge ($)	Rate ($)	Volume	Charge ($)	$ Change	% Change
Monthly Service Charge	$ 18.05	1	$ 18.05	$ 18.14	1	$ 18.14	$ 0.09	0.50%
Distribution Volumetric Rate	$ 0.0181	800	$ 14.48	$ 0.0182	800	$ 14.56	$ 0.08	0.55%
Fixed Rate Riders	$ 2.82	1	$ 2.82	$ 0.88	1	$ 0.88	-$ 1.94	-68.65%
Volumetric Rate Riders	0.0004	800	$ 0.32	0.0009	800	$ 0.71	$ 0.39	121.75%
Sub-Total A (excluding pass through)			$ 35.67			$ 34.29	**-$ 1.38**	**-3.86%**
Line Losses on Cost of Power	$ 0.0839	57	$ 4.81	$ 0.0839	57	$ 4.81	$ -	0.00%
Total Deferral/Variance Account Rate Riders	-0.0085	800	-$ 6.80	0.0001	800	$ 0.08	$ 6.88	-101.18%
Low Voltage Service Charge	$ 0.0018	800	$ 1.44	$ 0.0018	800	$ 1.44	$ -	0.00%
Smart Meter Entity Charge	$ 0.7900	1	$ 0.79	$ 0.7900	1	$ 0.79	$ -	0.00%
Sub-Total B - Distribution (Includes Sub-Total A)			**$ 36.91**			**$ 41.41**	**$ 5.50**	**15.33%**
RTSR - Network	$ 0.0069	857	$ 5.92	$ 0.0065	857	$ 5.58	-$ 0.34	-5.73%
RTSR - Connection and/or Line and Transformation Connection	$ 0.0045	857	$ 3.86	$ 0.0041	857	$ 3.55	-$ 0.30	-7.90%
Sub-Total C - Delivery (including Sub-Total B)			**$ 45.68**			**$ 50.54**	**$ 4.86**	**10.64%**
Wholesale Market Service Charge (WMSC)	$ 0.0044	857	$ 3.77	$ 0.0044	857	$ 3.77	$ -	0.00%
Rural and Remote Rate Protection (RRRP)	$ 0.0012	857	$ 1.03	$ 0.0012	857	$ 1.03	$ -	0.00%
Standard Supply Service Charge	$ 0.2500	1	$ 0.25	$ 0.2500	1	$ 0.25	$ -	0.00%
Debt Retirement Charge (DRC)	$ 0.0070	800	$ 5.60	$ 0.0070	800	$ 5.60	$ -	0.00%
TOU - Off Peak	$ 0.0670	512	$ 34.30	$ 0.0670	512	$ 34.30	$ -	0.00%
TOU - Mid Peak	$ 0.1040	144	$ 14.98	$ 0.1040	144	$ 14.98	$ -	0.00%
TOU - On Peak	$ 0.1240	144	$ 17.86	$ 0.1240	144	$ 17.86	$ -	0.00%
Total Bill on TOU (before Taxes)			**$ 123.47**			**$ 128.33**	**$ 4.86**	**3.94%**
HST	13%		$ 16.05	13%		$ 16.68	$ 0.63	3.94%
Total Bill (including HST)			$ 139.52			$ 145.01	$ 5.49	3.94%
Ontario Clean Energy Benefit [1]			-$ 12.95			-$ 14.50	-$ 0.55	3.94%
Total Bill on TOU (including OCEB)			**$ 125.57**			**$ 130.51**	**$ 4.94**	**3.94%**

Bill Impact: Residential Customer - 800 kWh:

The Rates and Charges in the table below are based upon the output from the WellingtonNorth_EB_2013-0178_2014_IRM Rate Generator_v2.3_IR#1 workfom worksheet 14 "Bill Impacts" and refer to a General Service <50KW customer with a typical monthly consumption of 2,000 kWh:

Incentive Regulation Model for 2014 Filers

Wellington North Power Inc.

Rate Class	GENERAL SERVICE LESS THAN 50 KW	
Loss Factor		1.0716
Consumption	kWh	2,000
If Billed on a kW basis:		
Demand	kW	
Load Factor		

