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March 9, 2023

Ms. Luly Massaro, Clerk  
Rhode Island Public Utilities Commission  
89 Jefferson Boulevard  
Warwick, RI 02888

**Re: *Docket No. 22-47-WW- The Narragansett Bay Commission  
General Rate Filing***

Dear Ms. Massaro:

Enclosed please find an original and nine copies of the following:

1. The Narragansett Bay Commission's Response to the Rhode Island Division of Public Utilities and Carrier's Data Requests (Set Four).

Please note that an electronic copy of this document has been provided to the service list.  
Thank you for your attention to this matter.

Sincerely,



Joseph A. Keough, Jr.

JAK/kf

cc: Docket 22-47-WW Service List (*via electronic mail*)

**DIV 4-1.** Please provide Excel files for each of the following items:

- a. DIV 2-1
- b. DIV 2-2
- c. DIV 2-3
- d. DIV 2-5
- e. DIV 2-6
- f. DIV 2-7 all tables
- g. DIV 2-8
- h. DIV 2-11
- i. PUC 1-1

**Response:** See attachment DIV 4-1.

**Prepared by:** David M. Fox

**DIV 4-2.** When NBC provides responses to Division DR Set 3 that include tables and/or attachments that were prepared in Excel, please provide the related Excel files either in conjunction with NBC's Division DR Set 3 responses or in response to this request.

**Response:** NBC has provided all available excel files in response to Division DR Set 3.

**Prepared by:** David M. Fox

**DIV 4-3.** Refer to the response to DIV 2-8e.

- a. Explain the cyber breach that affected July and August 2022 billings for late fee charges.
- b. Has NBC forgone the revenue from late fee charges that would have been billed in July and August 2022 but apparently wasn't billed by NBC due to the cyber breach? If not, explain how NBC is billing for late fee charges for July and August 2022.
- c. Did the cyber breach listed in the response to DIV 2-8e affect any other NBC billings for any charges? If not, explain fully why not. If so, identify each charge besides late fee charges that was not billed for those months.

**\*Response:**

- a. NBC identified a data security incident on July 3, 2022, that involved the encryption of data on certain computers and systems in its network. The incident also inhibited access to the NBC's customer service and on-line bill payment systems, rendering the NBC unable to process payments. In response, the NBC immediately initiated its incident response plan, contacted law enforcement, and launched an investigation. The NBC resolved the situation, after which the NBC was able to bring its systems back on-line in a matter of hours
- b. Yes.
- c. The only billings affected by the incident were late fee charges.

**Prepared by:** James McCaughey and Leah Foster

\* Please note that NBC's response that referred to the cyber breach was DIV 2-9, not DIV 2-8.

- DIV 4-4.** Refer to the response to DIV 2-12c. Referring to the column “Test Year Filled FTE” which lists FTEs for each month July 2022 through June 2022:
- a. Refer to the column entitled “Fiscal Year.” Are the months accurately labeled in that column? If not, please provide accurate replacements.
  - b. Is the information listed in the above response for the months of January through June for January 2023 through June 2023? If not, explain why January 2022 follows December 2022.
  - c. Is the information listed in the above response for the months of July through December for January 2021 through December 2021?
  - d. How did NBC derive the “Average FTE” figure of 262 from the information shown in the “Test Year Filled FTE” column?

**Response:**

- a. The “22” next to each month referred to the Fiscal Year. Below is an updated table with a column showing the calendar year for each month for clarification.

FY 2022						
Fiscal Year	Calendar Date	Budget FTE	Test Year		Termination	
			Filled FTE	Unfilled FTE		
Jul-22	Jul-21	297	264	33	5	
Aug-22	Aug-21	297	265	32	1	
Sep-22	Sep-21	297	264	33	3	
Oct-22	Oct-21	297	263	34	5	
Nov-22	Nov-21	297	263	34	2	
Dec-22	Dec-21	297	267	30	2	
Jan-22	Jan-22	297	265	32	5	
Feb-22	Feb-22	297	263	34	4	
Mar-22	Mar-22	297	263	34	4	
Apr-22	Apr-22	297	266	31	3	
May-22	May-22	297	264	33	5	
Jun-22	Jun-22	297	262	35	3	
Revised Average FTE			264		42	
				Terminations	42 =	15.90%
				Average FTE	264	

- b. Please see the response to subsection a. above.
- c. See answers a. and b. above.
- d. The average FTE for the test year should be 264 and not 262. The corrected average FTE is set forth in the chart above, which also changes the turnover calculation slightly.

**Prepared by:** Leah Foster

**DIV 4-5.** Refer to NBC's response to PUC 1-2. Refer to the Spending Forecast FY 2024. Please provide the detailed project information maintained by NBC for each of the following projects:

- a. #20700 - \$5,240,900, Long-Range Biosolids Disposal
- b. #20801 - \$1,959,500, Data Communications Ethernet Upgrade
- c. #81800 - \$1,819,900, BPWWTF Sludge Digestion Facility Improvements
- d. #91000 - \$1,635,000, Office and Building
- e. #40550 - \$1,103,400, NYDES Flow Monitoring System Implementation

**Response:**

- a. 20700 – Long-Range Biosolids Disposal - This project involves the evaluation, planning and development of a reliable long-term solution for the disposal of biosolids at the NBC's Field's Point and Bucklin Point WWTFs. This involves exploring the requirements and relative benefits of various alternatives and management practices. The study will evaluate the relative benefits of continuing with similar disposal practices on a long-term basis, as well as more capital-intensive options such as constructing new biosolids processing facilities.
- b. 20801 – Data Communications Ethernet Upgrade - The Field's Point WWTF uses multiple treatment technologies and complex process systems which are monitored and controlled by a computerized control system. There are reliability and performance challenges with the current control system's data communication network due to mixed model communication units and system components. This project involves implementation of an Ethernet based hybrid data control system upgrade. The project will integrate new hardware, software and other ancillary support services to upgrade the existing control system through use of Ethernet distributed control systems loop improvements.
- c. 81800 – BPWWTF Sludge Digestion Facility Improvements - This project involves miscellaneous improvements and upgrades to the treatment plant's digester complex to address aging infrastructure concerns. These improvements include the inspection and evaluation of primary and secondary digesters, piping systems and other process-related appurtenances, concrete and piping system repairs to address known problematic leakage concerns, and other related facility infrastructure improvement needs.
- d. 91000 – Office and Building - This project includes office renovations and reconfigurations to accommodate organizational changes and enhance productivity. This project also

includes the replacement of two roof-top air conditioning units and the roof of the Field's Point Primary Sludge Pumping Station.

- e. 40550 – RIPDES Flow Monitoring System Implementation - This project involves the replacement of existing flow monitoring equipment. In addition, the project will address capacity restriction points located throughout NBC's collection system through the purchase and installation of equipment to accurately monitor flow conditions and measurements in accordance with the RIPDES permit.

**Prepared by:** Michael Cook



DOCKET 22-47-WW  
The Narragansett Bay Commission’s Response  
To the Division of Public Utilities and Carriers  
Data Request  
Set 4


**DIV 4-6.** Refer to NBC’s response to PUC 1-2. Refer to the Restricted OCP, FY 2024 Budget (Proposed). Please provide the detailed project information maintained by NBC for each of the following projects:

Budget Account	Allocation	Asset Title	Approved Budget
16550	OC24-033-004	Conference Room Upgrades	25,000
16550	OC24-033-005	Computer Room Enhancements	25,000
16515	OC24-022-001	Vehicle 357	55,000
16515	OC24-022-002	Vehicle 343	45,000
16515	OC24-025-001	Wind Turbine Foundation	250,000
16595	OC24-025-002	GPS Rover	45,000
16595	OC24-025-003	Survey Equipment	25,000
16550	OC24-031-001	Financial Reporting Enhancements	75,000
16555	OC24-032-001	ERP Replacement	500,000
16555	OC24-034-001	CIS Enhancements	250,000
16515	OC24-034-002	Vehicle 335	38,000
16515	OC24-043-001	Vehicle 455	165,000
16515	OC24-043-002	Vehicle 338 w/Snow Plow and Sander	125,000
16525	OC24-046-007	Hypochlorite Tank Relining	110,000
16525	OC24-046-008	VFD Cells	100,000
16525	OC24-046-009	Blower Motor	80,000
16520	OC24-046-010	Godwin Pump	75,000
16515	OC24-046-011	Vehicle 389	65,000
16515	OC24-046-012	Vehicle 360	65,000
16525	OC24-046-013	Hydraulic Actuator	50,000
16515	OC24-046-014	Vehicle 406	45,000
16515	OC24-046-015	Vehicle 446	45,000
16525	OC24-046-016	Sludge Pump w/Motor	40,000
16525	OC24-046-017	Relays	40,000
16525	OC24-047-001	George Panel	400,000
16525	OC24-047-009	Muffin Monster Cutter Assembly	40,000
16525	OC24-047-010	Roots blower motor rebuild	35,000
16525	OC24-047-020	Equipment 0065	20,000
16515	OC24-047-021	30 Yard Container	18,000
16525	OC24-047-022	UPS Battery Backup	15,000
16575	OC24-053-005	Laboratory Refrigerators	27,000
16515	OC24-055-003	Vehicle 349	45,000

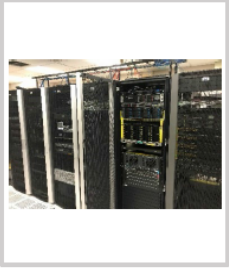
**Response:** Please see attachment 4-6.

**Prepared by:** Michael Cook


Asset Allocation No.	<b>OC24-033-004</b>		
Asset Title:	<b>Conference Room Upgrades</b>	Cost Center:	Information Technology
Asset Location:	Corporate Office Building	Amount:	\$ 25,000 Priority Ranking: C
Need identified:	<input type="checkbox"/> Asset Management	<input type="checkbox"/> Inspection	<input checked="" type="checkbox"/> Other
Asset Description:	Update technology to ensure user friendly.		
Budget Account:	16550 Computer Equipment		
Type:	NEW	Useful life:	3 Years
Original date in service:	N/A	Original estimated useful life:	5 Years



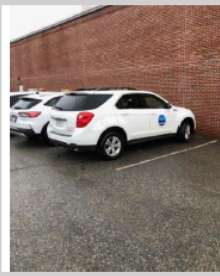
Asset Allocation No.	<b>OC24-033-005</b>		
Asset Title:	<b>Computer Room Enhancements</b>	Cost Center:	Information Technology
Asset Location:	Corporate Office Building	Amount:	\$ 25,000 Priority Ranking: C
Need identified:	<input type="checkbox"/> Asset Management	<input type="checkbox"/> Inspection	<input checked="" type="checkbox"/> Other
Asset Description:	New hardware for computer room to ensure reliability and efficiency.		
Budget Account:	16550 Computer Equipment		
Type:	NEW	Useful life:	3 Years
Original date in service:	N/A	Original estimated useful life:	3 Years




Asset Allocation No.	<b>OC24-022-001</b>		
Asset Title:	<b>Vehicle 357</b>	Cost Center:	Construction Services
Asset Location:	Field's Point	Amount:	\$ 55,000 Priority Ranking: B
Need identified:	<input type="checkbox"/> Asset Management	<input checked="" type="checkbox"/> Inspection	<input type="checkbox"/> Other
Asset Description:	Transport personnel to construction sites.		
Budget Account:	16515 Automotive Equipment Replacement		
Type:	REPLACEMENT	Useful life:	5 Years
Original date in service:	2012	Original estimated useful life:	10 Years



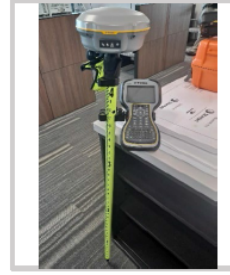
Asset Allocation No.	<b>OC24-022-002</b>		
Asset Title:	<b>Vehicle 343</b>	Cost Center:	Construction Services
Asset Location:	Field's Point	Amount:	\$ 45,000 Priority Ranking: B
Need identified:	<input type="checkbox"/> Asset Management	<input checked="" type="checkbox"/> Inspection	<input type="checkbox"/> Other
Asset Description:	Replacement of V 343.		
Budget Account:	16515 Automotive Equipment Replacement		
Type:	REPLACEMENT	Useful life:	10 Years
Original date in service:	2015	Original estimated useful life:	10 Years



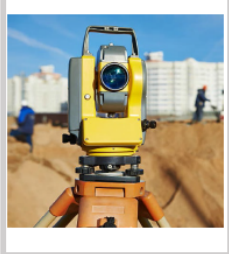
Asset Allocation No.	<b>OC24-025-001</b>		
Asset Title:	<b>Wind Turbine Foundation</b>	Cost Center:	Engineering
Asset Location:	Coventry	Amount:	##### Priority Ranking: A
Need identified:	<input type="checkbox"/> Asset Management	<input checked="" type="checkbox"/> Inspection	<input type="checkbox"/> Other
Asset Description:	Rehabilitation of wind turbine foundations due to design defect.		
Budget Account:	16615 Building & Other Structures Replacement		
Type:	BETTERMENT	Useful life:	10 Years
Original date in service:	N/A	Original estimated useful life:	20 Years



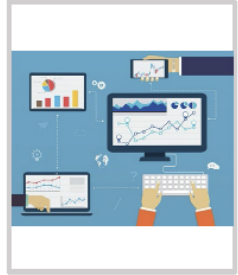
Asset Allocation No.	<b>OC24-025-002</b>		
Asset Title:	<b>GPS Rover</b>	Cost Center:	Engineering
Asset Location:	Corporate Office Building	Amount:	\$ 45,000 Priority Ranking: B
Need identified:	<input checked="" type="checkbox"/> Asset Management	<input checked="" type="checkbox"/> Inspection	<input type="checkbox"/> Other
Asset Description:	Locate, measure and incorporate NBC assets into various platforms.		
Budget Account:	16595 Other Equipment Replacment		
Type:	REPLACEMENT	Useful life:	7 Years
Original date in service:	2011	Original estimated useful life:	5 Years




Asset Allocation No.	<b>OC24-025-003</b>		
Asset Title:	<b>Survey Equipment</b>	Cost Center:	Engineering
Asset Location:	Corporate Office Building	Amount:	\$ 25,000 Priority Ranking: B
Need identified:	<input checked="" type="checkbox"/> Asset Management	<input checked="" type="checkbox"/> Inspection	<input type="checkbox"/> Other
Asset Description:	To locate, measure, and incorporate NBC assets into various platforms such as GIS, AutoCAD, and provide critical information for NBC projects and operations.		
Budget Account:	16595 Other Equipment Replacement		
Type:	REPLACEMENT	Useful life:	7 Years
Original date in service:	2017	Original estimated useful life:	5 Years




Asset Allocation No.	<b>OC24-031-001</b>		
Asset Title:	<b>Financial Budgeting Software</b>	Cost Center:	Finance
Asset Location:	Corporate Office Building 2nd Floor	Amount:	\$ 75,000 Priority Ranking: C
Need identified:	<input type="checkbox"/> Asset Management	<input type="checkbox"/> Inspection	<input checked="" type="checkbox"/> Other
Asset Description:	Financial Reporting enhancements.		
Budget Account:	16550 Computer Equipment		
Type:	NEW	Useful life:	3 Years
Original date in service:	N/A	Original estimated useful life:	5 Years



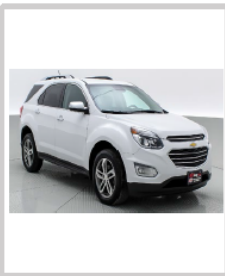
Asset Allocation No.	<b>OC24-032-001</b>		
Asset Title:	<b>ERP Replacement</b>	Cost Center:	Accounting
Asset Location:	Corporate Office Building	Amount:	\$500,000 Priority Ranking: B
Need identified:	<input type="checkbox"/> Asset Management	<input type="checkbox"/> Inspection	<input checked="" type="checkbox"/> Other
Asset Description:	Replace hosted ERP with Cloud based ERP		
Budget Account:	16555 Computer Equipment Replacement		
Type:	REPLACEMENT	Useful life:	5 Years
Original date in service:	2002	Original estimated useful life:	5 Years



