

# Sage Alerting Systems Digital ENDEC Model 3644 Firmware Revision 96

Software Released February 2024



Release notes for Rev96, adding support for CAP Prioritization and other features.

**For use with United States ENDECs Only.**

This release is to be applied to ENDECs that already have the Rev95 firmware with the CR-Rev6 update installed.

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# 1 Important!

Once you have installed the Rev96 update, **DO NOT** attempt to reload an older version. The resulting mismatch between old and new portions of the firmware will result in an inoperable system. If you feel you need to revert your ENDEC to an older version, contact Sage first.

## 1.1 Web Browsers

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Rev96 supports modern browsers, including:

### Windows 7, 10, 11

- Edge
- Firefox
- Chrome

### Apple

- Safari
- Firefox
- Chrome

### Phones, Tablets, Etc.

We have been able to access Rev96 using recent Apple and Android phones and tablets. We recommend that you apply the Rev96 update from your computer and check for proper operation before attempting to access the ENDEC from handheld touchscreen devices.

### NOTE:

New features in the Rev96 web interface no longer support very old combinations of operating system and browser, such as those available on Windows XP (whose end-of-life was in April of 2014). While you may find it possible to upload the Rev96 update to your ENDEC from such a system, you may find that you can no longer access the web interface properly from that system after the update completes. We recommend that you do not install the update or attempt to use the ENDEC from such a system.

Some features, such as the waveform graphic for audio playback on the log page, are only available on Chrome, Firefox, and Edge.

***For maximum security and greatest compatibility, we recommend always connecting to the ENDEC via HTTPS instead of HTTP.***

## 2 Shortest Instructions

Rev96 installs support for CAP alert prioritization, updated alert validation certificates, and new auditing, security, and reporting features. To install Rev96, your ENDEC must already have Rev95 with the CR-Rev6 update installed.

For this release, each .x file can be installed only on the ENDEC it was purchased for.

To download the update for your ENDEC, go to this page:

<https://www.sagealertingsystems.com/rev96download.html>

Enter your serial number in the form provided on that page. Your download will start. Save the file on your computer, then upload the .x file into your ENDEC in the usual way.

You will also need the latest version of EndecSetD. You only need to download it once onto any PC you will use to edit ENDEC settings files. You will need the latest version of ENDECSetD to configure the new features provided by Rev96.

During installation, the ENDEC checks that its serial number matches the serial number encoded in the .x file, or that its serial number is in the range of those sold after December 2021 (B418750 to B429999) and therefore eligible for a free update. If you attempt to install an update on the wrong ENDEC, or your ENDEC is not on the required minimum version, the ENDEC will not install the update. You can see the error message by clicking the Version button on the ENDEC's web page after it reboots.

The above steps are the minimum required to update your ENDEC so that it will comply with the CAP Prioritization rules and continue to receive alerts from FEMA. There are other things you will want to do - see the ***Other Things You'll Want To Do*** section, later in this document.

### 3 Summary

Complete details on all new features are provided in later sections of this document.

- 1) Rev96 adds support for the new CAP Prioritization rules requiring that EAS participants check for a CAP version of each alert received from an over-the-air source. If a CAP version of the alert is found, the ENDEC will use the CAP version. If no matching CAP alert is found, the ENDEC will use the over-the-air version, just as it always has. All EAS participants are required to follow the new CAP Prioritization rules (47 CFR 11.55(c)(2)). There are also several changes (47 CFR 11.51(d)(3)) to how the text for national alerts is generated; support for these changes is also included in Rev96.
- 2) Updated security certificates are installed with this release. This includes CAP alert validation certificates and a new CA root certificate bundle.
- 3) Building on the security features added in Rev95, Rev96 provides web user access auditing (see 6.2 **Web Access Auditing**) and refinements to login/logout behavior, such as automatic logout when the browser tab is closed, and requiring any connected users to reauthenticate whenever the ENDEC reboots (see 7.1 **Behavior After ENDEC Reboots**). All file upload attempts now generate notification emails, as do certain web access events. HTTP access can be disabled entirely, requiring all access to be via HTTPS (see 6.4 **Require HTTPS**).
- 4) Weekly alert log conformance and summary reports, in PDF format, can be automatically generated and emailed to you every Sunday. Web access reports can be generated and emailed weekly or nightly. These reports are also available for download via the new *Reports* function of the ENDEC's *Logs* page. See the 6.1 **Reports** and the 6.6 **New Email Options** sections for details.
- 5) Monitor inputs can now be labeled. This allows a callsign or other label of your choosing to be displayed along with the monitor input number in the alert log, reports, and various other locations. Details are in the 6.5 **Monitor Input Labels** section.
- 6) The new *In Studio Override* feature forces incoming alerts to be "Log Only" for a set duration, regardless of the action specified by the filters they match. This is useful during live coverage of local emergencies, when being interrupted by an alert would be a bad thing. *In Studio Override* can be controlled from the Home page of the web interface, via GPI, or via the ENDEC's TCP automation interface. Note that EAN and NPT alerts are not affected by this override, and monthly tests are treated as a 59-minute manual relay. Refer to the 6.8 **In Studio Override** section.
- 7) Three new system tools have been added to the Tools page of the web interface. *The System Messages*, *Automation Log*, and *Clear Email Queue* functions are described in the 6.3 **New System Tools** section.

## 4 Installing Rev96

### Step 1: Verify prerequisites.

Your ENDEC must be running the Rev95 firmware and have the CR-Rev6 update installed. Click the *Version* button of the ENDEC's web interface, then check for those to be indicated as in this image:

