GreenBot - Implementation Guide
v1.0

Contents

Urls

Live Url : https://login.greenbot.com.au/
Staging Url : https://staging.greenbot.com.au and http://52.255.34.50:83/
Local Url : http://localhost:56199

Credentials :
FSA user
        UserName – "khushbu.mistri@tatvasoft.com"
        Password – "123456"

1 Users

Types of Users:

User Types	UserTypeId
FormBot Super Admin(FSA)	1
Reseller Admin(RA)	2
FormBot Compliance Officer(FCO)	3
Solar Company Admin(SCA)	4
Reseller Account Manager(RAM)	5
Solar Sub Contractor Admin(SSC)	6
Solar Electricians(SE)	7
Solar Connections Officer(SCO)	8
Solar Contractor(SC)	9
Solar Electricians SWH(SWH Users)	10

To create a new user type:
➢ Insert data in table "UserType" manually.

Create New User:
➢ All users can be created from "Create New User" in "User" menu.
➢ SE and SWH users can sign up from FSA/FCO login page.
➢ SCA can sign up from RA login page.

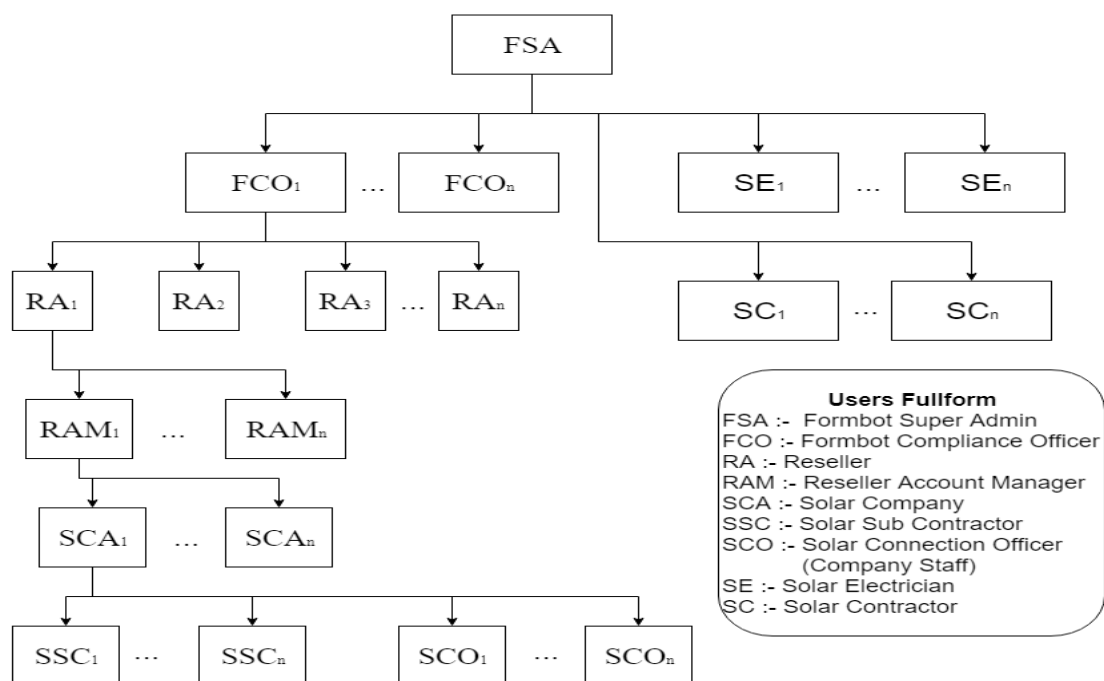Users get active/approved only by FSA/FCO from User Detail page.

Fig 1.1 Users Hierarchy

1 User Roles

Users can create user roles based on user type and can give access rights from the list being displayed. Access rights list is bound from db i.e to add access right in list one need to insert data in following tables.

- ➢ Insert data in table "Menu".
    - ▪ Create entry for parent access right name.
      For eg : Creating access rights of "Email Template"
      Insert into Menu(Name,DisplayName,Title)
      Values('EmailTemplate','Email Template','email')

      Let's assume after insertion MenuId = 1(used as ParentID for sub parts)

    - ▪ Create entry for sub access rights.
      For eg : Creating sub access rights of "Email Template" like "View", "Add", "Edit", "Delete", etc.
      Insert into Menu(Name,DisplayName,ParentID,CheckboxId,SubMenuSortOrder)
      Values('View','Email Template',1,'chkView',1)
          ,('Add','Add',1,'chkAdd',2)
          ,('Edit','Edit',1,'chkEdit',3)
          ,('Delete','Delete',1,'chkDelete',4)

      Here ParentID = MenuID of parent access right name.

Fig 2.1 User Roles Access Rights

2 Menu

To add new menu and/or submenu follow below steps in database:

- Create entry for main menu.
    For eg : Creating menu of "Invoicing"
    Insert into Menu(Name,DisplayName,SortOrder,Image)
                Values('Invoicing','Invoicing',6,'invoice-ic')

    Let's assume after insertion MenuId = 2(used as ParentID for sub parts)

- Create entry for sub-menu(s)
    For eg: Lets add two sub-menu
    Insert into Menu
    (Name,DisplayName,ParentID,CheckboxId,SubMenuParentID,SubMenuSortOrder,Title)
    Values('STC Invoice','STC Invoice',2,'chkSTCView',2,1,'STCInvoice')
            ,('PeakPay','PeakPay',2,'chkSTCView',1,2,'PeakPa4y')

    Let's assume after insertion
            MenuId = 3 (For STC Invoice)
            MenuId = 4 (For PeakPay)

- Create entry in MenuAction table
    Insert into MenuAction(MenuID,Action,Controller)
                Values('Index','STCInvoice')
                    ,('Index','PeakPay')

- Create entry in RoleMenu table
    Insert into RoleMenu(MenuID,RoleID)
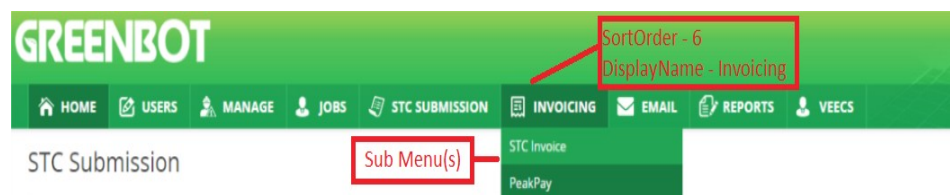   Values(3,35)
                    ,(4,35)

Fig 3.1 Menu with sub menu

Menu is binded dynamically as per user roles from code side called from
Infrastructure/MessageExtension.
Method name – "DynamicMenuBinding".

3   Managing Master Data(by uploading file)

3.1   PV Module List

Master file of PV Modules(i.e panel details) will get uploaded from the menu **"Manage/PV Module List".** (Only FSA/FCO can do)

Database Table – **"PVModules"**

File with ".xlsx" or ".xls" extension only are allowed to be uploaded.

Source – http://www.cleanenergyregulator.gov.au/DocumentAssets/Pages/CEC-approved-PV-modules.aspx

3.2   Inverter List

Master file of Inverter List(i.e inverter details) will get uploaded from the menu **"Manage/Inverter List".** (Only FSA/FCO can do)

Database Table – **"Inverters"**

File with ".xlsx" or ".xls" extension only are allowed to be uploaded.

Source – http://www.cleanenergyregulator.gov.au/DocumentAssets/Pages/CEC-approved-inverters.aspx

3.3   Battery Storage

Master file of Battery Storage will get uploaded from the menu **"Manage/Battery Storage".** (Only FSA/FCO can do)

Database Table – **"BatteryStorage"**

File with ".pdf" extension only are allowed to be uploaded.

Method **"CERImportBAL/GetDataTableFromPdfBatteryStorage"** is used to convert pdf to datatable using SautinSoft(free version i.e 1 page at a time).

3.4   Accredited Installer List

Master file of Accredited Installers will get uploaded from the menu **"Manage/Accredited Installer List".** (Only FSA/FCO can do)

Database Table – **"AccreditedInstallers"**

File with ".xlsx" or ".xls" extension only are allowed to be uploaded.

3.5   SWH List

Master file of Solar Water Heaters will get uploaded from the menu **"Manage/SWH List".** (Only FSA/FCO can do)

Database Table – **"HWBrandModel"**

File with ".xlsx" or ".xls" extension only are allowed to be uploaded.

Sources-

Air source heat pump models - http://www.cleanenergyregulator.gov.au/DocumentAssets/Pages/Air-source-heat-pump-models.aspx

Solar Water heater models with a capacity of less than 700L - http://www.cleanenergyregulator.gov.au/DocumentAssets/Pages/Solar-water-heater-models-with-a-capacity-of-less-than-700L.aspx

Solar Water heater models with a capacity of more than 700L - http://www.cleanenergyregulator.gov.au/DocumentAssets/Pages/Solar-water-heater-models-with-a-capacity-more-than-700L.aspx

3.6   Electricity Provider

Master file of Electricity Providers will get uploaded from the menu **"Manage/Electricity Provider".** (Only FSA/FCO can do)

Database Table – **"ElectricityProviders"**

File with ".xlsx" or ".xls" extension only are allowed to be uploaded.

4 Jobs

Fig 5.1 Types of Job and Types of Job View

4.1 Creating Job

➢ Jobs can be created by all users except SE(solar electrician) & SSC(solar sub contractor)
➢ Jobs can be created from
    -> Jobs Menu
    -> Solar Job Screen
    -> Dashboard – Quick links section(only for SolarCompany(SCA) & CompanyStaff(SCO))

Components of job

4.1.1 Basic details

Field Name	Data Type	Mandatory	Validation Rules	Business rules (refer to business rule section)	Description
Job Type	Select List	Yes			Refer table 1
Ref Number	Text(255)	Yes			Reference number of the job
Job Stage	Select List	Yes			Refer table 2
Title	Text	Yes			Title of the job
Installation date	Date	Yes	dd/mm/ yyyy	"The installation date must be after 1/4/2001 and cannot be in the future The installation date for a SGU must be within the last 12 months from the date of completion This field must be left blank if a signed data package is used in the solar SGU application"	

Priority	Select List	No			Refer table 3
Description	Text	No			Description of the job
National metering identifier (NMI)	Text(11)	Yes	Must only contain 10 or 11 characters	Only For PVD job	

4.1.2 Owner Details

Field Name	Data Type	Mandatory	Validation Rules	Business rules (refer to business rule section)	Description
Owner Type	Select List	Yes			Refer table 4
Company ABN	Text	Conditional		*Mandatory if the answer is "Government body, Corporate body, trustee" to "owner type"	
Company Name	Select List	Conditional		*Mandatory if the answer is "Government body, Corporate body, trustee" to "owner type"	Company Name List gets populated based on Company ABN from the link - "https://abr.business.gov.au/SearchByAbn.aspx?abn="
First Name	Text(100)	Yes			First name
Last Name	Text(100)	Yes			Last Name
Email	Text(255)	No	Valid email format		EmailId of Owner

Phone	Text (16)	Yes	Min length: 6 Must only contain digits [0-9] Can have an option + at the start		Minimum 6 character required
Mobile	Text (16)	No	Min length: 6 Must only contain digits [0-9] Can have an option + at the start		Phone number of owner
Address ID	Select List	Yes	Physical or Postal		Address Type -- Refer table 5
Unit Type ID	Select List	No			Refer table 6
Unit Number	Text(10)	Conditional		Mandatory when UnitTypeID has value	
Street Name	Text(45)	Conditional		Mandatory when AddressID is physical address	
Street Number	Text(15)	Conditional		Mandatory when AddressID is physical address and not Mandatory when UnitTypeID has value	
Street Type ID	Select List	Conditional		Mandatory when AddressID is physical address	Refer table 7

Postal Address ID	Select List	Conditional		Postal Delivery Type mandatory when AddressID is P.O BOX	Refer table 8
Postal Delivery Number	Text(11)	Conditional		Postal Delivery number mandatory when AddressID is P.O BOX	
Town	Text(80)	Yes		Select from auto complete list fetched from link - 'https://auspost.com.au/api/postcode/search.json?q=" + q + "&excludePostBoxFlag=true"'	Owner town
State	Text(3)	Yes	Refer to State/Territory reference data	Select from auto complete list fetched from link - 'https://auspost.com.au/api/postcode/search.json?q=" + q + "&excludePostBoxFlag=true"'	Owner State
Post Code	Text(8)	Yes	Refer to postcode reference data	Select from auto complete list fetched from link - 'https://auspost.com.au/api/postcode/search.json?q=" + q + "&excludePostBoxFlag=true"'	Owner Post Code

4.1.3   Installation Address

Installation Address will always be physical address only.

