Coalition Exhibit _____

Excerpts from PowerStream Inc.
Rate Proposal related to Capital Asset Management

Chapter 5

Consolidated

Distribution System Plan

Delivered: February 24, 2015

5.3.3 ASSET LIFECYCLE OPTIMIZATION POLICIES AND PROCEDURES

An understanding of a distributor's asset lifecycle optimization policies and practices will support the regulatory assessment of system renewal investments and decisions to refurbish rather than replace system assets. Information provided should be sufficient to show the trade-off between spending on new capital (i.e. replacement) and life-extending refurbishment, and should include but need not be limited to:

a) A description of asset lifecycle optimization policies and practices, including but not necessarily limited to:

- *a description of asset replacement and refurbishment policies, including an explanation of how (e.g. processes; tools) system renewal program spending is optimized, prioritized and scheduled to align with budget envelopes; and how the impact of system renewal investments on routine system O&M is assessed;*
- *a description of maintenance planning criteria and assumptions; and*
- *a description of routine and preventative inspection and maintenance policies, practices and programmes (can include references to the DSC).*

b) A description of asset life cycle risk management policies and practices, assessment methods and approaches to mitigation, including but not necessarily limited to the methods used; types of information inputs and outputs; and how conclusions of risk analyses are used to select and prioritize capital expenditures.

Asset Replacement and Refurbishment (Remediation) Program and Policies

PowerStream has several asset remediation programs for maintaining distribution system and general plant integrity.

PowerStream makes assessments on whether an aged asset is suited for refurbishment or replacement based on criteria that are pertinent to a given asset class.

A large contributor to the assessment process is the annual inspection of critical assets. Annual inspections are completed on the distribution system for the overhead system, load interrupter switches, padmount switchgear, vault rooms, padmounted switchgear, stations and poles. An assessment is made and an asset will be categorized as a Code A, Code B or Code C:

- Code A: Corrective measures/follow-up are required at the earliest possible opportunity (address immediately);
- Code B: Assessment required for corrective action for the next budget cycle; and
- Code C: No corrective measures are required. Follow the regular maintenance cycle.

Additionally, testing is performed on cables to determine the health of the cable, and testing is performed on wood poles to determine remaining strength.

These designations are applied to the distribution system assets as seen in Figure 1. This table depicts, by asset, what the health index scores mean, what the inspection results mean, and how the scores are prioritized

Program	Health Index (max score = 100)	Inspection Results (Code A, B, C)	Prioritization Score (max score = 100)
Pole Replacement	not applicable	Used field inspection results to select replacement candidates. Code A= Very Bad, immediate replacement Code B= Fair, replacement candidate for next budget cycle Code C= Good condition, no replacement needed and maintain inspection	A higher point total yields greater replacement priority. (scored from % Remaining Strength, Condition, # of Transformers, # of Primary Conductors, # of Switches, Criticality of Pole and Age of Pole.) NOTE: Candidates will belong to one of the following groupings: - Remaining strength is less than 60 % - Remaining strength is greater than 60%, however other aspects of the pole are bad. (i.e., butt rot, insect infestation, decay, splitting, bending, leaning)
Cable Remediation: Cable Replacement	not applicable	TAN DELTA TEST RESULTS Code A = Critically Aged. Intervention Required Code B = Aged. Further study required. (Repeat testing evey 2 years based on test reults) Code C = No Action Required/Repeat after 5 Years	A higher point total yields greater replacement priority. (scored from Age, Cable Condition, Service Quality and Financial Impact)
Cable Remediation: Cable Injection	not applicable	TAN DELTA TEST RESULTS Code A = Critically Aged. Intervention Required Code B = Aged. Further study required. (Repeat testing very 2 years based on test results) Code C = No Action Required/Repeat after 5 Years	A higher point total yields greater replacement priority. (scored from Age, Cable Condition, Service Quality and Financial Impact)
Switchgear Replacement	Good Condition= high Health Index, >70 Fair Condition= middle Health Index, 51-70 Poor Condition= low Health Index, <51	Used field inspection results to select replacement candidates. Code A= Very Bad, immediate replacement Code B= Fair, replacement candidate for next budget cycle Code C= Good condition, no replacement needed and maintain inspection	not applicable
Mini-Rupter Switch Replacement	Good Condition= high Health Index, >70 Fair Condition= middle Health Index, 51-70 Poor Condition= low Health Index, <51	Used field inspection results to select replacement candidates. Code A= Very Bad, immediate replacement Code B= Fair, replacement candidate for next budget cycle Code C= Good condition, no replacement needed and maintain inspection	not applicable
Automated Switch Replacement	(Good Condition= high Health Index, >70 Fair Condition= middle Health Index, 51-70 Poor Condition= low Health Index, <51	Used field inspection results to select replacement candidates. Code A= Very Bad, immediate replacement Code B= Fair, replacement candidate for next budget cycle Code C= Good condition, no replacement needed and maintain inspection	not applicable
Submersible Transformer Replacement	Good Condition= high Health Index, >70 Fair Condition= middle Health Index, 51-70 Poor Condition= low Health Index, <51	Used field inspection results to select replacement candidates. Code A= Very Bad, immediate replacement Code B= Fair, replacement candidate for next budget cycle Code C= Good condition, no replacement needed and maintain inspection	not applicable
Distribution Transformer Replacement	Good Condition= high Health Index, >70 Fair Condition= middle Health Index, 51-70 Poor Condition= low Health Index, <51	Used field inspection results to select replacement candidates. Code A= Very Bad, immediate replacement Code B= Fair, replacement candidate for next budget cycle Code C= Good condition, no replacement needed and maintain inspection	not applicable
Station Equipment Replacement	Good Condition= high Health Index, >70 Fair Condition= middle Health Index, 51-70 Poor Condition= low Health Index, <51	NOTE: Inspection & testing results are used to generate the health index and replacement candidates.	not applicable

Figure 1: Summary of Health Index Results, Inspection and Testing

The remediation programs for maintaining the distribution system are:

- Pole Remediation (replacement or reinforcement);
- Cable Remediation (replacement and injection);
- Switchgear Replacement;
- Mini-Rupter Switch Replacement;
- Automated Switch Replacement;
- Submersible Transformer Replacement;
- Distribution Transformer Replacement;
- Station Equipment Replacement (Substations & Transformer Stations);
- 44kV Porcelain Insulator Replacement;
- Fault Indicator Replacement;
- Storm Hardening and Rear Lot Remediation;
- Information Systems;
- Facilities;
- Information systems;
- Facilities Remediation; and
- Fleet Replacement.

These are further described below.

<u>Pole Remediation</u>

Through an annual inspection and testing program, PowerStream monitors the condition of its poles to ensure that they meet minimum requirements for safety and reliability. Among other factors, PowerStream is guided in its pole assessment process by Clause 8.3.1.3 of CSA Standard C22.3 No. 1-10, which states that:

> *"when the strength of a structure has deteriorated to 60% of the required capacity, the structure shall be reinforced or replaced".*

In the quote from the CSA standard, the reference to capacity is interchangeable with pole strength for this program.

Other considerations include pole condition information such as rot, decay, splitting, insect infestation, bending, and leaning. PowerStream believes that the remediation of poles exhibiting poor (or worse) condition is non-discretionary. The remediation is required to maintain compliance with the CSA code, as well as considerations for safety of the public and for workers operating in, on, or around the poles and their associated equipment.

When an existing pole is replaced, PowerStream must install the new pole according to the current standards. In most cases the existing associated components attached to the existing pole are also at end-of-life and therefore must also be replaced. Examples of the associated components are brackets, cross arms, down guys, anchors, ground wires, insulators, arresters, and fasteners. If in any particular case, the pole has transformers, switches, or other equipment with significant remaining life, these are salvaged and re-used.

When a pole in reinforced, the base will be restored to full strength. See Figure 2.

