



SÉNA

***NP200W-LPG
LPG Tank Monitor
User's Manual***

*Rev. 2.0
Date: 18th June 2020*

This manual belongs to: _____

Company: _____



NP200W-LPG

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Thank You

Sena World, Inc. thanks you for purchasing this product and hopes that it can fulfil all your CNG controller needs now and in the future.



SENA Corporation 10606 Dallas, TX 75229, P: 972-488-8724 E: sales@sena-corp.com

Revision History

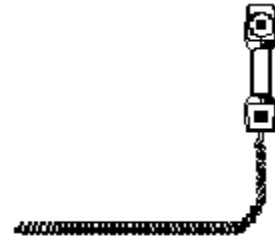
Version	Page	Date	Reason
1.0		03/07/19	Initial release
2.0		18/06/20	Update

Please Note:

Sena World, Inc. encourages and appreciates customer feedback regarding this document errors or improvements. If you have any questions regarding this manual or this product, please call or write to the following:

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Internet Home page:
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patelnp@sena-corp.com



Table of Content

Contents

Table of Contents

<i>Introduction.....</i>	<i>5</i>
<i>Shipping Carton.....</i>	<i>6</i>
<i>Install NP200W-LPG(WIFI) unit.....</i>	<i>7</i>
<i>Setup NP200W-LPG</i>	<i>8</i>
<i>NP200 Operations.....</i>	<i>12</i>
<i>LCON Operations.....</i>	<i>13</i>
<i>Notes:</i>	<i>23</i>





Introduction

SENA's NP200W-LPG is specifically designed for Propane tank operations. The NP200W-LPG uses LCON to the same "near real time" tank monitoring as the NP200W by utilizing the customer's local Wi-Fi network. In addition to an encryption capable Wi-Fi level transmitter, the NP200W-LPG includes a twin site dial for standard junior or senior gages. The LCON website is a secure web portal which gives customers multilevel global access to the NP-200 series tank monitors via the internet. The NP200 series of products can be used as a stand-alone monitoring and control system with built-in MODBUS protocol. Ideal for SCADA systems interface. The NP200W comes with an encryption capable Wi-Fi level transmitter.

NP200 inputs/outputs

- 4 Analog Input
- 4 Digital Input
- 4 Digital Output
- RS485 channel



Shipping Carton

- 1) NP200W-LPG
- 2) 8AA Battery
- 3) Manual
- 4) Warranty card
- 5) Mounting Screws



NP200W-LPG

Back Side

Front Side



Battery

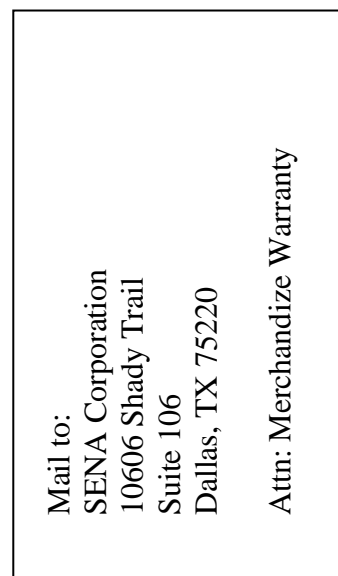


Figure 1



NP200W-LPG

Install NP200W-LPG(WIFI) unit

1. Survey site the NP200 is to be installed
2. Mark spot where unit is to be installed i.e. position of the 4 mounting holes
3. Using the appropriate screws, install the unit on the wall so that it is vertical
4. This mark should be about 2' or 600 mm from wall where unit is installed



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Setup NP200 Unit

- Open the lid of Unit and plug the batteries as shown in the figure 2.
- To wake up system, customer needs to hold magnet in front of Red dot on the unit for 3 sec as shown in figure 3.
- Unit indicator LED will flash every one second
- When all (Green, Red, Orange) LED start flashing then it will create its own hotspot.
- Access your Wi-Fi network as administrator (figure 4)
- Unit number of the device will be one of the Wi-Fi networks choices on the Wi-Fi list for example “2001010”.