Update Bill Impacts

	Current Board Approved			Proposed			Impact	
	Rate ($)	Volume	Charge ($)	Rate ($)	Volume	Charge ($)	$ Change	% Change
Monthly Service Charge	$ 38.32	1	$ 38.32	$ 38.50	1	$ 38.50	$ 0.18	0.47%
Distribution Volumetric Rate	$ 0.0184	2,000	$ 32.80	$ 0.0165	2,000	$ 33.00	$ 0.20	0.61%
Fixed Rate Riders	$ 19.15	1	$ 19.15	$ 1.88	1	$ 1.88	-$ 17.27	-90.20%
Volumetric Rate Riders	0.0022	2,000	$ 4.40	0.0008	2,000	$ 1.61	-$ 2.79	-63.50%
Sub-Total A (excluding pass through)			$ 94.67			$ 74.98	**-$ 19.69**	**-20.80%**
Line Losses on Cost of Power	$ 0.0839	143	$ 12.02	$ 0.0839	143	$ 12.02	$ -	0.00%
Total Deferral/Variance Account Rate Riders	-0.0093	2,000	-$ 18.60	0.0001	2,000	$ 0.20	$ 18.80	-101.08%
Low Voltage Service Charge	$ 0.0015	2,000	$ 3.00	$ 0.0015	2,000	$ 3.00	$ -	0.00%
Smart Meter Entity Charge	$ 0.7900	1	$ 0.79	$ 0.7900	1	$ 0.79	$ -	0.00%
Sub-Total B - Distribution (includes Sub-Total A)			**$ 91.88**			**$ 90.99**	**-$ 0.89**	**-0.97%**
RTSR - Network	$ 0.0064	2,143	$ 13.72	$ 0.0060	2,143	$ 12.93	-$ 0.79	-5.73%
RTSR - Connection and/or Line and Transformation Connection	$ 0.0038	2,143	$ 8.14	$ 0.0035	2,143	$ 7.50	-$ 0.64	-7.90%
Sub-Total C - Delivery (including Sub-Total B)			**$ 113.74**			**$ 111.42**	**-$ 2.32**	**-2.04%**
Wholesale Market Service Charge (WMSC)	$ 0.0044	2,143	$ 9.43	$ 0.0044	2,143	$ 9.43	$ -	0.00%
Rural and Remote Rate Protection (RRRP)	$ 0.0012	2,143	$ 2.57	$ 0.0012	2,143	$ 2.57	$ -	0.00%
Standard Supply Service Charge	$ 0.2500	1	$ 0.25	$ 0.2500	1	$ 0.25	$ -	0.00%
Debt Retirement Charge (DRC)	$ 0.0070	2,000	$ 14.00	$ 0.0070	2,000	$ 14.00	$ -	0.00%
TOU - Off Peak	$ 0.0670	1,280	$ 85.76	$ 0.0670	1,280	$ 85.76	$ -	0.00%
TOU - Mid Peak	$ 0.1040	360	$ 37.44	$ 0.1040	360	$ 37.44	$ -	0.00%
TOU - On Peak	$ 0.1240	360	$ 44.64	$ 0.1240	360	$ 44.64	$ -	0.00%
Total Bill on TOU (before Taxes)			**$ 307.83**			**$ 305.51**	**-$ 2.32**	**-0.75%**
HST	13%		$ 40.02	13%		$ 39.72	-$ 0.30	-0.75%
Total Bill (including HST)			$ 347.85			$ 345.23	-$ 2.62	-0.75%
Ontario Clean Energy Benefit [1]			-$ 34.78			-$ 34.52	$ 0.26	-0.75%
Total Bill on TOU (including OCEB)			**$ 313.07**			**$ 310.71**	**-$ 2.36**	**-0.75%**

Appendix A

The 3rd party Substation Condition Assessment Study was commissioned by WNP in 2013. Below is a copy of the substation assessment findings and information relevant to Substation MS-4 as requested in IR#4:

2 SUBSTATION CONDITION ASSESSMEMENT SUMMARY:

Wellington North Power
Substation Condition Report
June 2013

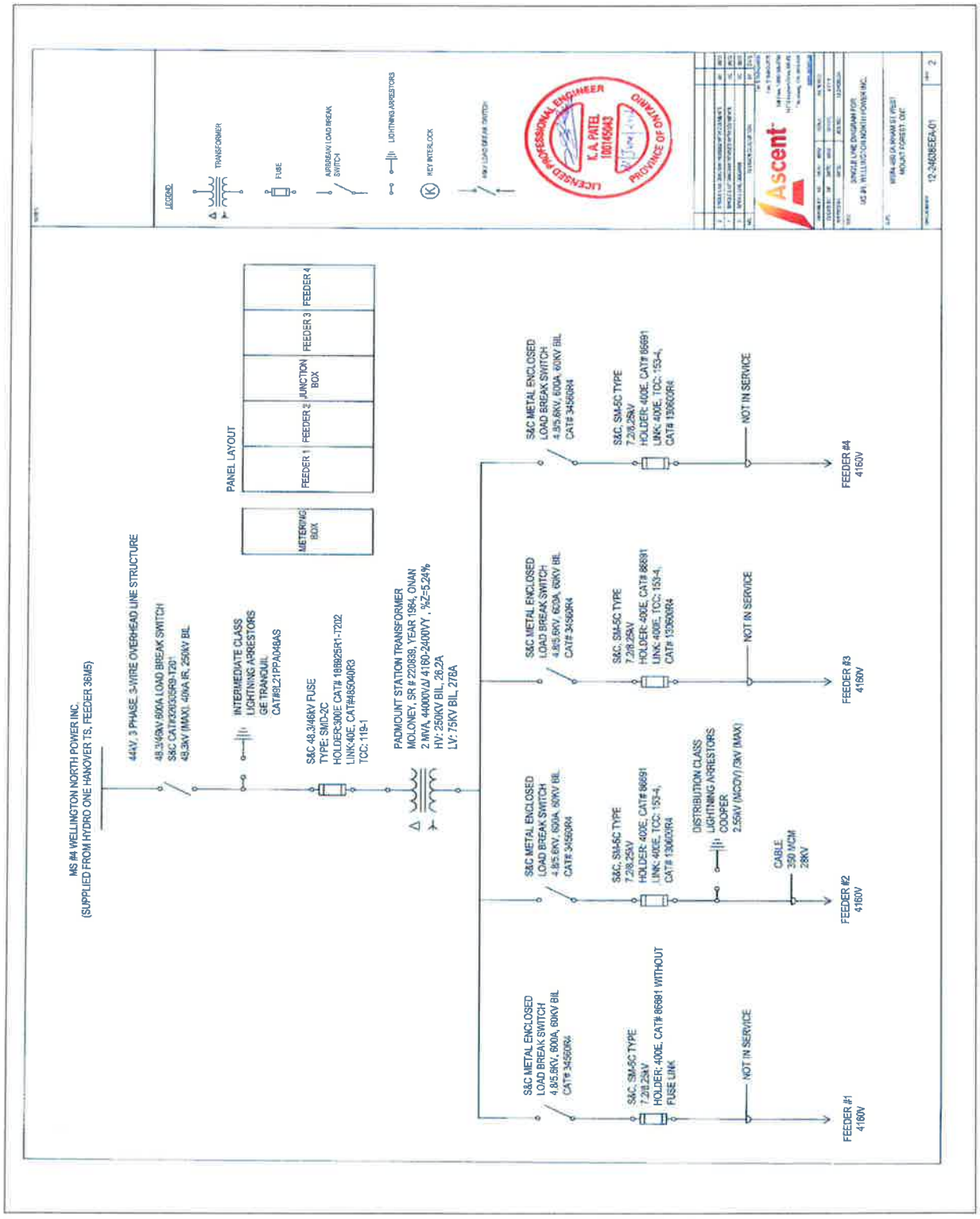
2.4 Mt. Forest MS-4 Substation

The Mt. Forest substation is the oldest of the utility at an age of 49 years. It also shares many of the same issues as other stations in terms safety and shows signs of age. It does although contain a much more serious issue. The system neutral has been attached only to the station ground grid, which in extremely dangerous. Due to this fact, it was recommended that the station be de-energized during inspection. The neutral system must be re-engineered prior to re-energization.

Inspection revealed that other equipment deficiencies are also present. The transformer secondary side cables are improperly installed and are putting pressure on the transformer radiator. Furthermore, test results also suggest that there are problems with feeder cables.

Remaining problems found in the station are similar as in the other stations. There are missing locks on power transformers and distribution-side switchgear, wiring code violations, bonding and grounding issues and operating nomenclature must be updated.

The station is classified as "Red" due to the age of the transformer, the system neutral connection, and diagnostic test results. This station is a candidate for replacement.


LEGEND
TRANSFORMER
FUSE
AIRBREAK LOAD BREAK SWITCH
LIGHTNING ARRESTORS
KEY INTERLOCK
LICENSED PROFESSIONAL ENGINEER
K.A. PATEL
100145943
PROVINCE OF ONTARIO
Ascent
SINGLE LINE DIAGRAM FOR
MS #4, WELLINGTON NORTH POWER INC.
12-2460BEA-01
MS #4 WELLINGTON NORTH POWER INC.
(SUPPLIED FROM HYDRO ONE HANOVER TS, FEEDER 36M5)
44kV, 3 PHASE, 3-WIRE OVERHEAD LINE STRUCTURE
48.3/49kV 600A LOAD BREAK SWITCH
S&C CAT#2035R9-T2D1
48.3kV (MAX), 40kA IR, 250kV BIL
INTERMEDIATE CLASS
LIGHTNING ARRESTORS
GE TRANQUIL
CAT#9L21PPA048AS
S&C 48.3/46kV FUSE
TYPE: SMD-2C
HOLDER:300E CAT# 18B925R1-T2D2
LINK:40E, CAT#46S040R3
TCC: 119-1
PADMOUNT STATION TRANSFORMER
MOLONEY, SR # 220838, YEAR 1984, ONAN
2 MVA, 44000VΔ/ 4160-2400VY , %Z=5.24%
HV: 250KV BIL, 26.2A
LV: 75KV BIL, 276A
PANEL LAYOUT
METERING BOX
FEEDER 1
FEEDER 2
JUNCTION BOX
FEEDER 3
FEEDER 4
S&C METAL ENCLOSED LOAD BREAK SWITCH
4.8/5.6KV, 600A, 60KV BIL
CAT# 34560R4
S&C, SM-5C TYPE
7.2/8.25kV
HOLDER: 400E, CAT# 86691
LINK: 400E, TCC: 153-4,
CAT# 13060R4
DISTRIBUTION CLASS
LIGHTNING ARRESTORS
COOPER
2.55kV (MCOV) /5kV (MAX)
CABLE
350 MCM
28KV
NOT IN SERVICE
S&C, SM-5C TYPE
7.2/8.25kV
HOLDER: 400E, CAT# 86691 WITHOUT
FUSE LINK
FEEDER #1
4160V
FEEDER #2
4160V
FEEDER #3
4160V
FEEDER #4
4160V

Costello Associates

Substation Risk Assessment Form

Station WNP MS-4 Year Built 1x-1964

Section 1: Public Safety – conditions that impact public safety at the station:

Area of Concern	Check		
	1	2	3
Perimeter Security	✓		
Fence Grounding and Bonding			✓
Station Yard	✓		
Station Building	N/A		
Station Setting – Proximity	✓		
Station Setting - Encroachments	✓		
Overall public safety condition		✓	

1 = Acceptable

2 = Some deficiencies

3 = Needs attention soon

Overall Public Safety Risk Rating	Blue	Purple	Yellow	Orange	Red
	20+ Years	11-20 years	4-10 years	2-3 years	1 year
				✓	

Section 2: Worker Safety – conditions that impact worker safety at the station:

Area of Concern	Check		
	1	2	3
Grounding and Bonding			✓
Safe limits of approach			✓
Working clearances	✓		
Switching access difficult	✓		
Multiple sources of voltage	✓		
Porcelain	✓		
Operational Issues			✓
Maintenance Issues			✓
Overall worker safety condition			✓

1 = Acceptable

2 = Some deficiencies

3 = Needs attention soon

Maintenance issues that can be quickly rectified may be eliminated from risk assessment.