Field Name	Data Type	Mandatory	Validation Rules	Business rules (refer to business rule section)	Description
Same as Owner Address	Check Box	No	Enabled only if Owner address type is physical		

Address ID	Select List	Yes	Physical		Address Type -- Refer table 5
Unit Type ID	Select List	No			Refer table 6
Unit Number	Text(10)	Conditional		Mandatory when UnitTypeID has value	
Street Name	Text(45)	Conditional		Mandatory when AddressID is physical address	
Street-Number	Text(15)	Conditional		Mandatory when AddressID is physical address and not Mendatory when UnitTypeID has value	
Street Type ID	Select List	Conditional		Mandatory when AddressID is physical address	Refer table 7
Town	Text(80)	Yes		Select from auto complete list fetched from link - 'https://auspost.com.au/api/ postcode/search.json?q=" + q + "&excludePostBoxFlag=tr ue"'	Installation town
State	Text(3)	Yes	Refer to State/Ter ritory reference data	Select from auto complete list fetched from link - 'https://auspost.com.au/api/ postcode/search.json?q=" + q + "&excludePostBoxFlag=tr ue"'	Installation State
Post Code	Text(8)	Yes	Refer to postcode reference data	Select from auto complete list fetched from link - 'https://auspost.com.au/api/ postcode/search.json?q=" + q + "&excludePostBoxFlag=tr ue"'	Installation Post Code

4.1.4   STC Details

Field Name	Data Type	Mandato ry	Validati on Rules	Business rules (refer to business rule section)	Description
Property -Type	Select List	Yes			Installation property type - Refer table 9

13

Single Multiple Story	Select List	Yes			Single or multi-story -- Refer table 10
Are you installing a complete unit (adding capacity to an existing system is not considered a complete unit)?	Select List	Yes	Y/Yes or N/No	Only for PVD Job	Is the system a complete unit or additional capacity to an existing unit?
If this system is additional capacity to an existing system please provide detailed information on the position of the new panels and inverter (if applicable). System upgrades without a note	Text(4000)	No	Min length of string is 7	*Mandatory if the answer is "No" to "Are you installing a complete unit (adding capacity to an existing system is not considered a complete unit)?" Only for PVD Job	Please provide sufficient details for CER staff to identify additional capacity in comparison to the original system

explaining new panel locations will be failed by the Clean Energy Regulator					
Location	Select List	No		Only for PVD Job	What side facing roof are these panels located? - Refer table 11
Type of connection to the electricity grid	Select List	Yes	"Connected to an electricity grid without battery storage Connected to an electricity grid with battery storage Stand-alone (not connected to an electricity grid)"	Only for PVD Job	
System mounting type	Select List	Yes	Building or structure Ground mounted or free standing	*Applies to solar only *Mandatory for solar Only for PVD Job	

For what period would you like to create RECs	Select List	Yes		Only for PVD Job	How many years are you claiming STCs for?
Are you creating certificates for a system that has previously been failed by the Clean Energy Regulator?	Select List	Yes	Y/Yes or N/No	Only for PVD Job	
Creating certificates for previously failed SWH	Select List	Yes	Y/Yes or N/No	Only for SWH Job	
Failed Accreditation code	Text (255)	Yes		*Mandatory if the answer is "Yes" to "Are you creating certificates for a system that has previously been failed by the Clean Energy Regulator" The accreditation code provided must exist within the system or "Creating certificates for previously failed SWH"	Please enter the accreditation code for the previously failed registration. This must be a valid accreditation code e.g. PVD0000001

Explanatory notes for recreating certificated previously failed	Text (4000)	Yes		*Mandatory if the answer is "Yes" to "Are you creating certificates for a system that has previously been failed by the Clean Energy Regulator" The accreditation code provided must exist within the system or "Creating certificates for previously failed SWH"	Please provide an explanation regarding the reason the registration had failed and what has been done to correct the issue
Is there more than one SGU at the address?	Select List	Yes	Y/Yes or N/No	Only for PVD Job	
If the address entered above does not adequately describe the location of the system please provide further detailed information for the Clean Energy Regulator to locate the system	Text (4000)	Yes		*Mandatory if the answer is "Yes" to "Is there more than one SGU at the address?" Only for PVD Job	

Is there more than one SWH/ASHP at this address	Select List	Yes		Only for SWH Job	
Additional system information	Text (4000)	No		*Mandatory if answered "yes" to Is there more than one SGU at the address? or "Is there more than one SWH/ASHP at this address?	
Installation latitude	Decimal (12,9)	No	-90 to 90 Up to nine decimal places		GPS Location
Installation longitude	Decimal (12,9)	No	-180' to 180' Up to nine decimal places		GPS Location
Installation Type	Select List	Yes		Only for SWH Job	Refer Table 12
Is the volumetric capacity of this installation greater than 700L	Select List	Yes		Only for SWH Job	
Statutory declarations sent	Select List	Yes	Yes (if previous question is answered 'Yes')	Only for SWH Job	
Is your water heater second hand	Select List	Yes	Y/Yes or N/No	Only for SWH Job	

4.1.5 System Details

Field Name	Data Type	Mandatory	Validation Rules	Business rules (refer to business rule section)	Description
System Size (KW)	Decimal (6,3)	Yes	Input up to 3 decimal places	Must be greater than 0 and less than or equal to 100kW Only for PVD Job	Enter the rated kW output of your system
STC Value	Decimal	Yes	Auto Calculated on save/calculator button	Calculate STC Url - "https://www.rec-registry.gov.au/rec-registry/app/calculators/sgu/stc" Calculate SWH STC Url - "https://www.rec-registry.gov.au/rec-registry/app/calculators/swh/stc"	
Number of panels	Int	Yes	Min 1 and Max 10000	*Mandatory for solar The number of panels must match the number of solar panel serial numbers provided	
Panel brand	Select List	Yes		"Specified system brand and model must be on the CEC approved products list at the time of installation." Only for PVD Job	Select panel details from PV Module List
Panel model	Select List	Yes		Only for PVD Job	Select panel details from PV Module List
Inverter manufacturer	Select List	Yes		Only for PVD Job	Select inverter details from Inverter List
Inverter series	Select List	Yes		Only for PVD Job	Select inverter details from Inverter List
Inverter model number	Select List	Yes		Only for PVD Job	Select inverter details from Inverter List
Equipment model serial number(s)	Text (101,000)	Yes	Multiple serial numbers – delimited by semicolons ';'.	All serial numbers provided must be unique. Only for PVD Job	

			Each serial number can be up to 100 characters long. Users can enter up to 1000 serial numbers		
System brand	Select List	Yes		Only for SWH Job	Select system brand details from SWH List
System model	Select List	Yes		Only for SWH Job	Select system brand details from SWH List
Tank serial number(s)	Text (101,000)	Yes	Multiple serial numbers – delimited by semicolons ';'. Each serial number can be up to 100 characters long. Users can enter up to 1000 serial numbers	All serial numbers provided must be unique. Only for SWH Job	
Battery manufacturer	Select List	No		Only for PVD Job	Select battery details from Battery Storage List
Battery model	Select List	No		*Mandatory if Battery Manufacturer is not empty. Only for PVD Job	Select battery details from Battery Storage List

Is the battery system part of an aggregated control?	Select List	No	Y/Yes or N/No	Only for PVD Job	
Has the installer changed default manufacturer setting of the battery storage system	Select List	No	Y/Yes or N/No	Only for PVD Job	
Installation latitude	Decimal (12,9)	No	-90 to 90 Up to nine decimal places		GPS Location
Installation longitude	Decimal (12,9)	No	-180' to 180' Up to nine decimal places		GPS Location
Installation Type	Select List	Yes		Only for SWH Job	Refer Table 12
Is the volumetric capacity of this installation greater than 700L	Select List	Yes		Only for SWH Job	
Statutory declarations sent	Select List	Yes	Yes (if previous question is answered 'Yes')	Only for SWH Job	

Is your water heater second hand	Select List	Yes	Y/Yes or N/No	Only for SWH Job	

4.1.6 Installer Designer (Only for PVD Job)

Installer Designer can be added from :-

-> Job Detail Page

-> Solar Company Profile

-> Solar Company Dashboard

CEC Accreditation Number will always be unique for all Installer Designer.

Adding from Job Detail Page and Solar Company Dashboard

1. Click on Find Installer icon.(Job Detail Page) or Add Installer(SCA Dashboard)
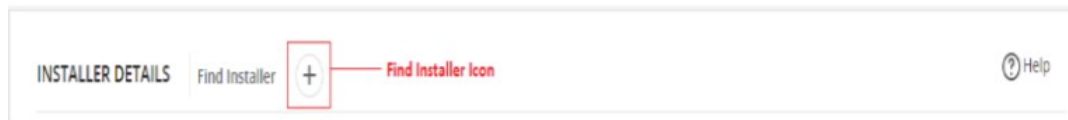
Fig. Adding Installer from Job Detail Page
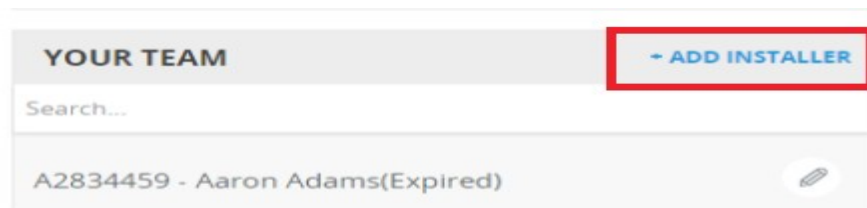
Fig 5.2 Adding Installer from SCA Dashboard

2. Find Installer/Designer pop up will be opened.
3. Enter the CEC Accreditation number of Installer/Designer you want to add.
4. On entering CEC Accreditation Number, First name, Last name and SE Role will get auto filled.

Fig 5.3 Find Installer

5. Click on clear button to clear all the fields.
6. Click on save button to add that particular Installer/Designer.

   Adding Installer to the job and scheduling visit from Job Details Page
   * Visits can be scheduled to only system users.
7. Select Installer/Designer from the drop down to schedule visit and to add installer/designer for the job.

Fig 5.4 Installer Designer Dropdown

8. On selecting Greenbot user it will show the pop up to schedule auto visit.
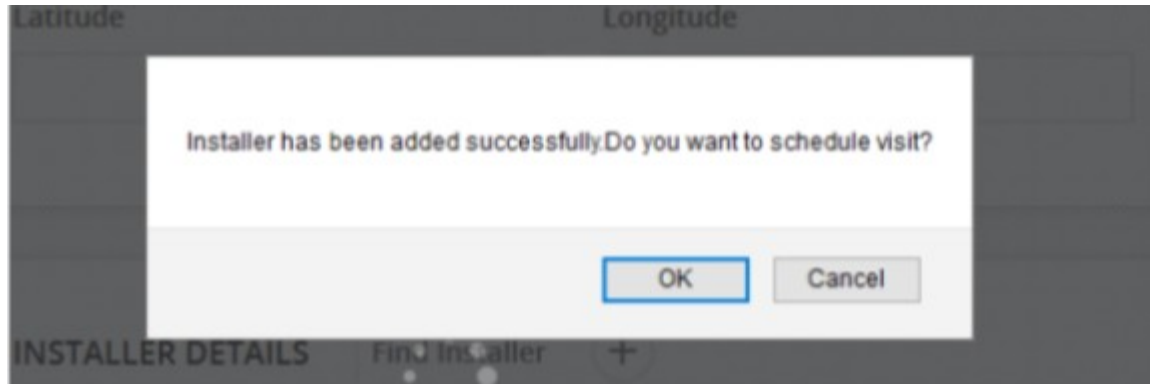
Fig 5.5 AutoAddVisit popup

9. Click on "OK" to schedule visit.

Adding from SCA profile

1. Click on "Installer & Designer" tab in SCA Profile
2. Select "PVD Installer/Designer" radio button.
3. Enter CEC Accreditation Number and details will get populate from master data.

Fig 5.6 Adding Installer from SCA Profile

4. Click on "Add Installer/Designer" button to add.

Field Name	Data Type	Mandatory	Validation Rules	Business rules (refer to business rule section)	Description
CEC accredited number	Text(100)	Yes	Grid connected CEC installer Stand-	The installer accreditation number must be a CEC accredited number and the system must be installed within the period of	The number entered must exactly match the number in the CEC list(i.e. Accredited Installer List) and match the name of the

				accreditation. The installer number must be for an accredited CEC installer with the appropriate grid connection qualification i.e. if answered "Standalone (not connected to electricity grid)" to "Type of connection to the electricity grid", the installer must have off grid accreditation	
			alone CEC installer		installer that was entered
SE Role	Radio button	Yes	Design/ Install/ Design & Install		Role of installer/designer
First Name	Text(100)	Yes			First name
Last Name	Text(100)	Yes			Last Name
Licensed electrician number	Text(100)	No			
Email	Text(255)	No	Valid email format		Email Id of Installer/Designer
Phone	Text (16)	Yes	Min length: 6 Must only contain digits [0-9] Can have an option + at the start		Minimum 6 character required
Mobile	Text (16)	No	Min length: 6 Must only contain digits [0-9] Can have an option + at the start		Phone number of owner

