MINUTES of the 2014 Budget meeting of the Board of Directors of **BLUEWATER POWER Distribution Corporation** held off site at the Guildwood Inn, Sarnia, Ontario on November 26th 2013.

The following Directors were present in person, namely: G. Firman Bentley, Ray Curran, Glenn Jones, Brad Goodhill, Richard Grogan and Steve Bolt.

Also present with the consent of the Board were: Janice McMichael, Alex Palimaka, Chris Gould, Dom Pinelli, Kathy Gadsby, Mark Hutson, Christina McCready, Mark Vanderheide, Keith Broad, Tim Vanderheide and Cathy Campbell of Bluewater Power Group of Companies

Chairman

Firman Bentley, Chair of the Board of Directors, acted as Chair of the meeting (the Chair).

Constitution of Meeting

The Chair noted that a quorum of Directors was present and that all the Directors of the Corporation had provided waivers of notice of the meeting and, accordingly, the meeting was regularly constituted for the transaction of business.

Mark Hutson Presented the 2014 Budget

Bluewater Power Distribution 2014 Budget

Highlights

- Income Statement Overview
- Revenue Assumptions Overview
- 2014 Revenue and Shared Costs as it relates to affiliates
- Forecast Statements
- **O&M High level overview and variance analysis**
- **Capital budget high level overview**
    - Explanation of Capital items $150,000 and over
    - Board recommends a process that any line item over $300,000 should be discussed with the Board. If the Board is not comfortable then Management will have to revisit.

Resolution

The Board of Director's approved of the following resolution:

Upon motion duly made by Glenn Jones, seconded by Richard Grogan and unanimously carried IT WAS RESOLVED "That the Board approves all 2014 Budget components including O&M, Capital, and Financial Statements Budgets"

Next Meeting

The next scheduled Board meeting is February 13th 2014 at 9:00am or at the call of the Chair.

Termination

There being no further business, on motion the meeting then terminated.

G.F. Bentley, Chair

Bluewater Power Distribution Corporation
2014 CAPITAL BUDGET
High Level Overview

Total Proposed 2014 Capital Budget = $ 6,530,885

For Comparison:	*Approved Budget*	*Actual Spending*
2013	$ 6,931,725	$ 5,199,372
2012	$ 10,392,404	$ 9,344,964
2011	$ 6,188,162	$ 5,378,551
2010	$ 8,903,191	$ 8,145,960
2009	$ 8,418,625	$ 5,369,353
2008	$ 5,139,900	$ 5,595,417
2007	$ 5,110,900	$ 4,858,828
2006	$ 4,933,328	$ 4,097,889
2005	$ 4,865,626	$ 5,147,856
2004	$ 4,356,507	$ 4,391,836
2003	$ 3,875,500	$ 2,682,003
2002	$ 2,742,000	$ 2,573,778
2001	$ 5,083,000	$ 4,858,194

Capital Overview

Components:	**2014 Budget**	**2013 Budget**	**2012 Budget**
New Connections/Services	$ 680,000	$ 1,100,000	$ 910,400
Utility Services - Reliability	$ 3,146,675	$ 2,799,211	$ 2,871,515
Vehicle Replacements	$ 325,000	$ 450,000	$ 512,100
Meter Services	$ 127,000	$ 172,000	$ 172,299
Information Technology	$ 1,761,210	$ 1,683,314	$ 3,344,537
Building Renovations/Improvements	$ 190,000	$ 260,000	$ 2,353,953
CN Land Rights	$ -	$ 257,200	$ -
Emergency Fund	$ 301,000	$ 210,000	$ 227,600
Total Capital Budget:	**$ 6,530,885**	**$ 6,931,725**	**$ 10,392,404**
Less: Non-Recurring Items:			
Central Filing Document Management	$ 94,613	$ -	$ -
Mobile Device Management	$ 86,413	$ -	$ -
Safety Management Solution	$ 56,369	$ -	$ -
IFRS System Upgrade	$ -	$ -	$ 618,943
System Upgrades	$ -	$ -	$ 649,877
SAP Customer Self Service	$ -	$ 148,529	$ 234,783
Central Filing Document Management	$ 94,613	$ 91,759	$ -
Wireless network	$ -	$ 60,380	$ -
Disaster Recovery Plan	$ 94,105	$ 174,105	$ 149,529
IP Telephone and Messaging Upgrade	$ -	$ 25,000	$ 210,911
Fleet Management and Tracking	$ -	$ -	$ 65,234
MV-90 Upgrade	$ -	$ -	$ 40,251
Building Renovations/Improvements	$ -	$ -	$ 2,128,629
CN Land Rights	$ -	$ 257,200	$ -
Total Normalized Level:	**$ 6,104,772**	**$ 6,174,752**	**$ 6,294,248**

2014 Capital Operations Budget

	Project Number		Project Name	Description	Justification	Cost
		Priority Level	Reliability Centered Projects			
Recurring	UT40	High	Guy Guard/Down Guy Replacement	Identify and replace/repair guy guards and down guys that may be in question	Any deteriorated, damaged or missing guy guards can pose a safety risk to the public as down guys are typically located along sidewalks, bike paths and in locations readily accessible by the public.	27,000
Recurring	UT4	High	27.6kV Neutral Program	Upgrade 27.6kV neutral conductor	Work identified by independent engineering audit in 1999 designed to improves relay protection characteristics and fault clearing times	153,000
Recurring	UT31	High	Pad Mount Transformer Replacements	Replacement of pad-mount transformer with new transformers.	Regular Program of Asset Replacement for transformers that have reached their end of life. This will improve reliability and maintain public safety.	77,000
Recurring	UT15	High	Wood Pole Replacement	Identify and replace aging poles	Reliability improvements and end of life replacements. Also can be potential public safety issues.	257,000
Recurring	UT14	High	Cross Arm/Cap & Pin Insulator Replacement	Replace crossarms and insulators	Reliability improvements to reduce effects of cracked arms and old insulators.	78,000
Recurring	UT36	High	Downtown Cable Replacement - Phase 2 North on Front St. to N. of George St. Phase 2	Replace an existing primary underground cable that has faulted in Downtown Area	With the completion of this upgrade, Bluewater Power will establish an important redundancy in the system. The result will be improved reliability for the downtown area.	42,000
Recurring	UT27	High	Remote Terminal Unit (RTU) Upgrades	Relay communication upgrades	RTU's and radios have reached their end of life. Upgrades at MS# 5, MS #14, 383G and 121G with new equipment. Equipment dates back to the 80's and is no longer supported and as such no parts are available.	72,000
Recurring	UT32	High	Data radio infrastructure upgrade	To replace the 900 Mhz licensed and unlicensed radio systems to 1.8 Ghz in conjunction with the RTU upgrade project (UT27)	Project started in 2011. Main upgrades include tower installation at Michigan DS, replacement of link to Petrolia and remaining radios converted from legacy RTU's installed in the 1980s.	50,000
Recurring	UT26	High	Primary underground cable replacement	Regular Program of Asset replacement (Subdivisions east of Murphy Rd. -- Old Ontario Hydro Plant. i.e Sherwood, Coronation Subdivision) - Includes design & planning stages	Primary Cable upgrades/replacement, for reliability improvements as well as end of life replacements	204,000
		Sub-Total of High Priority Reliability Projects				960,000

2014 Capital Operations Budget

	Project Number		Project Name	Description	Justification	Cost
		Priority Level	Reliability Centered Projects			
Recurring	UT21	Mid-Level	27.6 Kv Feeder Extensions	Extend 27.6 Kv Feeder on Lakeshore Rd. between Telfer and Murphy Rd.	Supply reliability for customers and to create redundancy. This project will assist in the elimination of 1 of the 2 remaining 8Kv Substations in our system.	157,000
Recurring	UT22	Mid-Level	8 Kv Load Conversions	Load Conversions to 27.6 Kv	Conversion of the 8 Kv system to 27.6 Kv to ultimately eliminate the two remaining 8 Kv substations. Assets have approached their end of useful life.	153,000
Recurring	UT7	Mid-Level	4KV Lines Rebuild and Load Conversion	Upgrade of 4Kv feeders and load conversion to 27.6 Kv in areas west of Murphy Rd. in Sarnia.	Program to rebuild, upgrade and convert 4 Kv feeders to 27.6 Kv in various areas west of Murphy Rd. These feeders would have been installed in 1950/1960's.	103,000
Recurring	UT33	Mid-Level	Animal Protection	Reliability centered program to improve protection on main 27.6kV feeders from animal contact.	Animal contacts are one of the largest causes of outages, this will help minimize outages on the feeders.	5,000
New	UT43	Mid-Level	Finch Dr. Tx. Upgrade	At 56 Finch Dr. Apt. Complex, transformer vault and duct bank is in need of replacement.	During an outage in 2013 it was noticed that the transformer vault and duct bank at this location was in need of replacement.	91,000
Recurring	UT17	Mid-Level	Load Balancing	Balance loading and reconfigure feeders 18M14, 18M15, 18M16	Reconfiguration of feeders required to transfer load from 18M14 to 18M15 (an under utilized feeder), transfer of load to 18M15 would reduce overall line exposure on the 18M15 feeder.	94,000
Recurring	UT25	Mid-Level	Remote Load Break Switches	Remote load break switches or reclosures	Reduce outages through automation. Sectionalizes feeders when a fault occurs to minimize impact of outages.	102,000
Recurring	UT34	Mid-Level	27.6 Lines Upgrade	Re-conductor and Re-build feeders	Reconfiguration and rebuild of the 18M14 feeder, as well as the extension of the 18M15 feeder south on Indian Rd. to Air Products to reduce overall line exposure to Air Products.	396,000
Recurring	UT11	As Required	New Connections (OEB Requirements)	New Subdivision Connections, system upgrades to meet capacity, and new infill service connects	This is an OEB Requirement that is difficult to accurately predict. This based on current knowledge and experience	680,000
Recurring	UT24	As Required	Storm Restoration	Stock items and labour	Based on 2013 expected storm maintenance costs.	210,000
		Sub-Total of Mid to Low Priority Reliability Projects				1,991,000

2014 Capital Operations Budget

	Project Number		Project Name	Description	Justification	Cost
			Municipality Centered Projects			
Recurring	UT8		Pt. Edward Upgrades	Asset Replacement program	Secondary and primary conductor replacements, conversions as required.	31,000
Recurring	UT5		Petrolia	Extend 27.6kV feeder	Load conversion from 4kV to 27.6kV while extending the 27.6 Kv feeders in two different locations within Petrolia.	52,000
Recurring	UT6		Alvinston/Oil Springs - Capital Items	Asset Replacement program	Secondary and primary conductor replacements as required.	21,000
Recurring	UT16		Watford	27.6 Kv Feeder Extension and Asset Replacement program	Secondary and primary conductors and transformer replacements as required plus extension of the 27.6 Kv Feeder.	31,000
		Sub-Total of Municipality Centered Projects				135,000
			Non- Reliability Centered Projects			
Recurring	UT1		Substation Buildings	New siding, windows, doors, fences, roofs, etc.	Substation Buildings require significant updates.	90,000
Recurring	UT9		Tools (Vehicle & Other)	Replacement tools	Standard list of truck tools and equipment.	30,000
Recurring	UT10		Vehicle Replacements	Vehicle replacements	End of Life Replacements	325,000
Recurring	UT12		Transformers	Capital Asset for Regular stock turnover	Storm stock and regular attrition requirements. Does not include units under capital projects.	153,000
Recurring	UT13		Safety Related	Safety signs, equipment etc.	Provision for unplanned and/or necessary safety-related items.	10,000
Recurring	UT18		Emergency System Improvement Fund	Emergency Fund	For unexpected capital expenditures during the year.	301,000
Recurring	UT19		Service Centre	Various upgrades required such as flooring, lighting, etc.	Service Center Building requires general repairs and updates.	90,000
Recurring	UT28		Asset Condition Assessment (Feeder & Substation Assessments)	Physical inspection of major feeders, substations and associated equipment as well as general planning and scheduling.	Year to year asset condition review.	290,000
Recurring	UT39		Operations Technology Systems Workflow	This project will review existing business processe in the Operations Department and create changes withing SAP and associated applications (GIS, ODS, SCADA, AMI) in response. Focus will be on improving efficiencies in Maintenance, Asset Management, Dispatch, and Supply Chain.	With a stronger focus placed on asset management, smart metering, and smart grid, it has become necessary to refine and make more efficient, the process functionality within Bluewater Power's ERP and interconnected solutions in order to streamline processes, efficiently maintain plant integrity, and better serve customers.	249,675
		Sub-Total of Non-Reliability Centered Projects				1,538,675
			Overall Operations Total			4,624,675
			Less Non-Lineman Related Labour			
			Overall Operations Total (w/Non-Lineman Related Labour Removed)			4,624,675

2014 Capital Operations Budget

	Project Number		Project Name	Description	Justification	Cost
				Metering Projects		
Recurring	MT1		Single Phase 100 amp meter replacement Polyphase mechanical demand replacement	Replacing 100 amp meters with 200 amp and replacing mechanical with electronic meters.	New services are 200 amp and Electronic demand has KW and KVA which could lead to more revenue. Ongoing project nearing completion	80,000
Recurring	MT2		New Meters	Residential and Commercial meters	Meters for new services	25,000
Recurring	MT3		Tools	New tools for shop use.	New tools as required for meter shop.	2,000
New	MT5		Power Quality Test equipment	Category IV power quality test equipment suitable for service entrance placement.	This is intended as a replacement for voltage and current recorders that we currently use that cannot be placed at service entrances due to potential fault current levels.	20,000
				Total Metering		127,000
Recurring			IT Projects			
Recurring	IT01		Data Centre Lifecycle	This deals with the Data Centre lifecycle and management. It includes Network, environmentals, Server, Storage, and other data center equipment and related software replacement lifecycles: Depending on equipment the lifecycle is 3 to 6 years.	The datacenter services and equipment are implemented and upgraded on a lifecycle basis. The general plan is dictated by age of equipment, access to improved technology and workload volumes of BWP IT Staff.	329,588
Recurring	IT02		Infrastructure Lifecycle	As part of normal PC and technical office equipment, BWP will be rolling out new PCs to 25% of its staff. As well, this changes out equipment such as printers, fax machines, data projectors and other IT related desktop type equipment.	We are operating on a 4-year lifecycle approach to PCs and variable year lifecycle approach to other infrastructure technology (printers and fax machines). This enables standardization of product and service and keeps a consistent financial impact to budgets. This also includes technology requirements for any staff adds or changes, along with general end point technology necessities.	144,506
Recurring	IT03		Corporate IT Security	The Security focus will involve a three pronged approach including upgrading existing virus / malware solution, addressing security flaws in the LAN architecture, and performing a comprehensive threat assessment / acting on conclusions.	In on-going efforts to mitigate heightened threats, Bluewater Power needs to further increase preparedness against both internal and external security attacks.	129,413
Recurring	IT04		IT Staff Direct Capitalization	Staff cost associated with all IT capital projects.	Time is properly allocated to capital costs and included in each capital project. Note: This amount is capitalized labour not accounted for in specific projects.	153,913
Recurring	IT05		Legislated Business Application Upgrades	This project includes development and changes to SAP and associated applications. These generally are in response to changes in regulation and or continuous improvements. Where possible, internal resources will be used to complete these efforts, but alternatively, third party assistance will be used.	This is required to perform OEB and Ministry of Energy legislated changes to internal business processes along with continuous solution improvements. For example, rebates, price changes, etc.	108,413
Recurring	IT06		Software - Upgrades and Additions	Microsoft Enterprise Agreement, adds to staff, growth of product requests or replacements such as, MS Project and Adobe Suite. R&D on various software, refresh of products, growth requires true-up - eg virus protection. R&D on PC protection products.	It is essential that we remain compliant with licensing requirements of all software in use at BWP. This covers adds to staff and upgrades to or additional applications.	175,144
New	IT08		SCADA / ODS / OMS / GIS / Smart Grid Development	BWP continues to develop a multi-year plan and strategy around Operations Technology Integration that takes into account the pending smart grid efficiencies and regulations	With the implementation of Smart Metering, the next step is fully integrating systems with Operations in order to make certain customer service advances and to extend best practices in distribution operation using integrated technology.	284,144
New	IT09		Disaster Recovery	This is a continuing investment into an updated approach to Disaster Recovery.	The existing disaster recovery plan is outdated and no longer supports the expanded service offerings and business demands. This will be reviewed with direction to move to and implement an updated solution.	198,694

2014 Capital Operations Budget

	Project Number		Project Name	Description	Justification	Cost
New	IT14		Central Filing Document Management	The current paper based Central Filing system will be re-positioned into an electronic document management solution	Central Filing is an essential business process. The current solution is inefficient, error prone, and does not easily allow best practice in document management.	94,613
New	IT17		Mobile Device Management	A Mobility solution, including device and application management (MDM / MAM) will be implemented. This will extend a growing list of software solutions to the mobile platform and accommodate an increasing number of mobile devices while securing them according to best practice security measures.	Once implemented, a mobility solution will enable the extension of applications and device management to a variety of mobile devices operating outside the traditional LAN at Bluewater Power.	86,413
New	IT19		Safety Management Solution	This solution will track all aspects of safety, including training, policies, etc., and will be a strong audit tool.. BWP is looking a various options including purchasing a solution, partnering to share a custom solution, and developing an in-house solution.	Safety management is an increasingly significant aspect of BWP operations. The administrative requirements have become such that a dedicated safety management solution is required.	56,369
						1,761,210
			Other			
Recurring	O3		Furniture (Company Wide)			10,000
New	O5		Pole Testing Gun	Tool used in assessing stability of power line wood poles.	Current tool has reached the end of its useful life	8,000
			Total Other			18,000
			Total Company			6,530,885

	Five Year Capital Plan				
Project Name	2014 Budget	2015 Budget	2016 Budget	2017 Budget	2018 Budget
Lines & Design - High Priority Level					
Guy Guard/Down Guy Replacement	27,000	26,000	26,000	26,000	26,000
27.6kV Neutral Program	153,000	154,000	154,000	154,000	154,000
Pad Mount Transformer Replacements	77,000	154,000	154,000	154,000	154,000
Wood Pole Replacement Program	257,000	207,000	207,000	207,000	207,000
Cross Arm/Cap & Pin Insulator Replacement Program	78,000	124,000	124,000	124,000	124,000
Downtown Cable Replacement - Cromwell St. to Front St. -	42,000	-	-	-	-
Remote Terminal Unit Upgrades	72,000	25,000	-	-	-
Data radio infrastructure upgrade	50,000	30,000	-	-	-
Primary Underground Cable Replacements	204,000	206,000	206,000	206,000	206,000
Sub-Total of High Priority Reliability Projects	960,000	926,000	871,000	871,000	871,000
Lines & Design - Mid to Low Priority Level					
27.6 Kv Feeder Extensions	157,000	154,000	154,000	154,000	154,000
8 kv Load Conversion	153,000	232,000	232,000	232,000	232,000
4KV Lines Rebuild and Load Conversion	103,000	232,000	232,000	232,000	232,000
Animal Protection	5,000	5,000	5,000	5,000	5,000
Finch Dr. Tx. Upgrade	91,000	-	-	-	-
Load Balancing	94,000	51,000	51,000	51,000	51,000
Remote Load Break Switches	102,000	-	105,000	-	105,000
27.6kV Lines Upgrades	396,000	154,000	154,000	154,000	154,000
New Connections (OEB Requirements)	680,000	880,000	880,000	880,000	880,000
Storm Restoration	210,000	206,000	206,000	206,000	206,000
Overhead Line - Back Lot Rebuild	-	154,000	154,000	154,000	154,000
Porcelain Arrester Replacement	-				
Fault Indicators - Overhead	-	-	-	-	-
Relay and Fuse Coordination	-	-	-	-	-
27.6 Load Break Switch Replacement	-	-	-	-	-
Transformer Cover Replacements	-	-	-	-	-
Elimination of Load Transfers	-				
Sub-Total of Mid to Low Priority Reliability Projects	1,991,000	2,068,000	2,173,000	2,068,000	2,173,000

	Five Year Capital Plan				
Project Name	**2014 Budget**	**2015 Budget**	**2016 Budget**	**2017 Budget**	**2018 Budget**
Lines & Design Municipality Centered Projects					
Pt Edward upgrades	31,000	51,000	51,000	51,000	51,000
27.6 Feeder - Petrolia	52,000	129,000	129,000	129,000	129,000
Alvinston/Oil Springs Capital Items	21,000	21,000	21,000	21,000	21,000
Watford	31,000	103,000	103,000	103,000	103,000
Street Widening	-	15,000	15,000	15,000	15,000
Sub-Total of Municipality Centered Projects	135,000	319,000	319,000	319,000	319,000
Lines & Design Non- Reliability Centered Projects					
Substation Building	90,000	90,000	90,000	90,000	90,000
Tools (Vehicle and others)	30,000	30,000	30,000	30,000	30,000
Vehicle Replacement - Lines	325,000	450,000	450,000	450,000	450,000
Transformers	153,000	154,000	154,000	154,000	154,000
Safety Related Projects	10,000	5,500	5,500	5,500	5,500
Emergency System Improvement Fund	301,000	206,000	206,000	206,000	206,000
Service Centre	90,000	92,000	92,000	92,000	92,000
Asset Condition Assessment (feeder & substn)	290,000	140,000	140,000	140,000	140,000
Operations Technology Systems Workflow	249,675				
Control Room Upgrades		-	-	-	-
Substation Transformer Replacements	-	170,000	-	170,000	-
SCADA Projects	-	-	-	-	-
Sub-Total of Non-Reliability Centered Projects	1,538,675	1,337,500	1,167,500	1,337,500	1,167,500
Total Lines & Design	**4,624,675**	**4,650,500**	**4,530,500**	**4,595,500**	**4,530,500**

	Five Year Capital Plan				
Project Name	**2014 Budget**	**2015 Budget**	**2016 Budget**	**2017 Budget**	**2018 Budget**
Metering					
Single Phase Meters and Poly Phase Meters	80,000	80,000	80,000	80,000	80,000
New Meters	25,000	25,000	25,000	25,000	25,000
Metering Equipment/Tools	2,000	2,000	2,000	2,000	2,000
Meter Test Board					
Testing Equipment	20,000				
Total Metering	**127,000**	**107,000**	**107,000**	**107,000**	**107,000**
Information Technology					
Corporate IT Security	129,413	125,000	125,000	150,000	175,000
Data Centre Lifecycle	329,588	225,000	250,000	350,000	250,000
Computer Infrastructure Lifecycle	144,506	140,000	145,000	150,000	150,000
IT Staff Capitalization	153,913	150,000	150,000	150,000	125,000
Legislated Business Application Upgrades	108,413	30,000	50,000	50,000	20,000
Software-Upgrades and Additions	175,144	175,000	180,000	200,000	200,000
Disaster Recovery Plan Upgrade Phase I,II,III	198,694	50,000	50,000	100,000	150,000
SCADA / ODS / OMS / GIS / Smart Grid Development	284,144	250,000	100,000	100,000	100,000
Central Filing Document Management	94,613				
Mobile Device Management	86,413				
Safety Management Solution	56,369				
ERP upgrade / implementation			2,500,000		
GIS Developments					
Business Technology Improvements		750,000	500,000	800,000	850,000
SAP AMO Services					
IP Telephony and Messaging Upgrade					
Wireless Network					
SAP Customer Self Services and Electronic Billing					
Fleet Management and Tracking					
Total Information Technology	**1,761,210**	**1,895,000**	**4,050,000**	**2,050,000**	**2,020,000**
Other Projects					
Building Renovations/Expansion		-	-	-	
CN Land Rights					
Furniture (Company wide)	10,000	10,000	10,000	10,000	10,000
Pole Testing Gun	8,000				
Total Other Projects	**18,000**	**10,000**	**10,000**	**10,000**	**10,000**
	6,530,885	**6,662,500**	**8,697,500**	**6,762,500**	**6,667,500**

MINUTES of the 2015 Budget meeting of the Board of Directors of **BLUEWATER POWER Distribution Corporation** held at Bluewater Power, 855 Confederation Street, Sarnia, Ontario on November 26th 2014.

The following Directors were present in person, namely: G. Firman Bentley, Ray Curran, Glenn Jones, Brad Goodhill, Richard Grogan and Steve Bolt.

Also present with the consent of the Board were: Janice McMichael, Alex Palimaka, Chris Gould, Dom Pinelli, Kathy Gadsby, Mark Hutson, Christina McCready, Mark Vanderheide, Keith Broad, Tim Vanderheide and Cathy Campbell of Bluewater Power Group of Companies

Chairman

Firman Bentley, Chair of the Board of Directors, acted as Chair of the meeting (the Chair).

Constitution of Meeting

The Chair noted that a quorum of Directors was present and that all the Directors of the Corporation had provided waivers of notice of the meeting and, accordingly, the meeting was regularly constituted for the transaction of business.

Janice McMichael-Dennis President & Chief Executive Officer

- Opened the Meeting
- Review of Dividends history and overall summary

Mark Hutson Presented the 2015 Budget for Bluewater Power Distribution Corporation

Bluewater Power Distribution 2015 Budget

Overview Included:

- Income Statement Comparison
- Other Revenue
- Billable revenue
- Revenue and Shared costs relating to affiliates
    - **2014 O&M Budget High Level Variance of Analysis 2015 Budget vs. 2014 Projected vs. 2014 Budget Included comments on the following:**
    - Employee compensation and Employee Benefits

- 2015 Annual Increase – $349,000. This includes cost of living increase budgeted at 2% ($163,000) plus a provision for job progression and adjustment increases ($186,000).
- New positions in 2015 - $257,000. This includes three lineman positions, and a Board Member.
- A bucket of $80,000 to allow for any unforecast position changes. This would be brought to the Board for approval prior to utilizing.
- Decrease in overtime budget ($140,000). This is mainly due to the Lines new hires.
- Reduction in reallocated costs Affiliates $65,000.
- Increase in incentives - $40,000 resulting from 2013 accrued at 100% of targets but paid with a reduction due to the safety category.
- Remaining decrease of ($39,000) - This includes 3 retirements during 2014, which we now realize the costs savings due to pay reduction and no overlapping of positions during transition. Burden & Benefits of 3 new linemen - $51,000.
- Retirees in 2014 with no OMERS contribution as 35 years maximum met, replaced by three contributing employees $24,000.
- Burden and benefits on 2015 Annual increases $61,000
- Balance is a decrease of $31,000 which resulted from rate declines on Health & Dental plans as well as LTD and Life insurance.

- Property Taxes
  - 2012 building addition still not assessed on our property tax bill from City/MPAC. 2014 estimate includes 2013 property tax increase of $80,000. This leaves a net increase of $15,486 on normalized property tax expense, which represents about 5% increase.
- Tree Trimming
  - Our Supplier has not been able to meet our schedule for 2014 due to harsh winter and inclement summer; therefore, work is expected to carry over into 2015.
- Enterprise Mobility
  - New fees incurred to increase our array of mobile devices, wireless networks, and related services to enable broad use of mobile computing in a business context.
- Telephony
  - Changing our Carrier for Primary Rate Interface and Conference Calling.
- Environmental Issues
  - Expected environmental investigation on Main Substation #1 for 2014 is not expected to be started by year end. As such the cost has rolled over to 2015.
- Legal
  - 2014 Estimate includes costs for Ministry of Labour fines and legal fees, no similar costs to be incurred for 2015.
- Snow Removal
  - Near record high snow fall in winter of 2014 required offsite transportation of snow. Winter 2015 is expected to be significant but we

are hoping not as bad as 2014.

Capital Budget High Level Overview

- Explanation of Capital items $150,000 and over

Resolution

Upon motion duly made by Glenn Jones, seconded by Richard Grogan and unanimously carried IT WAS RESOLVED "That the Board approves all 2015 Budget components including O&M, Capital, and Financial Statements Budgets"

Next Meeting

The next scheduled Board meeting is February 26th 2015 at 9:00am or at the call of the Chair.

Termination

There being no further business, on motion the meeting then terminated.

