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STANDARD OPERATING PROCEDURE FOR EMPANELMENT OF RETROFITTING COMPANIES ON VAHAN GREEN SEWA

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List of Abbreviations

Abbreviations	Full Form
ICE	Internal Combustion Engine
EVs	Electric Vehicles
NABL	National Accreditation Board for Testing and Calibration Laboratories
ICAT	International Centre for Automotive Technology
CFMTTI	Central Farm Machinery Training and Testing Institute
CIRT	Central Institute of Road Transport
IIP	Indian Institute of Petroleum
NRFMTTI	Northern Region Farm Machinery Training and Testing Institute
VRDE	Vehicles Research Development Establishment
CNG	Compressed Natural Gas
LPG	Liquefied Petroleum Gas
TAC	Type Approval Certificate
RFC	Retrofitting Centre
BMS	Battery Management System

STANDARD OPERATING PROCEDURE (SOP)

EMPANELMENT OF EV RETROFITTING COMPANIES USING VAHAN GREEN SEWA

The conversion of internal combustion engines (ICE) vehicles to electric, known as retrofitting, is regarded as an important step for easier and quicker transition to electric vehicles (EVs). It enables and accelerates electric mobility, without adding to traffic congestion or scrap. The portal, Vahan Green Sewa (<https://vahan.parivahan.gov.in/vahangreensewa/vahan/welcome.xhtml>), provides a facility for companies having certified retrofitment kits, to register themselves and be empanelled. It would provide impetus to the quality, scale, visibility and trustworthiness of retrofitting services among the citizens.

Purpose: The document intends to serve as a guide for the registration of retrofitting companies on Vahan Green Sewa Portal for empanelment.

Scope: The procedure outlined in this document applies to the companies involved in retrofitting business and wish to register themselves on the Vahan Green Sewa Portal, for empanelment. It is applicable only to companies, which have a certified retrofitting kit by any of the NABL testing agencies (ARAI, ICAT, CFMTTI, CIRT, IIP, NRFMTTI, VRDE) recognized by the Government of India.

Moreover, the login credentials and further access can be availed only by those who have produced scanned copies of the relevant documents, such as certificate from the testing agency, GST certificate, certificate of incorporation etc. as given on <https://vahan.parivahan.gov.in/vahangreensewa/vahan/application.xhtml>

Definitions:

1. **Vahan Green Sewa:** A portal of the Ministry of Road Transport and Highways (MoRTH), related to retrofitting of petrol/diesel vehicles with kits, based on lower emission fuels, such as CNG, LPG and hybrid/electric kits.
2. **Retrofitting company/Company/Manufacturer:** It refers to any registered company, that is involved in the business of retrofitting vehicles to LPG/CNG/hybrid/electric and has submitted/sent the application form and required documents to Vahan for application. This document predominantly deals with electric vehicle retrofitting companies.
3. **Electric Vehicle Retro-fitment:** Conversion of existing petrol or diesel run vehicles into an electric vehicle. The process involves changing the original engine and other related components and a new alternative energy source to be transplanted into the existing vehicle body. (Source: Switch Delhi website)
4. **Retrofitting Centre (RFC):** It refers to a centre of the retrofitting company where the retrofitting of vehicles is carried out.

5. Authorized RFC: It refers to a centre of the retrofitting company in any selected state that has been authorized by the respective state's Transport Department.
6. Retrofitment kit: It refers to the kit supplied by the retrofitting company for replacement of the powertrain in the vehicle. It usually consists of a combination of some or all of these components: battery, motor, motor controller, battery management system (BMS), any other power electronic and/or electronic units.
7. Certifying/testing agency: It refers to organizations, recognized and permitted by the Government of India, to carry out testing and certification of retrofitted vehicles. For example, ARAI, ICAT etc.

Procedure:

Admin Login:

1. Login with admin login credentials, received through email or message, on registered email ID and mobile number, onto the Vahan Green Sewa portal and change the password. Login again with the new credentials.