Address ID	Select List	Yes	Physical or Postal		Address Type -- Refer table 5
Unit Type ID	Select List	No			Refer table 6
Unit Number	Text(10)	Conditional		Mandatory when UnitTypeID has value	
Street Name	Text(45)	Conditional		Mandatory when AddressID is physical address	
Street Number	Text(15)	Conditional		Mandatory when AddressID is physical address and not Mandatory when UnitTypeID has value	
Street Type ID	Select List	Conditional		Mandatory when AddressID is physical address	Refer table 7
Postal Address ID	Select List	Conditional		Postal Delivery Type mandatory when AddressID is P.O BOX	Refer table 8
Postal Delivery Number	Text(11)	Conditional		Postal Delivery number mandatory when AddressID is P.O BOX	
Town	Text(80)	Yes		Select from auto complete list fetched from link - 'https://auspost.com.au/api/postcode/search.json?q=" + q + "&excludePostBoxFlag=true"'	Installer/Designer town
State	Text(3)	Yes	Refer to State/Territory reference data	Select from auto complete list fetched from link - 'https://auspost.com.au/api/postcode/search.json?q=" + q + "&excludePostBoxFlag=true"'	Installer/Designer State
Post Code	Text(8)	Yes	Refer to postcode reference data	Select from auto complete list fetched from link - 'https://auspost.com.au/api/postcode/search.json?q=" + q + "&excludePostBoxFlag=true"'	Installer/Designer Post Code
Signature	Image	No			Upload the image file or draw the signature
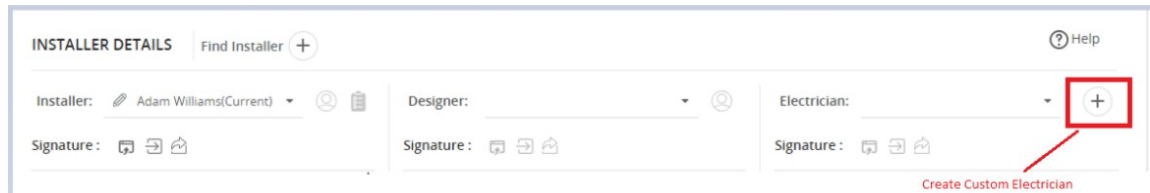
4.1.7 Electricians (Only for PVD Job)

Electrician can be added from Job Detail page

-> By dropdown i.e. populated from the installer/designer list

-> By creating custom electrician

1. Click on plus icon near Electrician in Installer Details section in job details page.
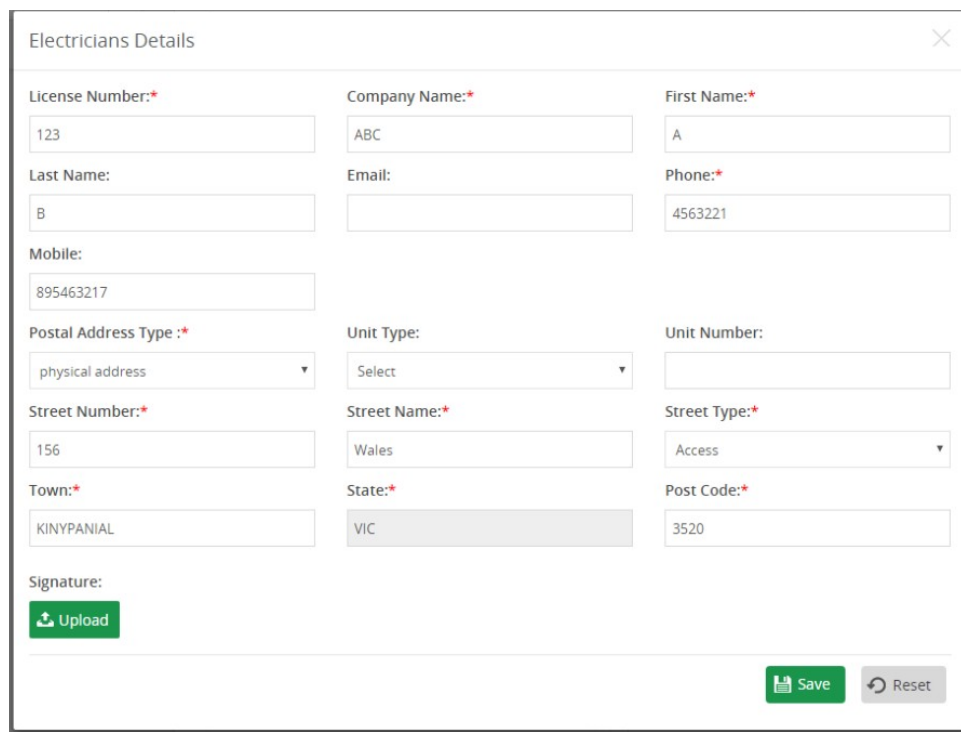
Fig 5.7 Create Electrician Icon

2. Enter the details in the popup

Fig 5.8 Electrician Popup

3. Click on reset button to clear all the fields.
4. Click on save button to save the electrician
5. Select electrician from the dropdown list to add it in the job
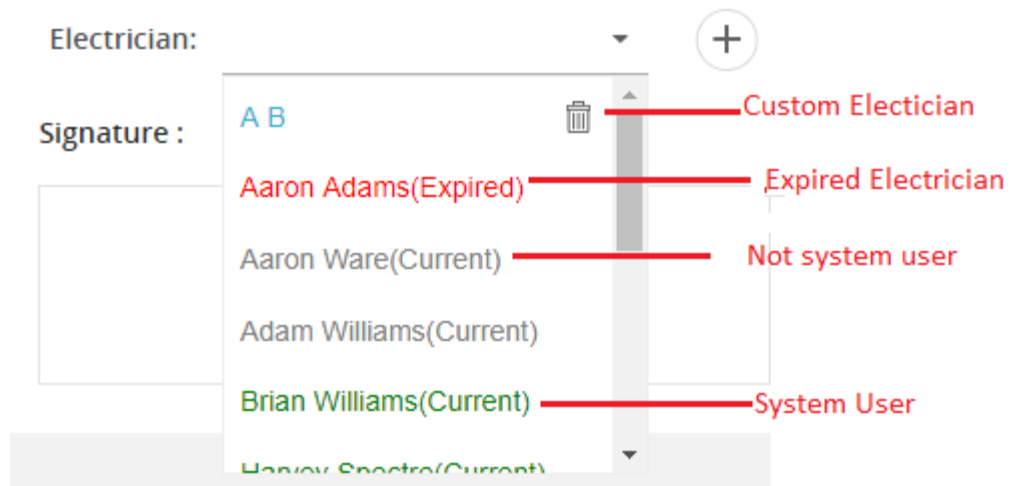
Fig 5.9 Electrician Dropdown

Field Name	Data Type	Mandatory	Validation Rules	Business rules (refer to business rule section)	Description
Licensed electrician number	Text(100)	Yes			
Email	Text(255)	Yes	Valid email format		Email Id of Electrician
First Name	Text(100)	Yes			First name
Last Name	Text(100)	Yes			Last Name
Phone	Text (16)	Yes	Min length: 6 Must only contain digits [0-9] Can have an option + at the start		Minimum 6 character required
Mobile	Text (16)	No	Min length: 6 Must only contain digits [0-		Phone number of owner

			9] Can have an option + at the start		
Address ID	Select List	Yes	Physical or Postal		Address Type -- Refer table 5
Unit Type ID	Select List	No			Refer table 6
Unit Number	Text(10)	Conditio nal		Mandatory when UnitTypeID has value	
Street Name	Text(45)	Conditio nal		Mandatory when AddressID is physical address	
Street Number	Text(15)	Conditio nal		Mandatory when AddressID is physical address and not Mandatory when UnitTypeID has value	
Street Type ID	Select List	Conditio nal		Mandatory when AddressID is physical address	Refer table 7
Postal Address ID	Select List	Conditio nal		Postal Delivery Type mandatory when AddressID is P.O BOX	Refer table 8
Postal Delivery Number	Text(11)	Conditio nal		Postal Delivery number mandatory when AddressID is P.O BOX	
Town	Text(80)	Yes		Select from auto complete list fetched from link - 'https://auspost.com.au/api/ postcode/search.json?q=" + q + "&excludePostBoxFlag=tr ue"'	Electrician town
State	Text(3)	Yes	Refer to State/Ter ritory reference data	Select from auto complete list fetched from link - 'https://auspost.com.au/api/ postcode/search.json?q=" + q + "&excludePostBoxFlag=tr ue"'	Electrician State

Post Code	Text(8)	Yes	Refer to postcode reference data	Select from auto complete list fetched from link - 'https://auspost.com.au/api/ postcode/search.json?q=" + q + "&excludePostBoxFlag=tr ue"'	Electrician Post Code
Signature	Image	No			Upload the image file or draw the signature

4.1.8 SWH Installers (Only for SWH Job)

SWH Installer can be added from :-

-> Job Detail Page

-> Solar Company Profile

Combination of License Number and Email will always be unique for all SWH Installer.

Adding from Job Detail Page

1. Click on Find Installer icon.(Job Detail Page)
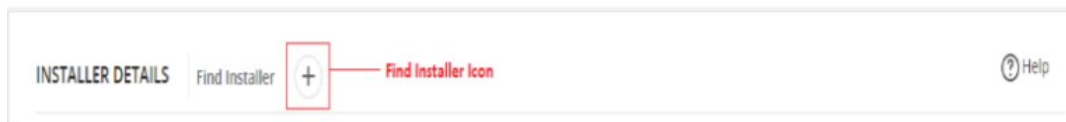
Fig 5.10 Adding SWH Installer from Job Detail Page

2. Find Installer popup will be opened.
3. SWH Installer can be added by two ways
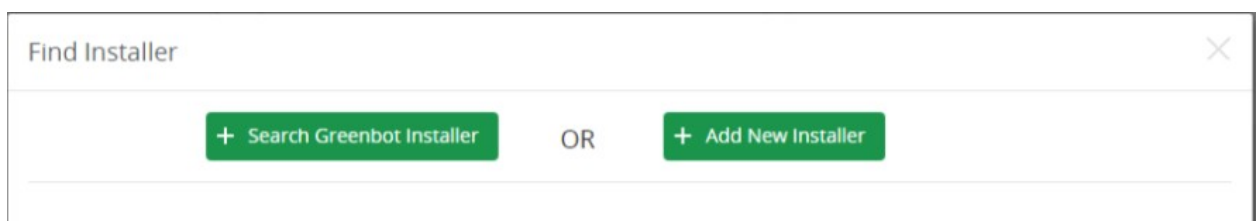
Fig 5.11 Find Installer(SWH)

* By Search Greenbot Installer

 - Click "Search Greenbot Installer"

 - Search Greenbot Installer popup will be opened.

 - Enter License Number and click on search

Fig 5.12 Search Greenbot Installer Popup

  - Select appropriate user from list and click on "Add" to add that user in job.

* By Add New Installer
  - Click on "Add New Installer"
 - Enter the details to create new installer in "Add Installer" popup.

Fig 5.13 Add Installer Popup

- Click on "Save" button to add installer in job.
- Click on "Reset" button to clear all fields.

Adding Installer to the job and scheduling visit from Job Details Page

* Visits can be scheduled to only system users.

i.   Select SWH Installer from the drop down to schedule visit and to add swh installer for the job.
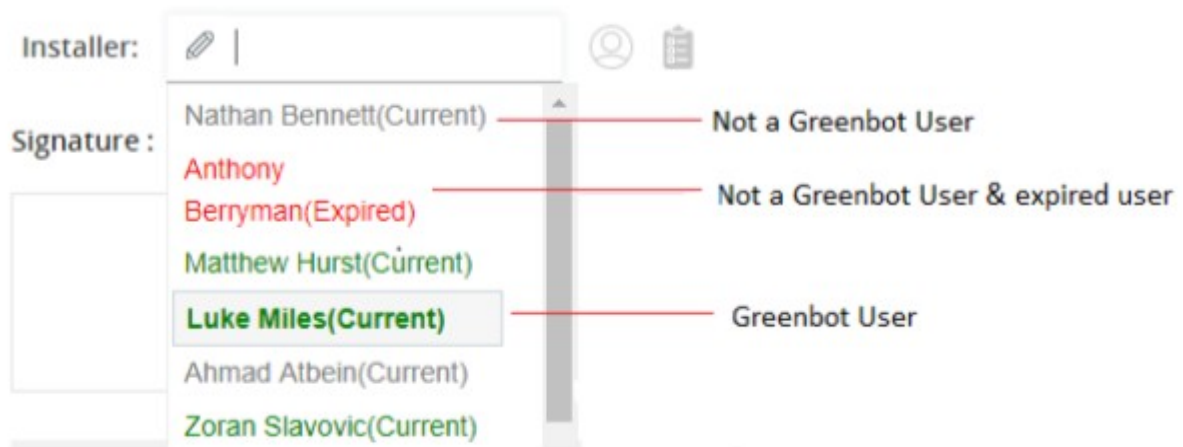
Fig 5.14 SWH Installer dropdown

ii.   On selecting Greenbot user it will show the pop up to schedule auto visit.
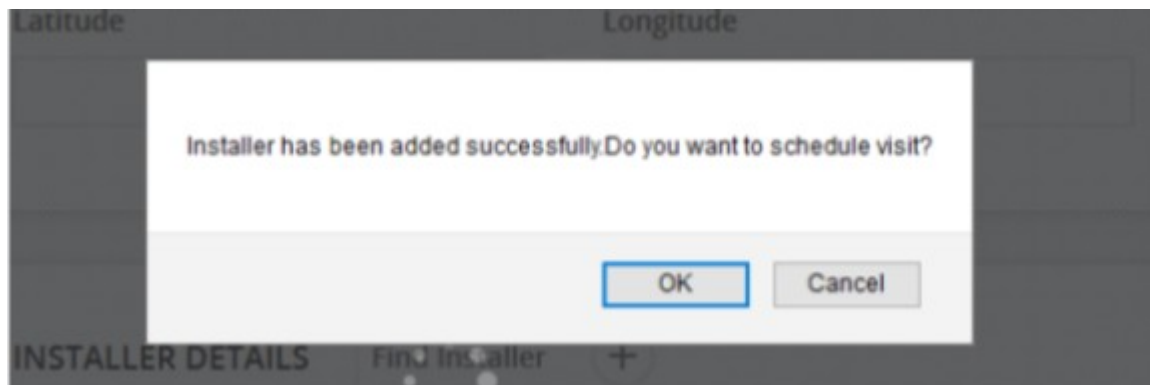
Fig 5.15 AutoSchedule Visit

iii.   Click on "OK" to schedule visit.

