The Turbine Overhaul...

A dedicated team gets it done

BRAINTREE ELECTRIC LIGHT DEPARTMENT

2006 ANNUAL REPORT

The Turbine Overhaul...
A dedicated team gets it done

Every seven years the combined-cycle generating station, Potter II, at Braintree Electric Light Department (BELD) undergoes a major overhaul. During the 2006 overhaul, cracking in the gas turbine rotor was identified during a planned inspection, and the rotor had to be shipped to Virginia for repairs, a process that kept the rotor off-site for 49 days. But the actual outage extension time was held to just four weeks—much to the credit of the BELD employees whose commitment to the overhaul team got the job done.

A message from the General Manager

William G. Bottiggi
General Manager

Many changes are taking place in the electric utility and broadband businesses. With the support of the residents of Braintree—and Town Meeting Members specifically—the management team at Braintree Electric Light Department (BELD) made significant progress during 2006 in preparing your utility for the future.

First, the electric utility industry continues to evolve and react to changes brought on by deregulation, stresses on fuel supplies (natural gas and oil), and weather events. As of December 2006, regulators began reimbursing generation companies for their ownership in power plants. This is good news for BELD and our customers. We own the 95-megawatt Potter II Generating Station, we're developing the new 116-megawatt Thomas Watson Generating Station, and we have entitlements in other generation companies (Seabrook, for example)—so our customers will benefit from planned increases in payments in the coming years.

Development of The Thomas Watson Generating Station continues on schedule. Major progress was made during 2006, including the overwhelming endorsement by Town Meeting Members at the May Town Meeting and the negotiation of—and eventual signing of—a gas turbine contract with Rolls-Royce. Permitting is expected to be completed during 2007, and a contract will then be awarded to the EPC (Engineering, Procurement, and Construction) contractor who will be responsible for construction.

Second, new broadband competition is coming to town in the form of Verizon, who has spent the last year installing a fiber-optic network and has applied for a cable TV license from the Town of Braintree. Once this license is awarded, Verizon, Comcast, and BELD will all be able to provide a complete package of telecommunication services to the residents of Braintree.

As part of BELD's plan for regular system improvements and in preparation for this increased competition, we upgraded our HFC (hybrid fiber-optic coax) network, allowing us to increase the quality of our existing service and introduce digital phone service. Digital phone service commenced in November 2006, after more than a year of research and negotiation with a number of different business partners. As a result BELD now provides very competitive and robust digital phone service in addition to digital TV and Internet service with download speeds of up to 15mb/second—all with very competitive pricing.

Finally, we are highlighting the recently completed overhaul of our Potter II Generating Station in this annual report. We perform this overhaul approximately every seven years, and while it is complex and expensive, it is critical to maintaining the reliability of Braintree's electric service. Despite challenges along the way, BELD employees rose to the occasion and completed the work on a very tight production schedule.

William G. Bottiggi
General Manager

A DEDICATED TEAM

TURBINE DISASSEMBLY

Large sections of air ductwork, piping, insulation, and casings are systematically disassembled before the turbine rotor is finally removed and placed on support stands.

The first phase of a major gas turbine overhaul is turbine disassembly. For the most part, this is accomplished by unbolting and removing various components—which ultimately allows access to the heart of the machine, the turbine rotor.

Skilled BELD workers utilizing special tooling, rigging, and a 40-ton overhead crane make this possible. Large sections of air ductwork, piping, insulation, and casings are systematically disassembled before the turbine rotor is finally removed and placed on support stands.

Flatbed trucks, mobile cranes, and fork trucks are also used to place the components in convenient locations to allow for inspection and repairs. Large “pieces” are typically further disassembled to determine repair, reconditioning, or replacement options.