Figure 2: Pole Reinforcement Installation

PowerStream annually inspects and tests a portion of pole population. The pole remediation candidates are selected based on the combination worst candidates of the following two groupings:

- Poles that have less than 60% remaining strength (CSA reference); or
- Poles that have more than 60% remaining strength but exhibit worsening conditions such as rot, decay, splitting, insect infestation, bending, and leaning.

Poles are prioritized based on their assessed health index, the worst being selected for replacement or reinforcement. See Figure 3 below.

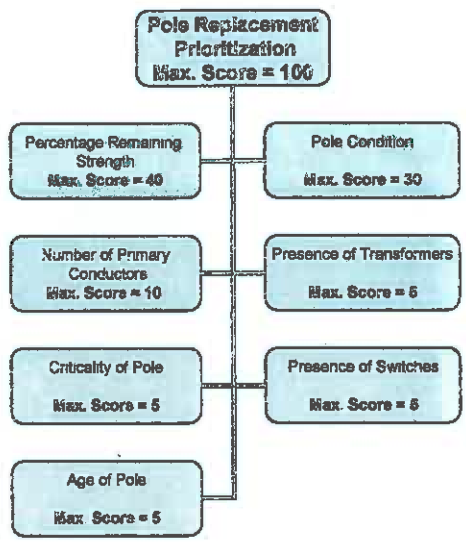


Figure 3: Pole Prioritization Matrix

Cable Remediation

PowerStream monitors the condition of its primary cables to ensure that they meet minimum requirements for safety and reliability. The asset demographics indicate that the oldest cables of the PowerStream cable population are at end-of-life, are deteriorating and are failing. To mitigate the effects of this, annual remediation efforts are required.

To manage the risk of large-scale primary cable failures, PowerStream has implemented a cable remediation plan. The plan includes continuous work on assessing, prioritizing, and remediating the worst cable segments by a combination of cable injection and cable replacement.

PowerStream's approach to managing the high risk cable population is summarized below:

- Use a cable prioritization system to select cable segment "candidates" for replacement or injection;
- Designate prioritized cable candidates for cable injection or cable replacement;
- Address the cable aging issue by a combination of cable injection and cable replacement on a prioritized basis;
- Conduct testing to assess the condition of the cable; and
- Select the preferred method.

In 2011, PowerStream's System Planning division introduced cable injection (a process that restores the insulation in a cable). This process extends cable life at approximately 15% of the cost of cable replacement. PowerStream's preference is to inject cables as a first choice for remediation. Research indicates that cable injection extends the life of cable for another 20 years, however, injection is only suitable and economical for some cable types and field conditions. The initial trials were very successful – low cost and no subsequent failures. The initial cable candidates were limited in age due to technical factors. In 2014, PowerStream did additional research related to the technical factors, and determined that additional cable candidates would be eligible for injection. This efficiency permits the remediation of the same amount of cable at a lower overall cost, or alternatively, permits additional lengths to be accomplished with an equivalent budget.

The cable replacement option is more expensive than the cable injection option with respect to the initial capital cost, but it has the advantage of resulting in new cable that will be utilized for a longer time. In comparing the two options, the extra life expected from injected cable is 20 years while the life of new cable is expected to be 50-55 years.

In order to determine the cable candidates to be selected for replacement or injection remediation means, PowerStream has developed a prioritization methodology which takes into consideration the physical condition of the cable along other factors such as age, impact to customer service and financial benefit. Figure 4 depicts the methodology used to screen and prioritize the candidates selected for injection or replacement.

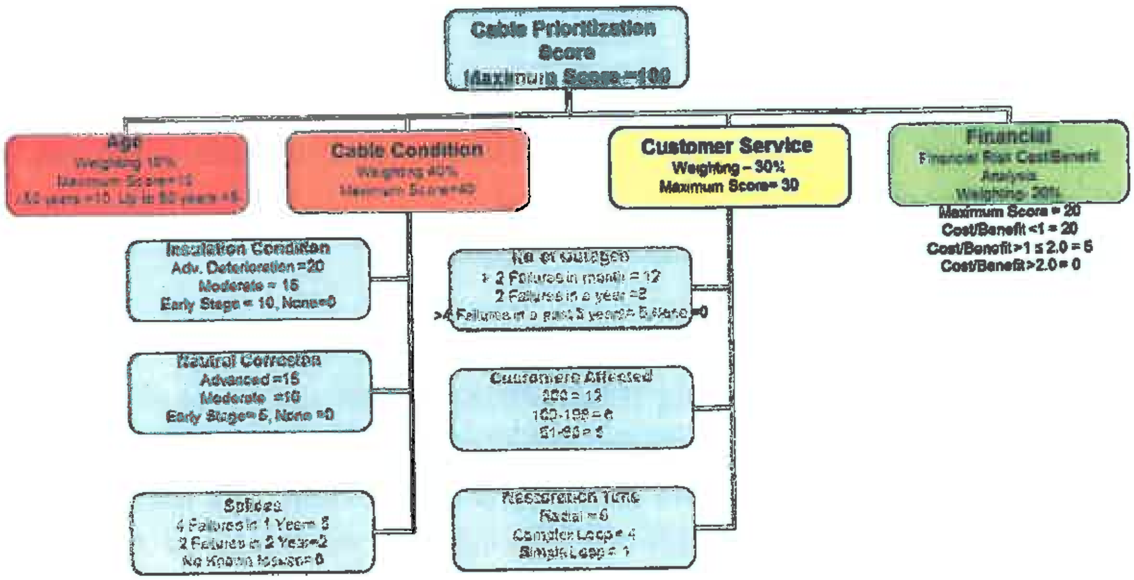


Figure 4: Cable Prioritization Matrix

Cable condition is the key driver and most heavily weighted factor in terms of determining cables for replacement/injection.

The cables that are proposed for remediation exhibit Code A results (advanced insulation degradation) indicating that intervention is required.

In 2010, PowerStream's System Planning division introduced Tan Delta cable testing, a diagnostic method of testing cables to determine the quality of the cable insulation. This testing, when applied within the cable remediation program, provides improved data to assist in determining the optimal approach to remediation – does the cable need remediation, and if so, is injection or replacement the preferred approach? This efficiency results in ensuring that only poor cables are selected and if injected if appropriate. This lowers the overall cost of the program.

The remaining factors in the prioritization matrix (customer service, financial, age) have decreasing factor weights with age being the lowest. In the absence of any other empirical data, age is the default indicator of when the cable approaches end of life.

Switchgear Replacement

Pad- Mounted Switchgear units are used in distribution loops supplying residential subdivisions and commercial/industrial customers. Switchgear units are used to isolate/control other equipment, and to reconfigure the loops for maintenance, restoration or other operating requirements.

Switchgear degradation depends on a number of factors, such as condition of mechanical components, contamination due to dirt, moisture and corrosion. The other important issues are obsolescence or product specific/generic defects.

Pad-mounted switchgear represent critical assets for the underground distribution system and have been identified to carry a significant reliability and safety risk due to condition, age, past design and installation practices. The population targeted for replacement consists of air and oil switchgears, based on safety and reliability concerns.

Appendix C (Table-1) of the Distribution System Code (DSC) sets out minimum inspection requirements for the distribution system and accordingly for urban environments the underground plant is inspected on a three year cycle. In addition ESA regulation 22/04 mandates that the distribution plant be inspected and any potential safety issues be rectified.

Based on the inspection results each year, and the health index calculation, a number of distribution switchgear are recommended for replacement due to safety concerns, age, and asset condition assessment information.

Mini-Rupter Switch Replacement

Mini-rupter switches are found in distribution loops supplying industrial commercial/industrial customers and are three pole-gang operated interrupter switches used for switching between underground distribution circuits.

Mini-rupter degradation depends on a number of factors, such as condition of mechanical components, contamination due to dirt, moisture and corrosion.