Adding from SCA profile

1.   Click on "Installer & Designer" tab in SCA Profile

2. Select "SWH Installer" radio button
3. Enter details in the tab

Fig 5.16 Adding (SWH)Installer from SCA Profile

4. Click on "Add SWH Installer" button to add.

Field Name	Data Type	Mandatory	Validation Rules	Business rules (refer to business rule section)	Description
Licensed electrician number	Text(100)	Yes			
Email	Text(255)	Yes	Valid email format		Email Id of swh installer
First Name	Text(100)	Yes			First name
Last Name	Text(100)	Yes			Last Name
Phone	Text (16)	Yes	Min length: 6 Must only contain digits [0-9] Can have an option + at the start		Minimum 6 character required
Mobile	Text (16)	No	Min length: 6		Phone number of owner

			Must only contain digits [0-9] Can have an option + at the start		
Address ID	Select List	Yes	Physical or Postal		Address Type -- Refer table 5
Unit Type ID	Select List	No			Refer table 6
Unit Number	Text(10)	Conditional		Mandatory when UnitTypeID has value	
Street Name	Text(45)	Conditional		Mandatory when AddressID is physical address	
Street Number	Text(15)	Conditional		Mandatory when AddressID is physical address and not Mandatory when UnitTypeID has value	
Street Type ID	Select List	Conditional		Mandatory when AddressID is physical address	Refer table 7
Postal Address ID	Select List	Conditional		Postal Delivery Type mandatory when AddressID is P.O BOX	Refer table 8
Postal Delivery Number	Text(11)	Conditional		Postal Delivery number mandatory when AddressID is P.O BOX	
Town	Text(80)	Yes		Select from auto complete list fetched from link - 'https://auspost.com.au/api/postcode/search.json?q=" + q + "&excludePostBoxFlag=true"'	swh installer town
State	Text(3)	Yes	Refer to State/Territory reference data	Select from auto complete list fetched from link - 'https://auspost.com.au/api/postcode/search.json?q=" + q + "&excludePostBoxFlag=true"'	swh installer State

Post Code	Text(8)	Yes	Refer to postcode reference data	Select from auto complete list fetched from link - 'https://auspost.com.au/api/ postcode/search.json?q=" + q + "&excludePostBoxFlag=tr ue"'	swh installer Post Code
Signature	Image	No			Upload the image file or draw the signature

4.1.9 Job Document

Documents can be created from the existing document templates and uploaded.

There are 3 document section:

- STC Form
- CEC/COC Form
- Document Manager

4.1.10 Job Scheduling

Jobs can be scheduled by :

a) Job Details Page :- AutoScheduling visit while selecting Installer/SwhInstaller from dropdown list(if system user)

b) Job Details Page :- Add Visit from Job Scheduling Section

1. Click on "Add Visit" from job details page.

SCHEDULE AN INSTALLER : JHANVI VADI, 123 123 BOARDWALK ALLIGATOR CREEK QLD 4816   + Add a Visit
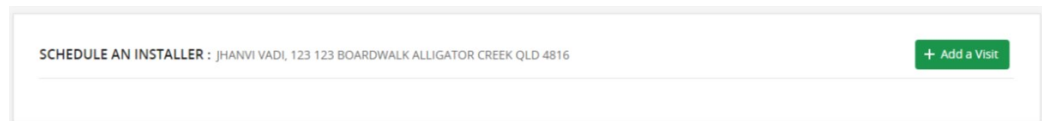
Fig 5.17 Job Scheduling from Job Details Page

2. Job Schedule popup will be opened
3. Enter the details in popup.
4. Select the staff from dropdown (i.e. Solar contractors and Installers)
5. Select the check list template from the dropdown which consists of the templates available for the respective solar company.

Fig 5.18 JobSchedule Popup

6. User can also

Remove item from the selected checklist template by clicking on delete icon.

Add New item to the checklist template by clicking on "Add New Item" icon.

- Check List Item popup will get opened on clicking "Add New Item" .

- Enter the appropriate details in popup

Fig 5.19 Check List Item Popup

- Click on "Save" button to add new item in checklist template.

7. After adding or removing item from template, user can also save the edited template as new template on clicking "Save as New Template".

c) Job Scheduling Page – Accessed from menu i.e. Jobs /Scheduling
   - Jobs can be searched by RefNumber and other filters in "Find a Job" section.
   - On dragging and dropping specific job in the calendar will open up the "Job Scheduling" popup same as in job detail page
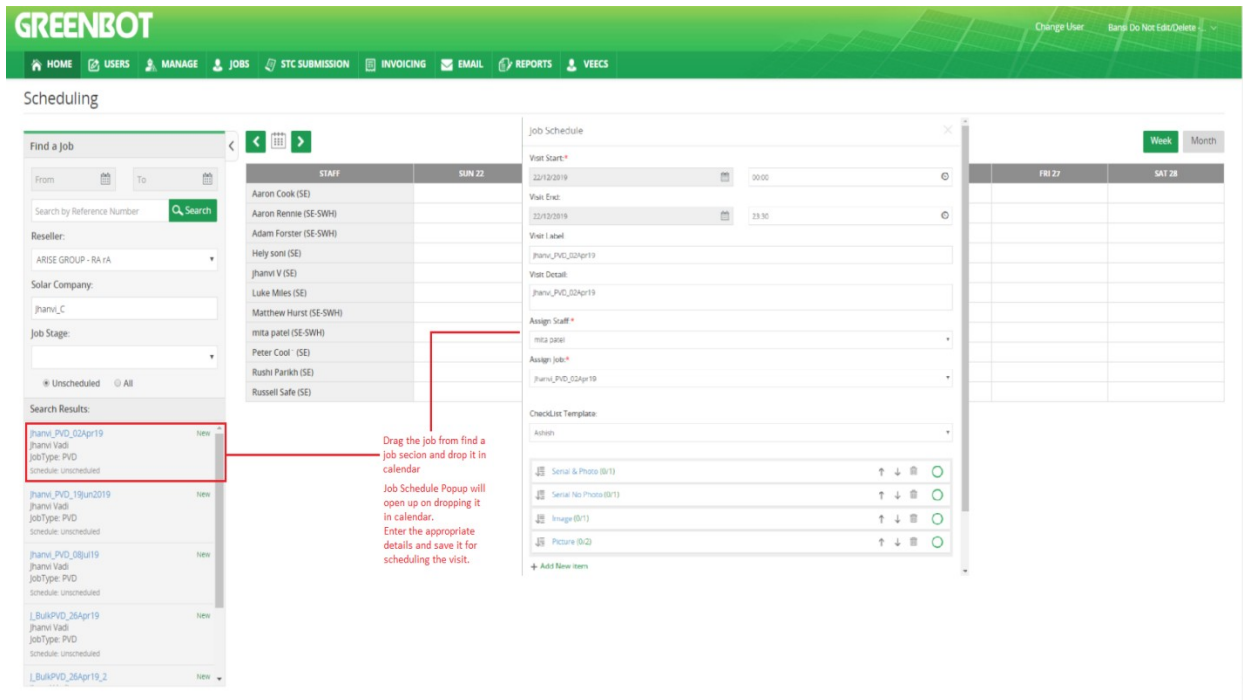
Fig 5.20 Scheduling Job from Scheduling Page.

4.1.11 Photos

Generally consist of two sections.
- Reference Photos
- Default Photos :- Further have two sub sections i.e. Installation Photos & Serial Photos
- VisitCheckListPhotos :- This sections gets added only when visit is scheduled and sub sections gets created as per visit check list items present in the scheduled visit.

Functionalities
- Collapse All :- Shrinks all the sections and sub sections of photos
- Download: - Downloads selected photos or section in zip file.
- Download All: - Downloads all the photos in photo section in zip file.
- Upload Photos: - Uploads single or multiple photos in selected single parent at a time.
- PDF: - Generates pdf of selected sections in document manager section with the visit check list name.
- Delete : - Deletes selected photos.
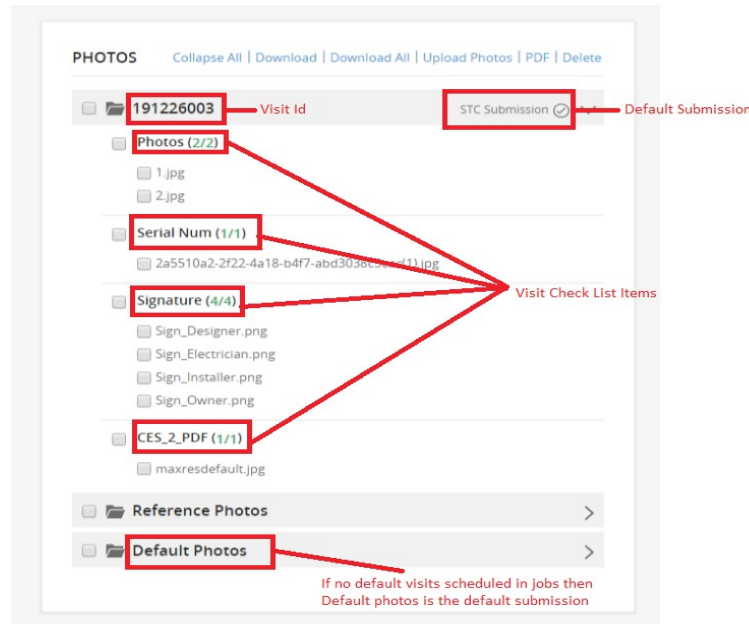
Fig 5.21 Job Photos Section

4.1.12 Serial Numbers

All the serial numbers of the job captured by app or entered manually are displayed under serial number section.
- For PVD jobs section name is Panel Serial Numbers
- For SWH jobs section name is Tank Serial Numbers

Below serial number text area there is warning notice section which consists of warnings against the same serial number(s) used by multiple jobs.

Fig 5.22 Serial Number section in job details page

4.1.13 STC Status

Stc Status gets changed as job progresses further. Initially stc status is "Not Yet Submitted". This section consist of business rules that need to be fulfilled in order to complete the job and activates the trade button. Trade button is hidden for all the users except FSA/FCO user. Business rules are checked from db (stored procedure - **"Job_CheckBusinessRules"**)

Below are the business rules:-
1. The length of latitude and longitude should not be more than 9 digits after decimal point.
2. There are some illegal characters in the serial number field. Job cannot be traded until these are amended with the correct serials.
3. Installer details required.
4. The Installer account is Deferred, please check with your Installer.
5. The Installer account is Cancelled, please check with your Installer.
6. The Installer account is Suspended, please check with your Installer.
7. The Installer account is Expired, please check with your Installer.
8. Designer details required.
9. The Designer account is Deferred, please check with your Installer.
10. The Designer account is Cancelled, please check with your Installer.
11. The Designer account is Suspended, please check with your Installer.
12. The Designer account is Expired, please check with your Installer.
13. Electrician details required.
14. STC value has not been calculated.
15. Serial number clash. Please contact your account manager.
16. Serial numbers already exist; please contact your account manager.
17. Installation address already used. Please contact your account manager.
18. The number of serial numbers provided does not match the total panel amount for this job.
19. The submission date must either be on or within 12 months of the date of installation.
20. The selected panel brand and model was not accredited at the time of installation.
21. The selected inverter brand and model was not accredited at the time of installation.
22. System size is more than 133% of the inverter AC Power output limit.
23. If the SGU is installed on a "Building or structure", then the specified panel brand and model must be fire tested.
24. If the SGU system is stand-alone, the installer specified must be accredited to install stand-alone SGUs.
25. If the SGU system is stand-alone, the designer specified must be accredited to design stand-alone SGUs.
26. More than 2 installations in one day are not permitted under guidelines set by the CEC.
27. CES document is required to trade.
28. STC document is required to trade.
29. Please complete all fields under "System Details" section.
30. Please complete all fields under "STC Details" section.
31. The installation date must be within the last 12 months of the upload date.
32. Serial Number photos are required.
33. Please complete all checklist item of default submission.

34. At least one installation photo is required.
35. NMI is required.

Stc Status changes to "Submit to Trade" when job fulfills all the business rules.

After completing all the business rules, select pricing settlement term from "Pricing Block" and trade job on clicking "Trade Stcs Button".

Stc Status changes to "New Submission" on trading job for the first time.
Stc Status changes to "Re-submission" on trading job after first time.

Fig 5.23 Stc Status

4.2 Trading Jobs

Jobs can be traded only if job has fulfilled the business rules. FSA/FCO users can trade job anytime i.e. whether it has fulfilled business rules or not.

Jobs can be traded from multiple ways.

- JobDetails Page(Modular and Tabular View)
- SolarJobs Page(Kendo and Static View)

Trading from JobDetails Page

Jobs can be traded from the job details page by selecting settlement term from pricing block and clicking on "Trade Stc" button displayed in the STC Status section.

Fig 5.24 Trading Job from JobDetails page(modular view)

Fig 5.25 Trading Job from JobDetails page(tabular view)

Trading Jobs from Solar Jobs Screen Page

Following conditions need to be satisfied for trading jobs from solar jobs screen:
- Jobs must be in "Ready To Trade" state.
- Jobs system size must be less than 60.
- Jobs must have same price.
- Jobs should neither be traded earlier nor have custom price.
- Jobs must have same price and installation property type.
- Jobs must be of the same solar company, i.e.