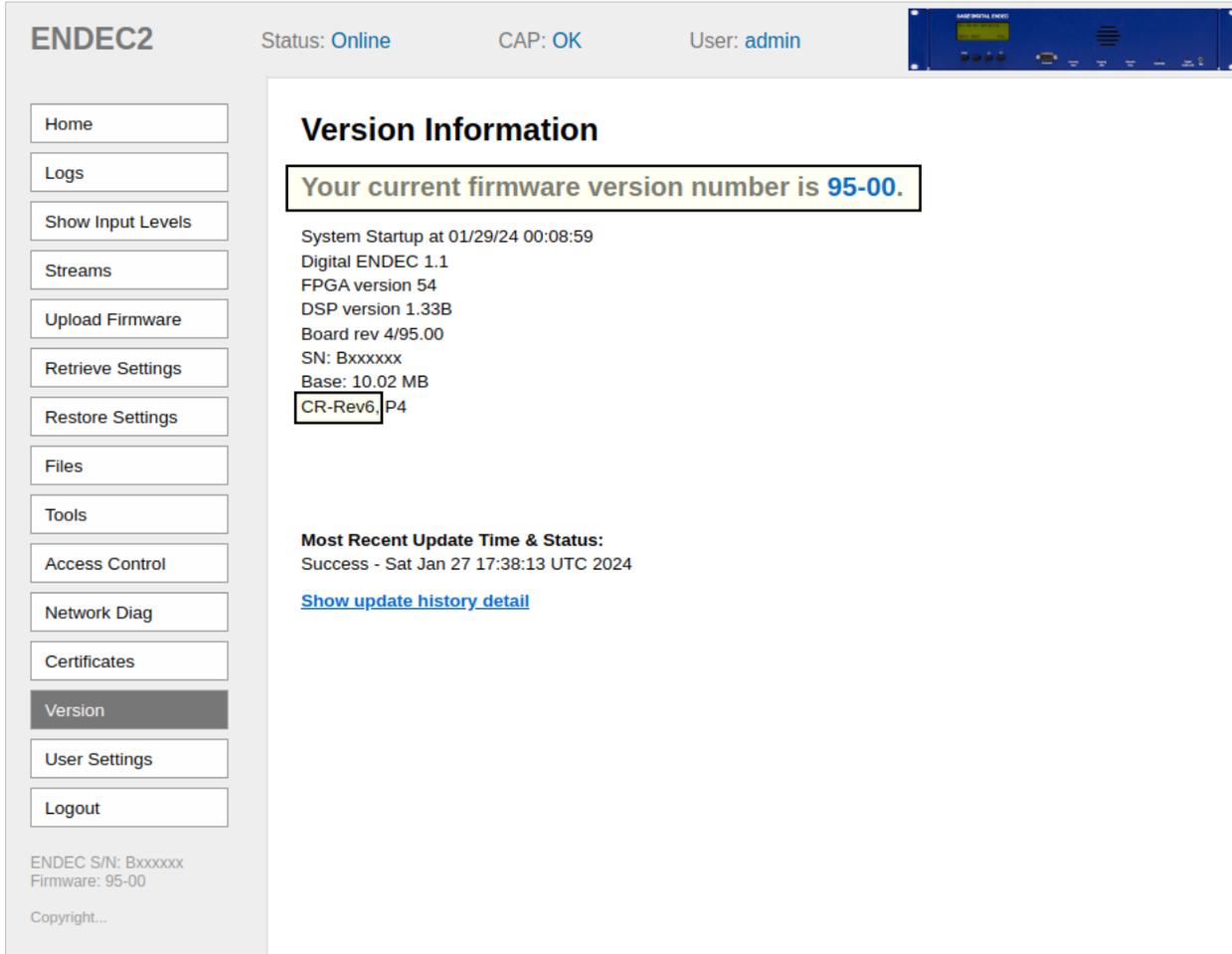


Figure 1: Version page, showing firmware version 95 and the CR-Rev6 update already installed.

Additional tags may be displayed next to the CR-Rev6 indication but are not important – what’s critical is that “CR-Rev6” is present and the firmware version number is 95-00.

If your version page does not show a current firmware version of 95-00, you will need to first install the Rev95 firmware before you can proceed any further. Likewise, if CR-Rev6 is not indicated, you will need to install the CR-Rev6 update. In either case, you can contact [support@sagealertingsystems.com](mailto:support@sagealertingsystems.com) for guidance on your next steps.

## Step 2: Download the Rev96 firmware file, then upload to ENDEC.

Go to the Sage Rev96 download page: <https://www.sagealertingsystems.com/rev96download.html>

Enter your serial number and receive your file. Save it to a convenient folder on your PC, then upload it to the ENDEC via the *Upload Firmware* page of the ENDEC's web interface.

Once the file has been uploaded, the update process will begin, and may take several minutes to complete. At that point, the ENDEC will reboot and your web browser will automatically refresh.

Do not close the browser tab or navigate away from the ENDEC page during the update process.

## Step 3: Verify update success.

After the process completes and the web interface has automatically refreshed in your browser, click the *Version* button. The version details should indicate that the firmware version is 96-00 and the CR-Rev7 update is installed, as shown in the image below.

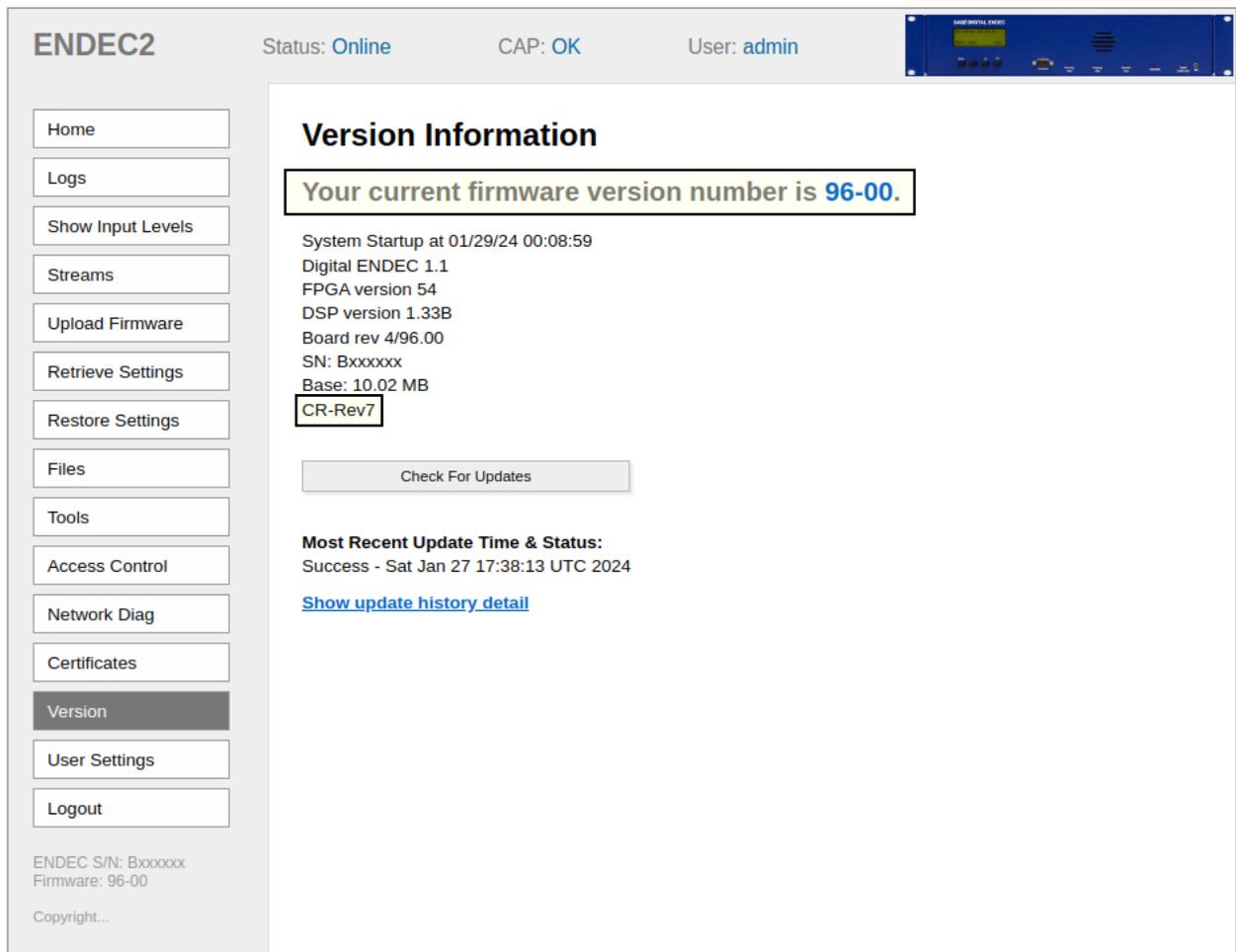


Figure 2: Version page showing that Rev96 has been successfully installed.

## What If It Does Not Show 96-00 After Reboot?

If the Version page continues to show a firmware version number of 95-00 or some value other than 96-00 after the update procedure, there will be a failure report explaining why. Click the “*Show update history detail*” link. The update history will be displayed, with the most recent update attempt at the top.