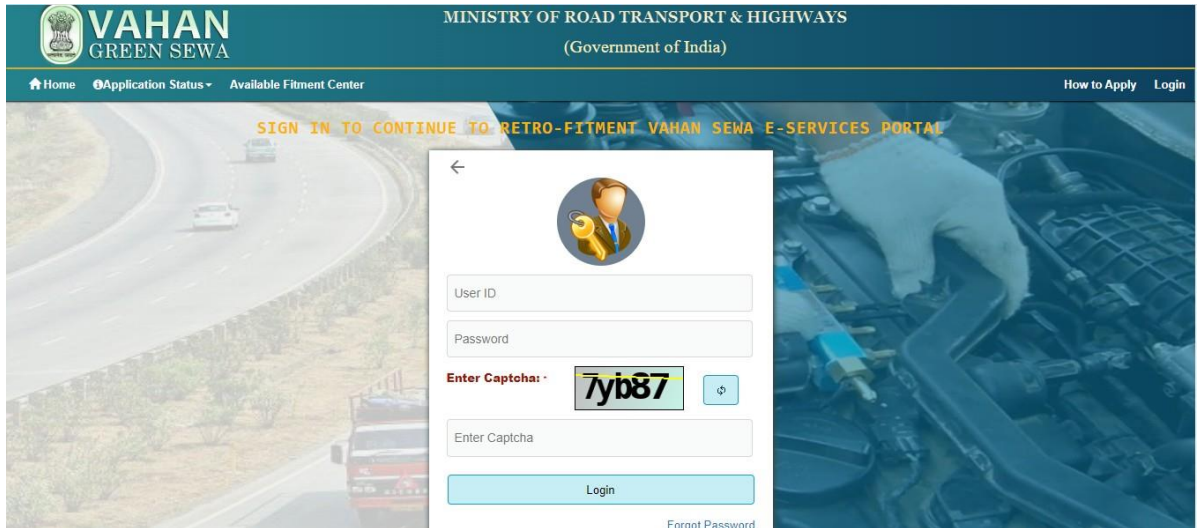


Figure 1: Login facility on Vahan Green Sewa portal

2. The page “Manufacturers Details” displays certain details of the company, shown in Figure2.

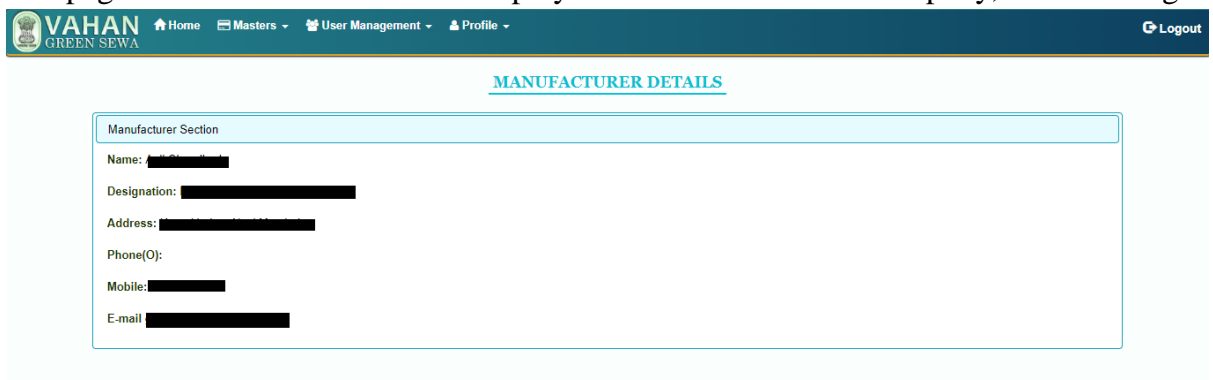


Figure 2: Snapshot of Manufacturers' details (obtained after admin login)

3. In order to update any details related to the company profile, click on “**Profile**” tab and update the required details. Click on “**Update Information**” to update the details as shown in Figure 3.

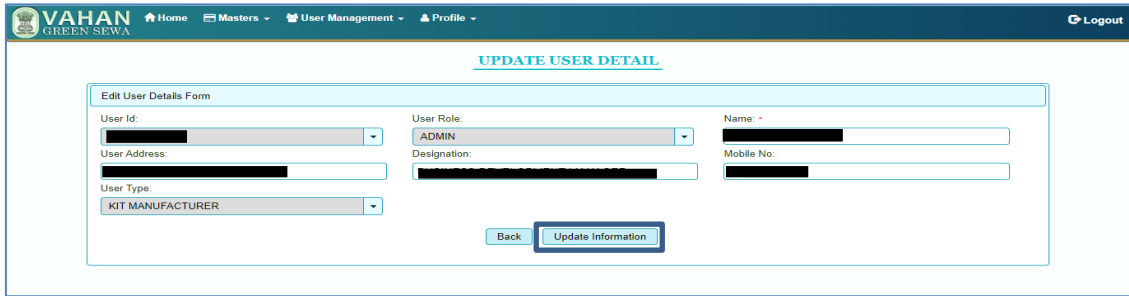
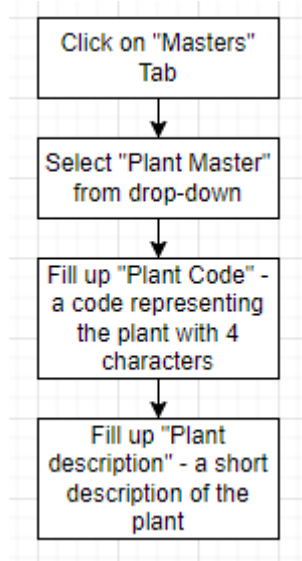


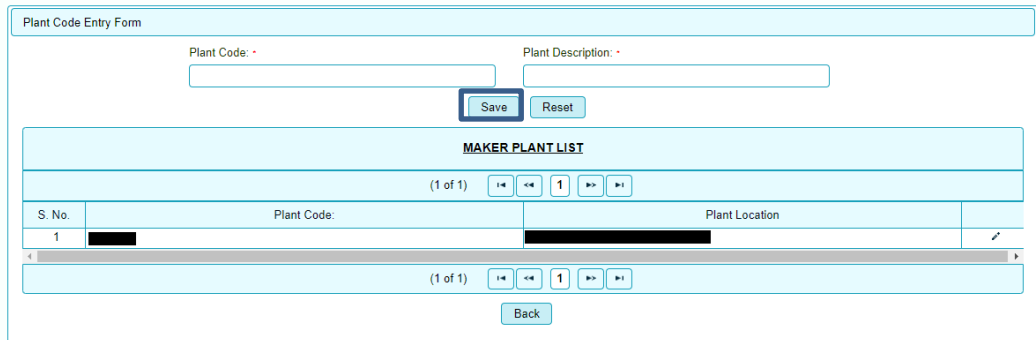
Figure 3: Page on Company Profile after admin login

- Click on “Masters” tab and select “Plant Master”, the default option in the drop-down list. In the field, “Plant Code”, a code is to be inserted, having a maximum of 4 characters that would be used later on in the application in a way specific to the company. Similarly, in the field, “Plant Description”, a short phrase, giving a description of the company is to be added. For example, a retrofitting company’s plant situated near Maharana Pratap ISBT, Kashmere Gate, Delhi, may provide its plant code as DL21 and plant description as Kashmere Gate, Delhi. Click on “Save”, following which the respective plant code and plant description are shown in the form a separate row, as in Figure 4.



MAKER PLANT CODE

If you want to Make Different loction login then you have to create Plant Code location wise



S. No.	Plant Code:	Plant Location
1	[REDACTED]	[REDACTED]

Figure 4: Plant code and description creation

- Click on “User Management Tab” and select the default option, “Create New User” from the drop-down list. The window, in Figure 5, appears with the name of the retrofitting company:

CREATE NEW USER

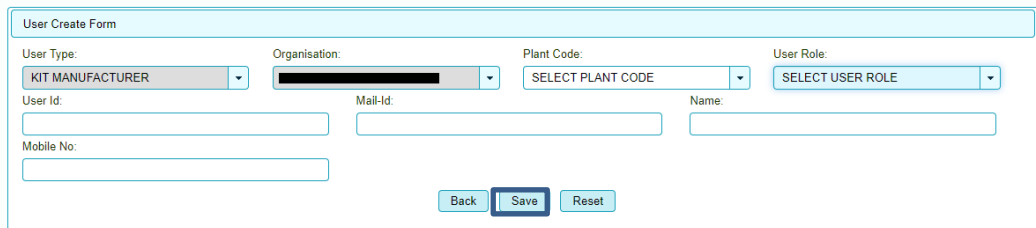


Figure 5: Creation of master user

- Select the company-specific plant code, displayed in the drop-down list of the field, “Plant Code”. Select the “User Role” as “Master Creator” from the drop-down list of the field, “User Role”.
- Fill up the remaining details and click on “Save” to save the entered details. The User ID, provided in this window, would be used as the user ID or login ID for uploading Master entry, and would be known as “Master ID”.
- A message would be displayed, saying that the Master ID and password have been sent to the registered email ID and phone number.
- Login with the Master ID and password received and change the password.