G.F. Bentley, Chair

Bluewater Power Distribution Corporation
2015 CAPITAL BUDGET
High Level Overview

Total Proposed 2015 Capital Budget =	**$ 6,844,854**

For Comparison:	*Approved Budget*	*Actual Spending*
2014	$ 6,530,885	$ 4,685,932
2013	$ 6,931,725	$ 5,199,372
2012	$ 10,392,404	$ 9,344,964
2011	$ 6,188,162	$ 5,378,551
2010	$ 8,903,191	$ 8,145,960

2015 Capital Overview

Components:	**2015 Budget**	**2014 Budget**	**2013 Budget**
New Connections/Services	$ 853,000	$ 680,000	$ 1,100,000
Utility Services - Reliability	$ 3,609,689	$ 3,146,675	$ 2,799,211
Vehicle Replacements	$ 325,000	$ 325,000	$ 450,000
Meter Services	$ 107,000	$ 127,000	$ 172,000
Information Technology	$ 1,747,165	$ 1,761,210	$ 1,683,314
Building Renovations/Improvements	$ -	$ 190,000	$ 260,000
CN Land Rights	$ -	$ -	$ 257,200
Emergency Fund	$ 203,000	$ 301,000	$ 210,000
Total Capital Budget:	**$ 6,844,854**	**$ 6,530,885**	**$ 6,931,725**
Less: Non-Recurring Items:			
Pole Line Removal Scott Rd.	$ 165,000	$ -	$ -
Mobile Device Management	$ -	$ 86,413	$ -
Safety Management Solution	$ -	$ 56,369	$ -
SAP Customer Self Service	$ -	$ -	$ 148,529
Central Filing Document Management	$ 120,635	$ 94,613	$ 91,759
Wireless network	$ -	$ -	$ 60,380
Disaster Recovery Plan	$ 124,085	$ 94,105	$ 174,105
Systems Performance Monitoring	$ 64,250	$ -	$ -
Enterprise Mobility	$ 130,180	$ -	$ -
IP Telephone and Messaging Upgrade	$ -	$ -	$ 25,000
Smart GRID FDIR	$ 210,188	$ -	$ -
Distribution Monitoring Grid 20/20	$ 30,021	$ -	$ -
CN Land Rights	$ -	$ -	$ 257,200
Total Normalized Level:	**$ 6,000,495**	**$ 6,199,385**	**$ 6,174,752**

2015 Capital Operations Budget

	Project Number		Project Name	Description	Justification	Cost
		Priority Level	Reliability Centered Projects			
Recurring	UT40	High	Guy Guard/Down Guy Replacement	A visual assessment is performed to confirm guy guards and down guys that may be in need of replacement or repair	Any deteriorated, damaged or missing guy guards can pose a safety risk to the public as down guys are typically located along sidewalks, bike paths and in locations readily accessible by the public.	29,000
Recurring	UT4	High	27.6kV Neutral Program	Upgrade 27.6kV neutral conductor	Work identified by independent engineering audit in 1999. Improves relay protection characteristics and fault clearing times	163,000
Recurring	UT31	High	Pad Mount Transformer Replacements	Replacement of pad-mount transformer with new transformers.	Regular Program of Asset Replacement -- transformers have reached their end of life. The casings are starting to rot and they can't be repaired. Improve reliability and maintain public safety.	80,000
Recurring	UT15	High	Wood Pole Replacement	Identify and replace aging poles	Reliability improvements and end of life replacements	268,000
Recurring	UT14	High	Cross Arm/Cap & Pin Insulator Replacement	Replace crossarms and insulators	Reliability improvements to reduce effects of cracked arms and old insulators that have reached their end of life.	84,000
Recurring	UT27	High	Remote Terminal Unit (RTU) Upgrades	Relay communication upgrades	RTU's and radios have reached their end of life. Upgrades at MS# 5, MS #14, 383G and 121G with new equipment. The multiuse dates back to 1990's and MS5 and MS14 date back into the 80's. Equipment is no longer supported and no parts are available.	45,000
Recurring	UT32	High	Data radio infrastructure upgrade	To replace the 900 Mhz licensed and unlicensed radio systems to 1.8 Ghz in conjunction with the RTU upgrade project (UT27)	Project started in 2011 as part of RTU Upgrades (UT27) where the master radio was installed on the tower at the office. Upgrades include tower installation at Michigan DS, replacement of link to Petrolia and remaining radios from legacy RTU's installed in the 1980s.	20,000
Recurring	UT26	High	Primary underground cable replacement	Regular Program of Asset replacement (Subdivisions east of Murphy Rd. -- Old Ontario Hydro Plant. i.e Sherwood, Coronation Subdivision) - Includes design & planning stages	Primary Cable upgrades/replacement, Reliability improvements and end of life replacements	210,000
Recurring	UT18	High	Emergency System Improvement Fund	Emergency Fund	For unexpected capital expenditures during the year.	203,000
Recurring		High	Emergency Transformer Replacement	Emergency Fund	For unexpected emergency replacement of failed Transformers during the year.	135,000
Recurring		High	Emergency Primary Line Replacement	Emergency Fund	For unexpected emergency replacement of failed Primary Line during the year.	57,000
Recurring		High	Emergency Secondary Line Replacement	Emergency Fund	For unexpected emergency replacement of failed Secondary Line during the year.	11,000

2015 Capital Operations Budget

	Project Number		Project Name	Description	Justification	Cost
Recurring	UT34	High	Lines Upgrade	Re-conductor and re-build feeders	Upgrade poles, conductors on a section of feeder located at the corner of Brigden Sd. Rd. and Michigan Ave. through a wooded lot (off the City right away). Assets are in need of upgrading as they have reached their end of useful life.	76,000
		Sub-Total of High Priority Reliability Projects				1,381,000
		Priority Level	Reliability Centered Projects			
Recurring	UT21	Mid-Level	27.6 Kv Feeder Extensions	Extend 27.6 Kv Feeder on Lakeshore Rd. between Telfer and Murphy Rd.	Supply reliability for customers and to create redundancy. This project will assist in the elimination of 1 of the 2 remaining 8Kv Substations in our system.	167,000
Recurring	UT22	Mid-Level	8 Kv Load Conversions	Load Conversions to 27.6 Kv	Conversion of the 8 Kv system to 27.6 Kv to ultimately eliminate the two remaining 8 Kv substations. Assets are approaching or have reached their end of useful life.	156,000
Recurring	UT7	Mid-Level	4KV Lines Rebuild and Load Conversion	Upgrade of 4Kv feeders and load conversion to 27.6 Kv where possible in areas west of Murphy Rd. in Sarnia.	Program to rebuild, upgrade and convert 4 Kv feeders to 27.6 Kv (where possible) in various areas west of Murphy Rd. These feeders would have been installed in 1950/1960's, assets are approaching or have reached their end of useful life.	109,000
Recurring	UT33	Mid-Level	Animal Protection	Reliability centered program to improve protection on main 27.6kV feeders from animal contact.	Animal contacts are one of the largest causes of outages, this will help minimize outages on the feeders.	5,000
New	UT43	Mid-Level	Finch Dr. Tx. Upgrade	At 56 Finch Dr. Apt. Complex, transformer vault and duct bank is in need of replacement.	During an outage in 2013 it was noticed that the transformer vault and duct bank at this location was in need of replacement, as the installation had shifted on it's foundation due to poor ground conditions.	77,000
Recurring	UT17	Mid-Level	Load Balancing	Balance loading on all 4 kv & 27.6 Kv Feeders	Balance feeder loadings to avoid overloaded feeder situations during peak periods. Improves and maintains reliability transferring of feeder loads from one station to another.	27,000
Recurring	UT25	Mid-Level	Remote Load Break Switches	Remote load break switches or reclosures	Reduce outages through automation. Sectionalizes feeders when a fault occurs.	109,000
New		Mid-Level	914 Confederation - Transformer and Vault Upgrades	County of Lambton Housing Unit transformers and vaults are need of replacement (3 in total).	County of Lambton notified Bluewater Power of a safety concern in regards to the condition of the transformer vaults and transformers. Vaults are crumbling and need to be replaced.	80,000
Recurring	UT11	As Required	New Connections (OEB Requirements)	New Subdivision Connections, system upgrades to meet capacity, and new infill service connects	This is an OEB Requirement that is difficult to accurately predict. This based on current knowledge and experience	853,000
Recurring	UT24	As Required	Storm Restoration	Stock items and labour	Based on 2013 and 2014 average expected storm maintenance costs per internal order	227,000
Recurring	UT30	As Required	Fault Indicators - Overhead	Target devices used to indicate fault direction for overhead lines.	Fault finding is critical to reducing outage times. These devices allow for faster location of the fault by offering direction information to field staff	11,000
		Sub-Total of Mid to Low Priority Reliability Projects				1,821,000

2015 Capital Operations Budget

	Project Number		Project Name	Description	Justification	Cost
			Municipality Centered Projects			
Recurring	UT8		Pt. Edward Upgrades	Asset Replacement program	Reconfiguration of 1F9 feeder along Michigan Ave. under the Bluewater Bridge. In addition secondary and primary asset replacements as required where assets have reached their end of useful life and as required to meet load growth over time.	44,000
Recurring	UT5		Petrolia	Asset Replacement program	Load conversion from 4kV to 27.6kV while extending the 27.6 Kv feeders in two different locations within Petrolia. In addition secondary and primary asset replacements as required where assets have reached their end of useful life and as required to meet load growth over time.	54,000
Recurring	UT6		Alvinston/Oil Springs - Capital Items	Asset Replacement program	Secondary and primary asset replacements as required where assets have reached their end of useful life and as required to meet load growth over time.	22,000
Recurring	UT16		Watford	Asset Replacement program	Pole transformers to be removed out of service and upgraded on McGregor St. (4 in total). In addition, secondary and primary asset replacements as required where assets have reached their end of useful life and as required to meet load growth over time.	63,000
		Sub-Total of Municipality Centered Projects				183,000
			Non- Reliability Centered Projects			
Recurring	UT1		Substation Building	New siding, windows, doors, painting, fences, roofs, fire detection, station batteries, etc for various stations	Substation Buildings require general repairs and updates. 1) $350,000 allocated for exterior repairs (stucco repairs) at M.S. #1. 2) $15,000 for substation battery replacements.	90,000
Recurring	UT9		Tools (Vehicle & Other)	Replacement tools	Standard list of truck tools and equipment.	30,000
Recurring	UT10		Vehicle Replacements	Vehicle replacements	End of Life Replacements	325,000
Recurring	UT12		Transformers	Capital Asset for Regular stock turnover	Storm stock and regular attrition requirements. Does not include units under capital project	150,000
Recurring	UT13		Safety Related	Safety signs, equipment etc.	Provision for unplanned and/or necessary safety-related items.	10,000
Recurring	UT19		Service Centre	Various upgrades required such as roofing, painting, flooring, lighting	Service Center Buildings require general repairs and updates.	90,000
Recurring	UT28		Asset Condition Assessment (Feeder & Substation Assessments)	Physical inspection of major feeders, substations and associated equipment.	Year to year asset condition review.	150,000
Recurring	UT39		Operations Technology Systems Workflow	Implementing upgrade improvements to SAP and connected Operations software to improve workflow efficiencies in Maintenance, Asset Management, Dispatch, and Supply Chain.	With a focus on asset management, smart metering, and smart grid, it has become necessary to update the process functionality within Bluewater Power's ERP solution in order to streamline processes and efficiently maintain plant integrity	345,480
New			Pole Line Removal - Scott Rd.	Remove an existing overhead pole line that is located along CN right of way.	An existing 4Kv overhead pole line that is currently not operational and is not required as part of Bluewater Power's Distribution system, any existing load has been transferred to 27.6 Kv feeders.	165,000
		Sub-Total of Non-Reliability Centered Projects				1,355,480
			Overall Operations Total			4,740,480

2015 Capital Operations Budget

	Project Number		Project Name	Description	Justification	Cost
				Metering Projects		
Recurring	MT1		Single Phase 100 amp meter replacement Polyphase mechanical demand replacement	Replacing 100 amp meters with 200 amp and replacing mechanical with electronic meters.	New services are 200 amp and Electronic demand has KW and KVA which could lead to more revenue. Ongoing project nearing completion	80,000
Recurring	MT2		New Meters	Residential and Commercial meters	Meters for new services	25,000
Recurring	MT3		Tools	New tools for shop use.	New tools as required for meter shop.	2,000
New	MT5		Test equipment	CT ratio test	addition to cross phase analyzer	-
				Total Metering		107,000
Recurring				**IT Projects**		
Recurring	IT01		Data Centre Lifecycle	This deals with the Data Centre lifecycle and management. It includes Network, environmentals, Server, Storage, and other data center equipment and related software replacement lifecycles: Depending on equipment the lifecycle is 3 to 6 years.	The datacenter services and equipment are implemented and upgraded on a lifecycle basis. The general plan is dictated by age of equipment, access to improved technology and workload volumes of BWP IT Staff.	274,545
Recurring	IT02		Infrastructure Lifecycle	Lifecycle 30 - 35 PCs plus adds to staff, home PCs, new mobile devices, aging printers (example - Mailroom), and general IT equipment.	We are operating on a 4-year lifecycle approach to PCs and variable year lifecycle approach to other infrastructure technology such as printers and fax machines. This enables standardization of product and service and keeps a consistent financial impact to budgets. This also includes technology requirements for any staff adds or changes, along with general end point technology necessities	149,740
Recurring	IT03		Corporate IT Security	The Security focus in 2015 will be to replace existing firewalls and continue to audit and adjust security measures internally and within the AMI solution.	In on-going efforts to mitigate heightened threats, Bluewater Power needs to further increase preparedness against both internal and external security attacks.	139,860
Recurring	IT04		IT Staff Capitalization	Staff cost associated with all IT capital projects.	Time should be properly allocated to capital costs and included in each capital project. Note: This amount is capitalized labour not accounted for in specific projects	149,795
Recurring	IT05		Legislated Business Application Upgrades	This project includes development and changes to SAP and associated applications. These generally are in response to changes in regulation and or continuous improvements. Where possible, internal resources will be used to complete these efforts, but alternatively, third party assistance will be used.	This is required to perform OEB and Ministry of Energy legislated changes to internal business processes along with continuous solution improvements.	142,795
Recurring	IT06		Software - Upgrades and Additions	Microsoft Enterprise Agreement, adds to staff, growth of product requests or replacements such as, MS Project and Adobe Suite. R&D on various software, refresh of products, growth requires true-up - eg virus protection. R&D on PC protection products.	It is essential that we remain compliant with licensing requirements of all software in use at BWP. This covers adds to staff and upgrades to or additional applications.	185,415
New	IT07		IP Telephony and Messaging Upgrade Phase II	Upgrade to existing phone, messaging, and VoIP solution to account for newer, more efficient technology	The existing phone, messaging, and call center management solutions are beyond end of life and no longer vendor supported. New legislation and regulations will require an upgrade of the solution. In 2011 an assessment was completed. The initial recommendations began and they need to be continued in 2012.	-
New	IT08		SCADA / ODS / OMS / GIS / Smart Grid Development	BWP continues to develop a multi-year plan and strategy around Operations Technology Integration that takes into account the pending smart grid efficiencies and regulations	With the implementation of Smart Metering, the next step is fully integrating systems with Operations in order to make certain customer service advances and to extend best practices in distribution operation using integrated technology.	265,865
New	IT09		Disaster Recovery	As part of a multi-year to upgrade the Disaster Recovery Solution, we will outfit the DR site with required equipment.	This is a continuing investment into an updated approach to Disaster Recovery.	124,085
New			Systems Performance Monitoring	This solution will monitor critical IT solutions such as networks, servers, and business critical applications. It will alert IT staff to failure events and to potential or pending events that can be remediated proactively.	With the ever increasing complexity the IT Team is required to maintain, a systems performance monitoring solution has become necessary.	64,250

2015 Capital Operations Budget

	Project Number		Project Name	Description	Justification	Cost
New	IT14		Central Filing Document Management	The current paper based Central Filing system will be re-positioned into an electronic document management solution	Central Filing is an essential business process. The current solution is inefficient, error prone, and does not easily allow for current regulation and best practice in document management.	120,635
New	IT17		Enterprise Mobility	A Mobility solution, including device and application management (MDM / MAM) will be implemented. This will extend a growing list of software solutions to the mobile platform and accommodate an increasing number of mobile devices while securing them according to best practice security measures.	Once implemented, a mobility solution will enable the extension of applications and device management to a variety of mobile devices operating outside the traditional LAN at Bluewater Power.	130,180
New	IT19		Safety Management Solution	This solution will track all aspects of safety, including training, policies, etc., and will be a strong audit tool.. BWP is looking a various options including purchasing a solution, partnering to share a custom solution, and developing an in-house solution.	Safety management is an increasingly significant aspect of BWP operations. The administrative overhead requirements have become such that a dedicated safety management solution is required.	-
						1,747,165

			Other			
Recurring	O3		Furniture (Company Wide)			10,000
New	O5		Pole Testing Gun	Tool used in assessing stability of power line wood poles.	Current tool has reached the end of its useful life	-
New	O8		Distribution Automation (Survalent – FDIR)	This add-on, called FDIR (Fault Detection, Isolation, Restoration), will improve operational efficiency and reduce the duration and size of large outages. As more remotely operated switches are added this efficiency will increase.	FDIR, once in fully automatic mode, will reduce the number of customers affected when a fault occurs. It will reduce the duration of an outage by enabling our Operators to focus their efforts on correcting the fault, as the detection, isolation, and restoration is done automatically. It will further improve the efficiency of the line crew.	210,188
New	O9		Distribution Transformer Monitoring Grid 20/20	Distribution transformer monitoring devices will provide real time data from various points in BWP's secondary distribution network.	Some of the benefits of this technology include energy theft detection, transformer loading information, distributed generation impacts, and electric vehicle charging impacts.	30,021
			Total Other			250,209

			Total Company			6,844,854

	Five Year Capital Plan				
Project Name	**2015 Budget**	**2016 Budget**	**2017 Budget**	**2018 Budget**	**2019 Budget**
Lines & Design - High Priority Level					
Guy Guard/Down Guy Replacement	29,000	25,000	25,000	25,000	25,000
27.6kV Neutral Program	163,000	150,000	150,000	150,000	150,000
Pad Mount Transformer Replacements	80,000	100,000	100,000	100,000	100,000
Wood Pole Replacement Program	268,000	250,000	250,000	250,000	250,000
Cross Arm/Cap & Pin Insulator Replacement	84,000	150,000	150,000	150,000	150,000
Downtown Cable Replacement - Cromwell St. to	-	75,000	-	-	
Remote Terminal Unit Upgrades	45,000	-	-	-	
Data radio infrastructure upgrade	20,000	-	-	-	
Primary Underground Cable Replacements	210,000	200,000	200,000	200,000	200,000
Emergency System Improvement Fund	203,000	200,000	200,000	200,000	200,000
Emergency Transformer Replacement	135,000	125,000	125,000	125,000	125,000
Emergency Primary Line Replacement	57,000	50,000	50,000	50,000	50,000
Emergency Secondary Line Replacement	11,000	10,000	10,000	10,000	10,000
27.6kV Lines Upgrades	76,000				
Sub-Total	1,381,000	1,335,000	1,260,000	1,260,000	1,260,000
Lines & Design - Mid to Low Priority Level					
27.6 Kv Feeder Extensions	167,000	150,000	150,000	150,000	150,000
8 kv Load Conversion	156,000	200,000	200,000	200,000	200,000
4KV Load Conversion	109,000	150,000	150,000	150,000	150,000
Animal Protection	5,000	5,000	5,000	5,000	5,000
Finch D. Tx. Upgrade	77,000	-	-	-	
Load Balancing	27,000	75,000	25,000	25,000	25,000
Remote Load Break Switches	109,000	100,000	100,000	100,000	100,000
914 Confederation St. - Tx. and Vault Upgrades	80,000	-		-	
Lines Upgrade		150,000	150,000	150,000	150,000
New Connections (OEB Requirements)	853,000	800,000	800,000	800,000	800,000
Storm Restoration	227,000	200,000	200,000	200,000	200,000
Overhead Line - Back Lot Rebuild	-	150,000	150,000	150,000	150,000
Fault Indicators - Overhead	11,000	10,000	10,000	10,000	10,000
Sub-Total	1,821,000	1,990,000	1,940,000	1,940,000	1,940,000
Municipality Centered Projects					
Pt Edward upgrades	44,000	35,000	35,000	35,000	35,000
27.6 Feeder - Petrolia	54,000	50,000	50,000	50,000	50,000
Alvinston/Oil Springs Capital Items	22,000	20,000	20,000	20,000	20,000
Watford	63,000	50,000	50,000	50,000	50,000
Street Widening	-	15,000	15,000	15,000	15,000
Sub-Total	183,000	170,000	170,000	170,000	170,000

	Five Year Capital Plan				
Project Name	**2015 Budget**	**2016 Budget**	**2017 Budget**	**2018 Budget**	**2019 Budget**
Non--Reliability Projects					
Substation Building	90,000	90,000	90,000	90,000	90,000
Tools (Vehicle and others)	30,000	30,000	30,000	30,000	30,000
Vehicle Replacement - Lines	325,000	450,000	325,000	325,000	325,000
Transformers	150,000	150,000	150,000	150,000	150,000
Safety Related Projects	10,000	10,000	10,000	10,000	10,000
Service Centre	90,000	90,000	90,000	90,000	90,000
Asset Condition Assessment (feeder & substn)	150,000	150,000	150,000	150,000	150,000
Operations Technology Systems Workflow	345,480	275,000	275,000	275,000	275,000
Pole Line Removal Scott Rd.	165,000	-			
Substation Transformer Replacements	-	-	170,000	-	170,000
Sub-Total	1,355,480	1,245,000	1,290,000	1,120,000	1,290,000
Total Lines & Design	**4,740,480**	**4,740,000**	**4,660,000**	**4,490,000**	**4,660,000**
Metering					
Single Phase Meters and Poly Phase Meters	80,000	80,000	80,000	80,000	80,000
New Meters	25,000	25,000	25,000	25,000	25,000
Metering Equipment/Tools	2,000	2,000	2,000	2,000	2,000
Testing Equipment					
Total Metering	**107,000**	**107,000**	**107,000**	**107,000**	**107,000**
Information Technology					
Corporate IT Security	139,860	150,000	150,000	175,000	200,000
Data Centre Lifecycle	274,545	250,000	350,000	300,000	250,000
Computer Infrastructure Lifecycle	149,740	175,000	175,000	175,000	175,000
IT Staff Capitalization	149,795	150,000	150,000	150,000	150,000
Legislated Business Application Upgrades	142,795	75,000	75,000	50,000	75,000
Software-Upgrades and Additions	185,415	200,000	200,000	200,000	225,000
Disaster Recovery Plan Upgrade Phase I,II,III	124,085	50,000	100,000	150,000	150,000
SCADA / ODS / OMS / GIS / Smart Grid	265,865	50,000	100,000	-	
Central Filing Document Management	120,635				
Systems Performance Monitoring	64,250				
Enterprise Mobility	130,180				
Mobile Device Management					
Safety Management Solution					
Business Technology Improvements		500,000	800,000	850,000	850,000
Total Information Technology	**1,747,165**	**1,600,000**	**2,100,000**	**2,050,000**	**2,075,000**
Other Projects					
Furniture (Company wide)	10,000	10,000	10,000	10,000	10,000
Smart GRID FDIR	210,188				
Distribution Transformer Monitoring Grid 20/20	30,021				
Pole Testing Gun					
Total Other Projects	**250,209**	**10,000**	**10,000**	**10,000**	**10,000**
	6,844,854	**6,457,000**	**6,877,000**	**6,657,000**	**6,852,000**

MINUTES of the meeting of the Board of Directors of **BLUEWATER POWER DISTRIBUTION CORPORATION** held on November 23, 2015.

The following Directors were present in person, namely: G. Firman Bentley, Ray Curran, Brad Goodhill, Richard Grogan, Steve Bolt, Glenn Jones and Garry McDonald.

Also present with the consent of the Board were: Janice McMichael-Dennis, Alex Palimaka, Dom Pinelli, Kathy Gadsby, Christina McCready, Mark Vanderheide, Keith Broad, Cathy Campbell, Tim Vanderheide, Mark Hutson and Chris Gould.

Chairman

Firman Bentley, Chair of the Board of Directors, acted as Chair of the meeting (the Chair).

Constitution of Meeting

The Chair noted that a quorum of Directors was present and that all the Directors of the Corporation had provided waivers of notice of the meeting and, accordingly, the meeting was regularly constituted for the transaction of business.

Minutes of the Previous Meeting

Upon motion duly made by Glenn Jones, seconded by Steve Bolt and unanimously carried, IT WAS RESOLVED that the amended minutes of the June 30th, 2015 of the Board of Directors of Bluewater Power Distribution Corporation be approved.

Upon motion duly made by Glenn Jones, seconded by Steve Bolt and unanimously carried, IT WAS RESOLVED that the minutes of the September 29th 2015 of the Board of Directors of Bluewater Power Distribution Corporation be approved.

Financial Report

Mark Hutson, VP Finance presented the year to date September 30th, 2015 financial results highlighting the following:

- Income statement is solid.
- Other revenue is above budget
- O&M review
- Contracting out of Capital Projects - Impact
- OPA Costs – Incentive Program Overvie
- Cash Balance Review Capital spending causing low cash balance

Operations Report

Chris Gould, presented the Operations Report highlighting the following areas:

Capital Projects

The following capital projects were issued to Valard in 2015:

1. 27.6kV Line Extension – Substantially complete
2. 8kV Conversion – Substantially complete
3. Wood Pole Replacements – Substantially complete
4. Asset Management – Data Collection – scheduled for completion by year end
5. Neutral Upgrades – scheduled for completion by year end

BPDC - Capital

- Designs Services and Lines continue to work to complete the capital budget for 2015
- This includes work in Alvinston and Oil Springs, pole and transformer replacements
- New RBD to be ordered before end of November to ensure delivery in 2016
- Sherwood – 9 km cutover this year of underground cable
- 4kV Harbour Road conversion – to be completed by end of year
- Remote Load Break Switches (2) completed this year
- Point Edward Upgrades Completed
- To date, we have completed:
  - ✓ 106 Wood Pole Replacements
  - ✓ 14 Pad mount TX Replacements

Hydro One Update - Wanstead

- 2 new transformers
- Gas insulated switchgear
- Operability improvements with secondary breakers and bus tie
- Presented with Hydro One Class 'A' estimate in September of $3.4M to upgrade the station from 115kV connection to 230kV connection
- Bluewater Power would be responsible for 35% of this - $1.2M

Current Status:

- Bluewater has requested clarification of capital cost items
- HONI requested confirmation by mid-November of our intent to move ahead
- HONI will formulate a Connection and Cost Recovery Agreement (CCRA) that will reflect the incremental work and associated cost for connecting to the 230kV circuits.
- However we have seen similar agreements between HONI and distributors and can provide the following comments:
  - Cost True-Up – ultimately responsible for actual cost

- Regulatory Risk – OEB permits transmission assets in Distribution rates
- Cost Sharing – HONI reserves the right to increase the Incremental Cost in which we share if they discover the scope was not accurate or if they are impacted by a material cost increase
- Termination – no opt-out provision but the agreement can be terminated

Resolution:

"Upon motion duly made by Ray Curran, seconded by Richard Grogan and unanimously carried, IT WAS RESOLVED That the Board of Directors of Bluewater Power Distribution Corporation approve of making a capital contribution to Hydro One Networks Inc. in the amount of $1.3 Million for the upgrade of the Wanstead Transmission Station from a 115kV supply to a 230 kV supply, and the CEO is hereby authorized to take such steps she determines to be necessary, including the execution of a Connection and Cost Recovery Agreement on standard industry terms."

- The Board requests regular reporting of costs.

Substation 1 Building Façade and Grounds Overhaul

- Work on pilasters is complete
- Landscaping work has begun
- There has been a delay on the siding but the project should be substantially complete before year end

Reliability

- The number of customer hours interrupted forms our SAIDI (System Average Interruption Duration Index) indicator which will be reported to the OEB and will appear on our scorecard.
- The OEB sets the target as the range of your last three years.
- For Bluewater Power, in 2015, our target range will be 0.89 – 2.75.
- As we sit currently in 2015, our SAIDI will be at least 3.2 which will put us outside our target range. We will have the chance to explain in the discussion portion of the scorecard why we are outside the range and the key weather events that caused the increase.