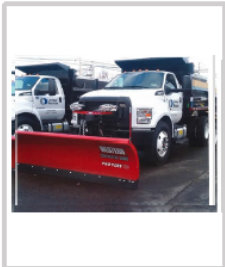
Asset Allocation No.	<b>OC24-034-001</b>		
Asset Title:	<b>CS System Cloud Migration</b>	Cost Center:	Customer Service
Asset Location:	Corporate Office Building	Amount:	\$250,000 Priority Ranking: A
Need identified:	<input type="checkbox"/> Asset Management	<input type="checkbox"/> Inspection	<input checked="" type="checkbox"/> Other
Asset Description:	CIS Enhancements to upgrade Customer Care to V5/Beta; Cloud and Customer Portal to the Cloud		
Budget Account:	16555 Computer Equipment Replacement		
Type:	REPLACEMENT	Useful life:	5 Years
Original date in service:	2019	Original estimated useful life:	5 Years




<b>Asset Allocation No.</b>		<b>OC24-034-002</b>	
<b>Asset Title:</b>	<b>Vehicle 335</b>	<b>Cost Center:</b>	Customer Service
<b>Asset Location:</b>	Customer site visits	<b>Amount:</b>	\$ 38,000 <b>Priority Ranking:</b> A
<b>Need identified:</b>	<input type="checkbox"/> Asset Management	<input checked="" type="checkbox"/> Inspection	<input type="checkbox"/> Other
<b>Asset Description:</b>	Customer site visits.		
<b>Budget Account:</b>	16515 Automotive Equipment Replacement		
<b>Type:</b>	REPLACEMENT	<b>Useful life:</b>	5 Years
<b>Original date in service:</b>	2016	<b>Original estimated useful life:</b>	9 Years



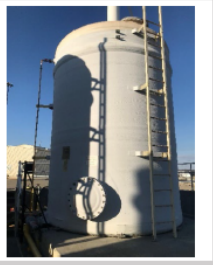
<b>Asset Allocation No.</b>		<b>OC24-043-001</b>	
<b>Asset Title:</b>	<b>Vehicle 455 5yd Dump Truck</b>	<b>Cost Center:</b>	Interceptor Maintenance
<b>Asset Location:</b>	Interceptor Maintenance Dept. Fleet	<b>Amount:</b>	\$165,000 <b>Priority Ranking:</b> A
<b>Need identified:</b>	<input checked="" type="checkbox"/> Asset Management	<input type="checkbox"/> Inspection	<input type="checkbox"/> Other
<b>Asset Description:</b>	Daily field work, construction projects, snow plowing/sanding.		
<b>Budget Account:</b>	16515 Automotive Equipment Replacement		
<b>Type:</b>	REPLACEMENT	<b>Useful life:</b>	5 Years
<b>Original date in service:</b>	2009	<b>Original estimated useful life:</b>	10 Years




<b>Asset Allocation No.</b>		<b>OC24-043-002</b>	
<b>Asset Title:</b>	<b>Vehicle 338 w/Snow Plow and Sander</b>	<b>Cost Center:</b>	Interceptor Maintenance
<b>Asset Location:</b>	Interceptor Maintenance Dept. Fleet	<b>Amount:</b>	\$125,000 <b>Priority Ranking:</b> A
<b>Need identified:</b>	<input checked="" type="checkbox"/> Asset Management	<input type="checkbox"/> Inspection	<input type="checkbox"/> Other
<b>Asset Description:</b>	Daily field work, construction projects, snow plowing/sanding.		
<b>Budget Account:</b>	16515 Automotive Equipment Replacement		
<b>Type:</b>	REPLACEMENT	<b>Useful life:</b>	5 Years
<b>Original date in service:</b>	2015	<b>Original estimated useful life:</b>	8 Years



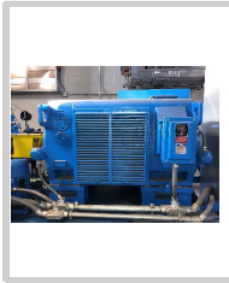
Asset Allocation No.	<b>OC24-046-007</b>		
Asset Title:	<b>Hypochlorite Tank Relining</b>	Cost Center:	Field's Point
Asset Location:	Field's Point Hypo Farm	Amount:	\$110,000
		Priority Ranking:	A
Need identified:	<input type="checkbox"/> Asset Management	<input checked="" type="checkbox"/> Inspection	<input type="checkbox"/> Other
Asset Description:	Hypochlorite Tanks used to store chemicals.		
Budget Account:	16525 Building and Plant Equipment Replacement		
Type:	BETTERMENT	Useful life:	5 Years
Original date in service:	1998	Original estimated useful life:	15 Years




Asset Allocation No.	<b>OC24-046-008</b>		
Asset Title:	<b>Variable Frequency Drive Cells</b>	Cost Center:	Field's Point
Asset Location:	Ernest Stree Pump Station	Amount:	\$100,000
		Priority Ranking:	A
Need identified:	<input type="checkbox"/> Asset Management	<input checked="" type="checkbox"/> Inspection	<input type="checkbox"/> Other
Asset Description:	These parts are going to be installed in MV SIEMENS VFDs at ESPS.		
Budget Account:	16525 Building and Plant Equipment Replacement		
Type:	REPLACEMENT	Useful life:	7 Years
Original date in service:	2010	Original estimated useful life:	5 Years



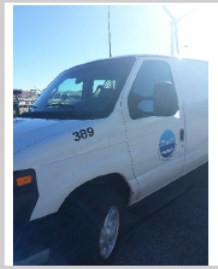
Asset Allocation No.	<b>OC24-046-009</b>		
Asset Title:	<b>Blower Motor</b>	Cost Center:	Field's Point
Asset Location:	Blower Building #2	Amount:	\$ 80,000
		Priority Ranking:	B
Need identified:	<input type="checkbox"/> Asset Management	<input checked="" type="checkbox"/> Inspection	<input type="checkbox"/> Other
Asset Description:	For Field's Point Blower Building 2		
Budget Account:	16525 Building and Plant Equipment Replacement		
Type:	REPLACEMENT	Useful life:	7 Years
Original date in service:	N/A	Original estimated useful life:	7 Years



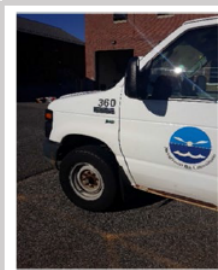
Asset Allocation No.	<b>OC24-046-010</b>		
Asset Title:	<b>Godwin Pump</b>	Cost Center:	Field's Point
Asset Location:	Fields Point Wastewater Treatment Facility	Amount:	\$ 75,000
		Priority Ranking:	B
Need identified:	<input type="checkbox"/> Asset Management	<input type="checkbox"/> Inspection	<input checked="" type="checkbox"/> Other
Asset Description:	Dewater clarifier tanks and channels when traditional pumping is unavailable.		
Budget Account:	16520 Building and Plant Equipment		
Type:	NEW	Useful life:	7 Years
Original date in service:	N/A	Original estimated useful life:	20 Years



Asset Allocation No.	<b>OC24-046-011</b>		
Asset Title:	<b>Vehicle 389</b>	Cost Center:	Field's Point
Asset Location:	Field's Point	Amount:	\$ 65,000
		Priority Ranking:	A
Need identified:	<input type="checkbox"/> Asset Management	<input checked="" type="checkbox"/> Inspection	<input type="checkbox"/> Other
Asset Description:	Instrumentation Van.		
Budget Account:	16515 Automotive Equipment Replacement		
Type:	REPLACEMENT	Useful life:	5 Years
Original date in service:	2008	Original estimated useful life:	10 Years




Asset Allocation No.	<b>OC24-046-012</b>		
Asset Title:	<b>Vehicle 360</b>	Cost Center:	Field's Point
Asset Location:	Field's Point	Amount:	\$ 65,000
		Priority Ranking:	A
Need identified:	<input type="checkbox"/> Asset Management	<input checked="" type="checkbox"/> Inspection	<input type="checkbox"/> Other
Asset Description:	Preventative Maintenance Van.		
Budget Account:	16515 Automotive Equipment Replacement		
Type:	REPLACEMENT	Useful life:	5 Years
Original date in service:	2012	Original estimated useful life:	10 Years

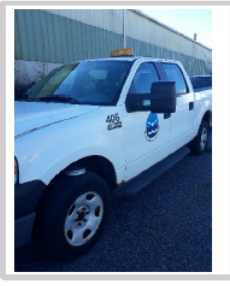




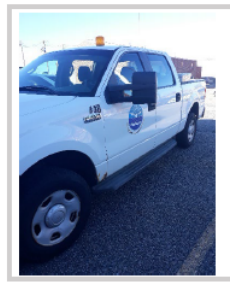
Asset Allocation No.	<b>OC24-046-013</b>		
Asset Title:	<b>Hydraulic Actuator</b>	Cost Center:	Field's Point
Asset Location:	G-5 Gate and Screening Structure	Amount:	\$ 50,000 Priority Ranking: A
Need identified:	<input type="checkbox"/> Asset Management	<input checked="" type="checkbox"/> Inspection	<input type="checkbox"/> Other
Asset Description:	Remove old electro-mechanical actuator and replace with hydraulic technology. This site is prone to flooding and electrical failures. Hydraulic actuators are resilient to these failures.		
Budget Account:	16525 Building and Plant Equipment Replacement		
Type:	REPLACEMENT	Useful life:	7 Years
Original date in service:	2007	Original estimated useful life:	25 Years



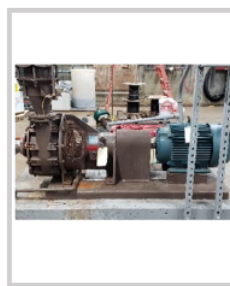
Asset Allocation No.	<b>OC24-046-014</b>		
Asset Title:	<b>Vehicle 406</b>	Cost Center:	Field's Point
Asset Location:	Field's Point	Amount:	\$ 45,000 Priority Ranking: A
Need identified:	<input type="checkbox"/> Asset Management	<input checked="" type="checkbox"/> Inspection	<input type="checkbox"/> Other
Asset Description:	Maintenance Crew Car, Used by Operations personnel.		
Budget Account:	16515 Automotive Equipment Replacement		
Type:	REPLACEMENT	Useful life:	5 Years
Original date in service:	2008	Original estimated useful life:	10 Years




Asset Allocation No.	<b>OC24-046-015</b>		
Asset Title:	<b>Vehicle 446</b>	Cost Center:	Field's Point
Asset Location:	Field's Point	Amount:	\$ 45,000 Priority Ranking: A
Need identified:	<input type="checkbox"/> Asset Management	<input checked="" type="checkbox"/> Inspection	<input type="checkbox"/> Other
Asset Description:	Used by Operations personnel.		
Budget Account:	16515 Automotive Equipment Replacement		
Type:	REPLACEMENT	Useful life:	5 Years
Original date in service:	2008	Original estimated useful life:	10 Years




Asset Allocation No.	<b>OC24-046-016</b>		
Asset Title:	<b>Sludge Pump w/Motor</b>	Cost Center:	Field's Point
Asset Location:	Primary Sludge Pump St.	Amount:	\$ 40,000 Priority Ranking: B
Need identified:	<input type="checkbox"/> Asset Management	<input type="checkbox"/> Inspection	<input type="checkbox"/> Other
Asset Description:	Pumps sludge into tanks.		
Budget Account:	16525 Building and Plant Equipment Replacement		
Type:	REPLACEMENT	Useful life:	7 Years
Original date in service:	2006	Original estimated useful life:	15 Years




Asset Allocation No.	<b>OC24-046-017</b>		
Asset Title:	<b>Relays for Main Switchgear</b>	Cost Center:	Field's Point
Asset Location:	Wind Turbine Feeder-Field's Point	Amount:	\$ 40,000 Priority Ranking: A
Need identified:	<input type="checkbox"/> Asset Management	<input checked="" type="checkbox"/> Inspection	<input type="checkbox"/> Other
Asset Description:	Replace obsolete relays to ensure reliability.		
Budget Account:	16525 Building and Plant Equipment Replacement		
Type:	REPLACEMENT	Useful life:	7 Years
Original date in service:	2009	Original estimated useful life:	10 Years




Asset Allocation No.	<b>OC24-047-001</b>		
Asset Title:	<b>Master Control George Panel</b>	Cost Center:	Bucklin Point
Asset Location:	Blower Building	Amount:	\$400,000 Priority Ranking: A
Need identified:	<input type="checkbox"/> Asset Management	<input checked="" type="checkbox"/> Inspection	<input type="checkbox"/> Other
Asset Description:	Controls panels for blowers.		
Budget Account:	16525 Building and Plant Equipment Replacement		
Type:	REPLACEMENT	Useful life:	7 Years
Original date in service:	2014	Original estimated useful life:	10 Years



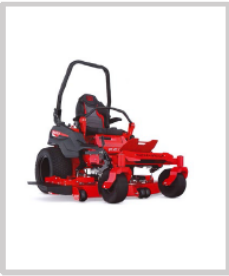
Asset Allocation No.	<b>OC24-047-009</b>		
Asset Title:	<b>Muffin Monster Cutter Assembly</b>	Cost Center:	Bucklin Point
Asset Location:	Screenings & Grit/Bar Rack	Amount:	\$ 40,000 Priority Ranking: B
Need identified:	<input type="checkbox"/> Asset Management	<input checked="" type="checkbox"/> Inspection	<input type="checkbox"/> Other
Asset Description:	Grinds large objects.		
Budget Account:	16525 Building and Plant Equipment Replacement		
Type:	REPLACEMENT	Useful life:	7 Years
Original date in service:	2017	Original estimated useful life:	10 Years



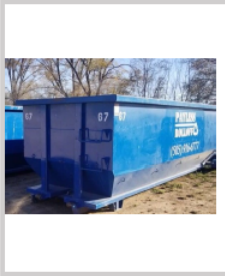
Asset Allocation No.	<b>OC24-047-010</b>		
Asset Title:	<b>ROOTS BLOWER MOTOR REBUILD</b>	Cost Center:	Bucklin Point
Asset Location:	BLOWER BLDG.	Amount:	\$ 35,000 Priority Ranking: A
Need identified:	<input type="checkbox"/> Asset Management	<input checked="" type="checkbox"/> Inspection	<input type="checkbox"/> Other
Asset Description:	Provides aeration to promote aerobic digestion.		
Budget Account:	16525 Building and Plant Equipment Replacement		
Type:	BETTERMENT	Useful life:	20 Years
Original date in service:	2004	Original estimated useful life:	20 Years




Asset Allocation No.	<b>OC24-047-020</b>		
Asset Title:	<b>Gravely Zero Turn Mower</b>	Cost Center:	Bucklin Point
Asset Location:	Grounds Maintenance	Amount:	\$ 20,000 Priority Ranking: B
Need identified:	<input type="checkbox"/> Asset Management	<input type="checkbox"/> Inspection	<input checked="" type="checkbox"/> Other
Asset Description:	Mower to cut grass at facility.		
Budget Account:	16525 Building and Plant Equipment Replacement		
Type:	REPLACEMENT	Useful life:	10 Years
Original date in service:	2013	Original estimated useful life:	10 Years




Asset Allocation No.	<b>OC24-047-021</b>		
Asset Title:	<b>30 Yard Container</b>	Cost Center:	Bucklin Point
Asset Location:		Amount:	\$ 18,000 Priority Ranking: B
Need identified:	<input type="checkbox"/> Asset Management	<input type="checkbox"/> Inspection	<input checked="" type="checkbox"/> Other
Asset Description:	Used for scrap metal, wood, etc. Fits on V353 Dump Truck.		
Budget Account:	16515 Automotive Equipment Replacement		
Type:	REPLACEMENT	Useful life:	10 Years
Original date in service:	2005	Original estimated useful life:	10 Years



