#### BERMUDA ELECTRIC LIGHT COMPANY LIMITED

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PLEASE QUOTE OUR REF.

September 12, 2016

The Energy Commission c/o The Ministry of Energy, Telecommunications and E-Commerce PO Box HM 101 Hamilton, HM AX

Attention: Mr. Michael Leverock, Chairman

#### **TARIFF FILING**

Dear Mr. Leverock,

This is to advise you that we wish to make the following changes to the fuel adjustment rate ("FAR") and Commercial renewable system excess energy rate ("CRSEER"):

- 1. FAR Decrease from the existing rate of 10.50 cents per kilowatt-hour sold for September 2016 to 10.20 cents per kilowatt-hour sold for October 2016; and
- 2. CRSEER Decrease from 15.48 cents per kilowatt-hour for September 2016 to 15.05 cents per kilowatt-hour for all meters read during the month of October 2016.

The CRSEER represents the rate BELCO will pay commercial owners for excess energy they have generated but not consumed and have exported to BELCO.

As directed by the Energy Commission in accordance with Schedule 1 Paragraph 16 of the Energy Act 2009, our submission in support of this request is attached for your review.

The actual fuel adjustment cost recovery position as at 31st August, 2016 was \$737,636 under recovered as compared to the projected \$1,748,122 under recovery position projected in July. The \$1,010,486 favorable variance is due to:

- The total actual barrels of fuel consumed in August were 12,877 barrels lower than projected, resulting in a positive impact on the recovery position of \$831,806;
- Net price variance <u>negatively</u> impacted the recovery position by \$1,555;
- Actual August electric sales were 2,737,560 KWH's higher than projected. This variance resulted in a net
   positive impact on the fuel recovery position of \$203,723; and
- Fuel interest finance cost incurred in August <u>negatively</u> impacted the recovery position by \$23,488.

As always, we are available to meet with the Energy Commission to discuss our FAR submission. We will continue to monitor our projections to ensure that our submitted FAR requests enable us to achieve a break-even position on fuel costs. Should you have any questions concerning the above, please do not hesitate to contact us.

Yours sincerely,

BERMUDA ELECTRIC LIGHT COMPANY LIMITED

David Faries, CPA, CA, JP

Vice President, Finance & Group Controller



## Bermuda Electric Light Company Limited

Fuel Adjustment Submission

## FOR PUBLIC DISCLOSURE

October 2016

This information is provided to the Bermuda Energy Commission as directed by them on December 30, 2013, in accordance with Schedule 1, Paragraph 16 of the Bermuda Energy Act 2009. This information should be read in conjunction with documents filed by Ascendant Group Limited with the Bermuda Stock Exchange. Please refer to the Company's website at <a href="https://www.belco.bm">www.belco.bm</a> for further information describing Bermuda Electric Light Company Limited. In accordance with Part 4, Paragraph 26A Clause (1)(c)(i) of the Bermuda Energy Act 2009, certain information provided to the Bermuda Energy Commission has been designated as confidential on the grounds that it could result in material financial loss or gain to any person and therefore has been excluded.



# Fuel Adjustment Submission

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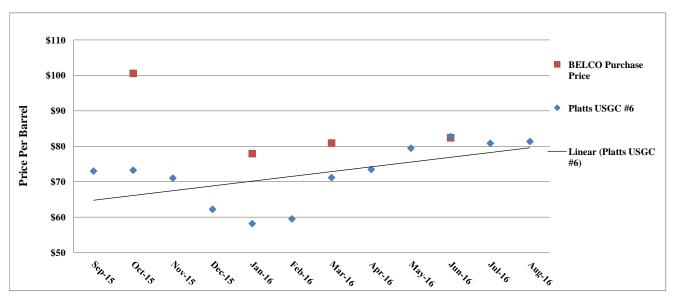


