

# Demand Response RFN Training

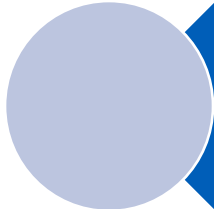
# Speaker Introductions



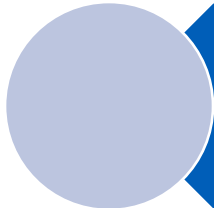
Elliott Mills, Lead Engineer Demand Response



Yash Patel, Lead Engineer Demand Response



Ryan Brager, Demand Response Product Manager



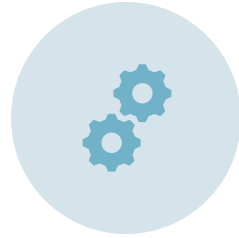
Larry Guenther, Demand Response Support

# Agenda

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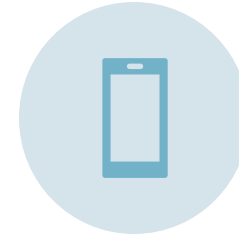
DEMAND  
RESPONSE  
OVERVIEW



DEMAND  
RESPONSE  
SETUP



EVENT  
OPERATIONS



DEVICE  
MANAGEMENT



USEFUL TOOL

# Why Demand Response (DR)?

## Reduce power supply costs

- Turn customer loads off during monthly billing peaks (co-ops and munis)
- Avoid building/buying generation capacity (IOUs and G&Ts)

## Reduce Transmission and Distribution costs

- Controlling peak demands may also reduce a utility's transmission costs
- Delaying construction costs for a few years can pay for the project

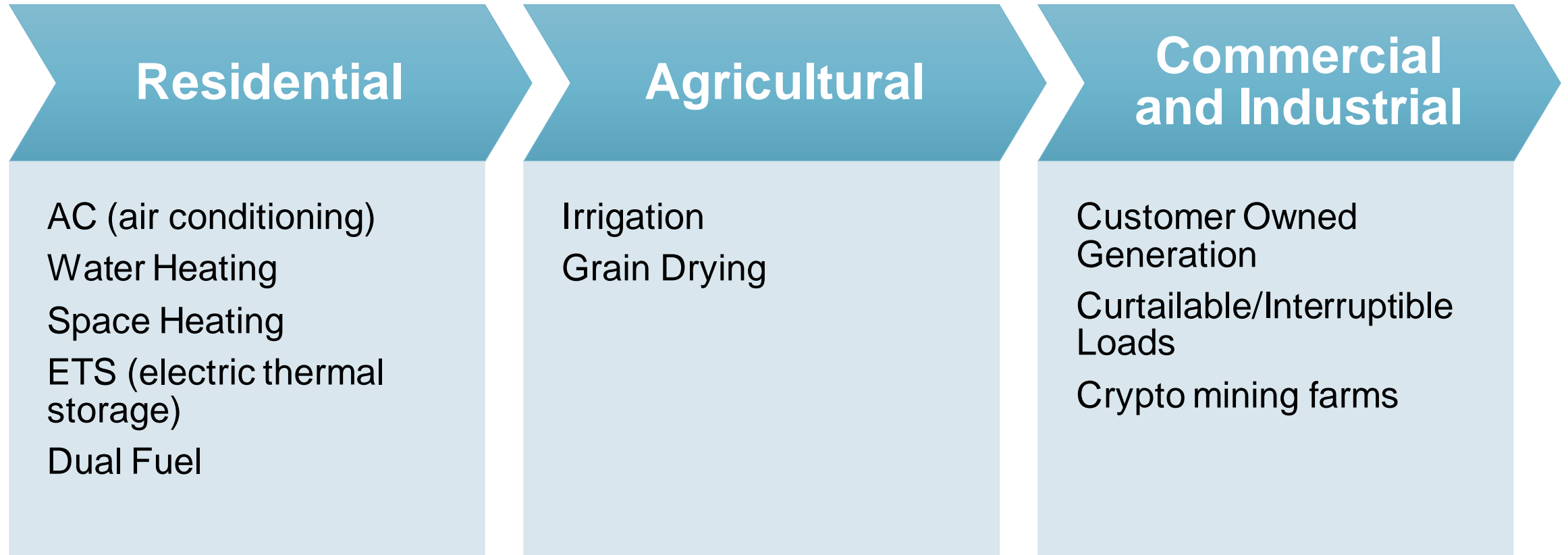
## Frequency and Voltage support

- Line Under Frequency (LUF) & Line Under Voltage (LUV)
- Dispatch control

## Risk Management

- It can be less expensive to turn off the load than to serve it
- Increased PV and EV penetration will create more DR opportunity

# DR Customer Load Examples:



And more....

# DR Communications Options






## One-Way

1. Ripple ( really old)
2. PLC (old but still used)
3. FM Side Band (Dead)
4. VHF (EOL soon, still big)
5. 900 MHz paging (EOL soon, still big)

## Two-Way

1. ZigBee (limited 2-Way)
2. RFN (902-928 MHz)
3. Itron (SSN) mesh
4. Cellular Cat-M1 (Optional Wi-Fi)

# Eaton DR Switch Menu

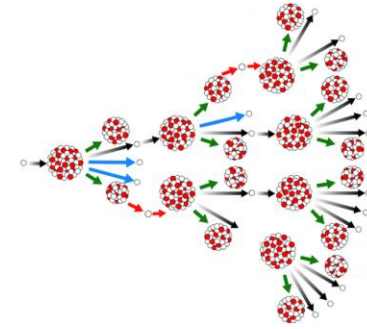
Comms	Old Big Box (up to 3 relays)	Small Box (one 5 amp relay)	New Big Box (up to 3 or 4 relays)	Retrofit Board (up to 3 relays)	Disconnect Meter
PLC	LCR3000 LCR3100 LCR3102				
VHF	LCR4500	LCR4700	LCR4600	LCR4601	
900 MHZ Paging	LCR5000	LCR5200	LCR5600	LCR5001 LCR5601	
RFN		LCR6200RFN	LCR6600RFN LCR6700RFN	LCR6701RFN	
Itron SSN		LCR6200S LCR6201S	LCR6600S	LCR6601S	
ZigBee		LCR6200Z	Big Box LCR6200Z	LCR6201Z	
Cellular Cat-M1 w/ Opt Wi-Fi		LCR6200C <b>LCR7200C</b> <b>LCR7201C board only</b>	LCR6600C <b>LCR7600C/w</b>	<b>LCR7601C/W</b>	

EOL  
2024

One-way

Two-way

# RFN Communications



- Unicast
  - Hops across the system like AMI communications
    - Least cost route to get to the target device
  - For DR unicast used for
    - enrollment (addressing)
    - in and out of service,
    - Anything with a serial number as the target
    - Standard 24-hour reporting
- Broadcast
  - Message explodes across the system for DR control
    - Every node (LCR or Meter) that hears the broadcast message repeats it 3 times.
      - Node does not rebroadcast duplicates
      - Node does not rebroadcast old messages (older than 15 minutes)
  - Message can jump across gateway branches





# ExpressCom Protocol

Message = address + instructions

If addressing sent matches addressing in LCR, then LCR does the instruction

## Addressing (Load Group):

LCR level

SPID = "2000"

Geo = 65,534 options

Sub = 65,534 options

Feeder = 16 options (bit mask)

Zip = 16,777,215

UDA = for Eaton use

Relay level

Program = 254 options

Splinter = 254 options

Who

## Instructions (Load Program):

Control (time, ramp)

Cycle (rate, period, ramp, repeats)

Restore

Stop Cycle

Configure:

in & out of service

addressing

other parameters

How



Powering Business Worldwide

# ExpressCom Broadcast Message Example:

u820BB8060A00641E088528v

ExpressCom Addressing				
Device level addressing				
SPID	2000			
GEO	1-65,534			
Sub	1-65,534			
Feeder	1-16 bit mask			
Zip	1-16,777,214			
User	1-65,534			
Load Level	1	2	3	4
Program	1-254	1-254	1-254	1-254
Splinter	1-254	1-254	1-254	1-254

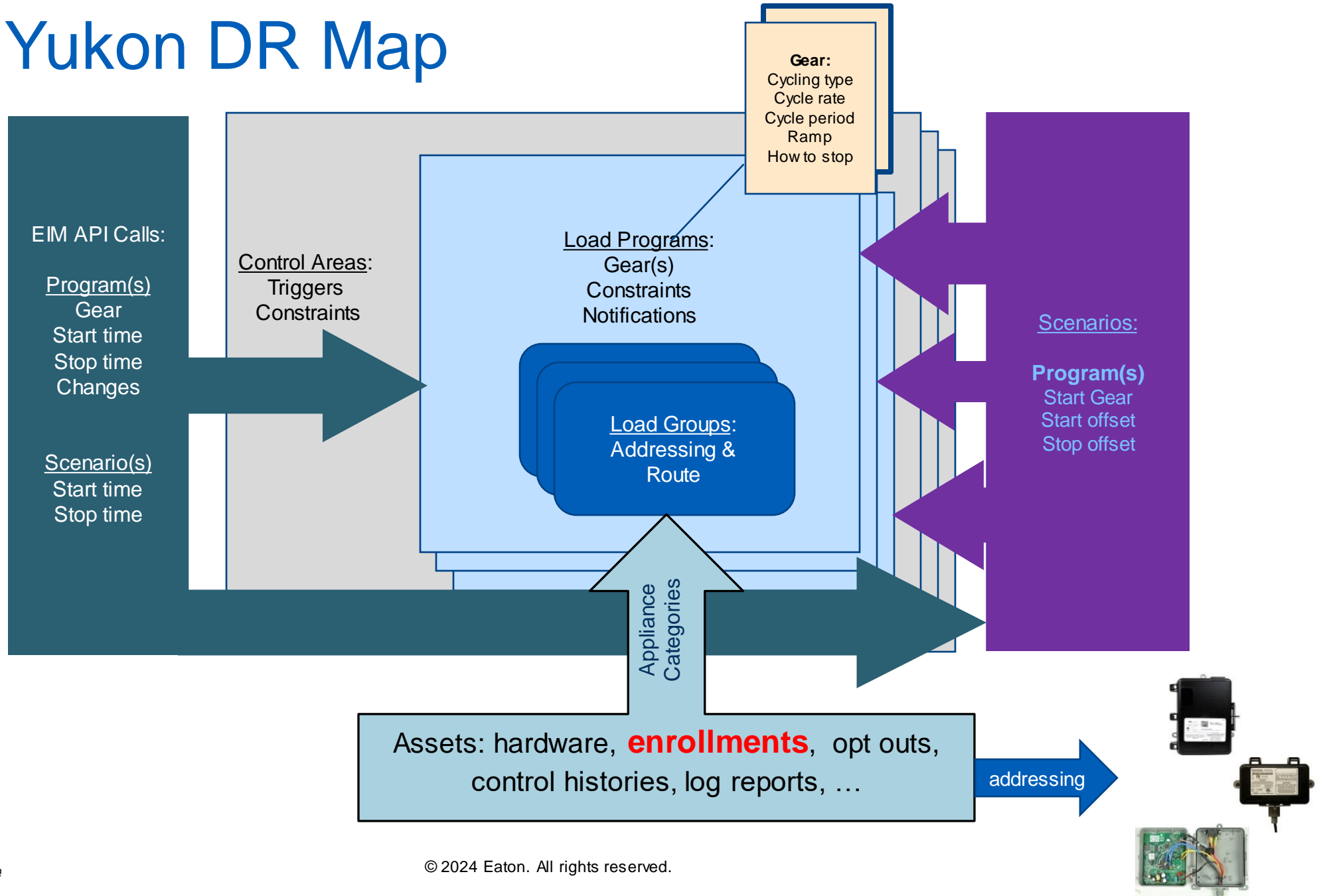
The screenshot shows a window titled "Expresscom Decode" with a standard Windows interface. Inside the window, there is a text input field containing the message "u820BB8060A00641E088528v". Below the input field are two radio buttons: "Contains Address" (which is selected) and "Does Not Contain Address". To the right of these buttons is a "Decode!" button. Below the input field is a "Decoded" section containing the following text: "CRC Enabled. CRC = 8528", "Required Address = 0x82", "SPID = 3000", "PROG = 6", and "->ExpressCom Message Type = Cycle Load Message Relay: 0; 100% for 30 \* 8".