Design Services Overview

- Design Services and the Lines Department are currently in the process of reviewing remaining capital projects to determine status and scheduling requirements before year end.
- In addition, Design Services has started the process of reviewing and laying out projects for 2016 (primarily customer requests). Once the 2016 Capital Budget is approved, projects will be released in early 2016 for winter construction.

RES Canada

- Worked closely with RES Canada on the recent energy storage RFP with the IESO
- Although unsuccessful in their submission we continue to plan joint ventures for 2016

Resolution

The Board of Director's approved of the following resolution:

Upon motion duly made by Glenn Jones, seconded by Richard Grogan and unanimously carried IT WAS RESOLVED "That the Board approves all 2016 Budget components including O&M, Capital, and Financial Statements Budgets"

Next Meeting

The next scheduled Board meeting is Thursday February 4th 2016 at 9:00 am, concluding at 4:00 pm or at the call of the Chair.

Termination

There being no further business, on motion the meeting then terminated.

G.F. Bentley, Chair

Bluewater Power Distribution Corporation
2016 CAPITAL BUDGET
High Level Overview

Total Proposed 2016 Capital Budget =	**$ 8,180,190**

For Comparison:	*Approved Budget*	*Actual Spending*
2015	$ 7,344,854	$ 7,309,197
2014	$ 6,530,885	$ 4,594,821
2013	$ 6,931,725	$ 5,199,372
2012	$ 10,392,404	$ 9,344,964
2011	$ 6,188,162	$ 5,378,551

2016 Capital Overview

Components:	**2016 Budget**	**2015 Budget**	**2014 Budget**
New Connections/Services	$ 853,000	$ 853,000	$ 680,000
Utility Services - Reliability	$ 4,034,000	$ 3,081,480	$ 3,146,675
Vehicle Replacements	$ 490,000	$ 325,000	$ 325,000
Meter Services	$ 107,000	$ 107,000	$ 127,000
Information Technology	$ 1,569,190	$ 1,747,165	$ 1,761,210
Building Renovations/Improvements	$ 190,000	$ 690,000	$ 190,000
Smart Grid	$ 130,000	$ 240,209	$ -
Micro Fit	$ 300,000	$ -	$ -
Emergency Funds	$ 507,000	$ 301,000	$ 301,000
Total Capital Budget:	**$ 8,180,190**	**$ 7,344,854**	**$ 6,530,885**
Less: Non-Recurring Items:			
Meeting Rooms Tech and Lighting Upgrades	$ 66,165	$ -	$ -
Mailroom Equipment Replacement	$ 54,050	$ -	$ -
Voicemail Upgrade	$ 112,720	$ -	$ -
Substation #1 Restoration	$ -	$ 500,000	$ -
Micro Fit Rooftop Solar	$ 300,000	$ -	$ -
Load Transfer	$ 272,000	$ -	$ -
Mobile Device Management	$ -	$ -	$ 86,413
Safety Management Solution	$ -	$ -	$ 56,369
Systems Performance Monitoring	$ -	$ 64,250	$ -
Enterprise Mobility	$ -	$ 130,180	$ -
Smart GRID Charging Stations	$ 75,000	$ -	$ -
Smart GRID FDIR	$ 10,000	$ 210,188	$ -
Petrolia Micro Grid	$ 15,000	$ -	$ -
Distribution Transformer Monitoring Grid 20/20	$ 30,000	$ 30,021	$ -
Pole Line Scott Rd./Tashmoo	$ 200,000	$ 165,000	$ -
Total Normalized Level:	**$ 7,045,255**	**$ 6,245,215**	**$ 6,388,103**

2016 Capital Operations Budget

Project Number		Project Name	Description	Justification	Cost
	Priority Level	Reliability Centered Projects			
UT40	High	Guy Guard/Down Guy Replacement	A visual assessment is performed to confirm guy guards and down guys that may be in need of replacement or repair	Any deteriorated, damaged or missing guy guards can pose a safety risk to the public as down guys are typically located along sidewalks, bike paths and in locations readily accessible by the public.	29,000
UT4	High	27.6kV Neutral Program	Upgrade 27.6kV neutral conductor	Improves relay protection characteristics and fault clearing times.	153,000
UT31	High	Pad Mount Transformer Replacements	Replacement of pad-mount transformer with new transformers.	Regular Program of Asset Replacement -- transformers have reached their end of life. The casings start to rot and they can't be repaired, need to improve reliability and maintain public safety.	85,000
UT15	High	Wood Pole Replacement	Identify and replace aging poles	Reliability improvements and end of life replacements	544,000
UT14	High	Cross Arm/Cap & Pin Insulator Replacement	Replace crossarms and insulators	Reliability improvements to reduce effects of cracked arms and old insulators.	168,000
UT27	High	Remote Terminal Unit (RTU) Upgrades	Relay communication upgrades	RTU's and radios have reached their end of life. Upgrade at MS #14, which dates back into the 1980's. Equipment is no longer supported and no parts are available.	18,000
UT26	High	Data radio infrastructure upgrade	To replace the 900 MHz licensed and unlicensed radio systems to 1.8 Ghazi in conjunction with the RTU upgrade project (UT27)	Project started in 2011 in conjunction with RTU Upgrades (UT27). Replacement of remaining radios from legacy RTU's installed in the 1980s. Complete radio links to all stations.	10,000
UT18	High	Primary underground cable replacement	Regular Program of Asset replacement (Subdivisions east of Murphy Rd. -- Old Ontario Hydro Plant. i.e. Sherwood, Coronation Subdivision) - Includes design & planning stages	Primary Cable upgrades/replacement, Reliability improvements and end of life replacements	211,000

2016 Capital Operations Budget

Project Number		Project Name	Description	Justification	Cost
UT34	High	Emergency System Improvement Fund	Emergency Fund	For general unexpected capital expenditures during the year.	204,000
UT34	High	Emergency Transformer Replacement	Emergency Fund	For unexpected emergency replacement of failed Transformers during the year.	244,000
UT34	High	Emergency Primary Line Replacement	Emergency Fund	For unexpected emergency replacement of failed Primary Line during the year.	44,000
UT34	Mid-Level	Emergency Secondary Line Replacement	Emergency Fund	For unexpected emergency replacement of failed Secondary Line during the year.	15,000
	Sub-Total of High Priority Reliability Projects				1,725,000
	Priority Level	**Reliability Centered Projects**			
UT21	Mid-Level	27.6 Kv Feeder Extensions	Extend 27.6 Kv Feeder on Lakeshore Rd. between Telfer and Murphy Rd.	Supply reliability for customers and to create redundancy. This project will assist in the elimination of 1 of the 2 remaining 8Kv Substations in our system.	354,000
UT22	Mid-Level	8 Kv Load Conversions	Load Conversions to 27.6 Kv along North and South sections of McGregor Sd. Rd. in Sarnia	Conversion of the 8 Kv system to 27.6 Kv to ultimately eliminate the two remaining 8 Kv substations. Assets are approaching or have reached their end of useful life.	354,000

2016 Capital Operations Budget

Project Number		Project Name	Description	Justification	Cost
UT7	Mid-Level	4KV Lines Rebuild and Load Conversion	Upgrade of 4Kv feeders and load conversion to 27.6 Kv on Seaway Rd. west of Harbour Rd. in Sarnia. To take place in conjunction with the Government Dock electrical upgrades at the west end of Seaway Rd. that have been scheduled by the City of Sarnia	Program to rebuild, upgrade and convert 4 Kv feeders to 27.6 Kv (where possible) in various areas west of Murphy Rd. These feeders would have been installed in 1950/1960's, and have reached their end of useful life.	262,000
UT33	Mid-Level	Animal Protection	Reliability centered program to improve protection on main 27.6kV feeders from animal contact.	Animal contacts are one of the largest causes of outages, this will help minimize outages on the feeders.	5,000
UT44	Mid-Level	Load Transfer Elimination - OEB Requirement	The transfer of Load Transfer customers from Hydro One Networks to Bluewater Power	As directed by the Ontario Energy Board (OEB) under the Distribution System Code (DSC) to transfer load transfer customers to the physical distributor in identified areas	272,000
UT17	Mid-Level	Load Balancing	Balance loading on all 4 kv & 27.6 Kv Feeders	Balance feeder loadings to avoid overloaded feeder situations during peak periods. Improves and maintains reliability transferring of feeder loads from one station to another.	27,000
UT25	Mid-Level	Remote Load Break Switches	Remote load break switches or reclosures	Reduce outages through automation. Sectionalizes feeders when a fault occurs.	106,000
UT32	Mid-Level	Lines Upgrade	Re-conductor and re-build feeders	Upgrade the M14/M27 and M16/M28 undersized conductors as well as poles between Indian Rd. and Modeland Road so that a feeder tie can be utilized	354,000
UT45	Mid-Level	Downtown Vault Upgrades	Replacement of entrance ladders within the vault and low voltage electrical service upgrades for six locations.	End of Life Replacements	15,000
UT11	As Required	New Connections (OEB Requirements)	New Subdivision Connections, system upgrades to meet capacity, and new infill service connects	This is an OEB Requirement that is difficult to accurately predict. This based on current knowledge and experience	853,000
UT24	As Required	Storm Restoration	Stock items and labour	Based on 2014 and 2015 average expected storm maintenance costs per internal order	218,000
UT30	As Required	Fault Indicators - Overhead	Target devices used to indicate fault direction for overhead lines.	Fault finding is critical to reducing outage times. These devices allow for faster location of the fault by offering direction information to field staff	27,000
	Sub-Total of Mid Priority Reliability Projects				2,847,000
		Municipality Centered Projects			

2016 Capital Operations Budget

Project Number		Project Name	Description	Justification	Cost
UT8		Pt. Edward Upgrades	Asset Replacement program	Secondary and primary asset replacements as required where assets have reached their end of useful life and as required to meet load growth over time.	33,000
UT5		Petrolia	Asset Replacement program	Replacement of load break, inline switches and poles at three different locations within the Town of Petrolia with new poles and remote operated switches.	113,000
UT6		Alvinston/Oil Springs - Capital Items	Asset Replacement program	Secondary and primary asset replacements as required where assets have reached their end of useful life.	22,000
UT16		Watford	Asset Replacement program	Two pole transformers to be removed out of service and upgraded on McGregor St. to a pad mount transformer.	64,000
	Sub-Total of Municipality Centered Projects				232,000
		Non- Reliability Centered Projects			
UT1		Substation Building	New siding, windows, doors, painting, fences, roofs, fire detection, etc for various stations	Substation Buildings require general repairs and updates.	90,000
UT9		Tools (Vehicle & Other)	Replacement tools	Standard list of truck tools and equipment.	30,000
UT10		Vehicle Replacements	Vehicle replacements	End of Life Replacements	490,000
UT12		Transformers	Capital Asset for Regular stock turnover	Storm stock and regular attrition requirements. Does not include units under capital project	150,000
UT13		Safety Related	Safety signs, equipment etc.	Provision for unplanned and/or necessary safety-related items.	10,000
UT19		Service Centre	Various upgrades required such as roofing, painting, flooring, lighting	Service Center Buildings require general repairs and updates.	90,000
UT28		Asset Condition Assessment (Feeder & Substation Assessments)	Physical inspection of major feeders, substations and associated equipment.	Year to year asset condition review.	200,000
UT42		Pole Line - Tashmoo Ave.	Remove an existing overhead pole line that is located along CN right of way.	An existing 4Kv overhead pole line that is currently not operational and is not required as part of Bluewater Power's Distribution system, any existing load has been transferred to 27.6 Kv feeders.	200,000

2016 Capital Operations Budget

Project Number		Project Name	Description	Justification	Cost
	Sub-Total of Non-Reliability Centered Projects				1,260,000
		Overall Operations Total			6,064,000

			Metering Projects		
MT1		Single Phase 100 amp meter replacement Polyphase mechanical demand replacement	Replacing 100 amp meters with 200 amp and replacing mechanical with electronic meters.	New services are 200 amp and Electronic demand has KW and KVA which could lead to more revenue. Ongoing project nearing completion	80,000
MT2		New Meters	Residential and Commercial meters	Meters for new services	25,000
MT3		Tools	New tools for shop use.	New tools as required for meter shop.	2,000
MT5		Test equipment	CT ratio test	addition to cross phase analyzer	-
			Total Metering		107,000

2016 Capital Operations Budget

Project Number		Project Name	Description	Justification	Cost
		IT Projects			
IT01		Data Centre Lifecycle	This deals with the Data Centre lifecycle and management. It includes Network, environmentals, Server, Storage, UPS and other data center equipment and related software replacement lifecycles: Depending on equipment the lifecycle is 3 to 6 years.	The datacenter services and equipment are implemented and upgraded on a lifecycle basis. The general plan is dictated by age of equipment, access to improved technology and workload volumes of BWP IT Staff.	183,550
IT02		Infrastructure Lifecycle	Lifecycle 30 - 35 PCs plus adds to staff, home PCs, new mobile devices, aging printers (example - Mailroom)	We are operating on a 4-year lifecycle approach to PCs and variable year lifecycle approach to other infrastructure technology such as printers and fax machines. This enables standardization of product and service and keeps a consistent financial impact to budgets. This also includes technology requirements for any staff adds or changes, along with general end point technology necessities.	168,775
IT03		Corporate IT Security	The Security focus will involve a three pronged approach including upgrading existing virus / malware solution, addressing security flaws in the LAN architecture, and performing a comprehensive threat assessment / acting on conclusions.	In on-going efforts to mitigate heightened threats, Bluewater Power needs to further increase preparedness against both internal and external security attacks.	179,860
IT04		Internal Software Development	Staff cost associated with all IT capital projects.	Time allocated to capital costs and included in each capital project.	165,000
IT05		Legislated Business Application Upgrades	This is a multi-year agreement with Deloitte and one year with Axon to provide SAP development efforts. These allow BWP to remain compliant with new regulations affecting change to the primary business system as well as allowing for continuous improvement programs.	This is required to perform OEB and Ministry of Energy legislated changes to internal business processes along with continuous solution improvements. For example, Bill 100, rebates, price changes, etc. BWP has been in a multi-year agreement with Deloitte to perform these services. Axon has been added to support their efforts and an RFP for AMS support will be undertaken.	197,500
IT06		Software - Upgrades and Additions	Microsoft Enterprise Agreement, adds to staff, growth of product requests or replacements such as, MS Project and Adobe Suite. R&D on various software, refresh of products, growth requires true-up - eg virus protection. R&D on PC protection products.	It is essential that we remain compliant with licensing requirements of all software in use at BWP. This covers adds to staff and upgrades to or additional applications.	197,620

2016 Capital Operations Budget

Project Number		Project Name	Description	Justification	Cost
IT09		Disaster Recovery	This is a continuing investment into an updated approach to Disaster Recovery.	The existing disaster recovery plan is outdated and no longer supports the expanded service offerings and business demands. This will be reviewed with direction to move to and implement an updated solution.	89,450
IT12		Meeting Rooms Tech and Lighting Upgrades	Upgrade technology and lighting in the Conference, Board, and Meeting Rooms	The existing technology and lighting is poor and not user friendly. A lot of time is spent trying to get existing solutions to work. The new solution will be user friendly and use current technology.	66,165
IT13		Mailroom Equipment Replacement	Replace outdated mailing equipment	Some of the current mailroom equipment is at or beyond end of life. The instances of outages and down time are significant and a solution needs to be put in place.	54,050
IT14		Central Filing Document Management	The current paper based Central Filing system will be re-positioned into an electronic document management solution	Central Filing is an essential business process. The current solution is inefficient, error prone, and does not easily allow for current regulation and best practice in document management.	154,500
IT16		Voicemail Upgrade	Implement a new or replacement voicemail system.	The current Cisco Unity voicemail system is past end of life and no longer supported. Some of the systems it interconnects with cannot be kept up to date because they no longer work with the existing version.	112,720
					1,569,190

		Other			
O3		Furniture (Company Wide)			10,000
O7		Micro Fit	Micro Fit projects on Municipal properties	Installation of Solar rooftop projects with a return of 15%	300,000
O8		Smart GRID Charging Stations	Charging stations for Electrical vehicles	Keeping abreast of new Technologies	75,000
O9		Research Smart Grid Technologies	Research new smart grid technologies by participating in 2016 Conferences and touring other LDC's.	Keeping abreast of new Technologies	30,000
O10		Smart GRID FDIR	This add-on, called FDIR (Fault Detection, Isolation, Restoration), will improve operational efficiency and reduce the duration and size of large outages. As more remotely operated switches are added this efficiency will increase.	FDIR, once in fully automatic mode, will reduce the number of customers affected when a fault occurs. It will reduce the duration of an outage by enabling our Operators to focus their efforts on correcting the fault, as the detection, isolation, and restoration is done automatically. It will further improve the efficiency of the line crew.	10,000

2016 Capital Operations Budget

Project Number		Project Name	Description	Justification	Cost
O11		Petrolia Micro GRID	Research Project to determine the feasibility of implementing a Micro Grid in our distribution territory, with the goal of obtaining comprehensive knowledge of micro grids, from planning to operation.	Bluewater Power hopes to gain invaluable knowledge of the design, implementation and operation of a micro grid, to be able to effectively implement a microgrid where it would benefit the customer and utility the most, anywhere throughout our distribution territory.	15,000
		Total Other			440,000
		Total Company			8,180,190

Bluewater Capital					
Project Name	**2016 Budget**	**2017 Budget**	**2018 Budget**	**2019 Budget**	**2020 Budget**
Lines & Design - High Priority Level					
Guy Guard/Down Guy Replacement	29,000	25,000	25,000	25,000	25,000
27.6kV Neutral Program	153,000	150,000	125,000	100,000	100,000
Pad Mount Transformer Replacements	85,000	100,000	100,000	80,000	80,000
Wood Pole Replacement Program	544,000	500,000	450,000	400,000	400,000
Cross Arm/Cap & Pin Insulator Replacement	168,000	150,000	150,000	150,000	150,000
Remote Terminal Unit Upgrades	18,000	-	-	-	
Data radio infrastructure upgrade	10,000	-	-	-	
Primary Underground Cable Replacements	211,000	200,000	200,000	200,000	200,000
Emergency System Improvement Fund	204,000	200,000	200,000	200,000	200,000
Emergency Transformer Replacement	244,000	225,000	225,000	225,000	225,000
Emergency Primary Line Replacement	44,000	50,000	50,000	50,000	50,000
Emergency Secondary Line Replacement	15,000	10,000	10,000	10,000	10,000
Sub-Total	1,725,000	1,610,000	1,535,000	1,440,000	1,440,000
Lines & Design - Mid to Low Priority Level					
27.6 Kv Feeder Extensions	354,000	350,000	350,000	350,000	350,000
8 kv Load Conversion	354,000	350,000	350,000	350,000	350,000
4KV Lines Rebuild/ Load Conversion	262,000	100,000	100,000	100,000	100,000
Animal Protection	5,000	5,000	5,000	5,000	5,000
Finch Dr. Tx. Upgrade		-	-	-	
Load Transfer Elimination - OEB Requirement	272,000				
Load Balancing	27,000	25,000	25,000	25,000	25,000
Remote Load Break Switches	106,000	100,000	100,000	100,000	100,000
914 Confederation St. - Tx. and Vault Upgrades	-				
27.6kV Lines Upgrades	354,000	100,000	100,000	100,000	100,000
Downtown Vault Upgrades	15,000				

Bluewater Capital					
Project Name	**2016 Budget**	**2017 Budget**	**2018 Budget**	**2019 Budget**	**2020 Budget**
New Connections (OEB Requirements)	853,000	800,000	800,000	800,000	800,000
Storm Restoration	218,000	200,000	200,000	200,000	200,000
Overhead Line - Back Lot Rebuild	-	300,000	300,000	300,000	300,000
Fault Indicators - Overhead	27,000	25,000	10,000	10,000	10,000
Sub-Total	2,847,000	2,355,000	2,340,000	2,340,000	2,340,000

Bluewater Capital					
Project Name	**2016 Budget**	**2017 Budget**	**2018 Budget**	**2019 Budget**	**2020 Budget**
Municipality Centered Projects					
Pt Edward upgrades	33,000	30,000	30,000	30,000	30,000
Petrolia	113,000	50,000	50,000	50,000	50,000
Alvinston/Oil Springs Capital Items	22,000	20,000	20,000	20,000	20,000
Watford	64,000	50,000	50,000	50,000	50,000
Sub-Total	232,000	150,000	150,000	150,000	150,000
Non--Reliability Projects					
Substation Building	90,000	75,000	75,000	75,000	75,000
Substation #1 Restoration					
Tools (Vehicle and others)	30,000	30,000	30,000	30,000	30,000
Vehicle Replacement - Lines	490,000	350,000	350,000	350,000	350,000
Transformers	150,000	150,000	150,000	150,000	150,000
Safety Related Projects	10,000	10,000	10,000	10,000	10,000
Service Centre	90,000	90,000	90,000	75,000	75,000
Asset Condition Assessment (feeder & substn)	200,000	200,000	200,000	200,000	200,000
Operations Technology Systems Workflow	-				
Pole Line Scott Rd./Tashmoo Ave	200,000	-	-	-	-
Substation Transformer Replacements		170,000	-	170,000	170,000
Sub-Total	1,260,000	1,075,000	905,000	1,060,000	1,060,000
Total Lines & Design	**6,064,000**	**5,190,000**	**4,930,000**	**4,990,000**	**4,990,000**
Metering					
Single Phase Meters and Poly Phase Meters	80,000	80,000	80,000	80,000	80,000
New Meters	25,000	25,000	25,000	25,000	25,000
Metering Equipment/Tools	2,000	2,000	2,000	2,000	2,000
Smart Meter Replacement ESA					

Bluewater Capital					
Project Name	2016 Budget	2017 Budget	2018 Budget	2019 Budget	2020 Budget
Total Metering	107,000	107,000	107,000	107,000	107,000

Bluewater Capital					
Project Name	**2016 Budget**	**2017 Budget**	**2018 Budget**	**2019 Budget**	**2020 Budget**
Information Technology					
Corporate IT Security	179,860	100,000	100,000	100,000	200,000
Data Centre Lifecycle	183,550	200,000	200,000	200,000	250,000
Computer Infrastructure Lifecycle	168,775	175,000	175,000	175,000	200,000
Internal Software development	165,000	150,000	150,000	150,000	180,000
Legislated Business Application Upgrades	197,500	100,000	100,000	100,000	125,000
Software-Upgrades and Additions	197,620	175,000	175,000	175,000	175,000
Disaster Recovery Plan Upgrade Phase I,II,III	89,450	50,000	50,000	50,000	50,000
SCADA / ODS / OMS / GIS		-	-		
Meeting Rooms Tech an Lighting Upgrades	66,165				
Mailroom Equipment Replacement	54,050				
Central Filing Document Management	154,500				
Voicemail Upgrade	112,720				
SAP Watford Water Meter Billing					
Social Media					
Systems Performance Monitoring					
Enterprise Mobility					
Business Technology Improvements		800,000	850,000	850,000	750,000
Total Information Technology	**1,569,190**	**1,750,000**	**1,800,000**	**1,800,000**	**1,930,000**
Other Projects					
Furniture (Company wide)	10,000	10,000	10,000	10,000	10,000
MicroFit Projects	300,000				
Smart GRID Charging Stations	75,000				
Smart GRID FDIR	10,000				
Distribution Transformer Monitoring Grid 20/20	30,000				
Petrolia Micro GRID	15,000				
Total Other Projects	**440,000**	**10,000**	**10,000**	**10,000**	**10,000**

Bluewater Capital					
Project Name	2016 Budget	2017 Budget	2018 Budget	2019 Budget	2020 Budget
	8,180,190	7,057,000	6,847,000	6,907,000	7,037,000

MINUTES of the 2017 Budget meeting of the Board of Directors of **BLUEWATER POWER Distribution Corporation** held at Bluewater Power, 855 Confederation Street, Sarnia, Ontario on November 24th 2016.

The following Directors were present in person, namely: G. Firman Bentley, Glenn Jones, Brad Goodhill and Richard Grogan, Ray Curran, Steve Bolt and Garry McDonald.

Conference Call: Glenn Jones

Also present with the consent of the Board were: Janice McMichael, Alex Palimaka, Mark Delaurier, Chris Gould, Dom Pinelli, Kathy Gadsby, Mark Hutson, Christina McCready, Mark Vanderheide, Keith Broad, Tim Vanderheide, Glen Farrow and Cathy Campbell

Constitution of Meeting

The Chair noted that a quorum of Directors was present and that all the Directors of the Corporation had provided waivers of notice of the meeting and, accordingly, the meeting was regularly constituted for the transaction of business.

Mark Hutson Presented the 2017 Budget for Bluewater Power Distribution Corporation

Overview Included:

- Income Statement Comparison
- Other Revenue
- Billable revenue
- Revenue and Shared costs relating to affiliates
- Special Dividends
    - Not forecasted for 2017 due to forecasted low cash position
- O&M – High Level Overview
    - Collective Agreement
    - Linemen replacement positions
    - Monthly Billing
    - Bad Debts

Capital Budget High Level Overview

- Review of Capital items $150,000 and over

Resolution

Upon motion duly made by Garry McDonald, seconded by Brad Goodhill and unanimously carried IT WAS RESOLVED "That the Board approves the 2017 Budget components including O&M, Capital, and Financial Statements Budgets for Bluewater Power Distribution Corporation"

Next Meeting

The next scheduled Board meeting is February 23rd 2017 at 9:10am or at the call of the Chair.

Termination

There being no further business, on motion the meeting then terminated.