### **Heavy Fuel Oil Purchased**

#### Versus

#### Platt's U.S. Gulf Coast Waterborne mid-No. 6, 3% Sulfur Heavy Fuel Oil

#### **Previous Twelve Months**

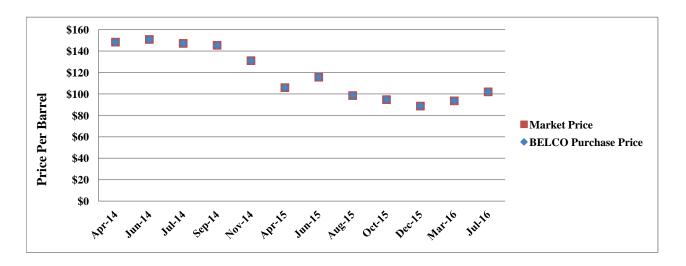


N.B. In accordance with the Fuel Supply Agreement for Platt's U.S. Gulf Coast Waterborne mid-No. 6, 3% Sulfur Heavy Fuel Oil between BELCO and Shell Western Trading Limited, the contracted price is stipulated as the 30-day average for Platt's U.S. Gulf Coast Waterborne mid-No. 6, 3% Sulfur Heavy Fuel Oil.



#### **Diesel Fuel Oil Purchased**

#### **Previous Twelve Months**



N.B. In accordance with the Fuel Supply Agreement for No. 2 Diesel Oil between BELCO and Coral Petroleum Company Limited, the contracted price is stipulated as the Platt's U.S. Gulf Coast Waterborne mid Ultra Low Sulfur Diesel, 3-day average center Bill of Lading Date which is the date the fuel is loaded on to the vessel. As BELCO does not enter into forward contracts for the supply of diesel fuel, the price BELCO pays is equal to the Platt's price.

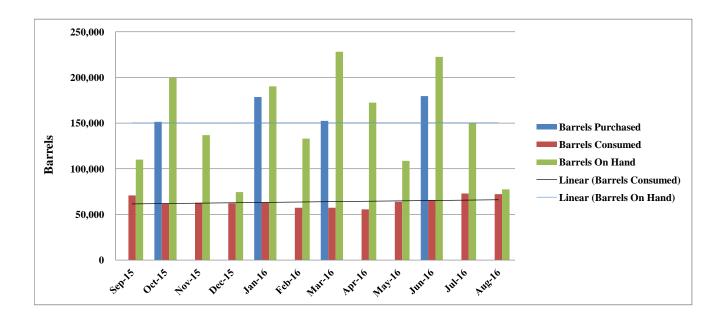


# **Heavy Fuel Oil Inventory Activity**

Date	<b>Barrels Purchased</b>	<b>Barrels Consumed</b>	<b>Barrels On Hand</b>
September, 2015	-	70,852.00	110,070.83
October, 2015	151,329.70	61,874.55	199,525.98
November, 2015	-	62,737.00	136,788.98
December, 2015	-	62,251.00	74,553.17
January, 2016	178,534.67	62,874.00	190,213.84
February, 2016	-	57,254.00	132,959.84
March, 2016	152,460.51	57,382.00	228,038.35
April, 2016	-	55,652.00	172,386.35
May, 2016	-	63,805.00	108,581.35
June, 2016	179,621.88	65,692.00	222,511.23
July, 2016	-	72,880.00	149,631.23
August, 2016	-	72,216.00	77,415.23



### **Graph of Heavy Fuel Oil Inventory Activity**



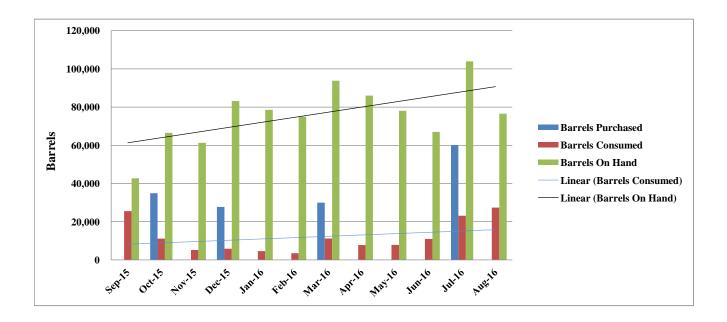


# **Diesel Fuel Oil Inventory Activity**

Date	<b>Barrels Purchased</b>	<b>Barrels Consumed</b>	<b>Barrels On Hand</b>
September, 2015	-	25,552.00	42,724.84
October, 2015	34,952.60	11,171.00	66,506.44
November, 2015	-	5,216.00	61,290.44
December, 2015	27,725.60	5,874.00	83,142.70
January, 2016	-	4,594.07	78,548.63
February, 2016	-	3,566.00	74,982.63
March, 2016	30,023.88	11,234.65	93,771.86
April, 2016	-	7,806.00	85,965.86
May, 2016	-	7,934.26	78,031.60
June, 2016	-	11,012.69	67,018.91
July, 2016	60,013.52	23,110.99	103,921.44
August, 2016	-	27,414.40	76,507.04



