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1 Pressure washing and vacuuming of submersible (underground) transformer vaults keep
2 drains from plugging, thus preventing the submersion of transformers in water mixed with
3 salt, contaminants and other organic debris. This maintenance prevents premature rusting of
4 the transformer chassis and failure of elbow connectors.

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6 **COSTS**

7 **Table 1: Preventive Maintenance Cost (\$ millions)**

Preventive Maintenance Costs	2008 Historical	2009 Bridge	2010 Test
OH/UG Distribution Assets	2.8	2.8	5.1
Stations Assets	2.4	2.4	2.9
External Contracts	3.4	3.5	4.1
Total Preventive Maintenance	8.6	8.7	12.1

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9 The total preventive maintenance program cost increased by \$0.1 million from 2008 actual
10 to 2009 bridge. This increase is primarily attributable to variations in unit volumes among
11 maintenance programs between the historical and bridge years.

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13 From 2009 to 2010 the programme costs increase by 3.4 million. The \$2.3 million increase
14 in costs related to OH/UG Distribution Assets is attributable primarily to the street lighting
15 verification program in preparation for the transfer of streetlight assets to THESL. The \$0.5
16 million increase in costs for Stations preventive maintenance work is attributable to annual
17 variations in maintenance scheduling cycles. Increases in external contract costs are due to
18 an increase in the length of circuits scheduled for pruning in 2010, an inflationary escalator
19 in tree pruning labour rate, and \$0.2 million to fund the pressure washing of transformer
20 vaults that was deferred from 2009.

1 future feeder automation and support THESL's smart grid plans.

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3 **Table 3: Planned Installations for Distribution System Standardization**

Actions	13.8 kV	27.6 kV
Number of overhead fuses to be installed	17	540
Number of PMH switchgear (with Fault Indicators) to be installed	28	20
Number of SCADAMATE switches to be installed	47	60

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5 **CABLE STANDARDIZATION**

6 Inspections performed during the 2009 contact voltage emergency indicate that
 7 streetlighting cable insulation is breaking down and is in poor condition, increasing the
 8 risk of contact voltage re-occurrence. Crews observed brittle and cracked cable jackets
 9 and reported instances where voltages were measured on the exterior of the jackets. In
 10 total, three hundred ninety-nine work orders for replacement of cable in handwells were
 11 created as a direct result of these inspections. It was also observed that water, ice and
 12 road salt are accumulating in handwells, which is contributing to the degradation of the
 13 cable insulation in addition to normal degradation due to aging. This investment,
 14 estimated at \$5.2 million dollars, will be used to initiate a proactive program to identify
 15 and replace end of life streetlighting cable. Initially 120 kilometres of cable are planned
 16 to be replaced which represents the poorest condition cable assets and approximately 24
 17 percent of the streetlighting cable in Toronto. The program will initially focus on
 18 downtown Toronto, where the infrastructure is oldest and in poorest condition and has a
 19 high volume of pedestrian traffic which represents the highest risk.