G.F. Bentley, Chair

Bluewater Power Distribution Corporation
2017 CAPITAL BUDGET
High Level Overview

Total Proposed 2017 Capital Budget = $ 8,969,035

For Comparison:	*Approved Budget*	*Actual Spending*
2016	$ 8,530,190	$ 7,835,550
2015	$ 7,344,854	$ 7,166,698
2014	$ 6,530,885	$ 4,594,821
2013	$ 6,931,725	$ 5,199,372
2012	$ 10,392,404	$ 9,344,964

2017 Capital Overview

Components:	**2017 Budget**	**2016 Budget**	**2015 Budget**
New Connections/Services	$ 838,000	$ 853,000	$ 853,000
Utility Services - Reliability	$ 4,103,000	$ 4,384,000	$ 3,081,480
Vehicle Replacements	$ 847,300	$ 490,000	$ 325,000
Meter Services	$ 383,950	$ 107,000	$ 107,000
Information Technology	$ 1,518,285	$ 1,569,190	$ 1,747,165
Building Renovations/Improvements	$ 572,500	$ 190,000	$ 690,000
Smart Grid	$ 150,000	$ 130,000	$ 240,209
Micro Fit	$ -	$ 300,000	$ -
Emergency Funds	$ 556,000	$ 507,000	$ 301,000
Total Capital Budget:	**$ 8,969,035**	**$ 8,530,190**	**$ 7,344,854**
Less: Non-Recurring Items:			
Meeting Rooms Tech and Lighting Upgrades	$ 24,165	$ 66,165	$ -
Central Filing Document Management	$ 166,050	$ -	$ -
Training Centre	$ 77,120	$ -	$ -
Substation #1 Restoration	$ 425,000	$ -	$ 500,000
Downtown Secondary Network Cable	$ 157,000	$ -	$ -
GS > 50 KW Interval Meters	$ 151,250	$ -	$ -
Mailroom Equipment Replacement	$ -	$ 54,050	$ -
Voicemail Upgrade	$ -	$ 112,720	$ -
Petrolia Wanstead TS	$ 350,000	$ 350,000	$ -
Distribution Transformer Monitoring Grid 20/20	$ 30,000	$ 30,000	$ 30,021
Smart GRID FDIR	$ 105,000	$ 10,000	$ 210,188
Petrolia Micro Grid	$ 15,000	$ 15,000	$ -
Smart GRID Charging Stations	$ -	$ 75,000	$ -
Micro Fit Rooftop Solar	$ -	$ 300,000	$ -
Load Transfer	$ -	$ 272,000	$ -
Systems Performance Monitoring	$ -	$ -	$ 64,250
Enterprise Mobility	$ -	$ -	$ 130,180
Pole Line Scott Rd./Tashmoo	$ -	$ 200,000	$ 165,000
Total Normalized Level:	**$ 7,468,450**	**$ 7,045,255**	**$ 6,245,215**

2017 Capital Operations Budget

Project Number		Project Name	Description	Justification	Cost
	Priority Level	Reliability Centered Projects			
UT40	High	Guy Guard/Down Guy Replacement	A visual assessment is performed to confirm guy guards and down guys that may be in need of replacement or repair	Any deteriorated, damaged or missing guy guards can pose a safety risk to the public as down guys are typically located along sidewalks, bike paths and in locations readily accessible by the public.	22,000
UT31	High	Pad Mount Transformer Replacements	Replacement of pad-mount transformer with new transformers.	Regular Program of Asset Replacement -- transformers have reached their end of life. The casings are starting to rot and they can't be repaired. Improve reliability and maintain public safety.	105,000
UT15	High	Wood Pole Replacement	Identify and replace aging poles	Reliability improvements and end of life replacements	1,074,000
UT14	High	Cross Arm/Cap & Pin Insulator Replacement	Replace crossarms and insulators	Reliability improvements to reduce effects of cracked arms and old insulators.	163,000
UT18	High	Primary underground cable replacement	Regular Program of Asset replacement (Subdivisions east of Murphy Rd. -- Old Ontario Hydro Plant. i.e Sherwood, Coronation Subdivision) - Includes design & planning stages	Primary Cable upgrades/replacement, Reliability improvements and end of life replacements	259,000
UT34	High	Emergency System Improvement Fund	Emergency Fund	For unexpected capital expenditures during the year.	251,000
UT34	High	Emergency Transformer Replacement	Emergency Fund	For unexpected emergency replacement of failed Transformers during the year.	262,000
UT34	High	Emergency Primary Line Replacement	Emergency Fund	For unexpected emergency replacement of failed Primary Line during the year.	27,000
UT34	High	Emergency Secondary Line Replacement	Emergency Fund	For unexpected emergency replacement of failed Secondary Line during the year.	16,000
UT44	High	Load Transfer Elimination - OEB Requirement	The transfer of Load Transfer customers from Hydro One Networks to Bluewater Power	As directed by the Ontario Energy Board (OEB) under the Distribution System Code (DSC) to transfer load transfer customers to the physical distributor in identified areas to be completed by June 2017	63,000
	Sub-Total of High Priority Reliability Projects				2,242,000

2017 Capital Operations Budget

Project Number		Project Name	Description	Justification	Cost
	Priority Level	Reliability Centered Projects			
UT21	Mid-Level	27.6 Kv Feeder Extensions	Extend 27.6 Kv Feeder on Lakeshore Rd. between Telfer and Murphy Rd.	Supply reliability for customers and to create redundancy. This project will assist in the elimination of 1 of the 2 remaining 8Kv Substations in our system.	360,000
UT22	Mid-Level	8 Kv Load Conversions	Load Conversions to 27.6 Kv	Conversion of the 8 Kv system to 27.6 Kv to ultimately eliminate the two remaining 8 Kv substations. Assets are approaching or have reached their end of useful life.	360,000
UT7	Mid-Level	4KV Lines Rebuild and Load Conversion	Upgrade of 4Kv feeders and load conversion to 27.6 Kv where possible in areas west of Murphy Rd. in Sarnia.	Program to rebuild, upgrade and convert 4 Kv feeders to 27.6 Kv (where possible) in various areas west of Murphy Rd. These feeders would have been installed in 1950/1960's, assets are approaching or have reached their end of useful life.	106,000
UT33	Mid-Level	Animal Protection	Reliability centered program to improve protection on main 27.6kV feeders from animal contact.	Animal contacts are one of the largest causes of outages, this will help minimize outages on the feeders.	5,000
UT17	Mid-Level	Load Balancing	Balance loading on 4 kv & 27.6 Kv Feeders	Balance feeder loadings to avoid overloaded feeder situations during peak periods. Improves and maintains reliability transferring of feeder loads from one station to another.	26,000
UT25	Mid-Level	Remote Load Break Switches	Remote load break switches or reclosures	Reduce outages through automation. Sectionalizes feeders when a fault occurs.	158,000
UT11	As Required	New Connections (OEB Requirements)	New Subdivision, Commercial and Industrial connections, system upgrades to meet capacity, and new infill service connects	This is an OEB Requirement that is difficult to accurately predict. This based on current knowledge and experience	838,000
UT24	As Required	Storm Restoration	Stock items and labour	Based on 2015 and projected 2016 average expected storm maintenance costs per internal order	243,000
UT32	Mid-Level	Lines Upgrade	Re-conductor and re-build feeders	Upgrade approximately 1.2 Kms of undersized conductors on the 96M29 between Blackwell Rd. to Modeland Rd. so that load can be carried between M25 and M29 when feeders are tied together.	110,000
UT45	Mid-Level	Downtown Vault Upgrades	Replacement of entrance ladders within the vault and low voltage electrical service upgrades for six locations.	End of Life Replacements	11,000
UT46	Mid-Level	Downtown Secondary Network Cable Replacement	Regular program of asset replacement of underground secondary cables in the Downtown core.	Secondary underground network cable upgrades/replacement from vault to vault, reliability improvements and end of life replacements	157,000
	Sub-Total of Mid to Low Priority Reliability Projects				2,374,000

2017 Capital Operations Budget

Project Number		Project Name	Description	Justification	Cost
		Municipality Centered Projects			
UT8		Pt. Edward Upgrades	Asset Replacement program	Secondary and primary asset replacements as required where assets have reached their end of useful life and as required to meet load growth over time.	65,000
UT5		Petrolia	Asset Replacement program	Secondary and primary asset replacements as required where assets have reached their end of useful life and as required to meet load growth over time.	53,000
UT6		Alvinston/Oil Springs - Capital Items	Asset Replacement program	Secondary and primary asset replacements as required where assets have reached their end of useful life and as required to meet load growth over time.	21,000
UT16		Watford	Asset Replacement program	Secondary and primary asset replacements as required where assets have reached their end of useful life and as required to meet load growth over time.	32,000
		Petrolia Wanstead TS	Wanstead TS Facilities Upgrade	Hydro One equipment at the Tx Facility has reached the end of life which means that Hydro One would have to perform work to replace the Tx with the same configuration. Hydro One and the BPDC have agreed that they would like Hydro One to change the supply to Hydro One's distribution system (which in turn, will supply BPDC`s system) from the 230kV double circuit N21W and N22W instead of 115 kV circuit S2N. Hydro One and BPDC have agreed to share the Tx Facility Upgrade incremental cost only with the Contribution payable to Hydro One.	350,000
	Sub-Total of Municipality Centered Projects				521,000
		Non- Reliability Centered Projects			
UT1		Substation Building	New siding, windows, doors, painting, fences, roofs, fire detection, etc for various stations	Substation Buildings require general repairs and updates, various projects: landscaping, roof replacements, security upgrades including Water Street substation service upgrade $200,000	275,000
UT47		Substation #1 Land Restoration	Main Substation #1 has been subject to occasional monitoring of off-site impacts since 1989. Due diligence investigations in 2016 identified an area of particular concern. The proposed project will remove soil or contaminants for proper disposal from a "hot spot", and result in the improvement of the site for future development purposes.	Although the area of concern cannot be confirmed as the "source" of the contamination on site, it is a "hot spot" that, if removed, would improve the land for future development purposes. The whole of the site will be subject to continuous due diligence, but by addressing the "hot spot", it is expected that due diligence period or the scope could be minimized.	150,000
UT9		Tools (Vehicle & Other)	Replacement tools	Standard list of truck tools and equipment.	30,000
		Pole Testing Tools	Replacement tool	End of Life Replacements	10,000
UT10		Vehicle Replacements	Vehicle replacements	End of Life Replacements - $450,000 line truck already approved by Board, $75,000 two reel trailers, $190,000 tension stringer, $22,000 pole trailer, $25,000 car, $30,000 van, $30,000 truck, $25,300 misc	847,300
UT12		Transformers	Capital Asset for Regular stock turnover	Storm stock and regular attrition requirements. Does not include units under capital project	150,000

2017 Capital Operations Budget

Project Number		Project Name	Description	Justification	Cost
UT13		Safety Related	Safety signs, equipment etc.	To replace current tripod system - approaching end of life - $10,000; Provision for unplanned and/or necessary safety-related items - $10,000.	20,000
UT19		Service Centre	Various upgrades required such as roofing, painting, flooring, lighting	Service Center Buildings require general repairs and updates: Mechanic bay renovations $10,000; Heating/cooling unit replacements - $25,000; storm drain replacements - $5,000; miscellaneous projects / security cameras, back yard lighting and fence replacement - $30,000; stockroom and west yard racking - $20,000; Boardroom Kitchen Renovation - $15,000; Lean to for wire reels $7,500	112,500
UT28		Asset Condition Assessment (Feeder & Substation Assessments)	Physical inspection of major feeders, substations and associated equipment.	Year to year asset condition review.	150,000
	Sub-Total of Non-Reliability Centered Projects				1,744,800
		Overall Operations Total			6,881,800

			Metering Projects		
MT1		Single Phase and Polyphase new meters	Residential meters	Includes new residential, microFIT and net meters.	100,000
MT2		Polyphase meters	Commercial and Industrial meters	Meters for new services, microFIT, FIT	100,000
MT3		Metering Equipment/Tools	New tools for shop use.	1) New tools as required for meter shop $2,000. 2) Tool to troubleshoot and link Sensus smart meters current tool no longer supported $6,700 3) Second analyzer broken and irreparable - parts no longer available $24,000	32,700
MT5		GS > 50 KW	Convert demand meters to interval	OEB requires all GS > 50KW to be converted from demand to interval meters by 2020	151,250
			Total Metering		383,950

		IT Projects			
IT01		Data Centre Lifecycle	This deals with the Data Centre lifecycle and management. It includes Network, environmentals, Server, Storage, UPS and other data center equipment and related software replacement lifecycles: Depending on equipment the lifecycle is 3 to 6 years.	The datacenter services and equipment are implemented and upgraded on a lifecycle basis. The general plan is dictated by age of equipment, access to improved technology and workload volumes of BWP IT Staff.	180,860
IT02		Infrastructure Lifecycle	Lifecycle 30 - 35 PCs plus adds to staff, home PCs, new mobile devices, printer replacements, general computing requirements.	We are operating on a 4-year lifecycle approach to PCs and variable year lifecycle approach to other infrastructure technology such as printers. This enables standardization of product and service and keeps a consistent financial impact to budgets. This also includes technology requirements for any staff adds or changes, along with general end point technology necessities.	148,775
IT03		Corporate IT Security	The Security focus will involve upgrading the existing virus / malware solution, addressing security flaws in the LAN architecture, and performing a comprehensive threat assessment / acting on conclusions.	In on-going efforts to mitigate heightened threats, Bluewater Power needs to further increase preparedness against both internal and external security attacks.	133,500
IT04		Internal Technology Development	Staff cost associated with all IT capital projects. Mobility products will be developed as a focus in 2017.	Time allocated to capital costs and included in each capital project.	249,350

2017 Capital Operations Budget

Project Number		Project Name	Description	Justification	Cost
IT05		Legislated Business Application Upgrades	These will allow BWP to remain compliant with new regulations affecting change to the primary business systems as well as allowing for continuous improvement programs.	This is required to perform OEB and Ministry of Energy legislated changes to internal business processes along with continuous solution improvements.	228,700
IT06		Software - Upgrades and Additions	Microsoft Enterprise Agreement, adds to staff, growth of product requests or replacements such as, MS Project and Adobe Suite. R&D on various software, refresh of products, growth requires true-up - eg virus protection. R&D on PC protection products.	It is essential that we remain compliant with licensing requirements of all software in use at BWP. This covers adds to staff and upgrades to or additional applications.	165,315
IT09		Disaster Recovery	This is a continuing investment into an updated approach to Disaster Recovery.	The existing disaster recovery plan requires further development in order to support the expanded service offerings and business demands. This will be reviewed with direction to move to and implement an updated solution.	144,450
IT12		Meeting Rooms Tech and Lighting Upgrades	Upgrade technology and lighting in the Conference, Board, and Meeting Rooms	The existing technology and lighting is poor and not user friendly. The new solution will be user friendly and use current technology.	24,165
IT14		Central Filing Document Management	The current paper based Central Filing system will be re-positioned into an electronic document management solution	Central Filing is an essential business process. The current solution is inefficient, error prone, and does not easily allow for current regulation and best practice in document management.	166,050
IT18		Training Centre	A dedicated training facility will be built in a portion of the current Echo Room.	The need for a dedicated training facility is growing. A place needs to be established that is set up for that purpose so it is readily available for use. This could also be used for a meeting space which is at a premium.	77,120
					1,518,285

		Other			
O3		Furniture (Company Wide)	End of Life Furniture replacement	General office furniture upgrades of $17,000; board room chair replacements - $18,000	35,000
O9		Research Smart Grid Technologies	Research new smart grid technologies by participating in 2016 Conferences and touring other LDC's.	Mandatory to keep abreast of new smart grid technologies	30,000
O10		Smart GRID FDIR	This add-on, called FDIR (Fault Detection, Isolation, Restoration), will improve operational efficiency and reduce the duration and size of large outages. As more remotely operated switches are added this efficiency will increase.	FDIR, once in fully automatic mode, will reduce the number of customers affected when a fault occurs. It will reduce the duration of an outage by enabling our Operators to focus their efforts on correcting the fault, as the detection, isolation, and restoration is done automatically. It will further improve the efficiency of the line crew.	105,000
O11		Petrolia Micro GRID	Research Project to determine the feasibility of implementing a Micro Grid in our distribution territory, with the goal of obtaining comprehensive knowledge of micro grids, from planning to operation.	Bluewater Power hopes to gain invaluable knowledge of the design, implementation and operation of a micro grid, to be able to effectively implement a microgrid where it would benefit the customer and utility the most, anywhere throughout our distribution territory.	15,000
		Total Other			185,000

		Total Company			8,969,035

Project Name	2017 Budget	2018 Budget	2019 Budget	2020 Budget	2021 Budget
Lines & Design - High Priority Level					
Guy Guard/Down Guy Replacement	22,000	25,000	25,000	25,000	25,000
27.6kV Neutral Program		-	-	-	
Pad Mount Transformer Replacements	105,000	100,000	100,000	100,000	100,000
Wood Pole Replacement Program	1,074,000	700,000	700,000	700,000	700,000
Cross Arm/Cap & Pin Insulator Replacement	163,000	150,000	150,000	150,000	150,000
Remote Terminal Unit Upgrades		-	-		
Data radio infrastructure upgrade		-	-		
Primary Underground Cable Replacements	259,000	250,000	250,000	250,000	250,000
Emergency System Improvement Fund	251,000	200,000	200,000	200,000	200,000
Emergency Transformer Replacement	262,000	225,000	225,000	225,000	225,000
Emergency Primary Line Replacement	27,000	50,000	50,000	50,000	50,000
Emergency Secondary Line Replacement	16,000	10,000	10,000	10,000	10,000
Load Transfer	63,000				
Substation Transformer Replacement		200,000		200,000	200,000
Sub-Total	2,242,000	1,910,000	1,710,000	1,910,000	1,910,000
Lines & Design - Mid to Low Priority Level					
27.6 Kv Feeder Extensions	360,000	350,000	350,000	350,000	350,000
8 kv Load Conversion	360,000	350,000	350,000	350,000	350,000
4KV Lines Rebuild/ Load Conversion	106,000	100,000	100,000	100,000	100,000
Animal Protection	5,000	5,000	5,000	5,000	5,000
Load Balancing	26,000	25,000	25,000	25,000	25,000
Remote Load Break Switches	158,000	120,000	120,000	120,000	120,000
New Connections (OEB Requirements)	838,000	800,000	800,000	800,000	800,000
Storm Restoration	243,000	200,000	200,000	200,000	200,000
Overhead Line - Back Lot Rebuild	-	350,000	350,000	350,000	350,000
Fault Indicators - Overhead	-	10,000	10,000	10,000	10,000
27.6kV Lines Upgrades	110,000	100,000	100,000	100,000	100,000
Downtown Vault Upgrades	11,000	10,000	10,000	10,000	10,000
Downtown Secondary Network Cable	157,000	150,000	150,000	150,000	150,000
Sub-Total	2,374,000	2,570,000	2,570,000	2,570,000	2,570,000
Municipality Centered Projects					
Pt Edward upgrades	65,000	50,000	50,000	50,000	50,000
Petrolia	53,000	50,000	75,000	75,000	75,000
Alvinston/Oil Springs Capital Items	21,000	20,000	20,000	20,000	20,000
Watford	32,000	30,000	30,000	30,000	30,000
Wanstead TS	350,000	350,000	105,000		
Sub-Total	521,000	500,000	280,000	175,000	175,000

Project Name	2017 Budget	2018 Budget	2019 Budget	2020 Budget	2021 Budget
Non--Reliability Projects					
Substation Building	275,000	75,000	75,000	75,000	75,000
Substation #1 Restoration	150,000				
Tools (Vehicle and others)	30,000	30,000	30,000	30,000	30,000
Pole Testing Tools	10,000				
Vehicle Replacement - Lines	847,300	450,000	450,000	450,000	500,000
Transformers	150,000	150,000	150,000	150,000	150,000
Safety Related Projects	20,000	10,000	10,000	10,000	10,000
Service Centre	112,500	90,000	75,000	90,000	75,000
Asset Condition Assessment (feeder & substn)	150,000	150,000	150,000	150,000	150,000
Pole Line Scott Rd./Tashmoo Ave		-	-	-	-
Sub-Total	1,744,800	955,000	940,000	955,000	990,000
Total Lines & Design	**6,881,800**	**5,935,000**	**5,500,000**	**5,610,000**	**5,645,000**
Metering					
Single Phase Meters and Poly Phase Meters	100,000	80,000	80,000	80,000	80,000
New Meters	100,000	25,000	25,000	25,000	25,000
Metering Equipment/Tools	32,700	2,000	2,000	2,000	2,000
GS>50 Meter Conversion	151,250				
Smart Meter Replacement ESA	-				
Total Metering	**383,950**	**107,000**	**107,000**	**107,000**	**107,000**
Information Technology					
Corporate IT Security	133,500	130,000	135,000	150,000	150,000
Data Centre Lifecycle	180,860	200,000	200,000	250,000	200,000
Computer Infrastructure Lifecycle	148,775	160,000	160,000	170,000	175,000
Internal Technology Development	249,350	185,000	185,000	180,000	200,000
Legislated Business Application Upgrades	228,700	180,000	180,000	210,000	200,000
Software-Upgrades and Additions	165,315	175,000	150,000	175,000	160,000
Disaster Recovery Plan Upgrade Phase I,II,III	144,450	35,000	30,000	50,000	50,000
SCADA / ODS / OMS / GIS	-	-			
Meeting Rooms Tech an Lighting Upgrades	24,165				
Central Filing Document Management	166,050				
Training Centre	77,120				
Mailroom Equipment Replacement					
Voicemail Upgrade					
SAP Watford Water Meter Billing					
Business Technology Improvements		850,000	850,000	750,000	850,000
Fleet Management and Tracking					
SAP Upgrade					
Total Information Technology	**1,518,285**	**1,915,000**	**1,890,000**	**1,935,000**	**1,985,000**

Project Name	2017 Budget	2018 Budget	2019 Budget	2020 Budget	2021 Budget
Other Projects					
Furniture (Company wide)	35,000	17,000	17,000	17,000	17,000
MicroFit Projects					
Smart GRID Charging Stations	-				
Smart GRID FDIR	105,000				
Distribution Transformer Monitoring Grid 20/20	30,000				
Petrolia Micro GRID	15,000				
Total Other Projects	**185,000**	**10,000**	**17,000**	**17,000**	**17,000**
	8,969,035	**7,967,000**	**7,514,000**	**7,669,000**	**7,754,000**

MINUTES of the 2018 Budget meeting of the Board of Directors of **BLUEWATER POWER Distribution Corporation** held at Bluewater Power, 855 Confederation Street, Sarnia, Ontario on November 30th 2017.

The following Directors were present in person, namely: G. Firman Bentley, Glenn Jones, Brad Goodhill and Richard Grogan, Ray Curran, Steve Bolt and Garry McDonald

Also present with the consent of the Board were: Janice McMichael, Alex Palimaka, Mark Delaurier, Chris Gould, Dom Pinelli, Kathy Gadsby, Mark Hutson, Christina McCready, Mark Vanderheide, Keith Broad, Tim Vanderheide, Glen Farrow, Leslie Dugas and Karen Otton

Constitution of Meeting

The Chair noted that a quorum of Directors was present and that all the Directors of the Corporation had provided waivers of notice of the meeting and, accordingly, the meeting was regularly constituted for the transaction of business.

Mark Hutson Presented the 2018 Budget for Bluewater Power Distribution Corporation

Overview Included:

- Income Statement Assumptions
- Revenue Assumptions
- Income Statement
- O& M Budget
- High Level Variance Analysis
- Summary of CDM Budget

Capital Budget High Level Overview

- Review of Capital items $150,000 and over

Resolution

Upon motion duly made by Richard Grogan, seconded by Brad Goodhill and unanimously carried IT WAS RESOLVED "That the Board approves the 2018 Budget components including O&M, Capital, and Financial Statements Budgets for Bluewater Power Distribution Corporation"

Next Meeting

The next scheduled Board meeting is February 22nd 2018 at 9:00am or at the call of the Chair.

Termination

There being no further business, on motion the meeting then terminated.

G.F. Bentley, Chair

Bluewater Power Distribution Corporation
2018 CAPITAL BUDGET
High Level Overview

Total Proposed 2018 Capital Budget =	**$ 8,867,325**

For Comparison:	*Approved Budget*	*Actual Spending*
2017	$ 8,969,035	$ 8,157,712
2016	$ 8,530,190	$ 8,087,506
2015	$ 7,344,854	$ 7,166,698
2014	$ 6,530,885	$ 4,594,821
2013	$ 6,931,725	$ 5,199,372
2012	$ 10,392,404	$ 9,344,964

2018 Capital Overview

Components:	**2018 Budget**	**2017 Budget**	**2016 Budget**
New Connections/Services	$ 750,000	$ 838,000	$ 853,000
Utility Services - Reliability	$ 4,960,000	$ 4,001,290	$ 4,384,000
Vehicle Replacements	$ 169,000	$ 847,300	$ 490,000
Meter Services	$ 305,000	$ 383,950	$ 107,000
Information Technology	$ 1,888,325	$ 1,518,285	$ 1,569,190
Building Renovations/Improvements	$ 180,000	$ 572,500	$ 190,000
Smart Grid	$ 125,000	$ 150,000	$ 130,000
Micro Fit	$ -	$ -	$ 300,000
Emergency Funds	$ 490,000	$ 556,000	$ 507,000
Total Capital Budget:	**$ 8,867,325**	**$ 8,969,035**	**$ 8,530,190**
Less: Non-Recurring Items:			
Meeting Rooms Tech and Lighting Upgrades	$ 34,165	$ 24,165	$ 66,165
Training Centre	$ 30,000	$ 77,120	$ -
Substation #1 Restoration	$ -	$ 425,000	$ -
Substation #1 IT	$ 328,900	$ -	$ -
User Monitoring	$ 50,395	$ -	$ -
Street Widening	$ 65,000	$ -	$ -
Front St. Pole Line Re-build	$ 200,000	$ -	$ -
Vault 'K' on George St. - Concrete Lid/Panel Repl	$ 110,000	$ -	$ -
Vault 'P' - Switch Replacement	$ 150,000	$ -	$ -
Indian Rd. S. to Plank Rd. - Pole Line Rebuild	$ 300,000	$ -	$ -
GS > 50 KW Interval Meters	$ 150,000	$ 151,250	$ -
Petrolia Wanstead TS	$ 350,000	$ 350,000	$ 350,000
Smart GRID FDIR	$ 125,000	$ 105,000	$ 10,000
Downtown Secondary Network Cable	$ -	$ 157,000	$ -
Distribution Transformer Monitoring Grid 20/20	$ -	$ 30,000	$ 30,000
Petrolia Micro Grid	$ -	$ 15,000	$ 15,000
Central Filing Document Management	$ -	$ 166,050	$ -
Mailroom Equipment Replacement	$ -	$ -	$ 54,050
Voicemail Upgrade	$ -	$ -	$ 112,720
Smart GRID Charging Stations	$ -	$ -	$ 75,000
Micro Fit Rooftop Solar	$ -	$ -	$ 300,000
Load Transfer	$ -	$ -	$ 272,000
Pole Line Scott Rd./Tashmoo	$ -	$ -	$ 200,000
Total Normalized Level:	**$ 6,973,865**	**$ 7,468,450**	**$ 7,045,255**

Project Number		Project Name	Description	Justification	Cost
	Priority Level	**Reliability Centred Projects**			
UT40	High	Guy Guard/Down Guy Replacement	A visual assessment is performed to confirm guy guards and down guys that may be in need of replacement or repair	Any deteriorated, damaged or missing guy guards can pose a safety risk to the public as down guys are typically located along sidewalks, bike paths and in locations readily accessible by the public.	15,000
UT31	High	Pad Mount Transformer Replacements	Replacement of pad-mount transformer with new transformers.	Regular Program of Asset Replacement -- transformers have reached their end of life. The casings are starting to rot and they can't be repaired. Improve reliability and maintain public safety.	80,000
UT15	High	Wood Pole Replacement	Identify and replace aging poles	Reliability improvements and end of life replacements	2,000,000
UT14	High	Cross Arm/Cap & Pin Insulator Replacement	Replace crossarms and insulators	Reliability improvements to reduce effects of cracked arms and old insulators.	150,000
UT18	High	Primary underground cable replacement	Regular Program of Asset replacement (Subdivisions east of Murphy Rd. -- Old Ontario Hydro Plant. i.e Sherwood, Coronation Subdivision) - Includes design & planning stages	Primary Cable upgrades/replacement, Reliability improvements and end of life replacements	300,000
UT34	High	Emergency System Improvement Fund	Emergency Fund	For unexpected capital expenditures during the year.	175,000
UT34	High	Emergency Transformer Replacement	Emergency Fund	For unexpected emergency replacement of failed Transformers during the year.	250,000
UT34	High	Emergency Primary Line Replacement	Emergency Fund	For unexpected emergency replacement of failed Primary Line during the year.	50,000
UT34	High	Emergency Secondary Line Replacement	Emergency Fund	For unexpected emergency replacement of failed Secondary Line during the year.	15,000
	Sub-Total of High Priority Reliability Projects				3,035,000