### **Graph of Diesel Fuel Oil Inventory Activity**





## **Heavy Fuel Oil Costs Per Shipment**

In accordance with Part 4, Paragraph 26A Clause (1)(c)(i) of the Bermuda Energy Act 2009, certain information provided to the Bermuda Energy Commission has been designated as confidential on the grounds that it could result in material financial loss or gain to any person and therefore has been excluded.



## **Diesel Fuel Oil Costs Per Shipment**

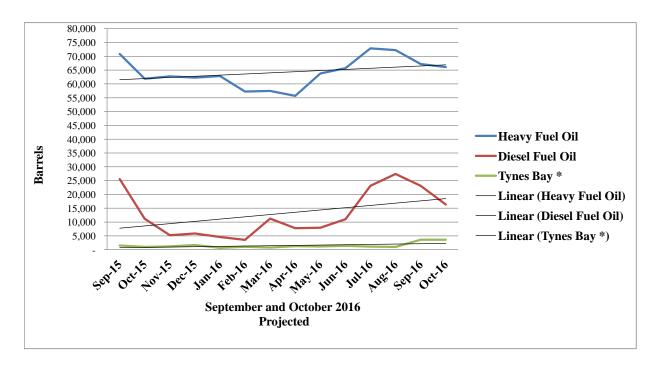
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#### **Barrels of Fuel Consumed**

#### **Previous Twelve Months**

#### **Plus Two Month Forward Projection**



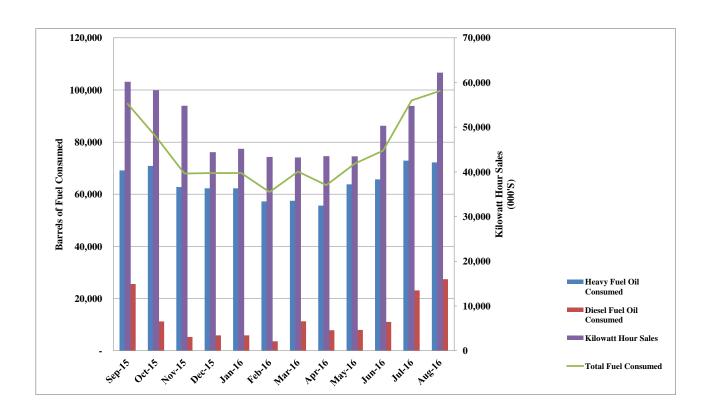
<sup>\*</sup> BELCO calculates an efficiency rating for its generators on a monthly basis. This is calculated as the estimated kilowatt hours that will be generated that month divided by the estimated number of barrels of fuel that will be used. Therefore, the equivalent barrels of fuel is calculated for Tynes Bay as the amount of kilowatt hours delivered by Tynes Bay to BELCO divided by this budgeted efficiency rating.