For FSA/FCO/RA/RAM users – Need to select solar company mandatorily for trading STCs.

Fig 5.26 Trading Jobs from Solar Job screen

5   Stc Submission

After trading job from JobDetails/Solar Jobs screen, job moves to StcSubmission. There are various STC Job Stage(s).
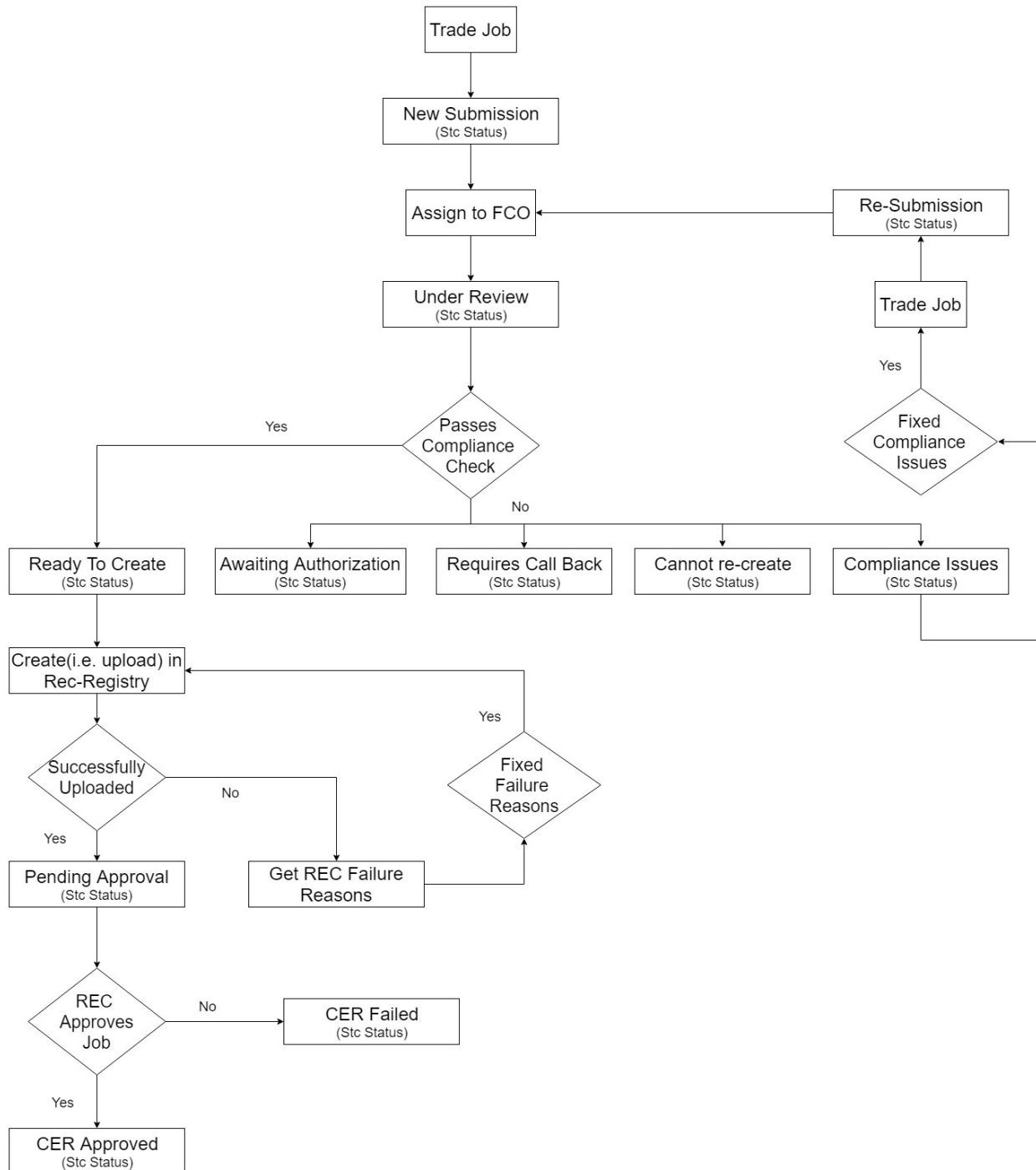
Fig 6.1 STC Submission Status

1. **New Submission**

   When job is traded for the very first time i.e. job has been just submitted its stc stage gets updated to "New Submission".

2. **Re-Submission**

   When job is traded after first time its stc stage gets updated to "Re-Submission." This stage if there is some compliance issues i.e. job needs to be updated in case to fulfill the required appropriate data.

3. **Under Review**

   After job has been traded, job is assigned to the compliance officer for reviewing the job details resulting stc job stage to "Under Review". Only FSA can assign the job to FCO and FCO self-assigns job which are visible to them.

4. **Requires Call Back**

   This job status indicates that job is currently under review. Please be patient while we undertake the process of verifying the details you have submitted.

5. **Awaiting Authorization**

   This status implies that job has successfully passed compliance checks and is awaiting REC creation and requires authorization from Admin.

6. **Compliance Issues**

   On having some issues with the job details this job status is updated by adding compliance notes which is further displayed in job details page under STC Status section. This status indicates to view the compliance issues that were encountered and amend the job for resubmission since there are some issues with your submission.

7. **Ready to Create**

   When job has passed all the compliance checks job status is converted to "Ready To Create" status and awaits for REC Creation.

8. **Pending Approval**

   Once job status is changed to "Ready To Create", jobs are sent to rec-registry on clicking "Create in REC Registry" and if successfully uploaded then unique PVD code is assigned to each job. After getting the PVD Code job status changes to "Pending Approval".

9. **CER Approved**

   As file gets uploaded on rec-registry, they verify the job and if everything is appropriate it approves the job and hence job in our system gets synced with rec from priority services resulting job status to be CER Approved.

10. **CER Failed**

As file gets uploaded on rec-registry, they verify the job and if something is inappropriate it fails the job and hence job in our system gets synced with rec from priority services resulting job status to be CER Failed.

11. **Cannot re-create**

Your job cannot be created in Rec-Registry if job has this stc status.

Fig 6.2 Stc Submission Page

5.1 Create in REC Registry

Once job stc stage is updated to "Ready To Create", jobs can be sent to REC-Registry by clicking on "Create in REC Registry" button.
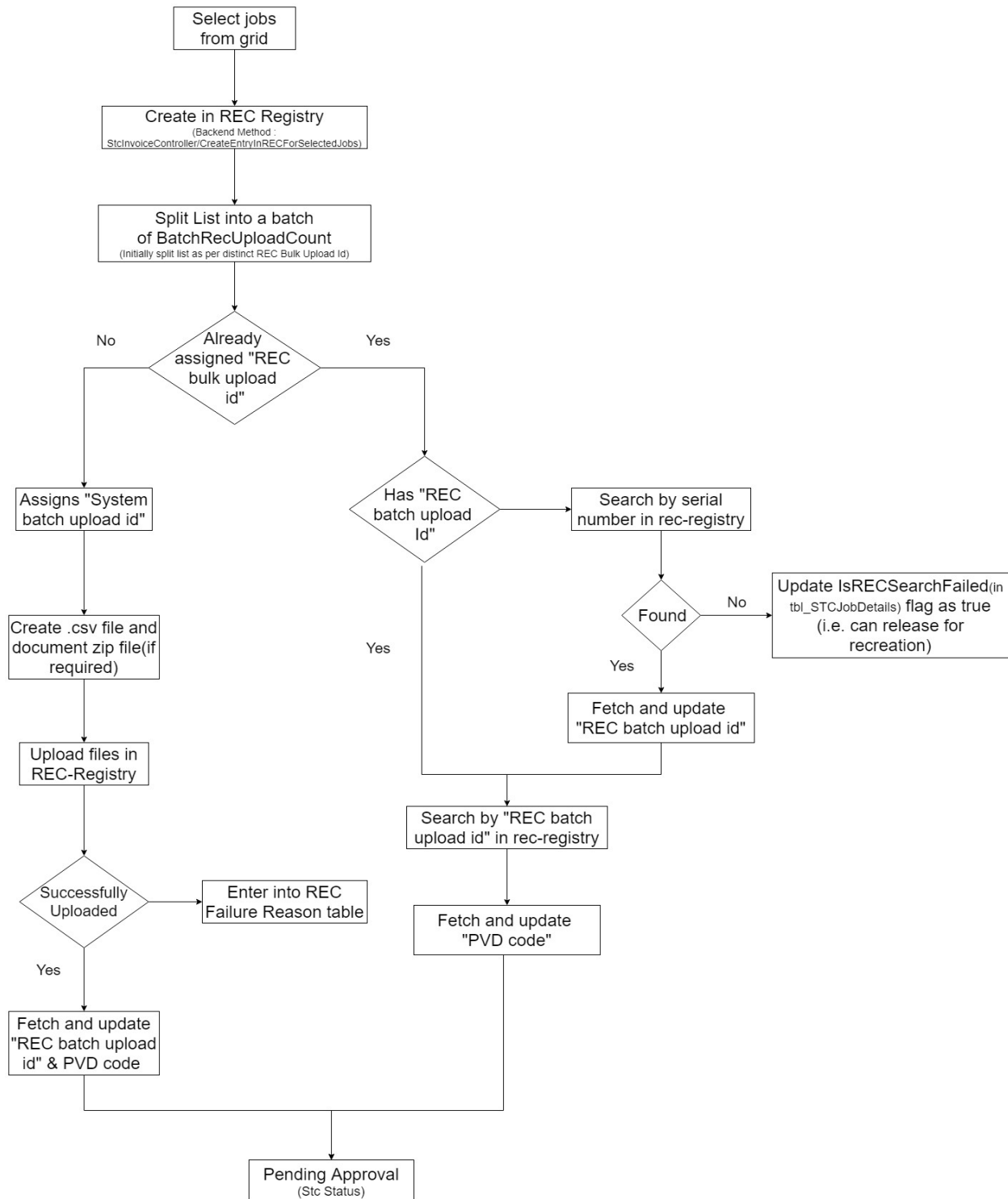
Fig 6.3 Create In Rec Registry flow

5.2   Get REC failure reason

If job gets failed while uploading it to rec-registry, then all the failure reasons are stored in database
i.e. Database Table :- RecFailureReason
which can be accessed by clicking on GetRECFailureReason button.
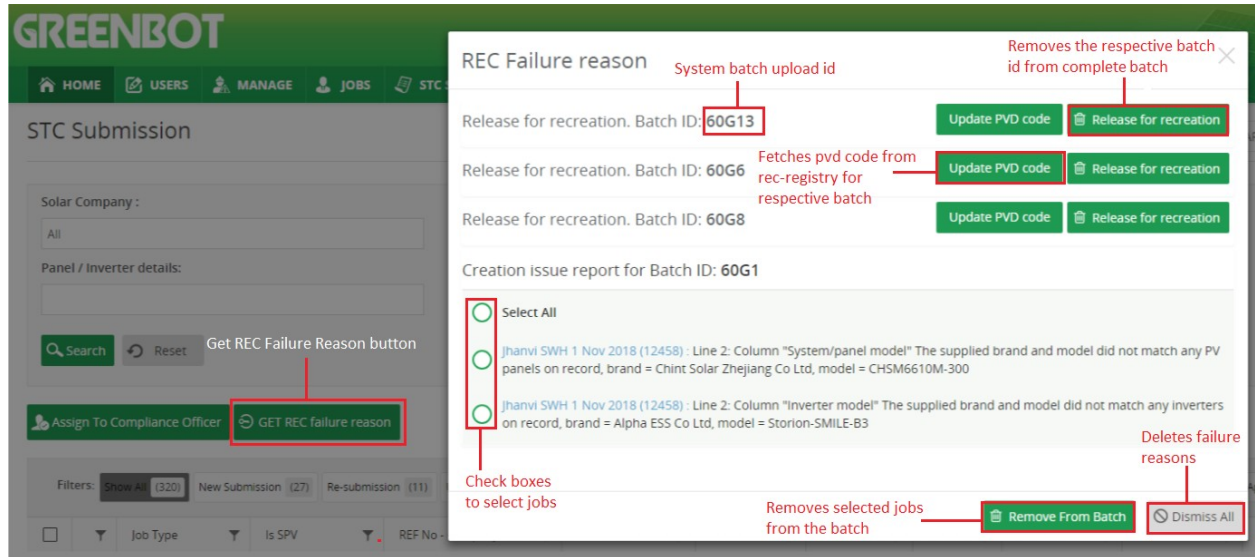
Fig 6.4 Get REC Failure reason from STC Submission
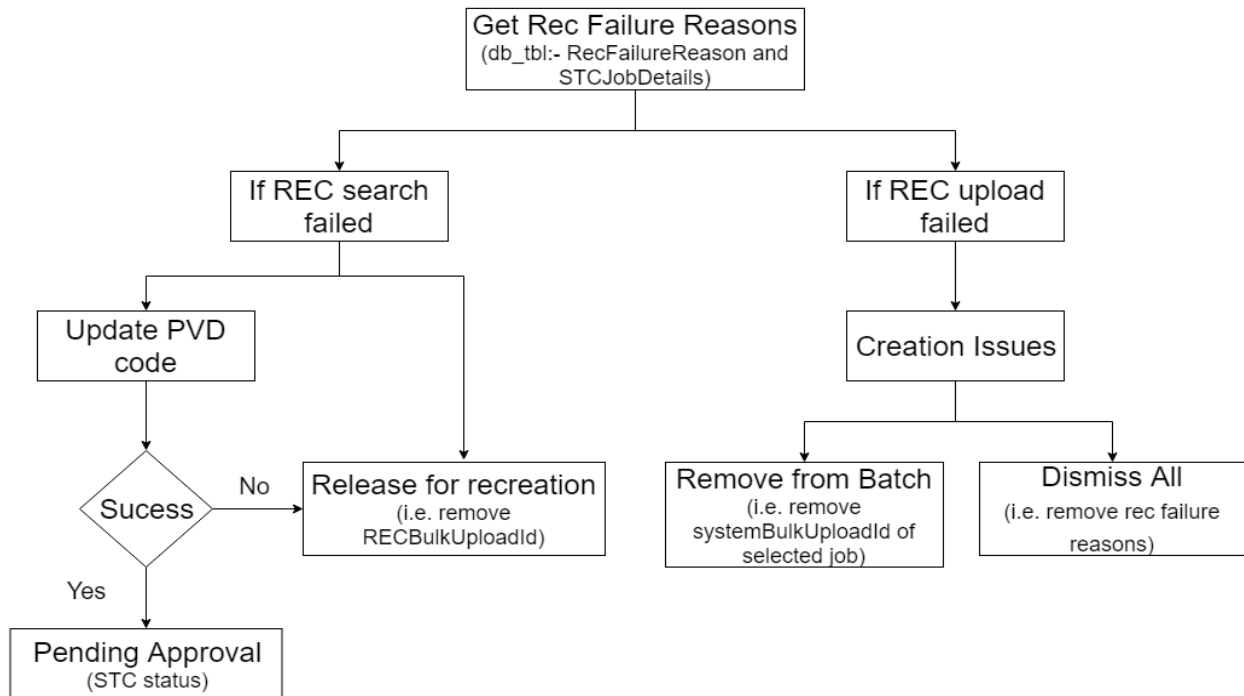
Fig 6.5 REC Failure Reasons Flow