Project Number		Project Name	Description	Justification	Cost
	Priority Level	Reliability Centred Projects			
UT7	Mid-Level	4KV Lines Rebuild and Load Conversion	Upgrade of 4Kv feeders and load conversion to 27.6 Kv where possible in areas west of Murphy Rd. in Sarnia.	Program to rebuild, upgrade and convert 4 Kv feeders to 27.6 Kv (where possible) in various areas west of Murphy Rd. These feeders would have been installed in 1950/1960's, and have reached their end of useful life.	40,000
UT33	Mid-Level	Animal Protection	Reliability centered program to improve protection on main 27.6kV feeders from animal contact.	Animal contacts are one of the largest causes of outages, this will help minimize outages on the feeders.	80,000
UT25	Mid-Level	Remote Load Break Switches	Remote load break switches or reclosures	Reduce outages through automation. Sectionalizes feeders when a fault occurs.	60,000
UT11	As Required	New Connections (OEB Requirements)	New Subdivision, Commercial and Industrial connections, system upgrades to meet capacity, and new infill service connects	This is an OEB Requirement that is difficult to accurately predict. This based on current knowledge and experience	750,000
UT24	As Required	Storm Restoration	Stock items and labour	Based on 2017 projected storm restoration costs per internal order	225,000
UT30	As Required	Fault Indicators - Overhead	Target devices used to indicate fault direction for overhead lines.	Fault finding is critical to reducing outage times. These devices allow for faster location of the fault by offering direction information to field staff	10,000
UT32	Mid-Level	Lines Upgrade	Re-build corridor pole line between Michigan Ave. and Highway 402.	Upgrade assets that are approaching or have reached their end of useful life.	15,000
UT3	Mid-Level	Street Widening	Plant relocation necessary to accommodate Municipal road widenings or changes	Obligation under the Municipal Roads legislation	65,000
UT??	Mid-Level	Downtown Secondary Network Cable Replacement	Regular program of asset replacement of underground secondary cables in the Downtown core.	Secondary underground network cable upgrades/replacement from vault to vault, reliability improvements and end of life replacements	
UT??	Mid-Level	Front St. Pole Line Re-build	Re-build Front St. pole line between London Rd. and City Hall	Upgrade assets that are approaching or have reached their end of useful life.	200,000
UT??	Mid-Level	Vault 'K' on George St. - Concrete Lid/Panel Replacement	Replacement of concrete lid/panels on vault 'K' located on George St. in Sarnia	End of Life Replacements	110,000
UT??	Mid-Level	Subdivision Transformers	Inspection and replacement of elbows, fault indicators inside of pad-mount transformers	End of Life Replacements	75,000
UT??	Mid-Level	Vault 'P' on George St. - Switch Replacement	Replacement of SF6 switch in Vault 'P' on George St.	End of Life Replacement	150,000
UT??	Mid-Level	Indian Rd. S. to Plank Rd. - Pole Line Re-Build	Re-build Indian Rd. S. pole line between Confederation St. to Plank Rd.	End of Life Replacement	300,000
	Sub-Total of Mid to Low Priority Reliability Projects				2,080,000

Project Number		Project Name	Description	Justification	Cost
		Municipality Centred Projects			
UT8		Pt. Edward Upgrades	Asset Replacement program	Secondary and primary asset replacements as required where assets have reached their end of useful life and as required to meet load growth over time.	300,000
UT5		Petrolia	Asset Replacement program	Secondary and primary asset replacements as required where assets have reached their end of useful life and as required to meet load growth over time.	50,000
UT6		Alvinston/Oil Springs - Capital Items	Asset Replacement program	Secondary and primary asset replacements as required where assets have reached their end of useful life and as required to meet load growth over time.	20,000
UT16		Watford	Asset Replacement program	Secondary and primary asset replacements as required where assets have reached their end of useful life and as required to meet load growth over time.	25,000
UT??		Petrolia Wanstead TS	Wanstead TS Facilities Upgrade	Hydro One equipment at the Tx Facility has reached the end of life which means . Hydro One and the BPDC have agreed that they would like Hydro One to change the supply to Hydro One's distribution system (which in turn, will supply BPDC`s system) to a 230kV double circuit instead of 115 kV circuit. Hydro One and BPDC have agreed to share the Tx Facility Upgrade with the Contribution payable to Hydro One.	350,000
	Sub-Total of Municipality Centred Projects				745,000
		Non- Reliability Centred Projects			
UT1		Substation Building	New siding, windows, doors, painting, fences, roofs, fire detection, etc for various stations	Substation Buildings require general repairs and updates.	50,000
UT9		Tools (Vehicle & Other)	Replacement tools	Standard list of truck tools and equipment.	30,000
UT10		Vehicle Replacements	Vehicle replacements	End of Life Replacements	169,000
UT12		Transformers	Capital Asset for Regular stock turnover	Storm stock and regular attrition requirements. Does not include units under capital project	150,000
UT13		Safety Related	Safety signs, equipment etc.	Provision for unplanned and/or necessary safety-related items.	25,000
UT19		Service Centre	Various upgrades required such as roofing, painting, flooring, lighting	Service Center Buildings require general repairs and updates.	100,000
UT28		Asset Condition Assessment (Feeder & Substation Assessments)	Physical inspection of major feeders, substations and associated equipment.	Year to year asset condition review.	150,000
	Sub-Total of Non-Reliability Centred Projects				674,000
		Overall Operations Total			**6,534,000**

Project Number		Project Name	Description	Justification	Cost
			Metering Projects		
MT1		Single Phase 100 amp meter replacement Polyphase mechanical demand replacement	Replacing 100 amp meters with 200 amp and replacing mechanical with electronic meters.	New services are 200 amp and Electronic demand has KW and KVA which could lead to more revenue. Ongoing project nearing completion	100,000
MT2		New Meters	Residential and Commercial meters	Meters for new services	50,000
MT3		Tools	New tools for shop use.	New tools as required for meter shop.	5,000
MT5		GS > 50 KW	Convert demand meters to interval	OEB requires all GS > 50KW to be converted from demand to interval meters by 2020	150,000
			Total Metering		305,000
		IT Projects			
IT01		Data Centre Lifecycle	This deals with the Data Centre lifecycle and management. It includes Network, environmentals, Server, Storage, UPS and other data center equipment and related software replacement lifecycles: Depending on equipment the lifecycle is 3 to 6 years.	The datacenter services and equipment are implemented and upgraded on a lifecycle basis. The general plan is dictated by age of equipment, access to improved technology and workload volumes of BWP IT Staff.	159,300
IT02		Infrastructure Lifecycle	Lifecycle 30 - 35 PCs plus adds to staff, home PCs, new mobile devices, aging printers (example - Mailroom)	We are operating on a 4-year lifecycle approach to PCs and variable year lifecycle approach to other infrastructure technology such as printers and fax machines. This enables standardization of product and service and keeps a consistent financial impact to budgets. This also includes technology requirements for any staff adds or changes, along with general end point technology necessities	179,650
IT03		Corporate IT Security	The Security focus will involve a three pronged approach including upgrading existing virus / malware solution, addressing security flaws in the LAN architecture, and performing a comprehensive threat assessment / acting on conclusions.	In on-going efforts to mitigate heightened threats, Bluewater Power needs to further increase preparedness against both internal and external security attacks.	175,000
IT04		Internal Software Development	Staff cost associated with all IT capital projects.	Time allocated to capital costs and included in each capital project.	284,000
IT05		Legislated Business Application Upgrades	This is a multi-year agreement with Deloitte and one year with Axon to provide SAP development efforts. These allow BWP to remain compliant with new regulations affecting change to the primary business system as well as allowing for continuous improvement programs.	This is required to perform OEB and Ministry of Energy legislated changes to internal business processes along with continuous solution improvements. For example, Bill 100, rebates, price changes, etc. BWP has been in a multi-year agreement with Deloitte to perform these services. Axon has been added to support their efforts and an RFP for AMS support will be undertaken.	267,200
IT06		Software - Upgrades and Additions	Microsoft Enterprise Agreement, adds to staff, growth of product requests or replacements such as, MS Project and Adobe Suite. R&D on various software, refresh of products, growth requires true-up - eg virus protection. R&D on PC protection products.	It is essential that we remain compliant with licensing requirements of all software in use at BWP. This covers adds to staff and upgrades to or additional applications.	231,225
IT09		Disaster Recovery	This is a continuing investment into an updated approach to Disaster Recovery.	The existing disaster recovery plan is outdated and no longer supports the expanded service offerings and business demands. This will be reviewed with direction to move to and implement an updated solution.	90,605
IT12		Meeting Rooms Tech and Lighting Upgrades	Upgrade technology and lighting in the Conference, Board, and Meeting Rooms	The existing technology and lighting is poor and not user friendly. A lot of time is spent trying to get existing solutions to work. The new solution will be user friendly and use current technology.	34,165
IT17		Training Centre	Build of a Training Centre in Echo Room	The need for a dedicated training centre is growing. A place needs to be established that is set up for that purpose.	30,000
IT18		GIS Upgrade	GIS upgrade project	GIS is in need of being upgraded to include additional licenses, patches and additional functions	57,885
IT19		User Monitoring	Employee monitoring	We need to implement employee monitoring software in order to limit legal exposure due to inappropriate employee behaviour.	50,395

Project Number		Project Name	Description	Justification	Cost
IT20		Substation #1	Implementation of Substation #1 building upgrade and datacentre build.	The building is in need of electrical, HVAC, and lighting upgrades. The datacentre is justified on the basis of DR needs and the project was approved by the Board but will carryover to 2018.	328,900
		Total IT Projects			1,888,325

		Other			
O3		Furniture (Company Wide)			15,000
O9		Research Smart Grid Technologies	Research and implement new smart grid technologies .	Ensuring we meet the innovation requirement as required by the evolution of the industry	125,000
		Total Other			140,000

		Total Company			8,867,325

Project Name	2018 Budget	2019 Budget	2020 Budget	2021 Budget	2022 Budget
Lines & Design - High Priority Level					
Guy Guard/Down Guy Replacement	15,000	15,000	15,000	15,000	15,000
27.6kV Neutral Program		-	-	-	-
Pad Mount Transformer Replacements	80,000	80,000	80,000	80,000	80,000
Wood Pole Replacement Program	2,000,000	1,800,000	1,500,000	1,000,000	1,000,000
Cross Arm/Cap & Pin Insulator Replacement Program	150,000	150,000	150,000	150,000	150,000
Remote Terminal Unit Upgrades		-			
Data radio infrastructure upgrade		-			
Primary Underground Cable Replacements	300,000	300,000	250,000	250,000	250,000
Emergency System Improvement Fund	175,000	175,000	175,000	175,000	175,000
Emergency Transformer Replacement	250,000	225,000	225,000	225,000	225,000
Emergency Primary Line Replacement	50,000	50,000	50,000	50,000	50,000
Emergency Secondary Line Replacement	15,000	10,000	10,000	10,000	10,000
Load Transfer Elimination - OEB Requirement					
Substation Transformer Replacement			200,000	200,000	
Sub-Total	3,035,000	2,805,000	2,655,000	2,155,000	1,955,000
Lines & Design - Mid to Low Priority Level					
27.6 Kv Feeder Extensions	-	350,000	350,000	350,000	350,000
8 kv Load Conversion	-	350,000	350,000	350,000	350,000
4KV Lines Rebuild/ Load Conversion	40,000	100,000	100,000	100,000	100,000
Animal Protection	80,000	5,000	5,000	5,000	5,000
Load Balancing		25,000	25,000	25,000	25,000
Remote Load Break Switches	60,000	120,000	120,000	120,000	120,000
New Connections (OEB Requirements)	750,000	800,000	800,000	800,000	800,000
Storm Restoration	225,000	250,000	250,000	250,000	250,000
Overhead Line - Back Lot Rebuild		350,000	350,000	350,000	350,000
Fault Indicators - Overhead	10,000	10,000	10,000	10,000	10,000
27.6kV Lines Upgrades	15,000	350,000	100,000	100,000	100,000
Downtown Vault Upgrades	-	10,000	10,000	10,000	10,000
Downtown Secondary Network Cable Replacement	-	150,000	150,000	150,000	150,000
Street Widening	65,000				

Project Name	2018 Budget	2019 Budget	2020 Budget	2021 Budget	2022 Budget
Front St. Pole Line Re-build	200,000				
Vault 'K' on George St. - Concrete Lid/Panel	110,000				
Subdivision Transformers	75,000	75,000	75,000	75,000	75,000
Vault 'P' - Switch Replacement	150,000				
Indian Rd. S. to Plank Rd. - Pole Line Rebuild	300,000				
Sub-Total	2,080,000	2,945,000	2,695,000	2,695,000	2,695,000

Project Name	2018 Budget	2019 Budget	2020 Budget	2021 Budget	2022 Budget
Municipality Centered Projects					
Pt Edward upgrades	300,000	50,000	50,000	50,000	50,000
Petrolia	50,000	75,000	75,000	75,000	75,000
Alvinston/Oil Springs Capital Items	20,000	20,000	20,000	20,000	20,000
Watford	25,000	30,000	30,000	30,000	30,000
Street Widening					
Petrolia Wanstead TS	350,000	105,000			
Sub-Total	745,000	280,000	175,000	175,000	175,000
Non--Reliability Projects					
Substation Building	50,000	50,000	50,000	50,000	50,000
Substation #1 Restoration					
Tools (Vehicle and others)	30,000	30,000	30,000	30,000	30,000
Pole Testing Tools					
Vehicle Replacement - Lines	169,000	450,000	450,000	500,000	450,000
Transformers	150,000	150,000	150,000	150,000	150,000
Safety Related Projects	25,000	10,000	10,000	10,000	10,000
Service Centre	100,000	75,000	90,000	75,000	90,000
Asset Condition Assessment (feeder & substn)	150,000	150,000	150,000	150,000	150,000
Sub-Total	674,000	915,000	930,000	965,000	930,000
Total Lines & Design	**6,534,000**	**6,945,000**	**6,455,000**	**5,990,000**	**5,755,000**
Metering					
Single Phase Meters and Poly Phase Meters	100,000	80,000	80,000	80,000	80,000
New Meters	50,000	25,000	25,000	25,000	25,000
Metering Equipment/Tools	5,000	2,000	2,000	2,000	2,000
GS > 50 KW	150,000	150,000	150,000		
Total Metering	**305,000**	**257,000**	**257,000**	**107,000**	**107,000**

Project Name	2018 Budget	2019 Budget	2020 Budget	2021 Budget	2022 Budget
Information Technology					
Corporate IT Security	175,000	150,000	165,000	170,000	180,000
Data Centre Lifecycle	159,300	175,000	150,000	180,000	190,000
Computer Infrastructure Lifecycle	179,650	160,000	170,000	175,000	175,000
Internal Technology Development	284,000	250,000	250,000	250,000	250,000
Legislated Business Application Upgrades	267,200	200,000	200,000	200,000	200,000
Software-Upgrades and Additions	231,225	190,000	190,000	190,000	190,000
Disaster Recovery Plan Upgrade Phase I,II,III	90,605	75,000	65,000	35,000	30,000
SCADA / ODS / OMS / GIS	-	-			
Meeting Rooms Tech an Lighting Upgrades	34,165	-			
Mailroom Equipment Replacement	-				
Central Filing Document Management	-				
Voicemail Upgrade	-				
Training Centre	30,000				
GIS Upgrade	57,885				
User Monitoring	50,395				
Sub 1	328,900				
Business Technology Improvements		365,000	400,000	400,000	450,000
Total Information Technology	**1,888,325**	**1,565,000**	**1,590,000**	**1,600,000**	**1,665,000**
Other Projects					
Furniture (Company wide)	15,000	17,000	17,000	17,000	17,000
MicroFit Projects					
Smart GRID Charging Stations					
Research Smart Grid Technologies	-				
Smart GRID FDIR					
Distribution Transformer Monitoring Grid 20/20	125,000				
Petrolia Micro GRID					
Total Other Projects	**140,000**	**17,000**	**17,000**	**17,000**	**17,000**
	8,867,325	**8,784,000**	**8,319,000**	**7,714,000**	**7,544,000**

MINUTES of the 2019 Budget meeting of the Board of Directors of **BLUEWATER POWER Distribution Corporation** held at Bluewater Power, 855 Confederation Street, Sarnia, Ontario on November 28th 2018.

The following Directors were present in person, namely: G. Firman Bentley, Glenn Jones, Ray Curran, Brad Goodhill, Garry McDonald, Richard Grogan, Katherine Albion and Margaret Dragan.

Conference Call: Steve Bolt

Also present with the consent of the Board were: Janice McMichael-Dennis, Alex Palimaka, Mark Hutson, Leslie Dugas, Dom Pinelli, Karen Otton, Christina McCready, Mark Vanderheide, Chris Gould, Kathy Gadsby, Keith Broad, Glen Farrow and Mark Delaurier.

Regrets: Tim Vanderheide

Constitution of Meeting

The Chair noted that a quorum of Directors was present and that all the Directors of the Corporation had provided waivers of notice of the meeting and, accordingly, the meeting was regularly constituted for the transaction of business.

Mark Hutson Presented the 2019 Budget for Bluewater Power Distribution Corporation

Overview Included:

- Income Statement Assumptions
- Revenue Assumptions
- Income Statement
- O& M Budget
- High Level Variance Analysis
- Summary of CDM Budget

Capital Budget High Level Overview

- Review of Capital items $150,000 and over

Resolution

Upon motion duly made by Glenn Jones, seconded by Richard Grogan and unanimously carried IT WAS RESOLVED "That the Board approves the 2019 Budget components including O&M, Capital, and Financial Statements Budgets for Bluewater Power Distribution Corporation"

Next Meeting

The next scheduled Board meeting is February 28th 2019 or at the call of the Chair.

Termination

There being no further business, on motion the meeting then terminated.

G.F. Bentley, Chair

Bluewater Power Distribution Corporation
2019 CAPITAL BUDGET
High Level Overview

Total Proposed 2019 Capital Budget =	**$ 9,899,390**

For Comparison:		*Approved Budget*	*Actual Spending*
2018	$	9,217,325	$ 8,737,100
2017	$	8,969,035	$ 8,157,712
2016	$	8,530,190	$ 8,087,506
2015	$	7,344,854	$ 7,166,698
2014	$	6,530,885	$ 4,594,821

2019 Capital Overview

Components:	**2019 Budget**	**2018 Budget**	**2017 Budget**
New Connections/Services	$ 800,000	$ 750,000	$ 838,000
Utility Services - Reliability	$ 5,212,175	$ 4,960,000	$ 4,001,290
Vehicle Replacements	$ 280,000	$ 169,000	$ 847,300
Meter Services	$ 405,000	$ 305,000	$ 383,950
Information Technology	$ 1,979,390	$ 1,888,325	$ 1,518,285
Building Renovations/Improvements	$ 597,825	$ 180,000	$ 572,500
Smart Grid	$ -	$ 125,000	$ 150,000
Emergency Funds	$ 625,000	$ 490,000	$ 556,000
Total Capital Budget:	**$ 9,899,390**	**$ 9,217,325**	**$ 8,969,035**
Less: Non-Recurring Items:			
Meeting Rooms Tech and Lighting Upgrades	$ 57,825	$ 34,165	$ 24,165
Training Centre	$ -	$ 30,000	$ 77,120
Substation #1 Restoration	$ -	$ -	$ 425,000
Substation #1 IT	$ -	$ 328,900	$ -
Service Centre	$ 450,000	$ 100,000	$ 112,500
8 kv Load Conversion (McGregor)	$ 650,000	$ -	$ 360,000
User Monitoring	$ 54,245	$ 50,395	$ -
Utilismart RSVA	$ 113,625	$ -	$ -
Utilismart RSVA Utility Data Hub (ODS)	$ 119,580	$ -	$ -
Street Widening	$ -	$ 65,000	$ -
Front St. Pole Line Re-build	$ -	$ 200,000	$ -
Delta/Wye Services	$ 150,000	$ -	$ -
1F8 Lead Cable Elimination	$ 150,000	$ -	$ -
Vault 'K' on George St. - Concrete Lid/Panel Repla	$ 165,000	$ 110,000	$ -
Vault 'P' - Switch Replacement	$ -	$ 150,000	$ -
Indian Rd. S. to Plank Rd. - Pole Line Rebuild	$ -	$ 300,000	$ -
GS > 50 KW Interval Meters	$ 250,000	$ 150,000	$ 151,250
Petrolia Wanstead TS	$ -	$ 350,000	$ 350,000
Smart GRID FDIR	$ -	$ 125,000	$ 105,000
Pole Testing Tools	$ 25,000	$ -	$ -
Downtown Secondary Network Cable	$ 250,000	$ -	$ 157,000
Distribution Transformer Monitoring Grid 20/20	$ -	$ -	$ 30,000
Petrolia Micro Grid	$ -	$ -	$ 15,000
Central Filing Document Management	$ -	$ -	$ 166,050
Total Normalized Level:	**$ 7,464,115**	**$ 7,223,865**	**$ 6,995,950**

2019 Capital Operations Budget

	Project Number		Project Name	Description	Justification	Cost
		Priority Level	Reliability Centred Projects			
Recurring	UT40	High	Guy Guard/Down Guy Replacement	A visual assessment is performed to confirm guy guards and down guys that may be in need of replacement or repair	Any deteriorated, damaged or missing guy guards can pose a safety risk to the public as down guys are typically located along sidewalks, bike paths and in locations readily accessible by the public.	15,000
Recurring	UT31	High	Pad Mount Transformer Replacements	Replacement of pad-mount transformer with new transformers.	Regular Program of Asset Replacement -- transformers have reached their end of life. The casings are starting to rot and they can't be repaired. Improve reliability and maintain public safety.	80,000
Recurring	UT15	High	Wood Pole Replacement	Identify and replace aging poles	Reliability improvements and end of life replacements	1,500,000
Recurring	UT14	High	Cross Arm/Cap & Pin Insulator Replacement	Replace crossarms and insulators	Reliability improvements to reduce effects of cracked arms and old insulators.	150,000
Recurring	UT18	High	Primary underground cable replacement	Regular Program of Asset replacement (Subdivisions east of Murphy Rd. -- Old Ontario Hydro Plant. i.e Sherwood, Coronation Subdivision) - Includes design & planning stages	Primary Cable upgrades/replacement, Reliability improvements and end of life replacements	200,000
Recurring	UT34	High	Emergency System Improvement Fund	Emergency Fund	For unexpected capital expenditures during the year.	250,000
Recurring	UT34	High	Emergency Transformer Replacement	Emergency Fund	For unexpected emergency replacement of failed Transformers during the year.	250,000
Recurring	UT34	High	Emergency Primary Line Replacement	Emergency Fund	For unexpected emergency replacement of failed Primary Line during the year.	100,000
Recurring	UT34	High	Emergency Secondary Line Replacement	Emergency Fund	For unexpected emergency replacement of failed Secondary Line during the year.	25,000
New	UT??	High	Delta/Wye Services	Re-configure delta/wye services	Corrective action required to meet Electrical Safety Code (ESA) requirements to eliminate configurations where transformers are solidily grounded with connected delta services.	150,000
New	UT??	High	1F8 Lead Cable Elimination	Primary lead underground cable (approx. 2km in length) from Front/George St. to Johnston St. in Sarnia. Cable was installed in the 1950's, the cable has reached its end of life.	Primary lead underground cable was installed in the 1950's, the cable has reached its end of life and needs to be eliminated. Overhead system re-configurations are required to eliminate the cable.	150,000
		Sub-Total of High Priority Reliability Projects				2,870,000

2019 Capital Operations Budget

	Project Number		Project Name	Description	Justification	Cost
		Priority Level	Reliability Centred Projects			
Recurring	UT21	Mid-Level	27.6 Kv Feeder Extensions	Extend 27.6 Kv Feeder on Lakeshore Rd. between Telfer and Murphy Rd.	Supply reliability for customers and to create redundancy. This project will assist in the elimination of 1 of the 2 remaining 8Kv Substations in our system.	80,000
Recurring	UT22	Mid-Level	8 Kv Load Conversions	Load Conversions to 27.6 Kv along North and South sectionos of McGregor Sd. Rd. in Sarnia	Conversion of the 8 Kv system to 27.6 Kv to ultimately eliminate the two remaining 8 Kv substations. Assets are approaching or have reached their end of useful life.	650,000
Recurring	UT7	Mid-Level	4KV Lines Rebuild and Load Conversion	Upgrade of 4Kv feeders and load conversion to 27.6 Kv where possible in areas west of Murphy Rd. in Sarnia.	Program to rebuild, upgrade and convert 4 Kv feeders to 27.6 Kv (where possible) in various areas west of Murphy Rd. These feeders would have been installed in 1950/1960's, assets are approaching or have reached their end of useful life.	200,000
Recurring	UT33	Mid-Level	Animal Protection	Reliability centered program to improve protection on main 27.6kV feeders from animal contact.	Animal contacts are one of the largest causes of outages, this will help minimize outages on the feeders.	10,000
Recurring	UT25	Mid-Level	Remote Load Break Switches	Remote load break switches or reclosures	Reduce outages through automation. Sectionalizes feeders when a fault occurs.	90,000
Recurring	UT11	As Required	New Connections (OEB Requirements)	New Subdivision, Commercial and Industrial connections, system upgrades to meet capacity, and new infill service connects	This is an OEB Requirement that is difficult to accurately predict. This based on current knowledge and experience	800,000
Recurring	UT24	As Required	Storm Restoration	Stock items and labour	Based on 2015 and 2016 average expected storm maintenance costs per internal order	225,000
Recurring	UT30	As Required	Fault Indicators - Overhead	Target devices used to indicate fault direction for overhead lines.	Fault finding is critical to reducing outage times. These devices allow for faster location of the fault by offering direction information to field staff	10,000
Recurring	UT32	Mid-Level	Lines Upgrade	Re-conductor and re-build feeders	Upgrade assets that are approaching or have reached their end of useful life.	15,000
Recurring	UT??	Mid-Level	Downtown Vault Upgrades	Replacement of entrance ladders within the vault and low voltage electrical service upgrades for six locations.	End of Life Replacements	10,000
	UT??	Mid-Level	Downtown Secondary Network Cable Replacement	Regular program of asset replacement of underground secondary cables in the Downtown core.	Secondary underground network cable upgrades/replacement from vault to vault, reliability improvements and end of life replacements	250,000
	UT??	Mid-Level	Subdivision Transformers	Inspection and replacement of elbows, fault indicators inside of pad-mount transformers	End of Life Replacements	75,000
	UT??	Mid-Level	Vault 'K' on George St. - Concrete Lid/Panel Replacement	Replacement of Concrete Lid/Panels located on George St. in Sarnia	End of Life Replacements	165,000
	UT??	Mid-Level	PMH (Pad-Mount) Switchgear Replacement	Replacement of PMH unit located at the Pt. Edward Casino	End of Life Replacements	50,000
		Sub-Total of Mid to Low Priority Reliability Projects				2,630,000

2019 Capital Operations Budget

	Project Number		Project Name	Description	Justification	Cost
			Municipality Centred Projects			
Recurring	UT8		Pt. Edward Upgrades	Asset Replacement program	Secondary and primary asset replacements as required where assets have reached their end of useful life and as required to meet load growth over time. Will focus on rotten pole replacement.	50,000
Recurring	UT5		Petrolia	Asset Replacement program	Secondary and primary asset replacements as required where assets have reached their end of useful life and as required to meet load growth over time. Will focus on rotten pole replacement.	300,000
Recurring	UT6		Alvinston/Oil Springs - Capital Items	Asset Replacement program	Secondary and primary asset replacements as required where assets have reached their end of useful life and as required to meet load growth over time. Will focus on rotten pole replacement.	200,000
Recurring	UT16		Watford	Asset Replacement program	Secondary and primary asset replacements as required where assets have reached their end of useful life and as required to meet load growth over time. Will focus on rotten pole replacement.	200,000
		Sub-Total of Municipality Centred Projects				750,000
			Non- Reliability Centred Projects			
Recurring	UT1		Substation Building	New siding, windows, doors, painting, fences, roofs, fire detection, etc for various stations	Substation Buildings require general repairs and updates.	90,000
Recurring	UT9		Tools (Vehicle & Other)	Replacement tools	Standard list of truck tools and equipment.	60,000
Recurring	UT10		Vehicle Replacements	Vehicle replacements	End of Life Replacements	280,000
Recurring	UT12		Transformers	Capital Asset for Regular stock turnover	Storm stock and regular attrition requirements. Does not include units under capital project	150,000
Recurring	UT13		Safety Related	Safety signs, equipment etc.	Provision for unplanned and/or necessary safety-related items.	35,000
Recurring	UT19		Service Centre	Various upgrades required such as roofing, painting, flooring, lighting	Service Center Buildings require general repairs and updates.	450,000
Recurring	UT28		Asset Condition Assessment (Feeder & Substation Assessments)	Physical inspection of major feeders, substations and associated equipment.	Year to year asset condition review.	150,000
			Pole Testing Tools	Purchase of a second pole testing device		25,000
		Sub-Total of Non-Reliability Centred Projects				1,240,000
			Overall Operations Total			**7,490,000**
			Less Non-Lineman Related Labour			
			Overall Operations Total (w/Non-Lineman Related Labour Removed)			7,490,000
				Metering Projects		
Recurring	MT1		Single Phase 100 amp meter replacement Polyphase mechanical demand replacement	Replacing 100 amp meters with 200 amp and replacing mechanical with electronic meters.	New services are 200 amp and Electronic demand has KW and KVA which could lead to more revenue. Ongoing project nearing completion	100,000
Recurring	MT2		New Meters	Residential and Commercial meters	Meters for new services	50,000
Recurring	MT3		Tools	New tools for shop use.	New tools as required for meter shop.	5,000
	MT5		GS > 50 KW	Convert demand meters to interval	OEB requires all GS > 50KW to be converted from demand to interval meters by 2020	250,000
				Total Metering		405,000