Masters Login: These login credentials are issued to enable the master user from the retrofitting company to login and upload the masters entry (details of certificate and retrofitment kit).

10. After logging in with the updated masters credentials, Figure 6 is visible :



Figure 6: Snapshot of “Manufacturers’ Details” after master login

11. Click on “Profile” tab. Check the displayed details and edit or update, in case any modification is required.

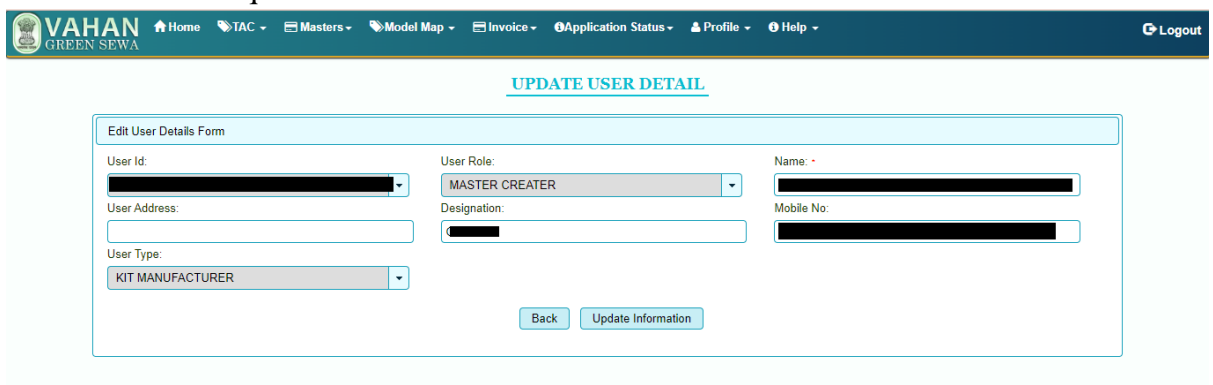


Figure 7: Page on Profile after master login

12. Click on “TAC” tab. Figure 8 screen appears. Thereafter, select the type of retrofitment kit from the drop-down list of the field, “Service Type”. Select the relevant testing agency and the relevant certificate type from the respective drop-down lists. Upload the Type Approval Certificate and technical specifications, merged into one file. If the certificate is a base type certificate, select “Base” from the drop-down list of the field, “Certificate Type”. If an extension has also been issued after the base certificate, select the “Certificate Type” as “Base” and upload the Base certificate, technical specifications and extension certificate, merged into

a single file.

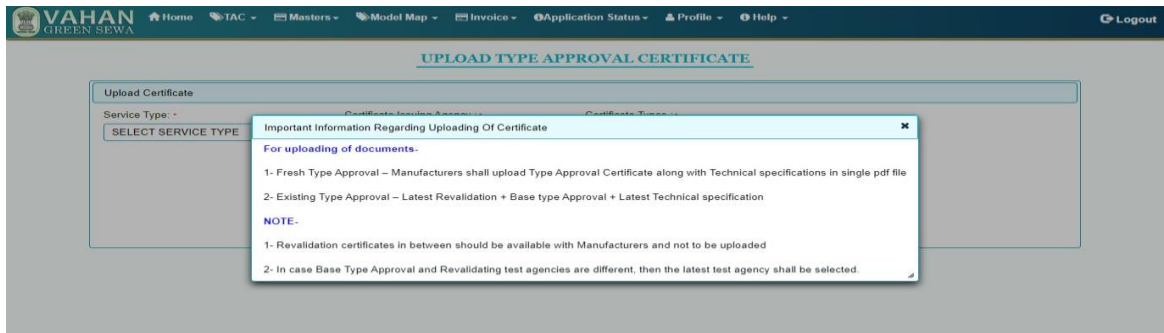
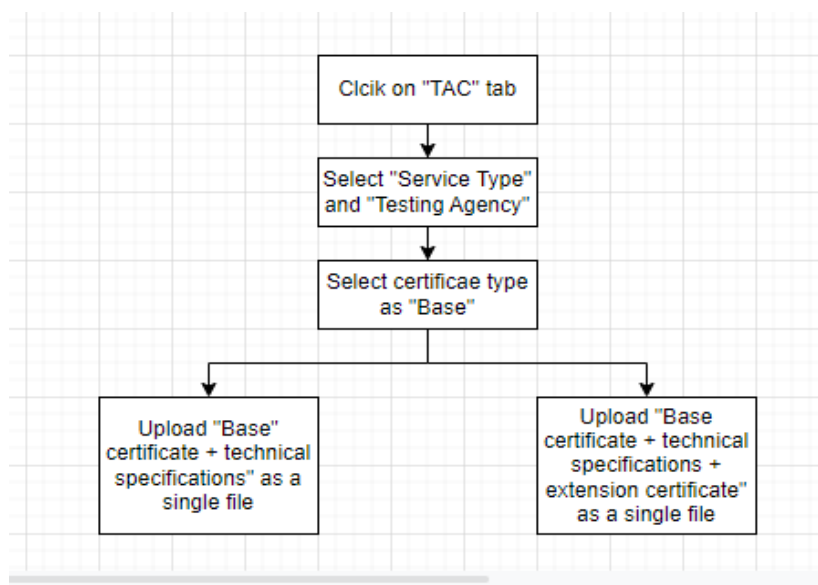


Figure 8: Page for TAC upload



13. Select “Masters” and select the default option from the drop-down list. Thereafter, for pure electric retrofitment kits, select the option, “Pure Electric” from the drop-down list of the field, “Service Type”.