You will see an indication like one of the following:

**FAILED – Minimum firmware version not met (rev96).**

This means that Rev95 with CR-Rev6 was not on board prior to uploading the Rev96 update.

-or-

**FAILED – Update file is not for this ENDEC (rev96).**

This means that the Rev96 update file you uploaded did not match the ENDEC’s serial number.

For assistance with either of these conditions, or any other errors, please contact [support@sagealertingsystems.com](mailto:support@sagealertingsystems.com).

Note that the update history will show both successful and failed update attempts, indicating the time of the attempt, version tags of the update itself, and version tags of what firmware was running on the ENDEC at the time.

## 5 Other Things You'll Want To Do

This section suggests a few items you may want to check out immediately after installing the Rev96 update. A more comprehensive description of features and options new to Rev96 are in the feature sections, later in this document.

### Install ENDECSetD

A new version of the ENDECSetD settings editor has been released in tandem with Rev96. This new ENDECSetD is required in order to configure various new options included with Rev96.

### Adjust Email Report Options

The new PDF report emails and real-time web access notifications are enabled by default. Depending on your ENDEC's existing email configuration, you may begin receiving emails from your ENDEC that you've never seen before. You can enable or disable these emails on the Email tab of your settings file. See the ***New Email Options*** section for details.

### Audio Levels

Go to the Tools page of the ENDEC's web interface, then click the *Levels* button. Click the refresh button below the settings table several times. If you see any lines in red, you need to read our service bulletin on how to set audio levels. This will usually solve problems with alerts that are too loud and end up compressed by processing, clipped by receivers, and can add to the problem of undetectable attention tones when your alerts are received by others. [https://www.sagealertingsystems.com/SB\\_001c.pdf](https://www.sagealertingsystems.com/SB_001c.pdf)

### Attn Threshold

The ENDEC uses a threshold setting to keep the attention tone detector from seeing false signals. Our algorithm changed several years ago, and we have found that a much lower threshold will help the ENDEC detect low level signals. We recommend that you set the ATTN Threshold to 4 if you sometimes have more than one set of attention tones in alerts that you relay.

### ENDEC Webserver Certificate

Not to be confused with certificates used to validate alerts, the ENDEC has its own webserver TLS (sometimes called SSL) certificate that is used to encrypt communication via HTTPS between your browser and the ENDEC. The built-in default certificate provides adequate encryption, but because it is self-signed, your browser will display a variety of different warnings about it.

To eliminate browser warnings about the default certificate, you can use the *Certificates* page to create a custom server certificate set to the IP address(es) that you use to access the ENDEC. This certificate will be self-signed, so you will need to manually add it to the trusted root store in your PC. Each browser has a different way of doing this, and the steps to take will vary from browser to browser and across different operating systems.

For even better interaction with your web browser, you can upload a valid certificate and intermediates signed by a CA that your computer is already configured to trust.

## Passwords

You might see a password warning message after you install Rev96 and any time you log in as an admin account. It means that one or both default user accounts are still there, i.e., admin, user, or both, and have default passwords. You must change them to keep your system secure. The warning looks like this:

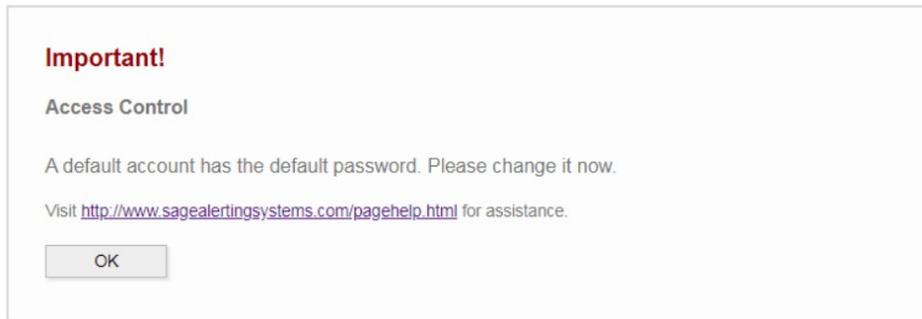


Figure 3: Default password warning shown at login.

Click the *OK* button, and the *Access Control* page will be displayed. From there, you can change the passwords. The best thing to do is create entirely new user accounts and just delete the old ones. You can also use the access control dropdown box to set a white list of IP addresses that can connect to the ENDEC's web page. If you accidentally lock yourself out, you can reset the white list and the web logins from the ENDEC's front panel network menu.

The following image shows the *Access Control* page, with the default accounts still enabled. If you see the warning about being connected via HTTP, that's your cue to log out, then reconnect to the ENDEC via HTTPS for added security. HTTPS provides encryption of everything that goes between your browser and the ENDEC – especially important when modifying users and changing passwords.

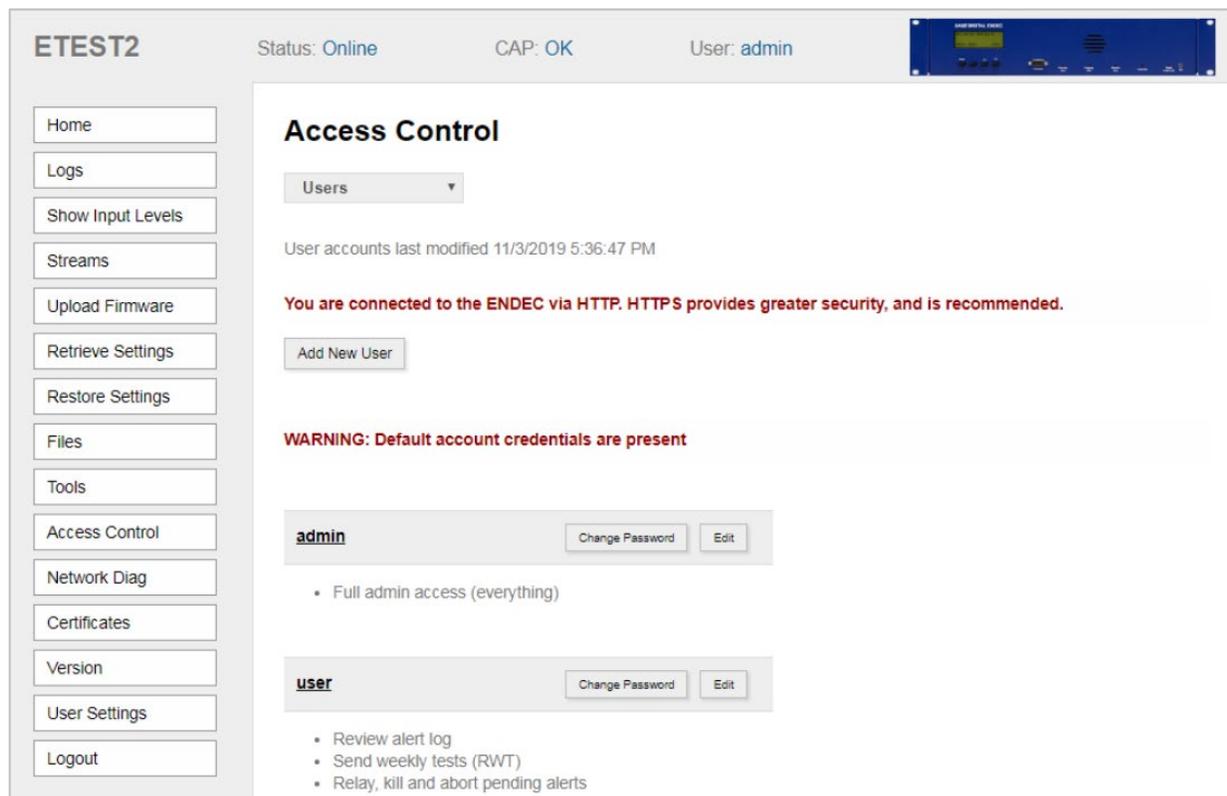


Figure 4: Access Control, showing default accounts and HTTP warning

## 6 New Features

### 6.1 Reports

The ENDEC provides alert log conformance and web access activity reports in PDF format:

- **Weekly alert log conformance and activity.** This report organizes all alert activity for an entire calendar week and includes:
  1. Conformance table with total alerts received per monitor input by type (EAN, NPT, RMT, RWT, Other).
  2. Summary of required alerts sent.
  3. Summary of required alerts received, grouped by monitor input.
  4. Complete alert log for the week sorted by date and time, identical to the Logs page alert log display.
  5. Signature page, for your convenience.
- **Web access activity.** Available in weekly and daily varieties. The weekly includes all web access events for an entire calendar week. The daily includes all web access events from the last 24 hours.

To receive these reports by email, use the *Reports* checkboxes on the Email tab of ENDECSetD (see **New Email Options**). You can also download reports whenever you want, using the **Reports** button on the Logs page.

Source	EAN	NPT	RMT	RWT	Other	Status
Mon # 1 - LP-1	0	0	1	1	5	OK
Mon # 2 - LP-2	0	0	0	0	2	Check
Mon # 3 - Weather	0	0	0	1	11	OK
Mon # 4 - Input Not Labeled	0	0	0	0	0	Silent
Mon # 5 - Input Not Labeled	0	0	0	0	0	Silent
Mon # 6 - State Relay Network	0	0	0	0	0	Silent
CAP	0	0	1	2	6	OK
Sent	0	0	1	1	7	OK

**Total Alerts Sent: 9    Total Alerts Received: 30**

**Required Alerts Sent: 2**

Time	Event	Locations	Sent On
01/16/24 18:04:46	RWT	Adams, CO, all of American Samoa, all of Indiana, all of Kentucky...	SAGETEST
01/20/24 15:57:03	RMT	Wayne, IN and Washington, DC	SAGETEST

**Required Alerts Received: 6**

**Monitor # 1 LP-1**  
Alerts Received: 1

Time	Event	Locations	Received From
01/18/24 03:50:27	RMT	all of Kentucky	ZXCV

Figure 5: Excerpt from a weekly alert log conformance report PDF.

## 6.2 Web Access Auditing

To help you keep track of how, when, and by whom your ENDEC is accessed, web access to the ENDEC is now logged. The kinds of events that are logged include:

- User login and logout
- Failed login attempts
- Excessive activity over short periods of time
- Disallowed access attempts
- User account modifications
- Email queue deletion

Unusual or suspicious events, such as excessive activity over a short period, result in an immediate email notification being sent to the Error Recipients list if real-time audit notifications are enabled (see **New Email Options**). All logged access events are available on the Logs page of the web interface, in XML and Tab file downloads, and in weekly and nightly web access reports (see **Reports**).

Type	Date	Details	Stored Audio
Sent	01/16/24 14:25:48	Required Weekly Test, Sent from header RWT. By Web Browser. User: admin@192.168.10.98 An EAS Participant has issued a Required Weekly Test for all of Alabama, Union, OH, and Warren, OH beginning at 2:25 pm Tue Jan 16 and ending at 3:25 pm Tue Jan 16 (ENDEC6)	
Web Access	01/16/24 13:42:09	Clear Email Queue: admin@192.168.10.98	
Web Access	01/16/24 13:41:04	User Account Modified: admin@192.168.10.98 Password changed for chris	
Web Access	01/16/24 13:39:14	<b>Failed login attempt from 192.168.10.25</b>	
Web Access	01/16/24 13:37:34	Login: admin@192.168.10.98	
Received	01/16/24 12:14:40	Matched filter RWT, Received from CAP. Queued 01/16/24 12:14:40. Log Only. The Civil Authorities have issued a Required Weekly Test for Santa Barbara, CA beginning at 12:14 pm Tue Jan 16 and ending at 12:29 pm Tue Jan 16 (fromcap).  CAP Server: IPAWS CAP Reference ID: SBCEAS,CAPNET-1-1338-20240116091400,2024-01-16T09:14:00-08:00  CAP Text: This is a test of the Emergency Alert System. This is only a test No action is needed. This is only a test.	No audio logged
System	01/16/24 12:14:15	Startup	
System	01/16/24 12:11:58	Firmware Upload by admin @ 192.168.10.98	

Figure 6: Logs page, displaying web access events, system events, and alerts.

### Viewing Web Access Events On The Logs Page

Web Access events can be chosen for display or omitted via the *Web Access* checkbox of the criteria selection table on the Logs page. If not checked, web access events will not be fetched from the ENDEC when the Logs page is reloaded. **Web Access events are only shown on the Logs page if the logged-in user has the “Access Tools page, view IP addresses and web access records” permission.**

Type	<input checked="" type="checkbox"/> All	<input checked="" type="checkbox"/> Sent	<input checked="" type="checkbox"/> Received	<input checked="" type="checkbox"/> Actions	<input checked="" type="checkbox"/> System	<input checked="" type="checkbox"/> WebAccess		
Required	<input checked="" type="checkbox"/> All	<input checked="" type="checkbox"/> Required	<input checked="" type="checkbox"/> Voluntary					
Include	<input checked="" type="checkbox"/> All	<input checked="" type="checkbox"/> Normal	<input checked="" type="checkbox"/> Ignored	<input checked="" type="checkbox"/> Ahead	<input checked="" type="checkbox"/> Expired	<input checked="" type="checkbox"/> Cancel		
Source	<input checked="" type="checkbox"/> All	<input checked="" type="checkbox"/> Mon #1	<input checked="" type="checkbox"/> Mon #2	<input checked="" type="checkbox"/> Mon #3	<input checked="" type="checkbox"/> Mon #4	<input checked="" type="checkbox"/> Mon #5	<input checked="" type="checkbox"/> Mon #6	<input checked="" type="checkbox"/> CAP

Figure 7: Log page criteria selection table, including the **Web Access** criteria checkbox.

### Showing And Hiding Web Access Events Once The Log Is Displayed

Web Access events may be displayed or hidden from view after the Logs page has loaded via the *Sanitize* and *Show Web Access* checkboxes atop the Logs page. This is useful if you need to share a screenshot of the alert log, but do not want to include user account names or IP addresses. Note that Web Access events will not be displayed at all if the criteria table Web Access checkbox was not checked before the log data was loaded.

The figures that follow illustrate the effects of checking and unchecking the *Sanitize*, *Show User Info*, and *Show Web Access* checkboxes.

Start:  End:  Per Page:  Order:

Show ZCZC     Sanitize  
 Show User Info     Show Web Access

Figure 8: Location of the *Show User Info*, *Sanitize*, and *Show Web Access* checkboxes, on the upper-right side of the Logs page.