5.3 Fetching Job Stc Status from REC after uploading (Priority Service)

Once the job has been successfully uploaded on rec-registry. REC verifies the job detail and approves it accordingly. These rec statuses are fetched from rec-registry using priority service which is scheduled at 00:25.
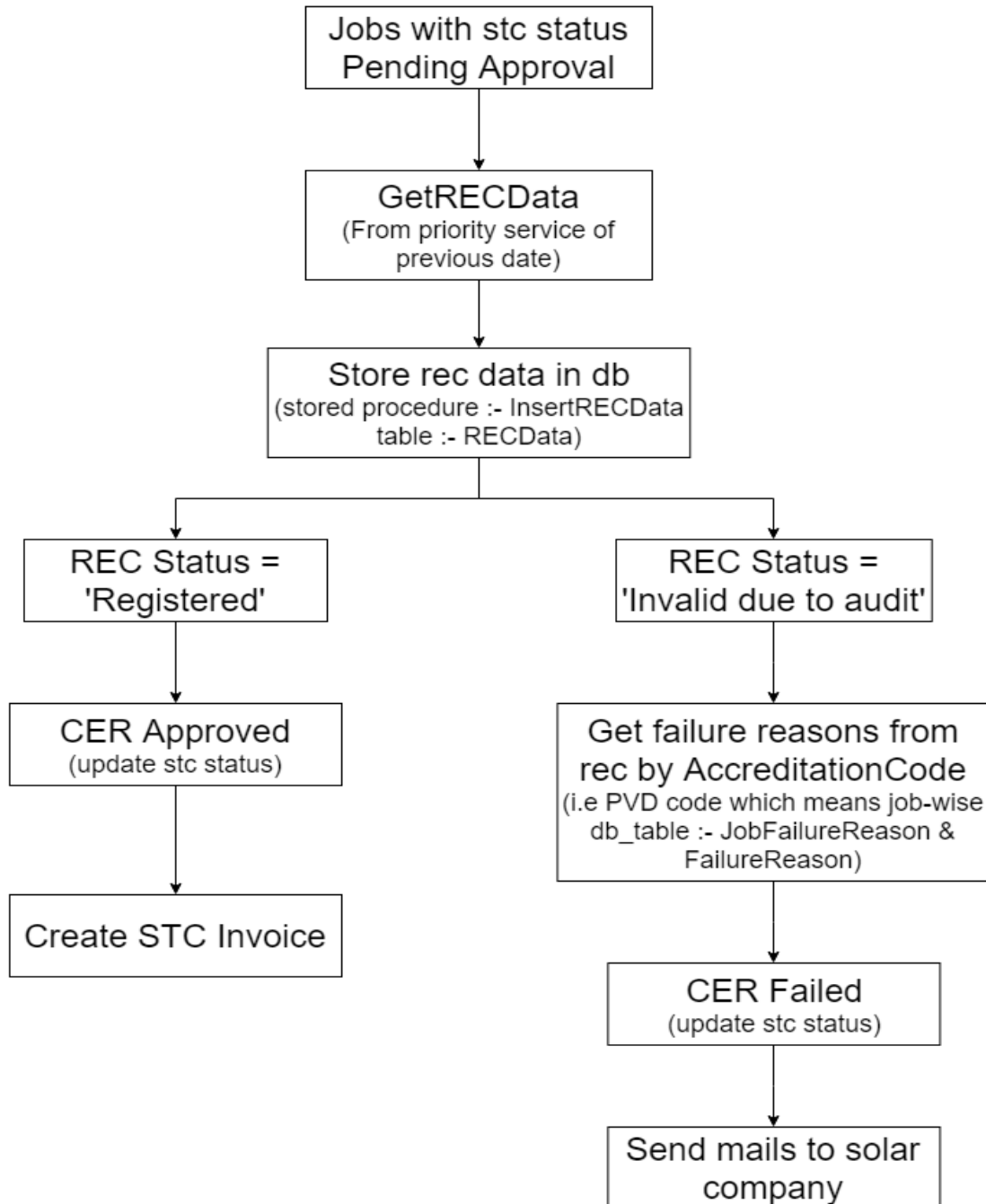
Fig 6.6 Priority Service Flow

6 Stc Invoice

Stc invoice is generated by two ways

- **Priority Service** :- Jobs with pending approval status are processed in the priority service and invoices of rec approved jobs is created, detailed flow is explained above in the figure **Priority Service Flow.**
- **Send to Stc Invoicing :-** Invoices can be created from Stc Submission Screen on clicking **"Send to Stc Invoicing"** button. To create stc invoice below points should be considered.
    - PVD code is mandatory.
    - Invoice should not be generated earlier.

After stc invoices has been generated, it need to be sent to **xero**(i.e. payment gateway) for payment purpose.

- **Check In Xero :-** On clicking this button selected reseller and solar company details are sent and updated in xero .

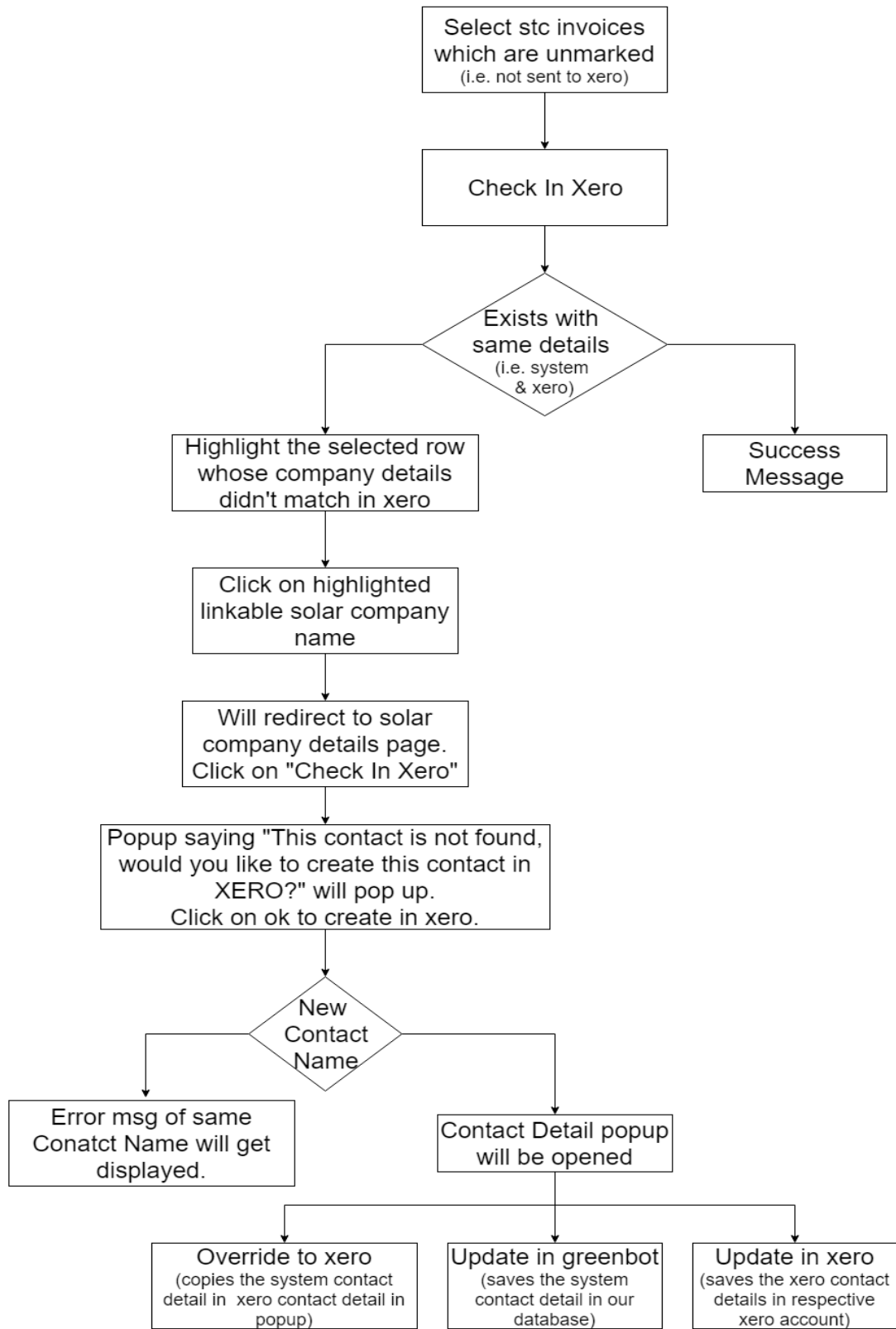Fig 7.1 check in xero popup(contact detail) sca detail page

Fig 7.2 Check in xero flow

- **Send To Xero Draft :-** This functionality is used to send stc invoices to xero. Below are the steps to send to xero.
  - Select stc invoices which are marked as "No" (i.e. not sent to xero)
  - Click on "Send to Xero Draft"
  - If sent successfully then will display success message and will update "Is Invoiced" column as "Yes".

Fig 7.3 Send To Xero Draft

- **Sync With Xero: -** This functionality is used to synchronize data of stc invoices with xero.

7 Pricing Manger

Pricing is set from menu "Manage/Pricing Manager " by FSA/FCO/RA users only.

Access rights can be altered from "UserRoles" page.

Pricing is set at three levels.

7.1 Global :- Global pricing refers to the pricing set at Reseller/Wholesaler level.

Db_table :- PricingGlobal

Fig 8.1 Pricing Manager

* <u>Reseller</u>

- Select Reseller radio button.
- Reseller dropdown will get binded and based on selected reseller account manager dropdown will get binded.
- Select Reseller and/or Account manager as per requirement.
- Click on Set Global Price icon.
- Manage Price popup will get opened. Set the required price and toggle the switch of settlement terms which you want to display while trading. Multiple settlement term's switch can be toggled on.
- Click on Save to set the Global Price.

* <u>Wholesaler</u>

- Select Wholesaler radio button.
- If Wholesaler radio button is selected then Wholesaler dropdown will get binded.
- Select Wholesaler as per requirement.
- Click on Set Global Price icon.
- Manage Price popup will get opened. Set the required price and toggle the switch of settlement term which you want to display while trading. Only switch of single settlement term can be toggled on at a time.
- Click on Save to set the Global Price.