Mini-rupter switches are critical assets that are typically installed in vault rooms and have been identified to carry a significant reliability and safety risk due to condition, age and arc quenching design. There have been several failures of the switches where there has been an arc flash created between an energized component and ground potential. In this case the risk of injury is more pronounced as these switches are located in confined vault rooms. Due to the safety risk associated with failure of units, PowerStream's standard work practices have placed restrictions on switching of these units live, which is contrary to the units performing their intended function.

Based on the inspection results each year, and the health index calculation, a number of switches are recommended for replacement due to safety concern, age, and ACA information.

Automated Switch Replacement

High service reliability and rapid response to power outages is critical to maintain reliability and customer satisfaction.

Remotely controlled switches provide many benefits, which include:

- a rapid transfer of loads in emergencies;
- a reduction in restoration time (which improves reliability);
- a reduction in the number of customers affected by outages;
- flexibility to reconfigure the system to avoid feeder and station over loads during summer peak intervals;
- real time system readings;
- a reduction to the risk of personnel injury; and

- a platform for a complete distribution automation system.

There are identified locations where the automated switches are the end of life and cannot be operated remotely. These locations are selected for replacement.

<u>Submersible Transformer Replacement</u>

This particular model of submersible transformers (known as pole trans or rocket ships) are installed at the bottom of the street light poles, and are used to step down the primary voltage to the lower secondary voltage to supply residential customers. These are a unique installation that includes non-load break primary connections, submersible transformer, NX type fusing and a metal clad covering supporting a municipal street light fixture.

These units date back to 1967 and are at their end-of-life. They are obsolete, are no longer manufactured and spare parts non-existent.

PowerStream has identified the population of transformers of this vintage type and commenced a program to replace transformers each year. The program will be completed within the five years included in this DS Plan.

<u>Distribution Transformer Replacement</u>

Distribution transformers are used in the underground distribution to step down the primary voltage to the lower secondary voltage for use by customers. These transformers may be single-phase or three-phase depending on the customer and type of load. Pad-mount transformers in PowerStream's distribution system consist of a range of transformers from single phase 50kVA units typically supplying residential customers to three phase 3,000 kVA units supplying industrial customers. These transformers are liquid filled, with mineral insulating oil and employ sealed tank construction.

Single phase distribution transformers are generally a run-to-failure asset, unless through inspection, the units present a safety or environmental hazard. For larger three phase distribution transformers supplying commercial or industrial customers, where reduction in reliability impacts may be high, transformers may be replaced as they near the end-of-life or where they have been identified as overloaded.

Station Equipment Replacement

Transformer stations are a highly complex set of assets working together to supply electricity to the distribution system. Based on demographic and condition data, health indices have been developed and asset data collected on an ongoing basis. Replacements are made as indicated by the health indices.

44kV Porcelain Insulator Replacement;

PowerStream is experiencing a growing number of power interruptions due to insulator failure. It has been found that the older vintage of 44kV porcelain insulators are prone to tracking and flash over. PowerStream is proposing to replace all remaining legacy 44 kV porcelain insulators with polymer type insulators (over the next four years).

Fault Indicator Replacement

PowerStream has deployed fault indicators throughout its distribution system, and the location of the installations are result of mergers of several predecessor utilities. There are several different types of fault indicators currently deployed on PowerStream distribution systems. Some areas have fault indicators heavily deployed, while others have limited numbers installed or no fault indicators at all. This program is a combination of adding fault indication to areas where fault indication is absent, as well as replacing older technology fault indicators that are obsolete or prone to malfunction.

Fault Indicators are significant to the distribution system to reduce fault locating times, improving outage response and, consequently, outage restoration times. The deployment of functional fault indicators are crucial to maintaining high levels of reliability and customer service and to achieving gains in operational efficiency.

Storm Hardening and Rear Lot Remediation

PowerStream has a number of pockets of customers supplied by rear lot (backyard) construction. In general, these areas are older neighbourhoods and the electrical supply systems were installed between 1950 and 1970. As a result, the electrical components are ageing and the assets are deteriorating.

Rear lot supply systems pose reliability, operations, safety, and customer service issues for PowerStream. These concerns are either from a subdivision (many customers), or an individual customer requesting an underground service in a rear lot supply area.

In 2012, a review of the rear lot pockets was performed. There are thirty-six (36) areas of various sizes. These assets are aging, with an average age of years forty-two (42) years, with the oldest being sixty-six (66) years old. These assets pose a potential safety risk to the public due to planting of trees and the installation of sheds and pools close to the lines. The assets are also more inaccessible compared to standard front lot design. Several potential options and associated costs were presented.

In the 2013 ice storm, the longest outage times were faced by customers supplied with rear lot overhead systems. As a result, a second review of the options was performed, and PowerStream is proposing to annually replace areas of the rear lots supplies with front lot standard construction, until they are remediated. Additionally, PowerStream will be reinforcing pole lines and moving equipment located in the basement in transformer stations to above grade (to avoid flooding).

Information Systems

PowerStream's computer assets are required to be reasonably current and in good working order, and the "useful life" has been determined in accordance with current accounting principles. Other factors such as reliability and the impact (cost) of failure remain the primary factors considered in IT asset management decisions.

Table 1 outlines the useful life of information system hardware. PowerStream continuously looks for opportunities to extend the useful life of hardware (and software). The introduction of virtualization, both on the client and server side, has the potential to reduce the dependency on physical hardware.

Asset Class	Useful Life (years)
Switches/Routers	6
Servers (including servers and SAN)	5
MFP's (including all printers)	5
Desktops/Laptops (includes immaterial monitors)	4
Computer Software Application	4
Computer Software Operations (Operating Systems)	3

Table 1: Information System Hardware

PowerStream's policy, with respect to system software, is to maintain software as current as practical, based on the version releases and the impacts of upgrades. Software is only upgraded once all reasonable options are considered and deemed inadequate to meet current business needs. Reasons to upgrade include:

- Lack of vendor support;
- Costly vendor support;
- Lack of compatibility with versions used by business partners and customers;
- New features can be obtained which provide additional functionality to improve efficiency;
- Lack of compatibility with new software or hardware;
- Probability of failure/service interruption;
- Support costs (once systems are beyond warranty); or
- Challenges with interoperability and integration.

There is a direct benefit to our customers as the computer systems, such as the Customer Information (billing) System or Outage Management System, are used to process information necessary to provide the high level of service that our customers expect.

<u>Facilities Remediation</u>

PowerStream has four facilities with various age demographics. The Cityview Blvd head office in Vaughan is seven years old and in good condition while the Patterson Road north office and work yard facility in Barrie was built in the early nineties and is in fair condition. Lease hold improvements at Markham Addiscott Road Operations Centre facility will also result in increased capital requirement and the Jane Street in Vaughan office is new and does not require work.

The areas of concern for PowerStream's facilities are:

- Exterior (pavement, fencing, lighting, stores yard);
- Interior (furniture);
- Mechanical (Plumbing);
- Structural (windows, doors, wall partitions);
- HVAC (Heating & air conditioning); and
- Equipment (major tools, lifts).

<u>Fleet Replacement</u>

PowerStream's fleet assets are required to be in good working order. Depending on the class of vehicle (heavy duty, medium duty, light duty or miscellaneous class) replacement is required when the vehicle reaches:

- a prescribed odometer reading: or
- a prescribed Engine Hours reading and shows an upward trend in Unscheduled Maintenance cost for last three years, and
- a high projected unscheduled maintenance cost (based on a technical assessment).

Optimized, Prioritized Spending Procedures and Risk Management

PowerStream's Capital Investment Process commences with the annual business planning and budgeting process in the first quarter of each year, as described in Exhibit G, Tab 2, Section 5.3.1, page 25.

The following principles are applied on an annual basis to the process:

- Business Units develop their initial five year capital plans as part of the annual capital planning cycle;
- Business units prepare detailed budgets, justifications and business cases for projects, and enter these into the Optimization tool;
- A Corporate Five Year Plan is compiled based on the submitted business unit five proposed projects/programs as part of the capital planning cycle;
- The five year detailed budgets for all business units are prioritized through the Optimization process; and
- Approved and prioritized projects for years one and two are designed and readied for execution in the next business year(s). Approved and prioritized projects for the remaining three years are identified and design can be commenced only if warranted.