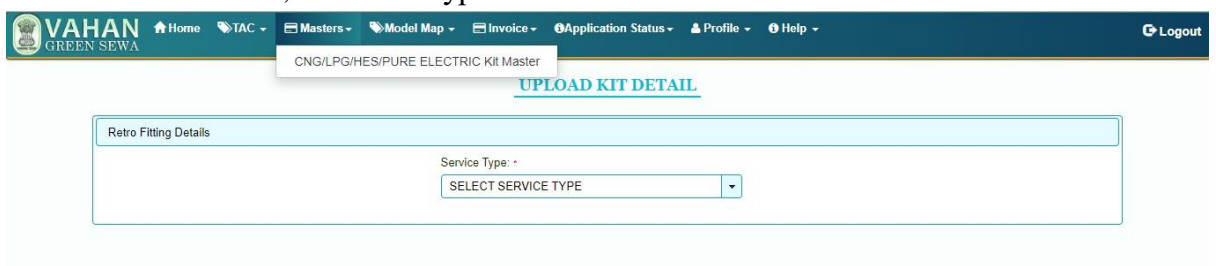


Figure 9: “Service Type” of kit details after master login

14. A page showing, “Upload Kit Detail” appears. Click on “Add New” button to add the specifications of the company’s retrofitment kit.

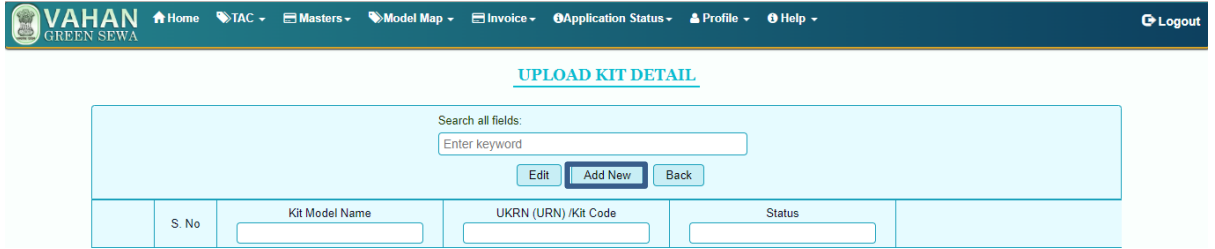


Figure 10: Page with facility for initiating uploading of kit details

15. On the page that opens up, the retrofitting company is required to fill up certain details of its retrofitment kit and Type Approval certificate. In addition to this, the company is also required to fill up the details of each of its components, as requested on the page.

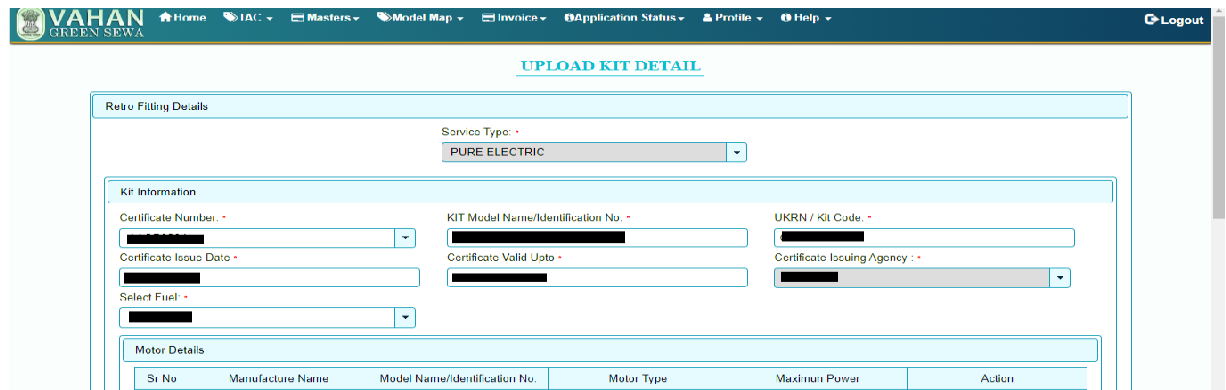
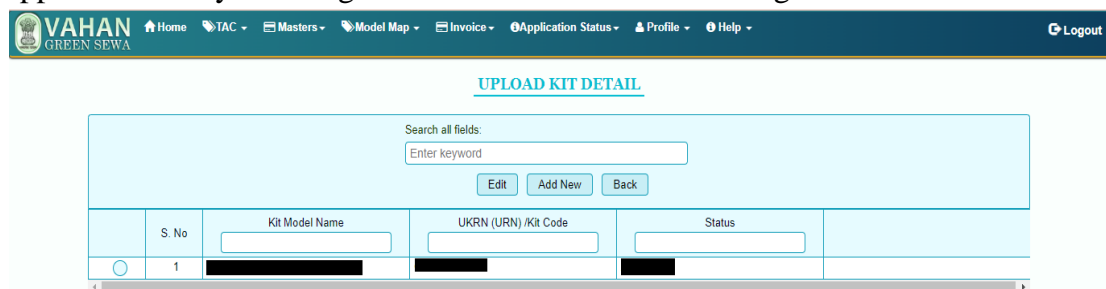


Figure 11: Details of kit details to be uploaded

16. After filling up the details of a particular component such as “Motor”, save them. These details are then visible in the form of single row, immediately below the section on “Motor Details”. Repeat the same for the other components of the retrofitment kit.
17. In the field, “Motor Power” and “Battery Voltage”, the numerical value is to be provided only up to 2 decimal places. In the field, “Battery Capacity”, the value is to be provided in whole number only. Similarly, in the field “sub-type” of the charger, the sub-type of charger is to be mentioned, for instance CC/CV. In the field rating, the rating of the charger is to be mentioned in whole numbers only. In addition to this, in the fields, “REESS” and “REESS Mgt. type”, the battery chemistry is to be indicated.
18. After the details of all the components have been filled up and saved, click the “Save” button at the end of the page to save the details/specifications of all the components. The entry is displayed as a single row against the serial number as illustrated in Figure 12. The “Status” column shows whether the application is approved or pending for approval. Kindly refer Figure 12 for a better understanding.