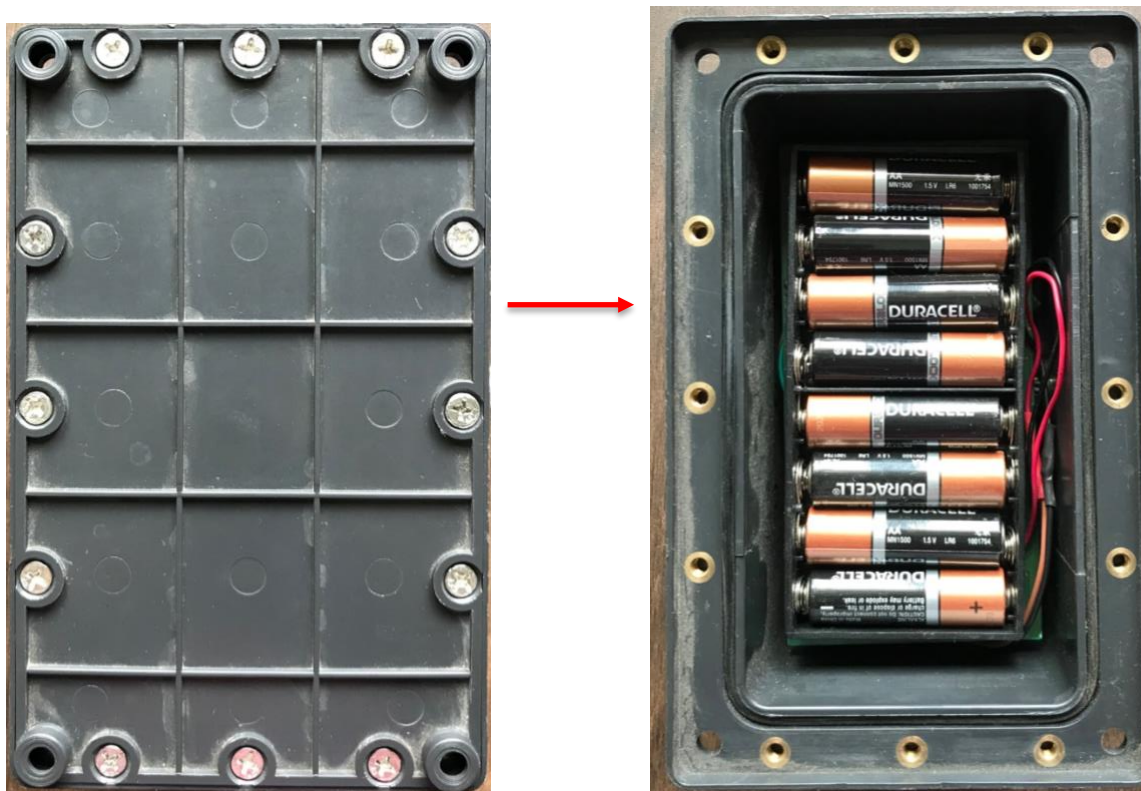


Figure 2



Figure 3

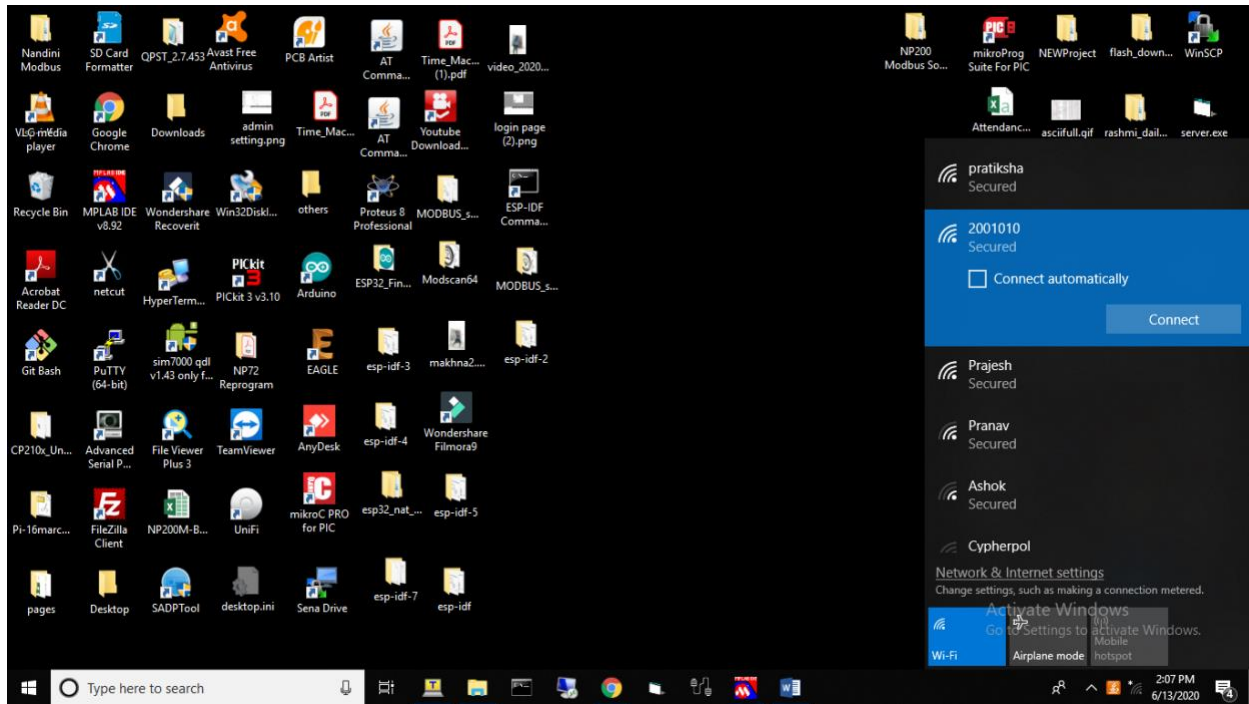


Figure 4

- Click on this network and enter password as “rslcon”.
- When successfully connected, type IP address “192.168.4.1” in your Device browser. Time Period of the Wi-Fi hotspot is 1 min. After that it will go into sleep mode.
- This will result in display of NP200 Menu as shown below: (figure 5)

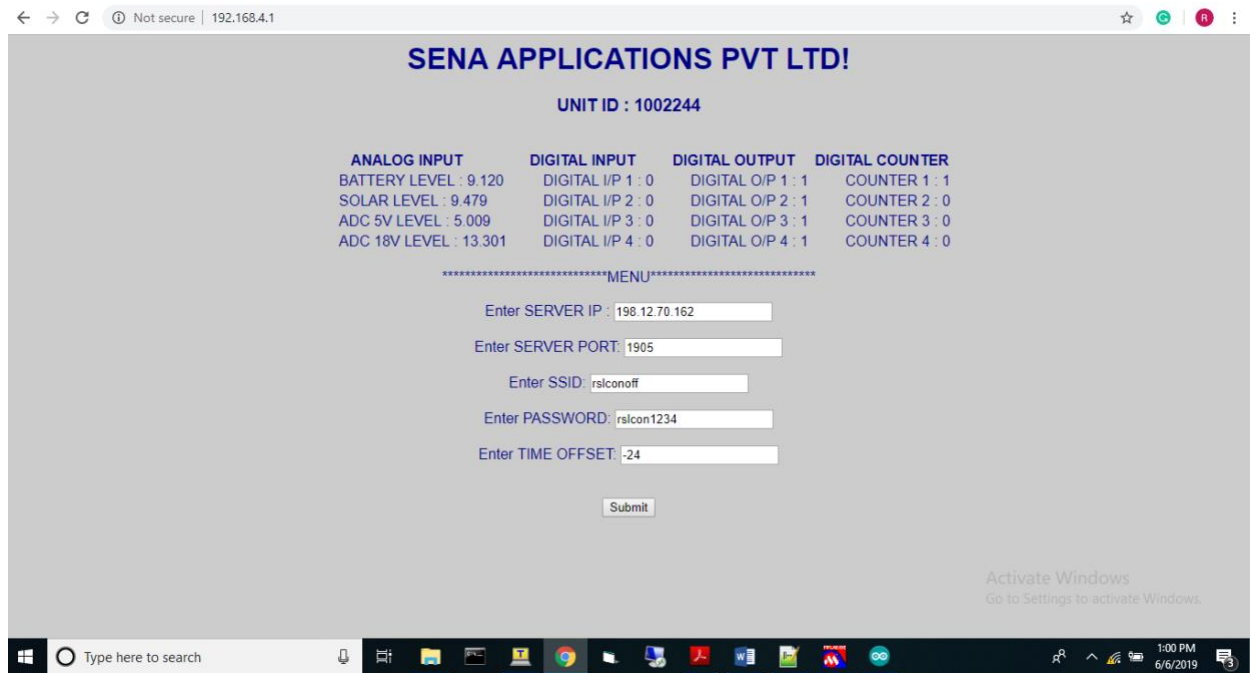


Figure 5

Page will show all the readings i.e. Analog Input, Digital Input, Digital Output, Counter. Menu will contain following fields:

- Server IP and Port: Customer does not have to enter these fields. It will be set default.
- SSID: Enter network name
- Password: Enter network Password
- Time Offset: Enter time offset for example for Dallas it is -24

NP200 Operations

Local Mode

- If Customer wants to access this unit locally then every time when he wants to check readings, he has to hold magnet on RED dot on box for 3 sec.
- Once it starts flashing 3 LED (Red, Green, Orange) then it create its own hotspot by its unit ID.
- Customer has to connect to this network using password “rslcon” and enter IP “192.168.4.1” on browser and check the readings.

Internet Mode

- If customer wants to access this unit on web browser (internet) then he needs to connect the unit to its network.
- For this follow “Setup NP200 Unit”.
- Once you enter Network details and click on submit, it will send report to LCon.
- It will send report two times a day i.e. 5 am and 3 pm as per default setting.
- If any alarm is generated then it will wake up automatically and send report.
- If customer needs to change the report time then he can change it from “sena-corp.com” website.