#### **Fuel Consumption**

#### Versus

#### **Kilowatt Hour Sales**

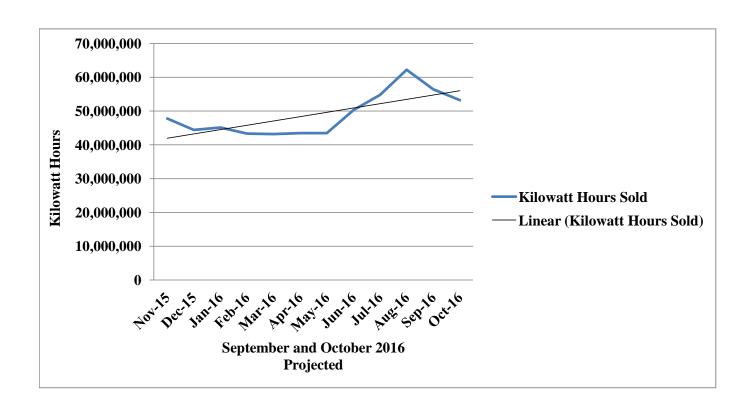




### **Kilowatt Hour Sales**

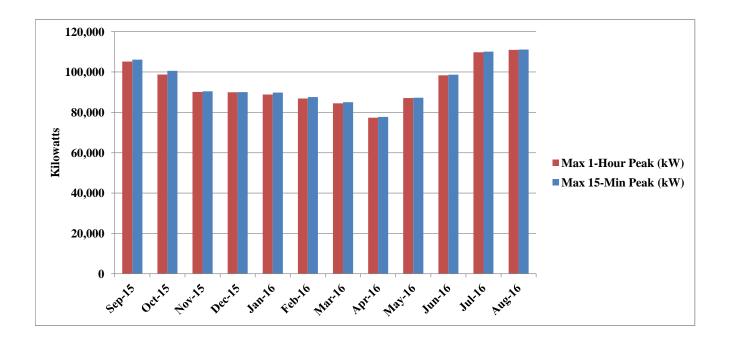
### **Previous Twelve Months**

### **Plus Two Month Forward Projection**





## **Maximum 15-Minute & Hourly Peak Kilowatt Hour Demand**

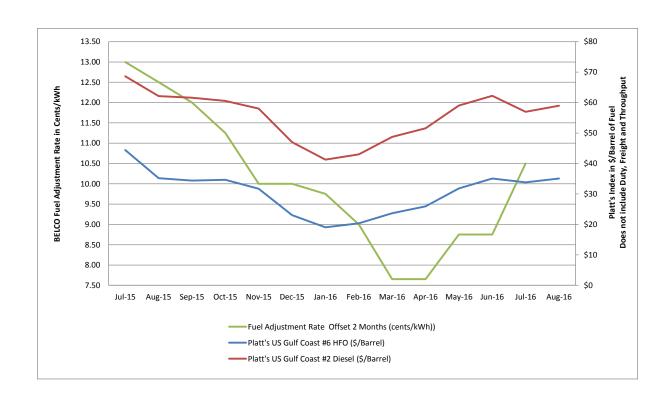




### **Fuel Adjustment Rate**

#### Versus

#### Platt's Indices for Heavy and Diesel Fuel Oils





## Fuel Adjustment Over / (Under) Recovery

## For the Month Ended 31st August 2016

Opening Balance at 1 August 2016	\$	\$	\$ (569,024)
Fuel Consumption			(30),024)
Diesel -13,884.04 @ \$94.9818	1,318,731		
Diesel -13,530.36 @ \$93.5711	1,266,051	1.762.250	
Less: Fuel Consumption @ \$30/bbl	(822,432)	1,762,350	
Heavy - 9.35 bbls @ \$89.7091	839		
Heavy - 30,000 bbls @ \$83.3233	2,499,699		
Heavy - 30,000 bbls @ \$78.7163	2,361,490		
Heavy - 12,206.65 bbls @ \$82.1192	1,002,400		
Less: Fuel Consumption @ \$30/bbl	(2,166,480)	3,697,948	
Tynes Bay - 667,416 kWh @ \$0.185	123,472		
Less: (667,416 kWh /666.1) 1,001.98 bbls @ \$30/bbl	(30,059)	93,413	
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		5,553,711	
Deduct: Fuel Adjustment Revenue			
August over / (under) recovery	_	5,408,587	(145 124)
August over / (under) recovery			(145,124)
Interest Expense			(23,488)
Ending Balance at 31 August 2016			(737,636)



## **Fuel Consumption Projections**

## **Forward Three Months**

			Amount	Total	FADJ (less
<b>Shipment Date</b>	Type	Hedged	(Barrels)	Cost/Barrel	\$30/bbl)
June 2016	Heavy	No	77,415.23	82.1192	52.1192
September 2016	Heavy	Yes	30,000.00	87.6791	57.6791
September 2016	Heavy	Yes	30,000.00	85.0466	55.0466
September 2016	Heavy	Yes	30,000.00	80.9460	50.9460
September 2016	Heavy	No	60,000.00	87.4766	57.4766
March 16	Diesel	No	16,493.52	93.5711	63.5711
July 16	Diesel	No	60,013.52	101.9777	71.9777