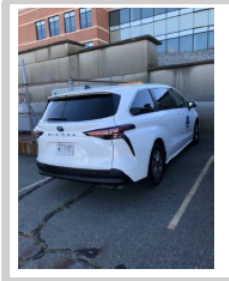
Asset Allocation No.	<b>OC24-047-022</b>		
Asset Title:	<b>UPS Battery Backup</b>	Cost Center:	Bucklin Point
Asset Location:	Digester Control Building Electricity Room	Amount:	\$ 15,000 Priority Ranking: A
Need identified:	<input type="checkbox"/> Asset Management	<input checked="" type="checkbox"/> Inspection	<input type="checkbox"/> Other
Asset Description:	Backup power for Digester Control Building - Electrical Room.		
Budget Account:	16525 Building and Plant Equipment Replacement		
Type:	REPLACEMENT	Useful life:	7 Years
Original date in service:	2014	Original estimated useful life:	10 Years



Asset Allocation No.	<b>OC24-053-005</b>		
Asset Title:	<b>Laboratory Refrigerators</b>	Cost Center:	Laboratory
Asset Location:	WQSB first floor sample refrigerator area	Amount:	\$ 27,000 Priority Ranking: B
Need identified:	<input checked="" type="checkbox"/> Asset Management	<input type="checkbox"/> Inspection	<input type="checkbox"/> Other
Asset Description:	Stores permit samples according to regulations.		
Budget Account:	16575 Lab & Sampling Equipment Replacement		
Type:	REPLACEMENT	Useful life:	5 Years
Original date in service:	2015	Original estimated useful life:	5 Years



Asset Allocation No.	OC24-055-003		
Asset Title:	Vehicle 349	Cost Center:	Environmental Monitoring
Asset Location:		Amount:	\$ 45,000
		Priority Ranking:	A
Need identified:	<input checked="" type="checkbox"/> Asset Management	<input type="checkbox"/> Inspection	<input type="checkbox"/> Other
Asset Description:	Used to collect samples at NBC's plants and throughout its collection system.		
Budget Account:	16515 Automotive Equipment Replacement		
Type:	REPLACEMENT	Useful life:	5 Years
Original date in service:	2014	Original estimated useful life:	10 Years



- DIV 4-7.** As of December 31, 2022, what vehicles did NBC have? Please provide an itemized list showing the following information:
- a. Vehicle number, make and model
  - b. Date purchased
  - c. Cost
  - d. A description of how the vehicle is used
  - e. Age and condition of vehicle
  - f. Total cost
  - g. Amount of depreciation recorded through December 31, 2022 for each vehicle
  - h. Plans for replacing the vehicle

**Response:** See Attachment 4-7, which is from NBC's Asset Management Administrator, and is the latest biannual report dated June 30, 2021.

**Prepared by:** Leah Foster

NBC VEHICLE LIST AS OF JUNE 30, 2021

HANSEN # V=VEHICLE E=EQUIP.	GAS- KEY	DIV	RI PLATE	YR	MAKE	MODEL	BODY	CYL	GVW	VIN	REG. EXP.	TITLE	COST	LIFE EXP. YEARS	# OF YEARS 2021	ANNUAL DEPRECIATION	ACCUMULATED DEPRECIATION	CURRENT VALUE	Asset Number Oracle	Net Book Value
<b>21 ADMINISTRATION</b>																				
V285	285	EXEC	1CN456	2021	TOYOTA	RAV 4	SUV	4/HYBRID	4920	4T3RWRVF5MU012692			36,299.00	10	0	\$3,630	\$0	\$36,299	165562	
V321	321	EXEC	8296	2017	FORD	TRANSIT CONNECT	VAN	4/GAS	5280	NM0GE9E78H1334130	Indefinite	Y	24,110.00	10	4	\$2,411	\$9,644	\$14,466	116521	
<b>22 CONSTRUCTION SERVICES</b>																				
V292	292	CON	8256	2020	CHEVROLET	EQUINOX SUV	SUV	4/GAS	4630	2GNAXSEV9L6190299			25,200.72	10	1	\$2,520	\$2,520	\$22,681	155566	
V296	296	CON-BP	7463	2019	CHEVROLET	EQUINOX SUV	SUV	4/GAS	4630	3GNAXSEV5K5589145	Indefinite	Y	22,392.00	10	2	\$2,239	\$4,478	\$17,914	139578	
V311	311	CON-BP	7227	2018	CHEVROLET	EQUINOX SUV	SUV	4/GAS	4630	2GNAXREVXJ6279286	Indefinite	Y	22,892.00	10	3	\$2,289	\$6,868	\$16,024	127568	
V337	337	CON-BP	7738	2016	CHEVROLET	EQUINOX SUV	SUV	6/GAS	5300	2GNFLFE33G6233922	Indefinite	Y	26,366.00	10	5	\$2,637	\$13,183	\$13,183	95611	
V343	343	CON	7761	2015	CHEVROLET	EQUINOX SUV	SUV	6/GAS	5300	2GNFLFE34F6301983	Indefinite	Y	27,865.00	10	6	\$2,787	\$16,719	\$11,146	80511	
V357	357	CON	7636	2012	DODGE	CARAVAN	VAN	6/GAS	6050	2C4RDGBG2CR420190	Indefinite	Y	23,820.00	10	9	\$2,382	\$21,438	\$2,382	46409	17,071.00
V388	433	CON-BP	8185	2009	FORD	ESCAPE- C&G	SPT UTILITY	4/GAS	4400	1FMCU02799KA42417	Indefinite	Y	17,898.00	10	12	\$1,790	\$17,898	\$0	15506	-
<b>25 ENGINEERING VEHICLES</b>																				
V312	312	ENG	7928	2018	FORD	F150 PICKUP 4X4	PICKUP	6/GAS	6500	1FTEX1EB3JFC03531	Indefinite	Y	28,634.00	10	3	\$2,863	\$8,590	\$20,044	127565	
V326	326	ENG	7455	2017	CHEVY	EQUINOX	SPT UTILITY	4/GAS	5070	2GNFLEEK1H6310211	Indefinite	Y	22,617.00	10	4	\$2,262	\$9,047	\$13,570	114522	
<b>34 CUSTOMER SERVICE VEHICLES</b>																				
V289	289	CS	8348	2020	CHEVROLET	COLORADO	PICKUP	4/GAS	5600	1GCHTCEA8L1176869			32,354.82	10	1	\$3,236	\$3,236	\$29,119	155568	
V297	297	CS	7819	2019	CHEVROLET	EQUINOX	SPT UTILITY	SUV	4630	2GNAXSEV5K6232790	Indefinite	Y	21,592.00	10	2	\$2,159	\$4,318	\$17,274	139575	
V316	316	CS	7464	2018	CHEVROLET	EQUINOX	SPT UTILITY	4	4630	2GNAXREV1J6232647	Indefinite	Y	23,892.00	10	3	\$2,389	\$7,168	\$16,724	123518	
V335	335	CS	7611	2016	CHEVROLET	EQUINOX	SPT UTILITY	6	5300	2GNFLFE32G6232714	Indefinite	Y	20,866.00	10	5	\$2,087	\$10,433	\$10,433	95615	
V339	339	CS	8218	2015	CHEVROLET	EQUINOX	SPT UTILITY	4	5070	2GNFLEEK6F6359238	Indefinite	Y	23,988.00	10	6	\$2,399	\$14,393	\$9,595	85528	
V372	372	CS	7810	2011	FORD	ESCAPE	SPT UTILITY	4 GAS	4600	1FMCU9C74BKB60545	Indefinite	Y	20,830.00	10	10	\$2,083	\$20,830	\$0	24347	8,679.00
<b>43 INTERCEPTOR MAINTENANCE VEHICLES</b>																				
V283	283	IM	8225	2022	FREIGHTLINER	1145D	JET VAC	6/DSL	66000	1FVHG3DVXNHNA4974			395,334.84	10	-1	\$39,533	\$0	\$395,335	170560	
V284	284	IM	8221	2021	FORD	F250 PICKUP 4X4	PICKUP	8/GAS	10000	1FTBF2B6XMED06894			27,685.00	10	0	\$4,019	\$0	\$27,685	170563	
V287	287	IM	7840	2020	FORD	F150	PICKUP	6/GAS	6500	1FTEW1EB1LFB70387			26,976.70	10	1	\$2,698	\$2,698	\$24,279	159560	
V307	307	IM	7501	2018	TOYOTA	RAV 4 HV	SUV	H/HYB	4960	JTMRJREVXJD206336	Indefinite	Y	27,224.00	10	3	\$2,722	\$8,167	\$19,057	128562	
V308	308	IM	7760	2019	INTERNATIONAL	7400 8 YD DUMP	DUMP	6/DSL	40000	3HAWCTAR1KL667998	Indefinite	Y	95,653.00	10	2	\$9,565	\$19,131	\$76,522	127571	
V322	322	IM	8294	2017	FORD	F550 DUMP TRUCK	DUMP	8/DSL	19500	1FDUF5HT0HED33403	Indefinite	Y	60,159.00	10	4	\$6,016	\$24,064	\$36,095	115527	
V329	329	IM	8303	2017	INTERNATIONAL	MODEL 7500	SEWCLEAN	6/DSL	46000	3HAWLSUR7HL741620	Indefinite	Y	306,509.00	10	4	\$30,651	\$122,604	\$183,905	102516	
V334	334	IM	7958	2016	FORD	F250 PICKUP 4X4	PICKUP	8/GAS	10000	1FT7X2B63GEC25534	Indefinite	Y	29,425.00	10	5	\$2,943	\$14,713	\$14,712	96752	29,425.00
V338	338	IM	7698	2016	FORD	STAKE W/PLOW/SAND.	STAKE	8/DSL	18000	1FDUF5HT1GEA38809	Indefinite	Y	63,760.00	10	5	\$6,376	\$31,880	\$31,880	88517	
V341	341	IM	7345	2015	CHEVROLET	SILVERADO	PICKUP	8	10700	1GB3KYCG3FZ532172	Indefinite	Y	28,856.00	10	6	\$2,886	\$17,314	\$11,542	86510	
V348	484	IM	7715	2014	DODGE	RAM PICKUP	CREWCAB	8	10000	3C7WR5HJ5EG216751	Indefinite	Y	37,180.00	10	7	\$3,718	\$26,026	\$11,154	65702	
V355	355	IM	7635	2012	FORD	F350 PICKUP 4X4	PICKUP	8/GAS	10400	1FDRF3B61CEC50116	Indefinite	Y	28,421.00	10	9	\$2,842	\$25,579	\$2,842	46429	20,842.09
V363	363	IM	8184	2015	INTERNATIONAL	4400	STETCO	6/GAS	37600	3HAMKAAR3FL140257	Indefinite	Y	193,115.00	10	6	\$19,312	\$115,869	\$77,246	67506	
V367	367	IM	7598	2012	FORD	ESCAPE	SPT UTILITY	4/Gas	4600	1FMCU9C71CKB80902	Indefinite	Y	21,295.00	10	9	\$2,130	\$19,166	\$2,129	42347	12,776.88
V376	376	IM	8152	2011	FREIGHTLINER	M2106	STETCO	6/DSL	35000	1FVACYBS0BHAX2224	Indefinite	Y	127,830.00	10	10	\$12,783	\$127,830	\$0	18319	36,218.50
V415	415	IM	7245	2001	INTERNATIONAL	2654 - 4X2	STETCO	6/DSL	37600	1HTGMAAR71H355050	Indefinite	Y	101,347.50	10	20	\$10,135	\$101,348	\$0	5831	-
V426	426	SEE V341	TO V341	2005	CHEVROLET	SILVERADO	PICKUP	8/GAS	4466	1GCHK29U55E226852	Indefinite	Y	24,053.00	10	16			\$24,053	13565	-
V441	EE V33	IM	7958	2006	CHEVROLET	SILVERADO	PICK-UP	8/GAS	9200	1GCHK29U76E193516	Indefinite	Y	25,744.00	10	15			\$25,744	13846	-
V471	471	IM	7892	2001	JOHN DEERE	240	SKIDLOADER	3/DSL	6195	KV0240A340806	Indefinite	Y	19,390.00	10	20			\$19,390	5980	-
V455	455	IM	7380	2009	STERLING	ACTERRA	6Y DUMP	6/DSL	26000	2FZACFDT39AAE4077	Indefinite	Y	52,775.00	10	12	\$5,278	\$52,775	\$0	15477	-
V471B	V471B	IM	7687	2016	BOBCAT	S650	SKIDLOADER	4/DSL	8327	ALJ818257	Indefinite	Y	42,198.00	10	5	\$4,220	\$21,099	\$21,099	110517	
V472	472	IM	7042	2008	JCB	4CX	BACKHOE	4/DSL	17782	SLP217FC8U0911101	Indefinite	Y	99,785.00	10	13	\$9,979	\$99,785	\$0	14992	-