LCON Operations

- 1) It is assumed here that customer Wi-Fi has internet access
- 2) Access your internet and go to sena-corp.com
- 3) In the upper right corner click on “Login”
- 4) Login into LCON with your credentials. (If you don't have login credentials please contact Sena Email:patelnp@sena-corp.com)
- 5) Click on “Submit” figure 6
- 6) LCON page will now display
- 7) Dashboard Page will now display. figure 7

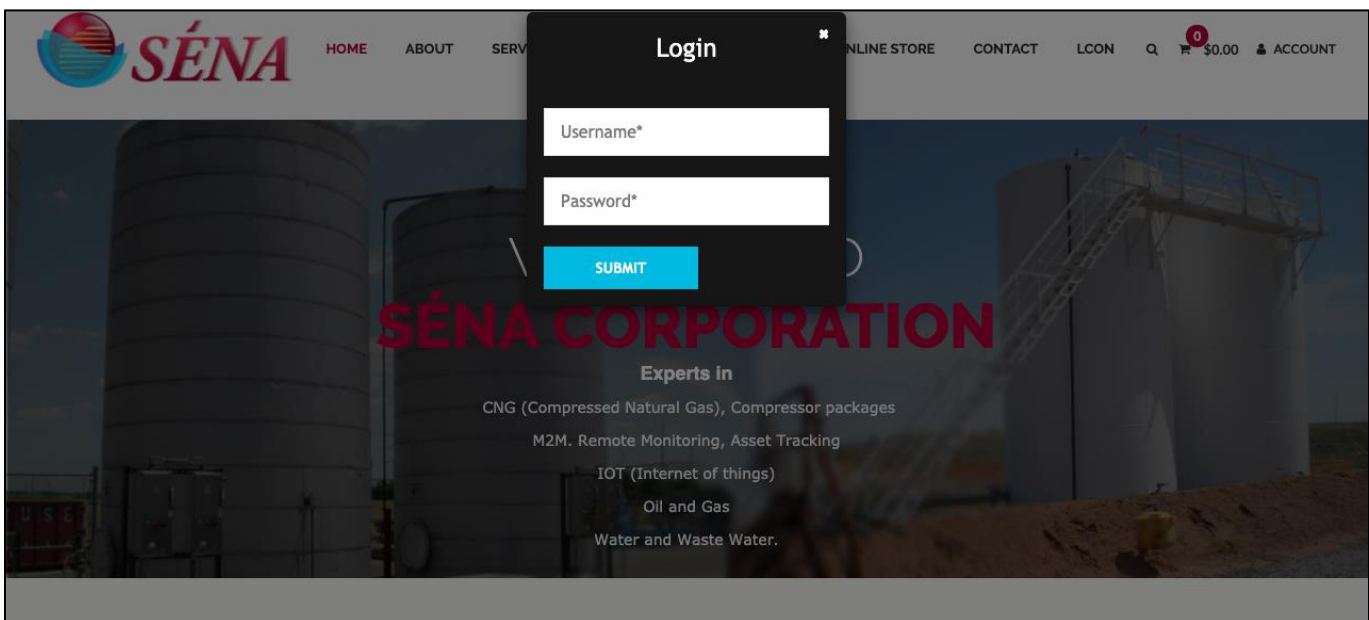


Figure 6

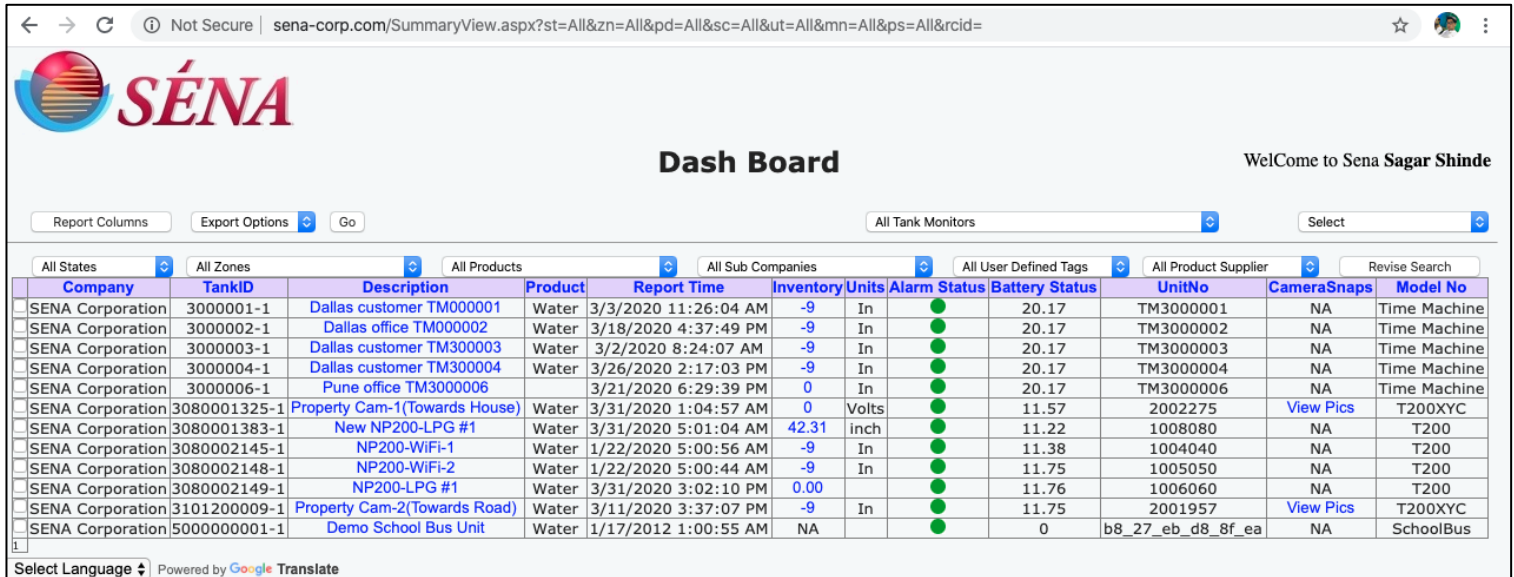
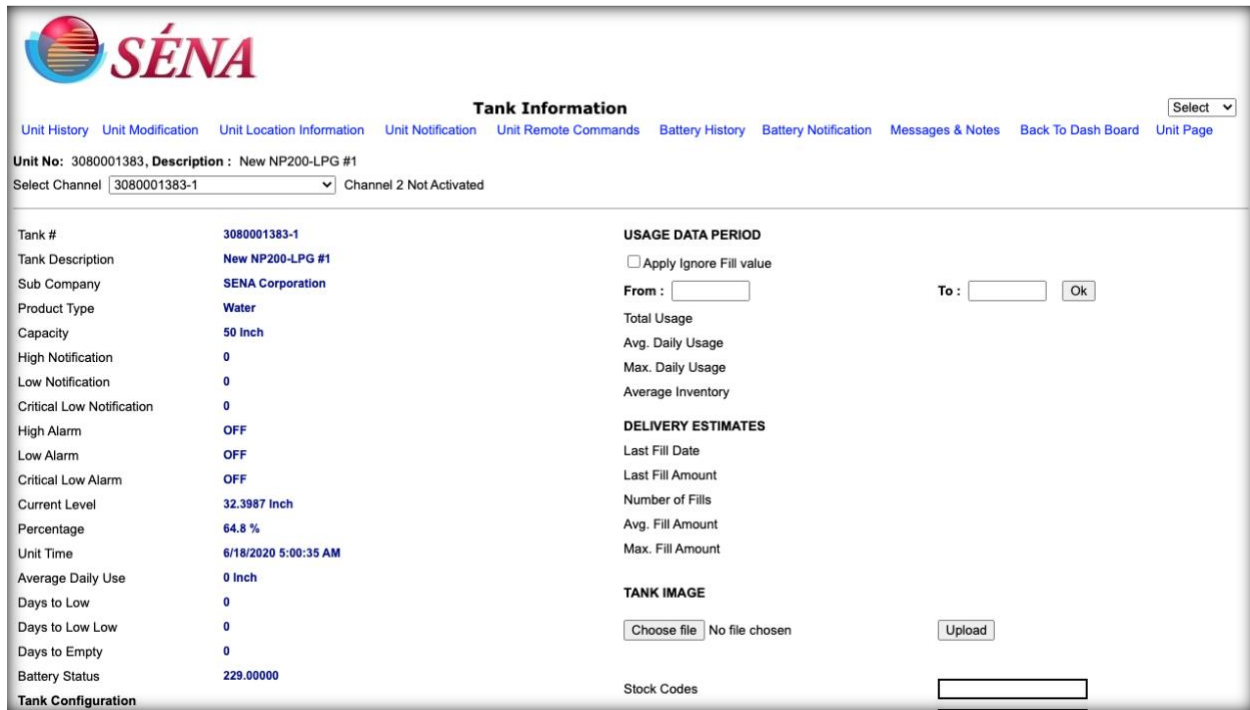