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# DR Setup: Load Group

# Yukon DR Map



# Demand Response: Setup → Create → Load Group

## Type: RFN Expresscom Group

3) Load Groups Group Name	LCR Level Addressing						Relay Addressing		Relay number
	SPID	GEO	Sub	Feed	ZIP	User	Prog	Splinter	
Identifying	RFN system						load type		
							Summer		
<b>rwr Air Conditioning</b>	2000						1		1
<b>rwr Air Conditioning Lite</b>	2000						2		1
								Winter	
<b>rwr Storage Space Heating</b>	2000							11	1
<b>rwr Dual Fuel Heating</b>	2000							12	1
							Year around		
<b>rwr Storage Water Heating</b>	2000						21		2
<b>rwr Peak Shaved Water Heating</b>	2000						22		2
<b>rwr EV Charging</b>	2000						31		3
<b>rwr Commercial Warning</b>	2000						50		1
<b>rwr Commercial Interruptible</b>	2000						51		3
<b>rwr Commercial GenSet</b>	2000						52		3
							Summer		
<b>rwr Irrigation</b>	2000						61		2

### ☆ Create Load Group

**General**

Name:

Type:

- Select
- Digi SEP Group
- ecobee Group
- Emetcon Group
- Expresscom Group
- Honeywell Group
- Itron Group
- MCT Group
- Meter Disconnect Group
- Point Group
- RFN Expresscom Group**
- Ripple Group
- Versacom Group

Home / Demand Response / Setup / Create Load Group

### ☆ Create Load Group

**General**

Name:

Type:

**Geographical Address**

Address Usage:

**Geographical Addressing**

SPID:

**Load Address**

Usage:

**Load Addressing**

Send Loads in Control Message: No

Loads:

**Optional Attributes**

Control Priority:

kW Capacity:

Disable Group:

Disable Control:

# DR Setup: Constraints, Programs, and Gears

<b>4) Load Programs</b> (programs define how the load groups are to be controlled. Triggers can also start and stop programs)	Automatic or Manual	Gear Type	Control or Gear Shed %	Period	Resend Rate	Stop Method	Notes: constraints	
<b>rwr Air Conditioning</b>	Manual	TrueCycle	50%	30	1 hr	stop cycle	May 1 to Oct 1 only	Summer
<b>rwr Air Conditioning Lite</b>	Manual	Smart Cycle	25%	30	1 hr	stop cycle	May 1 to Oct 1 only	Summer
<b>rwr Storage Space Heating</b>	Timed	Smart Cycle	100%	30	2 hr	stop cycle	7:00 to 23:00 control, Oct 1 through May 1 daily	Winter
<b>rwr Dual Fuel Heating</b>	Manual	Smart Cycle	100%	30	1 hr	stop cycle	Oct 1 through May 1 only	Winter
<b>rwr Storage Water Heating</b>	Timed	Smart Cycle	100%	30	2 hr	stop cycle	7:00 to 23:00 control; weekdays only	Weekdays
<b>rwr Peak Shaved Water Heating</b>	Manual	Smart Cycle	100%	30	1 hr	stop cycle		
<b>rwr EV Charging</b>	Timed	Smart Cycle	100%	30	2 hr	stop cycle	7:00 to 23:00 control; weekdays only	Weekdays
<b>rwr Commercial Warning</b>	Manual	Time Refresh	2 Hr shed	na	1 hr	Restore		
<b>rwr Commercial Interruptible</b>	Manual	Smart Cycle	100%	30	1 hr	stop cycle		
<b>rwr Commercial GenSet</b>	Manual	Smart Cycle	100%	30	1 hr	stop cycle		
<b>rwr Irrigation</b>	Manual	Time Refresh	3 Hr shed	na	1 hr	Restore		
Gear Types: <b>Time Refresh</b> , Rotation, Master Cycle, <b>Smart Cycle</b> , <b>TrueCycle</b> , Latching, Thermostat Setback, No Control								



### Gear Creation

**General**

Gear Name:

Gear Type: 

- Select
- Time Refresh
- Smart Cycle
- Master Cycle
- Rotation
- Latching
- True Cycle
- Magnitude Cycle
- Target Cycle
- Thermostat Ramping
- Simple Thermostat Ramping
- Beat The Peak
- No Control

### Smart Cycle

**General**

Gear Name:

Gear Type:

**Control Parameters**

Control Percent:  %

Cycle Period:

Cycle Count Send Type:

Max Cycle Count:

Starting Period Count:

Command Resend Rate:

**Optional Attributes**

Group Capacity Reduction:  %

When to Change:

**Ramp In**

No Ramp (Expresscom only):

**Stop Control**

How To Stop Control:

Stop command Repeat:

### Gear Creation

**General**

Gear Name:

Gear Type:

**Control Parameters**

Control Percent:  %

Cycle Period:

Cycle Count Send Type:

Max Cycle Count:

Starting Period Count:

Command Resend Rate:

**Optional Attributes**

Group Capacity Reduction:  %

**Ramp In**

No Ramp (Expresscom only):

**Stop Control**

How To Stop Control:

Stop command Repeat:

### Gear Creation

**General**

Gear Name:

Gear Type:

**Control Parameters**

Refresh Shed Type:

Fixed Shed Time:

Command Resend Rate:

Groups Per Send:

Group Selection Method:

**Optional Attributes**

Group Capacity Reduction:  %

When to Change:

**Ramp In**

Ramp In:

**Stop Control**

How To Stop Control:

Stop command Repeat:

# Program Constraints background

---

- Default Constraint – Typically means no constraints
- Seasons and Holidays can only be built in DBE, not moved to the web yet 😊
- Weekday constraint can be built in Setup 😞
- Time of day constraints can be built within the program itself.

# Weekday only



AMI ▾

Demand Response ▾

Volt/Var ▾

Assets ▾

Tools ▾

Admin ▾

[Home](#) / [Demand Response](#) / [Setup](#) / [Edit](#)

## Edit Program Constraint: Weekdays

### General

Name:

Season Schedule:

Max Activate:  Seconds

Max Daily Ops.:

Min Activate:  Seconds

Min Restart:  Seconds

Day Selection:

Holiday Schedule:

Holiday Usage:

### Max Hour Allowance

Daily:

Monthly:

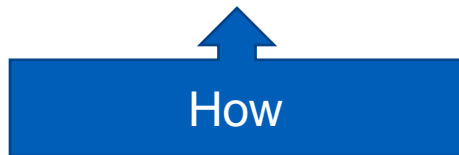
Annually:

Seasonal:



# Load Program Setup

- Constraints
  - Summer only ☹️
  - Winter only ☹️
  - Weekday only
- Programs
  - Manual
  - Timed
  - Automatic
- Gears
  - TrueCycle
  - Smart Cycle
  - Time Refresh



## ☆ Create Load Program

### General

Name:

Type:

- Select
- LM ecobee Program
- LM Honeywell Program
- LM Itron Program
- LM Direct Program
- LM SEP Program
- LM Meter Disconnect Program

## ☆ Create Load Program

**General**

Name:

Type:

Operational State:

Constraint:

**Gears**

**Control Window**

Use Window 1:

Use Window 2:

**Trigger Threshold Settings**

Trigger Offset:

Restore Offset:

**Load Groups** **Notification**

**Available**

Search:  1 - 11 of 11

Name	Type
yp Air Conditioning	RFN EXPRESSCOM GROUP
yp Air Conditioning lite	RFN EXPRESSCOM GROUP
yp Commercial GenSet	RFN EXPRESSCOM GROUP
yp Commercial Interruptible	RFN EXPRESSCOM GROUP
yp Commercial Warning	RFN EXPRESSCOM GROUP
yp Dual Fuel Heating	RFN EXPRESSCOM GROUP
yp EV Charging	RFN EXPRESSCOM GROUP
yp Irrigation	RFN EXPRESSCOM GROUP
yp Peak Shaved Water Heating	RFN EXPRESSCOM GROUP
yp Storage Space Heating	RFN EXPRESSCOM GROUP
yp Storage Water Heating	RFN EXPRESSCOM GROUP

Select All

**Assigned**

# DR Setup: Control Areas and Scenarios

# Control Area Background

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- “Control Area” has a different meaning in the utility world. It is a term that can be confused.
- Yukon’s Control Area is a way to organize programs and start and stop control
  - To assign triggers for automatic control programs
  - To manually start programs together often
  - To group programs to find them more easily
- A Program must be in one and only one Control Area
  - If the program does not show up, check to see it is in a control area.
  - Control Area name must be different than the program name

# Control Area

8) Control Areas	
Name	Programs
rwr Storage	Heat Storage, Water Storage, EV Charging
rwr Residential	AC x 2, Dual Fuel, Peak Shaved Water Heating
rwr Commercial	Commercial x3, Irrigation

# Control Area Page

[Home](#) / [Demand Response](#) / [Setup](#) / Create Control Area

## ☆ Create Control Area

### General

Name:

Control Interval:

Min Response Time:

Daily Default State:

Require All Triggers Active:

### Triggers

No triggers were found for this Control Area.

### Optional Control Window

Note: Control Window changes take effect at midnight.