(#) Original Gas Key-Inactive  
GAS KEY WILL BE VEH.NO.  
NEXT VEHICLE #277

NBC VEHICLE LIST AS OF JUNE 30, 2021

HANSEN #	V=VEHICLE	GAS-KEY	DIV	RI PLATE	YR	MAKE	MODEL	BODY	CYL	GVW	VIN	REG. EXP.	TITLE	COST	LIFE EXP. YEARS	# OF YEARS 2021	ANNUAL DEPRECIATION	ACCUMULATED DEPRECIATION	CURRENT VALUE	Asset Number Oracle	Net Book Value
<b>43 INTERCEPTOR MAINTENANCE TRAILERS (REGISTERED):</b>																					
V291	N/A	IM	8255	2020	BRAVO	ST714A	TRAILER	N/A	7000	542BC1426LB030988				6,859.00	10	1	\$686	\$686	\$6,173	155580	
V298	N/A	IM	8345	2019	LOAD TRAIL	TH8318072	TRAILER	N/A	14000	4ZETD1823K1170911	Indefinite	Y		7,162.00	10	2	\$716	\$1,432	\$5,730	139565	
V346	N/A	IM	7858	2015	HUDSON	HBC10	TRAILER	N/A	12960	10HHBC102F2000033	Indefinite	Y		5,700.00	10	6	\$570	\$3,420	\$2,280	76512	
V354	N/A	IM	8182	2013	Hudson	HTD18C	TRAILER	N/A	29740	10HHTD1C9D1000014	Indefinite	Y		13,400.00	10	8	\$1,340	\$10,720	\$2,680	53508	11,613.36
V373	373	IM	N/A	2010	MULTIQUIP	DCA70SSIU2C	GENERATOR	DSL	3700	7351314	Indefinite	Y		26,803.00	10	11	\$2,680	\$26,803	\$0	18274	6,700.73
V398	N/A	IM	7047	2006	FELLING	FT-6D00144	DINGO TR.	N/A	6000	5FTDH101461025839	Indefinite	Y		15,995.00	10	15	\$1,600	\$15,995	\$0	13931	7,730.95
V459	459	IM	7988	2006	INGERSOL-RAND	XP-185WJD	AIR-COMP	3/DSL	N/A	367255UBQ222	Indefinite	Y		12,000.00	10	15	\$1,200	\$12,000	\$0	13848	-
<b>44 OPERATIONS &amp; MAINTENANCE SERVICES</b>																					
V301	301	O&M	7957	2019	CHEVROLET	EQUINOX	SPT UTILITY	4/GAS	4630	2GNAXSEV2K6158034	Indefinite	Y		23,642.00	10	2			\$23,642	136561	
V336	336	O&M	7453	2016	SUBARU	CROSSTREK-PAUL N.	SPT UTILITY	4/HYBRID	4674	JF2GPBBC7GH241905	Indefinite	Y		26,187.00	10	5			\$26,187	95618	
<b>46 FIELDS POINT VEHICLES</b>																					
V286	286	FP	7907	2021	FORD	VACUUM TRUCK	TRUCK	8/GAS	25999	1FDNF6AN5MDF01008				127,654.70	10	0	\$12,766	\$0	\$127,655	166562	
V288	288	FP	7606	2020	FORD	TRANSIT	VAN	6/GAS	10000	1FTBR1C85LKA35468				39,442.50	10	1	\$3,944	\$3,944	\$35,499	156567	
V294	294	FP	8330	2019	JCB	LOADER	UTILITY	6/DSL	13551	JCB40902AK2831508	Indefinite	N		84,631.00	10	2	\$8,463	\$16,926	\$67,705	144559	
V295	295	FP	7344	2018	DODGE	BUCKET TRUCK	BUCKET	6/GAS	19000	3C7WRNAL9JG361880	Indefinite	N		105,033.00	10	3	\$10,503	\$21,007	\$84,026	139571	
V299	299	FP	8020	2019	FORD	TRANSIT VAN-INSTRUM.	VAN	4/GAS	5302	NM0LS7E21K1406194	Indefinite	N		30,157.00	10	2	\$3,016	\$6,031	\$24,126	139564	
V314	314	FP	7713	2018	FORD	STAKE BODY	STAKE	10/GAS	16500	1FDUF4HY5JEB53376	Indefinite	N		52,497.00	10	3	\$5,250	\$15,749	\$36,748	125519	
V315	315	FP	7754	2018	FORD	OPER. SUPERVISOR	PICKUP	8/GAS	10000	1FT7X2B65JEB31419	Indefinite	N		31,187.00	10	3	\$3,119	\$9,356	\$21,831	124523	
V317	317	FP	8272	2017	BOBCAT	TOOLCAT 5600	UTILITY	4/DSL	7650	AHG81466208082017	Indefinite	Y		68,349.00	10	4	\$6,835	\$27,340	\$41,009	121516	
V320	320	FP	8295	2017	DODGE	RAM 5500	MECH CRANE	6/DSL	24000	3C7WRNAL0HG695516	Indefinite	Y		100,727.00	10	4	\$10,073	\$40,291	\$60,436	116525	
V332	332	FP	8198	2016	FORD	TRANSIT VAN INSTRUM	VAN	6/GAS	9000	1FTYR2XM2GKA88836	Indefinite	Y		38,945.00	10	5	\$3,895	\$19,473	\$19,472	98529	38,945.00
V333	333	FP	8547	2016	FORD	TRANSIT PASSEN. VAN	VAN	4/GAS	5280	NM0GS9E71G1267636	Indefinite	Y		23,065.00	10	5	\$2,307	\$11,533	\$11,532	98528	23,065.00
V345	345	FP	7956	2015	FORD	F250-O&M SUPPORT	PICK-UP	8/GAS	10000	1FTBF2B67FEC26097	Indefinite	Y		23,992.00	10	6	\$2,399	\$14,395	\$9,597	77503	
V352	352	FP	7811	2014	FORD	E350 -INSTRUM.	VAN	8/GAS	11500	1FDWE3FL9EDA34237	Indefinite	Y		37,348.00	10	7	\$3,735	\$26,144	\$11,204	65700	
V353	353	FP	7818	2015	INTERNATION.	7600-30 YD DUMP	ROLLOFF	6/DSL	66000	3HTGRSNT4FN518375	Indefinite	Y		122,963.00	10	6	\$12,293	\$73,778	\$49,185	67505	
V360	V360	FP	7927	2013	FORD	E350 NORM ROD.	VAN	8/GAS	10050	1FDWE3FL9DDA22779	Indefinite	Y		30,195.00	10	8	\$3,020	\$24,156	\$6,039	48431	23,149.50
V366	V366	FP	7624	2012	FORD	E350 VIC COSTA	VAN	8/GAS	9900	1FDSE3FLXCDA70434	Indefinite	Y		28,895.00	10	9	\$2,890	\$26,006	\$2,889	45364	18,781.78
V375	450	FP	7343	2011	FORD	E150- CARPENTER	VAN	8/GS	8520	1FTNE1EW5BDA23750	Indefinite	Y		20,180.00	10	10	\$2,018	\$20,180	\$0	18346	7,063.03
V379	V379	FP	7608	2010	FORD	F350 - YARD	3 YD.DUMP	8/GS	13000	1FDWF3G57AEA77265	Indefinite	Y		27,595.00	10	11	\$2,760	\$27,595	\$0	17518	4,595.86
V389	498	FP	8208	2008	FORD	E350	VAN	8/DSL	9500	1FTSE34P68DB47270	Indefinite	Y		29,362.00	10	13	\$2,936	\$29,362	\$0	15508	-
V405	405	FP	7606	2008	FORD	E150- ELECT. S.MORELLI	VAN	8/GS	8520	1FTNE14W48DA56488	Indefinite	Y		21,760.00	10	13			\$21,760	14970	-
V406	406	FP	7607	2008	FORD	F-150- MAINT.SUPER.	PICK-UP	8/GAS	6900	1FTRW14W88FB21698	Indefinite	Y		25,380.00	10	13	\$2,538	\$25,380	\$0	14985	-
V416	416	FP	7228	1996	FORD	F800	FLUSHER	6/DSL	33000	1FDXF80C8TVA18643	Indefinite	Y		71,560.00	10	25			\$71,560	4302	-
V434	434	FP	7390	2007	CHEVROLET	COLORADO	PICK-UP	5/GAS	5300	1GCDT19E978162749	Indefinite	Y		18,822.00	10	14			\$18,822	14138	-
V437	437	FP	7928	2006	CHEVROLET	SILVERADO-OPERATION	PICK-UP	8/GAS	7000	2GCEK13TX61223252	Indefinite	Y		24,488.00	10	15			\$24,488	13777	-
V438	438	FP	7897	2000	MITSUBISHI	FD50-D	FRKLFT	6/DSL	16,890	AF28A50188	Indefinite	Y		34,883.00	5	21	\$4,968	\$4,968	\$29,915	5535	-
V439	439	FP	7993	2004	INTERNATION.	7600-30 YD.	ROLLOFF	6/DSL	66000	1HTWYAHT64J027083	Indefinite	Y		106,000.00	10	17			\$106,000	12916	-
V443	443	FP	TO V345	2003	FORD	F250-OPERATIONS	PICK-UP	8/GAS	5154	3FTNF20L83MB40762	Indefinite	Y		18,393.00	10	18			\$18,393	12703	-
V446	446	FP	7931	2008	FORD	OPERATIONS DEPT.	PICK-UP	8/GAS	6900	1FTRW14W48FB64354	Indefinite	Y		23,380.00	10	13	\$2,338	\$23,380	\$0	15033	-
V485	85 (44)	FP	7348	2003	INTERNATION.	4200	VAC.TANK	8/DSL	25500	1HTMPAFL93H603283	Indefinite	Y		57,600.00	10	18	\$5,760	\$57,600	\$0	12664	-
V495	495	FP	8209	2008	FORD	RANGER-INST.MARCOS	PICK-UP	4/GAS	4380	1FTYR10D48PA74185	Indefinite	Y		13,920.00	10	13	\$1,392	\$13,920	\$0	15011	8,506.67
<b>46 FIELDS POINT TRAILERS (REGISTERED)</b>																					
V319	-	FP	8269	2017	TRITON TRAILER	KOHLER GENERATOR	Generator	DSL	10000	Trailer#:4TCU0929HHS12025	Indefinite	Y		55,800.00	10	4	\$5,580	\$22,320	\$33,480	116515	
V396B	N/A	FP	7990	2018	HOMESTEADER	SPILL TRAILER 712CT	ENCLOSED	N/A	N/A	5HABE1228JN064245	Indefinite	Y		4,934.00	10	3	\$493	\$1,480	\$3,454	NO ASSET	

(#) Original Gas Key-Inactive  
 GAS KEY WILL BE VEH.NO.  
 NEXT VEHICLE #277

NBC VEHICLE LIST AS OF JUNE 30, 2021

HANSEN # V=VEHICLE E=EQUIP.	GAS- KEY	DIV	RI PLATE	YR	MAKE	MODEL	BODY	CYL	GVW	VIN	REG. EXP.	TITLE	COST	LIFE EXP. YEARS	# OF YEARS 2021	ANNUAL DEPRECIATION	ACCUMULATED DEPRECIATION	CURRENT VALUE	Asset Number Oracle	Net Book Value
V464	464	FP	8183	2008	GODWIN	CD15OM	PUMPSET	DSL	N/A	16MPF06108DO51427	Indefinite	Y	30,779.95	10	13	\$3,078	\$30,780	\$0	15448	19,164.42
V465	465	FP	7044	2005	SOUTHWORTH	OLYMP#XQ20P2	Generator	DSL	480V	OLY00000LF4YP00305	Indefinite	Y	19,547.00	10	16	\$1,955	\$19,547	\$0	13588	-
V384	466	FP	7623	2009	MILLER	BOBCAT 250	WELDER	4/GAS	N/A	LJ390010H	Indefinite	Y	5,059.40	10	12	\$506	\$5,059	\$0	16302	-
<b>47 BUCKLIN POINT VEHICLES</b>																				
V281	281	BP	8223	2021	FORD	F350	PICKUP	8/GAS	10400	1FTRF3B68MED06896			34,800.45	10	0	\$4,405	\$0	\$34,800	170572	
V282	282	BP	8224	2021	FORD	F350	PICKUP	8/GAS	10400	1FTRF3B66MED06895			34,800.45	10	0	\$4,405	\$0	\$34,800	170573	
V293	293	BP	8346	2020	FORD	F250 PICKUP	PICKUP	8/GAS	10000	1FT7W2B61LEC51269			32,862.85	10	1	\$3,286	\$3,286	\$29,577	155574	
V303	303	BP	7374	2019	FORD	TRANSIT 250 -INSTRUM.	VAN	6/GAS	9000	1FTYR2CM7KKA21017	Indefinite	N	30,699.00	10	2	\$3,070	\$6,140	\$24,559	136572	
V304	304	BP	8251	2019	FORD	TRANSIT 250-ELECTRICAL	VAN	6/GAS	9000	1FTYR2CM5KKA21016	Indefinite	N	35,199.00	10	2	\$3,520	\$7,040	\$28,159	136573	
V306	306	BP	8344	2019	FORD	F250 4X4 CREW CAB	PICKUP	8/GAS	10000	1FT7W2B61KED14689	Indefinite	N	27,677.00	10	2	\$2,768	\$5,535	\$22,142	135569	
V318	318	BP	7966	2017	FORD	TRANSIT VAN PM	VAN	6/GAS	9000	1FTYR1CM4HKB27041	Indefinite	Y	30,900.00	10	4	\$3,090	\$12,360	\$18,540	120521	
V323	323	BP	8293	2017	FORD	F250 CREW CAB	PICK-UP	8/GAS	10000	1FT7W2B69HED45486	Indefinite	Y	35,572.00	10	4	\$3,557	\$14,229	\$21,343	115522	
V328	328	BP	7658	2017	FORD	F150 CREW CAB	PICK-UP	8/GAS	7000	1FTEW1EF6HFB77569	Indefinite	Y	29,704.00	10	4	\$2,970	\$11,882	\$17,822	114521	
V330	330	BP	7749	2016	FORD	TRANSIT VAN	VAN	6/GAS	9000	1FTYR2XM4GKA88837	Indefinite	Y	38,945.00	10	5	\$3,895	\$19,473	\$19,472	98560	
V331	331	BP	7382	2016	FORD	TRANSIT VAN	VAN	6/GAS	9000	1FTYR2XM6GKA88838	Indefinite	Y	37,245.00	10	5	\$3,725	\$18,623	\$18,622	98531	
V344	344	BP	7383	2015	FORD	F350 4X4 DUMP	DUMP	8/GAS	14000	1FD8X3H68FEB08396	Indefinite	Y	32,925.00	10	6	\$3,293	\$19,755	\$13,170	79505	
V368	368	BP-M	7841	2011	NEW HOLLAND	T5050	TRACTOR	4/DSL	9350	ZBJH05859	Indefinite	Y	79,250.00	10	10	\$7,925	\$79,250	\$0	31353	36,983.56
V444	444	BP-T	7375	2006	CHEVROLET	SILVERADO	PICKUP	8/GAS	7000	2GCEK13T361219771	Indefinite	Y	26,986.00	10	15	\$2,699	\$26,986	\$0	13769	-
V351	351	BP-M	8565	2014	FORD	ELECTRICIAN SPRINT	VAN	4/GAS	5020	NMOLS6F76E1154905	Indefinite	Y	25,840.00	10	7	\$2,584	\$18,088	\$7,752	68502	
V479	79 (40)	BP	7384	2008	FORD	ESCAPE	SPT UTILITY	4/Gas	4400	1FMCUO2Z58KD83314	Indefinite	Y	17,239.00	10	13	\$1,724	\$17,239	\$0	15032	-
<b>47 BUCKLIN POINT TRAILER (REGISTERED)</b>																				
V310	310	BPM	7758	2018	WRIGHT	UTILITY	TRAILER	N/A	12000	1S9TS1825J1132077	Indefinite	Y	4,350.00	10	3	\$435	\$1,305	\$3,045	No Asset	
V327	N/A	BPM	8277	2018	STEALTH	UTILITY	TRAILER	N/A	6990	52LBE1422JE060436	Indefinite	Y	5,435.00	10	3	\$544	\$1,631	\$3,804	110522	
V364	NEW	BPM	8266	2012	GODWIN	6" PUMP	PUMPSET	DSL	N/A	16MPF0512CD064030	Indefinite	Y	27,860.23	10	9	\$2,786	\$25,074	\$2,786	46402	19,502.15
V374	N/A	BP-M	7646	2010	STEALTH	SLT612SA	ELECTRICAL	N/A	2990	52LBE1219AE002883	Indefinite	Y	3,450.00	10	11	\$345	\$3,450	\$0	18313	977.50
V390	N/A	BPM	8151	2003	GODWIN	6" PUMP	PUMPSET	DSL	N/A	23051824	Indefinite	Y	24,000.00	10	18	\$2,400	\$24,000	\$0	Const.Con.	
<b>51 TECHNICAL ANALYSIS &amp; COMPLIANCE VEHICLES &amp; TRAILER</b>																				
V279	279	TAC	8231	2021	NISSAN	LEAF- ELECTRIC	HATCHBACK	N/A	4508	1N4AZ1BVS5MC554766			29,091.50	10	0	\$2,909	\$0	\$29,092		
V290	N/A	TAC	8257	2020	TRAILER	TRL	SOLAR	N/A	2995	4ZESA1219L1197925			2,127.00	10		\$213	\$213	\$1,914		
<b>52 PRETREATMENT VEHICLES</b>																				
V278	278	PT	7827	2021	TOYOTA	RAV 4 PRIME	SUV	4/HYBRID	4209	JTMCB3FV5MD030220			33,154.00	10	0	\$3,315	\$0	\$33,154		
V302	302	PT	7385	2019	CHEVROLET	EQUINOX	SUV	4/GAS	4850	2GNAXVEX9K6163265	Indefinite	N	25,451.00	10	2	\$2,545	\$5,090	\$20,361	136560	
V325	325	PT	8067	2017	CHEVROLET	EQUINOX SUV	SUV	4/GAS	5070	2GNFLEEK1H6309835	Indefinite	Y	24,792.00	10	4	\$2,479	\$9,917	\$14,875	114525	
V342	342	PT	7415	2015	CHEVROLET	EQUINOX SUV	SUV	6/GAS	5300	2GNFLFE39F6302630	Indefinite	Y	27,865.00	10	6	\$2,787	\$16,719	\$11,146	80510	
V371	371	PT	7462	2011	FORD	ESCAPE	SPT UTILITY	6/GAS	4680	1FMCU9DG8BKB85382	Indefinite	Y	18,495.00	10	10	\$1,850	\$18,495	\$0	27354	8,014.00
V386	386	PT	7349	2009	FORD	ESCAPE	SPT UTILITY	6/GAS	4680	1FMCU93G79BK77141	Indefinite	Y	17,925.00	10	12	\$1,793	\$17,925	\$0	16306	597.00
<b>52 PRETREATMENT TRAILER (REGISTERED):</b>																				
V397	N/A	PT	7605	1998	FOREST RIVER	TB58SA	UTILITY	N/A	3000	4X4TSE216WB012638	Indefinite	Y	1,950.00	10	23	\$195	\$1,950	\$0	4702	-
<b>55 ENVIRONMENTAL MONITORING VEHICLES</b>																				
V280	280	EM	8222	2021	FORD	TRANSIT	VAN	6/GAS	9070	1FTBR2Y86MKA19909			33,208.75	10	0	\$3,576	\$0	\$33,209	170562	
V300	300	EM	7964	2019	TOYOTA	SIENNA	VAN	6/GAS	5995	5TDJZ3DC4KS223707	Indefinite	N	28,692.00	10	2	\$2,869	\$5,738	\$22,954	138573	
V309	309	EM	7387	2018	TOYOTA	SIENNA	VAN	6/GAS	5995	5TDJZ3DC1J5191703	Indefinite	N	33,702.92	10	3	\$3,370	\$6,741	\$26,962	127576	
V324	324	EM	7243	2017	CHEVROLET	EQUINOX SUV	SUV	4/GAS	5070	2GNFLEEK9H6310229	Indefinite	Y	23,032.00	10	4	\$2,303	\$9,213	\$13,819	114526	