Figure 7

- 8) Identify the Unit and click on text in Description tab
- 9) Now Tank Information Page will open. (figure 8)



Tank Information Select ▾

Unit History Unit Modification Unit Location Information Unit Notification Unit Remote Commands Battery History Battery Notification Messages & Notes Back To Dash Board Unit Page

Unit No: 3080001383, Description : New NP200-LPG #1

Select Channel: 3080001383-1 Channel 2 Not Activated

<p>Tank # 3080001383-1</p> <p>Tank Description New NP200-LPG #1</p> <p>Sub Company SENA Corporation</p> <p>Product Type Water</p> <p>Capacity 50 Inch</p> <p>High Notification 0</p> <p>Low Notification 0</p> <p>Critical Low Notification 0</p> <p>High Alarm OFF</p> <p>Low Alarm OFF</p> <p>Critical Low Alarm OFF</p> <p>Current Level 32.3987 Inch</p> <p>Percentage 64.8 %</p> <p>Unit Time 6/18/2020 5:00:35 AM</p> <p>Average Daily Use 0 Inch</p> <p>Days to Low 0</p> <p>Days to Low Low 0</p> <p>Days to Empty 0</p> <p>Battery Status 229.00000</p> <p>Tank Configuration</p>	<p>USAGE DATA PERIOD</p> <p><input type="checkbox"/> Apply Ignore Fill value</p> <p>From : <input type="text"/> To : <input type="text"/> <input type="button" value="Ok"/></p> <p>Total Usage</p> <p>Avg. Daily Usage</p> <p>Max. Daily Usage</p> <p>Average Inventory</p> <p>DELIVERY ESTIMATES</p> <p>Last Fill Date</p> <p>Last Fill Amount</p> <p>Number of Fills</p> <p>Avg. Fill Amount</p> <p>Max. Fill Amount</p> <p>TANK IMAGE</p> <p><input type="button" value="Choose file"/> No file chosen <input type="button" value="Upload"/></p> <p>Stock Codes <input type="text"/></p>
---	--

Figure 8

- 10) For check Report history click on hyper link “Unit History”. You will navigate to Unit History Page. Figure 9.

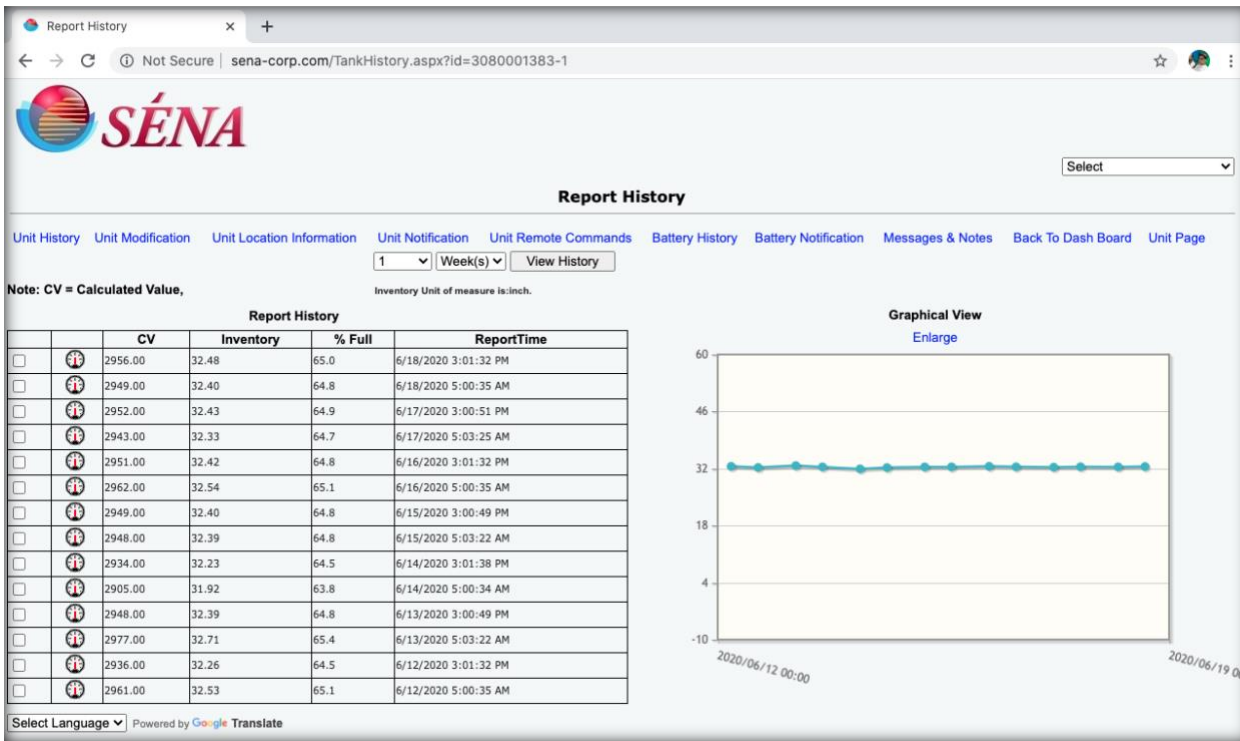
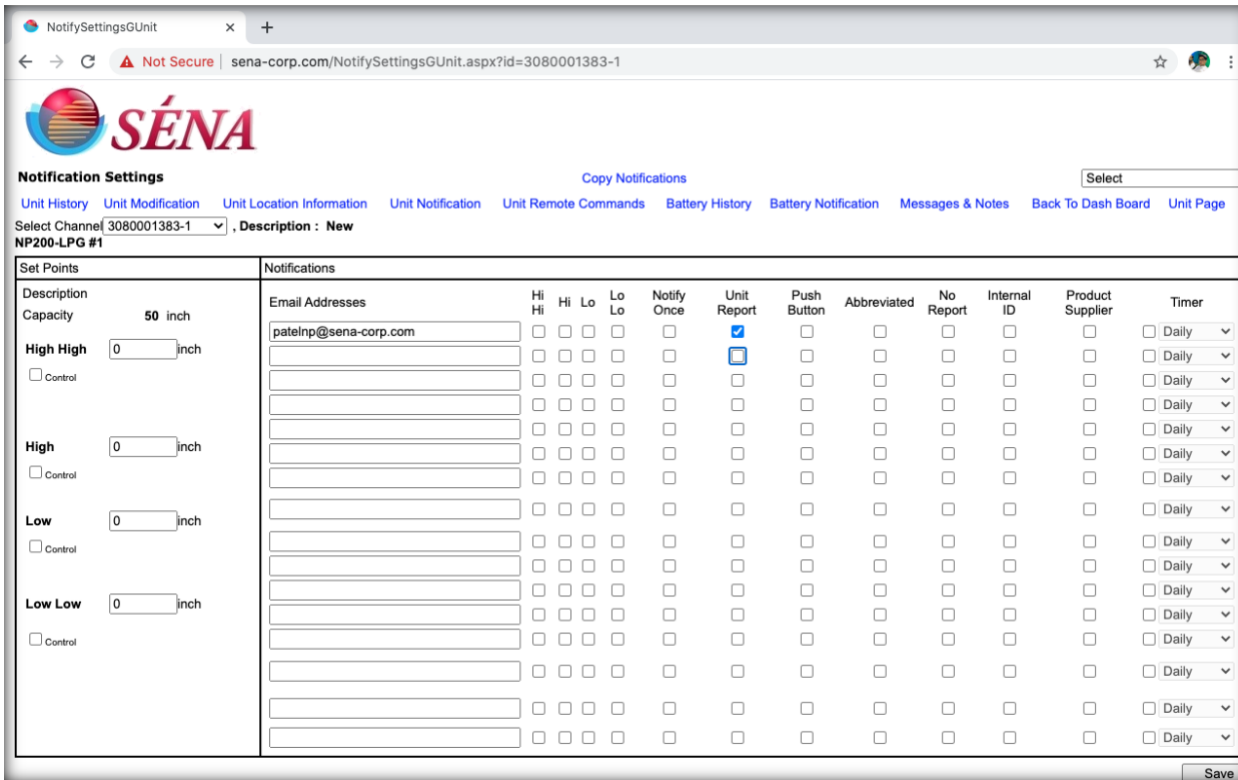