1 Removing the bleed valve silencer assembly

2 Removing the generator step-up transformer (GSU) from service by removing connections

3 Opening the inspection port of the GSU transformer

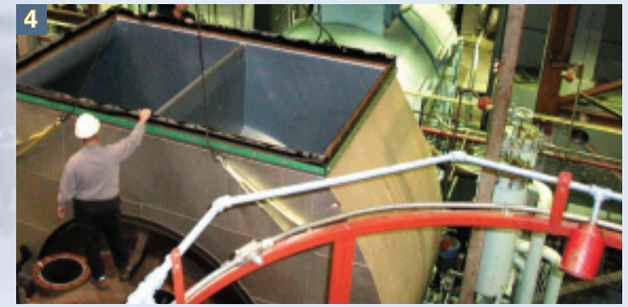
4 Getting ready to lift the lower half of the air plenum chamber

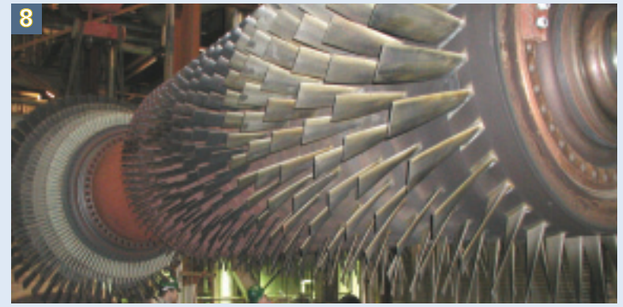
5 Safety watch at the turbine exhaust end

6 Crane operator manning the crane

7 Removing the turbine upper-half casing

8 Removing the turbine rotor from the casing





A DEDICATED TEAM

INSPECTION

In addition to visual inspections, these items undergo other forms of non-destructive examination such as x-ray, liquid penetrant, electric current, and ultrasonic testing.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A detailed examination of all critical components takes place during the second phase. The inspection helps determine if the unit as a whole has been operating properly, with the expected normal “wear and tear.”

It also provides evidence to any abnormal conditions that may have occurred. Items in high temperature and stress areas (turbine rotor, blades, vanes, heat shields, etc.) are especially susceptible to wear and possible damage.

In addition to visual inspections, these items undergo other forms of non-destructive examination such as x-ray, liquid penetrant, electric current, and ultrasonic testing. Determinations are then made as to remaining component life expectancy and necessary repairs.

1 Inspecting compressor rows 1 and 2

2 Performing run out checks on the shaft between the turbine and the generator

3 Removing the upper half of the vane carrier to allow inspection of the turbine blades

4 Inspecting the turbine blades

5 Removing row 13 compressor blades for rework of the mid-plane space

6 Turbine rotor debladed for non-destructive examination

7 Generator winding end-turn inspection

8 Generator prepared for cleaning and repair

9 Removal of combustor u-duct

10 Generator winding CO_2 cleaning


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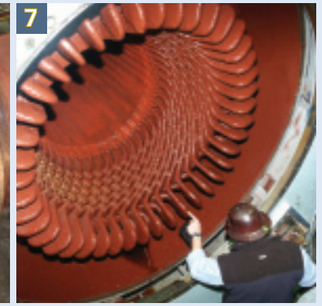
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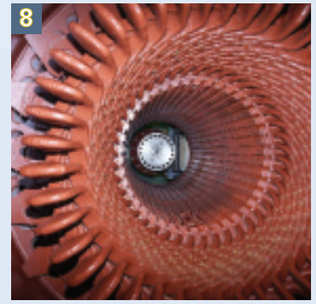
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A DEDICATED TEAM

CLEANING AND REPAIRS

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Although many of these tasks may seem tedious and perhaps unnecessary, this stage of the overhaul is one of the most important.

3

During the cleaning and repair phase, workers prepare the many components for reassembly. Although many of these tasks may seem tedious and perhaps unnecessary, this stage of the overhaul is one of the most important.

Gasketed surfaces must be prepped precisely to prevent leakage. Bolting threads must be restored to ensure ease of reassembly with proper torque values.

Painted surfaces must be primed and recoated to reduce the effects of corrosion. An overall plant cleanup is essential to maintaining a safe working environment.

1 Cleaning the starting motor

2 Cleaning the gas turbine generator

3 Cleaning the gas turbine split line bolts

4 Cleaning the turbine case

5 Wire brushing the inlet air louvers

6 Cleaning under the starting motor package

7 Wire brushing and cleaning the air inlet filter house

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A DEDICATED TEAM

ROTOR REPAIR


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Weighing in at 32 tons, this mass of steel at first seems almost indestructible. However, due to high thermal stresses and extremely tight operating clearances, this component requires the most upkeep and maintenance.