Fig 8.2 Global Manage Price Popup

7.2 Solar Company :- This pricing refers to the pricing set at solar company level.

Db_table :- PricingSolarCompany
- Select Reseller or Wholesaler radio button.
- If Reseller radio button is selected then Reseller dropdown will get binded and based on selected reseller account manager dropdown will get binded.
  If Wholesaler radio button is selected then Wholesaler dropdown will get binded.
- Select Reseller and/or Account manager or Wholesaler as per requirement.
- User can search for solar company by name.
- Click on "Set custom pricing for all solar company(s) or Job(s) based on search".
- Manage Price popup will get opened.
  Set the required price and toggle the switch of settlement terms which you want to display while trading. Multiple settlement term's switch can be toggled on.
  Set the expiry date from calendar icon(mandatory)
  Select the solar company(s) from list.
- Click on Save to set the Solar Company Price.
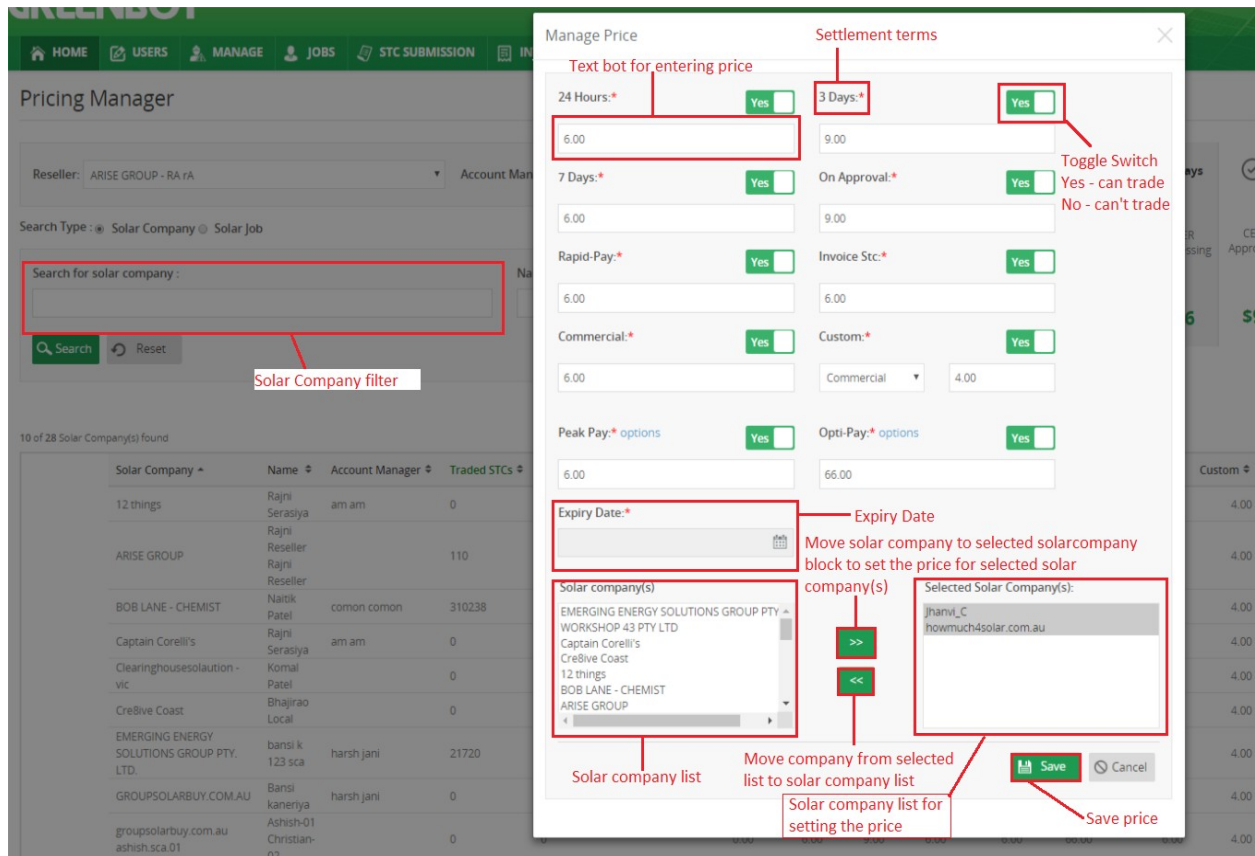
Fig 8.3 Solar Company Manage Price Popup

7.3 Job :- This pricing refers to the pricing set at job level.

Db_table :- PricingJob

Fig 8.4 Filter for setting job price.

- Select Reseller or Wholesaler radio button.
- If Reseller radio button is selected then Reseller dropdown will get binded and based on selected reseller account manager dropdown will get binded.
  If Wholesaler radio button is selected then Wholesaler dropdown will get binded.
- Select Reseller and/or Account manager or Wholesaler as per requirement.
- Select system size from dropdown (i.e. greater than 60kw or less than 60kw).
- User can search for job by Name, Solar Company, Installation Address and Reference Number.
- Click on "Set custom pricing for all solar company(s) or Job(s) based on search".
- Manage Price popup will get opened.
  Set the required price and toggle the switch of settlement terms which you want to display while trading. Multiple settlement term's switch can be toggled on.
  Set the expiry date from calendar icon(mandatory)
  Select the solar company(s) from list.
- Click on Save to set the Job Price.

Fig 8.5 Job Manage Price Popup

Display Pricing :- Above different pricing are displayed according to below flow while trading jobs.
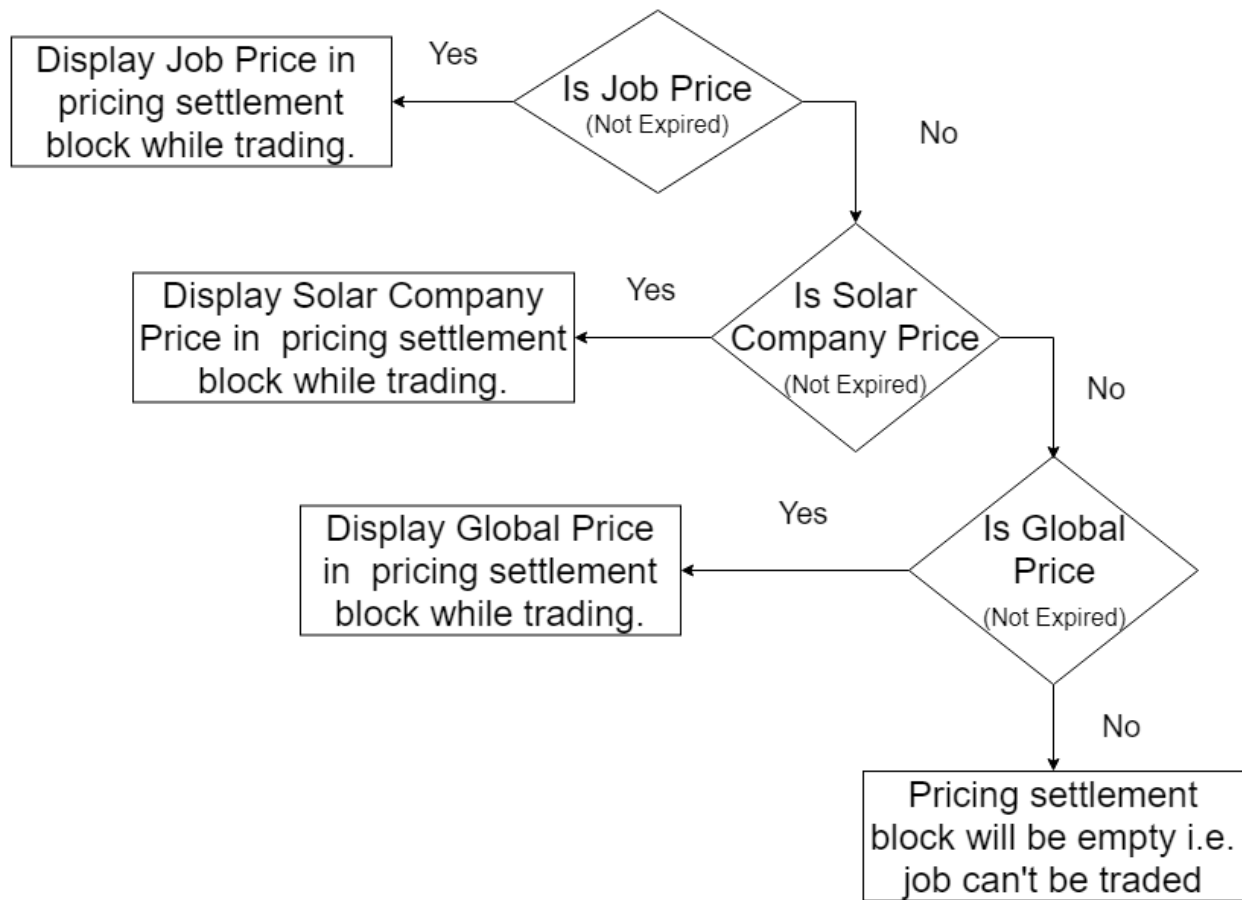
Fig 8.6 Displaying price while trading

Pricing History :- History of pricing at all levels is maintained in database table i.e. "PricingHistory". This is further used in solar company dashboard while displaying pricing block with pricing-up/pricing-down icon i.e. whether price has been increased or decreased from the previous price.

Fig 8.7 Pricing Block in solar company dashboard

8 Settlement Terms

There are 12 settlement terms which are used for trading job.
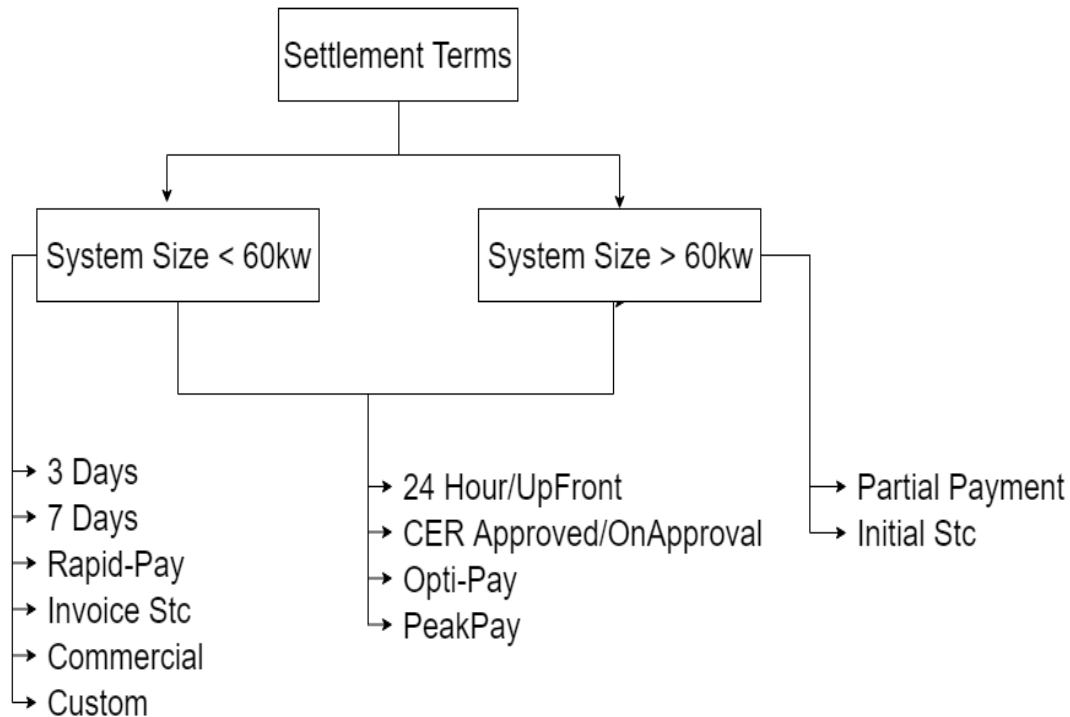
Fig 9.1 Settlement Terms

There are different rules for enabling/disabling some settlement terms while trading job.
All the rules are written in "STCTradeModule.js", it is common java script which is called every time for enabling/disabling settlement terms on trading i.e.
-Inside job details page (both in tabular and modular)
-Solar jobs screen while trading stc

*Commercial job = "Installation Property Type = Commercial/School"

                                    or

            "Job Owner Type = Corporate Body/Trustee"

*Non Commercial job = "Installation Property Type = Residential"

                                    or

            "Job Owner Type = Individual/Government Body"

Rapid-Pay

Rapid-Pay Settlement term is enabled when job is non-commercial.
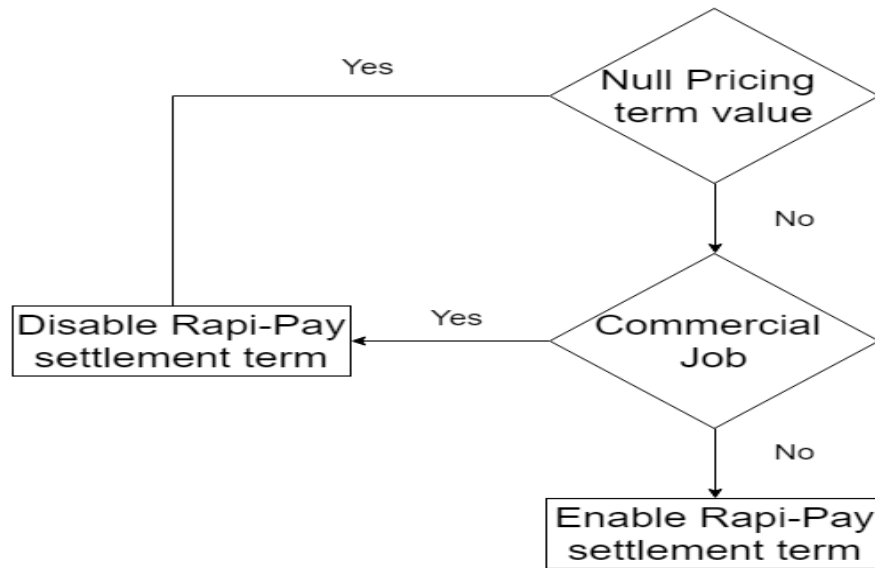
Fig 9.2 Enable/Disable Rapid-Pay settlement term

Opti-Pay

This settlement terms has other fields along with price to set while setting opti-pay price for trading jobs.