For the five year budget cycle, these principles are applied across ten key steps as shown in Figure 5. The detailed activities in each step are discussed in the following pages.

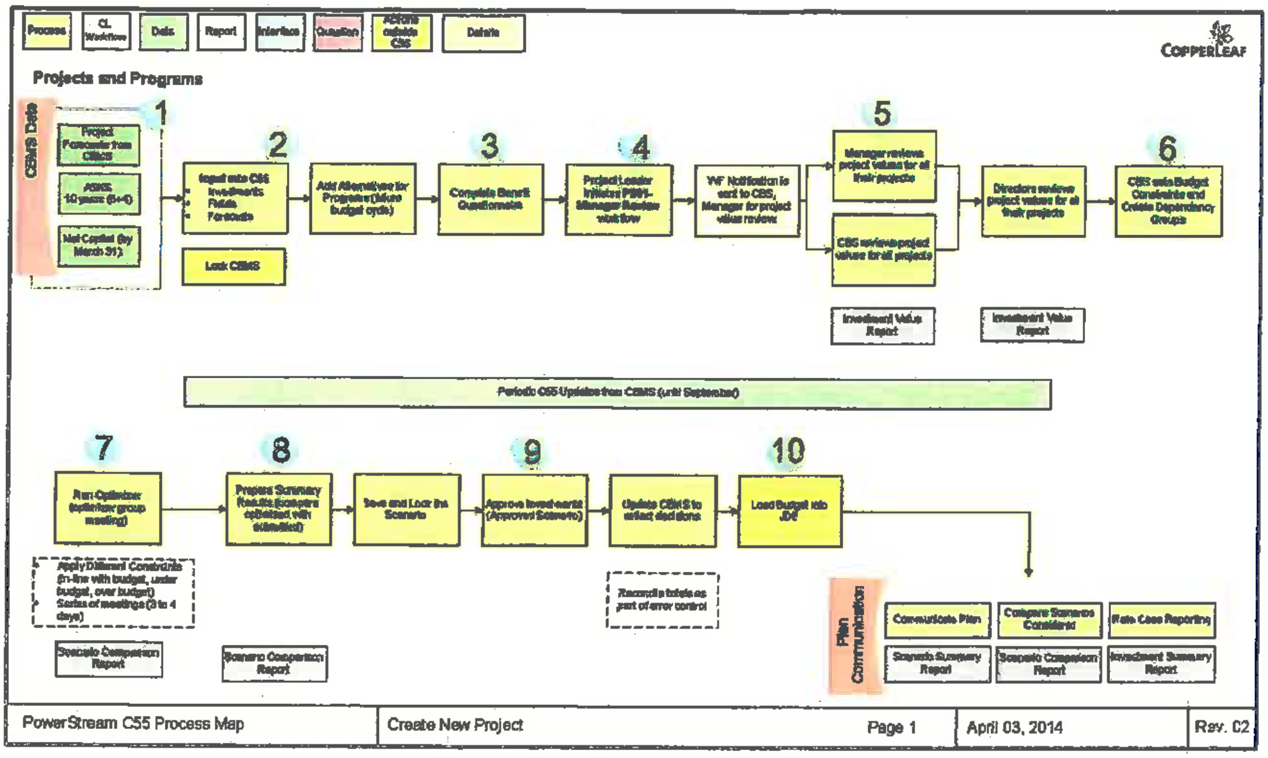


Figure 5: Capital Budget Cycle

Key Step One – Capital Budget Management System (CBMS) Entry

The Capital Budget Management System is one of the first tools applied in the budget cycle. PowerStream's Capital Investment Process incorporates a ten year forward looking plan. Business units that have major capital expenditures put together their own ten year departmental capital expenditure plans and five year budgets.

The business unit ten year capital expenditure plans are summarized into a Corporate Ten Year Capital Expenditure Plan. The information is combined from the following business units:

- Asset Investment Planning;
- Distribution Design;
- Operations;
- Lines;
- Supply Chain Services;

- Smart Grid & Metering; and
- Information Services.

Early in the calendar year a request is sent out by Asset Investment Planning to all business units in PowerStream to prepare ten year capital expenditure plans and five year budgets. These plans are developed over the January to March period. The information in the Corporate Ten Year Capital Expenditure Plan is used by the Finance Department in their financial models to consider affordability. In addition, information in the first five year plan is used in rate planning for the forward looking years.

In 2014, all project leads entered their project information (costs, year of expenditure, rationale etc.) into the Capital Budget Management System (CBMS) tool, which is then loaded into the Optimization tool for review and consolidation. In 2015, for efficiency gains, a project will be proposed to allow direct entry of the budget data into the optimization tool. Refer to Exhibit G, Tab 2, Section 5.2.3 page 7, for additional information.

These five year plans serve as the starting base for the development of the Corporate Capital Expenditure Plan.

The business unit capital plans serve three purposes:

i) assist business units in their future planning and enable the business units to provide solid five year budgets;
ii) forms the basis of the information provided in a rate application for the forward looking years; and
iii) provides the Finance team with information for financial planning.

Business units provide details in their five year budgets on forecast capital spending requirements and describe the process by which they have determined the capital spending requirements. Specific projects/programs and costs identified in the plans are generally preliminary and the projects/programs identified in the plans may or may not be approved for execution at this point.

Key Step Two – Input Data into Optimization Tool (Input into C55)

Data is entered into the Copperleaf C55 Optimization tool. Critical fields are entered including details on the proposed investment, forecasts of the expenditures over the five year budget horizon, answers to specific questions asked, based on the investment type, for both benefit and risk.

The value and risk questionnaire was created using vendor expertise, existing practices and the contribution of project leads as experts who request capital projects or programs.

Within Copperleaf's C55 program, all projects are valued (and optimized) based upon a Value Function. The Value Function is a weighting of a number of Value Measures. Value Measures can include risk mitigation, financial benefits, impacts on Key Performance Indicators (KPI), and cost. The Value Function was configured to reflect how projects contribute to PowerStream's strategic objectives as shown below. Questions were designed to provide value and scoring for these strategic elements, as noted in Exhibit G, Tab 2, Section 5.2.1, Figure 1.

Financial Benefits: **4 Pillars** **Corporate Strategic Objective**

- Hard Financial Benefits
- Soft Financial Benefits
- Productivity

Financial	F2 (provide an optimized rate of return)
Processes	I1 (focus on continuous improvement)

KPI Impacts:

- Reliability
-
- Reliability for Spares
-
- Customer Communication
- Customer Service
-
- Rate Ready Organization
- Environmental Improvements
- Employee Wellness
- Technological Innovation

Customers	C1 (deliver professional services and exceptiopnal customer experience)
Customers	C1 (deliver professional services and exceptiopnal customer experience)
Customers	C3 (continue developing the PowerStream brand)
Customers	C1 (deliver professional services and exceptiopnal customer experience)
Processes	I4 (develop a rate submission ready organization)
Foundation	E2 (ensure a safe and healthy workplace)
Foundation	E1 (be a best in class employer)
Foundation	E4 (investigate and apply new and innovative technologies)

Risk Mitigation:

- IT Capacity
- Financial
- Environmental
- Safety
- Distribution
- Compliance

Foundation	E3 (build integrated technoogy platforms)
Financial	F2 (provide an optimaized rate of return)
Foundation	E1 (be a best in class employer)
Foundation	E2 (ensure a safe and healthy workplace)
Customers	C2 (provide customer swith cost effective, competive distribution rates)
Processes	I3 (Shape and influence positive advocacy)

Cost:

- Project Cost

Financials	F1 (increase shareholder value)

Key Step Three – Complete Benefit Questionnaire

Once project identification is complete, the business units, in conjunction with the Capital Budget Supervisor, answer a series of questions about each project/program. The questions posed are aligned with PowerStream's corporate goals and risk matrix.