Figure 9

11) For Report Notification (Email alerts) click on hyper link “Unit Notification”. You will navigate to Unit notification Page. Figure 10. (only Admin will have the access of this page)

- For getting alerts on high and low readings. Please Fill the values in the fields (High-High, High, Low- Low, Low) that you think that reading will be alert reading. After That check the check mark. You can select the type of alerts like Hi-Hi, Hi, Lo-Lo, Lo, unit report, etc..



Notification Settings

Unit History Unit Modification Unit Location Information Unit Notification Unit Remote Commands Battery History Battery Notification Messages & Notes Back To Dash Board Unit Page

Select Channel: 3080001383-1 Description: New NP200-LPG #1

Set Points	Notifications	Hi Hi	Hi Lo	Lo Lo	Notify Once	Unit Report	Push Button	Abbreviated	No Report	Internal ID	Product Supplier	Timer
Capacity: 50 inch	Email Addresses: patelnp@sena-corp.com	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Daily
High High: 0 inch		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Daily
<input type="checkbox"/> Control		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Daily
High: 0 inch		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Daily
<input type="checkbox"/> Control		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Daily
Low: 0 inch		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Daily
<input type="checkbox"/> Control		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Daily
Low Low: 0 inch		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Daily
<input type="checkbox"/> Control		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Daily
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Daily
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Daily

Save

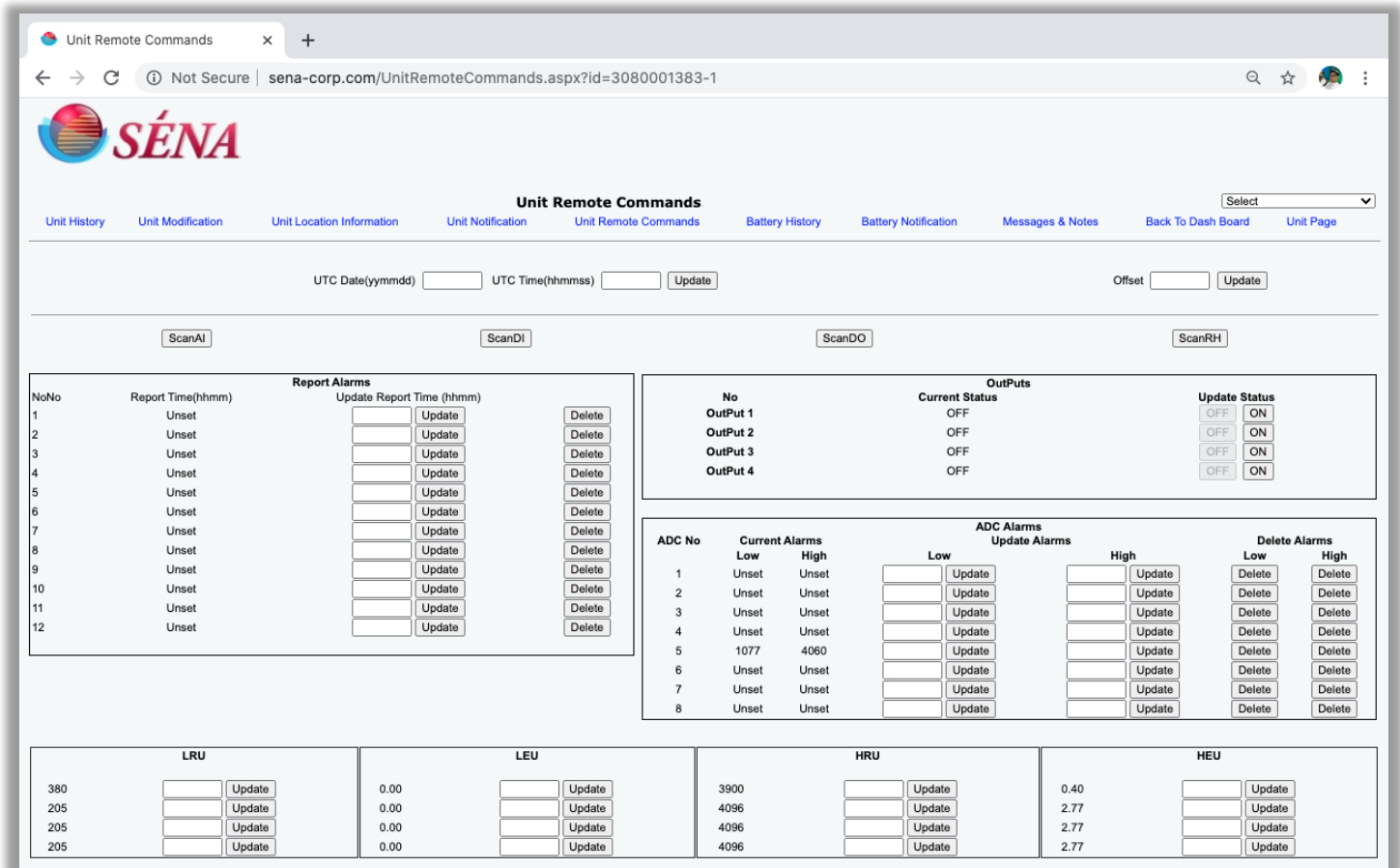
Figure 10

12) For changing Unit setting Remotely click on hyper link “Unit Remote Commands”. You will navigate to Unit Remote Commands Page. Figure 11. (**only Admin will have the access of this page**)

You Can change the below fields remotely.