(#) Original Gas Key-Inactive  
GAS KEY WILL BE VEH.NO.  
NEXT VEHICLE #277





- DIV 4-8.** Refer to NBC's February 16, 2023 presentation. Please provide Excel files for the following items:
- a. Slide 10 table, Monthly Transfers from the Revenue Fund to the Operations and Maintenance Fund
  - b. Slide 12 table, Monthly Transfers from the Revenue Fund to the Debt Service Fund
  - c. Slide 16, Trust Indenture Flow of Funds
  - d. Slide 18, Operating Capital Accounts, Use of PUC Restricted Funds
  - e. Slide 19, Compliance Reporting for Restricted Funds for FY 2022
  - f. Slide 20, Capital Project Compliance Reporting – please provide the Excel listing all projects for the period ending June 30, 2022. Also provide a similar Excel for the period ending December 31, 2022.
  - g. Slide 21, Operating Capital, Projected Use
  - h. Slide 27, Electricity Purchases and Renewables
  - i. Slide 28, Electricity Expense and Supply Rate Impact
  - j. Slide 29, Electricity Expense, Behind the Meter Production, Supply Rate
  - k. Slide 30, Remote Net Metered Facilities – NBC-Owned Wind Turbines Coventry
  - l. Slide 31, Remote Net Metered Facilities – Power Purchase Agreements
  - m. Slide 33, Net Metering Credits
  - n. Slide 34, Impact of Coventry Remote Net Metered Production

**Response:** See attachment 4-8. For response to “f. Capital Project Compliance Reporting” – please note that NBC only keeps the most recent list of projects in an excel version. The attachment for Slide 20 includes the project listing for period ending December 31, 2022.

**Prepared by:** Karen Giebink and Leah Foster

**DIV 4-9.** During the February 16, 2023 presentation in conjunction with explaining the “use” item on slide 27, NBC mentioned that during the fall of 2022 there was a period when unusually heavy rain was experienced. Identify the date(s) and the approximate amount of rain experienced and explain in detail how that unusual level of rainfall affected NBC’s operations generally and specifically affected NBC’s cost of electricity.

**Response:**

<b>Rainfall Data (in inches)</b>			
<u>Month/Year</u>	TF Green Airport	Field's Point WWTF	Bucklin Point WWTF
September '22	5.95	10.47	7.87
October '22	5.85	5.20	6.45
November '22	3.53	1.84	3.54
December '22	6.00	4.27	5.60
January '23	6.76	5.81	7.47

Around September 5, 2022, there was a large rainfall event that impacted the region. So large, that the Providence Emergency Management Agency (PEMA) reached out to NBC requesting a large pump to assist them with flooding impacting RI Energy facilities. There were additional large storms in October, November and December 2022 and January 2023. These large storms send excess liquid and solid volumes to the plants, which requires all of the equipment to run harder for longer periods of time. In addition, much more debris (roadway grit, trash, and in-pipe solids) is sent through the process, which adds more strain to the equipment. Screens, designed to protect pumps, work double duty to keep up and can become blocked. After the rain stops, the excess flow lingers for many days, requiring more pumping and electricity usage to keep up with the elevated flows.

At Field’s Point, flow that enters the FP CSO Tunnel eventually gets pumped back to the plant for full treatment. The Tunnel Pump Station is nearly 300 below the ground surface, so it takes two 400 hp pumps (800 hp per pump set) to pump 12.5 MGD out of the Tunnel to the plant (equating to 8,681 gallons per minute). As a relative comparison to pumping sewage from the Ernest Street Main Pumping Station, one 300 hp pump can pump 40 MGD to the plant (equating to 27,778 gallons per minute). Should the Tunnel fill completely, flows above 77 MGD would be sent to the Wet Weather Tanks. Pumps and clarifier drives in those wet weather tanks present an additional electrical load and an additional sodium hypochlorite pump would also need to be put into service. When necessary, Field’s Point may need to place additional bar racks, grit tanks and grit pumps, and fine screens into service during high flow conditions.

At Bucklin Point, all flow that enters the BP collection system goes to the treatment plant as the Bucklin Point CSO Tunnel is currently under construction. As rainfall increases flow to the plant, additional bar screens, cyclone degritter tanks and grit washers are placed in service. This is necessary to capture additional screenings and grit carried to the plant with the rainfall influenced high flow rates. At that same time, an additional primary clarifier is placed into use to improve the full biological treatment process which can handle up to 46 MGD. Instantaneous flows above 46 MGD get diverted to wet weather tanks. Flow to the wet weather tanks receive primary settling, chlorination and dechlorination. Hypochlorite and Bisulfite pumps are placed in service to accomplish the disinfection and dechlorination steps. Should the Seekonk River level be elevated, effluent pumps are needed to pump these flows out to the river. The Wet Weather sewage pumps pump captured wet weather flow to full treatment after high flows subside. Also, during high flows both ultraviolet (UV) banks are in operation which increases electrical usage significantly.

One other thing to keep in mind is the cumulative effect that rainfall has on the groundwater levels. During dry times the groundwater levels subside and during rainy times, the groundwater levels increase. During dry times, the amount of groundwater infiltration into the collection system is minimal. As the groundwater level begins to get recharged from steadier rainfall, that level increases. Eventually groundwater levels get to a point where groundwater starts infiltrating into the piping in the collection system. Additional groundwater mixed in with sewage means that more water needs to be pumped and treated, which is an additional electrical expense.

The chart below shows monthly average flow rates for Field’s Point and Bucklin Point (in Millions of Gallons Per Day – MGD) from September ’22 to January ’23. As the chart shows, the average flow rates for this time period were greater than the normal monthly average for 2022.

**Average Flow Rates  
(in Millions of Gallons per Day - MGD)**

Month/Year	Field’s Point	Bucklin Point
September ’22	47.86	15.65
October ’22	47.19	16.43
November ’22	39.22	15.28
December ’22	51.22	19.56
January ’23	58.41	24.18
5-month average	48.78 MGD	18.22 MGD
2022 Monthly Average	42.50 MGD	16.74 MGD

**Prepared by:** Paul Desrosiers and Margaret Goulet

**DIV 4-10.** Concerning the Bucklin Point Biogas Cogeneration facility:

- a. Identify all costs spent by NBC on the Bucklin Point Biogas Cogeneration facility through December 31, 2022.
- b. Identify all costs spent by NBC on the Bucklin Point Biogas Cogeneration facility subsequent to December 31, 2022.
- c. Identify all remaining costs that NBC projects spending on the Bucklin Point Biogas Cogeneration facility and indicate the total amount that NBC projects to spend on that facility.
- d. Prior to undertaking the Bucklin Point Biogas Cogeneration facility did NBC have a budget and/or a cost-benefit analysis? If not, explain fully why not. If so, please identify and provide the budget and cost-benefit analysis.
- e. Slide 27 in NBC's February 16, 2023 presentation shows annual kWh generation of 94,327 from the Bucklin Point Biogas Cogeneration facility. However, NBC indicated that the generation from that facility will probably be zero. Please clarify the period for which NBC believes that the generation from the Bucklin Point Biogas Cogeneration facility will be zero.
- f. Does NBC have projections of generation from the Bucklin Point Biogas Cogeneration facility for FY2024 or any subsequent years that NBC believes are reliable? If not, explain fully why not. If so, please provide the projections of generation from the Bucklin Point Biogas Cogeneration facility for FY2024 and each subsequent year that NBC believes are reliable.

**Response:**

- a. \$8,372,657, which includes planning, design, and construction phases of the project was spent through December 31, 2022.
- b. There have been no dollars spent on this project subsequent to December 31, 2022.
- c. NBC may spend approximately \$762,565 in outside professional consulting services (maximum amount, based on an initial draft proposal) to address various combined heat and power (CHP) design concerns, condition assessment, optimization strategies, gas treatment design modifications and related topics. At this time, NBC is unable to provide any firm estimates on the CHP system. Anticipated work efforts may include gas conditioning system repair/modifications/replacements and other system components (i.e. new stator and others).

- d. NBC’s cost/benefit analysis used when the project was approved by the NBC Board of Commissioners was based on the following (also see Attachment DIV 4-10 D):

Nameplate Capacity (kW)	600
Effective Capacity Factor Estimate	87%
Average Power (kW)	524
Electricity Production (kWh/yr)	4,589,280
<b>Basis of Cost Calculations:</b>	
Total Project Cost	\$6,440,000
Potential Incentives & Grants	\$1,793,750
<b>Annual Values:</b>	
Bond Interest Rate	2.50%
General Inflation Rate	2.00%
Electric Price Increase	4.81%
Portion of Electric Bill kWh based	87.0%
<b>Average Project Results:</b>	
Electric Savings & RECs (\$/kWh)	\$0.181
Lifecycle Payback Period (years)	9.3
Internal Rate of Return	7.2%

- e. Based on NBC’s current work schedule it is probable that construction activities associated with the needed digester tank repairs/improvements may commence circa the fall of 2023 (roughly September). If NBC elects to take multiple digester tanks off-line simultaneously the associated duration of construction may be approximately 2 ½ to 3 years. For planning purposes, assume nearly 34 months.
- f. NBC received two evaluations of the Bucklin Point Biogas Cogeneration facility from two separate engineering companies in 2023. These evaluations estimate that once the digester tank repairs discussed in the response to 4-10 e are completed and the digester tanks are operating optimally, it is expected to produce enough biogas to generate between 3,470,197 kWh per year and 4,556,926 kWh per year. Each group used slightly different methods to estimate gas production.

**Prepared by:** David Bowen and James Kelly

	Year Starting	Year	Electric Savings (\$/kWh)	Uptime	Electricity Savings (\$/kWh)	REC Value (\$/kWh)	O&M Cost (\$/kWh)**	Interest Payment	O&M Cost**	Effective Cash Flow	Production Cost (\$/kWh)	Total Bond Payment	REC Value (\$/yr)	Cummulative Cash Flow	Incremental Boiler Natural Gas (\$/yr)*
<b>Power Production:</b>															
Nameplate Capacity (kW)	600	January 1, 2017	\$0.096	-	-	\$0.035	-	-	-	-\$4,646,250	-	-	-	0	
Effective Capacity Factor Estimate	87%	January 1, 2018	\$0.10	89%	\$477,192	\$0.012	\$0.037	\$116,156	\$171,897	\$212,344	\$0.100	\$298,044	\$55,155	-\$4,433,906	\$32,961
Average Power (kW)	524	January 1, 2019	\$0.104	89%	\$487,159	\$0.024	\$0.037	\$111,609	\$175,335	\$279,920	\$0.101	\$298,044	\$111,911	-\$4,153,986	\$34,544
Electricity Production (kWh/yr)	4,589,280	January 1, 2020	\$0.108	83%	\$473,768	\$0.029	\$0.041	\$106,948	\$178,842	\$280,424	\$0.109	\$298,044	\$134,907	-\$3,873,562	\$36,204
<b>Basis of Cost Calculations:</b>		January 1, 2021	\$0.115	89%	\$539,195	\$0.028	\$0.039	\$102,171	\$182,418	\$349,652	\$0.103	\$298,044	\$130,577	-\$3,523,910	\$37,944
Total Project Cost	\$6,440,000	January 1, 2022	\$0.119	89%	\$555,526	\$0.035	\$0.040	\$97,274	\$186,067	\$396,686	\$0.103	\$298,044	\$161,098	-\$3,127,224	\$39,767
Potential Incentives & Grants	\$1,793,750	January 1, 2023	\$0.121	83%	\$529,157	\$0.038	\$0.043	\$92,255	\$189,788	\$372,704	\$0.111	\$298,044	\$175,308	-\$2,754,520	\$41,678
<b>Annual Values:</b>		January 1, 2024	\$0.127	89%	\$595,328	\$0.036	\$0.041	\$87,110	\$193,584	\$438,636	\$0.105	\$298,044	\$164,450	-\$2,315,884	\$43,681
Bond Interest Rate	2.50%	January 1, 2025	\$0.132	89%	\$621,110	\$0.035	\$0.042	\$81,837	\$197,456	\$460,677	\$0.106	\$298,044	\$161,557	-\$1,855,207	\$45,780
General Inflation Rate	2.00%	January 1, 2026	\$0.138	83%	\$603,438	\$0.041	\$0.046	\$76,432	\$201,405	\$456,150	\$0.114	\$298,044	\$187,177	-\$1,399,057	\$47,980
Electric Price Increase	4.81%	January 1, 2027	\$0.143	89%	\$669,300	\$0.041	\$0.044	\$70,891	\$205,433	\$536,757	\$0.108	\$298,044	\$190,282	-\$862,299	\$50,285
Portion of Electric Bill kWh based	87.0%	January 1, 2028	\$0.150	89%	\$700,323	\$0.040	\$0.045	\$65,212	\$209,541	\$561,100	\$0.108	\$298,044	\$184,598	-\$301,199	\$52,702
<b>Average Project Results:</b>		January 1, 2029	\$0.155	83%	\$680,922	\$0.039	\$0.049	\$59,392	\$213,732	\$522,983	\$0.117	\$298,044	\$178,815	\$221,784	\$55,234
Electric Savings & RECs (\$/kWh)	\$0.181	January 1, 2030	\$0.162	89%	\$758,725	\$0.038	\$0.047	\$53,425	\$218,007	\$607,421	\$0.110	\$298,044	\$174,593	\$829,205	\$57,888
Lifecycle Payback Period (years)	9.3	January 1, 2031	\$0.167	89%	\$781,770	\$0.036	\$0.048	\$47,310	\$222,367	\$622,337	\$0.111	\$298,044	\$167,497	\$1,451,542	\$60,670
Internal Rate of Return	7.2%	January 1, 2032	\$0.168	83%	\$735,897	\$0.041	\$0.052	\$41,042	\$226,814	\$585,921	\$0.120	\$298,044	\$190,272	\$2,037,463	\$63,585
		January 1, 2033	\$0.171	89%	\$801,733	\$0.039	\$0.049	\$34,616	\$231,351	\$651,649	\$0.113	\$298,044	\$179,149	\$2,689,112	\$66,641
		January 1, 2034	\$0.175	89%	\$820,480	\$0.038	\$0.050	\$28,031	\$235,978	\$664,840	\$0.114	\$298,044	\$174,796	\$3,353,952	\$69,843
		January 1, 2035	\$0.180	83%	\$785,368	\$0.038	\$0.055	\$21,280	\$240,697	\$617,128	\$0.123	\$298,044	\$174,850	\$3,971,080	\$73,199
		January 1, 2036	\$0.183	89%	\$859,103	\$0.038	\$0.052	\$14,361	\$245,511	\$700,774	\$0.116	\$298,044	\$174,850	\$4,671,853	\$76,716
		January 1, 2037	\$0.187	89%	\$880,157	\$0.038	\$0.054	\$7,269	\$250,421	\$720,123	\$0.117	\$298,044	\$174,850	\$5,391,976	\$80,403
Average		-	\$0.145	87.3%	\$667,783	\$0.035	\$0.046	\$65,731	\$208,832	\$256,761	\$0.111	-	\$162,335	-	
Sum		-	-	-	\$13,355,652	-	-	\$1,314,622	\$4,176,645	\$5,391,976	-	\$5,960,872	\$3,246,691	-	