2019 Capital Operations Budget

	Project Number		Project Name	Description	Justification	Cost
Recurring			IT Projects			
Recurring	IT03		Corporate IT Security	The Security focus in 2019 will be to accommodate OEB CyberSecurity Framework requirements.	In on-going efforts to mitigate heightened threats, Bluewater Power needs to further increase preparedness against both internal and external security attacks.	299,855
Recurring	IT01		Data Centre Lifecycle	This deals with the Data Centre lifecycle and management. It includes Network, environmentals, Server, Storage, UPS and other data center equipment and related software replacement lifecycles: Depending on equipment the lifecycle is 3 to 6 years.	The datacenter services and equipment are implemented and upgraded on a lifecycle basis. The general plan is dictated by age of equipment, access to improved technology and workload volumes of BWP IT Staff.	226,245
Recurring	IT02		Infrastructure Lifecycle	Lifecycle 35 - 40 PCs plus adds to staff, home PCs, new mobile devices, aging printers, etc.	We are operating on a 4-year lifecycle approach to PCs and variable year lifecycle approach to other infrastructure technology such as printers and fax machines. This enables standardization of product and service and keeps a consistent financial impact to budgets. This also includes technology requirements for any staff adds or changes, along with general end point technology necessities.	203,500
Recurring	IT04		Internal Software Development	Staff cost associated with all IT capital projects.	Time allocated to capital costs and included in each capital project.	275,530
Recurring	IT05		Legislated Business Application Upgrades	This is a multi-year agreement with Deloitte and one year with Axon to provide SAP development efforts. These allow BWP to remain compliant with new regulations affecting change to the primary business system as well as allowing for continuous improvement programs.	This is required to perform OEB and Ministry of Energy legislated changes to internal business processes along with continuous solution improvements. For example, Bill 100, rebates, price changes, etc. BWP has been in a multi-year agreement with Deloitte to perform these services. Axon has been added to support their efforts and an RFP for AMS support will be undertaken.	189,615
Recurring	IT06		Software - Upgrades and Additions	Microsoft Enterprise Agreement, adds to staff, growth of product requests or replacements such as, MS Project and Adobe Suite. R&D on various software, refresh of products, growth requires true-up - eg virus protection. R&D on PC protection products.	It is essential that we remain compliant with licensing requirements of all software in use at BWP. This covers adds to staff and upgrades to or additional applications.	283,505
New	IT09		Disaster Recovery	This is a continuing investment into an updated approach to Disaster Recovery.	The existing disaster recovery plan is outdated and no longer supports the expanded service offerings and business demands. This will be reviewed with direction to move to and implement an updated solution.	133,120
New	IT12		Meeting Rooms Tech and Lighting Upgrades	Upgrade technology and lighting in the Conference, Board, and Meeting Rooms	The existing technology and lighting is poor and not user friendly. A lot of time is spent trying to get existing solutions to work. The new solution will be user friendly and use current technology.	57,825
New	IT14		Central Filing Document Management	The current paper based Central Filing system will be re-positioned into an electronic document management solution	Central Filing is an essential business process. The current solution is inefficient, error prone, and does not easily allow for current regulation and best practice in document management.	22,745

2019 Capital Operations Budget

	Project Number		Project Name	Description	Justification	Cost
New			User Monitoring	This will be to implement software tools that monitor employee online / connected activity.	We need to implement employee monitoring software in order to limit legal exposure due to inappropriate employee behaviour.	54,245
New			Utilismart RSVA	The Utilismart RSVA software is a repository and analysis tool for managing meter, billing, financial, and market data for global adjustment, settlement, etc. calculations.	The complexities of various settlements required by the IESO and OEB are making it such that a proper tool be implemented to ensure accuracy of the processes.	113,625
New			Utilismart RSVA Utility Data Hub (ODS)	The Utilismart RSVA software is a repository and analysis tool for managing meter, billing, financial, and market data for global adjustment, settlement, etc. calculations.	We are planning to consolidate our existing ODS (MeterSense) with the new RSVA Manager. This will lower overall costs related to IT overhead.	119,580
						1,979,390
			Other			
Recurring	O3		Furniture (Company Wide)			25,000
			Total Other			25,000
			Total Company			9,899,390

Project Name	2019 Budget	2020 Budget	2021 Budget	2022 Budget	2023 Budget
Lines & Design - High Priority Level					
Guy Guard/Down Guy Replacement	15,000	15,000	15,000	15,000	15,000
Pad Mount Transformer Replacements	80,000	80,000	80,000	80,000	80,000
Wood Pole Replacement Program	1,500,000	2,000,000	1,800,000	1,800,000	1,800,000
Cross Arm/Cap & Pin Insulator Replacement Program	150,000	150,000	150,000	150,000	150,000
Primary Underground Cable Replacements	200,000	300,000	250,000	250,000	250,000
Emergency System Improvement Fund	250,000	250,000	200,000	200,000	200,000
Emergency Transformer Replacement	250,000	250,000	225,000	225,000	225,000
Emergency Primary Line Replacement	100,000	100,000	75,000	75,000	75,000
Emergency Secondary Line Replacement	25,000	25,000	20,000	15,000	15,000
Load Transfer Elimination - OEB Requirement					
Substation Transformer Replacement			200,000	200,000	
Delta/Wye Services	150,000				
1F8 Lead Cable Elimination	150,000	150,000	150,000		
Sub-Total	2,870,000	3,320,000	3,165,000	3,010,000	2,810,000
Lines & Design - Mid to Low Priority Level					
27.6 Kv Feeder Extensions	80,000	350,000	350,000	350,000	350,000
8 kv Load Conversion	650,000	200,000	350,000	350,000	350,000
4KV Lines Rebuild/ Load Conversion	200,000	200,000	200,000	200,000	100,000
Animal Protection	10,000	80,000	5,000	5,000	5,000
Load Balancing	-	-	-	-	
Remote Load Break Switches	90,000	90,000	90,000	90,000	90,000
New Connections (OEB Requirements)	800,000	800,000	800,000	800,000	800,000
Storm Restoration	225,000	225,000	250,000	250,000	250,000
Overhead Line - Back Lot Rebuild				350,000	350,000
Fault Indicators - Overhead	10,000	10,000	10,000	10,000	10,000
27.6kV Lines Upgrades	15,000	100,000	100,000	100,000	100,000
Downtown Vault Upgrades	10,000	10,000	10,000	10,000	10,000
Downtown Secondary Network Cable Replacement	250,000	250,000	250,000	150,000	150,000
Street Widening	-				
Front St. Pole Line Re-build	-				

Project Name	2019 Budget	2020 Budget	2021 Budget	2022 Budget	2023 Budget
Vault 'K' on George St. - Concrete Lid/Panel	165,000				
Subdivision Transformers	75,000	75,000	75,000	75,000	75,000
Vault 'P' - Switch Replacement	-				
Indian Rd. S. to Plank Rd. - Pole Line Rebuild	-				
PMH (Pad-Mount) Switchgear Replacement	50,000	50,000	50,000	50,000	50,000
Vault '43' - Switch Replacement		75,000			
Vault '45' - Switch Replacement			75,000		
Sub-Total	2,630,000	2,515,000	2,615,000	2,790,000	2,690,000

Project Name	2019 Budget	2020 Budget	2021 Budget	2022 Budget	2023 Budget
Municipality Centered Projects					
Pt Edward upgrades	50,000	50,000	50,000	50,000	50,000
Petrolia	300,000	300,000	300,000	50,000	50,000
Alvinston/Oil Springs Capital Items	200,000	200,000	100,000	20,000	20,000
Watford	200,000	100,000	100,000	30,000	30,000
Petrolia Wanstead TS	-				
Sub-Total	750,000	650,000	550,000	150,000	150,000
Non--Reliability Projects					
Substation Building	90,000	50,000	50,000	50,000	50,000
Substation #1 Restoration	-				
Tools (Vehicle and others)	60,000	30,000	30,000	30,000	30,000
Pole Testing Tools	25,000				
Vehicle Replacement - Lines	280,000	450,000	500,000	450,000	450,000
Transformers	150,000	150,000	150,000	150,000	150,000
Safety Related Projects	35,000	10,000	10,000	10,000	10,000
Service Centre	450,000	90,000	75,000	90,000	90,000
Asset Condition Assessment (feeder & substn)	150,000	150,000	150,000	150,000	150,000
Sub-Total	1,240,000	930,000	965,000	930,000	930,000
Total Lines & Design	**7,490,000**	**7,415,000**	**7,295,000**	**6,880,000**	**6,580,000**
Metering					
Single Phase Meters and Poly Phase Meters	100,000	80,000	80,000	80,000	80,000
New Meters	50,000	25,000	25,000	25,000	25,000
Metering Equipment/Tools	5,000	2,000	2,000	2,000	2,000
GS > 50 KW	250,000	-	-	-	-
Smart Meter Replacement ESA					
Total Metering	**405,000**	**107,000**	**107,000**	**107,000**	**107,000**

Project Name	2019 Budget	2020 Budget	2021 Budget	2022 Budget	2023 Budget
Information Technology					
Corporate IT Security	299,855	165,000	170,000	200,000	250,000
Data Centre Lifecycle	226,245	185,000	200,000	190,000	200,000
Computer Infrastructure Lifecycle	203,500	200,000	200,000	185,000	200,000
Internal Technology Development	275,530	275,000	300,000	250,000	300,000
Legislated Business Application Upgrades	189,615	200,000	200,000	200,000	200,000
Software-Upgrades and Additions	283,505	200,000	200,000	225,000	225,000
Disaster Recovery Plan Upgrade Phase I,II,III	133,120	120,000	150,000	150,000	150,000
SCADA / ODS / OMS / GIS	-				-
Meeting Rooms Tech an Lighting Upgrades	57,825				35,000
Central Filing Document Management	22,745				
Voicemail Upgrade	-				
Training Centre	-				
GIS Upgrade					
User Monitoring	54,245				
Utilismart RSVA	113,625				
Utilismart RSVA Utility Data Hub (ODS)	119,580				
Sub 1 Datacentre Expansion	-				
Business Technology Improvements		600,000	500,000	650,000	600,000
Total Information Technology	**1,979,390**	**1,945,000**	**1,920,000**	**2,050,000**	**2,160,000**
Other Projects					
Furniture (Company wide)	25,000	17,000	17,000	17,000	17,000
Research Smart Grid Technologies					
Distribution Transformer Monitoring Grid 20/20					
Petrolia Micro GRID					
Total Other Projects	**25,000**	**17,000**	**17,000**	**17,000**	**17,000**
	9,899,390	**9,484,000**	**9,339,000**	**9,054,000**	**8,864,000**

MINUTES of the 2020 Budget meeting of the Board of Directors of **BLUEWATER POWER Distribution Corporation** held at Bluewater Power, 855 Confederation Street, Sarnia, Ontario on November 27th 2019.

The following Directors were present in person, namely: G. Firman Bentley, Glenn Jones, Ray Curran, Brad Goodhill, Garry McDonald, Richard Grogan, Katherine Albion and Margaret Dragan, Steve Bolt (Conference Call)

Also present with the consent of the Board were: Janice McMichael-Dennis, Alex Palimaka, Mark Hutson, Dom Pinelli, Karen Otton, Christina McCready, Mark Vanderheide, Chris Gould, Keith Broad, and Mark Delaurier.

Constitution of Meeting

The Chair noted that a quorum of Directors was present and that all the Directors of the Corporation had provided waivers of notice of the meeting and, accordingly, the meeting was regularly constituted for the transaction of business.

Opening Statement

- At a Glance
    - Reduction in other operating revenue $100,000.
    - Reduction in benefit recovery revenue of $100,000.
    - Lower conservation programs recovery of $75,000.
    - Increase in amortization of $250,000.
    - Net O&M impact of $1,300,000.
    - Cost of living/progression $300,000.
    - New roles in 2019 $500,000.
    - Software Maintenance $100,000.
    - Many partial offsets including overtime and capitalization.
    - Increase Community Support $50,000
    - Reduction in affiliate allocation $250,000

Mark Hutson Presented the 2020 Budget for Bluewater Power Distribution Corporation

Overview Included:

- Income Statement Assumptions
- Revenue Assumptions
- Income Statement
- O& M Budget
- High Level Variance Analysis
- Summary of CDM Budget

Capital Budget High Level Overview

- Review of Capital items $150,000 and over
- Safety is a High Priority item
- PILS options
- OLC - $2M

Resolution

Upon motion duly made by Glenn Jones, seconded by Richard Grogan and unanimously carried IT WAS RESOLVED "That the Board approves the 2020 Budget components including O&M, Capital, and Financial Statements Budgets for Bluewater Power Distribution Corporation."

Next Meeting

The next scheduled Board meeting is February 27th 2020 or at the call of the Chair.

Termination

There being no further business, on motion the meeting then terminated.

G.F. Bentley, Chair

Bluewater Power Distribution Corporation
2020 CAPITAL BUDGET
High Level Overview

Total Proposed 2020 Capital Budget =	**$**	**9,991,570**

For Comparison:		*Approved Budget*		*Actual Spending*
2019	$	9,899,390	$	9,805,350
2018	$	9,217,325	$	8,693,316
2017	$	8,969,035	$	8,157,712
2016	$	8,530,190	$	8,087,506
2015	$	7,344,854	$	7,166,698

2020 Capital Overview

Components:	**2020 Budget**	**2019 Budget**	**2018 Budget**
New Connections/Services	$ 900,000	$ 800,000	$ 750,000
Utility Services - Reliability	$ 4,957,000	$ 5,212,175	$ 5,310,000
Vehicle Replacements	$ 1,000,000	$ 280,000	$ 169,000
Meter Services	$ 155,000	$ 405,000	$ 305,000
Information Technology	$ 1,719,570	$ 1,979,390	$ 1,888,325
Building Renovations/Improvements	$ 625,000	$ 597,825	$ 180,000
Smart Grid	$ 10,000	$ -	$ 125,000
Emergency Funds	$ 625,000	$ 625,000	$ 490,000
Total Capital Budget:	**$ 9,991,570**	**$ 9,899,390**	**$ 9,217,325**
Less: Non-Recurring Items:			
Meeting Rooms Tech and Lighting Upgrades	$ -	$ 57,825	$ 34,165
Training Centre	$ -	$ -	$ 30,000
Substation #1 IT	$ -	$ -	$ 328,900
Service Centre	$ 240,000	$ 450,000	$ 100,000
8 kv Load Conversion (McGregor)	$ -	$ 650,000	$ -
User Monitoring	$ -	$ 54,245	$ 50,395
Utilismart RSVA	$ 22,720	$ 113,625	$ -
Utilismart RSVA Utility Data Hub (ODS)	$ -	$ 119,580	$ -
Street Widening	$ -	$ -	$ 65,000
Front St. Pole Line Re-build	$ -	$ -	$ 200,000
Delta/Wye Services	$ -	$ 150,000	$ -
1F8 Lead Cable Elimination	$ 250,000	$ 150,000	$ -
Vault 'K' on George St. - Concrete Lid/Panel Repla	$ -	$ 165,000	$ 110,000
Vault 'P' - Switch Replacement	$ -	$ -	$ 150,000
Indian Rd. S. to Plank Rd. - Pole Line Rebuild	$ -	$ -	$ 300,000
GS > 50 KW Interval Meters	$ -	$ 250,000	$ 150,000
Petrolia Wanstead TS	$ -	$ -	$ 350,000
Smart GRID FDIR	$ -	$ -	$ 125,000
Pole Testing Tools	$ -	$ 25,000	$ -
Downtown Secondary Network Cable	$ 350,000	$ 250,000	$ -
Distribution Transformer Monitoring Grid 20/20	$ 10,000	$ -	$ -
Central Filing Document Management	$ 29,065	$ -	$ -
Total Normalized Level:	**$ 9,089,785**	**$ 7,464,115**	**$ 7,223,865**

2020 Capital Operations Budget

	Project Number		Project Name	Description	Justification	Total Cost
		Priority Level	Reliability Centred Projects			
Recurring	UT40	High	Guy Guard/Down Guy Replacement	A visual assessment is performed to confirm guy guards and down guys that may be in need of replacement or repair	Any deteriorated, damaged or missing guy guards can pose a safety risk to the public as down guys are typically located along sidewalks, bike paths and in locations readily accessible by the public.	25,000
Recurring	UT31	High	Pad Mount Transformer Replacements	Replacement of pad-mount transformer with new transformers.	Regular Program of Asset Replacement -- transformers have reached their end of life. The casings are starting to rot and they can't be repaired. Improve reliability and maintain public safety.	80,000
Recurring	UT15	High	Wood Pole Replacement Program	Identify and replace aging poles	Reliability improvements and end of life replacements.	2,200,000
Recurring	UT14	High	Cross Arm/Cap & Pin Insulator Replacement Program	Replace crossarms and insulators	Reliability improvements to reduce effects of cracked arms and old insulators.	100,000
Recurring	UT18	High	Primary Underground Cable Replacements	Regular Program of Asset replacement (Subdivisions east of Murphy Rd. -- Old Ontario Hydro Plant. i.e Sherwood, Coronation Subdivision) - Includes design & planning stages	Primary Cable upgrades/replacement, Reliability improvements and end of life replacements	250,000
Recurring	UT34	High	Emergency System Improvement Fund	Emergency Fund	For unexpected capital expenditures during the year.	250,000
Recurring	UT34	High	Emergency Transformer Replacement	Emergency Fund	For unexpected emergency replacement of failed Transformers during the year.	250,000
Recurring	UT34	High	Emergency Primary Line Replacement	Emergency Fund	For unexpected emergency replacement of failed Primary Line during the year.	100,000
Recurring	UT34	High	Emergency Secondary Line Replacement	Emergency Fund	For unexpected emergency replacement of failed Secondary Line during the year.	25,000
New	UT35	High	1F8 Lead Cable Elimination	Primary lead underground cable (approx. 2km in length) from Front/George St. to Johnston St. in Sarnia. Cable was installed in the 1950's, the cable has reached its end of life.	Primary lead underground cable was installed in the 1950's, the cable has reached its end of life and needs to be eliminated. Overhead system re-configurations are required to eliminate the cable.	250,000
New	UT36	High	Downtown Secondary Network Cable Replacement	Regular program of asset replacement of underground secondary cables in the Downtown core.	Secondary underground network cable upgrades/replacement from vault to vault, reliability improvements and end of life replacements	350,000
		Sub-Total of High Priority Reliability Projects				3,880,000

2020 Capital Operations Budget

	Project Number		Project Name	Description	Justification	Total Cost
		Priority Level	Reliability Centred Projects			
Recurring	UT7	Mid-Level	4KV Lines Rebuild/ Load Conversion	Upgrade of 4Kv feeders and load conversion to 27.6 Kv where possible in areas west of Murphy Rd. in Sarnia.	Program to rebuild, upgrade and convert 4 Kv feeders to 27.6 Kv (where possible) in various areas west of Murphy Rd. These feeders would have been installed in 1950/1960's, assets are approaching or have reached their end of useful life.	500,000
Recurring	UT33	Mid-Level	Animal Protection	Reliability centered program to improve protection on main 27.6kV feeders from animal contact.	Animal contacts are one of the largest causes of outages, this will help minimize outages on the feeders.	100,000
Recurring	UT25	Mid-Level	Remote Load Break Switches	Remote load break switches or reclosures	Reduce outages through automation. Sectionalizes feeders when a fault occurs.	90,000
Recurring	UT11	As Required	New Connections (OEB Requirements)	New Subdivision, Commercial and Industrial connections, system upgrades to meet capacity, and new infill service connects	This is an OEB Requirement that is difficult to accurately predict. This based on current knowledge and experience	900,000
Recurring	UT24	As Required	Storm Restoration	Stock items and labour	Based on 2014 and 2015 average expected storm maintenance costs per internal order	225,000
Recurring	UT30	As Required	Fault Indicators - Overhead	Target devices used to indicate fault direction for overhead lines.	Fault finding is critical to reducing outage times. These devices allow for faster location of the fault by offering direction information to field staff	10,000
	UT??	Mid-Level	Downtown Vault Upgrades	Replacement of entrance ladders within the vault and low voltage electrical service upgrades for six locations.	End of Life Replacements	10,000
	UT??	Mid-Level	Subdivision Transformers	Inspection and replacement of elbows, fault indicators inside of pad-mount transformers	End of Life Replacements	25,000
	UT??	Mid-Level	PMH (Pad-Mount) Switchgear Replacement	Replacement of PMH units	End of Life Replacements	50,000
		Sub-Total of Mid to Low Priority Reliability Projects				1,910,000

2020 Capital Operations Budget

	Project Number		Project Name	Description	Justification	Total Cost
			Municipality Centred Projects			
Recurring	UT8		Pt Edward upgrades	Asset Replacement program	Secondary and primary asset replacements as required where assets have reached their end of useful life and as required to meet load growth over time.	50,000
Recurring	UT5		Petrolia	Asset Replacement program	Secondary and primary asset replacements as required where assets have reached their end of useful life and as required to meet load growth over time.	250,000
Recurring	UT6		Alvinston/Oil Springs Capital Items	Asset Replacement program	Secondary and primary asset replacements as required where assets have reached their end of useful life and as required to meet load growth over time.	200,000
Recurring	UT16		Watford	Asset Replacement program	Secondary and primary asset replacements as required where assets have reached their end of useful life and as required to meet load growth over time.	100,000
		Sub-Total of Municipality Centred Projects				600,000
			Non- Reliability Centred Projects			
Recurring	UT1		Substation Building	New siding, windows, doors, painting, fences, roofs, fire detection, etc for various stations	Substation Buildings require general repairs and updates.	75,000
Recurring	UT9		Tools (Vehicle and others)	Replacement tools	Standard list of truck tools and equipment.	60,000
Recurring	UT10		Vehicle Replacement - Lines	Vehicle replacements	End of Life Replacements	1,000,000
Recurring	UT12		Transformers	Capital Asset for Regular stock turnover	Storm stock and regular attrition requirements. Does not include units under capital project	150,000
Recurring	UT13		Safety Related Projects	Safety signs, equipment etc.	Provision for unplanned and/or necessary safety-related items.	25,000
Recurring	UT19		Service Centre	Various upgrades required such as roofing, painting, flooring, lighting	Service Center Buildings require general repairs and updates.	200,000
Recurring	UT28		Asset Condition Assessment (feeder & substn)	Physical inspection of major feeders, substations and associated equipment.	Year to year asset condition review.	150,000
		Sub-Total of Non-Reliability Centred Projects				1,660,000
			Overall Operations Total			**8,050,000**
				Metering Projects		
Recurring	MT1		Single Phase 100 amp meter replacement Polyphase mechanical demand replacement	Replacing 100 amp meters with 200 amp and replacing mechanical with electronic meters.	New services are 200 amp and Electronic demand has KW and KVA which could lead to more revenue. Ongoing project nearing completion	100,000
Recurring	MT2		New Meters	Residential and Commercial meters	Meters for new services	50,000
Recurring	MT3		Tools	New tools for shop use.	New tools as required for meter shop.	5,000
				Total Metering		155,000
Recurring			IT Projects			
Recurring	IT03		Corporate IT Security	The Security focus will involve a three pronged approach including upgrading existing virus / malware solution, addressing security flaws in the LAN architecture, and performing a comprehensive threat assessment / acting on conclusions.	In on-going efforts to mitigate heightened threats, Bluewater Power needs to further increase preparedness against both internal and external security attacks.	329,095

2020 Capital Operations Budget

	Project Number		Project Name	Description	Justification	Total Cost
Recurring	IT01		Data Centre Lifecycle	This deals with the Data Centre lifecycle and management. It includes Network, environmentals, Server, Storage, UPS and other data center equipment and related software replacement lifecycles: Depending on equipment the lifecycle is 3 to 6 years.	The datacenter services and equipment are implemented and upgraded on a lifecycle basis. The general plan is dictated by age of equipment, access to improved technology and workload volumes of BWP IT Staff.	444,930
Recurring	IT02		Computer Infrastructure Lifecycle	Lifecycle 30 - 35 PCs plus adds to staff, home PCs, new mobile devices, aging printers (example - Mailroom)	We are operating on a 4-year lifecycle approach to PCs and variable year lifecycle approach to other infrastructure technology such as printers and fax machines. This enables standardization of product and service and keeps a consistent financial impact to budgets. This also includes technology requirements for any staff adds or changes, along with general end point technology necessities.	199,670
Recurring	IT04		Internal Technology Development	Staff cost associated with all IT capital projects.	Time allocated to capital costs and included in each capital project.	180,115
Recurring	IT05		Legislated Business Application Upgrades	This is a multi-year agreement with Deloitte and one year with Axon to provide SAP development efforts. These allow BWP to remain compliant with new regulations affecting change to the primary business system as well as allowing for continuous improvement programs.	This is required to perform OEB and Ministry of Energy legislated changes to internal business processes along with continuous solution improvements. For example, Bill 100, rebates, price changes, etc. BWP has been in a multi-year agreement with Deloitte to perform these services. Axon has been added to support their efforts and an RFP for AMS support will be undertaken.	149,100
Recurring	IT06		Software-Upgrades and Additions	Microsoft Enterprise Agreement, adds to staff, growth of product requests or replacements such as, MS Project and Adobe Suite. R&D on various software, refresh of products, growth requires true-up - eg virus protection. R&D on PC protection products.	It is essential that we remain compliant with licensing requirements of all software in use at BWP. This covers adds to staff and upgrades to or additional applications.	235,280
New	IT09		Disaster Recovery Plan Upgrade Phase I,II,III	This is a continuing investment into an updated approach to Disaster Recovery.	The existing disaster recovery plan is outdated and no longer supports the expanded service offerings and business demands. This will be reviewed with direction to move to and implement an updated solution.	113,615
New			Utilismart RSVA	The Utilismart RSVA software is a repository and analysis tool for managing meter, billing, financial, and market data for global adjustment, settlement, etc. calculations.	The complexities of various settlements required by the IESO and OEB are making it such that a proper tool be implemented to ensure accuracy of the processes.	22,720
New	IT14		Central Filing Document Management	The current paper based Central Filing system will be re-positioned into an electronic document management solution	Central Filing is an essential business process. The current solution is inefficient, error prone, and does not easily allow for current regulation and best practice in document management.	29,065
New			Operational Data Store Replacement			15,980
						1,719,570

			Other			
Recurring	O3		Furniture (Company Wide)			17,000
New	O10		Distribution Transformer Monitoring Grid 20/20			10,000
New	O12		Lean-To	To protect wire spools from elements.		40,000
			Total Other			67,000