The gas turbine rotor is essentially a shaft that has been machined to accept both gas turbine and compressor blades. Its purpose is to convert heat from the products of combustion into mechanical energy to drive a generator. Weighing in at 32 tons, this mass of steel at first seems almost indestructible. However, due to high thermal stresses and extremely tight operating clearances, this component requires the most upkeep and maintenance.

The blades and rotor have calculated “life expectancies” and need to be refurbished, repaired, and/or replaced after a certain number of operating hours. Plants similar to Potter have been experiencing cracking damage to portions of their rotors, and an in-depth inspection showed our rotor had these cracks as well—a condition that could eventually lead to a major failure.

The decision was made to send the rotor to Richmond, Virginia to have the repairs done. Turbine rotor removal from Potter II and transportation to Richmond took almost as much effort as the actual rotor repairs.

1 Lifting the rotor for shipment to the factory

2 Placing the rotor in the shipping cradle

3 Rotor in shipping cradle on truck

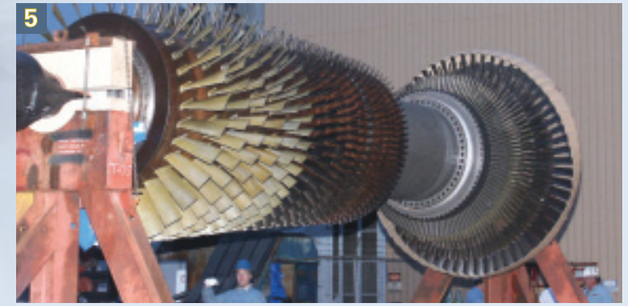
4 At the factory—the rotor undergoing vertical heat treatment for stress relief

5 Rotor arriving at BELD

6 Positioning the rotor for removal from truck

7 Lifting the rotor from the shipping cradle

8 Inspecting the rotor in the test stands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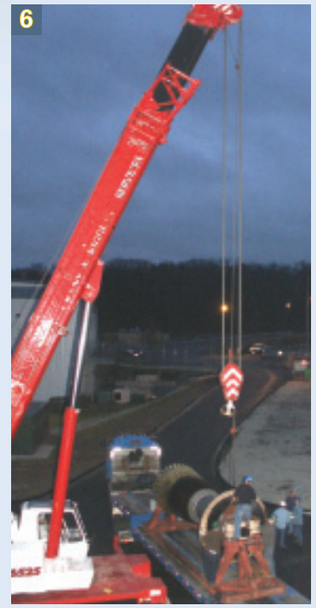
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The blades and rotor have calculated “life expectancies” and need to be refurbished, repaired, and/or replaced after a certain number of operating hours.


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A DEDICATED TEAM

TURBINE REASSEMBLY


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Originally scheduled to last eight weeks, the overhaul outage lasted approximately twelve. The gas turbine rotor was repaired in Alstom's maintenance facility, where the turbine blades were installed and the rotor was spin-balanced in their vacuum chamber.

Although the rotor was off-site for over 49 days, the actual outage extension time was held to just four weeks. This brings considerable credit to the personnel who work at Potter II. In addition to the maintenance performed on the gas turbine, BELD employees completely disassembled the generator for cleaning, inspection, and repair, and performed scheduled inspections and maintenance on all required balance of plant components.

Given the extent of the repairs required to restore the power plant to operational condition, it is a testament to the overhaul team that they were able to accomplish the work on such a tight schedule.

1 Lifting the rotor from the test stands

2 Checking the rotor at the exhaust end

3 Checking the rotor at the compressor

4 Inserting the rotor back into the turbine

5 Many hands make light work

6 Installing the vibration probes in the generator bearing housing

7 Lifting the starting motor torque converter

8 Upper half vane carrier and hot gas casing in place

9 Preparing the upper half casing for lifting onto the turbine


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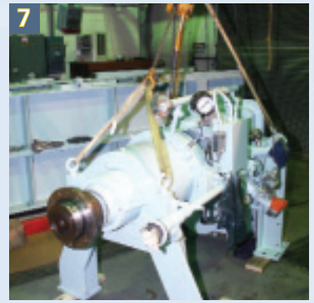
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In addition to the maintenance performed on the gas turbine, BELD employees completely disassembled the generator for cleaning, inspection, and repair, and performed scheduled inspections and maintenance on all required balance of plant components.