Overall Worker Safety Risk Rating	Blue	Purple	Yellow	Orange	Red
	20+ Years	11-20 years	4-10 years	2-3 years	1 year
					✓

Inspected by: _____ Date: _____

Costello Associates

Substation Risk Assessment Form

Section 3: Risks of Major Equipment Failure

A. Condition of Equipment

Area of Concern	Check		
	1	2	3
Power Transformers			✓
High-side switchgear	✓		
Distribution-side switchgear			✓
Protection and Control Equipment	✓		
Underground cables			✓
Structures	✓		
Overall equipment condition			✓

1 = Acceptable

2 = Some deficiencies

3 = Needs attention soon

B. Factors that may impact the consequences of major equipment failure

Concern	Impact of Consequence		
	L	M	H
Station setting – proximity	More than 100m	Between 100m and 10m	10m or less
Station setting – watercourses	None	Storm sewers/drains	Open water
Lack of backup supply	<2 hours switching	Between 2 – 24h outage	No backup
Critical loads (hospitals etc)	None	With generators	No generators
Grounding and bonding	Today's code	Some deficiencies	Poor
Oil containment	Yes	Partial	None
Explosion barriers	Yes	Partial	None
Fire fighting capability	Hydrants	Storage Tanks	None
Presence of PCB's	None	Storage Only	In-service
Overall equipment condition	L	M	H

C. Based on the equipment condition and consequences, state the risk rating for a major equipment failure:

Overall Failure Risk Rating	Blue	Purple	Yellow	Orange	Red
	20+ Years	11-20 years	4-10 years	2-3 years	1 year
					✓

Section 4: Overall Substation Risk Assessment

Station Risk Assessment	Blue	Purple	Yellow	Orange	Red
	20+ Years	11-20 years	4-10 years	2-3 years	1 year
					✓

Comments: Recommended de-energization immediately. System neutral must be re-engineered and replaced. Concern with condition of feeder cables based on recent testing.

Inspected by: _____ Date: _____

Lock Required
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Wellington North Power Inc.
Wellington North Power Inc.
Condition Assessment Study 2013
Mt. Forest
MS4 – 1
Drawn By: K. England
Date: 30/05/2013
Checked By: K. England
Date: 30/05/2013
Approved By: S.Costello
Date: 30/05/2013
Drawing #:
Rev. #:

H
Ground Grid needs to encompass gate swing
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L Improper Connectors
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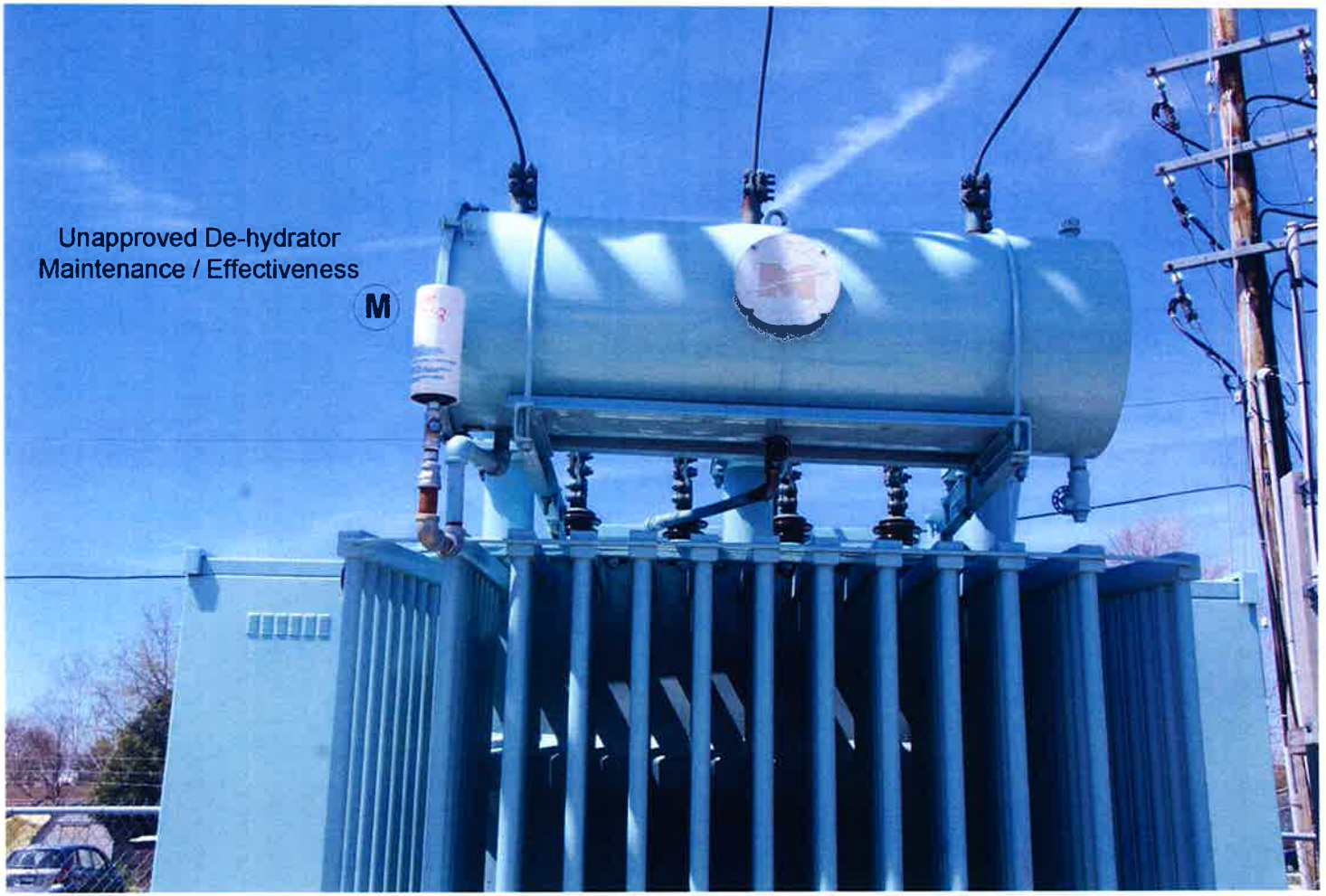