The answers to the questions form the basis for scoring both the value of the project to the corporation and its customers if the project is undertaken and the risk to the corporation and its customers if the project is not completed in the planned year. The Capital Budget Supervisor coordinates the business units across the organization to ensure that timelines are met, and consistent interpretations of the answers are applied.

In addition to answering the benefit and risk questions required for scoring the projects/programs, for those projects/programs that exceed the materiality threshold, additional questions with respect to Chapter 5 of this rate filing are posed and business leads are required to provide the requisite information. Business cases, as appropriate, are also created. Once the questions on the projects are all answered, the data on the projects is ready for optimization. PowerStream utilizes Copperleaf's C55 product for optimizing multi-year portfolios.

The current configuration of PowerStream's Value Function and the Value Measures that comprise the Value Function is summarized below:

- Each of the Value Measures is calibrated to the same scale (1 value point approximately equal to $1000). Consequently, within the Value Function, each of the Value Measures (except Project Cost) is weighed with the same value of +1. As Project Cost is a negative contributor to Project Value it is weighted with a cost of -1.
- All Value Measures are computed on an annual basis (e.g. the financial benefits for 2017 can be specified as being different than 2018). The stream of benefits (or costs) is converted to a single value for the Value Measure, by taking the Present Value of the stream, back to the beginning of the current fiscal year. The PV calculation uses the system defined discount rate.

- The Value of Risk Mitigation in all risk categories is computed using the same methodology. The project owner specifies the Baseline Risk and the risk present if the project is not completed.
- Residual Risk: The risk present if the project is completed. The value of Risk Mitigated is computed as: Baseline Risk – Residual Risk.
- For each risk the project owner specifies both the consequence and the probability of Consequence
- Projects in the following categories have been identified as Mandatory or Must Do investments as PowerStream is mandated to complete these investments, specifically:
    - Emergency Restoration;
    - Subdivision Services;
    - Road Authority Projects;
    - Emerging Development Capital;
    - Customer RGEN;
    - ICI projects;
    - Subdivisions;
    - Layouts; and
    - Emerging customers.

These projects are flagged as "must do" and are considered as mandatory as part of the optimization process. These projects have mitigated risk value as they are mitigating a compliance risk. These projects are subtracted, by the system, from the constraint amount, effectively reducing the amount of money available for competing projects and programs.

The value function combines all the value measures to compute the overall value of an investment. The value of an investment reflects the total value that the project is bringing to PowerStream, taking into account all of its financial benefits, impact on KPIs, risk mitigation and costs.

Key Step Four – Initiate Manager Review

Once a project lead has completed a project/program entry into C55, and automatic workflow notification is produced to advise the Manager, Director or VP and the Capital Budget Supervisor that the item is ready for review.

Key Step Five – Manager Review Projects/Program Values

Once a project/program, or series of projects/programs have been entered by project leads, their respective managers, directors or vice-presidents can review, on an individual or comparative basis, projects under their purview. Once reviewed and any follow-up questions answered, the projects/programs are then ready for the optimization process.

Key Step Six – Set Budget Constraint

The Finance department sets several budget funding level constraints to allow for analysis and to establish financial criteria to permit the optimization results to be compared to the optimal funding amount. These levels are available for optimization runs to create varied constraint scenarios.

Key Step Seven – Run the Optimization

The C55 tool is capable of running multiple scenarios with the project/program list being optimized for the greatest annual value. All capital projects/programs in the corporation are run through the Optimizer tool with projects from IT, fleet, planning, station construction and lines construction competing on value through the same tool. The multiple scenarios permit the results to be compared under various constraints and risks. The software tool takes all the projects/programs within the capital portfolio, calculates a numeric dollar value based on the benefit and risk calculations and the initial capital cost, and uses that value in the optimization process.

The C55 optimizer selects the combination of start dates of projects that brings the highest total value to PowerStream while fitting within the specified financial constraints.

Until projects are compared with one or another and the financial constraints are specified it is not known whether a project will be funded or not – so a project lead cannot know for certain whether or not a project will be funded.

Key Step Eight – Prepare the Results of the Various Scenarios

With the constraints set and the "must do" projects/programs accounted for, the results of the various scenarios are presented and reviewed by a multi-departmental senior optimization team, who discuss which projects must be approved as part of the five year capital budget. Members of the senior optimizer team include key leaders from each of the business units who have major capital spend across the corporation, as well as Rates & Regulatory department and Organizational Effectiveness department representatives.

Projects that were scored negative, are generally deferred beyond the six year horizon but are also discussed to ensure that any intangible benefits are considered. Once reviews and dependencies are considered, optimization can be run several times to achieve that optimal balance between the computation (science) and human element (art).

A decision is made on the preferred constraint scenario, and any project/program adjustments and deliberations occur prior to finalizing the preferred listing.

Key Step Nine - Determining and Approving the Portfolio of Projects/Programs

The result from the senior optimization team is a proposed scenario of multi-year projects and programs that will be approved by the PowerStream's Executive Management Team (EMT) and the Audit and Finance Committee for approval prior to approval by the Board of Directors.

The proposed scenario is submitted for approval with the appropriate business case details. For projects less than $500,000 the information is in its "mini-business case" format for each project. For any specific project or program that is greater than $500,000 or for IT related projects greater than $100,000, a full business case is provided and submitted for approval.

In conjunction with this process, for a rate filing year, the DS Plan's Customer Engagement process, as detailed in Exhibit G, Tab 2, Section 5.4.2, considers the responses of PowerStream's customers and a detailed review is held to correlate the proposed plan to the engagement results.

Key Step Ten – Load the Approved Portfolio into JD Edwards

The approved first year portfolio of projects/programs is loaded into the JD Edwards financial system so that it is available for all departments use within the project execution process, enabling project/program implementation.

Maintenance Planning Criteria and Assumptions

PowerStream has two main capital activities related to maintenance, which are planned and unplanned maintenance.

Planned (Proactive) Inspection and Maintenance

Activities associated with PowerStream's annual distribution inspection and preventative maintenance program are detailed in Table 2. When an inspection is performed on a given set of assets, a rating code is assigned. If the rating code assigned warrants immediate replacement, the replacement cost will generally be capitalized, while repairs will generally be expensed.

	2015	2016	2017	2018	2019	2020
O & M COSTS	3,290,425	3,824,791	4,364,492	4,909,270	5,459,443	6,014,538
insulator washing	140,000	141,400	142,814	144,242	145,684	147,142
pole testing	185,000	186,850	188,719	190,606	192,512	194,437
underground cable testing	51,945	53,177	54,431	55,506	56,521	57,417
dry ice cleaning	353,295	356,829	360,397	363,999	367,640	371,317
infrared scanning	146,856	148,516	150,193	151,841	153,490	155,104
overhead switch maintenance	353,329	357,419	361,532	365,606	369,752	373,528
vegetation management	2,060,000	2,580,600	3,106,406	3,637,470	4,173,844	4,715,593

Table 2: Annual O & M Spending

A description of these is below.

Insulator Washing

Overhead line insulator washing is required annually to prevent failure in the distribution system. Insulators become contaminated by road salt or other airborne contaminants which can result in flashovers and interruption of power. Insulator washing is carried out without necessitating isolation of the overhead circuits and the resulting customer interruptions. It also includes visual inspection and identification of any damaged equipment in the main feeder infrastructure.

Pole Testing

As part of PowerStream's Asset Condition Assessment (ACA) Program, wood poles are inspected and tested. This work is performed by a contractor who submits electronic records of their inspections/tests to the Asset Investment Planning department. Results of the testing are used to determine candidates for pole remediation. Refer to Exhibit 2, Tab 4, Section 5.3.3 for information on the pole remediation program.

Underground Cable Testing

In 2012, PowerStream commenced a program to perform Very Low Frequency ("VLF") Tan Delta testing of its underground cable to determine if there has been any deterioration in the cable insulation. Targeted areas, based upon cable age and deteriorating performance, are identified and tested, and the results and taken into consideration for the selection of areas for cable remediation. Refer to Exhibit G, Tab 2, Section 5.3.3 for information on the cable remediation program.