FINANCIAL STATEMENTS

CONSOLIDATING STATEMENTS OF NET ASSETS
DECEMBER 31, 2006 (UNAUDITED)

	Light Division	Broadband Division	Consolidated
ASSETS			
Current Assets:			
Funds on Deposit with Town Treasurer			
Operating Fund	$4,426,689	$341,280	$4,767,969
Customer Accounts Receivable, Net	4,144,500	160,936	4,305,436
Other Receivables	187,073	0	187,073
Materials And Supplies	702,610	14,195	716,805
Unbilled Revenue	1,812,976	0	1,812,976
Prepaid Working Capital	132,735	58,062	190,797
Prepaid Expenses	66,881	105,543	172,424
Total Current Assets	**11,473,464**	**680,016**	**12,153,480**
Noncurrent Assets:			
Funds on Deposit with Town Treasurer			
Depreciation Fund	6,018,237	5,708	6,023,945
Rate Stabilization Fund	831,628	0	831,628
Customer Deposits	126,285	0	126,285
Investment in Energy New England	306,393	0	306,393
Investment in Hydro-Quebec Phase II	95,868	0	95,868
Other Investments	132,000	0	132,000
Other Noncurrent Assets	8,682,366	0	8,682,366
Investment in Affiliate Company	847,069	(847,069)	0
Plant Assets, Net	38,700,057	3,912,364	42,612,421
Total Noncurrent Assets	**55,739,903**	**3,071,003**	**58,810,906**
Total Assets	**$67,213,367**	**$3,751,019**	**$70,964,386**
LIABILITIES			
Current Liabilities:			
Total Capitalization	52,107,025	636,744	52,743,769
Accounts Payable	4,879,606	451,541	5,331,147
Accrued Accounts Payable	(48,675)	(28,666)	(77,340)
Accrued Compensated Absences	166,585	22,186	188,770
Other Accrued Expenses	0	19,214	19,214
Capital Lease	78,458	0	78,458
Note Payable	207,810	0	207,810
Bond Payable	8,500,000	500,000	9,000,000
Customer Deposits	82,752		82,752
Accured Interest	61,212		61,212
Total Current Liabilities	**66,034,773**	**1,601,019**	**67,635,792**
Noncurrent Liabilities:			
Bonds Payable, Net of Current Portion	0	2,150,000	2,150,000
Rate Stabilization Reserve	831,628	0	831,628
Deferred Revenue	346,966	0	346,966
Total Noncurrent Liabilities	**1,178,594**	**2,150,000**	**3,328,594**
Total Liabilities	**67,213,367**	**3,751,019**	**70,964,386**

CONSOLIDATING STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET ASSETS
DECEMBER 31, 2006 (UNAUDITED)

	Light Division	Broadband Division	Consolidated
Operating Revenues			
Sales to Ultimate Customers	$53,336,379	$6,097,263	$59,433,642
Other Operating Revenues	108,562	0	108,562
Total Operating Revenues	**$53,444,941**	**$6,097,263**	**$59,542,204**
Operating Expenses:			
Purchased Power	34,406,677	0	34,406,677
Fuel for Generators	1,090,616	0	1,090,616
Signal Fees	0	2,458,260	2,458,260
Maintenance	6,255,209	103,150	6,358,359
Distribution	2,567,190	1,119,672	3,686,862
General & Administration	7,185,698	1,520,312	8,706,010
Depreciation Expense	2,734,763	552,404	3,287,166
Total Operating Expenses	**54,240,154**	**5,753,798**	**59,993,951**
Operating Income	**(795,213)**	**343,465**	**(451,747)**
Nonoperating Revenues (Expenses):			
Investment Loss—ENE	0	0	0
Interest and Dividend Income	1,594,844	570	1,595,413
Interest Expense	(56,234)	(110,433)	(166,666)
Loss on Equipment	0	(4,694)	(4,694)
Total Nonoperating Revenues (Expenses)	**1,538,610**	**(114,557)**	**1,424,053**
Income Before Contributions and Transfers	743,397	228,908	972,305
Transfers Out—Payment in Lieu of Taxes	(856,376)	0	(856,376)