Use Optional Control Window:

### Program Assignments

#### Available

Search:   1 - 12 of 12

Name	Type
<a href="#">rwr Air Conditioning</a>	LM DIRECT PROGRAM
<a href="#">rwr Air Conditioning lite</a>	LM DIRECT PROGRAM
<a href="#">rwr Commercial GenSet</a>	LM DIRECT PROGRAM
<a href="#">rwr Commercial Interruptable</a>	LM DIRECT PROGRAM
<a href="#">rwr Commercial Warning</a>	LM DIRECT PROGRAM
<a href="#">rwr Commercial Warning 2</a>	LM DIRECT PROGRAM
<a href="#">rwr Dual Fuel Heating</a>	LM DIRECT PROGRAM
<a href="#">rwr Dual Fuel Heating 2</a>	LM DIRECT PROGRAM
<a href="#">rwr EV Charging</a>	LM DIRECT PROGRAM
<a href="#">rwr Irrigation</a>	LM DIRECT PROGRAM
<a href="#">rwr peak shaved water heating</a>	LM DIRECT PROGRAM
<a href="#">rwr Storage Space Heating</a>	LM DIRECT PROGRAM

#### Assigned

Name	Start Priority	Stop Priority
<input type="button" value="X"/> <a href="#">rwr Commercial Warning</a>	1	1
<input type="button" value="X"/> <a href="#">rwr Commercial GenSet</a>	1	1
<input type="button" value="X"/> <a href="#">rwr Commercial Interruptable</a>	1	1
<input type="button" value="X"/> <a href="#">rwr Irrigation</a>	1	1



# Scenario Background

---

- Scenarios are an efficient way to start and stop several programs in a coordinated way
  - Start and stop offset times specified
  - Gear specified and changeable
- Programs can be in several Scenarios
- Scenario names cannot be the same as program names.
- Scenarios start and stop programs; they are not something that is active or not active.

# Scenario

9) Scenarios				
	program	Start Offset	Stop Offset	Gear
rwr Commercial	warning	0	0	1
	interruptable	30	10	1
	genSet	30	30	1
	Irrigation	15	20	1
Summer residential	AC	0	0	1
	AC Lite	15	15	1
	PSWH	30	30	1
Winter residential	DF	0	0	1
	PSWH	30	30	1

# Edit Scenario: rwr Commercial Scenario

## General

Name:

## Add/Remove Load Programs

### Available Programs

(must belong to a Control Area to be listed)

Search:

1 - 4 of 4

#### Program Name

- [rwr Commercial Warning](#)
- [rwr Commercial Interruptable](#)
- [rwr Commercial GenSet](#)
- [rwr Irrigation](#)

Select All

### Assigned Programs

	Name	Start Offset(HH:mm)	Stop Offset(HH:mm)	Start Gear
<input type="checkbox"/>	rwr Commercial Warning	00:00 <input type="button" value="Pencil"/>	00:00 <input type="button" value="Pencil"/>	time refresh <input type="button" value="Down Arrow"/>
<input type="checkbox"/>	rwr Irrigation	00:15 <input type="button" value="Pencil"/>	00:20 <input type="button" value="Pencil"/>	time refresh <input type="button" value="Down Arrow"/>
<input type="checkbox"/>	rwr Commercial Interruptable	00:30 <input type="button" value="Pencil"/>	00:10 <input type="button" value="Pencil"/>	100% Smart ( <input type="button" value="Down Arrow"/>
<input type="checkbox"/>	rwr Commercial GenSet	00:30 <input type="button" value="Pencil"/>	00:30 <input type="button" value="Pencil"/>	100% Smart ( <input type="button" value="Down Arrow"/>

# DR Setup: Control Areas and Scenarios

---

- Control Areas
  - Program must be in one and only one Control Area.
  - Organize Programs for easy use
    - Can start and stop programs at the control area level
    - Triggers assigned at Control area Level
- Scenarios
  - Programs can be in multiple Scenarios
    - Start and stop offsets
    - Gear are selectable

# Appliance Category

---

- Created in the Energy Company
  - (building the Energy Company is some future session)
- Grouping of enrollment load groups/programs
  
- Categorize
  - Think end uses
  - For ease in finding desired load group Maybe
  - Can limit enrollment to a single choice per enrollment category

# Creating Appliance Categories

- Admin → Energy Company → Appliance Categories
  - Create Appliance Category
  - Edit to add programs



# Enrollment

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- Sending the addressing to the LCRs so that they respond to the proper Broadcast commands.
- Assets Dashboard
  - Find a Customer
  - Check Hardware (RFN)
  - Enrollment in program (not really)

# DR Setup: Appliance Categories and Enrollment

---

- Appliance Categories
  - Load programs must be in an appliance category to be available for enrollment.
  - Appliance Categories can be used to limit enrollment to one in the category
- Enrollment
  - Sending the addressing so LCRs will respond to the broadcast messages



# Managing DR Devices in Yukon

# Assets Dashboard



AMI ▾

Demand Response ▾

Assets ▾

Tools ▾

Admin ▾

Home / Assets

## ★ Assets Dashboard

### Asset Actions

- Select Individually Choose assets manually.
- Select by Filter Set various parameters to select assets.
- Select by File Upload Upload a CSV formatted file.

### Recent

04/26/2024 11:08 Control Audit Report Complete

### Dual Communication Report ?

Number of Cell LCR(s): 6  
Number of Wifi LCR(s): 0

Dashboard

Gateways

Relays

Virtual Devices

Opt Out Status

Import

Reports

Actions ▾

### Account Search

Account Number ▾

Search

### Asset Search ?

Serial No:

Meter No:



# Creating an Account

Home / Assets

☆ Assets Dashboard

Asset Actions Account Search

Actions ▾

- + Create Account
- + Create Device

---

Home / ACCOUNTS / Create Account

## Create Account

Customer Contact	Service Address
Account Number: <input type="text"/>	Address 1: <input type="text"/>
<input type="checkbox"/> Commercial	Address 2: <input type="text"/>
Company: <input type="text"/>	City: <input type="text"/>
Commercial Type: Commercial ▾	State: <input type="text"/>
Customer Number: <input type="text"/>	Zip: <input type="text"/>
Last Name: <input type="text"/>	Map Number: <input type="text"/>
First Name: <input type="text"/>	County: <input type="text"/>
Home Phone: <input type="text"/>	Notes: <input type="text"/>
Work Phone: <input type="text"/>	
Email: <input type="text"/>	
Alt Tracking Number: <input type="text"/>	
Notes: <input type="text"/>	

---

### Billing Address

Same As Above

Address 1:

Address 2:

# Viewing information about LCRs

- Search for an LCR serial number, using the Assets Dashboard, or the global search box.
- Can also search by account number, street address, name (if used in setting up accounts)

## Account Search

Account Number
Phone Number
Last Name
Serial Number
Map Number
Address
Alt Tracking Number
Company

## Asset Search

Serial No:	<input type="text"/>
Meter No:	<input type="text"/>
Account No:	<input type="text"/>
Home Phone:	<input type="text"/>
Last Name:	<input type="text"/>
Work Order #:	<input type="text"/>
Alt Tracking #:	<input type="text"/>

Search



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# View Hardware

619

Elliott Mills

ACCOUNT

CONTACTS

METERING

CONTROL HISTORY

ENROLLMENT

OPT OUT

APPLIANCES

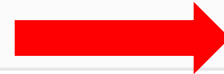
**HARDWARE**

## Switches

### Serial Number

717890132210032

51000047



## Thermostats

No Thermostats

## Gateways

No Gateways

0047

Actions ▾

### Device Info

Switch Type: LCR-7600C  
Serial Number: 51000047  
Device Name: 51000047  
GUID: 40810972-492c-47bb-8958-8a90a5dbc94f  
Firmware Version: V0.0.28  
IMEI: 864200057545155  
ICCID: 89148000007634754200  
Label: 51000047  
Alt Tracking Number:  
Voltage: 240  
Field Install Date: 12/20/2023  
Field Receive Date:  
Field Remove Date:  
Notes:  
Status: Installed  
Device Power Lost: False  
Asset Availability: Active

### Service And Storage

Service Company: (none)  
Warehouse: (none)  
Install Notes: elliott water heater

### Notes

### Device Readings

#### Status

05/11/2024 09:00:00	Relay 1 Shed Status	Inactive
05/11/2024 09:00:00	Relay 2 Shed Status	Inactive
05/11/2024 09:00:00	Relay 3 Shed Status	Inactive

#### Analog

05/11/2024 09:00:00	RSSI	-71 dBm
05/11/2024 09:00:00	Relay 1 Run Time Data Log	0 Minutes
05/11/2024 09:00:00	Relay 1 Shed Time Data Log	0 Minutes
05/11/2024 09:00:00	Relay 2 Run Time Data Log	0 Minutes
05/11/2024 09:00:00	Relay 2 Shed Time Data Log	0 Minutes
05/11/2024 09:00:00	Relay 3 Run Time Data Log	0 Minutes
05/11/2024 09:00:00	Relay 3 Shed Time Data Log	0 Minutes

Show All

Refresh Ping

### History

DEVICE STATUS HARDWARE

Event	Username	Time of Event
Installed	elliott	01/04/2024 10:25:27

+ Add...



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# Adding Hardware (RF LCR note)

The screenshot displays the Eaton hardware management interface. On the left, a navigation menu includes 'ACCOUNT', 'CONTACTS', 'METERING', 'CONTROL HISTORY', 'ENROLLMENT', 'OPT OUT', 'APPLIANCES', and 'HARDWARE' (which is circled in red). The main area shows a device list for 'LCR-7600C' with ID '51000047'. A '+ Add...' button is circled in red. An 'Add Switch' dialog box is open, showing a 'Serial Number' field with '71000524' and a 'Check Inventory' button. A second 'Add Switch' dialog box is also open, displaying the message: 'The serial number 71000524 was not found in the inventory. Would you like to add it now?' with 'Cancel' and 'OK' buttons. A dropdown menu is open, listing various LCR models, with 'LCR-6600 (RFN)' selected.

- If the serial number is not found, you can add it as new hardware.
- If it already exists in the Yukon database, you will be asked to add it from the "Warehouse".