## Fuel Adjustment Over/(Under) Recovery Projections

## At Existing Fuel Adjustment Rate

### **Three Months Forward**

		Ove	r (Under) Recove	ery account as at	end of	previous month:	\$ (737,636)
Projected kWh							
Sales -							
September 2016	56,427,246		FADJ	10.5	\$	5,924,861	
Projected fuel							
consumed		Shipment Date	Barrels	FADJ Cost/Bar		Total Cost	
	Diesel	March 2016	16,494		.57) \$		
	Diesel	July 2016	6,626		.98) \$		
	Heavy	June 2016	67,212		.12) \$		
	Tynes Bay	N/A	3,638	\$ (95	.21) \$	(346,395.06)	
	<b>Total Barrels</b>		93,970				549,960
		Projected	Over (Under) R	ecovery account a	as at er	nd of this month:	(187,676)
Projected kWh							
Sales - October							
2016	53,233,173		FADJ	10.5	\$	5,589,483	
Projected fuel							
consumed		<b>Shipment Date</b>	Barrels	FADJ Cost/Bar		Total Cost	
	Diesel	July 2016	16,340		.98) \$		
	Heavy	June 2016	10,203		.12) \$	. , ,	
	Heavy	September 2016	30,000		.68) \$	( ) / /	
	Heavy	September 2016	25,883	·	.05) \$		
	Tynes Bay	N/A	3,612	\$ (100	.83) \$	(364,210.83)	
	Total Barrels		86,038				362,241
		Projected	Over (Under) R	ecovery account a	as at er	nd of this month:	174,565
Projected kWh							
Sales - November							
2016	47,059,595		FADJ	10.5	\$	4,941,257	
Projected fuel							
consumed		Shipment Date	Barrels	FADJ Cost/Bar		Total Cost	
	Diesel	July 2016	13,767		.98) \$		
	Heavy	September 2016	4,117		.05) \$	. , ,	
	Heavy	September 2016	30,000		.95) \$	( ) / /	
	Heavy	September 2017	28,903	·	.48) \$		
	Tynes Bay	N/A	3,454	\$ (101	.89) \$	(351,922.17)	
	<b>Total Barrels</b>		80,241				182,166
		Projected	Over (Under) Re	ecovery account a	as at er	nd of this month:	356,731



### **Fuel Adjustment Over/(Under) Recovery Projections**

## At Requested Fuel Adjustment Rate

### **Three Months Forward**

	Over (Under) Recovery account as at end of previous month:							(737,636)
Projected kWh Sales - September 2016	56,427,246		FADJ	10.50	\$	5.924,861		
Projected fuel consumed	50,127,210	Shipment Date	Barrels	FADJ Cost/Barrel	Ψ	Total Cost		
consumed	Diesel	March 2016	16.494	\$ (63.57)	\$	(1,048,511.21)		
	Diesel	July 2016	6,626	. ()	<u> </u>	(476,958.79)		
	Heavy	June 2016	67.212	. ,	\$	(3,503,035.67)		
	Tynes Bay	N/A	3,638	. ,	\$	(346,395.06)		
	Total Barrels	1771	93,970	ψ (>3.21)	Ψ	(310,373.00)		549,960
		Proiec		) Recovery account a	s at	end of this month:		(187,676)
			(2	, <u>,</u>				(==:,5.0)
Projected kWh Sales - October 2016	52 022 172		FADJ	10.20	\$	5,429,784		
Projected fuel	53,233,173		FADJ	10.20	Þ	3,429,784		
consumed		Shipment Date	Barrels	FADJ Cost/Barrel		Total Cost		
	Diesel	July 2016	16,340	\$ (71.98)	\$	(1,176,115.62)		
	Heavy	June 2016	10,203	. ,	\$	(531,784.19)		
	Heavy	September 2016	30,000	. ,	_	(1,730,373.00)		
	Heavy	September 2016	25,883	\$ (55.05)	\$	(1,424,758.49)		
	Tynes Bay	N/A	3,612	\$ (100.83)	\$	(364,210.83)		
	Total Barrels		86,038					202,542
		Projec	cted Over (Under	Recovery account a	s at	end of this month:		14,866
	1							
Projected kWh Sales - November 2016	47,059,595		FADJ	10.20	\$	4.800,079		
Projected fuel consumed		Shipment Date	Barrels	FADJ Cost/Barrel		Total Cost		
	Diesel	July 2016	13,767	\$ (71.98)	\$	(990,917.00)		
	Heavy	September 2016	4,117	\$ (55.05)		(226,639.51)		
	Heavy	September 2016	30,000			(1,528,380.00)		
	Heavy	September 2017	28,903	\$ (57.48)	\$	(1,661,232.95)		
	Tynes Bay	N/A	3,454	\$ (101.89)	\$	(351,922.17)		
	Total Barrels		80,241			,		40,987
		Projec	ted Over (Under	) Recovery account a	s at (	end of this month:		55,853