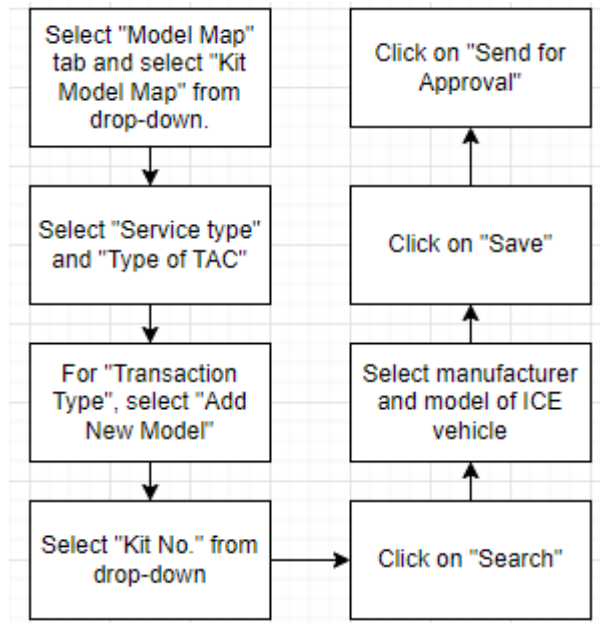
S. No	Kit Model Name	UKRN (URN) /Kit Code	Status
1	[REDACTED]	[REDACTED]	[REDACTED]

Figure 12: Page showing kits, whose details have been uploaded

19. Click on the tab “Model Map” and select “Kit Model Map” from the drop-down list. Select the service type as “Pure electric”, in case of a pure electric retrofitment kit, and fill up the type of TAC, select “Add New Model” from the drop-down list of the

field, “Transaction Type” and select the “Kit No.”. Click on “Search”.

Select the name of the manufacturer from the drop-down list that manufactures the retrofitted ICE vehicle, as per the uploaded TAC. Select the model of the ICE vehicle that is retrofitted, and has been certified by the testing/certifying agency. Kindly ensure that all the specifications and their corresponding values enlisted confirm to your approved model. Click on “Save”, following which the entry is displayed on the right hand side.



20. Kindly ensure that the details entered so far are correct. If they are correct, kindly press “Send for approval” button for sending the application, completed so far, to the certifying/testing agency for approval.

21. Click on “Invoice Upload” tab and fill up the details required. Kindly upload the invoice in the format and file size mentioned.

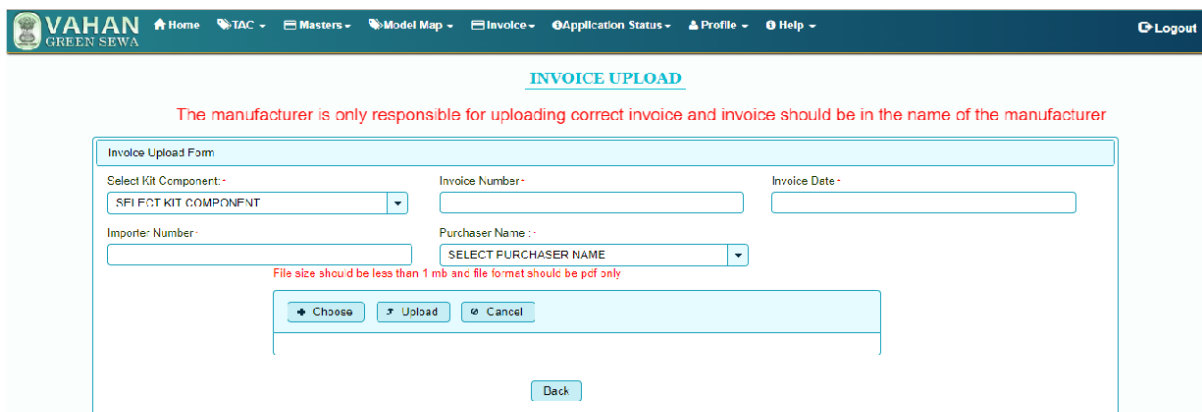


Figure 13: Page for uploading of invoice

Creation of inventory login: The inventory details are issued to enable uploading of inventory details by the retrofitting company.

22. Login with admin login credentials on the Vahan Green Sewa portal



Figure 14: Log page on Vahan Green Sewa portal

23. The page on “Manufacturers Details” displays certain details of the company.

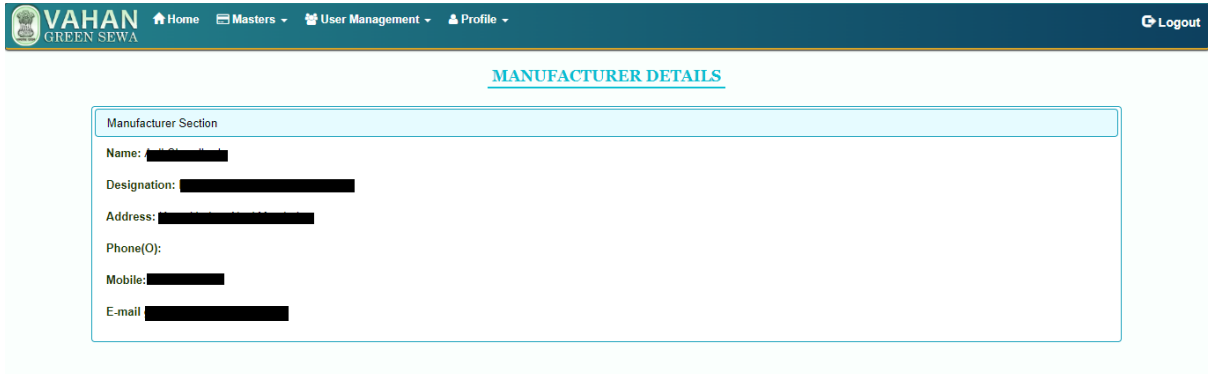
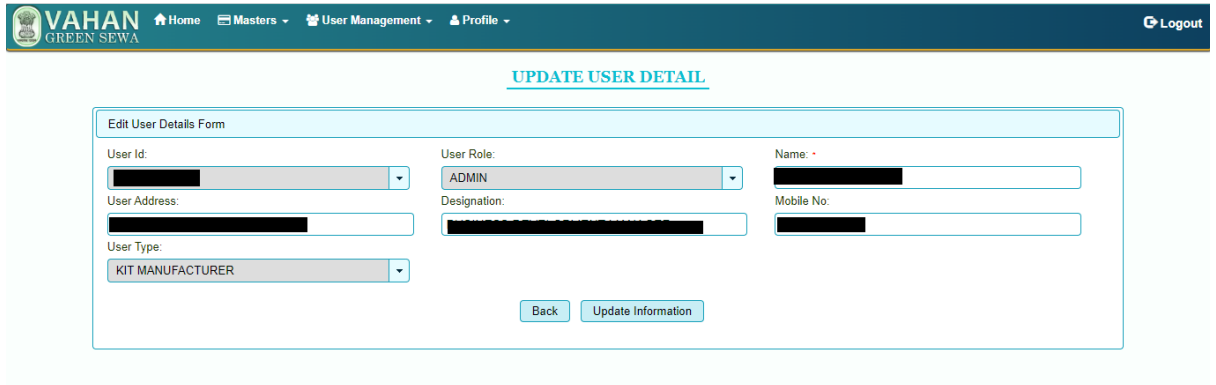


Figure 15: Snapshot of “Manufacturers’ Details” after inventory login

24. In order to update any details related to profile, click on “Profile” tab and update the required details, if any. Click on “Update Information” to update the new details.