# Hardware Configuration

001900 / Hardware / LCR-6200 (RFN) 710012435

710012435

## Device Information

Switch Type

Serial Number

Device Name

Label:

Alt Track

Voltage:

Field Inst

## Enrolled Programs

Name	Appliance Category	Group	Relay
AC Residential Program (AC Program)	Air Conditioner	AC Residential Group-R1	1

Config

Save to Batch

Save Config Only

## Service Status

In Service 05/10/2024 21:48:40

Disable

Enable

## Device Reported Configuration

Service Provider: 2000  
GEO: 1  
Substation: 65534  
Feeder: 0  
ZIP: 16777214  
User Address: 4870

Reported at 08/30/2023 21:48

Relay	Program	Splinter
1	32	1

Read

Actions

- Change Out Device
- Edit Configuration
- Map Device
- Send Control
- Send In Service
- Send Out Of Service

Link Count

Recording In

Relay 1 Remaining

Control Time

Relay 1 Run Time Data

g

0 Seconds

17 Minutes



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# Program Enrollment

304001900

1645 McKinney

ACCOUNT

CONTACTS

RESIDENCE

CONTROL HISTORY

ENROLLMENT



OPT OUT

APPLIANCES

HARDWARE

ACCOUNT LOG

## Enrolled Programs

Name	Appliance Category	Group	Hardware	Relay	Status	
AC Program	Air Conditioner	AC Residential Group-R1	710012435	1	In Service	 

## Enrollment

Date

08/30/2023 13

### Select Program

Search:

1 - 5 of 5

Program Name	Display Name	Appliance Category
<a href="#">AC Commercial Program</a>	AC Commercial Program	Air Conditioner
<a href="#">AC Residential Program</a>	AC Program	Air Conditioner
<a href="#">Electric Heating Program</a>	Electric Heating Program	Electric Heat
<a href="#">Electric Heating Program-R3</a>	Electric Heating Program-R3	Electric Heat-R3
<a href="#">WH Program</a>	WH Program	Water Heater

+ Add

### Add Enrollment

Select configuration for program AC Program:

#### Hardware

Device Label	Relay	Group
<input checked="" type="checkbox"/> 710012435	1	AC Residential Group-R1



# Manual Shed

Hardware / LCR-7600C 51000047

00047 Actions ▾

**Device Info**

Switch Type: LCR-7600C  
Serial Number: 51000047  
Device Name: 51000047  
GUID: 40810972-492c-47bb-8958-8a90a5dbc94f  
Firmware Version: V0.7.22  
IMEI: 8645  
ICCID: 890  
Label: 510  
Alt Tracking Number:  
Voltage: 240  
Field Install Date: 12/  
Field Receive Date: 4  
Field Remove Date: 2  
Notes:  
Status: Ins  
Device Power Lost: Fal  
Asset Availability: Act

**Device Readings**

Status  
05/11/2024 10:00:00 Rel  
05/11/2024 10:00:00 Rel  
05/11/2024 10:00:00 Relay 3 Shed Status **Inactive**  
-71 dBm  
Time Data Log 0 Minutes  
Time Data Log 0 Minutes  
Time Data Log 0 Minutes  
Time Data Log 0 Minutes  
Time Data Log 0 Minutes  
Time Data Log 0 Minutes  
Time Data Log 0 Minutes

**Send Control Configuration** ✕

Duration: 5 minutes ▾  
Relay: 1 ▾

Cancel Send

**Service And Storage**

Service Company: (none)  
Warehouse: (none)  
Install Notes: elliott water heater

**Notes**

Note Text (255 characters max) + Create

**DEVICE STATUS** HARDWARE

Event	Username	Time of Event
Installed	elliott	01/04/2024 10:25:27

**Send Control Configuration** ✕

Duration: 5 minutes ▾  
Relay: 1 ▾

Cancel

1 minute  
5 minutes  
7 minutes  
10 minutes  
15 minutes  
20 minutes  
30 minutes  
45 minutes  
1 hour  
2 hours  
3 hours  
4 hours  
6 hours  
8 hours  
Restore

# OPERATING DEMAND RESPONSE EVENTS

# Demand Response Dashboard

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AMI ▾
**Demand Response** ▾
Volt/Var ▾
Assets ▾
Tools ▾
Admin ▾

[Home](#) / [Demand Response](#)

☆ **DR Dashboard**

**Favorites**

Name	Type	State
★ EstLd_CA_A		
★ EstLd_CA_B		
★ RFN-6200-CA-ByRow		
★ RFN-6200-CA01		
★ RFN-6200-LMPgm	Program	Inactive
★ RFN-6200-LMPgm-Row1	Program	Inactive
★ RFN-6200-LMPgm-Row2	Program	Inactive
★ RFN-6600-CA01	Control Area	Inactive
★ RFN-6600-LMPgm-R1	Program	Inactive
★ RFN-6600-LMPgm-R2	Program	Inactive
★ RFN-6600-LMPgm-R3	Program	Inactive
★ RFN-6600-LMPgm-R4	Program	Inactive

**RF Broadcast Performance** ⓘ

Last 24 Hours:	<div style="width: 100%; height: 10px; background-color: green;"></div>	100%	<span style="background-color: green; padding: 2px;">5</span>	<span style="background-color: orange; padding: 2px;">0</span>	<span style="background-color: gray; padding: 2px;">17</span>
Last 7 Days:	<div style="width: 30.56%; height: 10px; background-color: green;"></div>	30.56%	<span style="background-color: green; padding: 2px;">11</span>	<span style="background-color: orange; padding: 2px;">25</span>	<span style="background-color: gray; padding: 2px;">96</span>
Last 30 Days:	<div style="width: 89.09%; height: 10px; background-color: green;"></div>	89.09%	<span style="background-color: green; padding: 2px;">400</span>	<span style="background-color: orange; padding: 2px;">49</span>	<span style="background-color: gray; padding: 2px;">123</span>

[Details](#)

Actions ▾

**Quick Searches**

- [Active Control Areas](#)
- [Active Programs](#)
- [Active Load Groups](#)

**Recently Viewed Items**

Name	Type	State
<a href="#">EstLd_CS_B</a>	Scenario	
<a href="#">EstLd_P_AC3000_A</a>	Program	Inactive
<a href="#">EstLd_P_AC3000_B</a>	Program	Inactive
<a href="#">EstLd_P_I6200_A</a>	Program	Inactive
<a href="#">RFN-6200-CA-ByRow</a>	Control Area	Inactive
<a href="#">RFN-6200-CA01</a>	Control Area	Inactive
<a href="#">RFN-6200-LMPgm</a>	Program	Inactive
<a href="#">RFN-6200-LdGrp-F1</a>	RFN Expresscom Group	Inactive
<a href="#">RFN-6600-CA01</a>	Control Area	Inactive
<a href="#">RFN-6600-LMPgm-R1</a>	Program	Inactive
<a href="#">RFN-6600-LdGrp-R1</a>	RFN Expresscom Group	Inactive

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Configure

# Process: Start/Schedule Event

- Demand Response → Control Areas

The screenshot shows the Eaton Demand Response Control Area interface. At the top, there is a navigation bar with the Eaton logo and menu items: AMI, Demand Response, Assets, Tools, and Admin. Below the navigation bar, the breadcrumb path is: Home / Demand Response / Control Areas / EFM - Cragmoor Control Area. The main heading is "★ EFM - Cragmoor Control Area" with an "Actions" dropdown menu.

**Info**

State: Inactive  
Priority: 1  
Time Window: N/A - N/A  
Connected Load: N/A  
Diversified Load: N/A  
kW Savings (Max/Now): Invalid Config

*No triggers found*

**Asset Availability**

1 Active: 25%  
0 Opted Out: 0%  
1 Inactive: 25%  
2 Unavailable: 50%

[Ping Unavailable](#) [Download](#)

**Programs**

Filter By: Name  All States  Priority: (min)  (max)

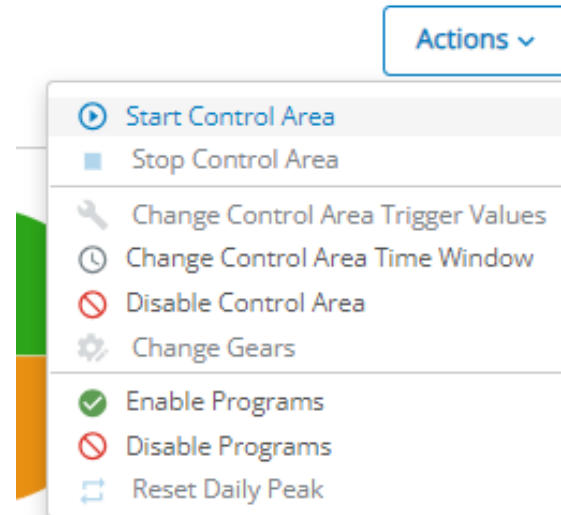
Start Range:   to

Stop Range:   to

Name ↑	State	Start	Stop	Current Gear	Priority	Reduction	kW Savings (Max/Now)	
<a href="#">EFM - AC Cycling</a>	Inactive	04/26/2024 11:05	04/26/2024 15:03	50% Gear 15 Minute	1	0.0	0 kW / 0 kW	
<a href="#">EFM - Water Heater</a>	Inactive	N/A	N/A	100% Off WH	1	0.0	Invalid Config	

# Process: Start/Schedule Event

- Actions → Start Control Area



OR

EFM - Cragmoor Control Area	Inactive	No triggers found	1	N/A - N/A	⋮
Piedmont AC Control Area	Inactive	No triggers found	1	N/A - N/A	⋮

The table shows two rows of control area data. The first row is 'EFM - Cragmoor Control Area' and the second is 'Piedmont AC Control Area'. Both are 'Inactive' and have 'No triggers found'. The table has columns for name, status, triggers, a numerical value (1), and a range (N/A - N/A). A dropdown menu is open over the second row, showing 'Start Control Area' and 'Stop Control Area' options.

# Process: Start/Schedule Event

- Start Now or Schedule Future
- Start All Programs or Select which programs to start
- Schedule Stop Time

The screenshot shows a 'Start Program' dialog box for the 'EFM - AC Cycling' program. The dialog asks, 'Are you sure you want to start the program EFM - AC Cycling?'. It features three main sections: 'Gear', 'Start Time', and 'Stop Time'. The 'Gear' section has a dropdown menu with options: '50% Gear 15 Minute' (selected), '50 % Gear 30 Minute', and '33% True Cycle'. The 'Start Time' section has a checked 'Start Now' checkbox and a date/time field set to '05/11/2024 10:48 CDT'. The 'Stop Time' section has a checked 'Schedule Stop' checkbox and a date/time field set to '05/11/2024 14:48 CDT'. At the bottom, there is an unchecked checkbox for 'Automatically Observe Constraints' and two buttons: 'Cancel' and 'Next'. In the background, a sidebar shows 'EFM - AC Cycling' and 'EFM - Water Heater' with a 'Start Program' button highlighted.

# Process: Start/Schedule Event

- Are You Sure? Select OK

The screenshot displays a software interface with a table of programs and a modal dialog box. The table lists two programs: 'EFM - AC Cycling' and 'EFM - Water Heater', both with a status of 'Ina'. The 'EFM - AC Cycling' row shows a value of '0.0' and '0 kW / 0 kW'. A context menu is open over the '0 kW / 0 kW' value, showing 'Start Program' and 'Stop Program' options. The 'Start Program' dialog box is centered on the screen, asking for confirmation to start the 'EFM - AC Cycling' program. It states that the program will start immediately and stop at 05/11/2024 14:48:00, and that no constraints will be violated. The dialog has 'Cancel', 'Back', and 'OK' buttons.

EFM - AC Cycling	Ina	0.0	0 kW / 0 kW	⋮
EFM - Water Heater	Ina	0.0		

**Start Program** [X]

Are you sure you want to start the program EFM - AC Cycling?  
The program will be started now.  
The program will be scheduled to stop at 05/11/2024 14:48:00.  
No constraints will be violated.

Cancel Back **OK**

Start Program

Stop Program

# Process: Start/Schedule Event

- Control Area scheduled

**EAT•N**  
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AMI ▾ Demand Response ▾ Tools ▾ Admin ▾

Home / Demand Response / Control Areas / North Western

☆ North Western ⚙️ Actions ▾

🟢 Control area start requested.