Dry Ice Cleaning

The dry-ice cleaning program for air-insulated pad-mounted switchgear and vault room switchgear is a cleaning method that allows an efficient and cost effective maintenance of switchgear. Air-insulated switchgear become contaminated with dirt, dust and road salt that can lead to flashovers and equipment failure. The high pressure dry ice method of cleaning allows for air-insulated switchgear to be cleaned without the necessity of isolating the equipment and removing the unit from service. Switchgear is typically cleaned on a six year cycle unless a location is determined to require more frequent cleaning due to high levels of contamination.

Infrared Scanning

PowerStream's Lines Department also uses infrared scanning to identify overheating components on its overhead and underground distribution system. As a result of the infrared scanning, equipment showing signs of overheating is scheduled for repair or replacement on a priority level based on the severity of the overheating.

Overhead Switch Maintenance

Maintenance of three phase gang operated switches, both manually operated and remotely operated, is required to ensure the switches are free of contamination and operate smoothly and efficiently. PowerStream currently maintains the switches over a five year cycle. Maintenance of overhead switches requires isolation of the switches.

Vegetation Management

PowerStream's vegetation management program was historically based on a five-year tree trimming cycle, with adjustments for more densely treed, overhead areas. Targeted tree trimming that is not part of the regular five-year cycle was carried out directly as a result of outages caused by trees and as part of the worst performing feeder program. In assessing the effectiveness of the tree trimming program, it became evident that there was a trend toward increased "reactionary" tree trimming as a result of outages and to meet the needs of the worst performing feeder program. This was diverting resources away from the annual cycle trimming program and upon review it was determined that the five year trimming cycle was not adequate to keep up with tree growth across the service territory. As such the tree trimming cycle has been adjusted to a three year cycle across the territory.

Additionally, further vegetation management strategies were recommended by the System Hardening review as a result of the ice storm. PowerStream has changed its policy for rear yards and heavily treed front yards from a five year cycle to a two year cycle. Rural areas now have a 4 year tree trimming cycle where previously they were not part of the tree trimming cycle.

Unplanned (Reactive) Maintenance

Activities in this category are typically associated with equipment failures that are usually accompanied by outage trouble shooting and restoration. Power interruptions on the distribution system result from a variety of causes as indicated by the multitude of Canadian Electrical Association (CEA) cause codes. Responses to outages are performed by trouble crews.

Where the repairs made to the distribution system are minor, maintenance work orders are charged. This includes work such as splicing conductors, repairing guying and down grounds on poles, tightening loose attachments, painting rusted tanks, levelling uneven pad bases or repositioning shifted transformers and repairing secondary failures.

Impact of System Renewal on Routine O&M and Emergency/Reactive Repairs

Routine O&M

Although System Operations and Maintenance (O&M) and capital investments are interrelated, a significant portion of System O&M expenditures are directed to activities that are independent of specific capital expenditure, including:

- Testing of assets for health condition assessments necessary to provide the information that is used to plan the capital programs;

- Regular maintenance activities to preserve asset performance over its expected life, such as minor repairs, equipment adjustments or cleaning;
- Vegetation management to maintain minimum clearance requirements for overhead conductors and equipment, both annually, and increased amounts as a result of recommendations from the ice storm;
- Cyclical patrols and inspections undertaken as good utility practice and to comply with minimum Distribution System Code requirements; and
- Corrective maintenance activities to address deficiencies caused by animal, pest, or tree contacts or asset deterioration.

The information captured through O&M programs is necessary to enable the prioritization of asset replacements for capital work and to ensure that the assets that remain in-service have not surpassed their useful life.

As can be seen in Figure 6, PowerStream continues to add distribution system assets, steadily increasing the volume of equipment that needs to be maintained and inspected. PowerStream continues to monitor, test, inspect and maintain/repair all components of the distribution system to ensure safety for its personnel and the public and to provide acceptable service to customers.

GIS Annual Facts 2009 vs 2014

	2009	2014	Difference	
			#	%
Total Primary UG KM of Conductor Material	7172.4	8137.5	965.1	13.46%
Distribution Transformers	40241	44192	3951.0	9.82%
Switchgear	1744	1847	103.0	5.91%
Meters (Service Points)	313880	356210	42330.0	13.49%

Figure 6: Annual Fast Facts (2009-2014)

PowerStream anticipates additions from 2015 to 2020 to increase at a similar rate. The result is that the O&M budget requirement is not expected to decrease and in fact increases annually. With the exception of vegetation management, the year-over-year growth in O&M budgets are small, despite the growing asset base (as shown in Table 2, page 26).

Emergency/Reactive Replacements

Although system renewal projects and emergency/reactive replacements are interrelated, a portion of emergency/reactive replacements are directed to activities that are independent of particular capital expenditure levels, including:

- corrective maintenance activities to address deficiencies caused by animal, pest, or tree contacts;
- emergency maintenance resulting from vehicular accidents/vandalism;
- emergency maintenance resulting from severe weather and storms;
- equipment failure due to deteriorated condition; and
- equipment in poor condition as identified during system inspections.

PowerStream's system renewal program has been designed to:

- Hold system failures, and consequently, reliability, at a constant level (not get worse);
- Strike a balance between affordable spending and tolerable risk; and
- Result in the levelling of capital reactive spending (emergency replacements).

Within PowerStream's ACA models, curves have been developed to indicate a correlation between asset condition/age and failures, and depict the likely expected number of failed units over time. If proactive replacement of the worst assets can be performed, the level of anticipated failures can be held to a steady state.

If the levels of proactive system replacement, when combined with the reactive system replacements, fall within the anticipated annual failure rates within various asset classes, a steady state can be achieved. This approach results in levels of capital spending that are acceptable with the risk mitigated, provide level, paced capital spending and do not increase the capital costs for reactive replacement.

Replacing selected unhealthy units with new units will improve reliability due to the failure on the unhealthy units being avoided. Additionally, since the total population increases annually, and this applies to all assets, there is an increased probability for asset failure as time goes on. This balance of renewal and aging holds the overall system reliability at the same level.

As detailed in Exhibit G, Tab 2, Section 5.4.5, page17, proposed spending for *Distribution Lines – Emergency/Reactive Replacements* are summarized in Table 3. Additionally, reactive O&M is summarized. Expenditures will either be allocated to capital or O&M based on the required repair and magnitude of the work performed.