The screenshot displays the 'UPDATE USER DETAIL' page within the VAHAN GREEN SEWA application. The page features a navigation bar at the top with 'VAHAN GREEN SEWA' and menu items: Home, Masters, User Management, Profile, and Logout. The main content area is titled 'UPDATE USER DETAIL' and contains an 'Edit User Details Form'. The form includes the following fields:

- User Id: [Redacted]
- User Address: [Redacted]
- User Type: KIT MANUFACTURER
- User Role: ADMIN
- Designation: [Redacted]
- Name: [Redacted]
- Mobile No: [Redacted]

At the bottom of the form, there are two buttons: 'Back' and 'Update Information'.

Figure 16: Page on company profile after inventory login

- Click on “Masters” tab and select “Plant Master”, the default option in the drop-down list. The plant code and plant description, entered before Master ID creation, would be visible on the page.

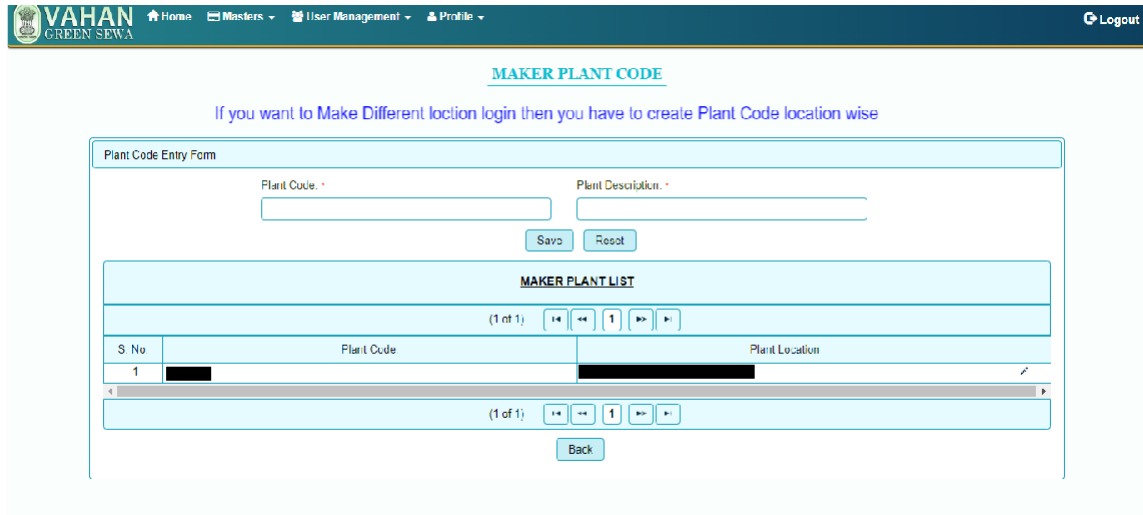


Figure 17: Page for checking plant code and description

- Click on “User Management Tab” and select the default option, “Create New User” from the drop-down list. Figure 18 appears with the name of the organisation:

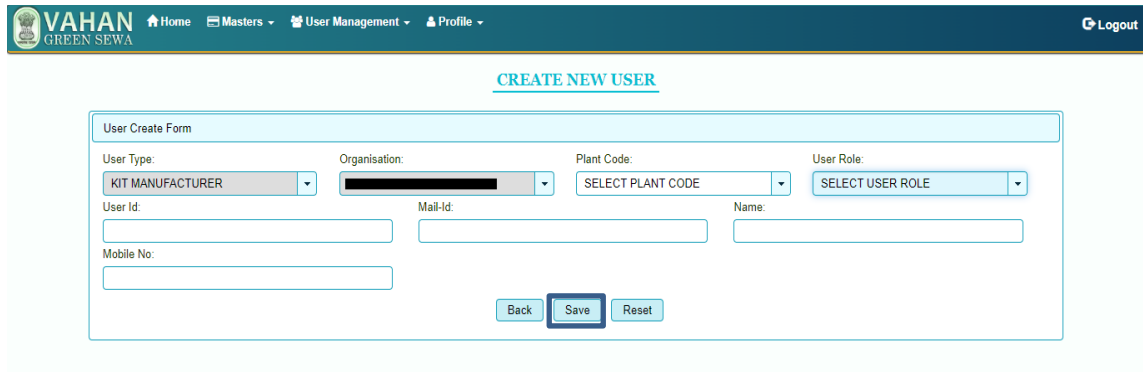


Figure 18: Page for creating user – inventory uploader

- Select the company-specific plant code, displayed in the drop-down list of the field, “Plant Code”. Select the “user Role” as “Inventory Uploader” from the drop-down list of the field, “User Role”.
- Fill up the remaining details and click on “Save” to save the entered details. The user ID, entered in this window, would be used as the user ID or login ID for uploading inventory details.
- A message would be displayed, saying that the inventory ID and password have

been sent to the registered email ID and phone number. Login with the inventory ID and change the password.