**Info**

State: **Scheduled**  
Priority: 1  
Time Window: N/A - N/A

*No triggers found*

Programs <span style="float: right;">🔍 Filter</span>						
Name ▾	State	Start	Stop	Current Gear	Priority	Reduction
Air Conditioner Program	Scheduled	05/26/2015 15:00	05/26/2015 18:00	50% True Cycle	1	0.0
Water Heater Program	Scheduled	05/26/2015 15:00	05/26/2015 18:00	100% Cycle	1	0.0

Items per Page: 10 25 50 ◀ Prev 1 - 2 of 2 Next ▶



# Process: Stop Event

- Actions → Stop Control Area
- Stop Now, or Schedule New Stop Time

The screenshot displays the Eaton Demand Response web interface. At the top, the Eaton logo is followed by navigation tabs: AMI, Demand Response, Tools, and Admin. Below this is a breadcrumb trail: Home / Demand Response / Control Areas / North Western. The main content area shows the 'North Western' control area with a status of 'Control area start requested.' and a green notification bar. An 'Info' section lists State: Scheduled, Priority: 1, and Time Window: N/A - N/A. Below this is a table of programs:

Name	State
Air Conditioner Program	Scheduled
Water Heater Program	Scheduled

A modal dialog box titled 'Stop Programs' is open, asking 'Are you sure you want to stop control area North Western?'. It includes a 'Stop Time' section with a date/time picker set to '05/26/2015 12:47 EDT'. The 'Programs to Stop' section has a table:

Stop	Current State
<input checked="" type="checkbox"/> Air Conditioner Program	Scheduled
<input checked="" type="checkbox"/> Water Heater Program	Scheduled

Below the table are checkboxes for 'Stop All Programs' (checked) and 'Automatically Observe Constraints' (unchecked). The dialog has 'Cancel', 'Next', and 'OK' buttons. In the background, a table with columns 'Priority' and 'Reduction' is partially visible, showing values of 1 and 0.0.

# Useful DR Yukon Functions

# Favorites Dashboard

★ = marked as a Favorite

☆ = NOT a Favorite

[Home](#) / [Accounts](#) / 123456789

★ **Account: 123456789**

[Home](#) / [Demand Response](#) / [Programs](#) / Air Conditioner Relay 2

☆ **Air Conditioner Relay 2**

[Home](#) / [Accounts](#) / 122805 / [Hardware](#) / LCR-6600S 18001807

★ **LCR-6600S 18001807**

Any page item with a star indicator can be added to the Favorites Dashboard with one click.

☆ **Dashboard: Default Main Dashboard**

My Pages

**Favorites** Recently Viewed

**Assets**

[Assets: Hardware \(LCR-6600S 18001804\)](#)  
[Assets: Hardware \(LCR-6600S 18001807\)](#)  
[Assets: Hardware Configuration \(20000142\)](#)

**Demand Response**

[Control Area DEA Peak](#)  
[Load Group Storage Bump Winter Relay 1](#)  
[Program Air Conditioner Relay 2](#)  
[Program Storage Bump Winter Relay 2](#)  
[Program Water Heater Interruptible Relay 2](#)



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# Broadcast Performance Report

# RF Broadcast Performance

Home / Demand Response

★ DR Dashboard












Favorites

No Favorites

RF Broadcast Performance 



Click the Info Icon

Last 24 Hours:		100%	 351	 0	 473
Last 7 Days:		99.76%	 4599	 11	 334
Last 30 Days:		99.73%	 22071	 59	 1537

Details

 Configure

## RF Broadcast Performance

Below are the statuses:

- **Confirmed Success (Green)** - The devices in this category have reported receiving the unique RF broadcast performance message for the selected day.
- **Confirmed Missed (Orange)** - The devices in this category have reported all available data for the selected day and the analysis has determined the unique broadcast performance message was not received by the device.
- **Unreported (Grey)** - The devices in this category have not reported all available data for the selected day and the analysis is unable to determine the success or failure of the unique broadcast performance receipt for the device. When the data is received, the device will re-categorized appropriately.

# RF Broadcast Performance cont

- Details: Review Results

Home / Demand Response / RF Broadcast Performance Details

★ RF Broadcast Performance Details

Date Range:  to  [Update](#)

Tests Found: 6



Event Time	Results			
05/11/2024 00:15:26 CDT	<div style="width: 99.72%;"><div style="width: 99.72%;"></div></div> 99.72%	356	1	467
05/10/2024 00:15:00 CDT	<div style="width: 99.87%;"><div style="width: 99.87%;"></div></div> 99.87%	766	1	57
05/09/2024 00:15:00 CDT	<div style="width: 99.74%;"><div style="width: 99.74%;"></div></div> 99.74%	766	2	56
05/08/2024 00:15:00 CDT	<div style="width: 99.48%;"><div style="width: 99.48%;"></div></div> 99.48%	765	4	55
05/07/2024 00:15:01 CDT	<div style="width: 99.87%;"><div style="width: 99.87%;"></div></div> 99.87%	768	1	55
05/06/2024 00:15:00 CDT	<div style="width: 99.74%;"><div style="width: 99.74%;"></div></div> 99.74%	766	2	56



Event Details

# Broadcast Performance Report Cont.

Home / Demand Response / RF Broadcast Performance Details / Event Details

## ★ Event Details






Event Time: 05/11/2024 00:15:26 CDT   
Results:  99.72% 356 1 467





Device Group(s): [Select Device Group\(s\)](#)  

Status: Confirmed Success Confirmed Missed  
Unreported

[Filter](#)

Filtered Results: 824 Devices 

	Device Type	Account Number	Current Status	
	LCR 6200 RFN	303007100	Communicating	
	LCR 6200 RFN	303005000	Communicating	
	710012437	LCR 6200 RFN	302010800	Communicating
	710012438	LCR 6200 RFN	303003700	Communicating
	710012440	LCR 6200 RFN	303003500	Communicating

-  Collection Actions
-  Download
-  Inventory Action
-  Map Devices

# Broadcast Performance Report Cont.

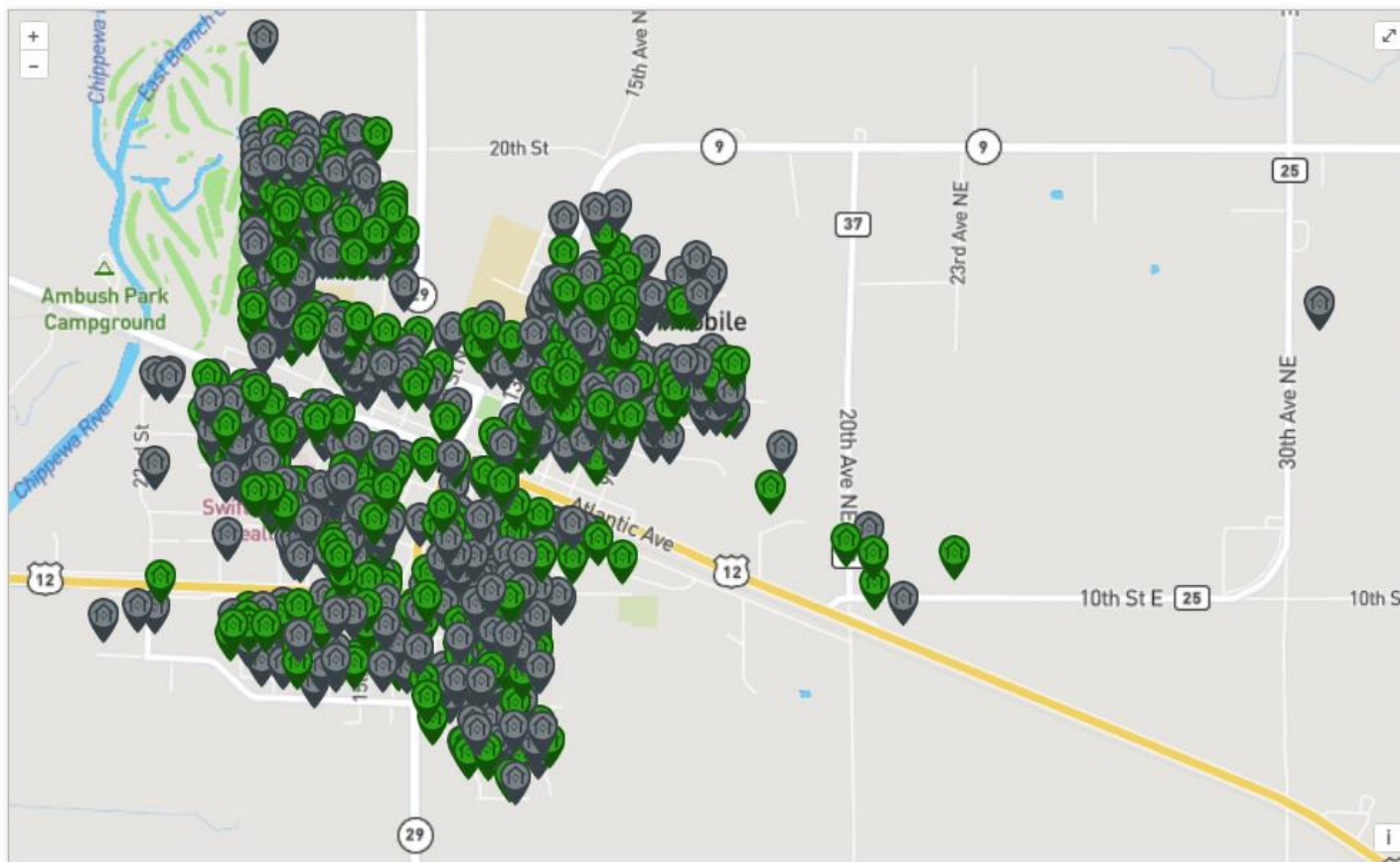
Devices Selected: 824 temporary collection 🔍 ⋮

Infrastructure: (none) ▾

Confirmed Success: 356 temporary collection 🔍 ⋮

Confirmed Missed: 1 temporary collection 🔍 ⋮

Unreported: 467 temporary collection 🔍 ⋮





# Broadcast Performance Report – CSV Export

4	72003	LCR 6600 RFN	Account3	Communicating	04/25/2023 10:23:34 CDT
5	72004	LCR 6600 RFN	Account4	Not Communicating	09/28/2022 11:01:22 CDT
6	72005	LCR 6600 RFN	Account5	Not Communicating	11/21/2022 14:33:10 CST
7	72006	LCR 6600 RFN	Account6	Communicating	04/25/2023 01:06:39 CDT
8	72007	LCR 6600 RFN	Account7	Communicating	04/24/2023 22:53:12 CDT
9	72008	LCR 6600 RFN	Account8	Communicating	04/25/2023 02:21:09 CDT
10	72009	LCR 6600 RFN	Account9	Not Communicating	12/28/2022 07:10:11 CST
11	72010	LCR 6600 RFN	Account10	Communicating	04/25/2023 19:25:09 CDT
12	72011	LCR 6600 RFN	Account11	Not Communicating	10/29/2022 02:00:36 CDT
13	72012	LCR 6600 RFN	Account12	Communicating	04/25/2023 07:29:56 CDT
14	72013	LCR 6600 RFN	Account13	Communicating	04/25/2023 08:02:20 CDT
15	72014	LCR 6600 RFN	Account14	Communicating	04/25/2023 17:18:02 CDT
16	72015	LCR 6600 RFN	Account15	Not Communicating	09/15/2022 08:44:09 CDT
17	72016	LCR 6600 RFN	Account16	Communicating	04/25/2023 21:31:21 CDT
18	72017	LCR 6600 RFN	Account17	Communicating	04/25/2023 05:19:30 CDT
19	72018	LCR 6600 RFN	Account18	Communicating	04/25/2023 00:34:51 CDT