	Actuals				Proposed					
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Distribution Lines - Emergency/Reactive Replace Capital	*$7,194,378*	*$7,918,155*	*$8,219,497*	*$8,697,396*	*$8,416,283*	*$8,636,001*	*$8,729,603*	*$8,888,091*	*$8,924,606*	*$8,504,138*
a) LIS - Unscheduled Replacement of Failed (end of useful Life) Distribution Equipment		$334,123.00	$51,210.00	$125,384.00	$350,776.00	$346,168.00	$331,291.00	$321,119.00	$276,190.00	$275,612.00
b) Non Recoverable replacement of Distribution Equipment due to accident/vandalism	$103,434 00	$126,031 00	$138,680.00	$208,789.00	$210,774.58	$220,581.01	$220,972.56	$220,972 47	$211,280.95	$191,499.23
c) Recoverable Replacement of distribution equipment due to Accidents/Vandalism	$137,439 00	$714,253 00	$807,981 00	$816,842 00	$530,442.20	$530,600.67	$545,432 33	$560,875 95	$570,984.37	$580,023 22
d) Storm damage - Replacement of distribution equipment due to storm.	$428,418.00	$482,911.00	$767,149.00	$1,160,050.00	$999,784 75	$1,000,232 43	$1,005,602.71	$1,005,624.45	$1,010,352.34	$1,010,159.38
e) Switchgears - Unscheduled Replacement of Failed (end of useful Life) Distribution Equipment		$1,381,861.00	$1,663,004.00	$1,495,974 00	$1,420,148.09	$1,431,383.51	$1,420,147 96	$1,421,218.32	$1,400,444 11	$1,140,858.02
f) Unscheduled Replacement of Failed (end of useful Life) poles, conductors & devices (S)	$5,472,537.00	$3,771,553 00	$4,051,060 00	$4,157,571 00	$4,004,267.00	$4,136,745.00	$4,195,526 00	$4,298,340.00	$4,349,171.00	$4,266,252 00
g) Unscheduled Replacement of Failed (end of useful Life) Distribution Equipment - Poles, conductors & devices (N)	$1,052,550.00	$1,107,423.00	$740,413.00	$732,786.00	$900,090.00	$970,290.00	$1,010,630.00	$1,059,941.00	$1,106,183.00	$1,039,734.00
Distribution Lines -Reactive O & M	*$5,400,663.80*	*$5,107,963.06*	*$6,862,122.52*	*$5,857,601.24*	*$5,888,034.00*	*$6,028,513.00*	*$6,172,551.00*	*$6,307,553.00*	*$6,440,120.00*	*$6,572,121.00*
h) Inspections, Patrol, Testing	$478,946.45	$558,421.79	$501,527.00	$434,200.74	$728,443.00	$739,101.00	$749,929.00	$759,915.00	$769,619.00	$778,996.00
i) Accidents & Vandalism	$530,023.70	$348,177 74	$355,100.84	$528,236.75	$408,551.00	$417,861.00	$427,351.00	$435,491.00	$443,139.00	$450,133.00
j) Poles and Lines Hardware	$686,710.96	$630,138.29	$524,338.75	$683,144.97	$577,254.00	$589,761.00	$602,520.00	$613,512.00	$623,834.00	$633,461.00
k) Storm Damage	$522,403.45	$337,871.22	$2,130,447.97	$265,277.83	$369,686.00	$377,037.00	$384,538.00	$391,068.00	$397,211.00	$403,090.00
l) Cable Faults - Primary	$1,488,438.22	$1,608,997 25	$1,725,815.28	$1,949,015.66	$2,201,209.00	$2,258,403.00	$2,317,214.00	$2,374,693.00	$2,432,340.00	$2,491,112.00
m) Cable Faults - Secondary	$1,042,341 74	$1,013,225 11	$968,755.14	$1,392,126.37	$1,030,677.00	$1,059,857.00	$1,089,858.00	$1,119,514.00	$1,149,470.00	$1,179,856.00
n) Customer Premises	$368,158.01	$335,833.91	$323,042 73	$312,657 00	$304,889.00	$312,771.00	$320,873.00	$327,565.00	$333,602.00	$339,707.00
o) Switching for Control Room	$102,177 94	$138,348 30	$160,101 14	$120,907.91	$101,848.00	$104,271.00	$106,746.00	$108,849.00	$110,808.00	$112,626.00
p) Permanent Removals	$181,463.33	$136,949 45	$172,993.67	$172,034.01	$165,477.00	$169,451.00	$173,522.00	$176,946.00	$180,097.00	$183,140.00

Table 3: Annual Emergency/Reactive Replacements (Capital and O&M)

On an overall annual basis, the total *for Distribution Lines – Emergency/Reactive Replacements* (capital) increases between 2015 to 2019, and commencing in 2020, the overall cost is expected to commence decreasing. The *Distribution Lines – Reactive O&M,* increases annually. Each individual line element has its own trending, as described below.

Item a) LIS - Unscheduled Replacement of Failed (end of useful Life) Distribution Equipment: This subcategory is trending downwards from 2015 to 2020 as a result of improved inspection and maintenance procedures and activities.

Items b), c) and i) - Non Recoverable replacement of Distribution Equipment due to accidents/vandalism: This subcategory is trending upwards by inflationary amounts from 2015 to 2107, and trends downwards from 2018-2020 on recoverable as a focus on recovering these costs will be implemented.

Items d) and k) - Storm Damage - Replacement of distribution equipment due to storms: This sub-category is expected to trend upwards from 2015-2018, and then is expected to trend downwards in 2019 and beyond as a result of storm hardening initiatives.

Item e) Switchgears - Unscheduled Replacement of Failed (end of useful Life) Distribution Equipment: This sub-category is expected to trend upwards from 2015-2018, and then is expected to trend downwards as a result of proactive replacement programs.

Items f), g) and k) - Unscheduled Replacement of Failed (end of useful Life) Poles, Conductors and Devices: This sub-category is expected to trend upwards from 2015-2018, and then is expected to commence trending downwards as a result of remediation programs.

Item h) Inspections, Patrol, Testing: This sub-category is expected to trend upwards by inflationary amounts.

Item l) Cable Faults – Primary: This sub-category is expected to trend upwards by inflationary amounts as the cable remediation program is expected to maintain the current levels.

Item m) Cable Faults – Secondary: This sub-category is expected to trend upwards as the secondary system ages and additional plant is installed. There is no proactive replacement program for this asset (run to failure).

Item n) Customer Premises: This sub-category is expected to trend upwards by inflationary amounts.

Item o) Switching for Control Room: This sub-category is expected to trend upwards by inflationary amounts.

Item p) Permanent Removals: This sub-category is expected to trend upwards by inflationary amounts.

Impact of System Renewal on Reliability

As seen in Figure 7, 2013 was a difficult year for PowerStream. Since reliability indices are lagging, the rolling three year average SAIDI will have increased. Even though PowerStream will be within its historical three year average, PowerStream will not be using this as its indication of reliability improvement. Instead, PowerStream will be striving for targets determined by its Reliability Model.

In 2014, PowerStream created its Reliability Model. This model was designed to calculate a five year forward looking reliability projection in terms of SAIDI performance based on the past five years of reliability history and future planned capital system renewal reliability related improvements.

Within the model, outage causes are associated with controllable and uncontrollable factors that are included in the Canadian Electrical Association outage cause codes. These are listed in Table 4.

(CEA Code #) Controllable factors	**(CEA Code #) Uncontrollable factors**
(5) Defective Equipment	(9) Foreign Interference (3rd party event)
(1) Scheduled Outage (by P/S to do work)	(2) Loss of Supply (Hydro One)
(3) Tree Contact	(7) Adverse Environment *(Weather Dependent) ie salt*
(8) Human Element	6) Adverse Weather *(Weather Dependent)*
	(4) Lightning *(Weather Dependent)*

Table 4: Controllable and Uncontrollable Outage Cause Codes

The model breaks down SAIDI into its controllable and uncontrollable factors and identifies contributions made by factors tied to weather, as weather has a significant impact on reliability and makes up most of the uncontrollable SAIDI. Refer to Figure 7.