FINANCIAL STATEMENTS

STATEMENT OF KILOWATT HOUR SALES, LIGHT DIVISION
DECEMBER 31, 2006 AND 2005 (UNAUDITED)

Rate Classification	2006	2005
KILOWATTS		
Residential Sales	110,941,494	116,620,944
Commercial Sales	227,060,465	238,894,269
Industrial Sales	30,203,016	28,806,500
Municipal Sales	10,397,545	14,085,991
Area Lighting	856,229	823,812
Sales to Other Utilities	10,269,914	1,367,295
Total Sales Killowatt Hour Sales	**383,892,844**	**400,598,811**
REVENUE		
Residential Sales	$14,502,943	$12,136,241
Commercial Sales	32,488,731	27,497,568
Industrial Sales	3,947,604	3,020,663
Municipal Sales	1,727,690	1,608,427
Area Lighting	98,105	96,442
Sales To Other Utilities	495,556	580,350
Total Sales Kilowatt Hour Dollars	**$53,260,629**	**$44,939,691**

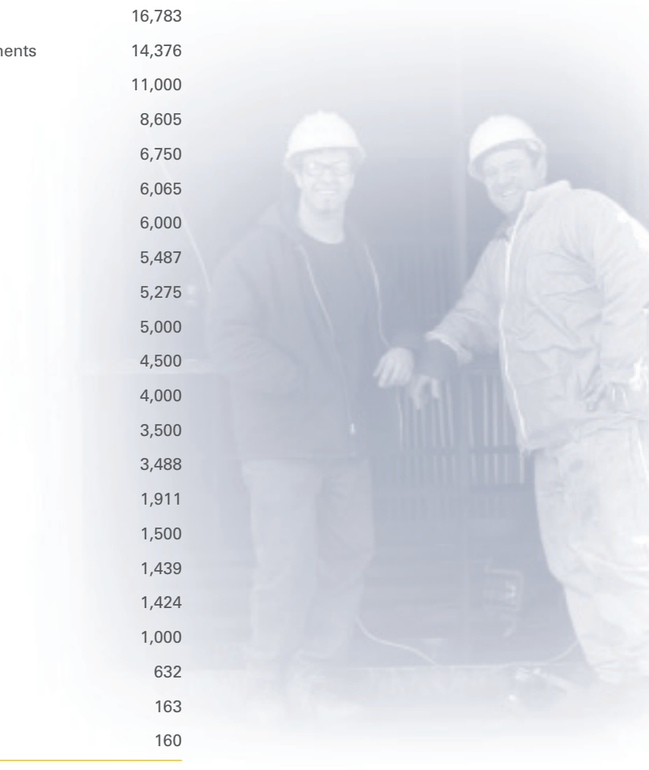
Excludes unbilled revenue

Notes to financial statements: December 31, 2006

- The general laws of the Commonwealth of Massachusetts under Chapter 164 require "utility plant in service" to be depreciated using a 3% rate. Approval must be given by the Department of Telecommunications and Energy before the rate can be changed. Rates used in depreciating "utility plant in service" are based on financial factors relating to cash flow for plant expansion, rather than engineering factors relating to estimates of useful life.
- BELD adopted the provisions of Governmental Accounting Standards Board (GASB) Statements No. 34, Basic Financial Statements—and Management's Discussion and Analysis—for State and Local Governments, in 2002.
- Braintree Electric Light Department operates in two divisions: the municipal Electric Division and the Broadband Division. The Electric Division generates, purchases and distributes electricity to residents of the town. The Broadband Division provides Internet, cable television and digital phone services to residents of the town. Because BELD is owned by the town and not by investors, our net profit is returned to our customers in the way of stable rates, better service and increased assets.
- The financial results presented for 2006 are unaudited.