# Broadcast Performance Report – CSV Export Cont.

	A	B	C	D	E
1	Device Name	Device Type	Account Number	Current Status	Last Communication
3	72002	LCR 6600 RFN	Account2	Not Communicating	04/20/2023 02:23:29 CDT
5	72004	LCR 6600 RFN	Account4	Not Communicating	09/28/2022 11:01:22 CDT
6	72005	LCR 6600 RFN	Account5	Not Communicating	11/21/2022 14:33:10 CST
10	72009	LCR 6600 RFN	Account9	Not Communicating	12/28/2022 07:10:11 CST
12	72011	LCR 6600 RFN	Account11	Not Communicating	10/29/2022 02:00:36 CDT
16	72015	LCR 6600 RFN	Account15	Not Communicating	09/15/2022 08:44:09 CDT
21	72020	LCR 6600 RFN	Account20	Not Communicating	11/04/2022 03:08:15 CDT
22	72021	LCR 6600 RFN	Account21	Not Communicating	04/17/2023 22:37:18 CDT
23	72022	LCR 6600 RFN	Account22	Not Communicating	10/03/2022 18:58:55 CDT
25	72024	LCR 6600 RFN	Account24	Not Communicating	04/18/2023 02:58:41 CDT

Account Number Current Status

A Z Sort A to Z

Z A Sort Z to A

Sort by Color >

Sheet View >

Clear Filter From "Current Status"

Filter by Color >

Text Filters >

Search

(Select All)

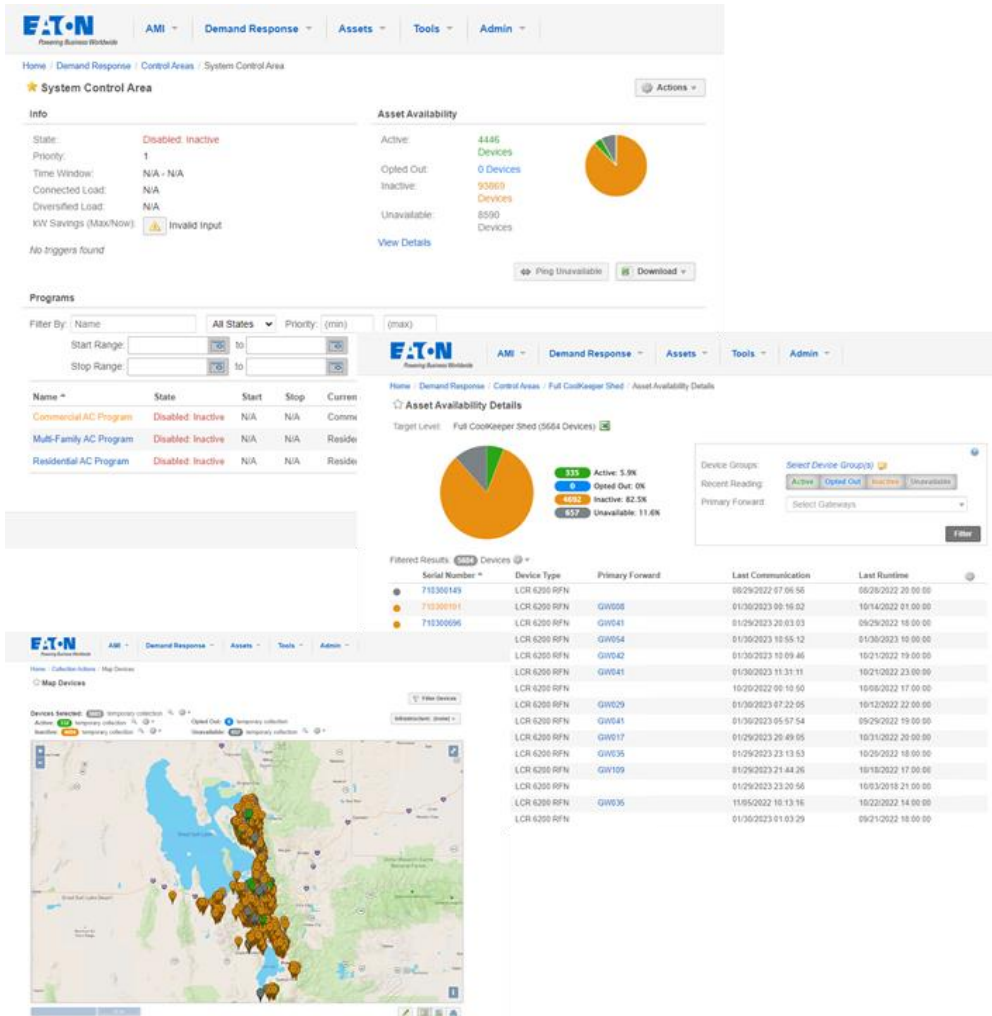
Communicating

Not Communicating

OK Cancel

# Asset Availability

# Asset Availability



## Asset Availability Report

- Performance overview of devices assigned to control group.
- Identify Active, Inactive, Opted Out, and Unavailable devices.
  - Inactive and Unavailable will require analysis to determine if additional action is required
- View and Filter list of devices based on Status. Information on the last time the device report and runtime detected will be displayed.
- Export and/or Map all or filtered list of devices to define group of sites for field crew to visit.



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# Asset Availability Cont.

Home / Demand Response / Control Areas / AC Control Area

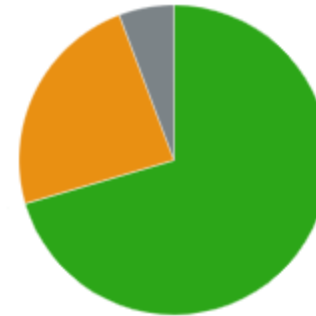
## ☆ AC Control Area

Actions ▾

### Info

State: Inactive  
Priority: 1  
Time Window: N/A - N/A  
Trigger 1:  
Load Capacity:  
Value/Threshold: 3,360.00 / 4,700.00  
Peak/Projection: 5,028.00 / 3,360.00  
ATKU: Disabled KU

### Asset Availability



516 Active: 70.5%  
0 Opted Out: 0%  
174 Inactive: 23.8%  
42 Unavailable: 5.7%

↔ Ping Unavailable

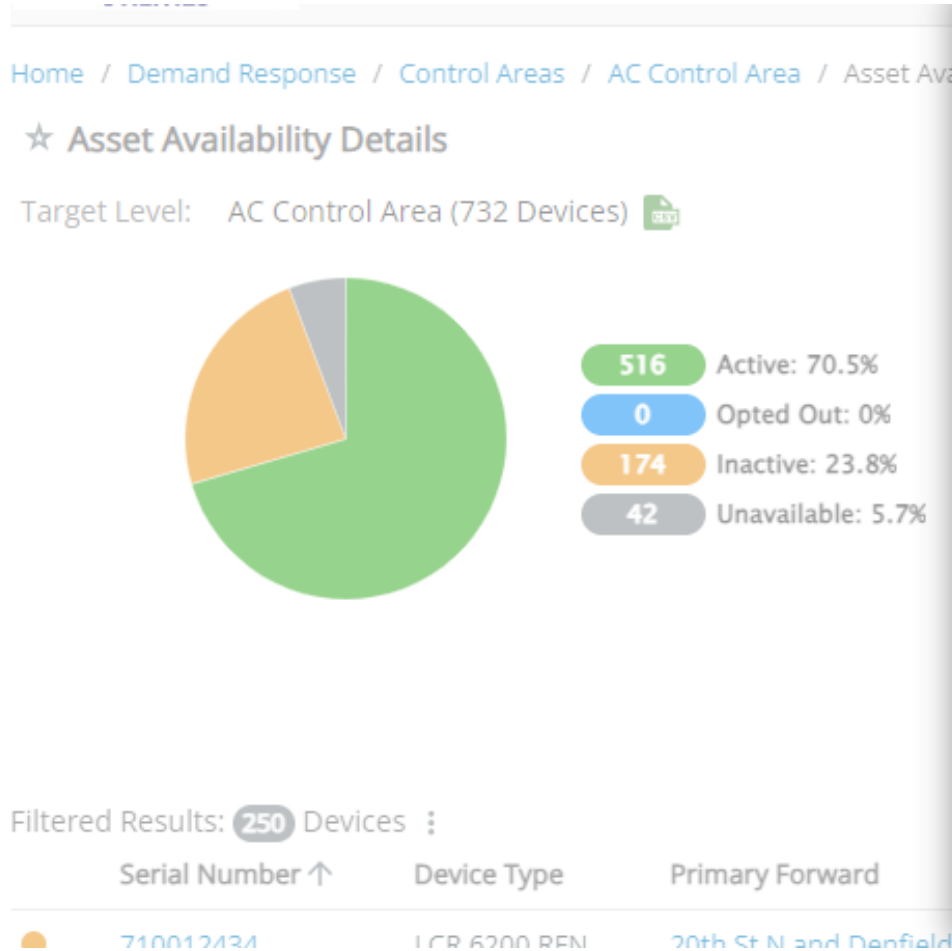
📄 Download ▾

### Programs



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# Asset Availability Cont.



## Asset Availability Results Help

You can apply the following filters to the report:

- **Device Group(s)** - Select one to many device groups to filter the results. Device Group filter is not supported by legacy devices.
- **Recent Reading** - Select any data availability options to filter the results.
  - **Active (Green)** - Devices have returned a positive value for appliance run time at some point in the previous 7 days .
  - **Opted Out (Blue)** - Devices have been taken out of service and are no longer responding to events.
  - **Inactive (Orange)** - Devices have returned the value zero for every appliance run time interval in the previous 7 days .
  - **Unavailable (Grey)** - Devices have not provided any run time data in the previous 60 hours. Power Lost field applicable for LCR 7600C device types only.

Click on the Filter button to filter the results.


The resulting devices will display in a table with the total count of filtered devices.

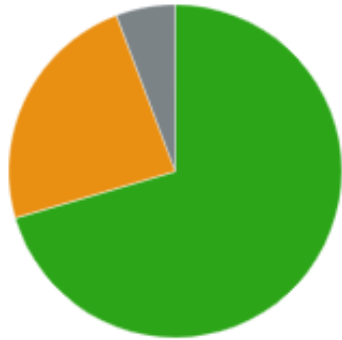
Click on the Gear Icon next to the device count to view options you can do for the filtered device collection (Collection Actions, Map Devices, Download data, etc.).