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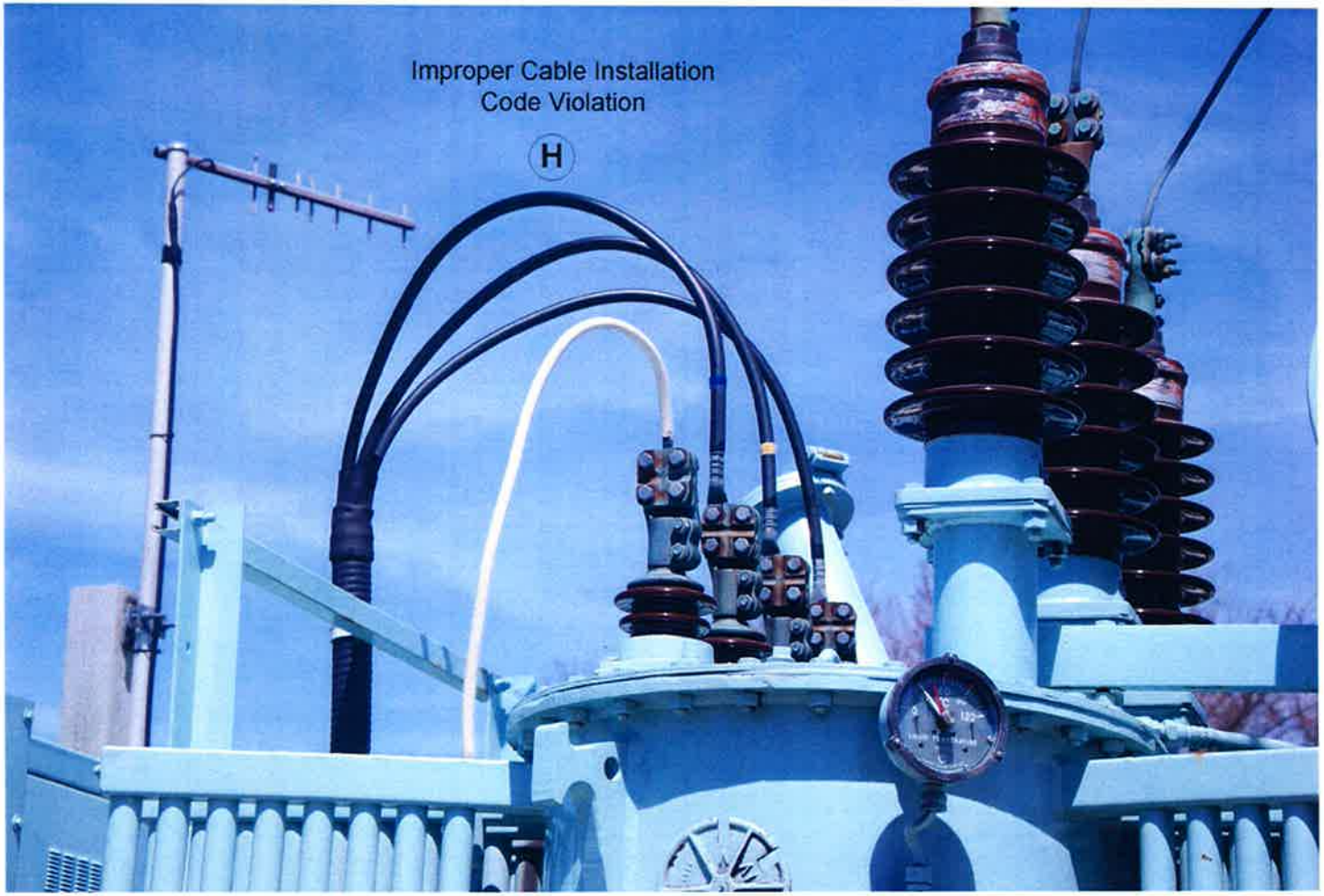