Inventory upload:

30. After logging in with inventory login details, the manufacturer’s details are listed on the page.

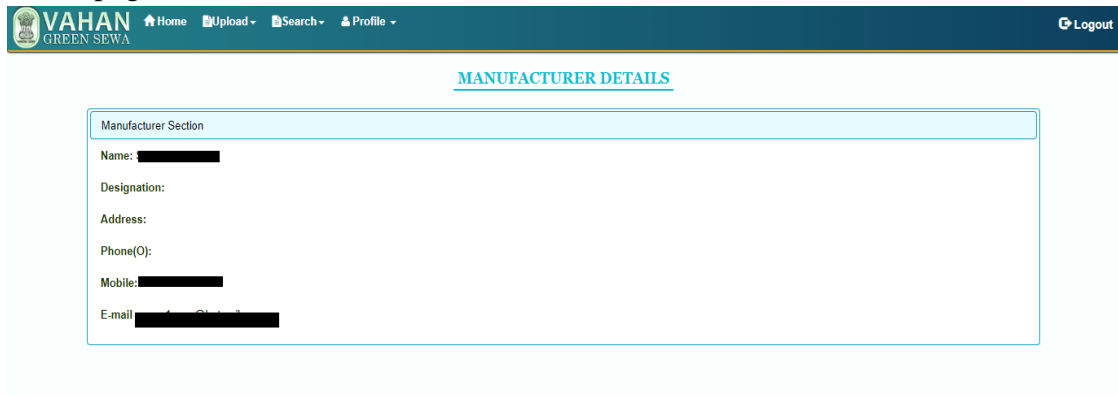


Figure 19: Page on “Manufacturer’s Details” after inventory login

31. Click on “Upload” tab and select “Inventory”, the default option in the drop-down list that follows.

32. For electric retrofit kit, select “Pure Electric” as the type of service. Thereafter, select the component, whose inventory must be uploaded.

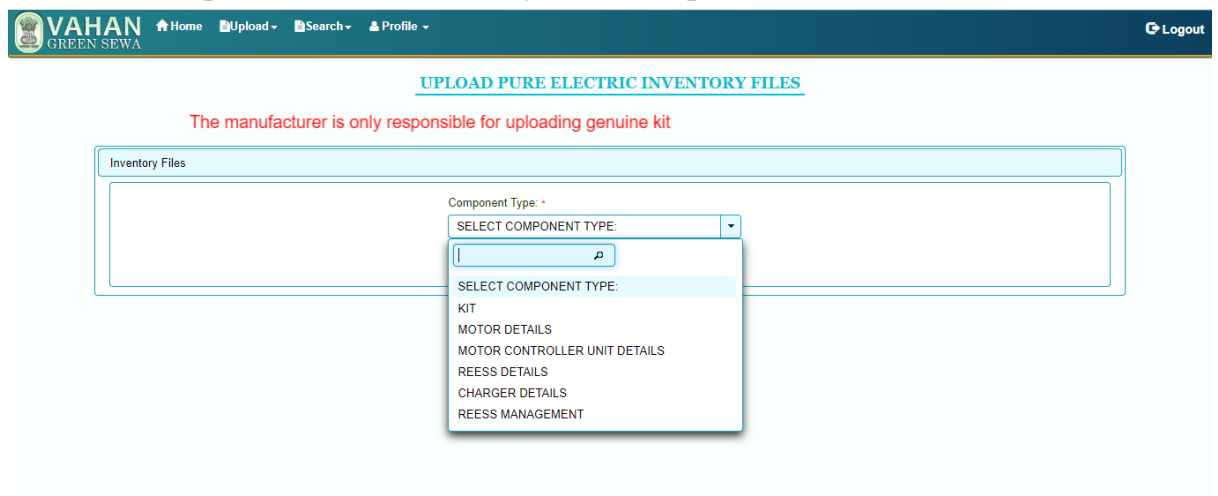


Figure 20: “Component Type” for inventory uploading

33. After selecting a component, a page related to details of the selected component opens. Kindly go through the “Validation Codes on Inventory File Upload” before uploading the document.

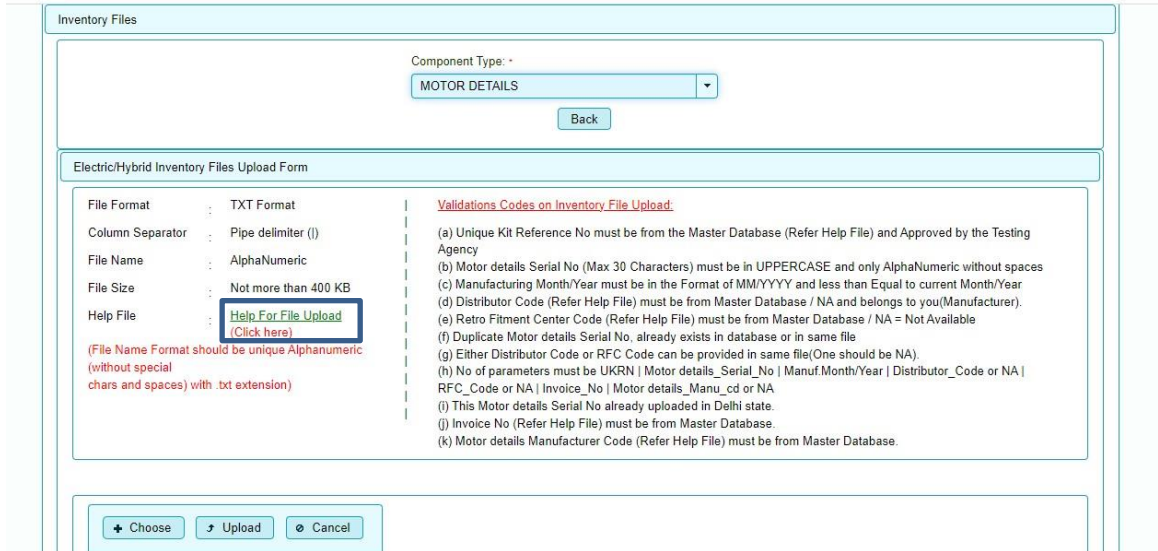


Figure 21: Page specific to the selected component

34. Click on the link “Help for File Upload”. A new dialogue box opens up, as shown in Figure 22.
35. On selecting a specific state from the drop-down list under the field, “State”, the authorized RFC of the company in the selected state will be displayed. In case there are no authorized RFCs of the company in the state, a message will be displayed.