Type	Date	Details	Stored Audio
Sent	01/16/24 14:25:48	Required Weekly Test. Sent from header RWT. By Web Browser. User: admin@192.168.10.98 An EAS Participant has issued a Required Weekly Test for all of Alabama, Union, OH, and Warren, OH beginning at 2:25 pm Tue Jan 16 and ending at 3:25 pm Tue Jan 16 (ENDEC6)	
Web Access	01/16/24 13:42:09	Clear Email Queue: admin@192.168.10.98	
Web Access	01/16/24 13:41:04	User Account Modified: admin@192.168.10.98 Password changed for chris	
<b>Web Access</b>	<b>01/16/24 13:39:14</b>	<b>Failed login attempt from 192.168.10.25</b>	
Web Access	01/16/24 13:37:34	Login: admin@192.168.10.98	
Received	01/16/24 12:14:40	Matched filter RWT, Received from CAP. Queued 01/16/24 12:14:40. Log Only. The Civil Authorities have issued a Required Weekly Test for Santa Barbara, CA beginning at 12:14 pm Tue Jan 16 and ending at 12:29 pm Tue Jan 16 (fromcap).  CAP Server: IPAWS CAP Reference ID: SBCEAS,CAPNET-1-1338-20240116091400,2024-01-16T09:14:00-08:00  CAP Text: This is a test of the Emergency Alert System. This is only a test No action is needed. This is only a test.	No audio logged
System	01/16/24 12:14:15	Startup	
System	01/16/24 12:11:58	Firmware Upload by admin @ 192.168.10.98	

Figure 9: With *Show User Info* and *Show Web Access* checked, all details are displayed.

Type	Date	Details	Stored Audio
Sent	01/16/24 14:25:48	Required Weekly Test, Sent from header RWT. By Web Browser. An EAS Participant has issued a Required Weekly Test for all of Alabama, Union, OH, and Warren, OH beginning at 2:25 pm Tue Jan 16 and ending at 3:25 pm Tue Jan 16 (ENDEC6)	
Web Access	01/16/24 13:42:09	Clear Email Queue	
Web Access	01/16/24 13:41:04	User Account Modified	
<b>Web Access</b>	<b>01/16/24 13:39:14</b>	<b>Failed login attempt</b>	
Web Access	01/16/24 13:37:34	Login	
Received	01/16/24 12:14:40	Matched filter RWT, Received from CAP. Queued 01/16/24 12:14:40. Log Only. The Civil Authorities have issued a Required Weekly Test for Santa Barbara, CA beginning at 12:14 pm Tue Jan 16 and ending at 12:29 pm Tue Jan 16 (fromcap).  CAP Server: IPAWS CAP Reference ID: SBCEAS,CAPNET-1-1338-20240116091400,2024-01-16T09:14:00-08:00  CAP Text: This is a test of the Emergency Alert System. This is only a test No action is needed. This is only a test.	No audio logged
System	01/16/24 12:14:15	Startup	
System	01/16/24 12:11:58	Firmware Upload	

Show ZCZC       Sanitize  
 Show User Info       Show Web Access

Figure 10: Uncheck **Show User Info** to hide user details (names, IP addresses).

Type	Date	Details	Stored Audio
Sent	01/16/24 14:25:48	Required Weekly Test, Sent from header RWT. By Web Browser. User: admin@192.168.10.98 An EAS Participant has issued a Required Weekly Test for all of Alabama, Union, OH, and Warren, OH beginning at 2:25 pm Tue Jan 16 and ending at 3:25 pm Tue Jan 16 (ENDEC6)	
Received	01/16/24 12:14:40	Matched filter RWT, Received from CAP. Queued 01/16/24 12:14:40. Log Only. The Civil Authorities have issued a Required Weekly Test for Santa Barbara, CA beginning at 12:14 pm Tue Jan 16 and ending at 12:29 pm Tue Jan 16 (fromcap).  CAP Server: IPAWS CAP Reference ID: SBCEAS,CAPNET-1-1338-20240116091400,2024-01-16T09:14:00-08:00  CAP Text: This is a test of the Emergency Alert System. This is only a test No action is needed. This is only a test.	No audio logged
System	01/16/24 12:14:15	Startup	
System	01/16/24 12:11:58	Firmware Upload by admin @ 192.168.10.98	

Show ZCZC       Sanitize  
 Show User Info       Show Web Access

Figure 11: Uncheck **Show Web Access** to hide all Web Access events.

Type	Date	Details	Stored Audio
Sent	01/16/24 14:25:48	Required Weekly Test, Sent from header RWT. By Web Browser. An EAS Participant has issued a Required Weekly Test for all of Alabama, Union, OH, and Warren, OH beginning at 2:25 pm Tue Jan 16 and ending at 3:25 pm Tue Jan 16 (ENDEC6)	
Received	01/16/24 12:14:40	Matched filter RWT, Received from CAP. Queued 01/16/24 12:14:40. Log Only. The Civil Authorities have issued a Required Weekly Test for Santa Barbara, CA beginning at 12:14 pm Tue Jan 16 and ending at 12:29 pm Tue Jan 16 (fromcap).  CAP Server: IPAWS CAP Reference ID: SBCEAS,CAPNET-1-1338-20240116091400,2024-01-16T09:14:00-08:00  CAP Text: This is a test of the Emergency Alert System. This is only a test No action is needed. This is only a test.	No audio logged
System	01/16/24 12:14:15	Startup	
System	01/16/24 12:11:58	Firmware Upload	

Show ZCZC       Sanitize  
 Show User Info       Show Web Access

Figure 12: **Sanitize** checkbox overrides the other checkboxes, hiding all user info and web access events.

## 6.3 New System Tools

Three new items have been added to the *Tools* page of the ENDEC's web interface:

1. **Automation Log.** This log shows all commands received on the ENDEC's TCP automation interface.
2. **System Messages.** This log shows any messages that are displayed on the ENDEC's front panel, along with a timestamp of when each message was added.
3. **Clear Email Queue.** Outbound email messages that get stuck - due to invalid email configuration, for example - may now be deleted from the email queue. The **Clear Email Queue** button is located atop the *Email* log.

## 6.4 Require HTTPS

If you would prefer to require HTTPS for all web access to the ENDEC, HTTP can be disabled entirely. There are two ways to do this:

1. On the Network tab of the ENDECSetD program. Check the “Disable HTTP” checkbox.
2. Via the front panel Network menu “Disable HTTP” option.

**Sage recommends always using HTTPS to connect to the ENDEC.**

## 6.5 Monitor Input Labels

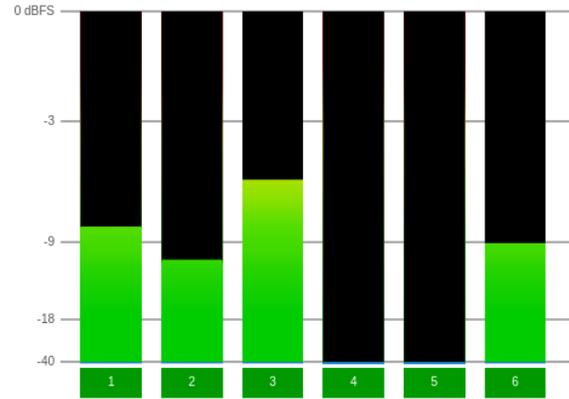
Each monitor input can be labeled, up to 20 characters each. The labels are for your convenience, allowing you to apply a human-friendly name to each of your sources. Labels are shown along with the monitor input number in these locations:

- *Logs* page
- Log downloads
- PDF reports
- *Streams* page
- *Show Input Levels* page
- *Levels* table on *Tools* page

**The label does not affect the callsign included with any received alert.** The original callsign continues to be displayed in the “Details” portion of each received alert’s entry in the alert log.