\*Note: Final National Grid technical assessment may address operating methods to minimize cost of supplemental heating

\*\*Note: O&M savings from avoided boiler cleanouts is not included in this analysis

Summary of Results from above Spreadsheet

Ranges of Financial Incentives	Min Incentive	Max Incentive
National Grid Incentive	\$0	\$743,750
Renewable Energy Fund Commercial Grant	\$0	\$350,000
Regional Greenhouse Gas Initiative Grant	\$0	\$200,000
Clean Water Finance Agency Principal Forgiveness	\$0	\$500,000
Sum	\$0	\$1,793,750
Calculated Lifecycle Payback Period (years)	13.5	9.3
Breakeven Point (years)	15.3	11.6
Internal Rate of Return	3.3%	7.2%

**DIV 4-11.** Concerning NBC's Field's Point Turbines:

- a. For each month of operation from inception through December 2022 show the kWh generation from each of the three Field's Point Turbines and the generation combined from all three of those turbines.
- b. What was the installed cost of each of the three Field's Point Turbines and the combined installed cost for those facilities?
- c. What is the amount of accumulated depreciation and the net book value of each of the three Field's Point Turbines and the combined amount of accumulated depreciation for those facilities as of December 31, 2023?
- d. How much depreciation is NBC recording each month for the Field's Point Turbines?
- e. For what periods to-date have the Field's Point Turbines not been operating due to blade repairs?
- f. For what periods are the Field's Point Turbines expected by NBC to not be operating due to blade repairs?
- g. How is NBC accounting for the cost of the blade repairs?
- h. What is the total amount that NBC expects to incur for the Field's Point Turbines blade repairs?
- i. Did NBC conduct a cost-benefit analysis prior to commencing with the construction or purchase of the Field's Point Turbines? If not, explain fully why not. If so, please identify and provide the cost-benefit analysis
- j. What was the expected life of the turbine blades in NBC's cost-benefit analysis for the Field's Point Turbines?
- k. Was there any manufacturer's warranty or insurance on the Field's Point Turbines that covered premature blade replacement or repairs or facility non-availability due to the turbine not functioning as intended or for the turbines needing to be shut down for repairs? If not, explain fully why not. If so, please describe the manufacturer's warranty and any related insurance.

**Response:**

- a. Please see attachment DIV 4-11 A which shows the kWh generation for each of the three Field's Point Turbines separately and combined. The kwh hours are shown by calendar month, since inception which different from the way finance reports the kWh hours generated. Finance tracks the kWh hours by the utilities billing period to align with the utility bills. The installed cost for the three Field's Point turbines is included in Project



- 12100C and was a total of \$14,758,502 million, this does not include Planning costs.
- b. The cost for the three Field's Point turbines is included in Project 12100C. NBC does not track the cost and depreciation by turbine. The total cost capitalized for Project 12100C Wind Turbines was \$14,758,502. The year-to-date depreciation is \$4,980,990.
  - c. The depreciation recorded each month for Project 12100C Wind Turbines is \$61,493.
  - d. There are many reasons beyond blade repairs that cause the turbines to experience downtime. In the response to 4-11a we have provided the monthly total hours of downtime along with some explanation on the cause of those downtimes.
    - 06/13/2017 through 06/26/2017 turbines were down for blade repair; total turbine hours of downtime 113 hours.
    - 05/30/2019 through 06/02/2019 turbines were down for blade repair; total turbine hours of downtime 116 hours.
  - e. All work will be completed within 20 business days (roughly 4 weeks) and is subject to change based on weather.
  - f. The cost of blade repairs is accounted for in NBC operating expense.
  - g. Based on an initial draft Proposal, NBC may spend upwards of approximately \$161,500 (+/-) to repair the leading-edges of the Field's Point wind turbines. This price assumes that all work will be completed within 20 business days (roughly 4 weeks) and is subject to change based on weather conditions. Adverse weather conditions could potentially prolong the proposed construction activities and increase cost.
  - h. See Attachment 4-11 i. for the cost-benefit analysis which was provided to the Division of Public Utilities And Carriers in Docket D-12-7.
  - i. The useful life of properly maintained wind turbine blades is approximately 20 years. NBC used 20 years in the cost-benefit analysis of the Field's Point Turbines.
  - j. Wind turbine blades are typically not covered under warranty as they are expected to experience wear and tear that is dependent on site-specific conditions. A good maintenance program on the blades will ensure they are operating at peak efficiency and will extend the useful life of the blades. NBC has an availability guarantee as part of our long-term service agreement with the manufacturer. The turbines are guaranteed to be available 95% of the time, although down-time due to things outside of the control of the manufacturer are not included (e.g. weather, grid failures, other equipment failures, etc.). NBC is compensated for lost revenue that would have been earned had the turbine achieved 95% availability.

	FP A kWh	FP B kWh	FP C kWh	Sum kWh	Downtime (Turbine- Hours)	Notes
November 1, 2012	90,000	100,000	99,000	289,000	0	
December 1, 2012	163,000	142,000	182,000	487,000	0	
January 1, 2013	243,000	203,000	221,000	667,000	12	
February 1, 2013	156,000	182,000	185,000	523,000	290	Tower foundation bolt tensioning, SCADA comms issues
March 1, 2013	249,000	299,000	318,000	866,000	63	
April 1, 2013	264,000	266,000	261,000	791,000	6	
May 1, 2013	173,000	199,000	193,000	565,000	22	
June 1, 2013	162,000	175,000	121,000	458,000	33	
July 1, 2013	124,000	119,000	131,000	374,000	6	
August 1, 2013	110,000	104,000	109,000	323,000	3	
September 1, 2013	123,000	130,000	120,000	373,000	1	
October 1, 2013	133,347	127,241	144,686	405,274	29	
November 1, 2013	212,016	202,669	233,839	648,524	17	
December 1, 2013	152,512	140,673	171,621	464,807	63	
January 1, 2014	251,175	263,439	286,814	801,428	14	
February 1, 2014	201,527	168,379	216,193	586,100	191	One year service
March 1, 2014	286,095	279,642	306,407	872,144	14	
April 1, 2014	263,016	306,380	285,607	855,002	0	
May 1, 2014	203,287	215,351	209,349	627,987	0	
June 1, 2014	128,263	147,208	139,524	414,995	0	
July 1, 2014	156,248	189,752	180,352	526,351	73	
August 1, 2014	127,710	127,486	127,454	382,650	13	
September 1, 2014	114,813	125,800	124,675	365,288	64	
October 1, 2014	251,442	242,452	249,170	743,064	85	
November 1, 2014	251,946	230,582	264,110	746,638	45	
December 1, 2014	200,000	198,000	221,000	619,000	0	
January 1, 2015	321,000	302,000	310,000	933,000	46	
February 1, 2015	269,000	285,000	300,000	854,000	4	
March 1, 2015	270,000	248,000	272,000	790,000	5	
April 1, 2015	271,000	269,000	284,000	824,000	7	
May 1, 2015	198,000	219,000	205,000	622,000	154	Converter controller exchange, 6 month service yaw brake replacement
June 1, 2015	161,000	169,000	150,000	480,000	24	
July 1, 2015	114,000	112,000	112,000	338,000	51	
August 1, 2015	133,000	130,000	127,000	390,000	9	
September 1, 2015	132,000	140,000	135,000	407,000	110	
October 1, 2015	165,000	160,000	182,000	507,000	545	Crane operating in the vicinity
November 1, 2015	173,065	184,567	188,962	546,594	217	Tower base fan replacement
December 1, 2015	160,524	154,103	166,076	480,703	63	
January 1, 2016	292,469	282,293	310,014	884,776	27	
February 1, 2016	271,924	261,707	273,601	807,233	158	IGBT fsult #9
March 1, 2016	220,424	235,068	250,177	705,669	186	
April 1, 2016				0	2,160	Warrantee Work
May 1, 2016	194,363	152,580	179,818	526,761	359	Warrantee Work
June 1, 2016	222,457	211,832	201,455	635,745	43	Tourque blade stiffners 500 hour check
July 1, 2016	153,408	144,304	151,759	449,472	4	
August 1, 2016	134,867	124,525	121,211	380,604	81	Scheduled Maintenance
September 1, 2016	157,821	166,244	155,262	479,327	66	
October 1, 2016	197,684	169,929	224,153	591,766	128	PM
November 1, 2016	218,000	219,000	241,000	678,000	0	
December 1, 2016	255,000	226,000	269,000	750,000	6	
January 1, 2017	223,000	220,000	236,000	679,000	426	Grid Issue, Replacing controller
February 1, 2017	260,000	225,000	271,000	756,000	82	
March 1, 2017	402,000	375,000	413,000	1,190,000	89	Crane work, Circuit outage, Generator repair, Grid fault
April 1, 2017	156,000	184,000	243,000	583,000	517	Scheduled maintenance, Error pitch position sensor
May 1, 2017	220,000	219,000	208,000	647,000	71	
June 1, 2017	183,000	191,000	189,000	563,000	113	Installing Leading Edge Protection (blade repair). 6/13-6/26
July 1, 2017	136,000	139,000	140,000	415,000	0	
August 1, 2017	129,000	129,000	127,000	385,000	5	Crane work
September 1, 2017	214,000	229,000	223,000	666,000	16	
October 1, 2017	207,035	214,490	202,303	623,828	0	
November 1, 2017	230,486	223,608	244,448	698,542	0	
December 1, 2017	167,478	158,558	215,520	541,555	0	
January 1, 2018	289,439	305,248	352,516	947,203	165	IGBT Over current converter, Card swap, Voltage adjustment
February 1, 2018	174,688	163,489	176,661	514,838	17	
March 1, 2018	369,275	367,693	406,255	1,143,223	97	
April 1, 2018	246,113	243,478	259,546	749,137	39	
May 1, 2018	135,674	144,335	140,345	420,354	42	
June 1, 2018	137,743	143,730	132,838	414,311	0	
July 1, 2018	202,954	208,563	172,419	583,936	50	
August 1, 2018	123,568	121,484	125,442	370,494	0	
September 1, 2018	106,358	123,510	115,212	345,080	18	
October 1, 2018	182,990	172,664	188,096	543,750	72	
November 1, 2018	249,364	229,675	267,740	746,780	37	
December 1, 2018	221,822	201,971	223,932	647,725	3	
January 1, 2019	291,599	271,997	326,813	890,408	50	
February 1, 2019	218,104	200,491	220,379	638,974	0	
March 1, 2019	263,123	247,984	265,115	776,222	35	
April 1, 2019	321,510	311,305	306,433	939,248	35	

	FP A kWh	FP B kWh	FP C kWh	Sum kWh	Downtime (Turbine- Hours)	Notes
May 1, 2019	199,766	208,760	201,088	609,614	67	Blade Repair 5/30, 5/31
June 1, 2019	178,260	209,363	164,655	552,278	49	Blade Repair 6/01, 6/02
July 1, 2019	119,464	141,570	103,396	364,430	47	
August 1, 2019	129,395	158,622	118,665	406,682	0	
September 1, 2019	133,116	132,774	132,585	398,475	0	
October 1, 2019	235,108	248,530	245,788	729,426	39	
November 1, 2019	250,673	244,091	272,286	767,051	0	
December 1, 2019	218,332	206,398	232,190	656,919	127	Icing
January 1, 2020	249,672	182,429	262,173	694,274	119	Replaced pitch limit switch
February 1, 2020	179,926	173,598	196,986	550,511	6	
March 1, 2020	258,939	272,055	272,675	803,669	38	
April 1, 2020	376,358	375,201	373,751	1,125,310	53	
May 1, 2020	281,359	268,780	288,948	839,087	4	
June 1, 2020	135,083	130,534	131,880	397,497	36	
July 1, 2020	142,677	124,805	130,511	397,993	119	Converter grid side voltage high
August 1, 2020	164,801	154,038	160,599	479,438	84	
September 1, 2020	157,082	170,355	165,767	493,204	26	
October 1, 2020	154,929	160,673	163,577	479,178	0	
November 1, 2020	184,749	169,387	192,128	546,264	0	
December 1, 2020	240,803	157,634	280,678	679,115	198	Comm loss SCADA, IGBT chopper, IGBT#9 replaced
January 1, 2021	230,411	225,872	253,016	709,299	5	
February 1, 2021	206,853	200,774	216,442	624,070	20	
March 1, 2021	318,429	278,665	320,698	917,792	65	
April 1, 2021	281,515	276,715	270,306	828,536	56	
May 21, 2021	193,606	187,019	205,575	586,201	26	
June 1, 2021	124,006	118,454	103,663	346,124	128	IGBT#5 burnt circuit board
July 1, 2021	101,437	96,462	99,892	297,791	155	IGBT#4 removed and installed in location 6
August 1, 2021	108,611	89,653	104,212	302,477	145	IGBT 10, 8, 6, 4 replaced
September 1, 2021	160,644	143,510	157,053	461,207	222	Scheduled inspection, IGBT#7 replaced
October 1, 2021	146,770	108,247	138,862	393,879	279	Gen side capacitor fuse feedback loss
November 1, 2021	189,122	86,148	206,639	481,910	453	Gen side capacitor fuse feedback loss
December 1, 2021	213,652	180,580	220,849	615,080	89	
January 1, 2022	306,917	280,296	325,848	913,061	48	
February 1, 2022	223,905	221,848	227,799	673,552	232	Icing
March 1, 2022	251,274	253,224	284,580	789,078	168	Grid fault, Customer inspection, Icing
April 1, 2022	309,732	287,256	306,463	903,451	55	
May 1, 2022	211,967	213,834	218,059	643,860	12	
June 1, 2022	128,923	126,477	119,164	374,564	38	
July 1, 2022	119,160	116,588	142,254	378,002	116	Comm loss, Inspection
August 1, 2022	120,307	112,617	122,116	355,040	7	
September 1, 2022	128,466	127,214	134,525	390,205	0	
October 1, 2022	176,967	180,891	181,987	539,845	70	
November 1, 2022	220,423	204,332	227,981	652,736	34	
December 1, 2022	294,384	292,371	312,831	899,586	0	

**Project Costs**

Original proposal price (incl 2 yr service)**	\$ 11,653,311
Adjusted price for 82 m blades, etc.	\$ 12,168,511
Adder for delayed electric work on NBC side	\$ 600,000
Adder for electric work on NG side	\$ 1,000,000
Adder for replacing old transformer	not incl.
Subtotal	\$ 13,768,511
SRF Loan Principle Forgiveness	\$ (1,300,000)
<b>Final Total Project Cost to NBC</b>	<b>\$12,468,511</b>

\*\*includes 2 yr O&M and service subtotaling \$124,000

**Other Costs\*\*\***

Continued O&M (\$/yr for all 3)	<b>\$72,900</b>
O&M (\$/kWh produced)	\$0.010

\*\*\* Includes scheduled service, remote monitoring (not spare parts-evaluate during 2 yr warranty period)