Fig 9.3 Opti-Pay Parameters
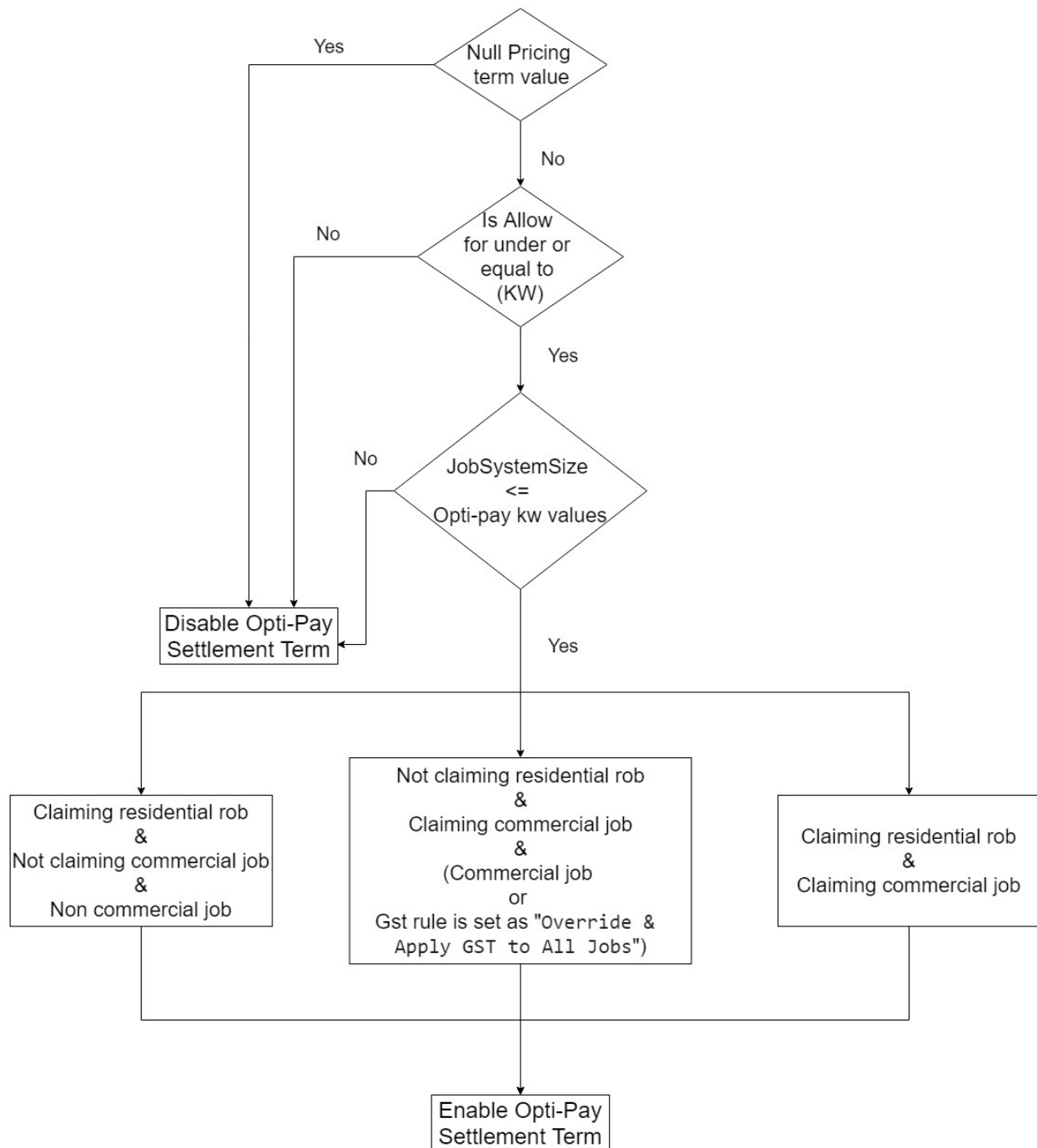
Fig 9.4 Enable/Disable Opti-Pay settlement term

Commercial

Commercial Settlement term is enabled when job is commercial or gst rule is set as "Override & Apply GST to All Jobs".
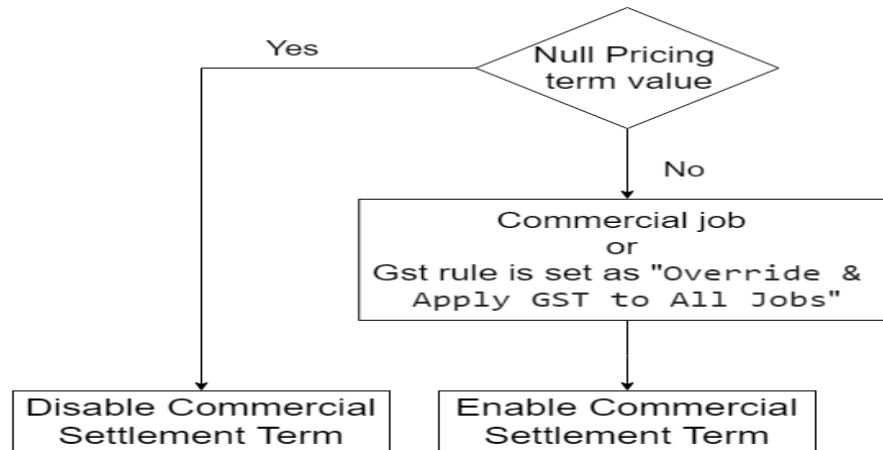
Fig 9.5 Enable/Disable Commercial settlement term

PeakPay

This settlement terms has other fields along with price to set while setting peakpay price for trading jobs.

Fig 9.6 Peakpay parameters

In peakpay parameters for setting stc price there are two options i.e.
- Withhold STC Price :- Trade with the peakpay stc price set in pricing manager while trading job
- Set STC Price:- With this parameter, PeakPay Price will be set at time of generating invoice from PeakPay page.
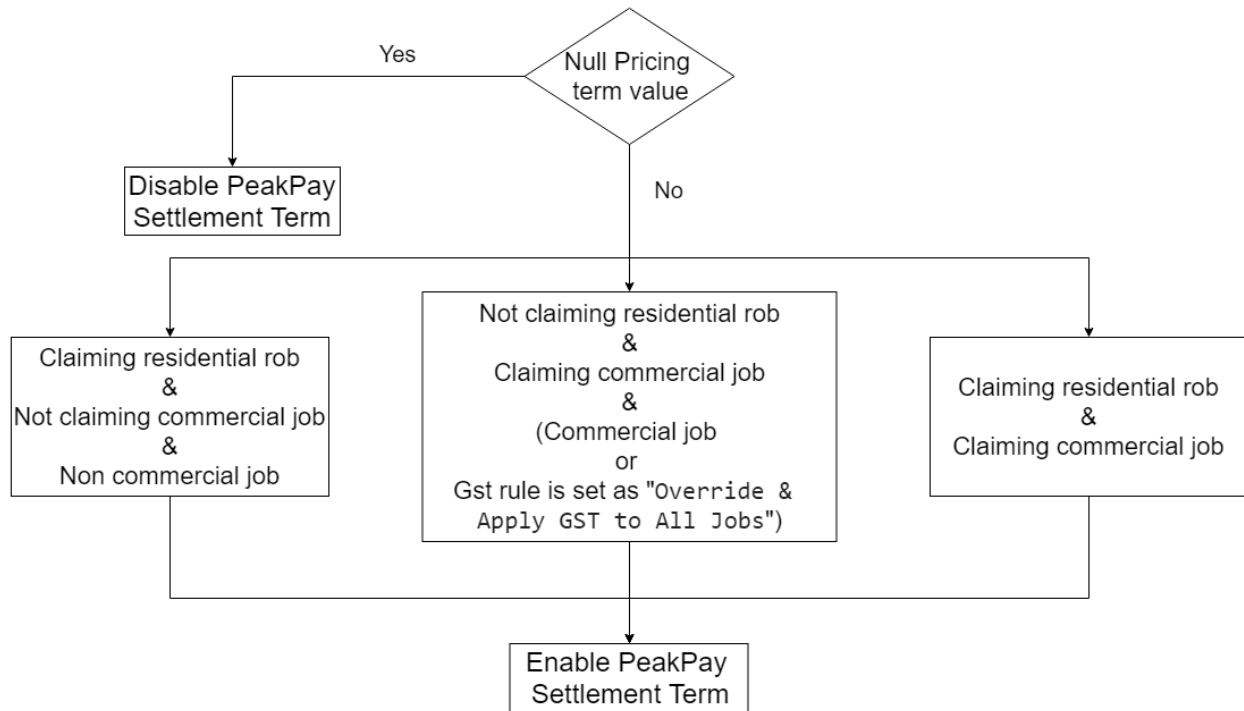
Fig 9.7 Enable/Disable PeakPay settlement term

Lookup

1. JobType

Value	Description
1	PVD
2	SWH

2. JobStage

Value	Description
1	New
2	Preapproval
3	New Installation
4	In Progress
9	Installation Completed
5	Complete
6	STC Trade
7	After sales
8	Cancellations

3. Priority

Value	Description
1	High
2	Normal
3	Low

4. OwnerType

Individual
Government body
Corporate body

Trustee

5. AddressID

Value	Description
1	physical address
2	P.O BOX

6. UnitTypeID

Value	Description
1	ANTENNA
2	APARTMENT
3	AUTOMATED TELLER MACHINE
4	BARBECUE
5	BUILDING
6	BLOCK
7	BUNGALOW
8	BOATSHED
9	CAGE
10	CARPARK
11	CARSPACE
12	CLUB
13	COOLROOM
14	COTTAGE
15	DUPLEX
16	FACTORY
17	FLAT
18	FLOOR
19	GARAGE
20	GRID
21	HALL

22	HOUSE
23	JETTY
24	KIOSK
25	LOBBY
26	LEVEL
27	LOC
28	LOFT
29	LOT
30	LEASE
31	MARINE BERTH
32	MAISONETTE
33	OFFICE
34	RESERVE
35	ROOM
36	SUITE
37	SECTION
38	SHED
39	SHOP
40	SHOWROOM
41	SIGN
42	SITE
43	STALL
44	STORE
45	STRATA UNIT
46	STUDIO
47	SUBSTATION
48	TENANCY
49	TOWNHOUSE
50	TOWER
51	UNIT
52	VILLA
53	VAULT
54	WARD

55	WAREHOUSE
56	WORKSHOP

7. StreetTypeID

Value	Description
1	Access
2	Alley
3	Alleyway
4	Amble
5	Approach
6	Arcade
7	Arterial
8	Artery
9	Avenue
10	Banan
11	Bend
12	Brace
13	Break
14	Brow
15	Boulevard
16	Boardwalk
17	Broadway
18	Bypass
19	Byway
20	Circuit
21	Chase
22	Circle
23	Close
24	Corner
25	Common
26	Concourse

27	Cove
28	Copse
29	Crescent
30	Circus
31	Cross
32	Crest
33	Cul-de-sac
34	Causeway
35	Court
36	Centre
37	Courtyard
38	Cutting
39	Dale
40	Dip
41	Drive
42	Driveway
43	Edge
44	Elbow
45	End
46	Entrance
47	Esplanade
48	Expressway
49	Fairway
50	Follow
51	Formation
52	Frontage
53	Footway
54	Freeway
55	Gap
56	Gardens
57	Glade
58	Glen
59	Grove

60	Grange
61	Green
62	Gate
63	Hill
64	Highroad
65	Heights
66	Highway
67	Interchange
68	Junction
69	Key
70	Lane
71	Line
72	Link
73	Lookout
74	Laneway
75	Loop
76	Mall
77	Mews
78	Meander
79	Motorway
80	Nook
81	Outlook
82	Pass
83	Path
84	Parade
85	Piazza
86	Pocket
87	Place
88	Plaza
89	Point
90	Port
91	Promenade

92	Passage
93	Pathway
94	Parkway
95	Quadrant
96	Quays
97	Road
98	Ridge
99	Rest
100	Rise
101	Ramble
102	Row
103	Route
104	Retreat
105	Rotary
106	Rue
107	Subway
108	Shunt
109	Square
110	Street
111	Strip
112	Spur
113	Serviceway
114	Tarn
115	Terrace
116	Thoroughfare
117	Tollway
118	Top
119	Tor
120	Track
121	Trail
122	Turn
123	Underpass

124	Vale
125	Viaduct
126	View
127	Village
128	Vista
129	Walk
130	Way
131	Wharf
132	Walkway
133	Waters
134	Wynd
135	Brae

8. PostalAddressID

Value	Description
1	CARE-OF POST OFFICE
2	COMMUNITY MAIL AGENT
3	COMMUNITY MAIL BAG
4	GENERAL POST OFFICE BOX
5	LOCKED MAIL BAG SERVICE
6	MAIL SERVICE
7	POST OFFICE BOX
8	PRIVATE MAIL BAG SERVICE
9	ROADSIDE DELIVERY
10	ROADSIDE MAIL BOX/BAG
11	ROADSIDE MAIL SERVICE

9. PropertyType

Residential
School

Commercial

10.   SingleMultipleStory

Single story
Multi story

11.   Location

North
North-East
East
South-East
South
South-West
West
North-West

12.   InstallationType

New building
Replaced electric heater
Replaced solar water heater
First solar water heater at existing building
Replaced gas water heater
Other