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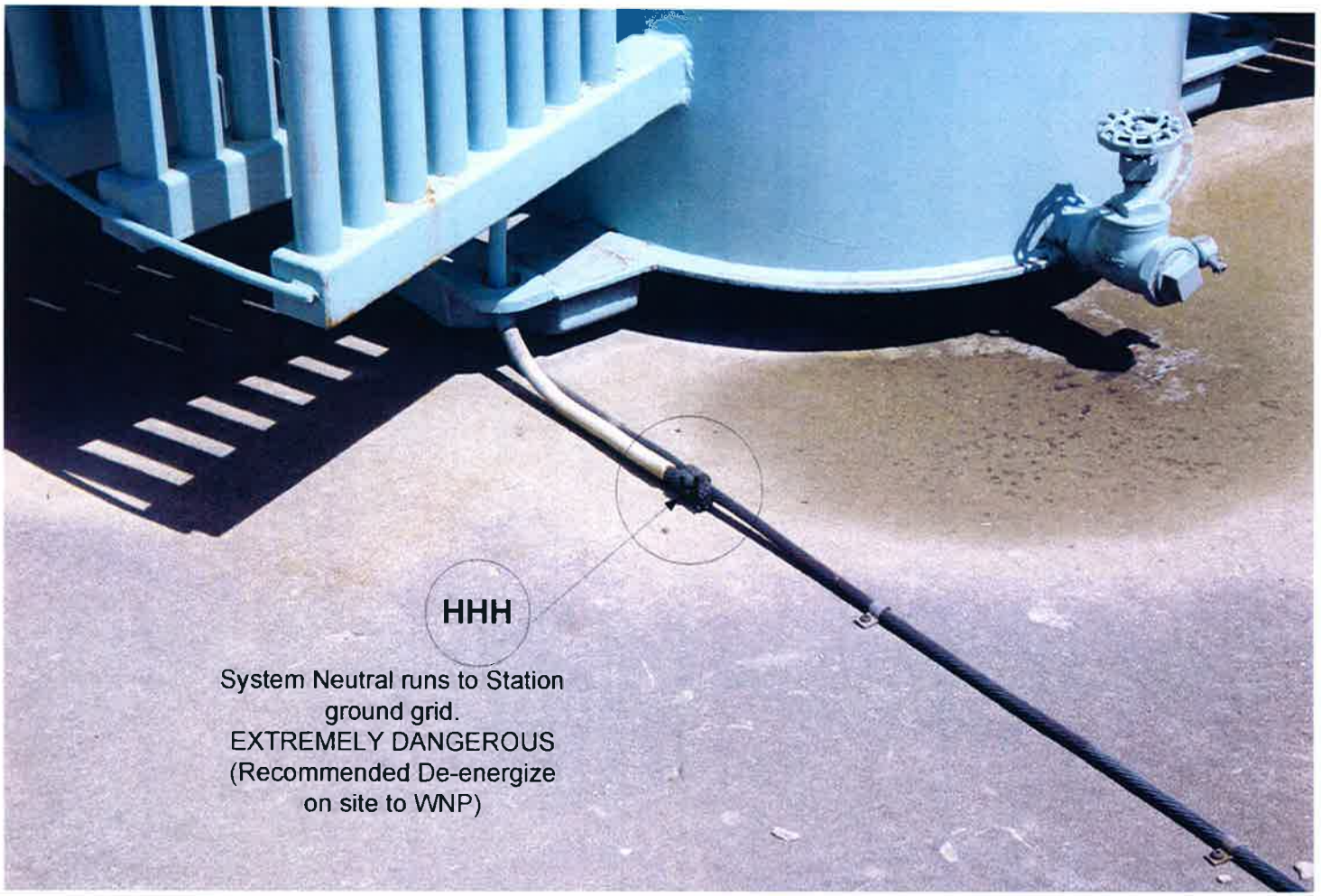