### **Fuel Adjustment Over/(Under) Recovery Projections**

## **At Requested Fuel Adjustment Rate - Full Cost**

### **Three Months Forward**

		Pr	ojected Over (Un	der) Recovery accoun	nt as at end of August:	\$ (187,676)	
Projected kWh Sales - October 2016	53,233,173		FADJ	15.05	\$ 8,011,593		
Projected fuel consumed		Shipment Date	Barrels	FADJ Cost/Barrel	Total Cost		
	Diesel	July 2016	16,340	\$ (101.98)	\$ (1,666,315.62)		
	Heavy	June 2016	10,203	\$ (82.12)	\$ (837,881.09)		
	Heavy	September 2016	30,000	\$ (87.68)	\$ (2,630,373.00)		
	Heavy	September 2016	25,883	\$ (85.05)	\$ (2,201,241.59)		
	Tynes Bay	N/A	3,612	\$ (130.83)	\$ (472,578.80)		
	Total Barrels		86,038			203,202	
		Projec	cted Over (Under	) Recovery account as	s at end of this month:	15,526	
Projected kWh Sales - November 2016	47,059,595		FADJ	15.33	\$ 7,214,236		
Projected fuel							
consumed		Shipment Date	Barrels	FADJ Cost/Barrel	Total Cost		
	Diesel	July 2016	13,767	\$ (101.98)	\$ (1,403,927.00)		
	Heavy	September 2016	4,117	\$ (85.05)	\$ (350,156.41)		
	Heavy	September 2016	30,000	\$ (80.95)	\$ (2,428,380.00)		
	Heavy	September 2017	28,903	\$ (87.48)	\$ (2,528,316.05)		
	Tynes Bay	N/A	3,454	\$ (131.89)	\$ (455,544.00)		
	Total Barrels		80,241			47,912	
	Projected Over (Under) Recovery account as at end of this month:						



## **Generators Available for Service**

## August 2016

Generator	Available	Type of fuel Consumed	Barrels of Fuel Consumed	Efficiency Rating*
E1	Yes	HFO	10409	685
E2	Yes	HFO	10589	674
E3	Yes	HFO	8224	701
E4	Yes	HFO	6813	700
E5	Yes	HFO	11628	689
E6	Yes	HFO	10387	700
E7	Yes	HFO	5839	720
E8	Yes	HFO	11810	733
D3	Yes	LFO	5517	603
D8	Yes	LFO	3566	617
D10	Yes	LFO	5765	611
D14	Yes	LFO	2988	575
GT4	Yes	LFO	864	266
GT5	Yes	LFO	6853	430
GT6	Yes	LFO	992	450
GT7	Yes	LFO	936	453
GT8	Yes	LFO	529	442

<sup>\*</sup> Efficiency Rating = Amount of kilowatt hours generated per barrel consumed