- **UTC Date and UTC Time:** Date should be in format YYMMDD and time should be in format HHMMSS
- **Offset:** You can change the offset values. For example, you want to set the offset -24 so you should have the enter 24 and if you want set +24 value should 124.
- **Individual Register Scanning:** For Scanning Only one type of registers you can press the buttons ScanAI, ScanDI, ScanDO, ScanRH
- **Reports Alarms:** Here is you have 12 options to set report time alarms. You have to set alarms in format HHMM. Also, if you want hourly report enter 9900 in one filed you will get hourly reports.

- **Change Output's:** You can change the output values by pressing available buttons. Means if current value is ON then you can press OFF button. If current values are OFF, then you press ON button.
- **ADC Alarms:** You set the High and Low alarm values. This value should be in integer format. You can set values for 8 channels. You can also delete the high and low alarm pressing Delete buttons.
- **Row Units:** You can set the Low and high row units (HRU, LRU) for 4 channels. This value should be in integer format.
- **Engineering Units:** You can set the Low and high Engineering units (HEU, LEU) for 4 channels. This value should be in floating format.

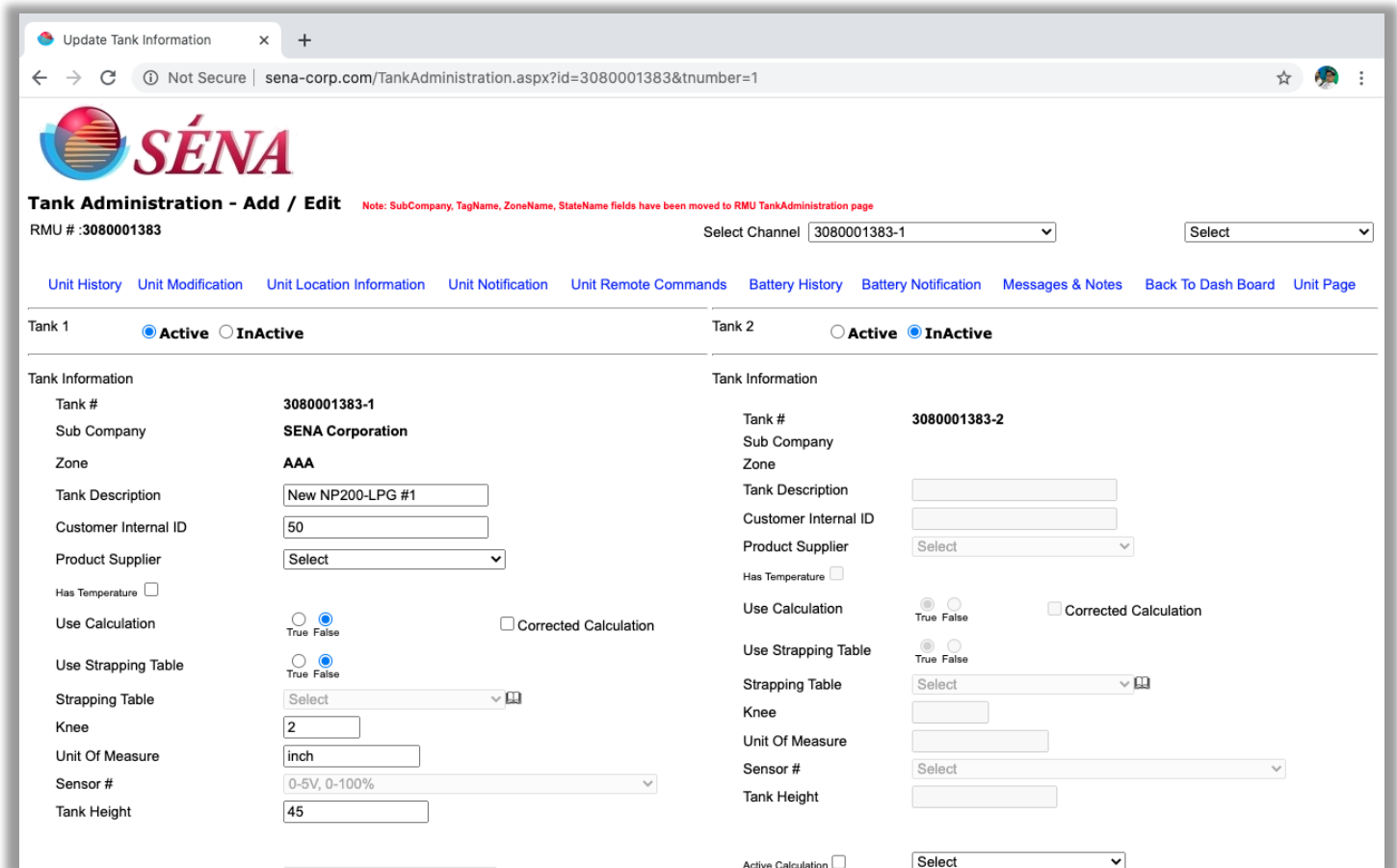


The screenshot shows the SENA Unit Remote Commands web interface. At the top, there is a navigation menu with options like Unit History, Unit Modification, Unit Location Information, Unit Notification, Unit Remote Commands (selected), Battery History, Battery Notification, Messages & Notes, Back To Dash Board, and Unit Page. Below the navigation, there are input fields for UTC Date and Time, and an Offset field. The main content area is divided into several sections:

- Report Alarms:** A table with 12 rows (NoNo 1-12) and columns for Report Time (hhmm), Update, Report Time (hhmm), and Delete. All report times are currently 'Unset'.
- OutPuts:** A table with 4 rows (OutPut 1-4) and columns for Current Status and Update Status. All current statuses are 'OFF'.
- ADC Alarms:** A table with 8 rows (ADC No 1-8) and columns for Current Alarms (Low, High), Update Alarms (Low, High), and Delete Alarms (Low, High). ADC 5 has a High value of 4060.
- Row Units:** Four panels for LRU, LEU, HRU, and HEU. Each panel has 4 rows with values and Update buttons. LRU values are 380, 205, 205, 205. LEU values are 0.00, 0.00, 0.00, 0.00. HRU values are 3900, 4096, 4096, 4096. HEU values are 0.40, 2.77, 2.77, 2.77.

Figure 11

13) You can change the unit setting for calculation using Unit modification Page. This calculation is only for Lcon side. Visit this page by select hyper link “Unit Modification”. Figure 12.



The screenshot shows a web browser window with the URL `sena-corp.com/TankAdministration.aspx?id=3080001383&tnumber=1`. The page title is "Tank Administration - Add / Edit". A note indicates that `SubCompany, TagName, ZoneName, StateName` fields have been moved to the RMU Tank Administration page. The RMU # is 3080001383 and the selected channel is 3080001383-1.

Navigation links include: Unit History, Unit Modification, Unit Location Information, Unit Notification, Unit Remote Commands, Battery History, Battery Notification, Messages & Notes, Back To Dash Board, and Unit Page.