Click on the Gear Icon next to each device to view options you can do for the individual device (Collection Actions, Map Device, etc.).


# Asset Availability Cont.

## ☆ Asset Availability Details

Target Level: AC Control Area (732 Devices) 



**516** Active: 70.5%  
**0** Opted Out: 0%  
**174** Inactive: 23.8%  
**42** Unavailable: 5.7%

Device Groups: [Select Device Group\(s\)](#) 





Recent Reading:

Power Lost:

Primary Forward:

Filtered Results: **250** Devices 

	Device Type	Primary Forward	Last Communication	Last Runtime	Power Lost	
	R 6200 RFN	<a href="#">20th St N and Denfield</a>	05/11/2024 02:47:59	10/03/2023 17:00:00	N/A	
	R 6200 RFN	<a href="#">Power Plant</a>	05/10/2024 21:48:40	05/10/2024 21:00:00	N/A	

-  Collection Actions
-  Download
-  Inventory Action
-  Map Devices

# Asset Availability Map Devices

★ Map Devices

Filter Devices ?

Devices Selected: 732 temporary collection 🔍

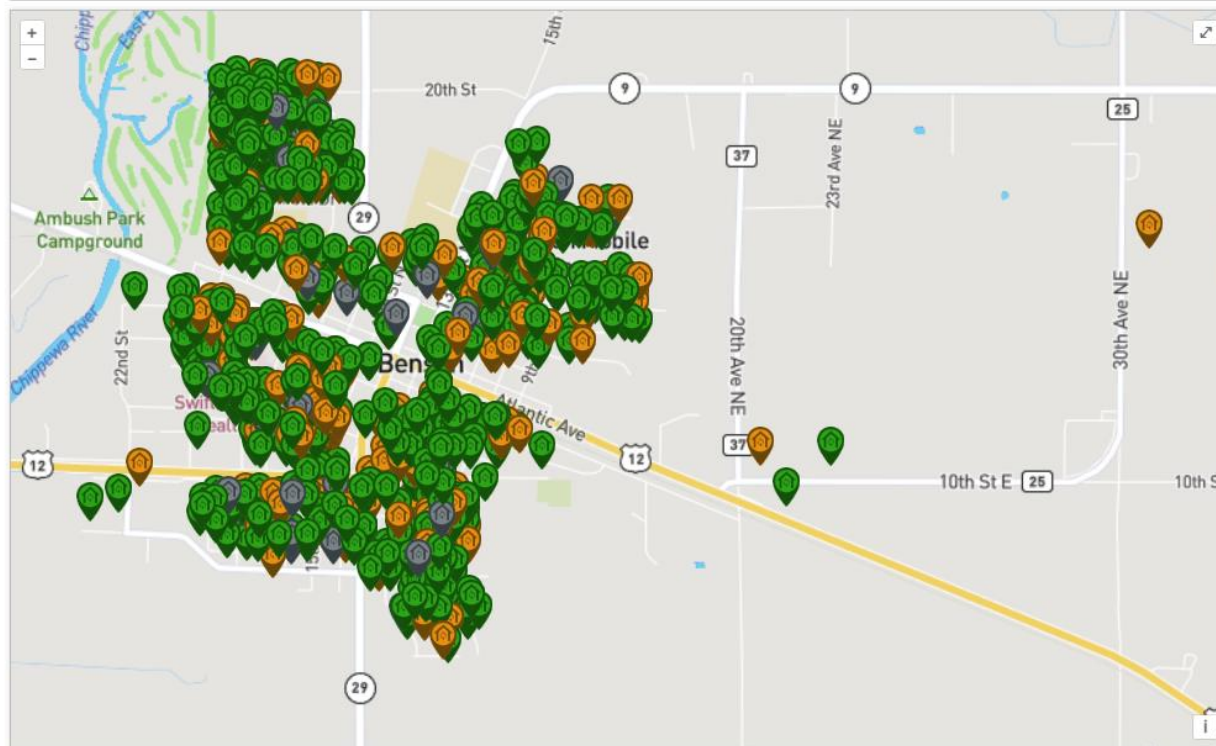
Infrastructure: (none) ▾

Active: 516 temporary collection 🔍

Opted Out: 0 temporary collection

Inactive: 174 temporary collection 🔍

Unavailable: 42 temporary collection 🔍





# Individual LCR Page

# Accessing Individual LCRs

- Search for an LCR serial number, using the Assets Dashboard
- Can also search by account number, street address, name (if used in setting up accounts)

## Account Search

- Account Number
- Phone Number
- Last Name
- Serial Number
- Map Number
- Address
- Alt Tracking Number
- Company

## Asset Search

Serial No:

Meter No:

Account No:

Home Phone:

Last Name:

Work Order #:

Alt Tracking #:

Search



Powering Business Worldwide

# LCR Point Guide

Home / Accounts / 304001900 / Hardware / LCR-6200 (RFN) 710012435

★ LCR-6200 (RFN) 710012435

Actions ▾

- 304001900
- 1645 Mckinney
- ACCOUNT
- CONTACTS
- RESIDENCE
- CONTROL HISTORY
- ENROLLMENT
- OPT OUT
- APPLIANCES
- HARDWARE**
- ACCOUNT LOG

## Device Info

Switch Type: LCR-6200 (RFN)  
Serial Number: 710012435  
Device Name: 710012435  
Label: 710012435  
Alt Tracking Number:  
Voltage:  
Field Install Date: 08/30/2023  
Field Receive Date:  
Field Remove Date:  
Notes:  
Status: Available  
Asset Availability: Active

## Service And Storage

Service Company: (none)  
Warehouse: (none)  
Install Notes:

## Network Information

Comm Status: Ready  
Comm Status Obtained At: 05/11/2024 08:44  
Hop Count: 1  
Neighbor Count: 22  
Node Serial Number: 4510203456

## Device Readings

Analog		
05/10/2024 21:48:40	Blink Count	8 Counts
05/10/2024 21:48:40	Recording Interval	60 Minutes
05/10/2024 21:48:40	Relay 1 Remaining Control Time	0 Seconds
05/10/2024 21:00:00	Relay 1 Run Time Data Log	17 Minutes
05/10/2024 21:00:00	Relay 1 Shed Time Data Log	0 Minutes
05/10/2024 21:48:40	Relay 1 kW Load Size	4.6920 kW
05/10/2024 21:48:40	Reporting Interval	1,440 Minutes
Status		
05/10/2024 21:48:40	Control Status	False
05/10/2024 21:48:40	Service Status	In Service

Show All

Read

## History

DEVICE STATUS HARDWARE

# LCR Point Guide

Device Points + Create v

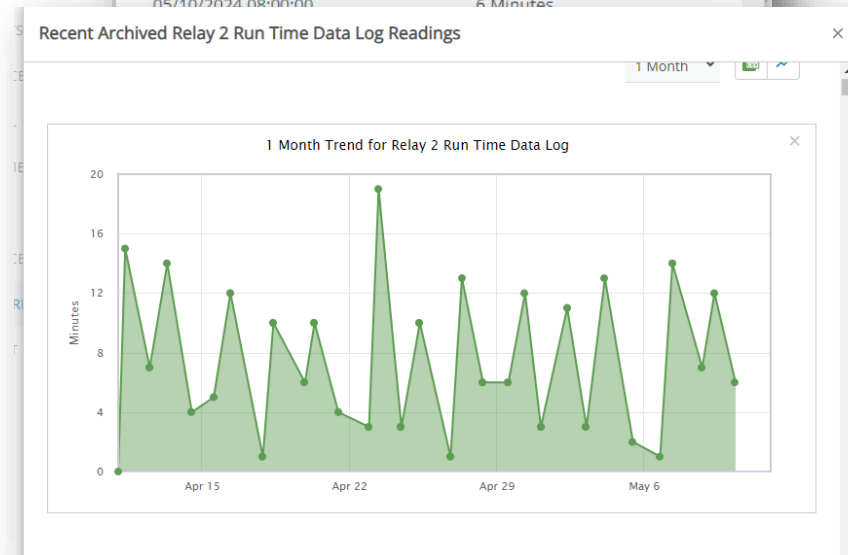
Filter By: Select Point Type(s) Filter Download

Point Name ↑	Attribute	Value/State	Date/Time	Point Type	Point Offset	
Blink Count	Total Blinks and Outages	20 Counts	02/09/2024 12:35:12	Analog	1	
Control Status	Control Status	<span style="color: green;">■</span> False	05/10/2024 13:35:12	Status	1	
Relay 1 Remaining Control Time	Relay 1 Remaining Control Time	0 Seconds	05/10/2024 13:35:12	Analog	13	
Relay 1 Run Time Data Log	Relay 1 Run Time Data Log	0 Minutes	05/10/2024 13:00:00	Analog	10	
Relay 1 Shed Time Data Log	Relay 1 Shed Time Data Log	0 Minutes	05/10/2024 13:00:00	Analog	11	
Relay 2 Remaining Control Time	Relay 2 Remaining Control Time	0 Seconds	05/10/2024 13:35:12	Analog	23	
Relay 2 Run Time Data Log	Relay 2 Run Time Data Log	0 Minutes	05/10/2024 13:00:00	Analog	20	
Relay 2 Shed Time Data Log	Relay 2 Shed Time Data Log	0 Minutes	05/10/2024 13:00:00	Analog	21	
Relay 3 Remaining Control Time	Relay 3 Remaining Control Time	0 Seconds	05/10/2024 13:35:12	Analog	27	
Relay 3 Run Time Data Log	Relay 3 Run Time Data Log	0 Minutes	05/10/2024 13:00:00	Analog	24	
Relay 3 Shed Time Data Log	Relay 3 Shed Time Data Log	0 Minutes	05/10/2024 13:00:00	Analog	25	
Relay 4 Remaining Control Time	Relay 4 Remaining Control Time	0 Seconds	05/10/2024 13:35:12	Analog	31	
Relay 4 Run Time Data Log	Relay 4 Run Time Data Log	0 Minutes	02/09/2024 12:00:00	Analog	28	
Relay 4 Shed Time Data Log	Relay 4 Shed Time Data Log	0 Minutes	02/09/2024 12:00:00	Analog	29	
Service Status	Service Status	<span style="color: green;">■</span> In Service	05/10/2024 13:35:12	Status	2	

Recent Archived Relay 2 Run Time Data Log Readings

1 Month Download Refresh

Timestamp ↑	Value
05/10/2024 13:00:00	0 Minutes
05/10/2024 12:00:00	0 Minutes
05/10/2024 11:00:00	3 Minutes
05/10/2024 10:00:00	2 Minutes
05/10/2024 09:00:00	0 Minutes
05/10/2024 08:00:00	6 Minutes



# Control Audit Report

# Control Audit Report

The screenshot displays the Eaton AMI web interface. The top navigation bar includes the Eaton logo and the tagline "Powering Business Worldwide", along with menu items for AMI, Demand Response, Volt/Var, Assets, Tools, and Admin. The breadcrumb trail is "Home / Assets / Actions".