**Configure monitor input labels on the Monitor tab of ENDECSetD.** Any that you leave blank will show as

“Input not labeled”. Labeled or unlabeled has no effect on the ability to receive alerts on that input.



Monitor Input	Max Peak	Min Peak	Peak
1: Weather	-8.27dbFS	-8.27dbFS	-8.27dbFS
2: LP-1	-10.71dbFS	-10.95dbFS	-10.71dbFS
3: LP-2	-5.55dbFS	-5.69dbFS	-5.69dbFS
4: Input not labeled	silent	silent	silent
5: Input not labeled	silent	silent	silent
6: State Network	-9.41dbFS	-9.41dbFS	-9.41dbFS

Figure 13: Monitor input labels as displayed on the Show Input Levels page.

Outgoing Header
Local Area
New Events
New Locations
Network
Email/FTP
CAP
Peripheral

Config
CGEN
Device
Levels
Digital Audio
MHZ Sub Alert
Monitor
MSRP
Relay
RWT
Internal
Incoming Filter

Scan Inputs

Scan monitor input 1

Scan monitor input 2

Scan monitor input 3

Scan monitor input 4

Scan monitor input 5

Scan monitor input 6

Monitor Input Labels

Monitor Input #1:

Monitor Input #2:

Monitor Input #3:

Monitor Input #4:

Monitor Input #5:

Monitor Input #6:

Speaker monitor source

Figure 14: Configure monitor input labels on the Monitor tab of ENDECSetD. Those shown here correspond to those shown in the figure above.

## 6.6 New Email Options

To accommodate PDF report emails and web access notifications, there are four new email options, three of which are enabled by default. Enable or disable these options on the Email tab of ENDECSetD.

**Weekly Alert Log Conformance.** When checked, the weekly alert conformance report is emailed each Sunday morning at 12:50am to all recipients in the *Email Addresses – Received/Sent* list. **Enabled by default.**

**Web Access Weekly.** When checked, the weekly web access report is emailed each Sunday morning at 12:50am to all recipients in the *Email Error Addresses* list. **Enabled by default.**

**Web Access Nightly.** When checked, the nightly web access report is emailed each night at 12:50am to all recipients in the *Email Error Addresses* list. **Disabled by default.**

**Web Access Realtime.** When checked, notifications of certain web access events are emailed to all recipients in the *Email Error Addresses* list. **Enabled by default.**

The screenshot shows the configuration interface for the Email tab. At the top, there is a navigation bar with tabs: Config, CGEN, Device, Levels, Digital Audio, MHZ Sub Alert, Monitor, MSRP, Relay, RWT, Internal, Incoming Filter, Outgoing Header, Local Area, New Events, New Locations, Network, Email/FTP, CAP, and Peripheral. The main content area is divided into several sections:

- Email:** Includes a dropdown for 'Email Auth Type' (set to 'All'), text fields for 'Email User Name' and 'Email Password', and a checked checkbox for 'Use STARTTLS if available'.
- FTP:** Includes text fields for 'FTP Host/Path', 'FTP User Name', and 'FTP Password'. It also has a checked checkbox for 'Passive (PASV)', a 'Style' dropdown (set to 'Legacy'), and a checked checkbox for 'Send Audio'.
- Email Addresses - Receiving:** A list of email addresses with up and down arrows.
- Email Addresses - Received/Sent:** A list of email addresses with up and down arrows.
- Email Error Addresses:** A list of email addresses with up and down arrows.
- Email SMTP Server:** A text field.
- Email Domain:** A text field.
- Email/FTP Maximum Backoff:** A text field with '0' and '(Seconds)'.
- Email Audio Log:** A checked checkbox for 'Attach Audio'.
- Reports:** A section at the bottom with a checked checkbox for 'Weekly Alert Log Conformance' and a 'Web Access:' section with checked checkboxes for 'Weekly', 'Nightly', and 'Realtime'.

Figure 15: Checkboxes to configure report emails on the bottom of the Email tab of ENDECSetD.

For descriptions of the reports themselves, see the **Reports** section of this document.

## 6.7 New Email Notifications

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Rev96 introduces some new email notifications that the ENDEC may send you from time to time. Each such notification is sent to all recipients in the *Email Error Addresses* list.

### **File Upload Notification**

Sent when any file is uploaded (settings, firmware, NV Audio, etc.). The type of file, time and date of upload attempt, original filename, username, and IP address are included.

### **Clear Email Queue Notification**

Sent when the Clear Email Queue feature is used. Includes time and date, username, and IP address. Note that the Clear Email Queue feature is available from the email log of the Tools page.

### **Web Access Notification**

If real-time web access notifications are enabled, certain exceptional events will trigger an email notification. Each web access notification includes the date and time the event occurred. Where applicable, the username of the account that attempted the action, along with the target URL, are also included. Events that trigger notifications include:

- Failed login attempts
- Repeated access attempts within a short period of time
- Excessive web activity over a period of time

### **User Account Modification Notification**

If real-time web access notifications are enabled, any user account modification (account created, modified, deleted, or password change) will trigger an email notification. The email will indicate the target account, the action taken, the account who performed the action, and the date and time.

## 6.8 In Studio Override

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**In Studio Override** allows you to force most incoming alerts to Log Only for a set duration, regardless of the actions specified by your Incoming Filters and regardless of whether the ENDEC is in Manual or Automatic mode. This is useful during live coverage of an ongoing emergency that you do not want to interrupt - for example, during live coverage of tornado warnings – or during newscasts.

Apart from the following three exceptions, any alerts received while this override is in effect are only logged and not made available for relay:

1. **National Emergency Message.** The EAN is always handled as Automatic Relay.
2. **National Periodic Test.** The NPT is always handled as Automatic Relay.
3. **Required Monthly Test.** When In Studio Override is active, the RMT is handled as Manual Relay with a Hold Time of 59 minutes.

There are four ways to turn In Studio Override on and off:

1. **"In Studio Override" button on the Home page of the web interface.** Clicking it presents duration and enable/disable options.
2. **Automation interface.** Your automation system can send a specific command to turn the override on or off.
3. **GPI.** When the "Override Use" selection is set to "In Studio Override", the override is in effect while the GPI is asserted.
4. **Via the front panel Mode menu.** From the Mode menu, choose "Ovr", then set the number of minutes' duration as desired.

### Using The "In Studio Override" GPI Scheme

The In Studio Override scheme provides RWT on the D In 1 terminal, and override on/off on D In 2.

#### Active Closed

D Input	Open	Closed
D In 1	----	Send weekly test
D In 2	Normal alert behavior	Override in effect

#### Active Open

D Input	Open	Closed
D In 1	Send weekly test	----
D In 2	Override in effect	Normal alert behavior

## 6.9 Check For Updates

When you use this feature, your ENDEC's firmware version details are sent to our website and compared to current requirements. A list of needed updates (or a message saying no updates are needed) is then displayed in a new browser tab.