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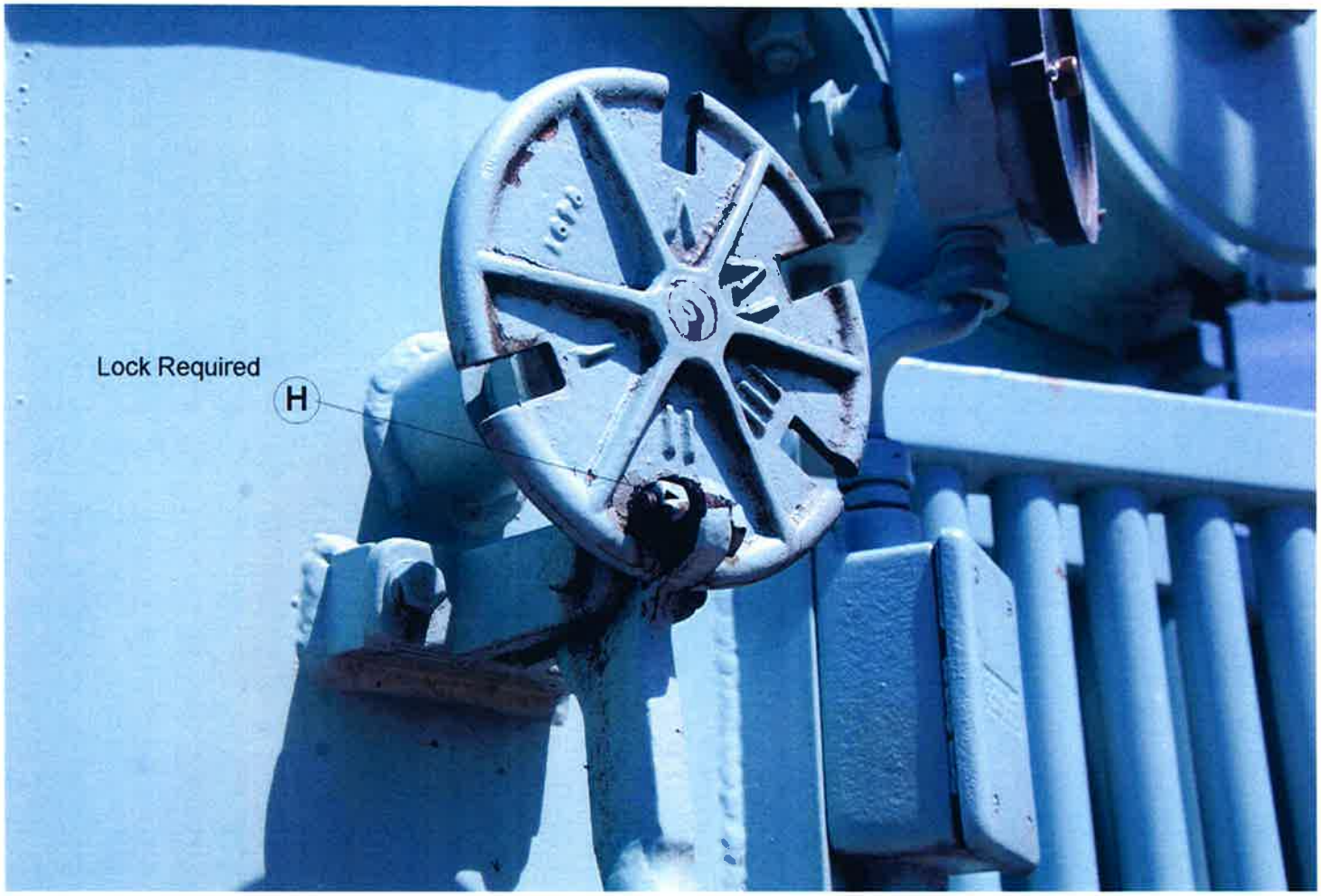