## **Generators Out of Service**

## August 2016

Unit	Category	Туре			Return Date
GT5	Main Engine	FO (Immediate)	unit tripped due to fuel starvation	08/30/16	08/30/16
D14	Main Engine	FO (Start-Up Fai	Lub oil priming pump failed to start	08/27/16	08/27/16
D14	Auxilary Systems	MO	nit out to repair leak to JCW Vent Line 0.		08/24/16
E1	Auxilary Systems	MO	Southern Injector return line cracked, to replace	08/24/16	08/24/16
E8	Electrical System	FO (Immediate)	Low voltage to Governor alarm.	08/23/16	08/23/16
D8	Main Engine	FO (Immediate)	Surging T/C inspection to be conducted by MMD- Changed to 18K hr overhaul	08/22/16	09/01/16
E5	Main Engine	FO (Immediate)	E5 Cyl 6 RHS isolation cock leaking	08/21/16	08/21/16
E7	Main Engine	MO		08/20/16	08/20/16
E2	Auxilary Systems	FO (Immediate)	E2 cam shaft duplex equalization valve failed	08/20/16	08/20/16
E2	Auxilary Systems	FO (Immediate)	Cyl #1 lubricator box float on filling valve stuck closed.	08/20/16	08/20/16
E4	Auxilary Systems	FO (Immediate)	Unit tripped on low HTCW pressure. Suspect that system was water logged.	08/20/16	08/20/16
E5	Main Engine	MO	Unit out for tappets adjustment and to change indicator cocks.	08/19/16	08/19/16
E4	Main Engine	FO (Immediate)	E4 htcw outlet bellows	08/19/16	08/19/16
D14	Main Engine	MO	Fuel pump and injector replacement	08/18/16	08/19/16
D8	Electrical System	MO	Unit out to facilitate Grid Operations work on the switch gear cable box.	08/17/16	08/18/16
D14	Auxilary Systems	MO	Unit out to change out L/o filters	08/16/16	08/16/16
E1	Auxilary Systems	МО	Both sides of the cold fuel oil filters were dirty and the change over cock could not be operated correctly. Unit had to be stopped to isolate and clean both filters.	08/16/16	08/17/16
E4	Main Engine	MO	Unit out to change fuel oil rail seals.	08/14/16	08/14/16
E5	Auxilary Systems	FO (Immediate)	Crack on fuel oil pipe at cylinder 1B.	08/13/16	08/13/16
D8	Main Engine	МО	Governor change, OMD calibration, LHS turnbuckle replacement, water washing radiator fan bundles	08/13/16	08/13/16
GT5	Main Engine	MO	Unit out to replace gaskets on combustion chamber sight glasses.	08/13/16	08/13/16
E8	Main Engine	MO	fuel leaks on B bank cylinders 2, 3, 4 & 6.	08/12/16	08/12/16
D14	Auxilary Systems	МО	Unit out to replace gaskets and o rings on Cy #10 JCW transition elbow from cylinder liner to head.	08/12/16	08/12/16
E4	Auxilary Systems	FO (Immediate)	Outer isolation cock on cylinder 7R, seal failed.	08/12/16	08/13/16
E4	Main Engine	FO (Postpone)	fuel leak repairs	08/11/16	08/12/16

GT6	Main Engine	MO	Unit out to replace air intake filters	08/10/16	08/10/16
GT7	Main Engine	MO	Air inlet filters to be replaced	08/09/16	08/09/16
GT8	Main Engine	MO	GT8 filter and fuel oil differential pressure transmitter replacement	08/08/16	08/08/16
E4	Main Engine	FO (Postpone)	fuel leak on cylinder 8R repaired by MMD standby	08/08/16	08/09/16
E3	Main Engine	MO	E3 out for l.o. auto filters	08/07/16	08/07/16
E4	Instrumentation & Control System	MO	E4 Cyl 7 LHS replacement	08/07/16	08/08/16
E5	Main Engine	FO (Immediate)	fuel leak on 1B	08/05/16	08/05/16
E2	Main Engine	FO (Immediate)	Low exhaust gas temperature and knocking noise from cylinder #3.	08/04/16	08/05/16
E1	Main Engine	FO (Immediate)	cylinder #5 exhaust valve failure	08/03/16	08/04/16
E5	Main Engine	FO (Immediate)	cylinder #3A high exhaust temperature	08/01/16	08/02/16



## **Scheduled Generator Maintenance**

## September 2016

Generator	Maintenance Type	Outage Date	Return Date
E4	13.5K	8/28/2016	9/21/2016
E1	9K	9/22/2016	10/6/2016



#### Other Events Affecting the Fuel Adjustment Rate

- Details of any insurance claims submitted by BELCO which directly impact the Fuel Adjustment Rate.
   No insured losses have been incured by BELCO during the filing period that would result in a potential insurance claim.
- Any major events that have a direct impact on the Fuel Adjustment Rate.
   The increase in duty on fuel imports effective 1 April 2016 increases fuel adjustment rates.
- Changes in Debt Facilities Affecting the Fuel Adjustment Rate.
   The overdraft facility has been renewed until 28 February 2017 at a reduced level of \$18 million.
- Change in the Discount calculated on customer invoices
   Starting in July 2016 the early payment discount offered to customers will no longer be calculated on the fuel adjustment.