<b>Total NBC FP Electric Rates (\$/kWh)</b>	
2007	\$0.107
2008	\$0.107
2009	\$0.115
2010	\$0.113
2011	\$0.114

**Fields Point 2011 Electric Use**

Location	kWh/yr
FP WWTF	11,064,000
ESPS + TPS	6,897,600
Total	17,961,600

**Estimate & Justification of Goldwind 82 Capacity Factor**

CF (assumed and unadjusted)	21.5%
Array loss (estimated by Atlantic) *	10.0%
Availability Loss (factory)	6.3%
Capacity Factor (adjusted)	18.0%
Capacity Factor (Atlantic estimate)	<b>18.0%</b>

**2012 Projected Payback (subject to change)**

Total Project Cost (2012)	\$12,468,511
Electric Production (kWh/yr)	<b>7,113,000</b>
Percent of Facility Use	40%
Electric Savings Rate (kWh based 2011)	\$0.097
Estimated average REC per kWh	\$0.035
O&M Cost per kWh produced	\$0.010
Total Savings Rate per kWh	\$0.122
Simple Pay Back Period (years)	14.4

**From Gilbane Proposal:**

Year	Guaranteed Vensys Availability
1	82.5%
2	82.5%
3	95.0%
4	95.0%
5	95.0%
6	95.0%
7	95.0%
8	95.0%
9	95.0%
10	95.0%
11	95.0%
12	95.0%
13	95.0%
14	95.0%
15	95.0%
16	95.0%
17	95.0%
18	95.0%
19	95.0%
20	95.0%
Average	93.75%

		<b>Electricity Cost (\$/kWh)</b>	<b>REC Value (\$/kWh)</b>	<b>O&amp;M Cost (\$/kWh)</b>	<b>Interest Payment</b>	<b>Effective Cash Flow</b>	<b>Production Cost (\$/kWh)</b>
<b>Production and Cost:</b>	<b>Year</b>						
Number of Turbines	3					-\$12,468,511	
Rated Capacity (kW each)	1,500	\$0.101	\$0.049	\$0.010	\$374,055	\$613,646	\$0.080
Capacity Factor (adjusted)	18.0%	\$0.104	\$0.047	\$0.011	\$360,135	\$639,274	\$0.081
Total Power Output (kWh/yr)	7,113,000	\$0.107	\$0.046	\$0.011	\$345,796	\$665,275	\$0.083
Total Project Cost to NBC	\$12,468,511	\$0.111	\$0.044	\$0.011	\$331,028	\$691,659	\$0.085
<b>Base Year Values:</b>							
Electric Savings (2011 kWh-based)	\$0.097	\$0.114	\$0.043	\$0.011	\$315,816	\$718,438	\$0.087
O&M Cost (\$/kWh produced)	\$0.010	\$0.118	\$0.041	\$0.012	\$300,148	\$745,625	\$0.088
Estimated best REC Price (\$/kWh)	\$0.050	\$0.121	\$0.040	\$0.012	\$284,010	\$773,231	\$0.090
<b>Annual Values:</b>							
Bond Interest Rate	3.00%	\$0.124	\$0.038	\$0.012	\$267,388	\$801,270	\$0.092
General Inflation Rate	2.50%	\$0.128	\$0.037	\$0.012	\$250,267	\$829,754	\$0.094
Annual Electric Cost Inflation	3.50%	\$0.131	\$0.035	\$0.013	\$232,633	\$858,698	\$0.096
Estimated best REC Price at 20 yr	\$0.020	\$0.135	\$0.034	\$0.013	\$214,470	\$888,116	\$0.097
<b>Average Lifecycle Values: (\$/kWh)</b>							
Grid Electricity Cost (kWh based)	\$0.13	\$0.138	\$0.032	\$0.013	\$195,761	\$918,021	\$0.099
Turbine Electric Production Cost	\$0.10	\$0.141	\$0.031	\$0.014	\$176,492	\$948,430	\$0.101
Rate of Savings	\$0.04	\$0.145	\$0.029	\$0.014	\$156,644	\$979,357	\$0.103
Total Savings	\$5,158,969	\$0.148	\$0.028	\$0.014	\$136,201	\$1,010,818	\$0.105
Actual Payback Period (years)	14.1	\$0.152	\$0.026	\$0.015	\$115,145	\$1,042,829	\$0.107
Internal Rate of Return	3.2%	\$0.155	\$0.025	\$0.015	\$93,457	\$1,075,408	\$0.109
		\$0.158	\$0.023	\$0.016	\$71,118	\$1,108,571	\$0.110
		\$0.162	\$0.022	\$0.016	\$48,109	\$1,142,337	\$0.112
		\$0.165	\$0.020	\$0.016	\$24,410	\$1,176,724	\$0.114
	<b>Avg or Total</b>	<b>\$0.133</b>	<b>\$0.034</b>	<b>\$0.013</b>	<b>\$4,293,085</b>	<b>\$17,627,480</b>	<b>\$0.097</b>

**DIV 4-12. Sale of RECs:**

- a. For each month of 2021, 2022 and 2023 to date, please identify the quantity (and type if applicable)<sup>1</sup> of all sales of RECs by NBC and identify and provide the amounts of REC sales proceeds.
- b. Also, identify and itemize any related costs related to sales of RECs by NBC, such as but not limited to broker fees and/or other REC sales transaction costs.
- c. Did NBC retire any RECs in 2021, 2022 and 2023 to date? If so, identify the quantities of RECs retired by NBC in each year.
- d. For FY 2023 and FY2024, does NBC plan to retire any RECs? If so, identify the quantities of RECs that NBC projects retiring in each fiscal year.

**Response:**

a.

**Narragansett Bay Commission  
Renewal Energy Credits (RECs)**

2021				
Month	Source	RECs	Price per REC	Total Proceeds
Jan-21	Wind	2,851	\$ 26.50	\$ 75,552
Jan-21	Wind	822	\$ 18.00	\$ 14,796
Jan-21	Solar	2,206	\$ 18.00	\$ 39,708
Apr-21	Wind	865	\$ 18.00	\$ 15,570
Apr-21	Wind	4,964	\$ 17.50	\$ 86,870
Apr-21	Solar	1,095	\$ 17.50	\$ 19,163
Jul-21	Wind	4,999	\$ 27.00	\$ 134,973
Jul-21	Wind	1,488	\$ 22.00	\$ 32,736
Jul-21	Solar	1,458	\$ 22.00	\$ 32,076
Oct-21	Wind	3,891	\$ 27.00	\$ 105,057
Oct-21	Wind	1,304	\$ 22.00	\$ 28,688
Oct-21	Solar	2,381	\$ 22.00	\$ 52,382
Total		28,324		637,570

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<sup>1</sup> E.g., solar, wind, biogas, other.

**Narragansett Bay Commission  
Renewal Energy Credits (RECs)**

2022				
Month	Source	RECs	Price per REC	Total Proceeds
Jan-22	Wind	2,349	\$ 27.00	\$ 63,423
Jan-22	Wind	757	\$ 22.00	\$ 16,654
Jan-22	Solar	1,963	\$ 22.00	\$ 43,186
Jan-22	Biogas	19	\$ 22.00	\$ 418
Apr-22	Wind	761	\$ 27.00	\$ 20,547
Apr-22	Wind	4,068	\$ 22.00	\$ 89,496
Apr-22	Solar	1,295	\$ 22.00	\$ 28,490
Apr-22	Biogas	1	\$ 22.00	\$ 22
Jul-22	Wind	5,912	\$ 22.50	\$ 133,020
Jul-22	Solar	1,417	\$ 22.50	\$ 31,883
Jul-22	Biogas	1	\$ 22.50	\$ 23
Oct-22	Wind	4,849	\$ 22.50	\$ 109,103
Oct-22	Solar	2,385	\$ 22.50	\$ 53,663
Total		25,777		589,926

2023				
Month	Source	RECs	Price per REC	Total Proceeds
Jan-23	Wind	3,310	\$ 22.50	\$ 74,475
Jan-23	Solar	644	\$ 21.50	\$ 13,846
Jan-23	Solar	2,126	\$ 22.50	\$ 47,835
Total		6,080		136,156

- b. Below are the current costs related to sale of RECs.
- Independent Meter Reading Services and Registering RECs for FP Turbines and Biogas Engine -\$5,750 per year.
  - Execute REC sales on NEPOOL GIS - \$6,000 per year (covers all NBC’s RECs).
- c. No.
- d. NBC does not intend to retire any RECs for FY 2023 or FY 2024.

**Prepared by:** James Kelly

**DIV 4-13.** Concerning NBC's electricity cost:

- a. Does NBC believe that the annual amount of its electricity costs is material to NBC's financial health? If not, explain fully why not.
- b. Does NBC believe that the annual amount of its electricity costs is subject to volatility that is beyond the ability of NBC's management to limit or control? If not, explain fully why not.
- c. If a cost is material, volatile, and beyond the ability of a utility's management to limit or control, does NBC believe that having an adjustor mechanism for fluctuations in that cost, such as potentially fluctuations in NBC's electricity cost for variations above or below the amount that is reflected in NBC's base rates, could be a prudent regulatory policy? If not, explain why not.
- d. Is NBC aware of any water or sewer utilities that have adjustor mechanisms to address fluctuations in their electricity or power costs? If so, please identify and explain NBC's knowledge in this regard.
- e. Does NBC believe that its financial health and stability could be improved prospectively by having an adjustor mechanism to address fluctuations in NBC's electricity or power costs? If not, explain fully why not.

**Response:**

- a. Yes.
- b. Yes.
- c. Yes. NBC believes that some type of mechanism to address fluctuations in electricity costs would be a prudent regulatory policy. It would allow NBC to avoid filing full rate cases to address fluctuating electricity costs.
- d. NBC is not aware of any water or sewer utilities that have an adjustor mechanism to address fluctuations in their electricity or power costs.
- e. Yes.

**Prepared by:** Karen Giebink



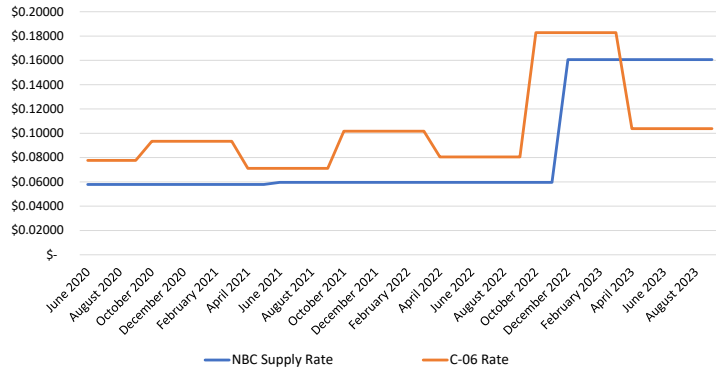
**DIV 4-14.** Refer to slide 33 from NBC’s February 16, 2023 presentation. Please show in more detail by providing supporting calculations for each rate that is shown on the “Composite Rate / kWh” line, including the \$0.1767, the \$0.2268, the \$0.2721 and the \$0.1931 rates. Please include related Excel files showing calculations with your response.

**Response:** The composite rate equals the C-06 Rate plus the Delivery/Taxes/Customer Charges. The "Average" C-06 rate is a weighted average of C-06 rates in use during the 12 months of FY 2022 and the projected FY 2023. Please see below and Attachment DIV 4-14 for the excel version.

Effective	C-06 Rate	Delivery/Taxes/ Customer Charges	Composite Rate		
Jul-21	\$ 0.07111	\$ 0.08798	\$ 0.15909	3	Months
Oct-21	\$ 0.10174	\$ 0.08798	\$ 0.18972	6	Months
Apr-22	\$ 0.08047	\$ 0.08798	\$ 0.16845	3	Months
Average	\$ 0.08877	\$ 0.08798	<b>\$ 0.17675</b>	<b>FY 2022 Actual</b>	
Jul-22	\$ 0.08047	\$ 0.08929	\$ 0.16976	3	Months
Oct-22	\$ 0.18279	\$ 0.08929	\$ 0.27208	6	Months
Apr-23	\$ 0.10385	\$ 0.08929	\$ 0.19314	3	Months
Average	\$ 0.13748	\$ 0.08929	<b>\$ 0.22677</b>	<b>FY 2023 Projected</b>	
Oct-22	\$ 0.18279	\$ 0.08929	<b>\$ 0.27208</b>	<b>Used for Rate Case</b>	
Apr-23	\$ 0.10385	\$ 0.08929	<b>\$ 0.19314</b>	<b>FY 2024 Updated C-06 Rate</b>	

**Prepared by:** James Kelly

Month	Year	NBC Supply Rate	C-06 Rate
June	2020	0.05786	0.07764
July	2020	0.05786	0.07764
August	2020	0.05786	0.07764
September	2020	0.05786	0.07764
October	2020	0.05786	0.09334
November	2020	0.05786	0.09334
December	2020	0.05786	0.09334
January	2021	0.05786	0.09334
February	2021	0.05786	0.09334
March	2021	0.05786	0.09334
April	2021	0.05786	0.07111
May	2021	0.05786	0.07111
June	2021	0.05956	0.07111
July	2021	0.05956	0.07111
August	2021	0.05956	0.07111
September	2021	0.05956	0.07111
October	2021	0.05956	0.10174
November	2021	0.05956	0.10174
December	2021	0.05956	0.10174
January	2022	0.05956	0.10174
February	2022	0.05956	0.10174
March	2022	0.05956	0.10174
April	2022	0.05956	0.08047
May	2022	0.05956	0.08047
June	2022	0.05956	0.08047
July	2022	0.05956	0.08047
August	2022	0.05956	0.08047
September	2022	0.05956	0.08047
October	2022	0.05956	0.18279
November	2022	0.05956	0.18279
December	2022	0.16060	0.18279
January	2023	0.16060	0.18279
February	2023	0.16060	0.18279
March	2023	0.16060	0.18279
April	2023	0.16060	0.10385
May	2023	0.16060	0.10385
June	2023	0.16060	0.10385
July	2023	0.16060	0.10385
August	2023	0.16060	0.10385
September	2023	0.16060	0.10385
October	2023	0.16060	0.10385
November	2023	0.16060	0.10385



Composite rate equals C-06 Rate plus Delivery/Taxes/Customer Charges.

The "Average" C-06 rate is a weighted average of C-06 rates in use during the 12 months of FY 2022 and the projected FY 2023.

Effective	C-06 Rate	Delivery/Taxes/ Customer		Composite Rate		
		Charges				
Jul-21	\$ 0.07111	\$ 0.08798	\$ 0.15909	3	Months	
Oct-21	\$ 0.10174	\$ 0.08798	\$ 0.18972	6	Months	
Apr-22	\$ 0.08047	\$ 0.08798	\$ 0.16845	3	Months	
Average	\$ 0.08877	\$ 0.08798	<b>\$ 0.17675</b>			<b>FY 2022 Actual</b>
Jul-22	\$ 0.08047	\$ 0.08929	\$ 0.16976	3	Months	
Oct-22	\$ 0.18279	\$ 0.08929	\$ 0.27208	6	Months	
Apr-23	\$ 0.10385	\$ 0.08929	\$ 0.19314	3	Months	
Average	\$ 0.13748	\$ 0.08929	<b>\$ 0.22677</b>			<b>FY 2023 Projected</b>
Oct-22	\$ 0.18279	\$ 0.08929	<b>\$ 0.27208</b>			<b>Used for Rate Case</b>
Apr-23	\$ 0.10385	\$ 0.08929	<b>\$ 0.19314</b>			<b>FY 2024 Updated C-06 Rate</b>

**DIV 4-15.** Refer to slides 32 and 33 from NBC's February 16, 2023 presentation.

- a. Identify and provide the source for the C-06 rate that NBC used on slide 32, particularly for the C-06 rates shown for December 2022 through August 2023.
- b. If the C-06 rate is higher than NBC's supply rate, how does that impact NBC's use of self-generated electricity? Explain fully.
- c. During periods when the C-06 rate is higher than NBC's supply rate, would NBC be better off purchasing power and not relying upon self-generated electricity? Explain fully.
- d. What is the source for the C-06 rates of \$0.18279 and \$0.10385 listed on slide 24?
- e. What C-06 rate is currently applicable to NBC?
- f. Based on the best available information currently available to NBC, what is NBC's current expectation for the C-06 rate for FY2024? Explain fully and provide related analysis supporting NBC's expectation.