1. Go to the *Version* page.
2. Click the **Check For Updates** button.

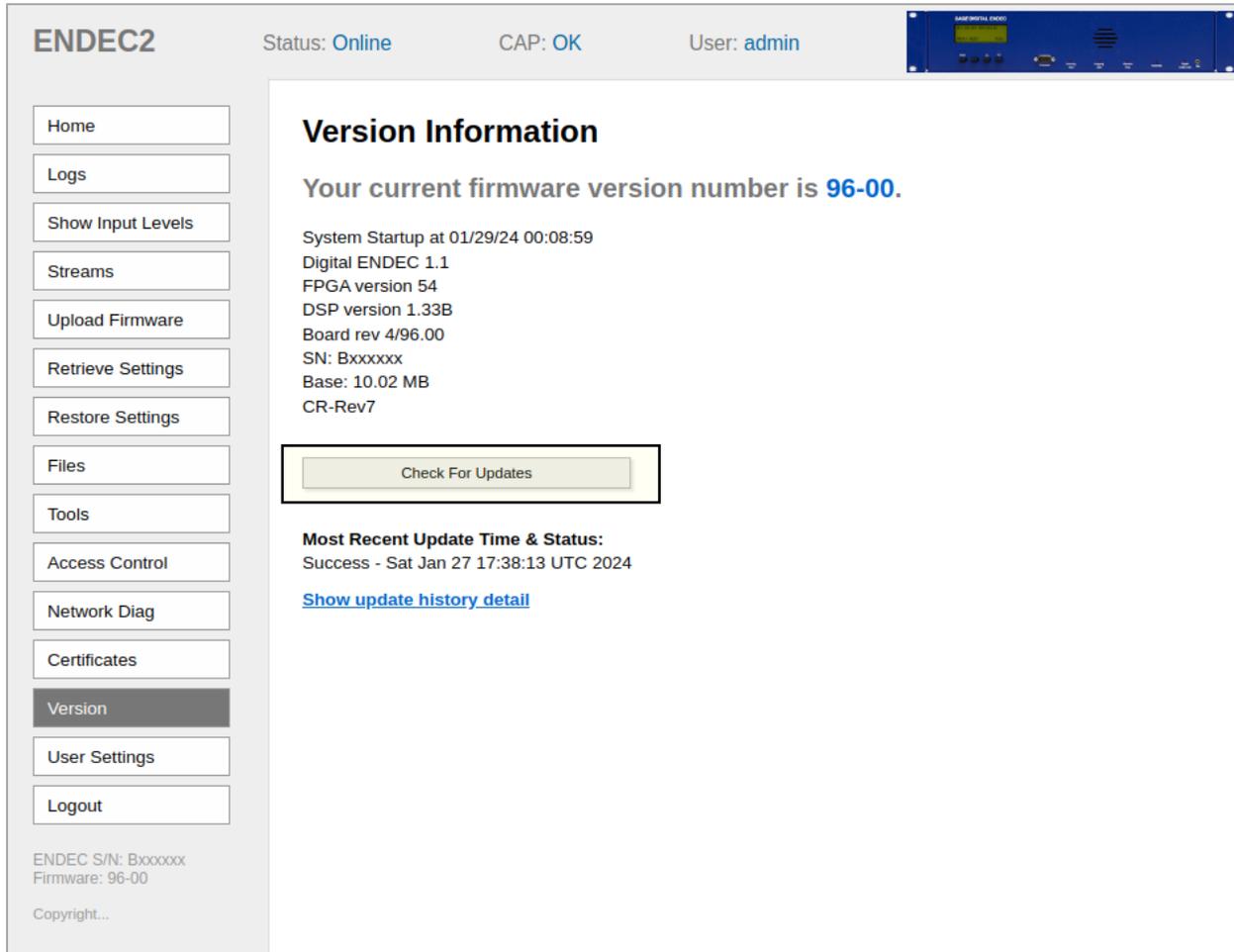


Figure 16: The location of the Check For Updates button on the Version page.

3. Prompted whether to proceed, click the Yes button.

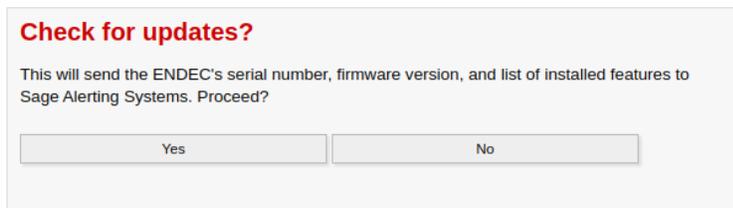


Figure 10: The **Check For Updates** confirmation prompt.

4. A new browser tab will open, displaying the ENDEC’s update status. Any needed updates will be listed, along with relevant links and instructions. If none are required, a message indicating that no updates are needed is shown.

**SAGE ALERTING SYSTEMS**  
Developers of the CAP-compliant Digital ENDEC

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Sage Alerting Systems, Inc.  
800 Westchester Avenue,  
Suite 641 North  
Rye Brook, NY 10573  
Phone 914 872 4069

## Firmware for ENDEC Bxxxxxx

**Firmware Version:** 96-00  
**Feature Tags:** CR-Rev7

**No updates are needed at this time.**

If you encounter any errors or have any questions, please contact Sage tech support:  
[support@sagealertingsystems.com](mailto:support@sagealertingsystems.com)  
914.872.4069 x 1

Figure 11: Results shown after using the *Check For Updates* feature.

## 7 Operational Differences & Notes

### 7.1 Behavior After ENDEC Reboots

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After the ENDEC reboots, users must reauthenticate. An informational message is displayed in the browser for all users logged in before and during the reboot. Each user is required to re-enter credentials to reconnect to the ENDEC. ***This does not apply to the first reboot at the conclusion of the Rev96 installation, but to every reboot thereafter.***

There are two types of reboots: planned, and unplanned. A planned reboot is the result of a file upload. An unplanned reboot results from a hard power cycle, ENDEC reboot after power loss, or other unusual error condition.

The following figures show examples of messages displayed for both kinds of reboots.

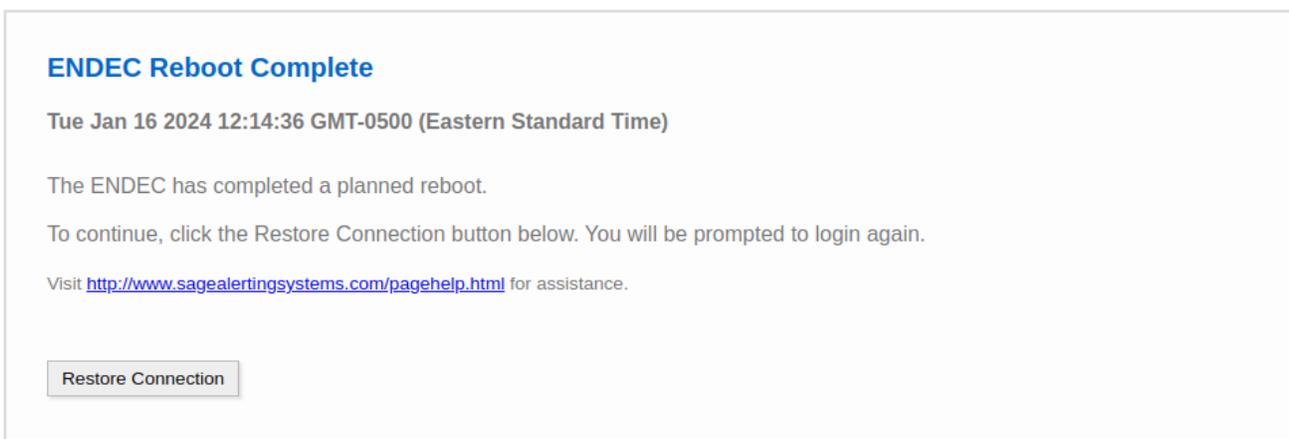


Figure 19: Message shown after planned reboot.