			Total Company			9,991,570

Project Name	2020 Budget	2021 Budget	2022 Budget	2023 Budget	2024 Budget
Lines & Design - High Priority Level					
Guy Guard/Down Guy Replacement	25,000	25,000	20,000	15,000	15,000
Pad Mount Transformer Replacements	80,000	80,000	80,000	80,000	80,000
Wood Pole Replacement Program	2,200,000	2,000,000	2,200,000	2,200,000	2,200,000
Cross Arm/Cap & Pin Insulator Replacement Program	100,000	150,000	150,000	150,000	150,000
Primary Underground Cable Replacements	250,000	300,000	300,000	300,000	300,000
Emergency System Improvement Fund	250,000	250,000	250,000	250,000	250,000
Emergency Transformer Replacement	250,000	250,000	250,000	250,000	250,000
Emergency Primary Line Replacement	100,000	100,000	80,000	80,000	80,000
Emergency Secondary Line Replacement	25,000	25,000	25,000	25,000	25,000
Delta/Wye Services	-	-	-	-	-
1F8 Lead Cable Elimination	250,000	150,000	-	-	-
Downtown Secondary Network Cable Replacement	350,000	400,000	350,000	150,000	150,000
Decommission Municipal Substaion #20	-	150,000	-	-	-
Substation Transformer Replacements	-	350,000			
Sub-Total	3,880,000	4,230,000	3,705,000	3,500,000	3,500,000
Lines & Design - Mid to Low Priority Level					
27.6 Kv Feeder Extensions	-	250,000	350,000	350,000	350,000
8 kv Load Conversion	-	250,000	350,000	350,000	350,000
4KV Lines Rebuild/ Load Conversion	500,000	200,000	200,000	200,000	200,000
Animal Protection	100,000	150,000	10,000	10,000	10,000
Remote Load Break Switches	90,000	100,000	90,000	90,000	90,000
New Connections (OEB Requirements)	900,000	900,000	800,000	800,000	800,000
Storm Restoration	225,000	250,000	250,000	250,000	250,000
Overhead Line - Back Lot Rebuild	-	-	-	350,000	350,000
Fault Indicators - Overhead	10,000	10,000	10,000	10,000	10,000
27.6kV Lines Upgrades	-	-	100,000	100,000	100,000
Downtown Vault Upgrades	10,000	10,000	10,000	10,000	10,000
Vault 'K' on George St. - Concrete Lid/Panel	-	-	-	-	-
Subdivision Transformers	25,000	75,000	75,000	75,000	75,000
Indian Rd. S. to Plank Rd. - Pole Line Rebuild	-	-	-	-	-
PMH (Pad-Mount) Switchgear Replacement	50,000	50,000	50,000	50,000	50,000

Project Name	2020 Budget	2021 Budget	2022 Budget	2023 Budget	2024 Budget
Vault '43' - Switch Replacement	-	-	75,000	-	-
Vault '45' - Switch Replacement	-	-	-	75,000	-
PCB Tx Replacement		150,000	150,000	150,000	150,000
Sub-Total	1,910,000	2,395,000	2,520,000	2,870,000	2,795,000
Municipality Centered Projects					
Pt Edward upgrades	50,000	50,000	50,000	50,000	50,000
Petrolia	250,000	100,000	50,000	50,000	50,000
Alvinston/Oil Springs Capital Items	200,000	250,000	20,000	20,000	20,000
Watford	100,000	100,000	30,000	30,000	30,000
Street Widening	-	150,000	50,000	50,000	50,000
Petrolia Wanstead TS	-	-	-	-	-
Sub-Total	600,000	650,000	200,000	200,000	200,000
Non--Reliability Projects					
Substation Building	75,000	75,000	75,000	75,000	75,000
Substation #1 Restoration	-	-	-	-	-
Tools (Vehicle and others)	60,000	40,000	30,000	30,000	30,000
Pole Testing Tools	-	30,000	-	-	-
Vehicle Replacement - Lines	1,000,000	500,000	450,000	450,000	450,000
Transformers	150,000	150,000	150,000	150,000	150,000
Safety Related Projects	25,000	25,000	25,000	25,000	25,000
Service Centre	200,000	350,000	90,000	90,000	90,000
Asset Condition Assessment (feeder & substn)	150,000	150,000	150,000	150,000	150,000
Sub-Total	1,660,000	1,320,000	970,000	970,000	970,000
Total Lines & Design	**8,050,000**	**8,595,000**	**7,395,000**	**7,540,000**	**7,465,000**

Project Name	2020 Budget	2021 Budget	2022 Budget	2023 Budget	2024 Budget
Metering					
Single Phase Meters and Poly Phase Meters	100,000	80,000	80,000	80,000	80,000
New Meters	50,000	25,000	25,000	25,000	25,000
Metering Equipment/Tools	5,000	2,000	2,000	2,000	2,000
GS > 50 KW	-	-	-	-	-
Total Metering	**155,000**	**107,000**	**107,000**	**107,000**	**107,000**
Information Technology					
Corporate IT Security	329,095	250,000	200,000	200,000	200,000
Data Centre Lifecycle	444,930	250,000	225,000	225,000	260,000
Computer Infrastructure Lifecycle	199,670	200,000	200,000	200,000	200,000
Internal Technology Development	180,115	300,000	300,000	300,000	300,000
Legislated Business Application Upgrades	149,100	200,000	200,000	200,000	200,000
Software-Upgrades and Additions	235,280	225,000	225,000	225,000	225,000
Disaster Recovery Plan Upgrade Phase I,II,III	113,615	125,000	150,000	150,000	150,000
Meeting Rooms Tech an Lighting Upgrades	-	-	-	35,000	35,000
Central Filing Document Management	29,065	-	-	-	-
User Monitoring	-	-	-	-	-
Operational Data Store Replacement	15,980				
Utilismart RSVA	22,720	-	-	-	-
Utilismart RSVA Utility Data Hub (ODS)	-	-	-	-	-
Business Technology Improvements	-	200,000	500,000	500,000	500,000
Total Information Technology	**1,719,570**	**1,750,000**	**2,000,000**	**2,035,000**	**2,070,000**
Other Projects					
Building Renovations/Expansion		50,000	50,000	50,000	50,000
Lean-to (protect wire spools)	40,000				
Furniture (Company wide)	17,000	20,000	20,000	20,000	20,000
Distribution Transformer Monitoring Grid 20/20	10,000	10,000		10,000	
Total Other Projects	**67,000**	**80,000**	**70,000**	**80,000**	**70,000**
	9,991,570	**10,532,000**	**9,572,000**	**9,762,000**	**9,712,000**

MINUTES of the 2021 Budget meeting of the Board of Directors of **BLUEWATER POWER Distribution Corporation** held November 25th 2020.

Board Zoom Attendees: Glenn Jones, Brad Goodhill, Margaret Dragan, Katherine Albion and Steve Bolt and Sandy Marshall.

Zoom Attendees Senior Management: Keith Broad, Mark Vanderheide, Kathy Gadsby, Karen Otton, Dom Pinelli and Barbara Fan.

Present in the Boardroom: Vice Chairman of the Board Richard Grogan, Garry McDonald, Janice McMichael-Dennis, Alex Palimaka, Christina McCready, Mark Hutson, Mark Delaurier and Chris Gould

Constitution of Meeting

The Chair noted that a quorum of Directors was present and that all the Directors of the Corporation had provided waivers of notice of the meeting and, accordingly, the meeting was regularly constituted for the transaction of business.

Mark Hutson Presented the 2021 Budget for Bluewater Power Distribution Corporation

Overview Included:

- Income Statement Assumptions
- Revenue Assumptions
- Income Statement
- O& M Budget
- High Level Variance Analysis
- Summary of CDM Budget
- PILS Audit

Capital Budget High Level Overview

- Review of Capital items $150,000 and over
- Safety is a High Priority item

Resolution

Upon motion duly made by Glenn Jones, seconded by Richard Grogan and unanimously carried IT WAS RESOLVED "That the Board approves the 2021 Budget components including O&M, Capital, and Financial Statements Budgets for Bluewater Power Distribution Corporation."

Next Meeting

The next scheduled Board meeting is or at the call of the Chair.

Termination

There being no further business, on motion the meeting then terminated.

G.F. Bentley, Chair

Bluewater Power Distribution Corporation
2021 CAPITAL BUDGET
High Level Overview

Total Proposed 2021 Capital Budget =	**$ 10,850,000**

For Comparison:	*Approved Budget*	*Actual Spending*
2020	$ 9,991,570	$ 8,925,988
2019	$ 9,899,390	$ 9,805,350
2018	$ 9,217,325	$ 8,693,316
2017	$ 8,969,035	$ 8,157,712
2016	$ 8,530,190	$ 8,087,506

2020 Capital Overview

Components:	**2021 Budget**	**2020 Budget**	**2019 Budget**
New Connections/Services	$ 1,100,000	$ 900,000	$ 800,000
Utility Services - Reliability	$ 5,780,000	$ 5,307,000	$ 5,212,175
Vehicle Replacements	$ 605,000	$ 1,000,000	$ 280,000
Meter Services	$ 155,000	$ 155,000	$ 405,000
Information Technology	$ 1,880,000	$ 1,719,570	$ 1,979,390
Building Renovations/Improvements	$ 695,000	$ 275,000	$ 597,825
Smart Grid	$ 10,000	$ 10,000	$ -
Emergency Funds	$ 625,000	$ 625,000	$ 625,000
Total Capital Budget:	**$ 10,850,000**	**$ 9,991,570**	**$ 9,899,390**
Less: Non-Recurring Items:			
Downtown Secondary Network Cable	$ 400,000	$ 350,000	$ 250,000
Service Centre	$ 620,000	$ 240,000	$ 450,000
Decommission Municipal Substaion #20	$ 150,000	$ -	$ -
Substation Transformer Replacements	$ 350,000	$ -	$ -
PCB Replacement	$ 150,000	$ -	$ -
1F8 Lead Cable Elimination	$ 150,000	$ 250,000	$ 150,000
HVAC Replacement	$ 100,000	$ -	$ -
Street Widening	$ 150,000	$ -	$ -
Distribution Transformer Monitoring Grid 20/20	$ 10,000	$ 10,000	$ -
8 kv Load Conversion	$ -	$ -	$ 650,000
User Monitoring	$ -	$ -	$ 54,245
Utilismart RSVA	$ -	$ 22,720	$ 113,625
Utilismart RSVA Utility Data Hub (ODS)	$ -	$ -	$ 119,580
Delta/Wye Services	$ -	$ -	$ 150,000
Vault 'K' on George St. - Concrete Lid/Panel Repla	$ -	$ -	$ 165,000
GS > 50 KW Interval Meters	$ -	$ -	$ 250,000
Pole Testing Tools	$ -	$ -	$ 25,000
Meeting Rooms Tech and Lighting Upgrades	$ -	$ -	$ 57,825
Central Filing Document Management	$ -	$ 29,065	$ -
Total Normalized Level:	**$ 8,770,000**	**$ 9,089,785**	**$ 7,464,115**

2021 Capital Operations Budget

	Project Number		Project Name	Description	Justification	Cost
		Priority Level	Reliability Centred Projects			
Recurring	UT40	High	Guy Guard/Down Guy Replacement	A visual assessment is performed to confirm guy guards and down guys that may be in need of replacement or repair	Any deteriorated, damaged or missing guy guards can pose a safety risk to the public as down guys are typically located along sidewalks, bike paths and in locations readily accessible by the public.	25,000
Recurring	UT31	High	Pad Mount Transformer Replacements	Replacement of pad-mount transformer with new transformers.	Regular Program of Asset Replacement – transformers have reached their end of life. The casings are starting to rot and they can't be repaired. Improve reliability and maintain public safety.	80,000
Recurring	UT15	High	Wood Pole Replacement	Identify and replace aging poles	Reliability improvements and end of life replacements	2,250,000
Recurring	UT14	High	Cross Arm/Cap & Pin Insulator Replacement	Replace crossarms and insulators	Reliability improvements to reduce effects of cracked arms and old insulators.	150,000
Recurring	UT26	High	Primary underground cable replacement	Regular Program of Asset replacement (Subdivisions east of Murphy Rd. -- Old Ontario Hydro Plant. i.e Sherwood, Coronation Subdivision) - Includes design & planning stages	Primary Cable upgrades/replacement, Reliability improvements and end of life replacements	300,000
Recurring	UT18	High	Emergency System Improvement Fund	Emergency Fund	For unexpected capital expenditures during the year.	250,000
Recurring	UT47	High	Emergency Transformer Replacement	Emergency Fund	For unexpected emergency replacement of failed Transformers during the year.	250,000
Recurring	UT48	High	Emergency Primary Line Replacement	Emergency Fund	For unexpected emergency replacement of failed Primary Lines during the year.	100,000
Recurring	UT49	High	Emergency Secondary Line Replacement	Emergency Fund	For unexpected emergency replacement of failed Secondary Lines during the year.	25,000
Recurring	UT53	High	1F8 Lead Cable Elimination	Primary lead underground cable (approx. 2km in length) from Front/George St. to Johnston St. in Sarnia. Cable was installed in the 1950's, the cable failed in 2019 and was removed from service.	Primary lead underground cable was installed in the 1950's, the cable has failed and has been removed from service. Overhead system re-configurations are required to maintain reliability and redundancy.	150,000

2021 Capital Operations Budget

	Project Number		Project Name	Description	Justification	Cost
New	UT37	High	Substation Transformer Replacements	Supply and installation of a backup substation transformer for MS#21 on Michigan Ave. with a new transformer as a result of decomissioning of MS#20 on Confederation St. (MS#20 used to be MS#21 back up station).	Supply reliability for customers supplied from MS#21 in case of transformer failure. The new transformer purchased will be a dual voltage transformer that can be utilized at other 4Kv transformer stations once MS#21 (an 8Kv station) is removed from service.	350,000
		Mid-Level	Decommission Municipal Substaion #20	Municipal Substation #20 located on Confederation St. to be removed from service. Transformers and structure to be dismantled and removed from the site.	MS #20 has reached the end of useful life. The transformer on site has been identified to be failing. In 2019 all 8Kv load supplied by MS #20 has been off loaded and converted to the 27.6Kv voltage level.	150,000
Recurring	UT36	High	Downtown Secondary Network Cable Replacement	Regular program of asset replacement of underground secondary cables in the Downtown core.	Secondary underground network cable upgrades/replacement from vault to vault, reliability improvements and end of life replacements	400,000
		Sub-Total of High Priority Reliability Projects				4,480,000
		Priority Level	Reliability Centred Projects			
Recurring	UT21	Mid-Level	27.6 Kv Feeder Extensions	Extend 27.6 Kv Feeder on Lakeshore Rd. between Telfer and Murphy Rd.	Supply reliability for customers and to create redundancy in the area. This project will assist in the elimination of the remaining 8Kv Substation (MS#21) located on Michigan Ave. in Sarnia.	-
Recurring	UT22	Mid-Level	8 Kv Load Conversions	Load Conversions to 27.6 Kv for the area bounded by Murphy Rd., Cathcart Blvd., Lakeshore Rd. and Modeland Rd. in Sarnia	Conversion of the 8 Kv system to 27.6 Kv to ultimately eliminate the only remaining 8 Kv substation (MS#21) in Sarnia. Assets have reached their end of useful life.	-
Recurring	UT7	Mid-Level	4KV Lines Rebuild and Load Conversion	Upgrade of 4Kv feeders and load conversion to 27.6 Kv where possible in areas west of Murphy Rd. in Sarnia.	Program to rebuild, upgrade and convert 4 Kv feeders to 27.6 Kv (where possible) in various areas west of Murphy Rd. These feeders would have been installed in 1950/1960's, assets are approaching or have reached their end of useful life.	200,000
Recurring	UT33	Mid-Level	Animal Protection	Reliability centered program to improve protection on main 27.6kV feeders from animal contact.	Animal contacts are one of the largest causes of outages, this will help minimize outages on the feeders.	150,000
Recurring	UT25	Mid-Level	Remote Load Break Switches	Remote load break switches or reclosures	Reduce outages through automation. Sectionalizes feeders when a fault occurs.	100,000
Recurring	UT11	As Required	New Connections (OEB Requirements)	New Subdivision, Commercial and Industrial connections, system upgrades to meet capacity, and new infill service connects	This is an OEB Requirement that is difficult to accurately predict. This based on current information on proposed developments.	1,100,000
Recurring	UT24	As Required	Storm Restoration	Stock items and labour	Based on multiyear average expected storm maintenance costs per internal order	250,000
Recurring	UT30	As Required	Fault Indicators - Overhead	Target devices used to indicate fault direction for overhead lines.	Fault finding is critical to reducing outage times. These devices allow for faster location of the fault by offering direction information to field staff	10,000

2021 Capital Operations Budget

	Project Number		Project Name	Description	Justification	Cost
Recurring	UT34	Mid-Level	Lines Upgrade	Re-conductor and re-build feeders	Upgrade assets that are approaching or have reached their end of useful life.	-
Recurring	UT57	Mid-Level	Downtown Vault Upgrades	Replacement of entrance ladders within the vault and low voltage electrical service upgrades for six locations.	End of Life Replacements	10,000
Recurring	UT61	Mid-Level	Subdivision Transformers	Inspection and replacement of elbows, fault indicators inside of pad-mount transformers	End of Life Replacements	75,000
			PCB Tx Replacement			150,000
Recurring	UT64	Mid-Level	PMH (Pad-Mount) Switchgear Replacement	Replacement of PMH units	End of Life Replacements	50,000
		Sub-Total of Mid to Low Priority Reliability Projects				2,095,000
			Municipality Centred Projects			
Recurring	UT8		Pt. Edward Upgrades	Asset Replacement program	Secondary and primary asset replacements as required where assets have reached their end of useful life and as required to meet load growth over time.	100,000
Recurring	UT5		Petrolia	Asset Replacement program	Secondary and primary asset replacements as required where assets have reached their end of useful life and as required to meet load growth over time.	100,000
Recurring	UT6		Alvinston/Oil Springs - Capital Items	Asset Replacement program	Secondary and primary asset replacements as required where assets have reached their end of useful life and as required to meet load growth over time.	75,000
Recurring	UT16		Watford	Asset Replacement program	Secondary and primary asset replacements as required where assets have reached their end of useful life and as required to meet load growth over time.	30,000
Recurring	UT3		Street Widening	This project involves the relocation of Bluewater Power infrastructure located within the road allowance. These relocations are initiated by the Road Authority and are necessary in order to accommodate planned modifications to the roadway.	These expenditures are driven by the local Road Authorities and are non-discretionary. Costing is based In accordance with the Public Service Works on Highway Act enacted by the Provincvial Government. The Act outlines the mechansim for apportionment of costs for this type of work. Typically, Bluewater Power shares 50% of labour and truck time with the Road Authority, while Bluewater Power is responsible for all material costs.	150,000

2021 Capital Operations Budget

	Project Number		Project Name	Description	Justification	Cost
		Sub-Total of Municipality Centred Projects				455,000
			Non- Reliability Centred Projects			
Recurring	UT1		Substation Building	New siding, windows, doors, painting, fences, roofs, fire detection, etc for various stations	Substation Buildings require general repairs and updates.	75,000
Recurring	UT9		Tools (Vehicle & Other)	Replacement tools	Standard list of truck tools and equipment.	80,000
Recurring	UT10		Vehicle Replacements	Vehicle replacements	End of Life Replacements	605,000
Recurring	UT12		Transformers	Capital Asset for Regular stock turnover	Storm stock and regular attrition requirements. Does not include units under capital project	150,000
Recurring	UT13		Safety Related	Safety signs, equipment etc.	Provision for unplanned and/or necessary safety-related items.	25,000
Recurring	UT19		Service Centre	Various upgrades required such as roofing, painting, flooring, lighting	Service Center Buildings require general repairs and updates.	620,000
Recurring	UT28		Asset Condition Assessment (Feeder & Substation Assessments)	Physical inspection of major feeders, substations and associated equipment.	Year to year asset condition review.	150,000
New	UT69		Pole Testing Tools	Purchase of a second pole testing device		-
Recurring	UT41		Supervision and Management Capital Labour	Time spent by Management and Supervisors on Capital projects	Allocation of annual salary based on Linesmen capital hours over total available hours.	-
		Sub-Total of Non-Reliability Centred Projects				1,705,000
			Overall Operations Total			8,735,000
			Less Non-Lineman Related Labour			
			Overall Operations Total (w/Non-Lineman Related Labour Removed)			8,735,000
				Metering Projects		
Recurring	MT1		Single Phase 100 amp meter replacement Polyphase mechanical demand replacement	Replacing 100 amp meters with 200 amp and replacing mechanical with electronic meters.	New services are 200 amp and Electronic demand has KW and KVA which could lead to more revenue. Ongoing project nearing completion	100,000
Recurring	MT2		New Meters	Residential and Commercial meters	Meters for new services	50,000
Recurring	MT3		Tools	New tools for shop use.	New tools as required for meter shop.	5,000
New	MT5		Test equipment	CT ratio test	addition to cross phase analyzer	-
				Total Metering		155,000
Recurring			IT Projects			
Recurring	IT03		Corporate IT Security	The Security focus will involve a three pronged approach including upgrading existing virus / malware solution, addressing security flaws in the LAN architecture, and performing a comprehensive threat assessment / acting on conclusions.	In on-going efforts to mitigate heightened threats, Bluewater Power needs to further increase preparedness against both internal and external security attacks.	250,000

2021 Capital Operations Budget

	Project Number		Project Name	Description	Justification	Cost
Recurring	IT01		Data Centre Lifecycle	This deals with the Data Centre lifecycle and management. It includes Network, environmentals, Server, Storage, UPS and other data center equipment and related software replacement lifecycles: Depending on equipment the lifecycle is 3 to 6 years.	The datacenter services and equipment are implemented and upgraded on a lifecycle basis. The general plan is dictated by age of equipment, access to improved technology and workload volumes of BWP IT Staff.	250,000
Recurring	IT02		Computer Infrastructure Lifecycle	Lifecycle 30 - 35 PCs plus adds to staff, home PCs, new mobile devices, aging printers (example - Mailroom)	We are operating on a 4-year lifecycle approach to PCs and variable year lifecycle approach to other infrastructure technology such as printers and fax machines. This enables standardization of product and service and keeps a consistent financial impact to budgets. This also includes technology requirements for any staff adds or changes, along with general end point technology necessities	200,000
Recurring	IT04		Internal Technology Development	Staff cost associated with all IT capital projects.	Time allocated to capital costs and included in each capital project. 65K - payroll upgrade	430,000
Recurring	IT05		Legislated Business Application Upgrades	This is a multi-year agreement with Deloitte and one year with Axon to provide SAP development efforts. These allow BWP to remain compliant with new regulations affecting change to the primary business system as well as allowing for continuous improvement programs.	This is required to perform OEB and Ministry of Energy legislated changes to internal business processes along with continuous solution improvements. For example, Bill 100, rebates, price changes, etc. BWP has been in a multi-year agreement with Deloitte to perform these services. Axon has been added to support their efforts and an RFP for AMS support will be undertaken.	200,000
Recurring	IT06		Software-Upgrades and Additions	Microsoft Enterprise Agreement, adds to staff, growth of product requests or replacements such as, MS Project and Adobe Suite. R&D on various software, refresh of products, growth requires true-up - eg virus protection. R&D on PC protection products.	It is essential that we remain compliant with licensing requirements of all software in use at BWP. This covers adds to staff and upgrades to or additional applications.	225,000
New	IT09		Disaster Recovery Plan Upgrade Phase I,II,III	This is a continuing investment into an updated approach to Disaster Recovery.	The existing disaster recovery plan is outdated and no longer supports the expanded service offerings and business demands. This will be reviewed with direction to move to and implement an updated solution.	125,000
New			Business Technology Improvements			200,000
						1,880,000

			Other			
New	O1		Building Renovations/Expansion			50,000
Recurring	O3		Furniture (Company Wide)			20,000
			Distribution Transformer Monitoring Grid 20/20			10,000
			Total Other			80,000

			Total Company			10,850,000

Project Name	2021 Budget	2022 Budget	2023 Budget	2024 Budget	2025 Budget
Lines & Design - High Priority Level					
Guy Guard/Down Guy Replacement	25,000	20,000	15,000	15,000	15,000
Pad Mount Transformer Replacements	80,000	80,000	80,000	80,000	80,000
Wood Pole Replacement Program	2,250,000	2,200,000	2,200,000	2,200,000	2,200,000
Cross Arm/Cap & Pin Insulator Replacement Program	150,000	150,000	150,000	150,000	150,000
Primary Underground Cable Replacements	300,000	300,000	300,000	300,000	300,000
Emergency System Improvement Fund	250,000	250,000	250,000	250,000	250,000
Emergency Transformer Replacement	250,000	250,000	250,000	250,000	250,000
Emergency Primary Line Replacement	100,000	80,000	80,000	80,000	80,000
Emergency Secondary Line Replacement	25,000	25,000	25,000	25,000	25,000
Cable Theft Replacement					
1F8 Lead Cable Elimination	150,000	-	-	-	-
Downtown Secondary Network Cable Replacement	400,000	350,000			
Decommission Municipal Substaion #20	150,000	-	-	-	-
Substation Transformer Replacements	350,000				
Sub-Total	4,480,000	3,705,000	3,350,000	3,350,000	3,350,000
Lines & Design - Mid to Low Priority Level					
27.6 Kv Feeder Extensions	-	250,000	350,000	350,000	350,000
8 kv Load Conversion	-	250,000	350,000	350,000	350,000
4KV Lines Rebuild/ Load Conversion	200,000	200,000	200,000	200,000	200,000
Animal Protection	150,000	10,000	10,000	10,000	10,000
Remote Load Break Switches	100,000	90,000	90,000	90,000	90,000
New Connections (OEB Requirements)	1,100,000	1,100,000	900,000	800,000	800,000
Storm Restoration	250,000	250,000	250,000	250,000	250,000
Fault Indicators - Overhead	10,000	10,000	10,000	10,000	10,000
27.6kV Lines Upgrades	-	-	100,000	100,000	100,000
Downtown Vault Upgrades	10,000	10,000	10,000	10,000	10,000
Subdivision Transformers	75,000	75,000	75,000	75,000	75,000
Indian Rd. S. to Plank Rd. - Pole Line Rebuild	-	-	-	-	-
PMH (Pad-Mount) Switchgear Replacement	50,000	50,000	50,000	50,000	50,000
Vault '43' - Switch Replacement	-	-	75,000	-	-
PCB Tx Replacement	150,000	150,000	150,000	150,000	150,000

Project Name	2021 Budget	2022 Budget	2023 Budget	2024 Budget	2025 Budget
Sub-Total	2,095,000	2,445,000	2,620,000	2,445,000	2,445,000
Municipality Centered Projects					
Pt Edward upgrades	100,000	50,000	50,000	50,000	50,000
Petrolia	100,000	50,000	50,000	50,000	50,000
Alvinston/Oil Springs Capital Items	75,000	20,000	20,000	20,000	20,000
Watford	30,000	30,000	30,000	30,000	30,000
Street Widening	150,000	50,000	50,000	50,000	50,000
Sub-Total	455,000	200,000	200,000	200,000	200,000
Non--Reliability Projects					
Substation Building	75,000	75,000	75,000	75,000	75,000
Tools (Vehicle and others)	80,000	30,000	30,000	30,000	30,000
Pole Testing Tools	-	-	30,000	-	-
Vehicle Replacement - Lines	605,000	100,000	500,000	500,000	500,000
Transformers	150,000	150,000	150,000	150,000	150,000
Safety Related Projects	25,000	25,000	25,000	25,000	25,000
Service Centre	620,000	390,000	210,000	90,000	90,000
Asset Condition Assessment (feeder & substn)	150,000	150,000	150,000	150,000	150,000
Sub-Total	1,705,000	920,000	1,170,000	1,020,000	1,020,000
Total Lines & Design	**8,735,000**	**7,270,000**	**7,340,000**	**7,015,000**	**7,015,000**
Metering					
Single Phase Meters and Poly Phase Meters	100,000	100,000	100,000	100,000	100,000
New Meters	50,000	50,000	50,000	50,000	50,000
Metering Equipment/Tools	5,000	5,000	5,000	5,000	5,000
GS > 50 KW	-	-	-	-	-
Total Metering	**155,000**	**155,000**	**155,000**	**155,000**	**155,000**
Information Technology					
Corporate IT Security	250,000	200,000	200,000	200,000	200,000
Data Centre Lifecycle	250,000	225,000	225,000	260,000	260,000
Computer Infrastructure Lifecycle	200,000	200,000	200,000	200,000	200,000
Internal Technology Development	430,000	365,000	365,000	365,000	365,000
Legislated Business Application Upgrades	200,000	200,000	200,000	200,000	200,000
Software-Upgrades and Additions	225,000	225,000	225,000	225,000	225,000

Project Name	2021 Budget	2022 Budget	2023 Budget	2024 Budget	2025 Budget
Disaster Recovery Plan Upgrade Phase I,II,III	125,000	150,000	150,000	150,000	150,000
Meeting Rooms Tech an Lighting Upgrades	-	-	35,000	35,000	35,000
Central Filing Document Management	-	-	-	-	-
User Monitoring	-	-	-	-	-
Operational Data Store Replacement					
Utilismart RSVA	-	-	-	-	-
Utilismart RSVA Utility Data Hub (ODS)	-	-	-	-	-
Business Technology Improvements	200,000	500,000	500,000	500,000	500,000
SAP Upgrade	-	-	-	500,000	1,000,000
Data Center Phone System Upgrade					
Total Information Technology	**1,880,000**	**2,065,000**	**2,100,000**	**2,635,000**	**3,135,000**
Other Projects					
Service Center Renovations/Expansion	50,000	50,000	550,000	50,000	50,000
Lean-to (protect wire spools)					
Furniture (Company wide)	20,000	20,000	20,000	20,000	20,000
Distribution Transformer Monitoring Grid 20/20	10,000	10,000	10,000		
Total Other Projects	**80,000**	**80,000**	**580,000**	**70,000**	**70,000**
	10,850,000	**9,570,000**	**10,175,000**	**9,875,000**	**10,375,000**

MINUTES of the 2022 Budget meeting of the Board of Directors of **BLUEWATER POWER Distribution Corporation** held November 24th 2021.