Two tank configuration panels are visible:

- Tank 1:**
 - Active: InActive:
 - Tank #: 3080001383-1
 - Sub Company: SENA Corporation
 - Zone: AAA
 - Tank Description: New NP200-LPG #1
 - Customer Internal ID: 50
 - Product Supplier: Select
 - Has Temperature:
 - Use Calculation: True False Corrected Calculation
 - Use Strapping Table: True False
 - Strapping Table: Select
 - Knee: 2
 - Unit Of Measure: inch
 - Sensor #: 0-5V, 0-100%
 - Tank Height: 45
- Tank 2:**
 - Active: InActive:
 - Tank #: 3080001383-2
 - Sub Company: [Empty]
 - Zone: [Empty]
 - Tank Description: [Empty]
 - Customer Internal ID: [Empty]
 - Product Supplier: Select
 - Has Temperature:
 - Use Calculation: True False Corrected Calculation
 - Use Strapping Table: True False
 - Strapping Table: Select
 - Knee: [Empty]
 - Unit Of Measure: [Empty]
 - Sensor #: Select
 - Tank Height: [Empty]

At the bottom right, there is an "Active Calculation" checkbox and a "Select" dropdown menu.

Figure 12

14) For check Battery history click on hyper link “Battery History”. You will navigate to battery History Page. Figure 13.

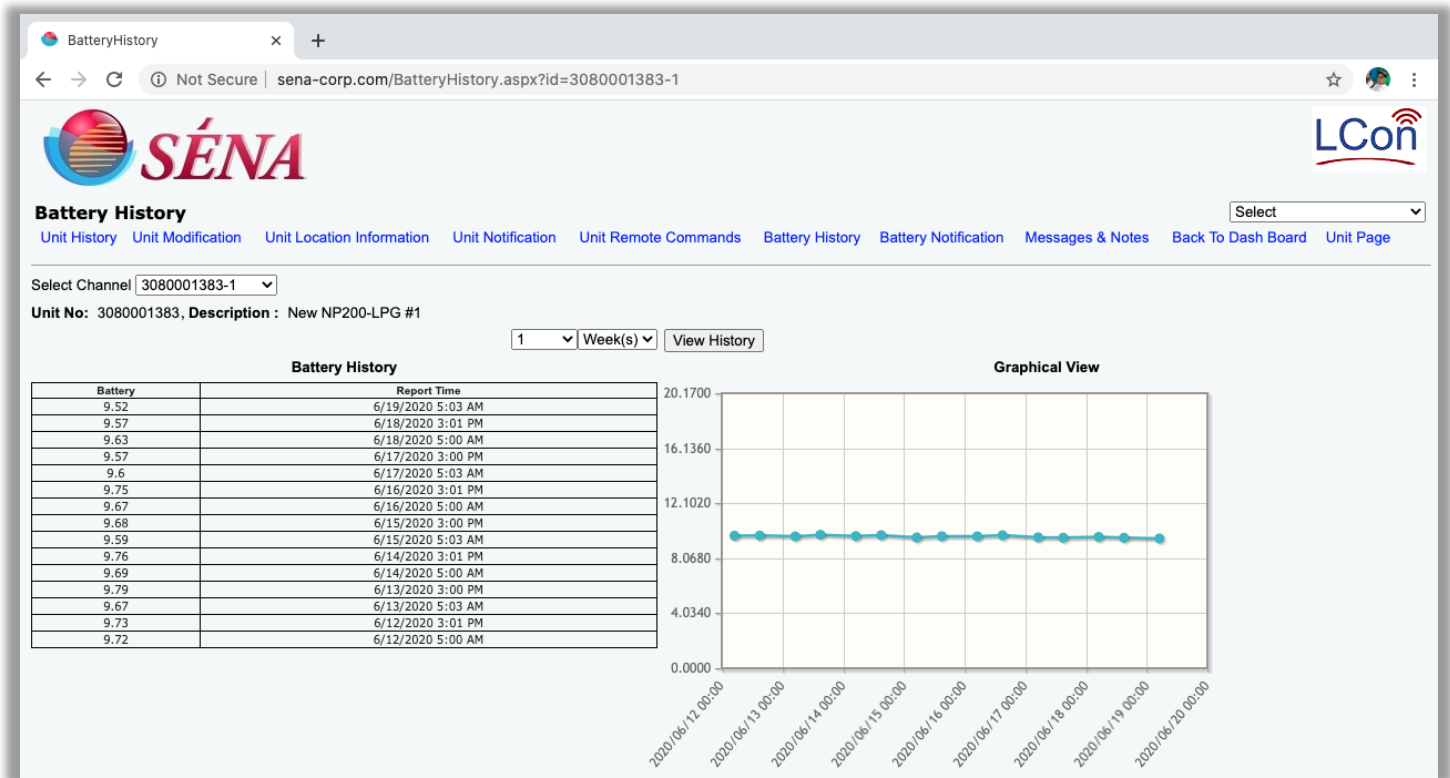
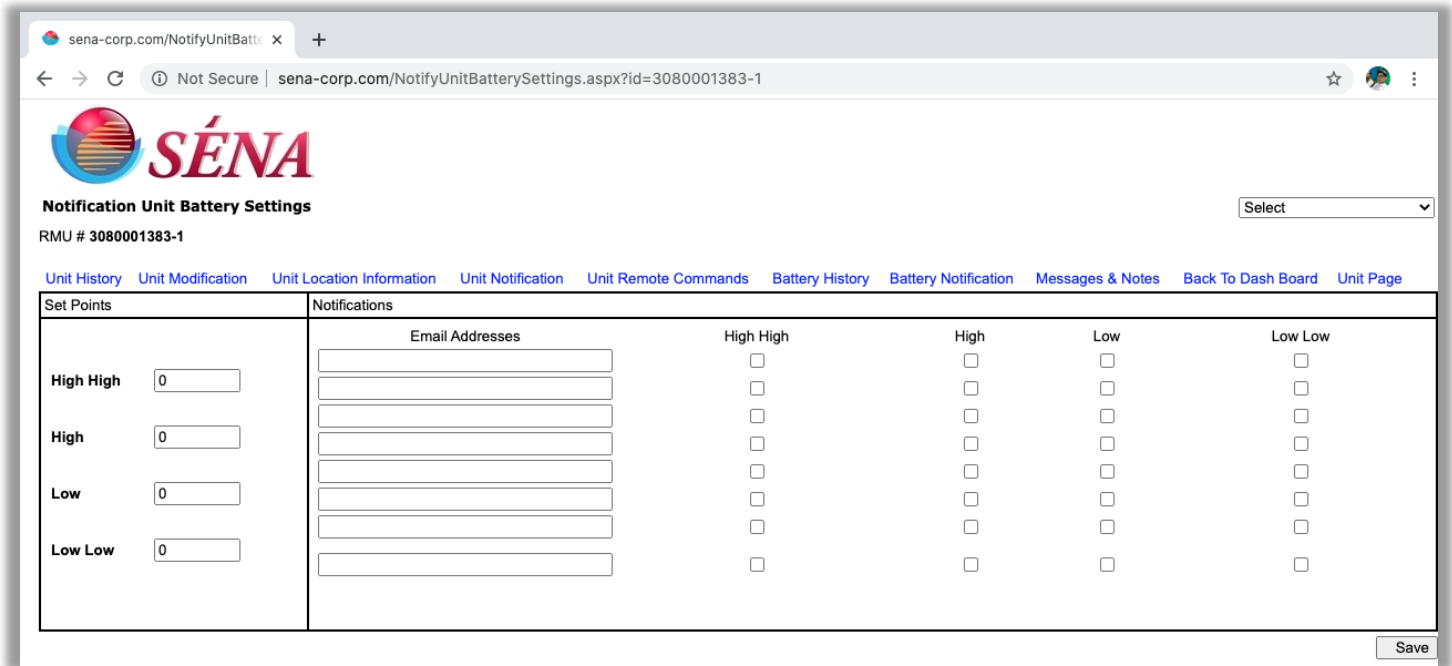


Figure 13

15) For Battery Report Notification (Email alerts) click on hyper link “Battery Notification”. You will navigate to battery notification Page. Figure 14. (only Admin will have the access of this page).