The main section is titled "Asset Actions" and shows "Assets Selected: 22 Individually Selected". A note states: "Selecting any of these options will not immediately make any changes." Below this is a table of actions:

Select An Action To Perform On Selected Assets	
<a href="#">Asset Configuration</a>	Setup asset configuration options.
<a href="#">Change Device Type</a>	Change the device type.
<a href="#">Change Service Company</a>	Change the service company.
<a href="#">Control Audit Report</a>	Run a control audit report for two-way devices.

An arrow points from the "Control Audit Report" link in the table to an inset window. This inset window shows the "LM Control Audit" configuration page. It features the Eaton logo and navigation menus for AMI and Demand Response. The breadcrumb trail is "Home / Assets / Actions / LM Control Audit". The page title is "LM Control Audit". It shows "Assets Selected: 22 Individually Selected". Below this is a date range selector: "07/01/2016 00:00 CDT" to "07/31/2016 23:59 CDT". At the bottom of the inset is a "Run Audit" button.

# Control Audit Report

Home / Assets / Actions / LM Control Audit

## ★ LM Control Audit

Assets Selected: **1026** Individually Selected 🔍

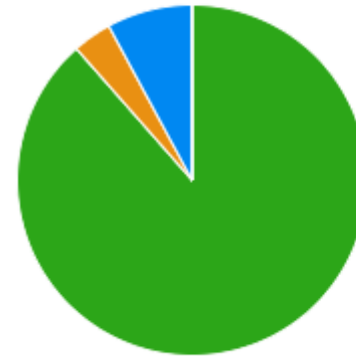
05/03/2024 11:43 CDT 📅

to

05/10/2024 11:43 CDT 📅

Progress: **Finished**

Run Audit



- Controlled: 88.499%
- Uncontrolled: 3.606%
- Unknown: 7.895%
- Unsupported: 0%

# Control Audit Report

## Controlled Devices

Devices: **908** (88.499%)

 New Action

 Download

Serial Number	Device Type	Account No	Control Total
723024157	LCR 6700 RFN	1200786010	7 hours 38 minutes
723023926	LCR 6700 RFN	2400330000	1 hour 57 minutes
723023930	LCR 6700 RFN	3600060800	1 hour 57 minutes
723024743	LCR 6700 RFN	2500601070	1 hour 57 minutes
723023414	LCR 6700 RFN	2600170000	7 hours 29 minutes
723022685	LCR 6700 RFN	1400530050	11 hours 33 minutes
723023908	LCR 6700 RFN	3300936000	1 hour 57 minutes
723023610	LCR 6700 RFN	3500192010	8 hours 48 minutes
723024683	LCR 6700 RFN	3300220000	1 hour 57 minutes
723024481	LCR 6700 RFN	1200813040	1 hour 57 minutes

1 - 10 of 908 < >

## Uncontrolled Devices

Devices: **37** (3.606%)

 New Action

 Download

Serial Number	Device Type	Account No
723024671	LCR 6700 RFN	2601480000
723023609	LCR 6700 RFN	1400560016
723023556	LCR 6700 RFN	1200810500
723023970	LCR 6700 RFN	2101471800
723024598	LCR 6700 RFN	2501530000
723024619	LCR 6700 RFN	3400200000
723023649	LCR 6700 RFN	1101910000
723023592	LCR 6700 RFN	1900720700
723023883	LCR 6700 RFN	1900442000
723024805	LCR 6700 RFN	2500601100

1 - 10 of 37 < >



# Commander

# Commander

The screenshot displays the Eaton Commander web interface. At the top left is the Eaton logo with the tagline "Powering Business Worldwide". The navigation bar includes tabs for "AMI", "Demand Response", "Assets", "Tools", and "Admin". The "Tools" dropdown menu is open, showing options: "Collection Actions", "Commander" (highlighted), "Data Export", "Data Viewer", "Device Configuration", "Device Groups", "Trends", and "Reports". Below the navigation bar, the breadcrumb "Home / Default Main Dashboard" is visible, followed by a star icon and the text "Dashboard: Default Main Dashboard". On the right side, there is an "Actions" button. The main content area features a "My Pages" section with tabs for "FAVORITES" and "RECENTLY VIEWED", showing "No Favorites". To the right, a table displays "Violations" (6) and "Monitoring" (8).


Violations	Monitoring
6	8

# Commander

☆ Commander


Target: Device Load Group → ExpressCom →

Device: (none selected) ⋮

Common Commands: Select a Co... 

Command:


**Console**

Common Commands: Select a Command 

Command:

**Console**

- Select a Command
- Last Interval kW
- Runtime Load 1
- Runtime Load 2
- Runtime Load 3
- Runtime Load 4
- Relay 1 Shed Time
- Relay 2 Shed Time
- Relay 3 Shed Time
- Relay 4 Shed Time

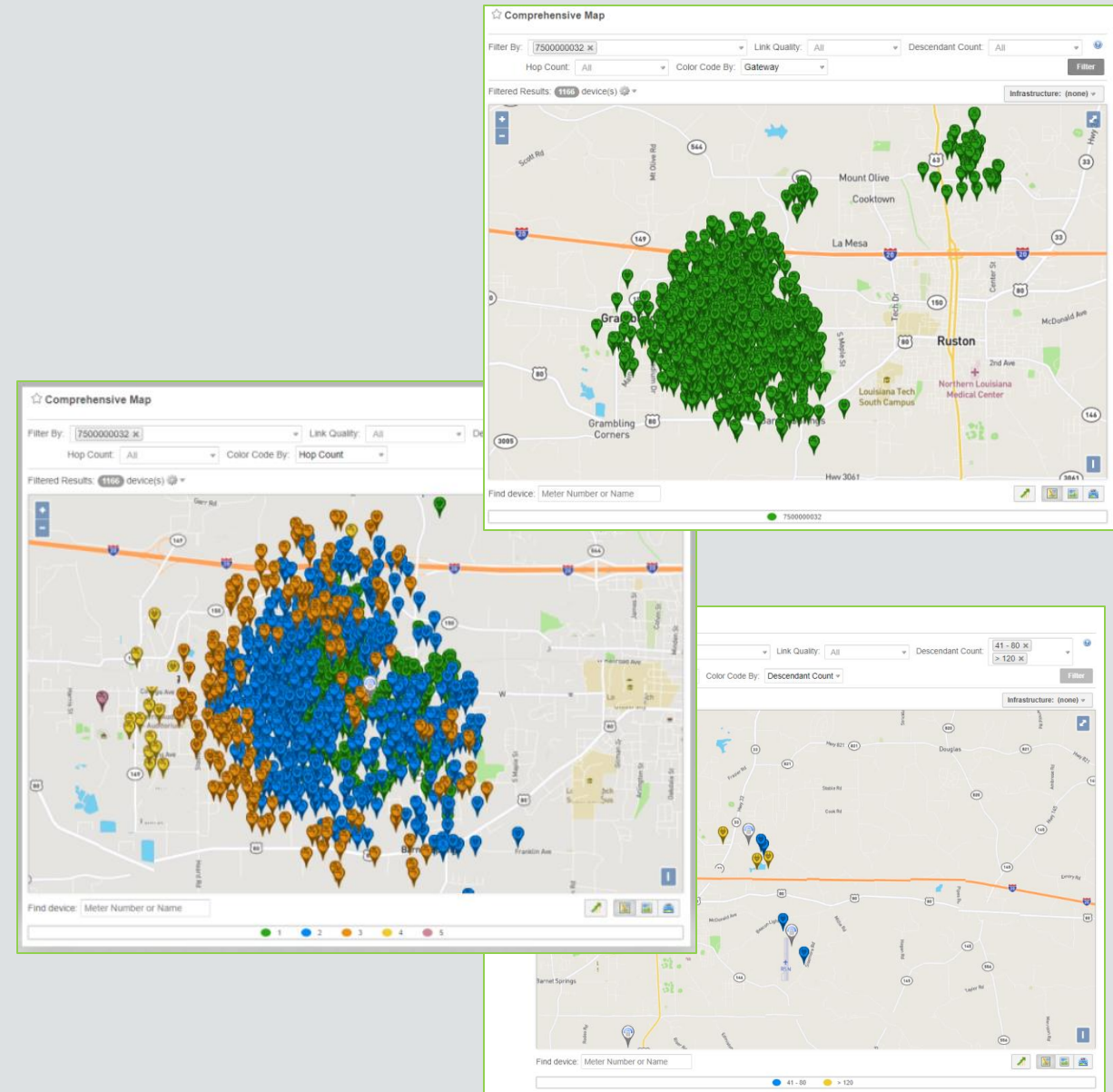


# Mapping

# Mapping Visualization

Use asset coordinates to display resource conditions on map.

- Color coded display of asset status for visual location analysis.
- Filter data to focus on assets in a specific condition.
- Identify potential communication system issue or device tampering.
- Export of data to create field work plan.
- **New Feature:** Overlay of Shape File to show connection to distribution system.



Powering Business Worldwide

# Opt Out Reporting

# Opt Out Reporting

## Many Options for Seeing Opt Outs

- Asset Availability
  - Count and List of devices that won't participate due to Opt Out state
- Event Participation
  - Opt Out State in download identify reason for not responding.
- Opt Out Status Page
  - Provides control over Opt Outs
  - Summary of Current and Future Opt Outs
- Opt Out Info Report
  - Details on accounts that were opted out of an event

The image displays several screenshots of the Eaton Opt Out Reporting interface. The top screenshot shows the 'Event Participation Summary' page with a table of events and their device statuses. The middle-left screenshot shows the 'Opt Out Status' page with system information and account search options. The bottom-left screenshot shows the 'Disable Consumer Opt Out Ability for Today' page with program selection options. The bottom-right screenshot shows the 'Report Selection' page with various report options and date filters.

External Event Id	Program	Group	Start Time	Device Status
71	Dakota Valley Water Heater	Dakota Valley Water Heater	09/20/2022 16:00:04 CDT	Green
70	Dakota Energy Water Heater	Dakota Energy Water Heater	09/20/2022 13:28:31 CDT	Green
69	Dakota Energy Air Conditioning	Dakota Energy Air Conditioning	09/20/2022 13:28:31 CDT	Green
68	Dakota Energy Water Heater	Dakota Energy Water Heater	09/20/2022 13:25:52 CDT	Green
67	Dakota Valley Dual Fuel	Dakota Valley Dual Fuel	09/20/2022 13:21:44 CDT	Green
66	Dakota Valley Electric Boiler	Dakota Valley Electric Boiler	09/20/2022 13:21:44 CDT	Green
65	Dakota Valley Water Heater	Dakota Valley Water Heater	09/20/2022 13:21:44 CDT	Green
64	Dakota Valley Air Conditioning	Dakota Valley Air Conditioning	09/20/2022 13:21:44 CDT	Green
63	Dakota Valley Water Heater	Dakota Valley Water Heater	09/20/2022 13:08:42 CDT	Green



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