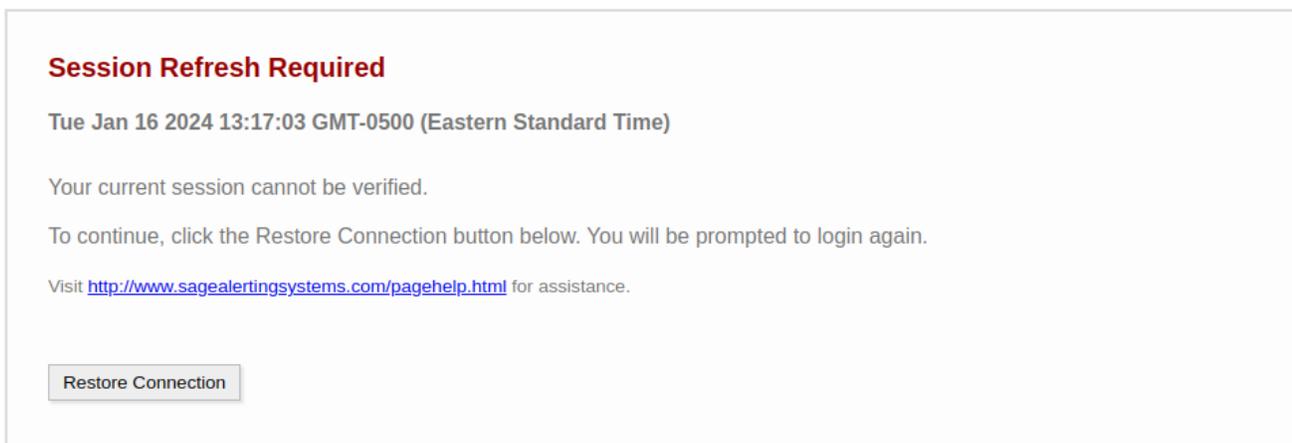


Figure 20: Message shown after unplanned reboot.

**NOTE:** The “Session Refresh Required” message may be displayed under certain browser error conditions, as well. If it is displayed, clicking the *Restore Connection* button and then reauthenticating when prompted should clear the problem.

## 7.2 Browser Tab Sleep / Discard

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Under certain conditions relative to your computer's resource usage (such as available memory), your browser may freeze or unload content from any tabs that are open. While this should not adversely affect your experience with the ENDEC's web interface, it can cause slight delays when you reactivate the tab, and it will impede alert pop-up windows if you have enabled them.

### To prevent tab discarding in Chrome:

5. Log in to the ENDEC in a browser tab.
6. Go to the Chrome settings page. Click the Chrome menu button (the three vertical dots, usually located in the upper-right part of the window). From the menu that appears, click *Settings*.
7. In the options that appear on the left of the settings page, click *Performance*.
8. Beneath the Memory heading, click the *Add* button next to "Always keep these sites active."
9. A dialog will appear. Check the checkbox next to the entry for your ENDEC, then click the *Add* button at the bottom of the dialog.
10. Close the settings page tab.

### To prevent tab sleeping and discarding in Edge:

1. Go to the Edge settings page. Click the Edge menu button (the three horizontal dots, usually located in the upper right part of the window). From the menu that appears, click *Settings*.
2. In the options on the left of the settings page, click *System and performance*.
3. Next to the "Never put these sites to sleep" heading, click the *Add* button.
4. In the dialog that appears, fill in the ENDEC's URL. This needs to be the same as what you type into the browser's address bar when you connect to the ENDEC.
5. Click the *Add* button at the bottom of the dialog.
6. Close the settings tab.

## 7.3 Alert Pop-up Windows

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Alert notification pop-up windows can be enabled or disabled via the *User Settings* page of the web interface. If you enable alert pop-ups, you may need to take additional steps to make your browser allow them.

### To allow pop-ups in Chrome:

1. Click the Chrome menu button (the three vertical dots, usually located in the upper-right part of the window). From the menu that appears, click *Settings*.
2. A tab will open with a list of options on the left. From those options, click *Privacy and security*.
3. From the options that appear next, choose *Site settings*.
4. Scroll through the various settings options until you see *Pop-ups and redirects*. Click it.

5. Next to the heading that says *Allowed to send pop-ups and use redirects*, click the *Add* button.
6. In the dialog that appears, put in the ENDEC's URL. This needs to be the same as what you type into the browser's address bar when you connect to the ENDEC.
7. Close the settings tab. If you have a tab already open to the ENDEC, close it, as well.
8. Open a new tab and log in to the ENDEC.

#### **To allow pop-ups in Firefox:**

1. Click the Firefox menu button (the three vertical lines, usually located in the upper-right part of the window). From the menu that appears, click *Settings*.
2. A tab will appear with a list of options on the left. From those options, *click Privacy & Security*.
3. Scroll down the various settings options until you see the *Block pop-up windows option*. Click the *Exceptions* button that is next to it.
4. In the dialog that appears, put in the ENDEC's URL. This needs to be the same as what you type into the browser's address bar when you connect to the ENDEC.
5. Close the settings tab. If you have a tab already open to the ENDEC, close it, as well.
6. Open a new tab and log in to the ENDEC.

#### **To allow pop-ups in Edge:**

1. Click the Edge menu button (three horizontal dots, near upper-right part of window).
2. In the settings tab that appears, type "Pop-up" (minus the quotes) into the search box.
3. In the results that appear, look for the *All Permissions* heading. Beneath that heading, find the *Pop-ups and redirects* entry. Click it.
4. Next to the *Allow* heading, click the *Add* button.
5. In the dialog that appears, fill in the ENDEC's URL. This needs to be the same as what you type into the browser's address bar when you connect to the ENDEC.
6. Close the settings tab. If you have a tab already open to the ENDEC, close it, as well.
7. Open a new tab and log in to the ENDEC.

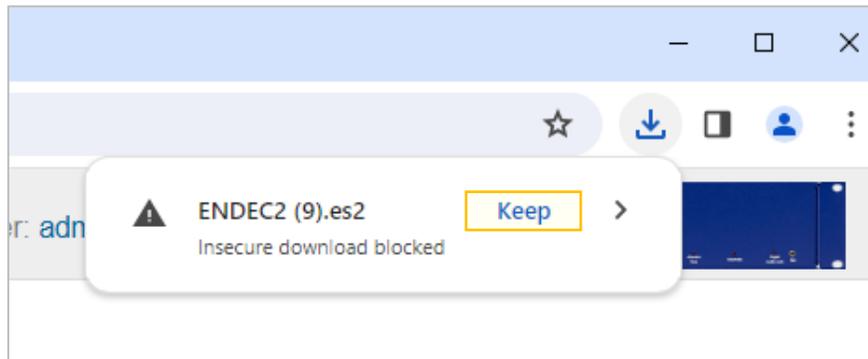
## 7.4 Important Note Regarding HTTP Download Behavior

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Your browser may impede file downloads via HTTP, showing a warning or preventing the download entirely unless you click a specific button to allow the download.

To avoid this and other similar situations entirely, use HTTPS instead of HTTP when accessing the ENDEC's web interface.

If for some reason you must use HTTP, you may see an indication like this when you download a file:



*Figure 21: HTTP file download warning in the Chrome web browser. The **Keep** button is outlined in yellow for purposes of illustration only.*

Click where it says **Keep**. The file will then be saved, as usual, to whichever folder your browser stores downloaded files.

**Sage recommends always using HTTPS to access the ENDEC.**