- For getting alerts on high and low battery readings. Please Fill the values in the fields (High- High, High, Low- Low, Low) that you think that reading will be alert reading. After That check the check mark. You can select the type of alerts like High-High, High, Low-Low, Low, unit report, etc..



Notification Unit Battery Settings

RMU # 3080001383-1

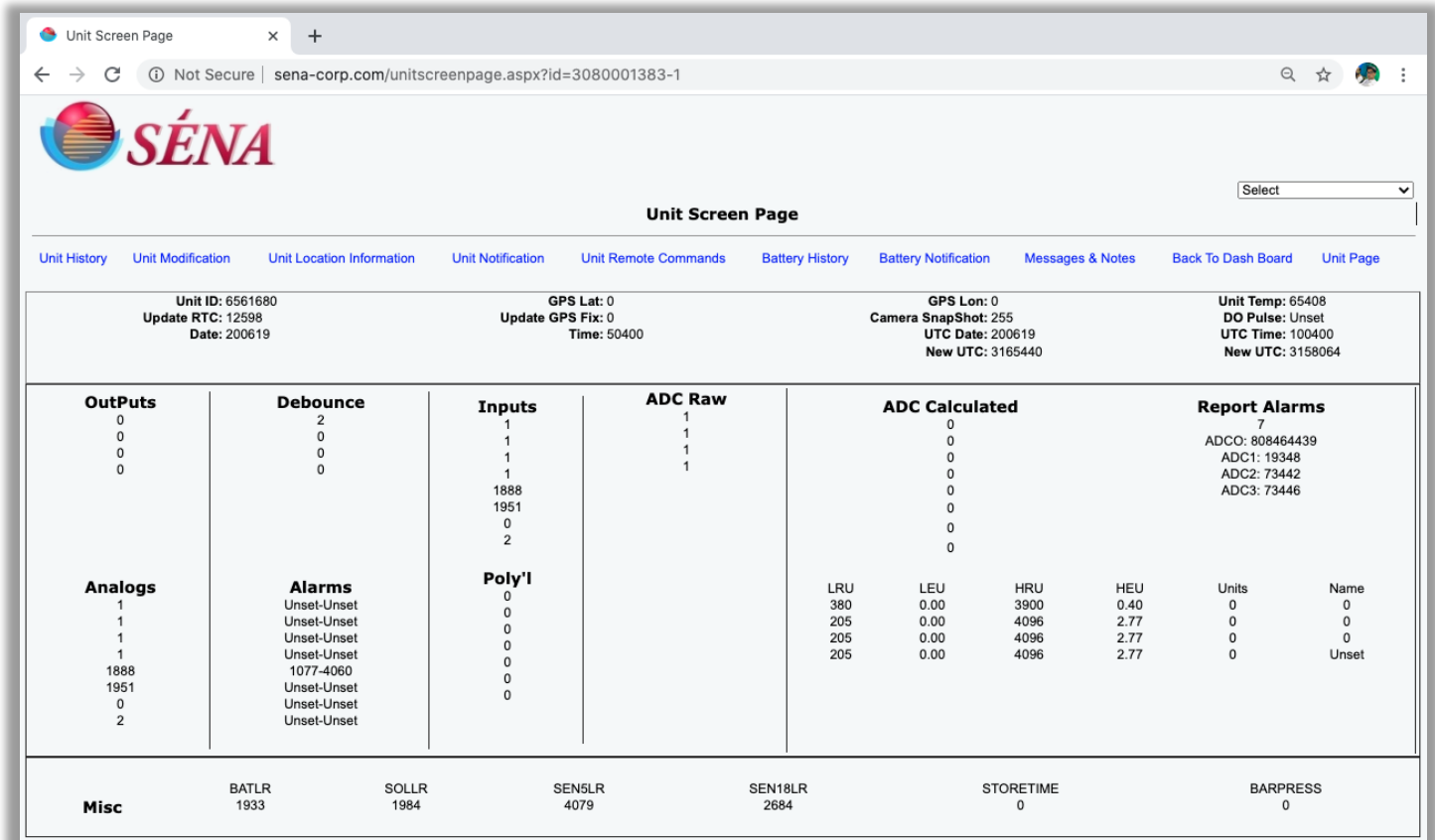
Unit History Unit Modification Unit Location Information Unit Notification Unit Remote Commands Battery History Battery Notification Messages & Notes Back To Dash Board Unit Page

Set Points	Notifications																																													
High High	<table border="1"> <thead> <tr> <th>Email Addresses</th> <th>High High</th> <th>High</th> <th>Low</th> <th>Low Low</th> </tr> </thead> <tbody> <tr><td><input type="text"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td><input type="text"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td><input type="text"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td><input type="text"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td><input type="text"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td><input type="text"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td><input type="text"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td><input type="text"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> </tbody> </table>	Email Addresses	High High	High	Low	Low Low	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Save

Figure 14

16) For seeing register values select “Unit page” hyper link. Figure 15



The screenshot shows a web browser window with the URL `sena-corp.com/unitscreenpage.aspx?id=3080001383-1`. The page title is "Unit Screen Page" and it features a navigation menu with links like "Unit History", "Unit Modification", "Unit Location Information", "Unit Notification", "Unit Remote Commands", "Battery History", "Battery Notification", "Messages & Notes", "Back To Dash Board", and "Unit Page".

Key data points from the screenshot include:

- Unit ID:** 6561680
- Update RTC:** 12598
- Date:** 200619
- GPS Lat:** 0
- Update GPS Fix:** 0
- Time:** 50400
- GPS Lon:** 0
- Camera SnapShot:** 255
- UTC Date:** 200619
- New UTC:** 3165440
- Unit Temp:** 65408
- DO Pulse:** Unset
- UTC Time:** 100400
- New UTC:** 3158064

The main data table is organized into several columns:

OutPuts	Debounce	Inputs	ADC Raw	ADC Calculated				Report Alarms	
0	2	1	1	LRU	LEU	HRU	HEU	Units	Name
0	0	1	1	380	0.00	3900	0.40	0	0
0	0	1	1	205	0.00	4096	2.77	0	0
0	0	1	1	205	0.00	4096	2.77	0	0
		1888		205	0.00	4096	2.77	0	Unset
		1951							
		0							
		2							
Analogs	Alarms	Poly'l							
1	Unset-Unset	0							
1	Unset-Unset	0							
1	Unset-Unset	0							
1	Unset-Unset	0							
1888	1077-4060	0							
1951	Unset-Unset	0							
0	Unset-Unset	0							
2	Unset-Unset	0							

At the bottom, there is a "Misc" section with the following values:

- BATLR:** 1933
- SOLLR:** 1984
- SEN5LR:** 4079
- SEN18LR:** 2684
- STORETIME:** 0
- BARPRESS:** 0

Figure 15