CONTRIBUTIONS TO THE COMMUNITY DURING 2006

Streetlight savings to town due to contract	$172,700
Network switches for the schools	40,000
Police Station MIS work	35,000
BELD engineering work	20,089
Fiber-optic cable splicing for Fire Department and Library	16,783
Donations to nonprofits/ Broadband services for town departments	14,376
Neighborhood Link website	11,000
General work by electricians	8,605
Global Positioning System (GPS) work	6,750
Traffic signal maintenance by BELD	6,065
Braintree Re-leaf program (tree planting)	6,000
Replacement of banners in South Braintree Square	5,487
General work for School Department (communications)	5,275
MIS network changes at Fire Department	5,000
MIS network changes at Council on Aging	4,500
MIS network setup for Police substation at South Shore Plaza	4,000
GIS (Geographic Information System)	3,500
Install four new poles and lights at Braintree High School	3,488
Repair to damaged secondary service (Heritage Lane)	1,911
Electrical safety education for the schools	1,500
General work for Highway Department	1,439
Traffic signal maintenance by outside vendor	1,424
Scholarships	1,000
Wiring for Police Department office	632
General work for Parks Department	163
Set-up for July 4th Celebration	160
	$376,847
Payment in Lieu of Taxes	856,376
Grand Total	**$1,233,223**



Unlike private power companies, public power utilities do not serve stockholders. Instead their mission is to serve their customers. They measure success by how much money stays within the community through low rates and contributions to the town budget. BELD continued its practice of contributing many additional services to the Town of Braintree during 2006. Some of those services and their approximate values are listed above.

BRAINTREE ELECTRIC LIGHT DEPARTMENT

Managers and Board

BELD General Managers

1892-1895	Thomas A. Watson
1895-1902	Ansel O. Clark
1903-1911	Daniel Potter
1911-1939	Fred B. Lawrence
1939-1954	Ernest T. Fulton
1954-1977	Alban G. Spurrell
1977-1985	Donald H. Newton
1985-2002	Walter R. McGrath
2003-present	William G. Bottiggi

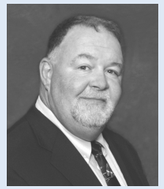
Braintree Municipal Light Board
Established 1909

1909-1956	Norton P. Potter
1909-1938	Alexander Carson
1909-1925	Charles T. Crane
1925-1936	Charles G. Jordan
1936-1954	Frank P. Lloyd
1938-1957	Shelley A. Neal
1954-1955	Ernest T. Fulton
1955-1980	Carl W. R. Johnson
1956-1960	James H. Dignan
1957-1983	Walter J. Hansen
1960-1961	Raymond A. Nagle
1961-1967	Ernest S. Reynolds
1967-1968	Gordon E. Trask
1968-1974	William J. Dignan
1974-1977	Anthony J. Mollica
1977-1983	Dennis M. Corvi
1980-1981	Guy F. Luke
1981-1982	Joseph W. Aiello
1982-2006	Guy F. Luke
1983-1989	Michael J. Joyce
1984-1993	Joseph W. Aiello
1989-1995	James E. Wentworth
1993-1999	James M. Casey
1995-1995	Paul E. Caruso
1995-2004	Darrin M. McAuliffe
1999-present	Thomas J. Reynolds
2004-present	Anthony L. Agnitti
2006-present	James P. Regan