**Response:**

- a. The C-06 rates in place through 3/31/2023 are posted by RI Energy. Please see Attachment DIV 4-15 A LSR Rates. This listing can also be found here:

[https://www.rienergy.com/media/ri-energy/pdfs/billing-and-payments/ri\\_lrs\\_rates\\_table.pdf](https://www.rienergy.com/media/ri-energy/pdfs/billing-and-payments/ri_lrs_rates_table.pdf)

The anticipated C-06 rate effective 4/1/2023 through 9/30/2023 was published as part of RI Energy's legal notice filing. Attachment DIV 4-15 A RI Energy.

- b. The C-06 rate relative to the NBC's supply rate does not impact NBC's use of self-generated electricity. It does affect the economics of our use of self-generated electricity. Net Metering legislation impacts our use of self-generated electricity. This legislation allows NBC to self-generate 100% of the electricity used at various NBC facilities. The legislation further stipulates that if NBC self-generates more electricity than used, then the excess electricity is devalued. NBC has been careful to avoid excess generation, so full value for any net metered electricity is always received.

See the 3 cases below to fully explain the economics.

For remote net-metered generation facilities the value of the credits is called the Renewable net-meter credit (\$/kWh) which is defined as the sum of the Standard-offer

(fixed C-06), Distribution kilowatt-hour charge, Transmission kilowatt-hour charge, and Transition kilowatt-hour charge. NBC’s composite rate is defined as the total cost on an electric bill divided by the kWh used. To simplify, the main drivers of these two rates, the C-06 supply rate and NBC’s competitive supply rate, which are also the major drivers for change in the effective or composite rates. The impacts of how changes to these rates affect the final bill NBC pays to Rhode Island Energy are in the following table using the projected FY23 NBC composite rate of \$0.1916/kWh.

Case	Amount of Electricity Generated by Remote Net-Metered Generation Sites (kWh)	Amount of Electricity Used by the NBC (kWh)	Dollars Charged to the NBC by Electric utility
Case 0 – No renewable energy generated	0	5,219,207	\$1,000,000
Case 1 – renewable generation credit is half NBC’s composite rate	5,219,207	5,219,207	\$500,000
Case 2 – renewable generation credit is equal to NBC’s composite rate	5,219,207	5,219,207	\$0
Case 3 – renewable generation credit is twice NBC’s composite rate	5,219,207	5,219,207	-\$500,000

In Cases 1, 2, and 3 there is a reduction in what is owed to the electric utility when compared to Case 0 as a result of renewable generation credits. In Case 1, renewable generation rates are half the NBC composite rate, so the bill to the NBC is reduced by half. In Case 2, NBC’s bill is \$0 because the renewable credits are equal to the composite rate. In Case 3, NBC would earn a net credit on the utility bill because the renewable credits exceed the composite rate charged. This analysis ignores the costs of generating the self-supplied energy, that will be explored in the response to 4-15 c.

- c. There might be some situations where NBC would be better off purchasing electricity from

the grid than from self-supplied sources but the ratio of C-06 rate to NBC supply costs is not one of them. For the self-supplied energy obtained from our power purchase agreements it is always beneficial to NBC since the contract is structured such that the electrical costs to NBC are always at a 25% discount. For the self-supplied electricity generated by NBC-owned assets the only metric that matters is the cost to generate the electricity compared to the applicable rate (C-06 for remote sites and NBC composite rate for on-site generated)

- d. Please see response to 4-15 a above.
- e. 18.279 cents/kWh is the C-06 rate that will be in effect until 03/31/2023. Please see response to 4-15 a above for a reference.
- f. C-06 rates historically increase in October.

**Prepared by:** James Kelly

Last Resort Service (LRS) Rates for All Customers*					
Total Commodity Charge (Cents / kWh)					
(Includes Base LRS charge, LRS Adjustment Factor, LRS Administrative Cost Factor, and Renewable Energy Standard Charge)					
Residential Customer Group - includes Basic Residential (A-16), Residential Low Income (A-60)					
Commercial Customer Group - includes Small C&I (C-06), General C&I (G-02), Streetlighting (S-05, S-06, S-10, S-14)					
Industrial Customer Group - includes Large Demand Back-up Service (B-32), Large Demand Rate (G-32), Electric Propulsion (X-1)					
* Standard Offer Service Terminated December 31, 2020 and Last Resort Service began January 1, 2021					
Fixed Price Effective for Usage During the Period of:	RESIDENTIAL FIXED PRICE	COMMERCIAL FIXED PRICE	Variable Price Effective for Usage During the Month of:	COMMERCIAL VARIABLE PRICE	INDUSTRIAL VARIABLE PRICE
10/1/22 - 3/31/23	17.785	18.279	March, 2023	17.846	31.710
			February, 2023	19.246	40.887
			January, 2023	19.357	40.727
			December, 2022	18.743	39.974
			November, 2022	17.578	23.801
			October, 2022	16.863	14.397
4/1/22 - 9/30/22	7.810	8.047	September, 2022	7.369	11.858
			August, 2022	7.689	13.160
			July, 2022	7.791	13.241
			June, 2022	7.487	8.187
			May, 2022	8.820	8.345
			April, 2022	9.368	9.804
10/1/21 - 3/31/22	10.882	10.174	March, 2022	9.620	15.368
			February, 2022	11.402	22.843
			January, 2022	11.384	24.153
			December, 2021	10.356	10.425
			November, 2021	9.491	7.786
			October, 2021	8.737	6.536
4/1/21 - 9/30/21	7.628	7.111	September, 2021	6.730	5.250
			August, 2021	6.846	5.429
			July, 2021	6.982	5.557
			June, 2021	6.726	5.144
			May, 2021	7.444	6.054
			April, 2021	8.094	6.715
10/1/20 - 3/30/21	10.370	9.334	March, 2021	8.930	8.526
			February, 2021	11.145	10.264
			January, 2021	11.226	10.531
			December, 2020	9.552	8.736
			November, 2020	7.983	7.204
			October, 2020	6.979	6.198
4/1/20 - 9/30/20	8.299	7.764	September, 2020	7.146	6.262
			August, 2020	7.380	6.308
			July, 2020	7.442	6.606
			June, 2020	7.076	6.998
			May, 2020	8.539	7.749
			April, 2020	9.195	9.954
10/1/19 - 3/31/20	10.957	10.248	March, 2020	9.492	9.818
			February, 2020	12.674	12.371
			January, 2020	12.562	12.487
			December, 2019	10.464	9.985
			November, 2019	8.402	8.327
			October, 2019	7.614	8.001
4/1/19 - 9/30/19	9.240	General C&I (G-02) and Streetlighting 8.290	September, 2019	7.393	7.447
		Small C&I (C-06) Only 9.113	August, 2019	7.342	6.733
			July, 2019	7.545	7.242
			June, 2019	7.310	7.296
			May, 2019	9.885	10.139
			April, 2019	10.757	11.430
10/1/18 - 3/31/19	10.990	General C&I (G-02) and Streetlighting 11.880	March, 2019	11.077	10.246
		Small C&I (C-06) Only 10.990	February, 2019	14.496	14.430
			January, 2019	14.012	14.919
			December, 2018	11.817	10.671
			November, 2018	10.034	8.099
			October, 2018	9.632	7.740
4/1/18 - 9/30/18	8.486	8.190	September, 2018	8.453	6.917
			August, 2018	8.417	7.343
			July, 2018	8.514	7.366
			June, 2018	8.450	6.774
			May, 2018	7.301	5.396
			April, 2018	7.842	5.913
10/1/17 - 3/31/18	9.515	9.350	March, 2018	8.827	7.567
			February, 2018	11.585	10.204
			January, 2018	11.527	10.522
			December, 2017	9.201	8.011
			November, 2017	7.802	6.046
			October, 2017	6.969	5.264
4/1/17 - 9/30/17	6.228	6.156	September, 2017	6.461	5.926
			August, 2017	6.855	6.398
			July, 2017	6.910	6.554
			June, 2017	6.640	5.514
			May, 2017	4.512	4.336
			April, 2017	5.098	4.814
10/1/16 - 3/31/17	8.179	8.396	March, 2017	8.010	5.677
			February, 2017	10.483	8.345
			January, 2017	10.722	8.474
			December, 2016	8.287	6.416
			November, 2016	6.703	4.626
			October, 2016	5.998	3.947

Last Resort Service (LRS) Rates for All Customers*					
Total Commodity Charge (Cents / kWh)					
(Includes Base LRS charge, LRS Adjustment Factor, LRS Administrative Cost Factor, and Renewable Energy Standard Charge)					
Residential Customer Group - includes Basic Residential (A-16), Residential Low Income (A-60)					
Commercial Customer Group - includes Small C&I (C-06), General C&I (G-02), Streetlighting (S-05, S-06, S-10, S-14)					
Industrial Customer Group - includes Large Demand Back-up Service (B-32), Large Demand Rate (G-32), Electric Propulsion (X-1)					
* Standard Offer Service Terminated December 31, 2020 and Last Resort Service began January 1, 2021					
Fixed Price Effective for Usage During the Period of:	RESIDENTIAL	COMMERCIAL	Variable Price Effective for Usage During the Month of:	COMMERCIAL	INDUSTRIAL
	FIXED PRICE	FIXED PRICE		VARIABLE PRICE	VARIABLE PRICE
4/1/16 - 9/30/16	8.679	8.364	September, 2016	5.828	4.001
			August, 2016	6.165	4.731
			July, 2016	6.584	5.035
			June, 2016	6.554	4.673
			May, 2016	6.238	4.468
			April, 2016	7.218	5.018
1/1/16 - 3/31/16	8.901	8.327	March, 2016	9.741	8.308
			February, 2016	13.500	10.954
			January, 2015	13.814	11.199
4/1/15 - 12/31/15	10.405	8.985	December, 2015	14.124	10.542
			November, 2015	9.548	7.528
			October, 2015	7.386	5.950
			September, 2015	7.230	5.798
			August, 2015	7.876	6.419
			July, 2015	8.266	7.126
			June, 2015	7.602	6.245
			May, 2015	6.343	5.461
			April, 2015	7.513	6.158
			March, 2015	11.713	12.585
1/1/15 - 3/31/15	10.728	12.139	February, 2015	18.361	20.868
			January, 2015	18.846	20.820
			December, 2014	13.614	14.585
7/1/14 - 12/31/14	8.359	9.281	November, 2014	9.809	7.547
			October, 2014	7.565	5.799
			September, 2014	7.529	7.125
			August, 2014	8.609	8.054
			July, 2014	9.006	8.779
			June, 2014	7.203	8.570
4/1/14 - 6/30/14	9.161	9.381	May, 2014	6.699	6.875
			April, 2014	7.157	8.494
			March, 2014	8.343	7.280
1/1/14 - 3/31/14	8.884	9.076	February, 2014	12.574	11.727
			January, 2014	12.700	11.959
			December, 2013	9.184	9.436
7/1/13 - 12/31/13	7.079	7.462	November, 2013	7.468	5.824
			October, 2013	6.826	4.956
			September, 2013	6.614	5.938
			August, 2013	7.305	6.690
			July, 2013	7.496	7.014
			June, 2013	6.295	6.102
4/1/13 - 6/30/13	7.327	7.241	May, 2013	6.063	5.297
			April, 2013	6.454	5.764
			March, 2013	6.626	6.208
1/1/13 - 3/31/13	7.188	7.086	February, 2013	8.402	8.335
			January, 2013	8.835	8.915
			December, 2012	7.099	6.052
7/1/12 - 12/31/12	6.927	6.222	November, 2012	6.119	5.001
			October, 2012	5.899	4.851
			September, 2012	5.843	4.760
			August, 2012	6.212	4.700
			July, 2012	6.246	4.699
			June, 2012	6.969	4.341
4/1/12 - 6/30/12	7.882	7.809	May, 2012	7.109	4.730
			April, 2012	7.195	4.788
			March, 2012	6.991	6.309
1/1/12 - 3/31/12	7.558	7.381	February, 2012	8.403	7.959
			January, 2012	8.673	8.573
			December, 2011	7.312	7.603
4/1/11 - 12/31/11	6.902	6.999	November, 2011	6.978	6.373
			October, 2011	6.878	6.088
			September, 2011	6.757	6.718
			August, 2011	7.143	6.663
			July, 2011	7.089	6.495
			June, 2011	6.700	6.250
			May, 2011	6.980	6.377
			April, 2011	7.144	6.370



**Residential and Commercial Retail Prices for the Period April 2023 through September 2023 and  
Industrial Retail Prices for the Period April 2023 through June 2023**

**R.I.P.U.C. Docket No. 23-01-EL**

On January 19, 2023, The Narragansett Electric Company d/b/a Rhode Island Energy ("Company") filed with the Rhode Island Public Utilities Commission ("PUC") its Last Resort Service ("LRS") rates for the Residential and the Commercial Groups for the period April 2023 through September 2023, and LRS rates for the Industrial Group for the period April 2023 through June 2023. These prices were submitted pursuant to the Company's LRS Procurement Plan ("Plan"), which the PUC approved in Docket No. 4978 at an Open Meeting on July 23, 2020 and which was continued for this procurement through an Open Meeting on December 22, 2022 in Docket No. 22-02-EL. The Company's Plan is designed to procure energy supply to meet the requirements of LRS customers.

The proposed schedule of LRS rates is below. These rates include the currently-effective Last Resort Service Adjustment Factors, Last Resort Service Administrative Cost Factors, and the Renewable Energy Standard Charge. These additional rates took effect on April 1, 2022. New factors designed to recover or refund any over- or under-recoveries incurred in calendar year 2022 will be proposed in filings to be submitted in mid-February 2023, with a proposed effective date of April 1, 2023. As a result, the LRS rates listed below will change:

<u>Rate Class/Effective Date</u>	<u>Last Resort Service Rate</u>
Residential Group (Rates A-16, A-60)	
April 2023 through September 2023	9.761¢ per kWh

The impact on a typical residential customer using 500 kWh per month is a decrease of \$35.55 per month, or 24.0%.

**Commercial Group (Rates C-06, G-02, S-05, S-06, S-10, S-14)**

Variable Price Option

April 2023:	11.609¢ per kWh
May 2023:	11.266¢ per kWh
June 2023:	9.748¢ per kWh
July 2023:	10.200¢ per kWh
August 2023:	10.013¢ per kWh
September 2023:	9.702¢ per kWh

Fixed Price Option

April 2023 through September 2023	10.385¢ per kWh
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Note: The Fixed Price Option will be the customary option for customers served under rate C-06. The Variable Price Option will be customary option for customers served under rates G-02, S-05, S-06, S-10, and S-14.

**Industrial Group (Rates B-32, G-32, and X-01)**

April 2023:	12.831¢ per kWh
May 2023:	12.054¢ per kWh
June 2023:	12.672¢ per kWh

A copy of the filing is on file for examination at the Public Utilities Commission, 89 Jefferson Blvd., Warwick, Rhode Island or on the Commission's website at <https://ripuc.ri.gov/Docket-23-01-EL>. This notice is given pursuant to the provisions of R.I. Gen. Laws § 39-3-11.

Rhode Island Energy

**CERTIFICATION**

I hereby certify that on March 9, 2023, I sent a copy of the within to all parties set forth on the attached Service List by electronic mail and copies to Luly Massaro, Commission Clerk, by electronic mail and regular mail.

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