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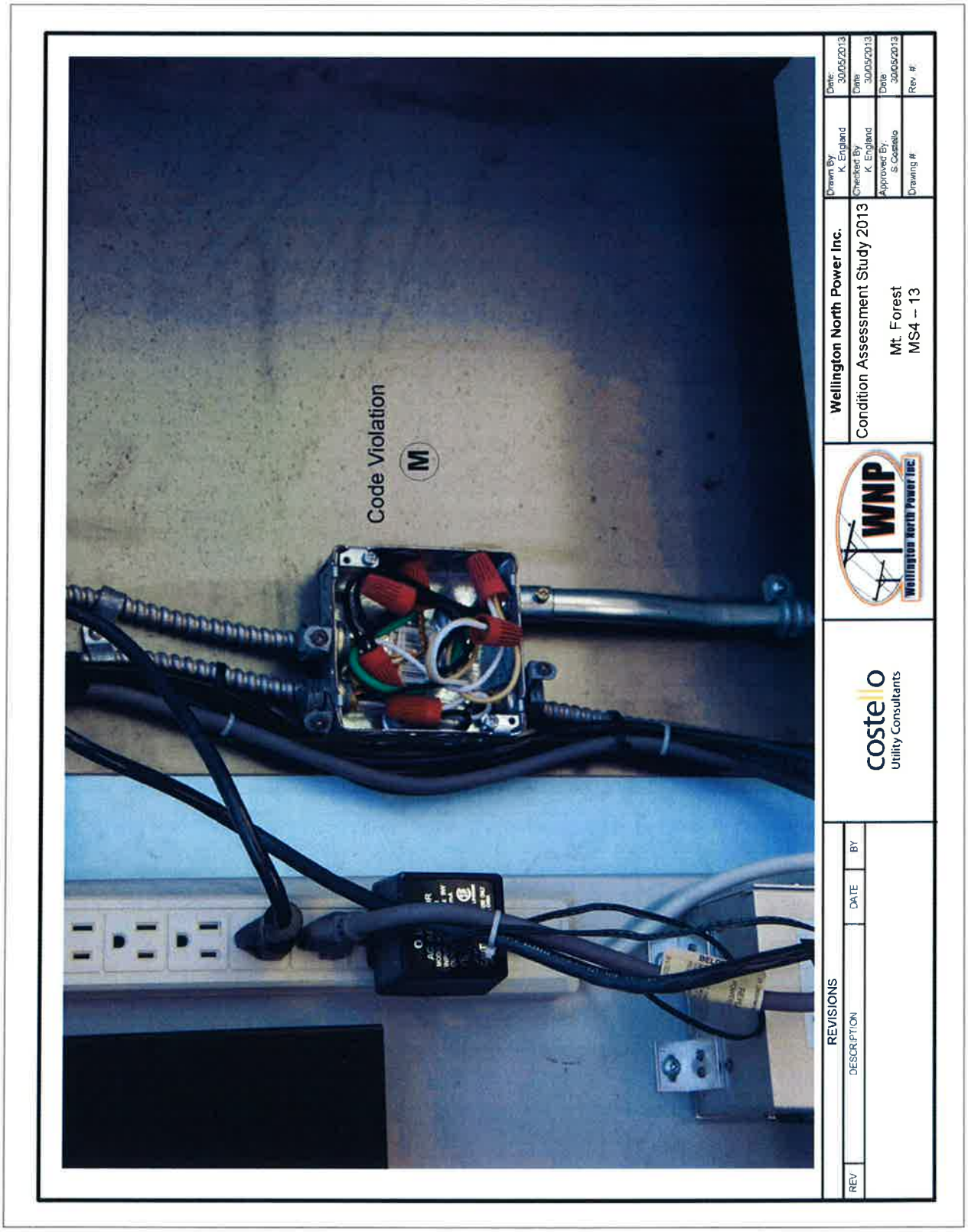
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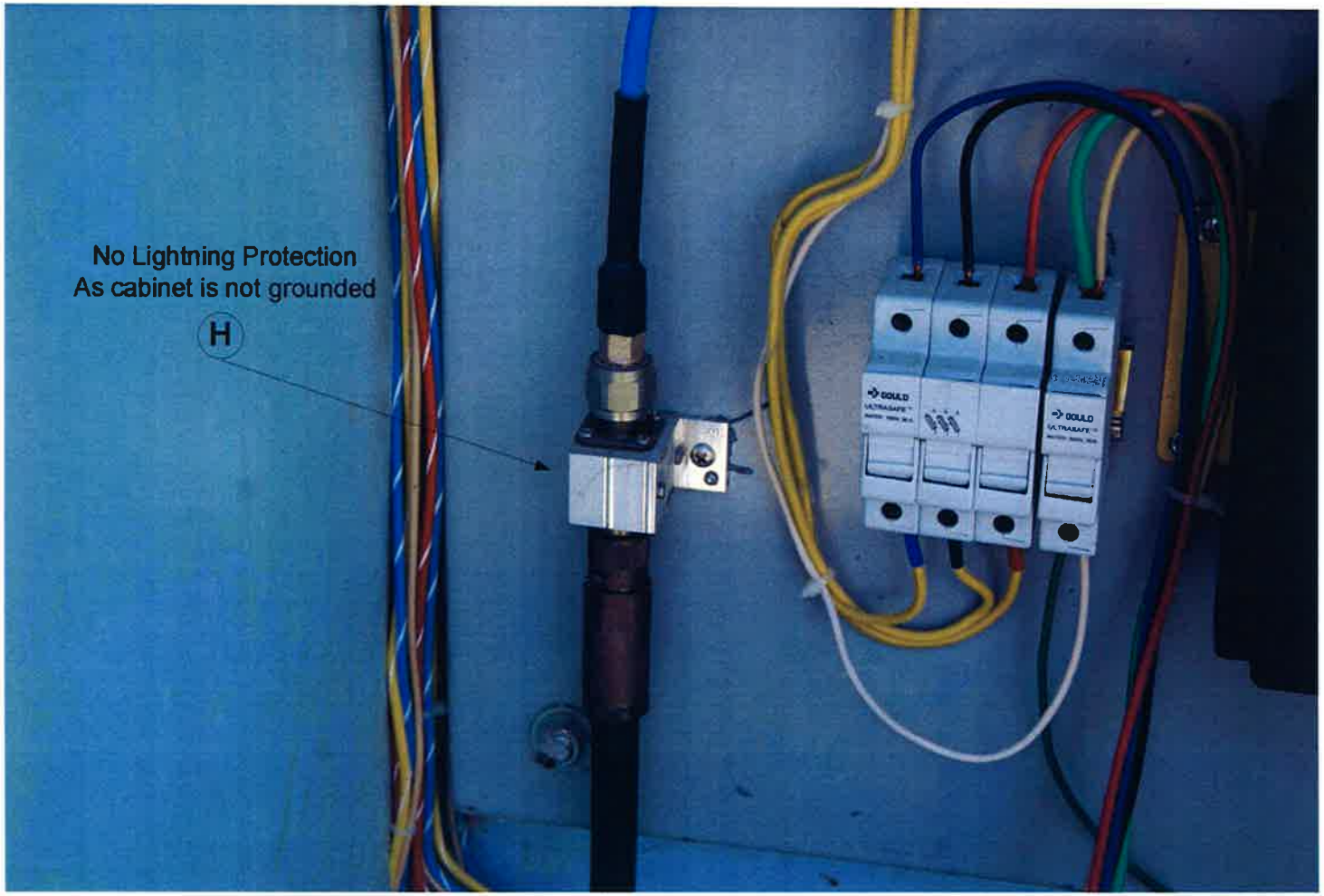

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