36. Figure 22 displays the format of the inventory file to be uploaded.

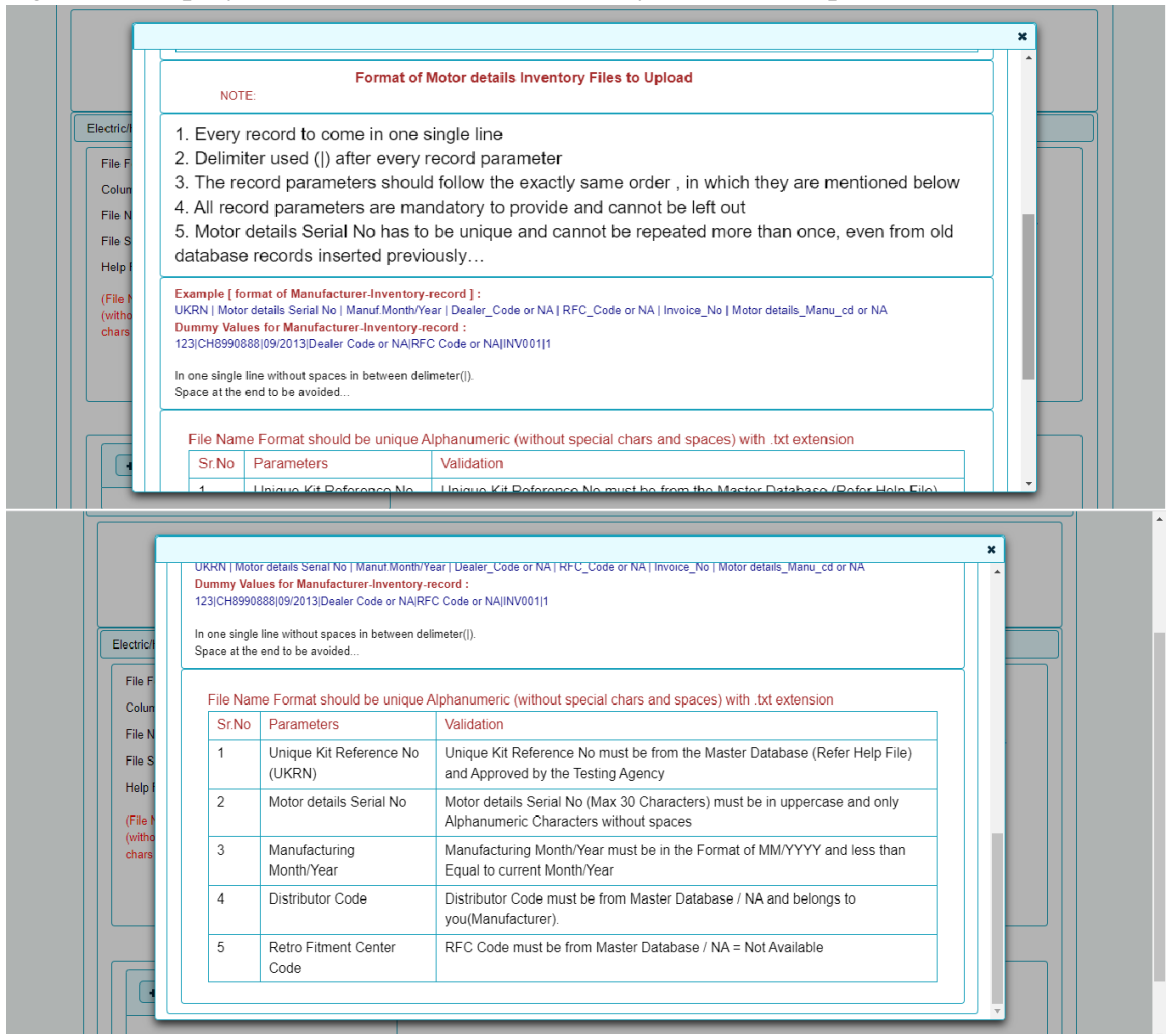


Figure 22: Window after clicking “Help for File Upload”, which shows format of inventory file to be uploaded

37. Click on “Choose” to choose the file to be uploaded, “Upload” to upload the required file for the selected component.

Back

Electric/Hybrid Inventory Files Upload Form

File Format	: TXT Format	Validations Codes on Inventory File Upload: (a) Unique Kit Reference No must be from the Master Database (Refer Help File) and Approved by the Testing Agency (b) Motor details Serial No (Max 30 Characters) must be in UPPERCASE and only AlphaNumeric without spaces (c) Manufacturing Month/Year must be in the Format of MM/YYYY and less than Equal to current Month/Year (d) Distributor Code (Refer Help File) must be from Master Database / NA and belongs to you(Manufacturer). (e) Retro Fitment Center Code (Refer Help File) must be from Master Database / NA = Not Available (f) Duplicate Motor details Serial No. already exists in database or in same file (g) Either Distributor Code or RFC Code can be provided in same file(One should be NA). (h) No of parameters must be UKRN Motor details_Serial_No Manuf.Month/Year Distributor_Code or NA RFC_Code or NA Invoice_No Motor details_Manu_cd or NA (i) This Motor details Serial No already uploaded in Delhi state. (j) Invoice No (Refer Help File) must be from Master Database. (k) Motor details Manufacturer Code (Refer Help File) must be from Master Database.
Column Separator	: Pipe dellimiter ()	
File Name	: AlphaNumeric	
File Size	: Not more than 400 KB	
Help File	: Help For File Upload (Click here)	

(File Name Format should be unique Alphanumeric (without special chars and spaces) with .txt extension)

+ Choose Upload Cancel

To view uploaded Inventory Details go to menu 'Search' and select Inventory

Figure 23: “Choose” and “Upload” buttons for uploading inventory files

38. Repeat the same steps for all the other components by selecting from the drop-down list of the field, “Component Type”.
39. In order to search for files, click on “Search” tab and select the type of retrofitment kit from the drop-down list.

VAHAN GREEN SEWA Home Upload Search Profile Logout

[VIEW INVENTORY DATA FILES](#)

Service Type : -
SELECT SERVICE TYPE

Figure 24: “Service Type” for searching the inventory files

40. Figure 25 window appears. Select the inventory module and the criteria for searching.

VAHAN GREEN SEWA Home Upload Search Profile Logout

[VIEW INVENTORY DATA FILES](#)

Select Inventory Module:-
SELECT :
KIT
MOTOR DETAILS
MOTOR CONTROLLER UNIT DETAILS
REESS DETAILS
CHARGER DETAILS
REESS MANAGEMENT

Inventory Files Upload Form

Search By :
SELECT SEARCH CRITERIA

Figure 25: “Inventory Module” for searching inventory files



Note: In case of any queries, the companies interested in registering on Vahan Green Sewa and in opening a retrofitting centre in Delhi may reach out to Delhi EV Cell at delhievcell@gmail.com