Board Attendees: Richard Grogan, Brad Goodhill, Garry McDonald, Margaret Dragan, Katherine Albion, Glenn Jones, Steve Bolt (Zoom) and Sandy Marshall.

Senior Management: Alex Palimaka (Zoom) Christina McCready, Mark Delaurier (Zoom) Janice McMichael-Dennis, Keith Broad (Zoom) Leslie Dugas (Zoom) Kathy Gadsby(Zoom) Dom Pinelli(Zoom) Jevan Davis(Zoom) Chris Gould(Zoom) Becky Gillis (Zoom) Mark Hutson (Zoom) and Barbara Fan (Zoom).

Constitution of Meeting

The Chair noted that a quorum of Directors was present and that all the Directors of the Corporation had provided waivers of notice of the meeting and, accordingly, the meeting was regularly constituted for the transaction of business.

Mark Hutson Presented the 2022 Budget for Bluewater Power Distribution Corporation

Overview Included:

- Income Statement Assumptions
- Revenue Assumptions
- Income Statement
- O & M Budget
- Capital Budget

Capital Budget High Level Overview

- Review of Capital items $150,000 and over
- Safety is a High Priority item
- New connections move to High Priority
- Storm restoration move to High Priority

Resolution

Upon motion duly made by Glenn Jones, seconded by Richard Grogan and unanimously carried IT WAS RESOLVED "That the Board approves the 2022 Budget components including O&M, Capital, and Financial Statements Budgets for Bluewater Power Distribution Corporation."

Next Meeting

The next scheduled Board meeting is or at the call of the Chair.

Termination

There being no further business, on motion the meeting then terminated.

Richard Grogan, Chair

Bluewater Power Distribution Corporation
2022 CAPITAL BUDGET
High Level Overview

Total Proposed 2022 Capital Budget =	**$ 11,595,000**

For Comparison:	*Approved Budget*	*Actual Spending*
2021	$ 10,850,000	$ 9,541,443
2020	$ 9,991,570	$ 8,925,988
2019	$ 9,899,390	$ 9,805,350
2018	$ 9,217,325	$ 8,693,316
2017	$ 8,969,035	$ 8,157,712
2016	$ 8,530,190	$ 8,087,506

Capital Overview

Components:	**2022 Budget**	**2021 Budget**	**2020 Budget**
New Connections/Services	$ 1,200,000	$ 1,100,000	$ 900,000
Utility Services - Reliability	$ 6,555,000	$ 5,780,000	$ 5,307,000
Vehicle Replacements	$ 730,000	$ 605,000	$ 1,000,000
Meter Services	$ 155,000	$ 155,000	$ 155,000
Information Technology	$ 1,945,000	$ 1,880,000	$ 1,719,570
Building Renovations/Improvements	$ 385,000	$ 695,000	$ 275,000
Smart Grid	$ 10,000	$ 10,000	$ 10,000
Emergency Funds	$ 615,000	$ 625,000	$ 625,000
Total Capital Budget:	**$ 11,595,000**	**$ 10,850,000**	**$ 9,991,570**
Less: Non-Recurring Items:			
Downtown Secondary Network Cable	$ 350,000	$ 400,000	$ 350,000
Service Centre	$ 310,000	$ 620,000	$ 240,000
Decommission Municipal Substaion #20	$ 150,000	$ 150,000	$ -
Center St Petrolia	$ 500,000	$ -	$ -
Tree trimmming Equipment	$ 400,000	$ -	$ -
Progress Drive Substation Upgrade	$ 300,000	$ -	$ -
PCB Replacement	$ 150,000	$ 150,000	$ -
Street Widening	$ 150,000	$ 150,000	$ -
Downtown Switch Replacement	$ 75,000	$ -	$ -
Mailroom Equipment Replacement	$ 35,000	$ -	$ -
Distribution Transformer Monitoring Grid 20/20	$ 10,000	$ 10,000	$ 10,000
Substation Transformer Replacements	$ -	$ 350,000	$ -
1F8 Lead Cable Elimination	$ -	$ 150,000	$ 250,000
Utilismart RSVA	$ -	$ -	$ 22,720
HVAC Replacement	$ -	$ 100,000	$ -
Central Filing Document Management	$ -	$ -	$ 29,065
Total Normalized Level:	**$ 9,165,000**	**$ 8,770,000**	**$ 9,089,785**

2022 Capital Operations Budget

	Project Number		Project Name	Description	Justification	Cost
		Priority Level	Reliability Centred Projects			
Recurring	UT40	High	Guy Guard/Down Guy Replacement	A visual assessment is performed to confirm guy guards and down guys that may be in need of replacement or repair	Any deteriorated, damaged or missing guy guards can pose a safety risk to the public as down guys are typically located along sidewalks, bike paths and in locations readily accessible by the public.	25,000
Recurring	UT31	High	Pad Mount Transformer Replacements	Replacement of pad-mount transformer with new transformers.	Regular Program of Asset Replacement – transformers have reached their end of life. The casings are starting to rot and they can't be repaired. Improve reliability and maintain public safety.	80,000
Recurring	UT15	High	Wood Pole Replacement	Identify and replace aging poles	Reliability improvements and end of life replacements	2,200,000
Recurring	UT14	High	Cross Arm/Cap & Pin Insulator Replacement	Replace crossarms and insulators	Reliability improvements to reduce effects of cracked arms and old insulators.	150,000
Recurring	UT26	High	Primary underground cable replacement	Regular Program of Asset replacement (Subdivisions east of Murphy Rd. – Old Ontario Hydro Plant. i.e Sherwood, Coronation Subdivision) - Includes design & planning stages	Primary Cable upgrades/replacement, Reliability improvements and end of life replacements	300,000
Recurring	UT18	High	Emergency System Improvement Fund	Emergency Fund	For unexpected capital expenditures during the year.	250,000
Recurring	UT47	High	Emergency Transformer Replacement	Emergency Fund	For unexpected emergency replacement of failed Transformers during the year.	250,000
Recurring	UT48	High	Emergency Primary Line Replacement	Emergency Fund	For unexpected emergency replacement of failed Primary Lines during the year.	80,000
Recurring	UT49	High	Emergency Secondary Line Replacement	Emergency Fund	For unexpected emergency replacement of failed Secondary Lines during the year.	35,000
Recurring	UT53	High	1F8 Lead Cable Elimination	Primary lead underground cable (approx. 2km in length) from Front/George St. to Johnston St. in Sarnia. Cable was installed in the 1950's, the cable failed in 2019 and was removed from service.	Primary lead underground cable was installed in the 1950's, the cable has failed and has been removed from service. Overhead system re-configurations are required to maintain reliability and redundancy.	

2022 Capital Operations Budget

	Project Number		Project Name	Description	Justification	Cost
New	UT37	High	Substation Transformer Replacements	Supply and installation of a backup substation transformer for MS#21 on Michigan Ave. with a new transformer as a result of decommissioning of MS#20 on Confederation St. (MS#20 used to be MS#21 back up station).	Supply reliability for customers supplied from MS#21 in case of transformer failure. The new transformer purchased will be a dual voltage transformer that can be utilized at other 4Kv transformer stations once MS#21 (an 8Kv station) is removed from service.	-
		Mid-Level	Decommission Municipal Substation #20	Municipal Substation #20 located on Confederation St. to be removed from service. Transformers and structure to be dismantled and removed from the site.	MS #20 has reached the end of useful life. All transformer loading has now been converted to 27.6Kv. MS#20 transformer station is no longer required.	150,000
			Centre Street Petrolia	4KV substation #30 has reached end of life with breakers showing high probability of failure. Open bus and antiquated switch gear make this station impossible to upgrade. New station switch gear to be installed including new breaker positions.	4KV substation #30 has reached end of life with breakers showing high probability of failure. Open bus and antiquated switch gear make this station impossible to upgrade. New station switch gear to be installed including new breaker positions.	500,000
New		High	Progress Drive Substation Upgrade	Substation on Progress Drive to be upgraded	Transformer at substation on Progress Drive in Petrolia is overloaded and reaching end of life. A new, larger transformer is required and a second feeder will be added to allow this station to help carry load from the Centre St substation	300,000
New	UT??	High	Virgil Ave. in Sarnia - Conversion to 27.6Kv	Conversion of 4Kv feeders to 27.6 Kv on Virgil Avenue in Sarnia.	To rebuild, upgrade and convert the 4 Kv feeder to 27.6 Kv as step down transformers are at capacity and no new load can be added to the this feeder and to this area. This feeder would have been installed in 1950/1960's, assets are approaching or have reached their end of useful life.	-
Recurring	UT36	High	Downtown Secondary Network Cable Replacement	Regular program of asset replacement of underground secondary cables in the Downtown core.	Secondary underground network cable upgrades/replacement from vault to vault, reliability improvements and end of life replacements	350,000
		Sub-Total of High Priority Reliability Projects				4,670,000
		Priority Level	Reliability Centred Projects			
Recurring	UT21	Mid-Level	27.6 Kv Feeder Extensions	Extend 27.6 Kv Feeder on Lakeshore Rd. between Telfer and Murphy Rd.	Supply reliability for customers and to create redundancy. This project will assist in the elimination of 1 of the 2 remaining 8Kv Substations in our system.	250,000
Recurring	UT22	Mid-Level	8 Kv Load Conversions	Load Conversions to 27.6 Kv along North and South sections of McGregor Sd. Rd. in Sarnia	Conversion of the 8 Kv system to 27.6 Kv to ultimately eliminate the only remaining 8 Kv substation (MS#21) in Sarnia. Assets have reached their end of useful life.	-

2022 Capital Operations Budget

	Project Number		Project Name	Description	Justification	Cost
Recurring	UT7	Mid-Level	4KV Lines Rebuild and Load Conversion	Upgrade of 4Kv feeders and load conversion to 27.6 Kv where possible in areas west of Murphy Rd. in Sarnia.	Program to rebuild, upgrade and convert 4 Kv feeders to 27.6 Kv (where possible) in various areas west of Murphy Rd. These feeders would have been installed in 1950/1960's, assets are approaching or have reached their end of useful life.	200,000
Recurring	UT33	Mid-Level	Animal Protection	Reliability centered program to improve protection on main 27.6kV feeders from animal contact.	Animal contacts are one of the largest causes of outages, this will help minimize outages on the feeders.	10,000
Recurring	UT25	Mid-Level	Remote Load Break Switches	Remote load break switches or reclosures	Reduce outages through automation. Sectionalizes feeders when a fault occurs.	90,000
Recurring	UT11	As Required	New Connections (OEB Requirements)	New Subdivision, Commercial and Industrial connections, system upgrades to meet capacity, and new infill service connects	This is an OEB Requirement that is difficult to accurately predict. This based on current information on proposed developments.	1,200,000
Recurring	UT24	As Required	Storm Restoration	Stock items and labour	Based on 2014 and 2015 average expected storm maintenance costs per internal order	235,000
Recurring	UT30	As Required	Fault Indicators - Overhead	Stock items and labour	Based on 2014 and 2015 average expected storm maintenance costs per internal order	10,000
Recurring	UT34	Mid-Level	Lines Upgrade	Re-conductor and re-build feeders	Upgrade assets that are approaching or have reached their end of useful life.	-
Recurring	UT57	Mid-Level	Downtown Vault Upgrades	Replacement of entrance ladders within the vault and low voltage electrical service upgrades for six locations.	End of Life Replacements	10,000
Recurring	UT61	Mid-Level	Subdivision Transformers	Inspection and replacement of elbows, fault indicators inside of pad-mount transformers	End of Life Replacements	75,000
Recurring	UT64	Mid-Level	PMH (Pad-Mount) Switchgear Replacement	Replacement of PMH units	End of Life Replacements	50,000
Recurring	UT65	Mid-Level	Downtown Switch Replacement	Replacement of SF6 switch in vault 43 on Front St. in Sarnia	End of Life Replacements	75,000
			PCB Tx Replacement			150,000
		Sub-Total of Mid to Low Priority Reliability Projects				2,355,000

2022 Capital Operations Budget

	Project Number		Project Name	Description	Justification	Cost
			Municipality Centred Projects			
Recurring	UT8		Pt. Edward Upgrades	Asset Replacement program	Secondary and primary asset replacements as required where assets have reached their end of useful life and as required to meet load growth over time.	50,000
Recurring	UT5		Petrolia	Asset Replacement program	Secondary and primary asset replacements as required where assets have reached their end of useful life and as required to meet load growth over time.	100,000
Recurring	UT6		Alvinston/Oil Springs - Capital Items	Asset Replacement program	Secondary and primary asset replacements as required where assets have reached their end of useful life and as required to meet load growth over time.	100,000
Recurring	UT16		Watford	Asset Replacement program	Secondary and primary asset replacements as required where assets have reached their end of useful life and as required to meet load growth over time.	100,000
Recurring	UT3		Street Widening	This project involves the relocation of Bluewater Power infrastructure located within the road allowance. These relocations are initiated by the Road Authority and are necessary in order to accommodate planned modifications to the roadway.	These expenditures are driven by the local Road Authorities and are non-discretionary. Costing is based In accordance with the Public Service Works on Highway Act enacted by the Provincial Government. The Act outlines the mechanism for apportionment of costs for this type of work. Typically, Bluewater Power shares 50% of labour and truck time with the Road Authority, while Bluewater Power is responsible for all material costs.	150,000
		Sub-Total of Municipality Centred Projects				500,000
			Non- Reliability Centred Projects			
Recurring	UT1		Substation Building	New siding, windows, doors, painting, fences, roofs, fire detection, etc for various stations	Substation Buildings require general repairs and updates.	75,000
Recurring	UT9		Tools (Vehicle & Other)	Replacement tools	Standard list of truck tools and equipment.	100,000
Recurring	UT10		Vehicle Replacements	Vehicle replacements	End of Life Replacements	730,000
Recurring	UT12		Transformers	Capital Asset for Regular stock turnover	Storm stock and regular attrition requirements. Does not include units under capital project	150,000
Recurring	UT13		Safety Related	Safety signs, equipment etc.	Provision for unplanned and/or necessary safety-related items.	25,000
Recurring	UT19		Service Centre	Various upgrades required such as roofing, painting, flooring, lighting	Service Center Buildings require general repairs and updates.	310,000

2022 Capital Operations Budget

	Project Number		Project Name	Description	Justification	Cost
Recurring	UT28		Asset Condition Assessment (Feeder & Substation Assessments)	Physical inspection of major feeders, substations and associated equipment.	Year to year asset condition review.	150,000
New	UT69		Pole Testing Tools	Purchase of a second pole testing device		-
New			New Building			-
Recurring	UT41		Supervision and Management Capital Labour	Time spent by Management and Supervisors on Capital projects	Allocation of annual salary based on Linesmen capital hours over total available hours.	-
		Sub-Total of Non-Reliability Centred Projects				1,540,000
			Overall Operations Total			9,065,000
			Less Non-Lineman Related Labour			
			Overall Operations Total (w/Non-Lineman Related Labour Removed)			9,065,000

				Metering Projects		
Recurring	MT1		Single Phase 100 amp meter replacement Polyphase mechanical demand replacement	Replacing 100 amp meters with 200 amp and replacing mechanical with electronic meters.	New services are 200 amp and Electronic demand has KW and KVA which could lead to more revenue. Ongoing project nearing completion	100,000
Recurring	MT2		New Meters	Residential and Commercial meters	Meters for new services	50,000
Recurring	MT3		Tools	New tools for shop use.	New tools as required for meter shop.	5,000
New	MT5		Test equipment	CT ratio test	addition to cross phase analyzer	-
				Total Metering		155,000

Recurring			IT Projects			
Recurring	IT03		Corporate IT Security	The Security focus will involve a three pronged approach including upgrading existing virus / malware solution, addressing security flaws in the LAN architecture, and performing a comprehensive threat assessment / acting on conclusions.	In on-going efforts to mitigate heightened threats, Bluewater Power needs to further increase preparedness against both internal and external security attacks.	240,000
Recurring	IT01		Data Centre Lifecycle	This deals with the Data Centre lifecycle and management. It includes Network, environmentals, Server, Storage, UPS and other data center equipment and related software replacement lifecycles: Depending on equipment the lifecycle is 3 to 6 years.	The datacenter services and equipment are implemented and upgraded on a lifecycle basis. The general plan is dictated by age of equipment, access to improved technology and workload volumes of BWP IT Staff.	290,000
Recurring	IT02		Computer Infrastructure Lifecycle	Lifecycle 30 - 35 PCs plus adds to staff, home PCs, new mobile devices, aging printers (example - Mailroom)	We are operating on a 4-year lifecycle approach to PCs and variable year lifecycle approach to other infrastructure technology such as printers and fax machines. This enables standardization of product and service and keeps a consistent financial impact to budgets. This also includes technology requirements for any staff adds or changes, along with general end point technology necessities	200,000
Recurring	IT04		Internal Technology Development	Staff cost associated with all IT capital projects.	Time allocated to capital costs and included in each capital project.	390,000

2022 Capital Operations Budget

	Project Number		Project Name	Description	Justification	Cost
Recurring	IT05		Legislated Business Application Upgrades	This is a multi-year agreement with Deloitte and one year with Axon to provide SAP development efforts. These allow BWP to remain compliant with new regulations affecting change to the primary business system as well as allowing for continuous improvement programs.	This is required to perform OEB and Ministry of Energy legislated changes to internal business processes along with continuous solution improvements. For example, Bill 100, rebates, price changes, etc. BWP has been in a multi-year agreement with Deloitte to perform these services. Axon has been added to support their efforts and an RFP for AMS support will be undertaken.	250,000
Recurring	IT06		Software-Upgrades and Additions	Microsoft Enterprise Agreement, adds to staff, growth of product requests or replacements such as, MS Project and Adobe Suite. R&D on various software, refresh of products, growth requires true-up - eg virus protection. R&D on PC protection products.	It is essential that we remain compliant with licensing requirements of all software in use at BWP. This covers adds to staff and upgrades to or additional applications.	110,000
New	IT09		Disaster Recovery Plan Upgrade Phase I,II,III	This is a continuing investment into an updated approach to Disaster Recovery.	The existing disaster recovery plan is outdated and no longer supports the expanded service offerings and business demands. This will be reviewed with direction to move to and implement an updated solution.	150,000
New	IT08		SCADA / ODS / OMS / GIS / Smart Grid Development	BWP continues to develop a multi-year plan and strategy around Operations Technology Integration that takes into account the pending smart grid efficiencies and regulations	With the implementation of Smart Metering, the next step is fully integrating systems with Operations in order to make certain customer service advances and to extend best practices in distribution operation using integrated technology.	
New	IT12		Meeting Rooms Tech an Lighting Upgrades	Upgrade technology and lighting in the Conference, Board, and Meeting Rooms	The existing technology and lighting is poor and not user friendly. A lot of time is spent trying to get existing solutions to work. The new solution will be user friendly and use current technology.	
New	IT13		Mailroom Equipment Replacement	Replace outdated mailing equipment	Some of the current mailroom equipment is at or beyond end of life. The instances of outages and down time are significant and a solution needs to be put in place.	35,000
New	IT14		Central Filing Document Management	The current paper based Central Filing system will be re-positioned into an electronic document management solution	Central Filing is an essential business process. The current solution is inefficient, error prone, and does not easily allow for current regulation and best practice in document management.	
New	IT16		Voicemail Upgrade	Implement a new or replacement voicemail system.	The current Cisco Unity voicemail system is past end of life and no longer supported. Some of the systems it interconnects with cannot be kept up to date because they no longer work with the existing version.	
New			Business Technology Improvements			280,000
						1,945,000

			Other			
New	O1		Building Renovations/Expansion			-
Recurring	O3		Furniture (Company Wide)			20,000
New			Tree trimming equipment	For efficiency and job completion, we have decided to perform Tree Trimming in house effective July 2022	Purchase Tree cutter and tools	400,000
New	O5		Pole Testing Gun	Tool used in assessing stability of power line wood poles.	Current tool has reached the end of its useful life	-
			Distribution Transformer Monitoring Grid 20/20			10,000
			Total Other			430,000

			Total Company			11,595,000

Project Name	2022 Budget	2023 Budget	2024 Budget	2025 Budget	2026 Budget
Lines & Design - High Priority Level					
Guy Guard/Down Guy Replacement	25,000	25,000	20,000	20,000	20,000
Pad Mount Transformer Replacements	80,000	80,000	80,000	80,000	80,000
Wood Pole Replacement Program	2,200,000	2,200,000	2,200,000	2,200,000	2,200,000
Cross Arm/Cap & Pin Insulator Replacement Program	150,000	150,000	150,000	150,000	150,000
Primary Underground Cable Replacements	300,000	300,000	300,000	300,000	300,000
Emergency System Improvement Fund	250,000	250,000	250,000	250,000	250,000
Emergency Transformer Replacement	250,000	250,000	250,000	250,000	250,000
Emergency Primary Line Replacement	80,000	80,000	80,000	80,000	80,000
Emergency Secondary Line Replacement	35,000	35,000	25,000	25,000	25,000
Cable Theft Replacement					
1F8 Lead Cable Elimination	-	-	-	-	-
Downtown Secondary Network Cable Replacement	350,000				
Decommission Municipal Substation #20	150,000	-	-	-	-
Center St Pet	500,000				
St. Clair Parkway. in Sarnia (North of LaSalle Line) -		250,000			
Substation Transformer Replacements					
Progress Drive Substation Upgrade	300,000				
Albany Substation breaker upgrade		200,000			
Sub-Total	4,670,000	3,820,000	3,355,000	3,355,000	3,355,000
Lines & Design - Mid to Low Priority Level					
27.6 Kv Feeder Extensions	250,000	350,000	350,000	350,000	350,000
8 kv Load Conversion	-	350,000	350,000	350,000	350,000
4KV Lines Rebuild/ Load Conversion	200,000	200,000	200,000	200,000	200,000
Animal Protection	10,000	10,000	10,000	10,000	10,000
Remote Load Break Switches	90,000	90,000	90,000	90,000	90,000
New Connections (OEB Requirements)	1,200,000	2,000,000	2,000,000	2,000,000	2,000,000
Storm Restoration	235,000	250,000	250,000	250,000	250,000
Fault Indicators - Overhead	10,000	10,000	10,000	10,000	10,000
27.6kV Lines Upgrades	-	-	100,000	100,000	100,000
Downtown Vault Upgrades	10,000	10,000	10,000	10,000	10,000
4kV System Upgrades		750,000			

Project Name	2022 Budget	2023 Budget	2024 Budget	2025 Budget	2026 Budget
Subdivision Transformers	75,000	75,000	75,000	75,000	75,000
PMH (Pad-Mount) Switchgear Replacement	50,000	50,000	50,000	50,000	50,000
Downtown Switch Replacement	75,000	125,000	125,000	-	-
PCB Tx Replacement	150,000	150,000	150,000	150,000	-
Sub-Total	2,355,000	4,420,000	3,770,000	3,645,000	3,495,000

Project Name	2022 Budget	2023 Budget	2024 Budget	2025 Budget	2026 Budget
Municipality Centered Projects					
Pt Edward upgrades	50,000	50,000	50,000	50,000	50,000
Petrolia	100,000	200,000	100,000	100,000	100,000
Alvinston/Oil Springs Capital Items	100,000	20,000	20,000	20,000	20,000
Watford	100,000	200,000	100,000	100,000	100,000
Street Widening	150,000	50,000	50,000	50,000	50,000
Sub-Total	500,000	520,000	320,000	320,000	320,000
Non--Reliability Projects					
Substation Building	75,000	75,000	75,000	75,000	75,000
Tools (Vehicle and others)	100,000	80,000	80,000	80,000	80,000
Pole Testing Tools	-	30,000	-	-	
Vehicle Replacement - Lines	730,000	540,000	100,000	85,000	485,000
Transformers	150,000	150,000	150,000	150,000	150,000
Safety Related Projects	25,000	25,000	25,000	25,000	25,000
Service Centre	310,000	340,000	140,000	140,000	140,000
Asset Condition Assessment (feeder & substn)	150,000	150,000	150,000	150,000	150,000
Sub-Total	1,540,000	1,390,000	720,000	705,000	1,105,000
Total Lines & Design	**9,065,000**	**10,150,000**	**8,165,000**	**8,025,000**	**8,275,000**
Metering					
Single Phase Meters and Poly Phase Meters	100,000	100,000	100,000	100,000	100,000
New Meters	50,000	50,000	100,000	100,000	100,000
Metering Equipment/Tools	5,000	5,000	5,000	5,000	5,000
Meter Test Board	-	-	-	-	-
GS > 50 KW	-		-	-	-
Total Metering	**155,000**	**155,000**	**205,000**	**205,000**	**205,000**

Project Name	2022 Budget	2023 Budget	2024 Budget	2025 Budget	2026 Budget
Information Technology					
Corporate IT Security	240,000	220,000	185,000	155,000	215,000
Data Centre Lifecycle	290,000	185,000	185,000	355,000	195,000
Computer Infrastructure Lifecycle	200,000	200,000	200,000	200,000	210,000
Internal Technology Development	390,000	425,000	450,000	450,000	450,000
Legislated Business Application Upgrades	250,000	300,000	285,000	285,000	200,000
Software-Upgrades and Additions	110,000	110,000	200,000	225,000	225,000
Disaster Recovery Plan Upgrade Phase I,II,III	150,000	158,000	115,000	108,000	180,000
Meeting Rooms Tech an Lighting Upgrades	-	-	-	-	-
Mailroom Equipment Replacement	35,000	-	-	-	-
User Monitoring	-	-	-	-	-
Utilismart RSVA	-	-	-	-	-
Utilismart RSVA Utility Data Hub (ODS)	-	-	-	-	-
Business Technology Improvements	280,000	435,000	500,000	500,000	500,000
SAP Upgrade	-	-	0	500,000	500,000
Total Information Technology	**1,945,000**	**2,033,000**	**2,120,000**	**2,778,000**	**2,675,000**
Other Projects					
Service Center Renovations/Expansion	-	-	-	-	-
Lean-to (protect wire spools)					
CN Land Rights					
UWO Project					
Special Purpose Trailer					
Site Restoration Costs					
Tree trimmming Equipment	400,000				
Furniture (Company wide)	20,000	20,000	20,000	20,000	20,000
MicroFit Projects					
Smart GRID Charging Stations					
Research Smart Grid Technologies					
Innovation Research					
Smart GRID FDIR					
Distribution Transformer Monitoring Grid 20/20	10,000	10,000	10,000	10,000	10,000

Project Name	2022 Budget	2023 Budget	2024 Budget	2025 Budget	2026 Budget
Petrolia Micro GRID					
Pole Testing Gun					
Meter-Reading Tools					
Wire Length Meter					
Bar Code System					
Building Petrolia					
Total Other Projects	**430,000**	**30,000**	**30,000**	**30,000**	**30,000**
	11,595,000	**12,368,000**	**10,520,000**	**11,038,000**	**11,185,000**