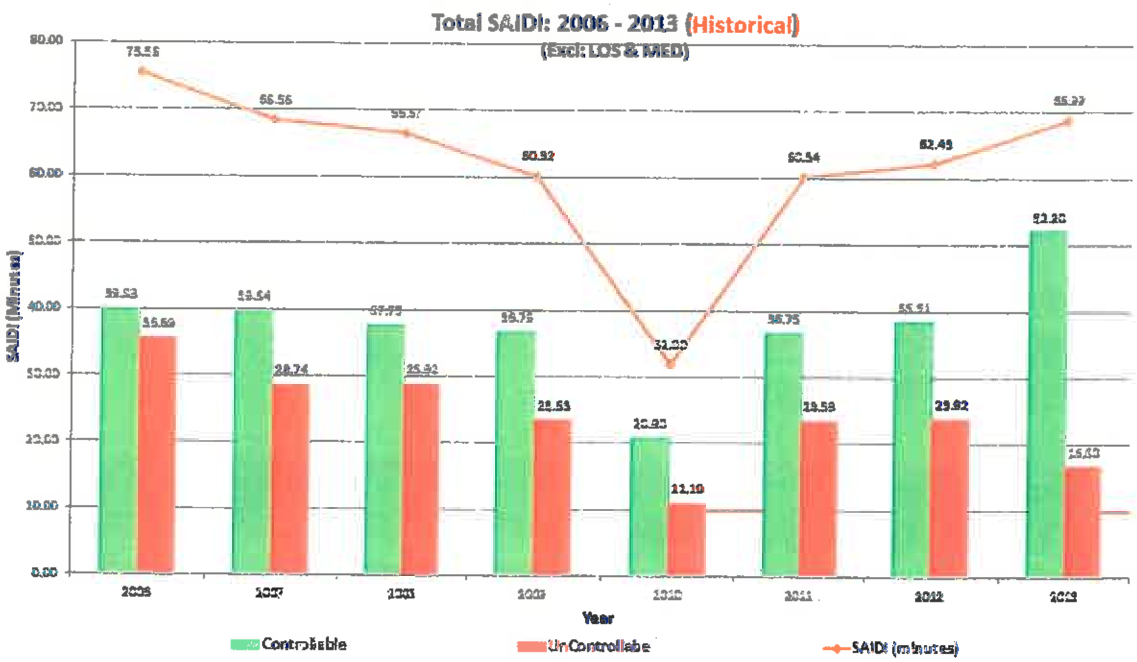


Figure 7: Historical Values for SAIDI to depict Weather Variability

The model, for each of the years between 2015 and 2020, makes future performance predictions based on the variables outlined in the following relationship:

Predicted SAIDI = Baseline SAIDI (Avg last 5 yr) + Weather Outages + Increase in Scheduled Outages - Reliability Improvements

These are defined below:

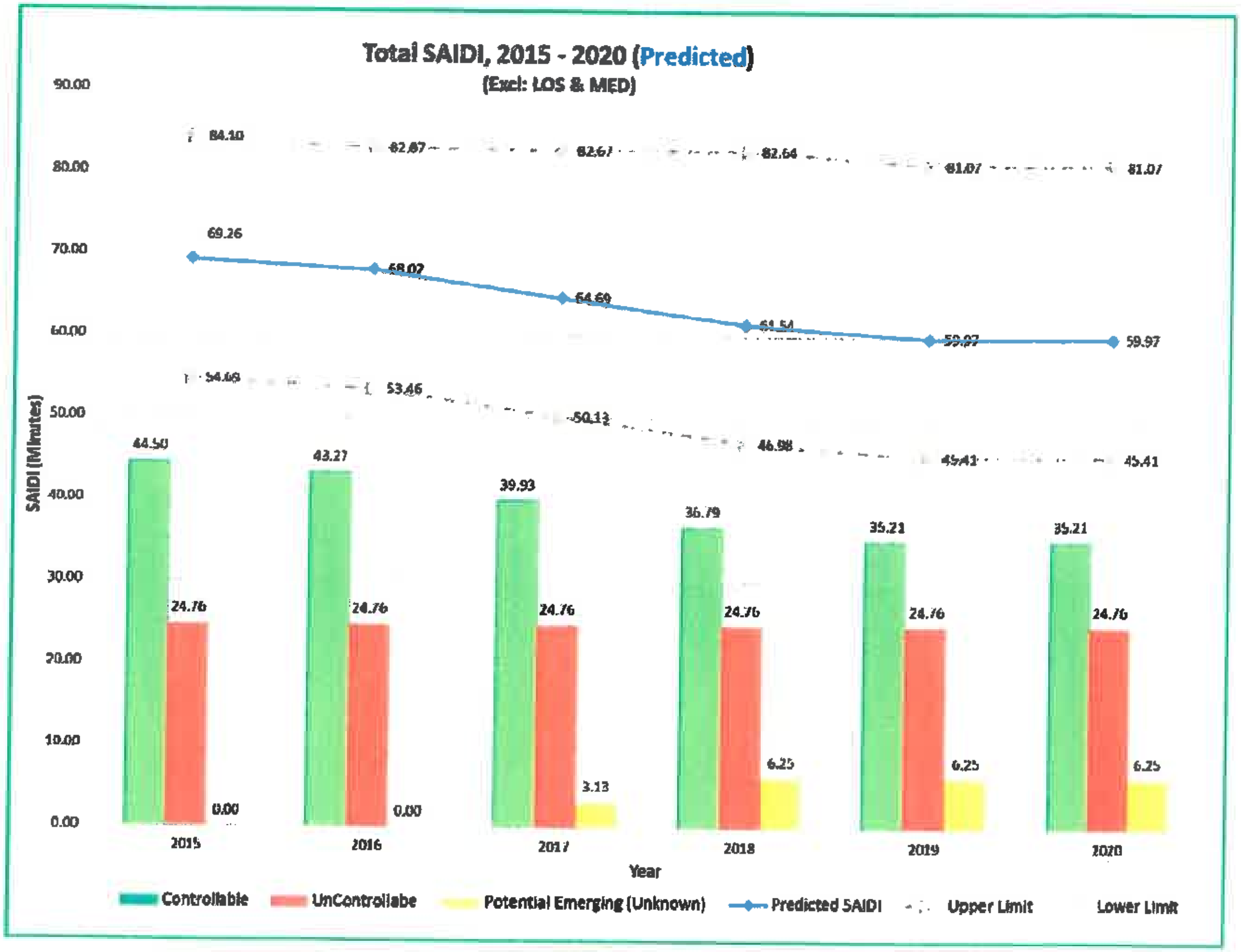
- 'Baseline SAIDI' or starting point CMI (Customer Minutes of Interruption) is calculated by averaging the past five years SAIDI performance due to non-weather related outages.
- 'Weather Outages' is calculated by averaging the SAIDI performance due to weather related outages over the past five years.
- 'Increase in Scheduled Outages' is calculated using the yearly increase in capital spend as a proportional guideline.
- 'Reliability Improvements' is calculated based on the CMI Savings achieved from each technical project or work program accounted for in the 5 Year Reliability Work Plan.

A list of the technical projects and work programs included in the 2015 to 2019 Reliability Work Plan that impact SAIDI are shown in Table 5. The distribution system programs are described starting on page 4 of this Section (5.3.3).

#	Description	Capital	O&M
1	Worst Performing Feeders (WPF)		X
2	Inspection and Maintenance		X
3	Pole Remediation	X	
4	Cable Remediation	X	
5	Switchgear Replacement	X	
6	Mini-Rupter Switch Replacement Program	X	
7	Automated Switch Replacement	X	
8	Submersible Transformer Replacement	X	
9	Distribution Transformer Replacement	X	
10	44kV Insulators Replacement Program	X	
11	Fault Indicator Program	X	
12	Storm Hardening & Rear Lot Remediation	X	
13	Distribution Automation	X	

Table 5: 2015 to 2019 Reliability Based Projects and Programs

Based on the Reliability Model calculations, the 5 year reliability forecast for 2015 to 2019 is depicted in Figure 8.



<u>Figure 8: 2015 to 2019 Reliability Projection</u>

Figure 8 breaks down the Future years' predicted SAIDI into its controllable and uncontrollable codes. The green bars indicate contributed SAIDI from controllable factors and red bars indicate contributed SAIDI from uncontrollable factors. The yellow bars are included to account for a certain level of uncertainty that arises in future years due to potential emerging reliability problems that are yet unknown. The blue line on the chart illustrates the total SAIDI prediction for each year.

Since weather has appeared to be relatively unpredictable based on the analysis of previous year's performance, an upper and lower limit are included to create boundaries for the SAIDI targets. These are represented using grey dotted lines.

The upper and lower bounds are there to account for the unpredictable nature of the weather and other emerging outages that could disrupt the targets. The upper limit is calculated using three Standard Deviations of the average performance. The lower limit is calculated based on the minimum SAIDI experienced in previous years, as it is expected that weather would not be milder than has been in the past.

In summary, there is an expectation that the projects and programs will lead to a modest improvement in reliability to customers as the controllable portion of the SAIDI will decrease as the capital projects/programs and the O& M projects are implemented.