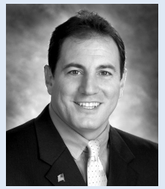
2006 Employees

Ellen M. Anderson
William J. Antonellis
Robert H. Beatson, Jr.
Timothy J. Bedard
Dorian L. Belfort
Philip J. Berardinelli
Patricia A. Boddie
Karen Bonatti
William G. Bottiggi
Stephen E. Buker
Richard J. Campbell
Francis C. Catarius
Gwen R. Chiappini
Thomas F. Chisholm
Donna Clapp
Maryann L. Cody
Gail J. Cohen
Mary L. Comlin
Nancy J. Cox
Charles Coyne, Jr.
Kevin P. Crawford
Michelle A. Crosby
Denise R. Crowley
Ann M. Curran
John E. Currie
Barbara A. Curtin
Gregory F. Cusack
Charles F. Dibble
Matthew W. Doren
Peter G. Dunlea
John F. Feeney, Jr.
Teresa Fico
Allan M. Fitzsimmons
James M. Flaherty
Gregory J. Flynn
Michael J. Ford
Robert Forde
Peter M. Gomez
Arthur M. Graziano
Richard W. Grey
Richard A. Hall
Scott D. Henderson
Robert M. Henriksen
Daniel M. Heraty
John J. Herlihy
Donald L. Hetherington
Mary M. Hobart
Sherilee Hoey
Marie J. Horgan
Robert R. Huntington
Marie E. Hynes
Joseph L. Kelly
Kevin P. Kiley
John W. Kirkland
Mary Ky
Weijun Li
Roger A. Lothrop
Kevin M. Lyons
Steven W. Lyons
Kenneth A. MacDonald
Christopher B. Malatesta
Brett L. Markham
Joan A. Marson
Edward A. McCroken
Brett L. McGrath
John F. McKinley
Sean E. McLaughlin
Carol J. Morley
H. Joseph Morley
Mildred J. Mulvaney
Sean E. Murphy
Cindy Nascarella
Donna M. Needham
John-Erik J. Nelson
Joseph M. O'Brien
Thomas M. O'Connor
Donna O'Keefe
James D. Okerfelt
John H. Orpen
Brian M. Ostiguy
Gail A. O'Sullivan
Christopher A. Parker
John B. Perry
Mary Jane M. Piasecki
John H. Price
James B. Ritchie, Jr.
Arthur J. Roberts
Richard C. Sandstrom
Michael D. Sardano
Robert J. Sargent
Donna L. Sellgren
Easton G. Shakespeare
Jennifer E. Shawles
Marianne Singer
Ruth M. Slater
James E. Smith, III
John G. Spada
Jeffrey P. Spencer
JoAnn M. Stak Bregnard
Kathleen O. Steele
Robert W. Stewart
Kenneth E. Stone
Stephen P. Tatro
Raymond L. Taylor
Jason P. Tedeschi
Rose R. Teele
David Tetreault
Christopher C. Thoener
Ralph B. Toye
Bruce W. Turner
Yvonne V. Twitty
Daniel T. Uhlman
Jack N. Walker
Susan A. Wentworth
Kevin G. Wiles
Bruce M. Williams

Braintree Municipal Light Board



Thomas J. Reynolds, Chairman



Anthony L. Agnitti, Vice Chairman

James P. Regan, Secretary

Braintree Electric Light Department (BELD) is a public power utility—one of over 2,000 in the country. Operated as a not-for-profit public service, BELD is overseen by a publicly elected Municipal Light Board. Braintree residents are not only consumers, but owners as well—with a role in deciding how BELD will be operated. We appreciate the support you've given the Light Board and BELD's management and staff as we've worked together over the past year to serve the Town of Braintree.

The BELD Overhaul Team

Joe Antonellis
Bob Beatson
Tim Bedard
Dorian Belfort
Pat Boddie
Steve Buker
Rich Campbell
Tom Chisholm
Chuck Coyne
Kevin Crawford
John Currie
Greg Cusack
Matt Doren
Pete Dunlea
Jim Flaherty
Greg Flynn
Rob Forde
Pete Gomez
Dick Hall
Dan Heraty
John Herlihy
Don Hetherington
Weijun Li
Kevin Lyons
Brett McGrath
Jay McKinley
Carol Morley
Joe Morley
Sean Murphy
John Nelson
Tom O'Connor
Jim Okerfelt
Brian Ostiguy
John Perry
John Price
Mike Sardano
Donna Sellgren
Easton Shakespeare
John Spada
Jeff Spencer
Dave Tetreault
Ralph Toye
Bruce Turner
Dan Uhlman
Jack Walker
Bruce Williams

A special thank you to John-Erik Nelson and Kevin Crawford for their considerable contributions to this annual report.

BELD
BRAINTREE ELECTRIC LIGHT DEPARTMENT

150 Potter Road • Braintree, MA 02184
www.beld.com