

**Undertaking J1.6:**

**To provide a list of 2009 projects and explain why they are discretionary or nondiscretionary.**

Please Note:

This list includes only enhancement projects. Expansions and Connections are mandatory according to the provisions of the Distribution System Code. The other category of projects used by OPUCN is "Vehicles" and no purchases are planned for 2009.

**Capital Projects**

Job #	Project Description	Total (\$)		
Distribution System			Non-Discretionary	Explanation
C07-201	O/H 44KV Ritson- Eulalie to 401 & Crossings	\$635,040	Yes	Reliability / Safety: This circuit is at the end of its engineering life and is contributing to outage time. The circuit spans the 401 highway in 3 locations and there is a safety hazard with the line falling on the highway during high vehicle traffic periods.
C07-205	Ritson & Dean intersection Region	\$115,024	Yes	Region of Durham road work
C07-206	Taunton - Simcoe to Ritson Region	\$106,400	Yes	Region of Durham road work
C07-776	Harmony @ Coldstream (City)	\$21,280	Yes	City of Oshawa road work
C08-203	Harmony - Legend Centre to Conlin	\$308,000	Yes	System planning for growth in NE area. Oshawa is experiencing growth in the NE area of its service territory. By completing the work on this circuit the construction of a new municipal substation can be delayed.
C08-209	Bond St Vault Ceiling	\$147,840	Yes	Public / workforce safety - Concrete transformer vault forms part of the downtown sidewalk. The concrete lid of the vault is weakened due to age and requires immediate replacement for safety reasons.

C08-211	Conlin - Wilson to Harmony	\$285,600	Yes	System planning for growth in NE area. Oshawa is experiencing growth in the NE area of its service territory. By completing the work on this circuit the construction of a new municipal substation can be delayed.
C08-212	Coates - Thornton to Simcoe LTLT	\$414,400	Yes	Regulatory requirement - long term load transfer
C08-216	U/G Cable Replace, Killdeer	\$123,760	Yes	Reliability - Underground cable circuits experiencing high levels of faults contributing to feeder outage times.
C08-218	U/G Cable Replace, Sycamore	\$87,920	Yes	Reliability - Underground cable circuits experiencing high levels of faults contributing to feeder outage times.
C08-222	Taunton - Benson to Townline (Reg)	\$240,800	Yes	Region of Durham road work
C08-225	Simcoe - Niagara (Reg)	\$213,920	Yes	Region of Durham road work
C08-290	MS#9 New Substation	\$800,000	Yes	System planning for growth in NE area. Oshawa is experiencing growth in the NE area of its service territory. This amount will provide for the engineering / design and long lead time equipment for a new municipal substation. The municipal substation can then be constructed within a shorter time period to meet loading requirements.
C09-200	O/H Pole Replace after Testing	\$240,800	Yes	Public / workforce safety / reliability - Wood poles identified as requiring replacement as a result of wood pole testing. If poles fail there is a safety hazard to the public and our workforce. Pole failures also result in an increase in feeder outage time.
C09-208	Feeder Pothead/Cable Replace	\$117,600	Yes	Reliability / Safety - Underground cable from substation to riser pole identified as having high levels of faults. Porcelain potheads replaced with polymer eliminating safety hazard associated with porcelain.
C09-219	U/G Cable Replace, Southdown	\$95,200	Yes	Reliability - Underground cable circuits experiencing high levels of faults contributing to feeder outage times.
C09-230	Replace Overhead Transformers	\$74,480	Yes	Unplanned replacement of overhead transformers that fail in service. The estimated cost is based on historical experience. The work is required in order to restore power to customers.
C09-235	Replace Underground Transformers	\$292,320	Yes	Unplanned replacement of padmounted transformers that fail in service. The estimated cost is based on historical experience. The work is required in order to restore power to customers.
C09-240	Distribution Component Changeouts	\$132,720	Yes	Unplanned component replacements for reliability. These components are identified through analysis of feeder outage statistics. The estimated cost is based on historical experience.

C09-241	Substation Component Changeouts	\$50,400	Yes	Unplanned component replacements for reliability. These components are identified through analysis of feeder outage statistics. The estimated cost is based on historical experience.
C09-242	Overhead Unplanned Replacement	\$80,360	Yes	Unplanned replacement - truck stock materials. These are capital materials consumed from truck stock for work required to restore power to customers.
C09-243	U/G Secondary Cable Unplanned Replacement	\$212,800	Yes	Unplanned replacement of underground secondary cables that fail in service. The estimated cost is based on historical experience. The work is required in order to restore power to customers.
C09-244	U/G Primary Cable Unplanned Replacement	\$163,520	Yes	Unplanned replacement of underground primary cables that fail in service. The estimated cost is based on historical experience. The work is required in order to restore power to customers.
C09-250	Delta Wye Conversions	\$52,080	Yes	Public / workforce safety - This work involves removing existing 3 phase 3 wire delta services and replacing with 3 phase 4 wire wye services. 3 phase 3 wire delta services are hazardous as a ground fault goes undetected providing a hazard for anyone working on the circuit.
C09-274	MS# 5 Relays	\$180,320	Yes	Reliability / safety / reduced maintenance: Electronic relays increase the reliability of the distribution system by providing faster reclose options and more attempts to clear the feeder fault before locking out the circuit. The relay information is also useful in analyzing the feeder outages. The electronic relay allows for the introduction of ground fault sensing allowing safer distribution system protection. Maintenance is also significantly reduced lowering OM&A costs.
C09-275	MS#10 Relays	\$331,520	Yes	Reliability / safety / reduced maintenance: Electronic relays increase the reliability of the distribution system by providing faster reclose options and more attempts to clear the feeder fault before locking out the circuit. The relay information is also useful in analyzing the feeder outages. The electronic relay allows for the introduction of ground fault sensing allowing safer distribution system protection. Maintenance is also significantly reduced lowering OM&A costs.
C09-281	Substation Breaker Replacement	\$207,200	Yes	Reliability / safety / reduced maintenance: Air Magnetic breakers are being replaced with vacuum breakers allowing for an improvement in reliability by providing faster reclose times and more numerous operations to clear the fault before locking out the feeder. Vacuum breakers require significantly less maintenance resulting in lower OM&A costs. Safety is improved as the fault is cleared inside a sealed vacuum bottle rather than open arc chutes.

C09-282	Substation Containment	\$23,296	Yes	Substation oil containment - Environmental / safety - This program allows for the containment of oil prior to entering the storm sewer in the event of a substation transformer tank rupture.
C09-283	Rebuild Farewell - Wentworth	\$360,080	Yes	Reliability / Safety: This circuit is at the end of its engineering life and is contributing to outage time. By rebuilding this circuit power can be redirected between transformer stations allowing for more movement of load within the distribution system in the event of overload conditions.

Total Distribution System Budget \$6,114,680